NM OIL CONSERVATION
OCD Artesia DISTRICT
JUL 10 2017
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17-420

Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMNM100550	
6. If Indian, Allotee or Tribe Name	
1a. Type of work: ☑ DRILL ☐ REENTER	7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. MYOX 20 FEDERAL COM 5H 318323
2. Name of Operator COG OPERATING LLC 229137	9. API Well No. 30-015-44296
3a. Address 600 West Illinois Ave Midland TX 79701 / 3b. Phone No. (include area code) (432)683-7443	10. Field and Pool, or Exploratory HAY HOLLOW / BONE SPRING, NORTH
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface NWNE / 330 FNL / 2090 FEL / LAT 32.121624 / LONG -104.107603 At proposed prod. zone SWSE / 330 FSL / 2090 FEL / LAT 32.093818 / LONG -104.107407	11. Sec., T. R. M. or Blk. and Survey or Area SEC 20 / T25S / R28E / NMP
14. Distance in miles and direction from nearest town or post office* 7 miles	12. County or Parish EDDY / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 200 feet	16. No. of acres in lease 160 / 17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 333 feet	19. Proposed Depth 8010 feet / 17940 feet / 20. BLM/BIA Bond No. on file FED: NMB000215
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3026 feet	22. Approximate date work will start* 06/01/2017 / 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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
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 04/10/2017
Title Regulatory Analyst		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 07/03/2017
Title Supervisor Multiple Resources	Office CARLSBAD	

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

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

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

RWP 7-10-17

OPERATOR CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently 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 COG Operating LLC, 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. Executed this 7th day of April, 2017.

Signed: Mayte Reyes

Printed Name: Mayte Reyes
Position: Regulatory Analyst
Address: 2208 W. Main Street, Artesia, NM 88210
Telephone: (575) 748-6945
E-mail: mreyes1@concho.com
Field Representative (if not above signatory): Rand French
Telephone: (575) 748-6940. E-mail: rfrench@concho.com

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** HAY HOLLOW **Pool Name:** BONE SPRING, NORTH

Is the proposed well in an area containing other mineral resources? USEABLE WATER,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: 7 Miles **Distance to nearest well:** 333 FT **Distance to lease line:** 200 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: COG_Myox_5H_C102_04-10-2017.pdf

Well work start Date: 06/01/2017 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	330	FNL	2090	FEL	25S	28E	20	Aliquot NWNE	32.121624	-104.107603	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	3026	0	0
KOP Leg #1	330	FNL	2090	FEL	25S	28E	20	Aliquot NWNE	32.121624	-104.107603	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	3026	0	0
PPP Leg #1	330	FNL	2090	FEL	25S	28E	20	Aliquot NWNE	32.121624	-104.107603	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-4527	7553	7553

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
PPP Leg #1	0	FNL	2090	FEL	25S	28E	29	Aliquot NWNE	32.108039	-104.107507	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 100550	-4995	12800	8021
EXIT Leg #1	330	FSL	2090	FEL	25S	28E	29	Aliquot SWSE	32.094175	-104.107409	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-4984	17700	8010
BHL Leg #1	330	FSL	2090	FEL	25S	28E	29	Aliquot SWSE	32.093818	-104.107407	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-4984	17940	8010

Drill Plan

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
17318	UNKNOWN	3026	0	0		NONE	No
17746	RUSTLER	2465	561	561		NONE	No
17718	TOP SALT	2341	685	685		NONE	No
17722	BASE OF SALT	747	2279	2279		NONE	No
17719	LAMAR	556	2470	2470		NONE	No
15332	BELL CANYON	496	2530	2530		NONE	No
15316	CHERRY CANYON	-331	3357	3357		NATURAL GAS,OIL	No
17713	BRUSHY CANYON	-1507	4533	4533		NATURAL GAS,OIL	No
17721	BONE SPRING LIME	-3053	6079	6079		NATURAL GAS,OIL	No
19973	UPPER AVALON SHALE	-3393	6419	6419		NATURAL GAS,OIL	No
17697	---	-3543	6569	6569		NATURAL GAS,OIL	No
15338	BONE SPRING 1ST	-4000	7026	7026		NATURAL GAS,OIL	No
17737	BONE SPRING 2ND	-4820	7846	7846		NATURAL GAS,OIL	Yes

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producii Formati
17738	BONE SPRING 3RD	-5850	8876	8876		OIL	No
17709	WOLFCAMP	-6218	9244	9244		NATURAL GAS,OIL	No

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M **Rating Depth:** 2495

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_Myox_5H_2M_Choke_06-22-2017.pdf

BOP Diagram Attachment:

COG_Myox_5H_2M_BOP_06-22-2017.pdf

COG_Myox_5H_Flex_Hose_Variance_06-22-2017.pdf

Pressure Rating (PSI): 3M **Rating Depth:** 8200

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_Myox_5H_3M_Choke_04-10-2017.pdf

BOP Diagram Attachment:

COG_Myox_5H_3M_BOP_04-10-2017.pdf

COG_Pudge_21H_Flex_Hose_06-06-2017.pdf

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

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	
1	SURFACE	17.5	13.375	NEW	API	N	0	590	0	590	-4995	-5420	590	J-55	54.5	STC	4.19	2.55	DRY	15.99	DRY	15 9
2	INTERMEDIATE	12.25	9.625	NEW	API	N	590	2495	0	2495	-4995	-4995	1905	J-55	40	LTC	1.94	1.27	DRY	5.21	DRY	5.
3	PRODUCTION	8.75	5.5	NEW	API	N	2495	17940	0	17940	-4995	-7060	15445	P-110	17	LTC	1.91	1	DRY	3.26	DRY	3.

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Taperd String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Myox_5H_Casing_Prog_04-10-2017.pdf

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

Casing Attachments

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Taperd String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Myox_5H_Casing_Prog_04-10-2017.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Taperd String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Myox_5H_Casing_Prog_04-10-2017.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	590	160	1.75	13.5	280	50	Class C	4% Gel + 1% CaC12
SURFACE	Tail		0	590	250	1.34	14.8	335	50	Class C	2% CaC12
INTERMEDIATE	Lead		590	2495	390	2	12.7	780		35:65:6 C Blend	No additives.
INTERMEDIATE	Tail		590	2495	250	1.34	14.8	335	50	Class C	2% CaCl

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		2495	17940	770	2.5	11.9	1925	25	H Blend 50:50:10	No additives
PRODUCTION	Tail		2495	17940	2650	1.24	14.4	3286	25	H Blend 50:50:2	No additives

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
590	2495	SALT SATURATED	10	10.2							
2495	17940	OTHER : CUT BRINE	8.6	9.4							Cut Brine
0	590	OTHER : Fresh water gel	8.6	8.8							Fresh Water Gel

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: 3930 **Anticipated Surface Pressure:** 2165.38

Anticipated Bottom Hole Temperature(F): 140

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

COG_Myox_5H_H2S_Schem_04-10-2017.pdf
COG_Myox_5H_H2S_SUP_04-10-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

COG_Myox_5H_Directional_Plan_04-10-2017.pdf

Other proposed operations facets description:

None

Other proposed operations facets attachment:

COG_Myox_5H_Drilling_Prog_04-10-2017.pdf

Other Variance attachment:

COG_Myox_5H_Flex_Hose_Variance_04-10-2017.pdf

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

Section 1 - Existing Roads

Will existing roads be used? NO

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

COG_Myox_5H_Maps_Plats_04-10-2017.pdf

New road type: RESOURCE

Length: 86.2 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:

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:

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

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_Myox_5H_1Mile_Data_04-10-2017.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 as shown on the Production Facility Layout/Well Site Layout.

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 will be furnished by Malaga I station located in Section 20. T24S. R29E.

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

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

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 will be furnished by GWWS Water well located in Section 14. T26S. R28E. The water will be purchased by Vision Resources 2512 Hepler Rd Carlsbad, NM 88221, 575-236-6041 **Source longitude:**

Source latitude:

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): 450000 **Source volume (acre-feet):** 58.001892

Source volume (gal): 18900000

Water source and transportation map:

COG_Myox_5H_Brine_H2O_04-10-2017.pdf

COG_Myox_5H_Fresh_H2O_04-10-2017.pdf

Water source comments: Fresh water will be furnished by GWWS Water well located in Section 14. T26S. R28E. The water will be purchased by Vision Resources 2512 Hepler Rd Carlsbad, NM 88221, 575-236-6041. Brine water will be furnished by Malaga I station located in Section 20. T24S. R29E.

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 will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from an approved State caliche pit, located in Section 20. T25S. R28E.
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

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

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: YES

Ancillary Facilities attachment:

COG_Myox_5H_GCP_04-10-2017.pdf

Comments: Gas Capture Plan attached

Section 9 - Well Site Layout

Well Site Layout Diagram:

COG_Myox_5H_Prod_Facility_04-10-2017.pdf

COG_Myox_5H__Closed_Loop_04-10-2017.pdf

Comments: Closed Loop System diagram attached.

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 east side, 200' on the* northeast of the north side, and 200' on the southeast of the south side of the location to reduce sediment impacts to fragile/sensitive soils.

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

Wellpad long term disturbance (acres): 3.03

Wellpad short term disturbance (acres): 3.67

Access road long term disturbance (acres): 0.03

Access road short term disturbance (acres): 0.03

Pipeline long term disturbance (acres): 0

Pipeline short term disturbance (acres): 0

Other long term disturbance (acres): 0

Other short term disturbance (acres): 0

Total long term disturbance: 3.06

Total short term disturbance: 3.7

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: West - 70'

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:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

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

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

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

Pit closure attachment:

COG_Myox_5H__Closed_Loop_04-10-2017.pdf

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: STATE OF NEW MEXICO

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

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: COG has State Road Right of Way going back east to the Hwy. we've got State Road Right of Way going back east to the Hwy.
Use a previously conducted onsite? YES

Previous Onsite information: Onsite completed on 3/30/2017 by Gerald Herrera (COG) and Jeff Robertson (BLM).

Other SUPO Attachment

COG_Myox_5H_Certification_04-10-2017.pdf

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:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

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:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Operator Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

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:

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 Name: COG OPERATING LLC

Well Name: MYOX 20 FEDERAL COM **Well Number:** 5H

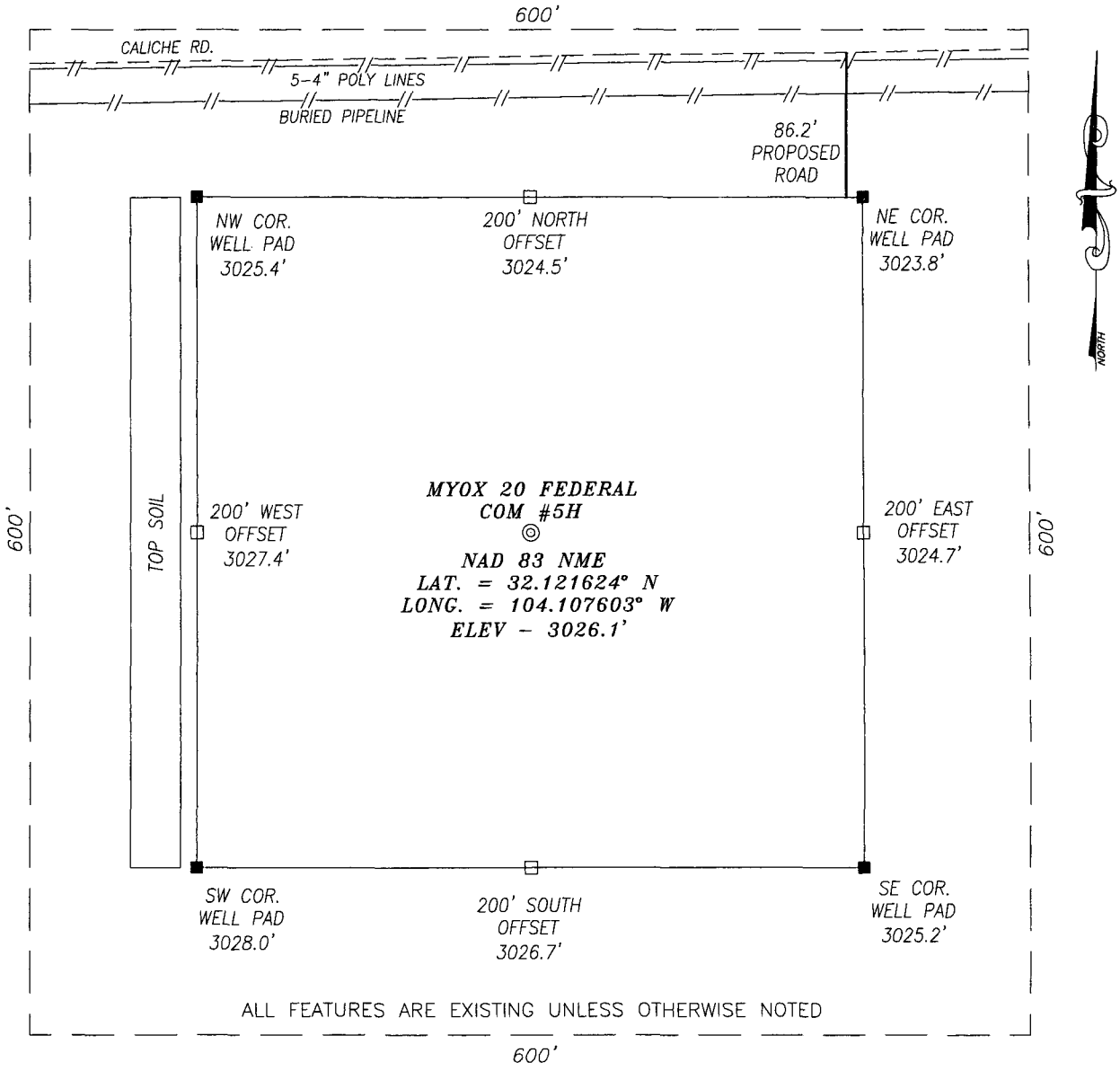
Payment

APD Fee Payment Method: PAY.GOV

pay.gov Tracking ID: 261PBICK

SECTION 20, TOWNSHIP 25 SOUTH, RANGE 28 EAST, N.M.P.M.,

EDDY COUNTY NEW MEXICO



DIRECTIONS TO LOCATION

TRAVELING SOUTHERLY ON HWY 285 TURN RIGHT (WEST) APPROX. 0.1 MILE BEFORE MILE MARKER 9 ONTO A CALICHE ROAD AND GO APPROX. 2.0 MILES; PROPOSED WELL IS APPROX. 300 FEET SOUTH.

HARCROW SURVEYING, LLC
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c.harcrow@harcrowsurveying.com

100 0 100 200 Feet

Scale: 1"=100'

CERTIFICATION

I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

CHAD HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

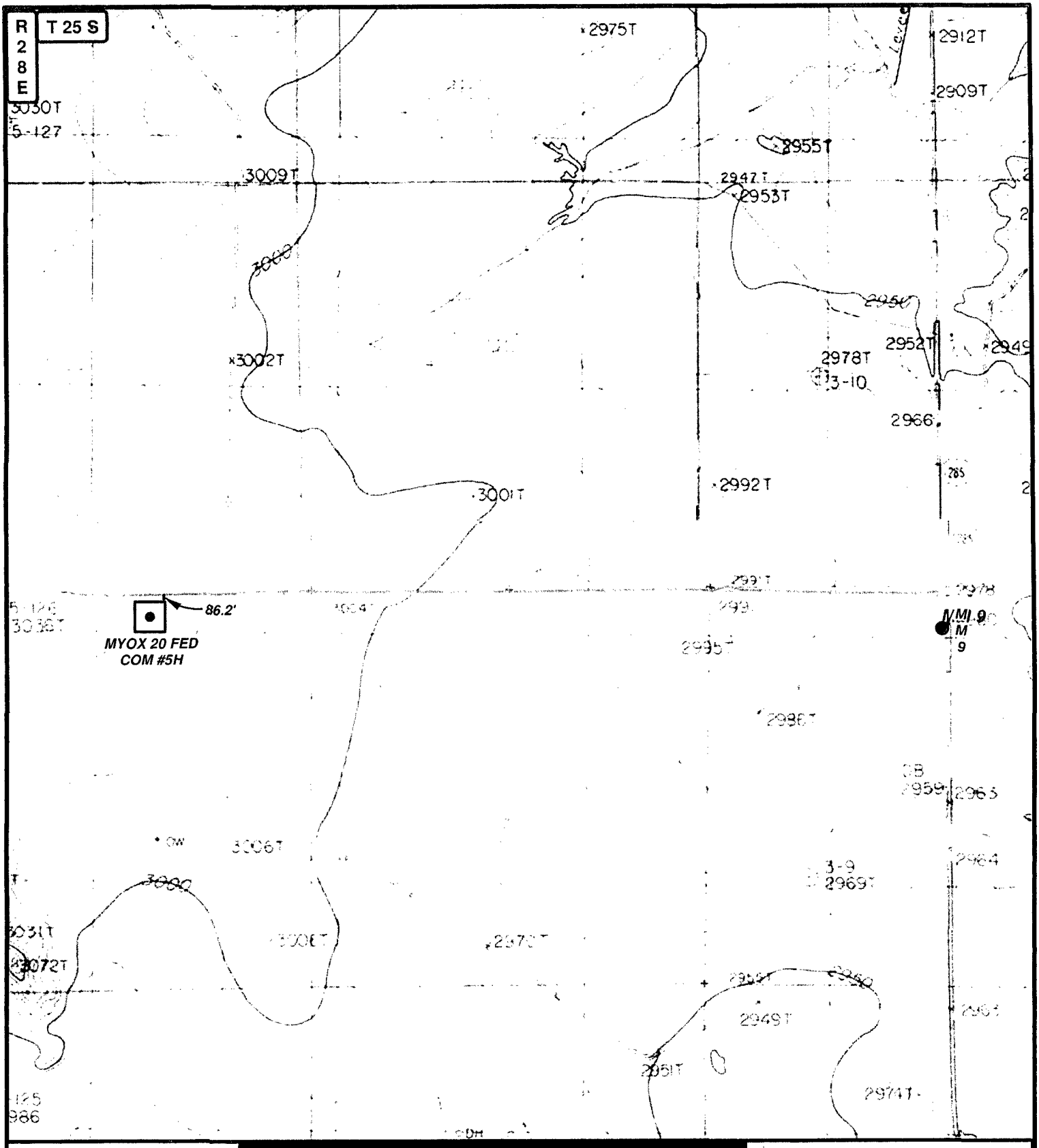
Chad Harcrow 4/3/17

CHAD HARCROW N.M.P.S. NO. 17777 DATE

COG OPERATING, LLC

MYOX 20 FED COM #5H
LOCATED 330 FEET FROM THE NORTH LINE
AND 2090 FEET FROM THE EAST LINE OF SECTION 20,
TOWNSHIP 25 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

SURVEY DATE: MARCH 23, 2017		PAGE: 1 OF 1
DRAFTING DATE: MARCH 31, 2017		
APPROVED BY: CH	DRAWN BY: SA	FILE: 17-363



LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

MYOX 20 FEDERAL COM #5H

SEC: 20	TWP: 25 S.	RGE: 28 E.	ELEVATION: 3026.1'
STATE: NEW MEXICO	COUNTY: EDDY		330' FNL & 2090' FEL
W.O. # 17-363	LEASE: MYOX FED COM		SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.125 0.25 0.5 Miles

1 IN = 2,000 FT

LOCATION MAP | TOPO | 3/31/2017 | S.A.

N

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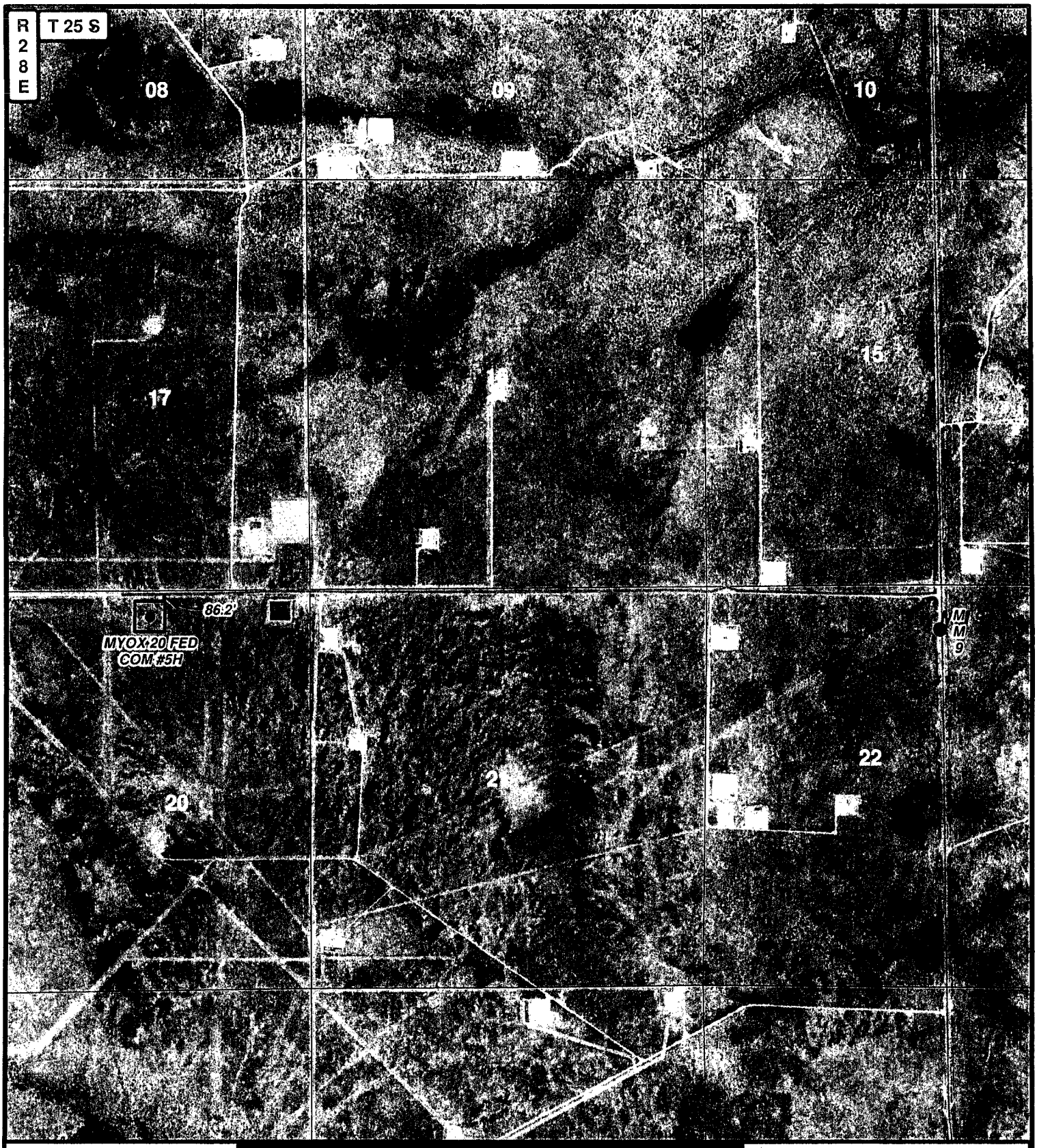

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

MYOX 20 FEDERAL COM #5H

SEC: 20	TWP: 25 S.	RGE: 28 E.	ELEVATION: 3026.1'
STATE: NEW MEXICO		COUNTY: EDDY	330' FNL & 2090' FEL
W.O. # 17-363	LEASE: MYOX FED COM		SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.125 0.25 0.5 Miles

1 IN = 2,000 FT

LOCATION MAP IMAGERY 3/31/2017 S.A.

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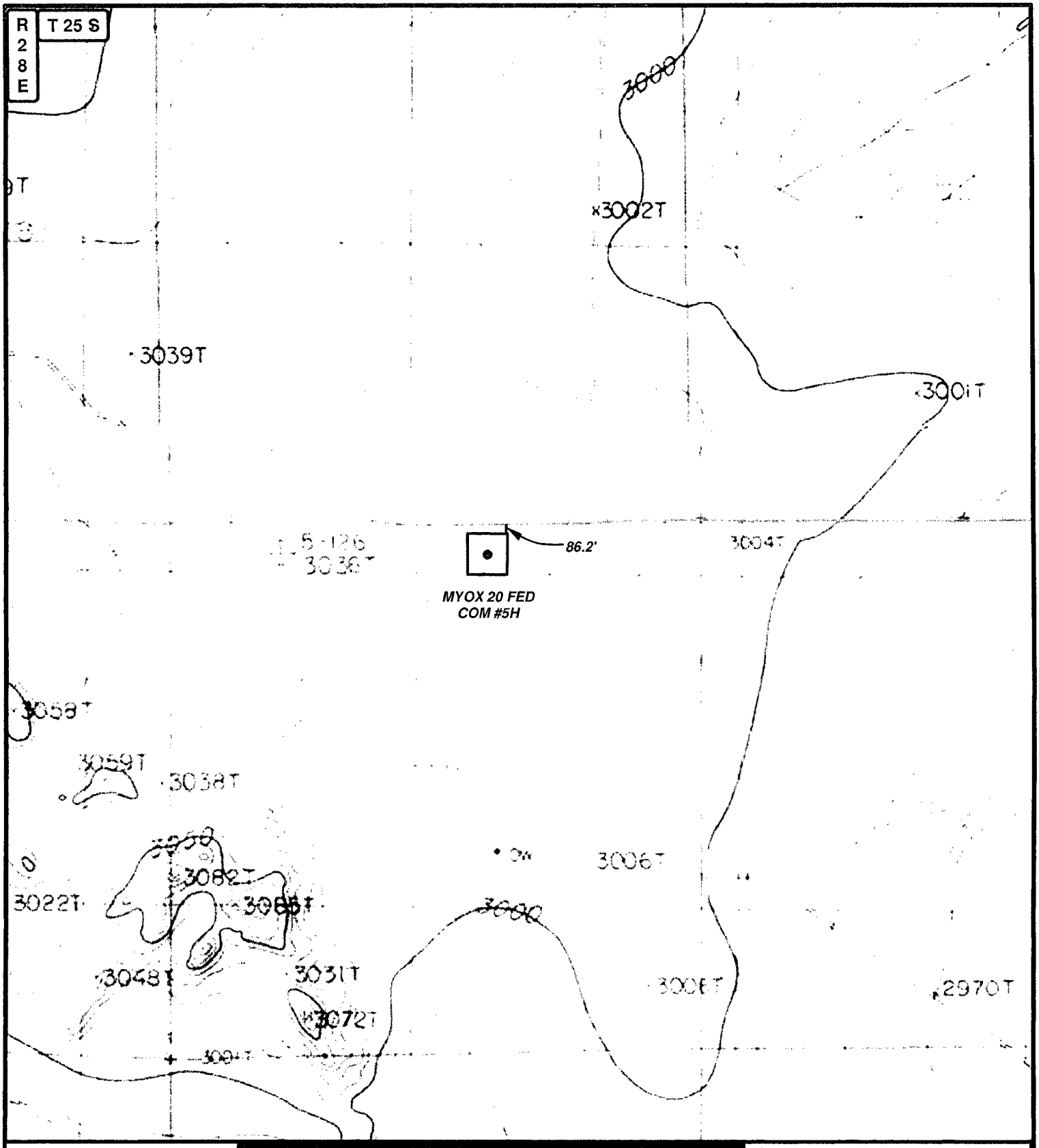

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

MYOX 20 FEDERAL COM #5H

SEC: 20	TWP: 25 S.	RGE: 28 E.	ELEVATION: 3026.1'
STATE: NEW MEXICO	COUNTY: EDDY		330' FNL & 2090' FEL
W.O. # 17-363	LEASE: MYOX FED COM		SURVEY: N.M.P.M

0 2,500 FEET

0 0.1 0.2 0.4 Miles

1 IN = 1,500 FT

LOCATION MAP | TOPO ROAD | 3/31/2017 | S.A.

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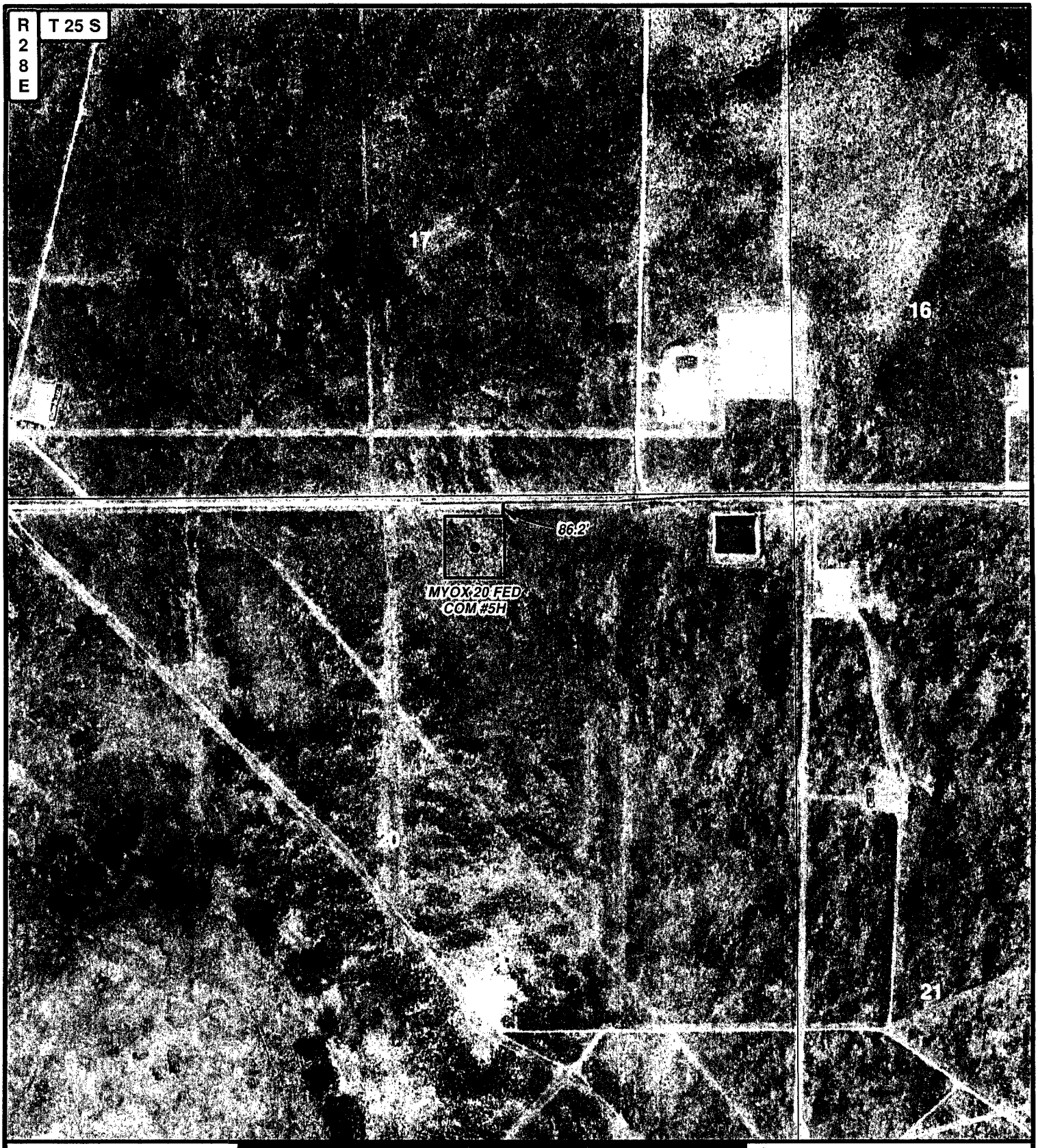

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

MYOX 20 FEDERAL COM #5H

SEC: 20	TWP: 25 S.	RGE: 28 E.	ELEVATION: 3026.1'
STATE: NEW MEXICO	COUNTY: EDDY		330' FNL & 2090' FEL
W.O. # 17-363	LEASE: MYOX FED COM		SURVEY: N.M.P.M

0 2,500 FEET

0 0.05 0.1 0.2 Miles

1 IN = 1,000 FT

LOCATION MAP | IMAGERY ROAD | 3/31/2017 | S.A.

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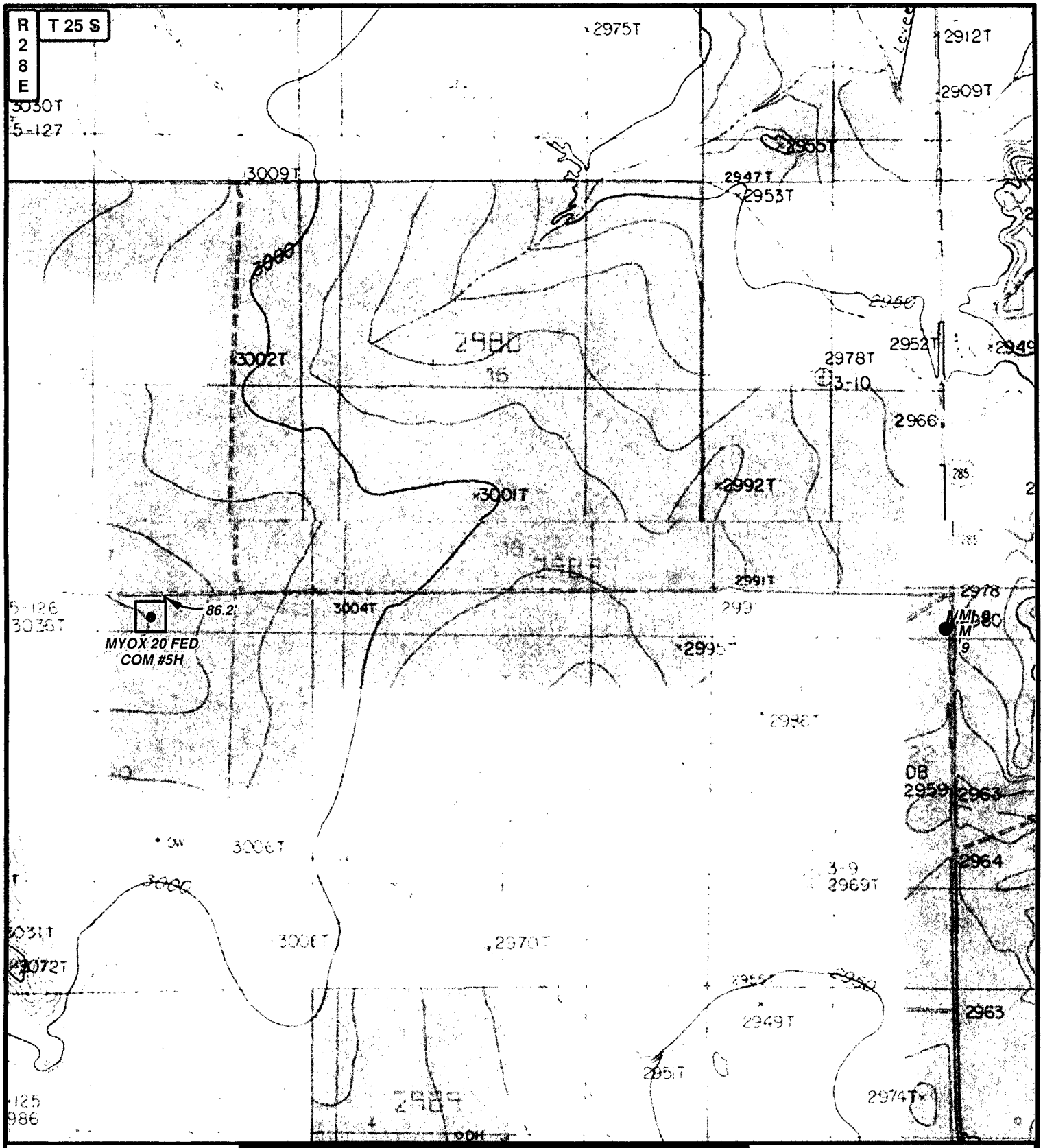

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD
- PRIVATE
- STATE OF NM
- US BLM

MYOX 20 FEDERAL COM #5H

SEC: 20	TWP: 25 S.	RGE: 28 E.	ELEVATION: 3026.1'
STATE: NEW MEXICO	COUNTY: EDDY		330' FNL & 2090' FEL
W.O. # 17-363	LEASE: MYOX FED COM		SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.125 0.25 0.5 Miles 1 IN = 2,000 FT

LOCATION MAP | LAND STATUS | 3/31/2017 | S.A.

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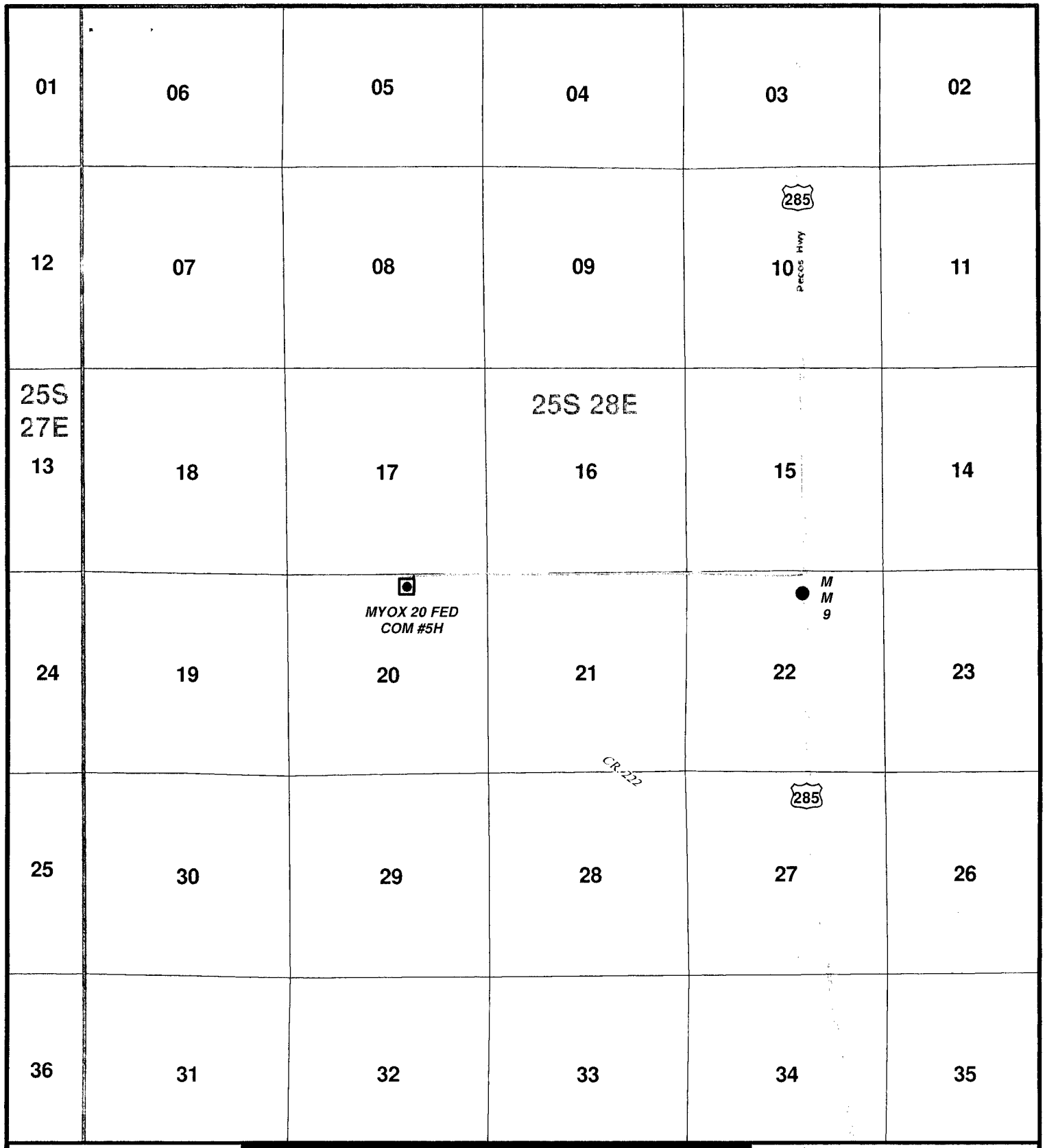

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

MYOX 20 FEDERAL COM #5H

SEC: 20	TWP: 25 S.	RGE: 28 E.	ELEVATION: 3026.1'
STATE: NEW MEXICO	COUNTY: EDDY		330' FNL & 2090' FEL
W.O. # 17-363	LEASE: MYOX FED COM		SURVEY: N.M.P.M

0 2,500 5,000 7,500 10,000 FEET

0 0.275 0.55 1.1 Miles

1 IN = 4,000 FT

LOCATION MAP | VICINITY | 3/31/2017 | S.A.

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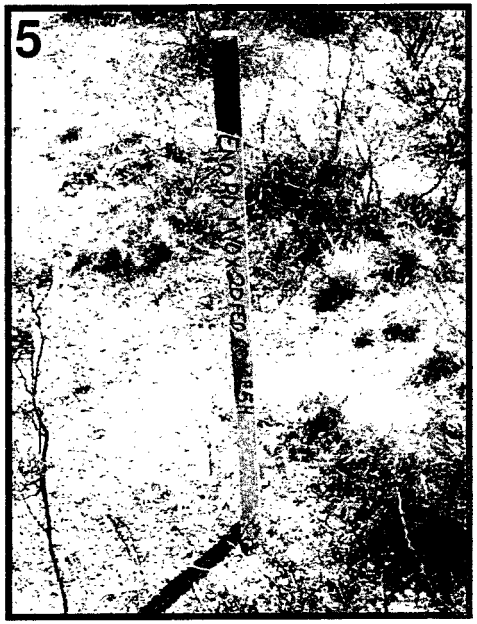
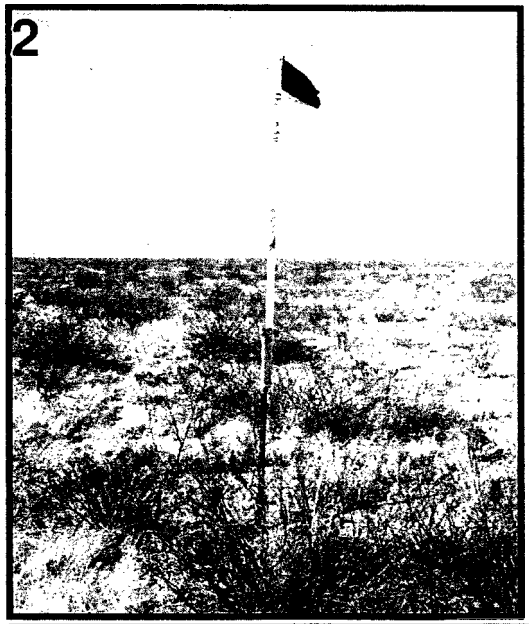
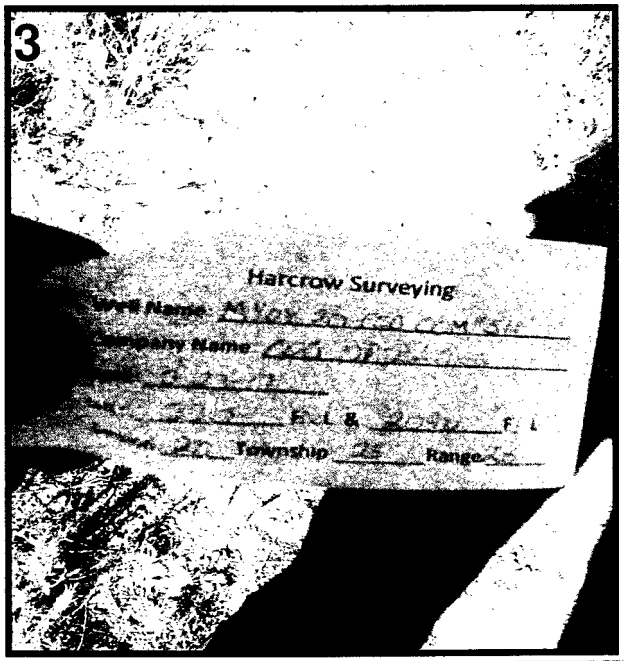
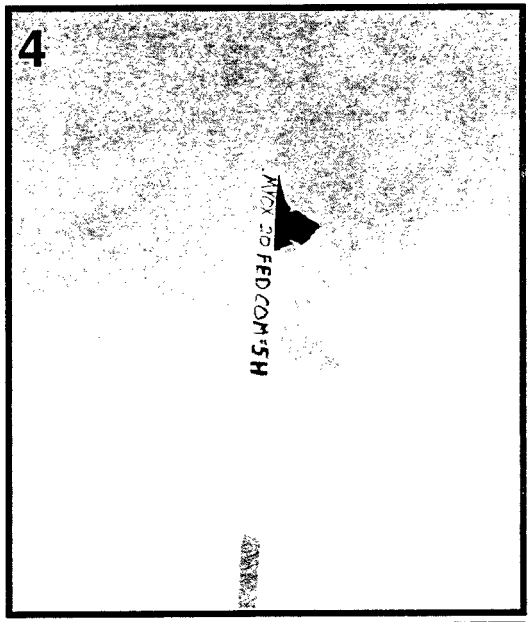
1. BEGIN OF PROPOSED ROAD
2. LOCATION STAKE
3. PILL BOTTLE SHEET
4. LOCATION STAKE NAME
5. END OF PROPOSED ROAD









CONCHO
COG OPERATING, LLC

MYOX 20 FEDERAL COM #5H			
SEC: 20	TWP: 25 S.	RGE: 28 E.	ELEVATION: 3026.1'
STATE: NEW MEXICO		COUNTY: EDDY	330' FNL & 2090' FEL
W.O. #17-363	LEASE: MYOX 20 FED COM		SURVEY: N.M.P.M
PHOTO SHEET	3/31/2017		S.A.

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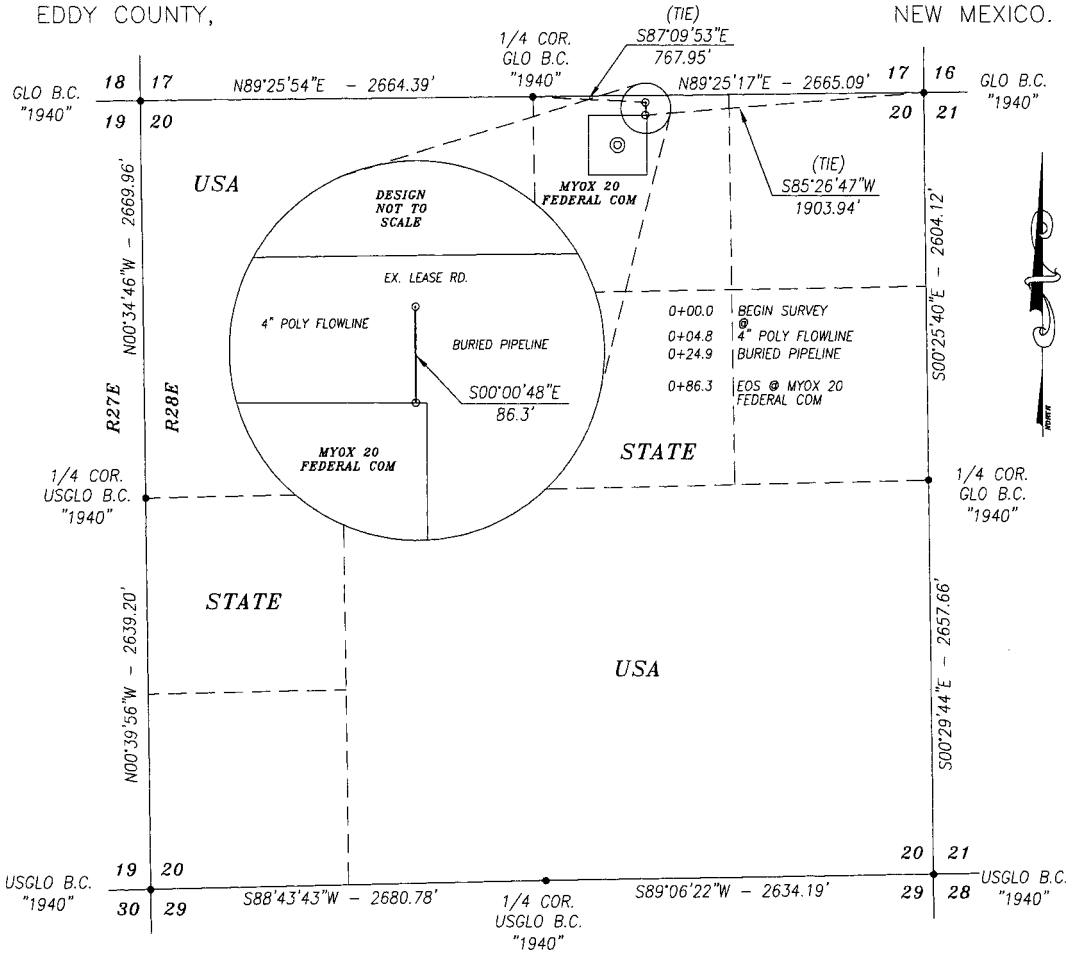
ACCESS ROAD PLAT
COG OPERATING, LLC.

A PROPOSED ROAD FROM AN EXISTING LEASE ROAD TO
THE MYOX 20 FEDERAL COM WELL IN
SECTION 20, TOWNSHIP 25 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 20, TOWNSHIP 25 SOUTH, RANGE 28 EAST, NMPM, EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET RIGHT AND 15.0 FEET LEFT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT IN THE NW/4 NE/4 OF SAID SECTION 20, WHICH LIES S87°09'53"E 767.95 FEET FROM THE NORTH QUARTER CORNER; THEN S00°00'48"E 86.3 FEET, TO A POINT IN THE NW/4 NE/4 OF SAID SECTION 20, WHICH LIES S85°26'47"W 1903.94 FEET FROM NORTHEAST CORNER.

SAID STRIP OF LAND BEING 86.3 FEET OR 5.230 RODS IN LENGTH, CONTAINING 0.059 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4 5.230 RODS OR 0.059 ACRES

BASIS OF BEARING:
BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

CERTIFICATION
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 4/6/17
CHAD HARCROW N.M.P.S. NO. 17777 DATE

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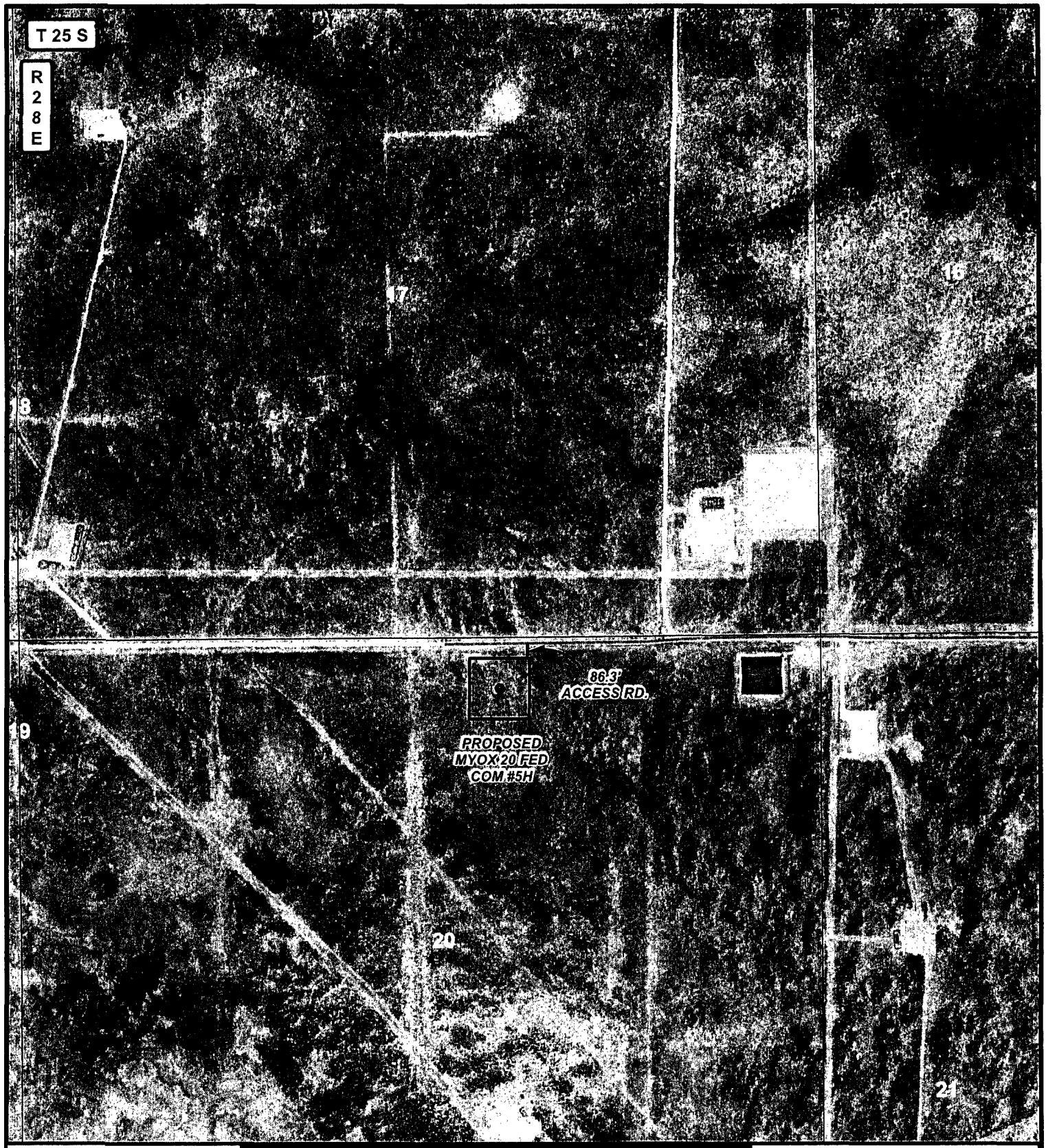
1000 0 1000 2000 FEET
SCALE: 1"=1000'

COG OPERATING, LLC

SURVEY OF A PROPOSED PIPELINE LOCATED IN SECTION 20, TOWNSHIP 25 SOUTH, RANGE 28 EAST, NMPM, EDDY COUNTY, NEW MEXICO

SURVEY DATE: APRIL 3, 2017	
DRAFTING DATE: APRIL 5, 2017	PAGE 1 OF 1
APPROVED BY: CH / DRAWN BY: CF	FILE: 17-430



LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- ACCESS ROAD

MYOX 20 FEDERAL COM #5H ACCESS ROAD

SECTION: 20	TOWNSHIP: 25 S.	RANGE: 28 E.
STATE: NEW MEXICO	COUNTY: EDDY	SURVEY: N.M.P.M
W.O. # 17-430		LEASE: MYOX 20 FED COM

0 2,500 FEET

0 0.05 0.1 0.2 Miles

1 IN = 1,000 FT

LOCATION MAP | IMAGERY | 04/06/2017 | J.H.

N

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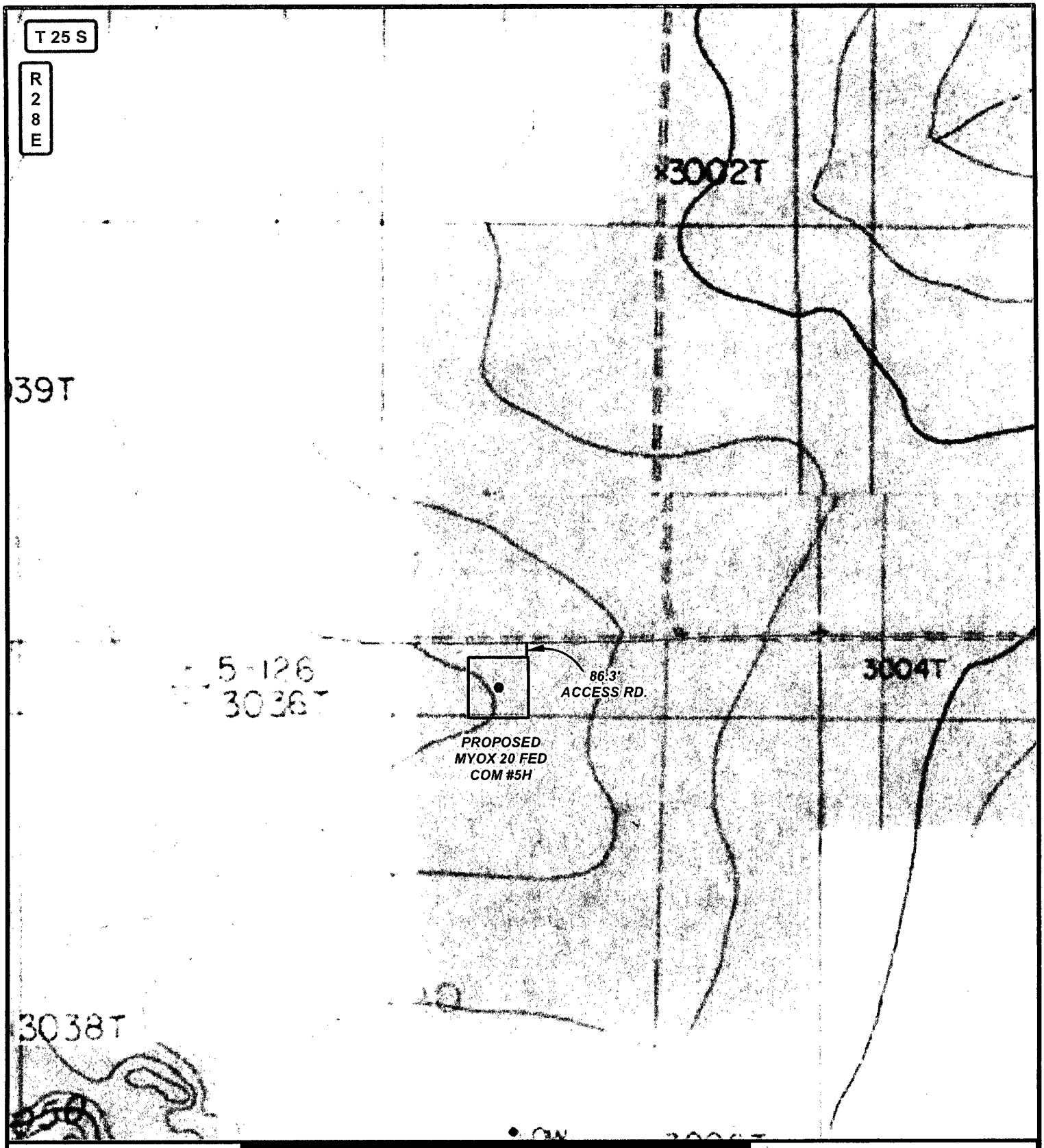

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- ACCESS ROAD
- PRIVATE
- STATE OF NM

MYOX 20 FEDERAL COM #5H ACCESS ROAD

SECTION: 20	TOWNSHIP: 25 S.	RANGE: 28 E.
STATE: NEW MEXICO	COUNTY: EDDY	SURVEY: N.M.P.M
W.O. # 17-430		LEASE: MYOX 20 FED COM

0 2,500 FEET

0 0.05 0.1 0.2 Miles

1 IN = 1,000 FT

LOCATION MAP | LAND STATUS | 04/06/2017 | J.H.

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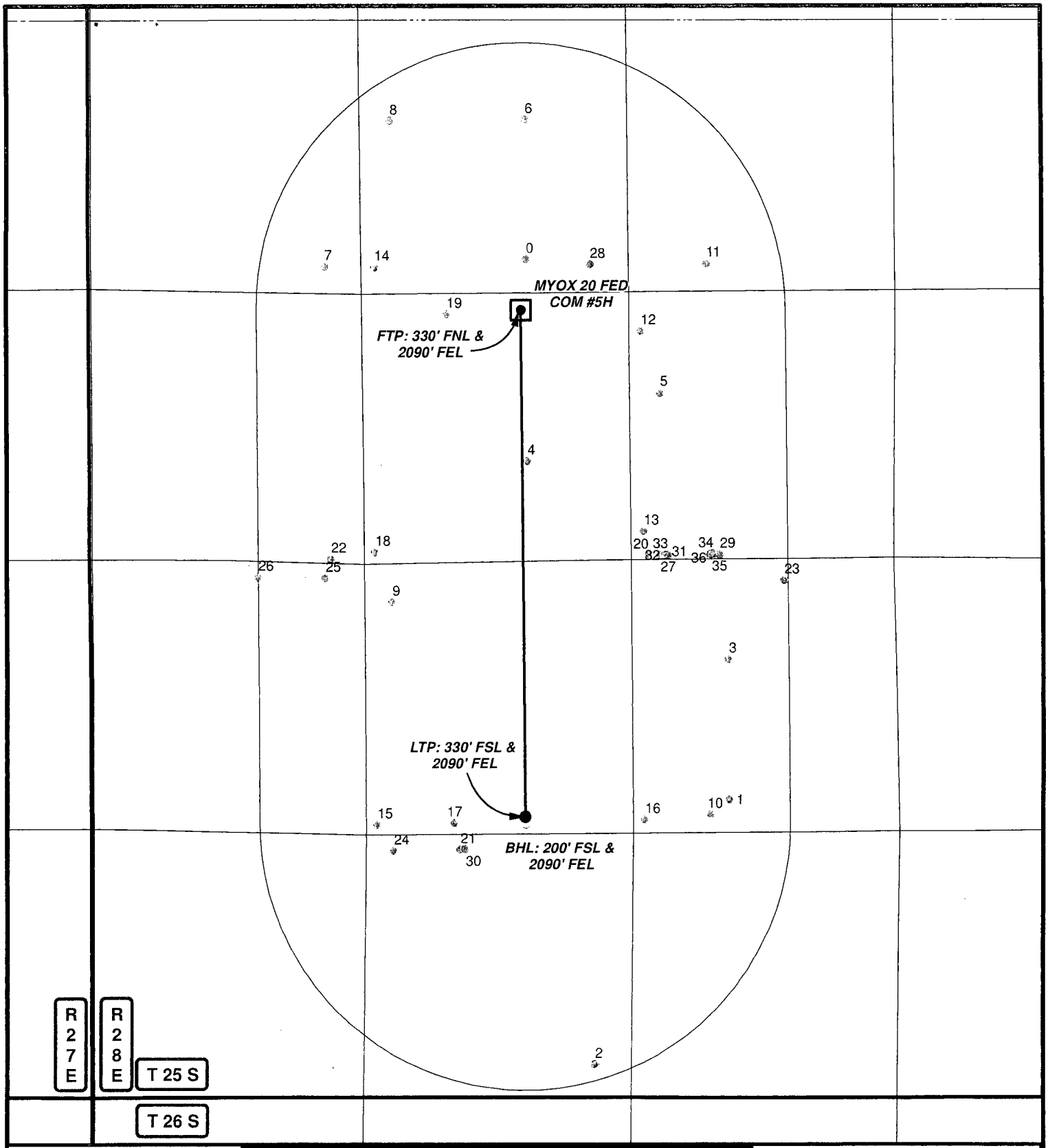

LEGEND

- WELL
- BOTTOMHOLE
- WELLS WITHIN 1 MI.
- 1 MI. BUFFER

MYOX 20 FEDERAL COM #5H

SEC: 20 & 29	TWP: 25 S.	RGE: 28 E.	ELEVATION: 3026.1'
STATE: NEW MEXICO	COUNTY: EDDY		330' FNL & 2090' FEL
W.O. # 17-363	LEASE: MYOX FED COM		SURVEY: N.M.P.M

0 2,500 5,000 7,500 FEET

0 0.2 0.4 0.8 Miles

1 IN = 3,000 FT

LOCATION MAP | 1 MILE MAP | 3/31/2017 | S.A.

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MYOX 20 FED COM #5H 1 MILE DATA (17-363)

FID	Shape *	OPERATOR	WELL_NAME	LATITUDE	LONGITUDE	API	SECTION	TOWNSHIP	RANGE	FTG_NS	NS_CD	FTG_EW	EW_CD	COMPL_STAT
0	Point	ALDRIDGE & STROUD	SIGNAL FED 003	32.124372	-104.107285	3001502517	17	25.0S	28E	660	S	1980	E	Plugged
1	Point	ALDRIDGE & STROUD	SIGNAL ST 002	32.095154	-104.094247	3001502520	28	25.0S	28E	660	S	1980	W	Plugged
2	Point	ALDRIDGE & STROUD	SIGNAL ST 004	32.080739	-104.102955	3001502522	32	25.0S	28E	660	S	660	E	Plugged
3	Point	COG OPERATING LLC	MYOX 28 STATE COM 001	32.102718	-104.094294	3001510724	28	25.0S	28E	1980	N	1980	W	Active
4	Point	GULF OIL CORP	PECOS IRRIGATION STA 001	32.113498	-104.107218	3001521458	20	25.0S	28E	1980	S	1980	E	Plugged
5	Point	LA RUE & MUNCY	HAMMOND 001	32.117168	-104.098673	3001522434	21	25.0S	28E	1980	N	660	W	Plugged
6	Point	FLAG REDFERN OIL CO	DELTA 17 001	32.131952	-104.107346	3001525097	17	25.0S	28E	1980	N	1980	E	Plugged
7	Point	COG OPERATING LLC	MOODY FEE COM 001	32.123981	-104.120284	3001534638	18	25.0S	28E	660	S	660	E	Active
8	Point	COG OPERATING LLC	MOODY 17 FEE COM 002	32.131887	-104.116058	3001535605	17	25.0S	28E	1980	N	660	W	Active
9	Point	COG OPERATING LLC	MYOX 29 STATE COM 004	32.105836	-104.115976	3001535866	29	25.0S	28E	660	N	660	W	Active
10	Point	COG OPERATING LLC	MYOX 28 STATE COM 006H	32.094341	-104.095449	3001536644	28	25.0S	28E	430	S	1650	W	New (Not drilled or compl)
11	Point	COG OPERATING LLC	MYOX 16 STATE COM 007	32.12415	-104.09566	3001537033	16	25.0S	28E	660	S	1650	W	New (Not drilled or compl)
12	Point	COG OPERATING LLC	MYOX 21 STATE COM 008H	32.120492	-104.099895	3001537034	21	25.0S	28E	660	N	330	W	New (Not drilled or compl)
13	Point	COG OPERATING LLC	MYOX 21 STATE COM 009H	32.10968	-104.099768	3001537416	21	25.0S	28E	660	S	330	W	New (Not drilled or compl)
14	Point	COG OPERATING LLC	MOODY 17 FEE COM 003H	32.12394	-104.11707	3001537636	17	25.0S	28E	660	S	330	W	New (Not drilled or compl)
15	Point	COG OPERATING LLC	MYOX 29 STATE 001H	32.093776	-104.116959	3001538981	29	25.0S	28E	330	S	330	W	New (Not drilled or compl)
16	Point	COG OPERATING LLC	MYOX 28 STATE 002H	32.094062	-104.099733	3001539060	28	25.0S	28E	330	S	330	W	New (Not drilled or compl)
17	Point	COG OPERATING LLC	MYOX 29 STATE COM 003H	32.093864	-104.111962	3001539404	29	25.0S	28E	330	S	1870	W	New (Not drilled or compl)
18	Point	COG OPERATING LLC	MYOX 20 STATE 001H	32.108543	-104.117059	3001539672	20	25.0S	28E	330	S	330	W	New (Not drilled or compl)
19	Point	COG OPERATING LLC	MYOX 20 FEE 002H	32.121394	-104.112411	3001541297	20	25.0S	28E	284	N	1760	W	New (Not drilled or compl)
20	Point	COG OPERATING LLC	MYOX 21 STATE COM 010H	32.10839	-104.099428	3001541378	21	25.0S	28E	190	S	430	W	New (Not drilled or compl)
21	Point	COG OPERATING LLC	MYOX 32 FEE 002H	32.09244	-104.1116	3001541521	32	25.0S	28E	190	N	1980	W	New (Not drilled or compl)
22	Point	COG OPERATING LLC	MYOX 19 STATE 004H	32.108176	-104.119915	3001541526	19	25.0S	28E	190	S	550	E	New (Not drilled or compl)
23	Point	COG OPERATING LLC	MYOX 28 STATE COM 004H	32.10703	-104.090694	3001541606	28	25.0S	28E	330	N	2187	E	New (Not drilled or compl)
24	Point	COG OPERATING LLC	MYOX 32 STATE 003H	32.092365	-104.115883	3001541642	32	25.0S	28E	190	N	660	W	New (Not drilled or compl)
25	Point	COG OPERATING LLC	MYOX 30 STATE COM 001H	32.107136	-104.120269	3001541734	30	25.0S	28E	190	N	660	E	New (Not drilled or compl)
26	Point	COG OPERATING LLC	MYOX 30 STATE COM 002H	32.107194	-104.124553	3001541735	30	25.0S	28E	190	N	1980	E	New (Not drilled or compl)
27	Point	COG OPERATING LLC	MYOX 21 STATE COM 001H	32.108396	-104.098682	3001541745	21	25.0S	28E	190	S	660	W	New (Not drilled or compl)
28	Point	COG OPERATING LLC	WILLOW 17 STATE SWD 001	32.124088	-104.103158	3001541806	17	25.0S	28E	660	S	660	E	New (Not drilled or compl)
29	Point	COG OPERATING LLC	MYOX 21 STATE 011H	32.108427	-104.094852	3001541865	21	25.0S	28E	190	S	1840	W	New (Not drilled or compl)
30	Point	COG OPERATING LLC	MYOX 32 FEE 005H	32.092446	-104.111275	3001541936	32	25.0S	28E	190	N	2080	W	New (Not drilled or compl)
31	Point	COG OPERATING LLC	MYOX 21 STATE COM 031H	32.108399	-104.098357	3001544000	21	25.0S	28E	190	S	760	W	New (Not drilled or compl)
32	Point	COG OPERATING LLC	MYOX 21 STATE COM 032H	32.1084	-104.09826	3001544002	21	25.0S	28E	190	S	790	W	New (Not drilled or compl)
33	Point	COG OPERATING LLC	MYOX 21 STATE COM 033H	32.108401	-104.098163	3001544003	21	25.0S	28E	190	S	820	W	New (Not drilled or compl)
34	Point	COG OPERATING LLC	MYOX 21 STATE COM 034H	32.108449	-104.095473	3001544004	21	25.0S	28E	200	S	1649	W	New (Not drilled or compl)
35	Point	COG OPERATING LLC	MYOX 21 STATE COM 035H	32.10845	-104.095375	3001544005	21	25.0S	28E	200	S	1679	W	New (Not drilled or compl)
36	Point	COG OPERATING LLC	MYOX 21 STATE COM 036H	32.108451	-104.095278	3001544006	21	25.0S	28E	200	S	1709	W	New (Not drilled or compl)

Myox 20 Fed Com #5H
To Malaga I Brine

Date: 4/5/2017
Author: Whytnie McDonald
State: New Mexico
County: Eddy

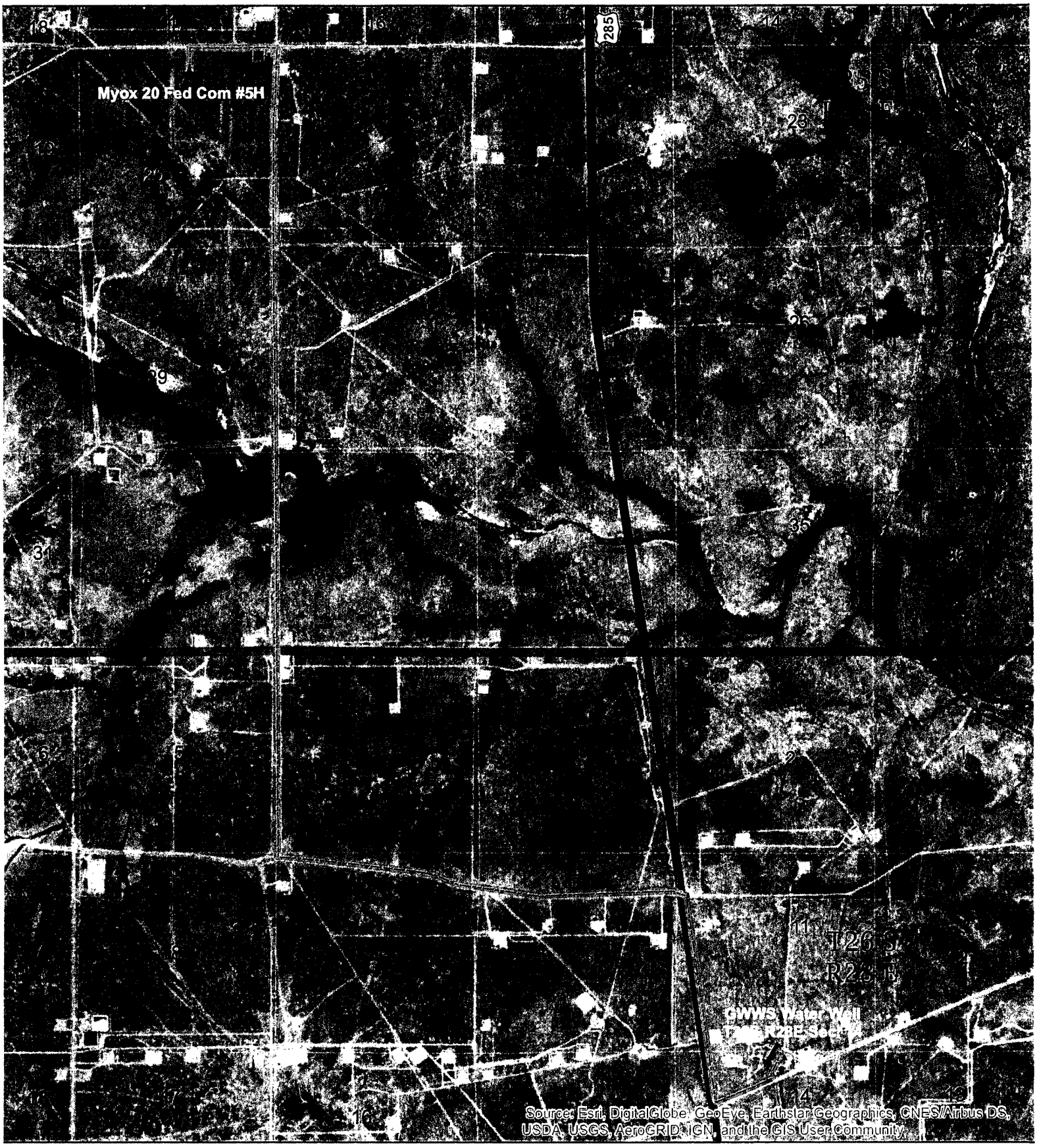
Disclaimer: This is not a legal survey document

Map Legend

Route

N
W E
S

0 0.35 0.7 1.4 2.1 2.8
Miles



Myox 20 Fed Com #5H
Water Transfer Route

Date: 4/5/2017
Author: Whytnie McDonald
State: New Mexico
County: Eddy

Disclaimer: This is not a legal survey document

Map Legend

Route

N
W E
S

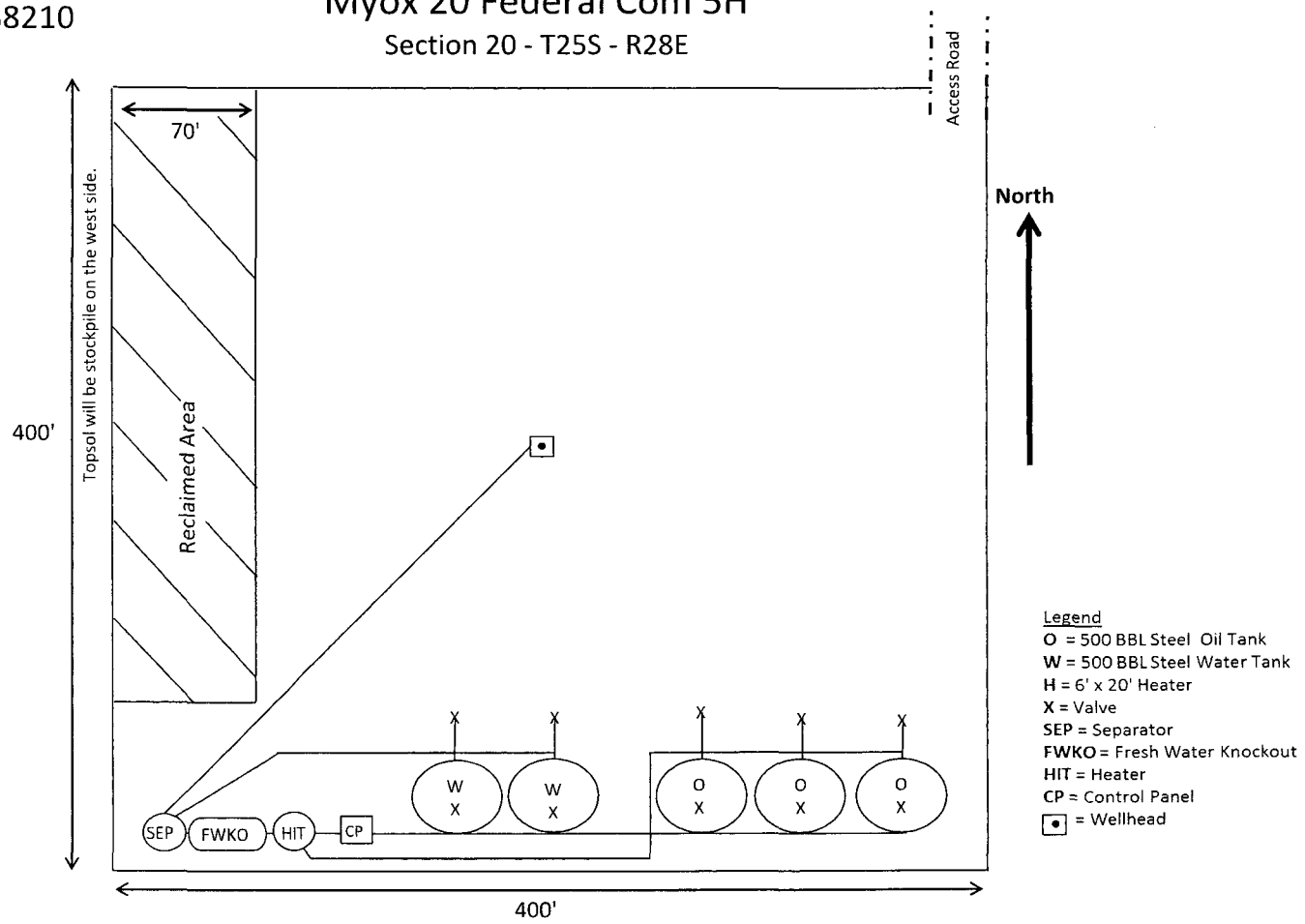
0 0.275 0.55 1.1 1.65 2.2
Miles

CONCHO

COG Operating LLC
2208 West Main
Artesia, NM 88210

Well Site Layout
Production Facility Layout
Myox 20 Federal Com 5H
Section 20 - T25S - R28E

Exhibit 3



Legend
O = 500 BBL Steel Oil Tank
W = 500 BBL Steel Water Tank
H = 6' x 20' Heater
X = Valve
SEP = Separator
FWKO = Fresh Water Knockout
HIT = Heater
CP = Control Panel
= Wellhead

Casing Program

Hole Size	Casing From	Casing To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	590	13.375"	54.5	J55	STC	4.19	2.55	15.99
12.25"	0	2495	9.625"	40	J55	LTC	1.94	1.27	5.21
8.75"	0	17,940	5.5"	17	P110	LTC	1.91	3.41	3.26
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing.to mitigate collapse. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

COG Operating, LLC - Myox 20 Federal Com 5H

1. Geologic Formations

TVD of target	8,030' EOL	Pilot hole depth	NA
MD at TD:	17,940'	Deepest expected fresh water:	60'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	561	Water	
Top of Salt	685	Salt	
Base of Salt	2279	Salt	
Lamar	2470	Salt Water	
Bell Canyon	2530	Salt Water	
Cherry Canyon	3357	Oil/Gas	
Brushy Canyon	4533	Oil/Gas	
Bone Spring Lime	6079	Oil/Gas	
U. Avalon Shale	6419	Oil/Gas	
L. Avalon Shale	6569	Oil/Gas	
1st Bone Spring Sand	7026	Oil/Gas	
2nd Bone Spring Sand	7846	Oil/Gas	
3rd Bone Spring Sand	8876	Oil/Gas	
Wolfcamp	9244	Oil/Gas	

2. Casing Program

Hole Size	Casing From	Casing To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	590	13.375"	54.5	J55	STC	4.19	2.55	15.99
12.25"	0	2495	9.625"	40	J55	LTC	1.94	1.27	5.21
8.75"	0	17,940	5.5"	17	P110	LTC	1.91	3.41	3.26
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing.to mitigate collapse. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

COG Operating, LLC - Myox 20 Federal Com 5H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary?	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	160	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl2
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
Inter.	390	12.7	2.0	9.6	16	Lead: 35:65:6 C Blend
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl
5.5 Prod	770	11.9	2.5	19	72	Lead: 50:50:10 H Blend
	2650	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results
Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	50%
1st Intermediate	0'	50%
Production	1,995'	25% OH in Lateral (KOP to EOL) – 40% OH in Vertical

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12-1/4"	13-5/8"	2M	Annular	x	2000 psi
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure
			Blind Ram	x	3M
			Pipe Ram	x	
			Double Ram		
			Other*		

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. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	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.
	N Are anchors required by manufacturer?
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	9-5/8" Int shoe	Saturated Brine	10 - 10.2	28-34	N/C
9-5/8" Int shoe	Lateral TD	Cut Brine	8.6 - 9.4	28-34	N/C

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
Y	No Logs are planned based on well control or offset log information.
N	Drill stem test? If yes, explain.
N	Coring? If yes, explain.

Additional logs planned		**Interval**
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	3930 psi at 8030' TVD
Abnormal Temperature	NO 140 Deg. F.

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other Facets of Operation

N	Is it a walking operation?
N	Is casing pre-set?

x	H2S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

CONCHO

COG Operating LLC

Eddy Co., NM
Myox 20 Federal Com 5H
5H

Wellbore #1

Plan: Design #1

Standard Planning Report

05 April, 2017

NABORS

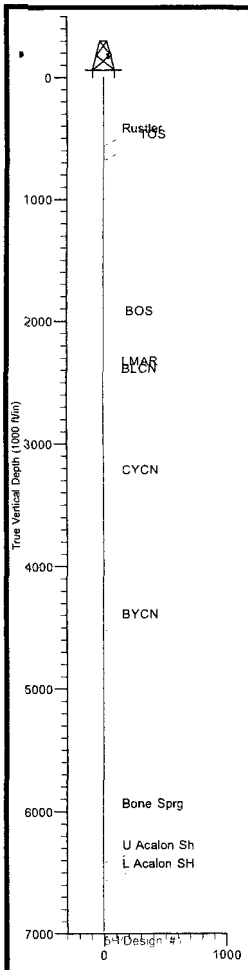
CONCHO

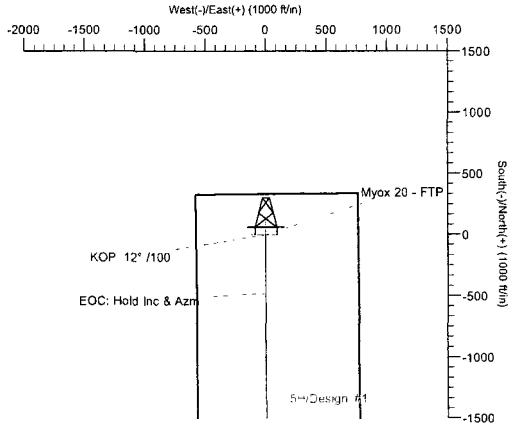
Project:	Eddy Co., NM
Site:	Myox 20 Federal Com 5H
Well:	5H
Wellbore:	Wellbore #1
Design:	Design #1
Northing:	407998.200
Easting:	570034.800
Rig:	Ensign 156

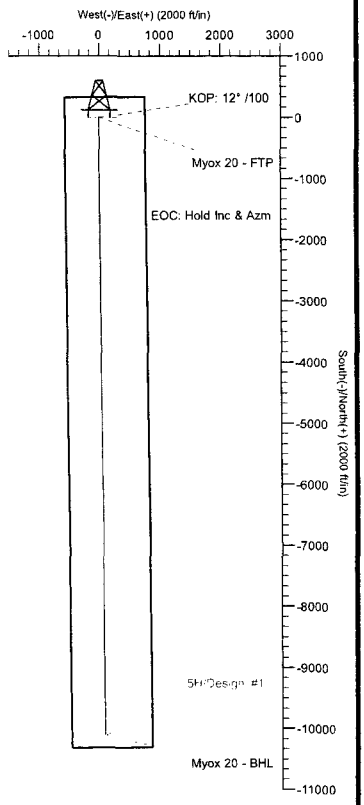
NABORS

Azimuths to Grid North
True North: -0.12°
Magnetic North: 7.11°

Magnetic Field
Strength: 48126.3snT
Dip Angle: 59.92°
Date: 4/5/2017
Model: HDGM







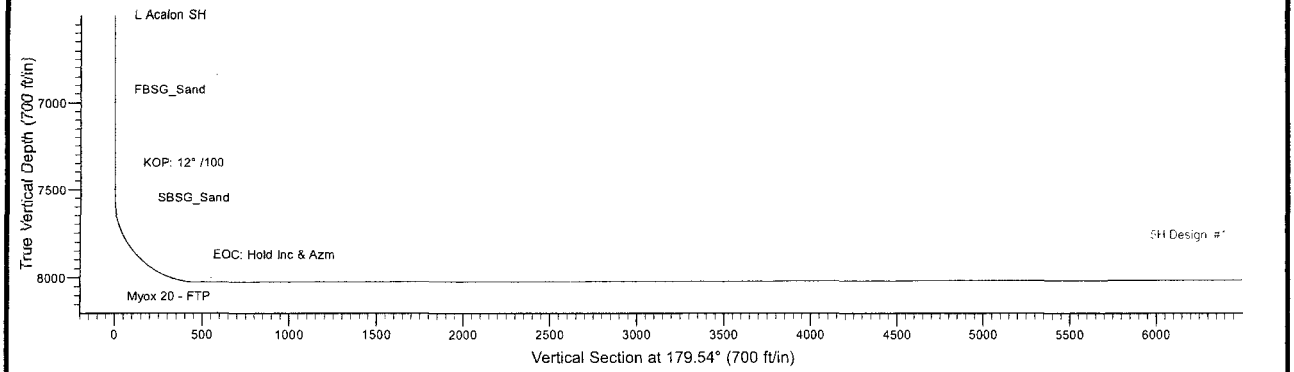
Target Points

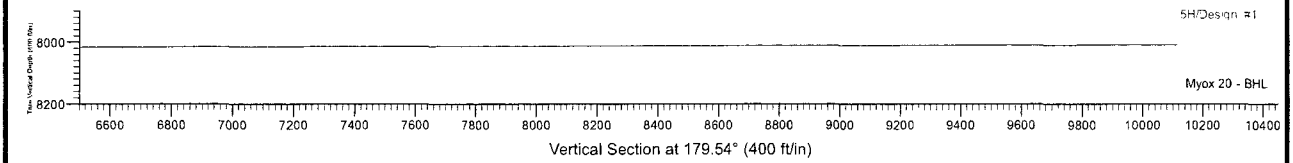
Landing Point 8030' TVD

PBHL 8010' TVD

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7552.72	0.00	0.00	7552.72	0.00	0.00	0.00	0.00	0.00
8303.72	90.12	179.54	8030.18	-478.45	3.86	12.00	179.54	478.46
17940.43	90.12	179.54	8010.00	-10114.82	81.70	0.00	0.00	10115.15





Database:	RyanUSA_Compass	**Local Co-ordinate Reference:**	Well 5H
Company:	COG Operating LLC	**TVD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Project:	Eddy Co., NM	**MD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Site:	Myox 20 Federal Com 5H	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Eddy Co., NM		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Myox 20 Federal Com 5H

Site Position:		**Northing:**	407,998.200 usft	**Latitude:**	32° 7' 17.40496 N
From:	Map	**Easting:**	570,034.800 usft	**Longitude:**	104° 6' 25.60389 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.12 °

Well 5H

Well Position	**+N/-S**	0.00 ft	**Northing:**	407,998.200 usft	**Latitude:**	32° 7' 17.40496 N
	+E/-W	0.00 ft	**Easting:**	570,034.800 usft	**Longitude:**	104° 6' 25.60389 W
Position Uncertainty		2.00 ft	**Wellhead Elevation:**		**Ground Level:**	3,026.00 ft

Wellbore Wellbore #1

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	4/5/2017	7.23	59.92	48,126.30000000

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**
	0.00	0.00	0.00	179.54

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,552.72	0.00	0.00	7,552.72	0.00	0.00	0.00	0.00	0.00	0.00	
8,303.72	90.12	179.54	8,030.18	-478.45	3.86	12.00	12.00	0.00	179.54	
17,940.43	90.12	179.54	8,010.00	-10,114.82	81.70	0.00	0.00	0.00	0.00	Myox 20 - BHL

Database:	RyanUSA_Compass	**Local Co-ordinate Reference:**	Well 5H
Company:	COG Operating LLC	**TVD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Project:	Eddy Co., NM	**MD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Site:	Myox 20 Federal Com 5H	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
561.00	0.00	0.00	561.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
685.00	0.00	0.00	685.00	0.00	0.00	0.00	0.00	0.00	0.00
TOS									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,279.00	0.00	0.00	2,279.00	0.00	0.00	0.00	0.00	0.00	0.00
BOS									
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,470.00	0.00	0.00	2,470.00	0.00	0.00	0.00	0.00	0.00	0.00
LMAR									
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,530.00	0.00	0.00	2,530.00	0.00	0.00	0.00	0.00	0.00	0.00
BLCN									
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,357.00	0.00	0.00	3,357.00	0.00	0.00	0.00	0.00	0.00	0.00
CYCN									
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	RyanUSA_Compass	**Local Co-ordinate Reference:**	Well 5H
Company:	COG Operating LLC	**TVD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Project:	Eddy Co., NM	**MD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Site:	Myox 20 Federal Com 5H	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,533.00	0.00	0.00	4,533.00	0.00	0.00	0.00	0.00	0.00	0.00
BYCN									
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,079.00	0.00	0.00	6,079.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Sprg									
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,419.00	0.00	0.00	6,419.00	0.00	0.00	0.00	0.00	0.00	0.00
U Acalon Sh									
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,569.00	0.00	0.00	6,569.00	0.00	0.00	0.00	0.00	0.00	0.00
L Acalon SH									
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,026.00	0.00	0.00	7,026.00	0.00	0.00	0.00	0.00	0.00	0.00
FBSG_Sand									
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,552.72	0.00	0.00	7,552.72	0.00	0.00	0.00	0.00	0.00	0.00
KOP: 12° /100									
7,575.00	2.67	179.54	7,574.99	-0.52	0.00	0.52	12.00	12.00	0.00
7,600.00	5.67	179.54	7,599.92	-2.34	0.02	2.34	12.00	12.00	0.00
7,625.00	8.67	179.54	7,624.72	-5.46	0.04	5.46	12.00	12.00	0.00
7,650.00	11.67	179.54	7,649.33	-9.88	0.08	9.88	12.00	12.00	0.00
7,675.00	14.67	179.54	7,673.67	-15.57	0.13	15.57	12.00	12.00	0.00
7,700.00	17.67	179.54	7,697.68	-22.54	0.18	22.54	12.00	12.00	0.00

Database:	RyanUSA_Compass	**Local Co-ordinate Reference:**	Well 5H
Company:	COG Operating LLC	**TVD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Project:	Eddy Co., NM	**MD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Site:	Myox 20 Federal Com 5H	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,725.00	20.67	179.54	7,721.29	-30.74	0.25	30.75	12.00	12.00	0.00
7,750.00	23.67	179.54	7,744.43	-40.18	0.32	40.18	12.00	12.00	0.00
7,775.00	26.67	179.54	7,767.06	-50.81	0.41	50.81	12.00	12.00	0.00
7,800.00	29.67	179.54	7,789.09	-62.61	0.51	62.62	12.00	12.00	0.00
7,825.00	32.67	179.54	7,810.48	-75.55	0.61	75.55	12.00	12.00	0.00
7,850.00	35.67	179.54	7,831.16	-89.59	0.72	89.60	12.00	12.00	0.00
7,868.53	37.90	179.54	7,846.00	-100.69	0.81	100.69	12.00	12.00	0.00
SBSG_Sand									
7,875.00	38.67	179.54	7,851.08	-104.70	0.85	104.70	12.00	12.00	0.00
7,900.00	41.67	179.54	7,870.18	-120.82	0.98	120.83	12.00	12.00	0.00
7,925.00	44.67	179.54	7,888.41	-137.92	1.11	137.93	12.00	12.00	0.00
Myox 20 - FTP									
7,950.00	47.67	179.54	7,905.72	-155.96	1.26	155.96	12.00	12.00	0.00
7,975.00	50.67	179.54	7,922.06	-174.87	1.41	174.88	12.00	12.00	0.00
8,000.00	53.67	179.54	7,937.39	-194.62	1.57	194.62	12.00	12.00	0.00
8,025.00	56.67	179.54	7,951.67	-215.14	1.74	215.14	12.00	12.00	0.00
8,050.00	59.67	179.54	7,964.85	-236.37	1.91	236.38	12.00	12.00	0.00
8,075.00	62.67	179.54	7,976.90	-258.27	2.09	258.28	12.00	12.00	0.00
8,100.00	65.67	179.54	7,987.79	-280.77	2.27	280.78	12.00	12.00	0.00
8,125.00	68.67	179.54	7,997.49	-303.81	2.45	303.82	12.00	12.00	0.00
8,150.00	71.67	179.54	8,005.97	-327.33	2.64	327.34	12.00	12.00	0.00
8,175.00	74.67	179.54	8,013.20	-351.25	2.84	351.26	12.00	12.00	0.00
8,200.00	77.67	179.54	8,019.18	-375.52	3.03	375.54	12.00	12.00	0.00
8,225.00	80.67	179.54	8,023.87	-400.08	3.23	400.09	12.00	12.00	0.00
8,250.00	83.67	179.54	8,027.28	-424.84	3.43	424.85	12.00	12.00	0.00
8,275.00	86.67	179.54	8,029.38	-449.75	3.63	449.76	12.00	12.00	0.00
8,300.00	89.67	179.54	8,030.18	-474.73	3.83	474.75	12.00	12.00	0.00
8,303.72	90.12	179.54	8,030.18	-478.45	3.86	478.47	12.00	12.00	0.00
EOC: Hold Inc & Azm									
8,400.00	90.12	179.54	8,029.98	-574.73	4.64	574.75	0.00	0.00	0.00
8,500.00	90.12	179.54	8,029.77	-674.72	5.45	674.75	0.00	0.00	0.00
8,600.00	90.12	179.54	8,029.56	-774.72	6.26	774.74	0.00	0.00	0.00
8,700.00	90.12	179.54	8,029.35	-874.72	7.07	874.74	0.00	0.00	0.00
8,800.00	90.12	179.54	8,029.14	-974.71	7.87	974.74	0.00	0.00	0.00
8,900.00	90.12	179.54	8,028.93	-1,074.71	8.68	1,074.74	0.00	0.00	0.00
9,000.00	90.12	179.54	8,028.72	-1,174.71	9.49	1,174.74	0.00	0.00	0.00
9,100.00	90.12	179.54	8,028.52	-1,274.70	10.30	1,274.74	0.00	0.00	0.00
9,200.00	90.12	179.54	8,028.31	-1,374.70	11.10	1,374.74	0.00	0.00	0.00
9,300.00	90.12	179.54	8,028.10	-1,474.70	11.91	1,474.74	0.00	0.00	0.00
9,400.00	90.12	179.54	8,027.89	-1,574.69	12.72	1,574.74	0.00	0.00	0.00
9,500.00	90.12	179.54	8,027.68	-1,674.69	13.53	1,674.74	0.00	0.00	0.00
9,600.00	90.12	179.54	8,027.47	-1,774.68	14.33	1,774.74	0.00	0.00	0.00
9,700.00	90.12	179.54	8,027.26	-1,874.68	15.14	1,874.74	0.00	0.00	0.00
9,800.00	90.12	179.54	8,027.05	-1,974.68	15.95	1,974.74	0.00	0.00	0.00
9,900.00	90.12	179.54	8,026.84	-2,074.67	16.76	2,074.74	0.00	0.00	0.00
10,000.00	90.12	179.54	8,026.63	-2,174.67	17.57	2,174.74	0.00	0.00	0.00
10,100.00	90.12	179.54	8,026.42	-2,274.67	18.37	2,274.74	0.00	0.00	0.00
10,200.00	90.12	179.54	8,026.21	-2,374.66	19.18	2,374.74	0.00	0.00	0.00
10,300.00	90.12	179.54	8,026.00	-2,474.66	19.99	2,474.74	0.00	0.00	0.00
10,400.00	90.12	179.54	8,025.79	-2,574.66	20.80	2,574.74	0.00	0.00	0.00
10,500.00	90.12	179.54	8,025.58	-2,674.65	21.60	2,674.74	0.00	0.00	0.00
10,600.00	90.12	179.54	8,025.37	-2,774.65	22.41	2,774.74	0.00	0.00	0.00
10,700.00	90.12	179.54	8,025.16	-2,874.65	23.22	2,874.74	0.00	0.00	0.00

Database:	RyanUSA_Compass	**Local Co-ordinate Reference:**	Well 5H
Company:	COG Operating LLC	**TVD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Project:	Eddy Co., NM	**MD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Site:	Myox 20 Federal Com 5H	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,800.00	90.12	179.54	8,024.96	-2,974.64	24.03	2,974.74	0.00	0.00	0.00
10,900.00	90.12	179.54	8,024.75	-3,074.64	24.83	3,074.74	0.00	0.00	0.00
11,000.00	90.12	179.54	8,024.54	-3,174.64	25.64	3,174.74	0.00	0.00	0.00
11,100.00	90.12	179.54	8,024.33	-3,274.63	26.45	3,274.74	0.00	0.00	0.00
11,200.00	90.12	179.54	8,024.12	-3,374.63	27.26	3,374.74	0.00	0.00	0.00
11,300.00	90.12	179.54	8,023.91	-3,474.63	28.07	3,474.74	0.00	0.00	0.00
11,400.00	90.12	179.54	8,023.70	-3,574.62	28.87	3,574.74	0.00	0.00	0.00
11,500.00	90.12	179.54	8,023.49	-3,674.62	29.68	3,674.74	0.00	0.00	0.00
11,600.00	90.12	179.54	8,023.28	-3,774.62	30.49	3,774.74	0.00	0.00	0.00
11,700.00	90.12	179.54	8,023.07	-3,874.61	31.30	3,874.74	0.00	0.00	0.00
11,800.00	90.12	179.54	8,022.86	-3,974.61	32.10	3,974.74	0.00	0.00	0.00
11,900.00	90.12	179.54	8,022.65	-4,074.60	32.91	4,074.74	0.00	0.00	0.00
12,000.00	90.12	179.54	8,022.44	-4,174.60	33.72	4,174.74	0.00	0.00	0.00
12,100.00	90.12	179.54	8,022.23	-4,274.60	34.53	4,274.74	0.00	0.00	0.00
12,200.00	90.12	179.54	8,022.02	-4,374.59	35.33	4,374.74	0.00	0.00	0.00
12,300.00	90.12	179.54	8,021.81	-4,474.59	36.14	4,474.74	0.00	0.00	0.00
12,400.00	90.12	179.54	8,021.60	-4,574.59	36.95	4,574.74	0.00	0.00	0.00
12,500.00	90.12	179.54	8,021.39	-4,674.58	37.76	4,674.74	0.00	0.00	0.00
12,600.00	90.12	179.54	8,021.19	-4,774.58	38.57	4,774.74	0.00	0.00	0.00
12,700.00	90.12	179.54	8,020.98	-4,874.58	39.37	4,874.74	0.00	0.00	0.00
12,800.00	90.12	179.54	8,020.77	-4,974.57	40.18	4,974.74	0.00	0.00	0.00
12,900.00	90.12	179.54	8,020.56	-5,074.57	40.99	5,074.74	0.00	0.00	0.00
13,000.00	90.12	179.54	8,020.35	-5,174.57	41.80	5,174.74	0.00	0.00	0.00
13,100.00	90.12	179.54	8,020.14	-5,274.56	42.60	5,274.74	0.00	0.00	0.00
13,200.00	90.12	179.54	8,019.93	-5,374.56	43.41	5,374.73	0.00	0.00	0.00
13,300.00	90.12	179.54	8,019.72	-5,474.56	44.22	5,474.73	0.00	0.00	0.00
13,400.00	90.12	179.54	8,019.51	-5,574.55	45.03	5,574.73	0.00	0.00	0.00
13,500.00	90.12	179.54	8,019.30	-5,674.55	45.83	5,674.73	0.00	0.00	0.00
13,600.00	90.12	179.54	8,019.09	-5,774.55	46.64	5,774.73	0.00	0.00	0.00
13,700.00	90.12	179.54	8,018.88	-5,874.54	47.45	5,874.73	0.00	0.00	0.00
13,800.00	90.12	179.54	8,018.67	-5,974.54	48.26	5,974.73	0.00	0.00	0.00
13,900.00	90.12	179.54	8,018.46	-6,074.54	49.07	6,074.73	0.00	0.00	0.00
14,000.00	90.12	179.54	8,018.25	-6,174.53	49.87	6,174.73	0.00	0.00	0.00
14,100.00	90.12	179.54	8,018.04	-6,274.53	50.68	6,274.73	0.00	0.00	0.00
14,200.00	90.12	179.54	8,017.83	-6,374.52	51.49	6,374.73	0.00	0.00	0.00
14,300.00	90.12	179.54	8,017.62	-6,474.52	52.30	6,474.73	0.00	0.00	0.00
14,400.00	90.12	179.54	8,017.42	-6,574.52	53.10	6,574.73	0.00	0.00	0.00
14,500.00	90.12	179.54	8,017.21	-6,674.51	53.91	6,674.73	0.00	0.00	0.00
14,600.00	90.12	179.54	8,017.00	-6,774.51	54.72	6,774.73	0.00	0.00	0.00
14,700.00	90.12	179.54	8,016.79	-6,874.51	55.53	6,874.73	0.00	0.00	0.00
14,800.00	90.12	179.54	8,016.58	-6,974.50	56.33	6,974.73	0.00	0.00	0.00
14,900.00	90.12	179.54	8,016.37	-7,074.50	57 14	7,074.73	0.00	0.00	0.00
15,000.00	90.12	179.54	8,016.16	-7,174.50	57.95	7,174.73	0.00	0.00	0.00
15,100.00	90.12	179.54	8,015.95	-7,274.49	58.76	7,274.73	0.00	0.00	0.00
15,200.00	90.12	179.54	8,015.74	-7,374.49	59.57	7,374.73	0.00	0.00	0.00
15,300.00	90.12	179.54	8,015.53	-7,474.49	60.37	7,474.73	0.00	0.00	0.00
15,400.00	90.12	179.54	8,015.32	-7,574.48	61.18	7,574.73	0.00	0.00	0.00
15,500.00	90.12	179.54	8,015.11	-7,674.48	61.99	7,674.73	0.00	0.00	0.00
15,600.00	90.12	179.54	8,014.90	-7,774.48	62.80	7,774.73	0.00	0.00	0.00
15,700.00	90.12	179.54	8,014.69	-7,874.47	63.60	7,874.73	0.00	0.00	0.00
15,800.00	90.12	179.54	8,014.48	-7,974.47	64.41	7,974.73	0.00	0.00	0.00
15,900.00	90.12	179.54	8,014.27	-8,074.47	65.22	8,074.73	0.00	0.00	0.00
16,000.00	90.12	179.54	8,014.06	-8,174.46	66.03	8,174.73	0.00	0.00	0.00
16,100.00	90.12	179.54	8,013.85	-8,274.46	66.84	8,274.73	0.00	0.00	0.00

Database:	RyanUSA_Compass	**Local Co-ordinate Reference:**	Well 5H
Company:	COG Operating LLC	**TVD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Project:	Eddy Co., NM	**MD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Site:	Myox 20 Federal Com 5H	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,200.00	90.12	179.54	8,013.65	-8,374.46	67.64	8,374.73	0.00	0.00	0.00
16,300.00	90.12	179.54	8,013.44	-8,474.45	68.45	8,474.73	0.00	0.00	0.00
16,400.00	90.12	179.54	8,013.23	-8,574.45	69.26	8,574.73	0.00	0.00	0.00
16,500.00	90.12	179.54	8,013.02	-8,674.44	70.07	8,674.73	0.00	0.00	0.00
16,600.00	90.12	179.54	8,012.81	-8,774.44	70.87	8,774.73	0.00	0.00	0.00
16,700.00	90.12	179.54	8,012.60	-8,874.44	71.68	8,874.73	0.00	0.00	0.00
16,800.00	90.12	179.54	8,012.39	-8,974.43	72.49	8,974.73	0.00	0.00	0.00
16,900.00	90.12	179.54	8,012.18	-9,074.43	73.30	9,074.73	0.00	0.00	0.00
17,000.00	90.12	179.54	8,011.97	-9,174.43	74.10	9,174.73	0.00	0.00	0.00
17,100.00	90.12	179.54	8,011.76	-9,274.42	74.91	9,274.73	0.00	0.00	0.00
17,200.00	90.12	179.54	8,011.55	-9,374.42	75.72	9,374.73	0.00	0.00	0.00
17,300.00	90.12	179.54	8,011.34	-9,474.42	76.53	9,474.73	0.00	0.00	0.00
17,400.00	90.12	179.54	8,011.13	-9,574.41	77.34	9,574.73	0.00	0.00	0.00
17,500.00	90.12	179.54	8,010.92	-9,674.41	78.14	9,674.73	0.00	0.00	0.00
17,600.00	90.12	179.54	8,010.71	-9,774.41	78.95	9,774.73	0.00	0.00	0.00
17,700.00	90.12	179.54	8,010.50	-9,874.40	79.76	9,874.73	0.00	0.00	0.00
17,800.00	90.12	179.54	8,010.29	-9,974.40	80.57	9,974.72	0.00	0.00	0.00
17,900.00	90.12	179.54	8,010.08	-10,074.40	81.37	10,074.72	0.00	0.00	0.00
17,940.43	90.12	179.54	8,010.00	-10,114.82	81.70	10,115.15	0.00	0.00	0.00
Myox 20 - BHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Myox 20 - BHL - plan hits target center - Point	0.00	0.00	8,010.00	-10,114.82	81.70	397,883.400	570,116.500	32° 5' 37.30225 N	104° 6' 24.90089 W
Myox 20 - FTP - plan misses target center by 197.57ft at 7925.00ft MD (7888.41 TVD, -137.92 N, 1.11 E) - Point	0.00	0.00	8,030.00	-0.14	0.06	407,998.062	570,034.859	32° 7' 17.40360 N	104° 6' 25.60320 W

Database:	RyanUSA_Compass	**Local Co-ordinate Reference:**	Well 5H
Company:	COG Operating LLC	**TVD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Project:	Eddy Co., NM	**MD Reference:**	RT = 24 @ 3050.00ft (Ensign 156)
Site:	Myox 20 Federal Com 5H	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
561.00	561.00	Rustler		0.00	
685.00	685.00	TOS		0.00	
2,279.00	2,279.00	BOS		0.00	
2,470.00	2,470.00	LMAR		0.00	
2,530.00	2,530.00	BLCN		0.00	
3,357.00	3,357.00	CYCN		0.00	
4,533.00	4,533.00	BYCN		0.00	
6,079.00	6,079.00	Bone Sprg		0.00	
6,419.00	6,419.00	U Acalon Sh		0.00	
6,569.00	6,569.00	L Acalon SH		0.00	
7,026.00	7,026.00	FBSG_Sand		0.00	
7,868.53	7,846.00	SBSG_Sand		0.00	

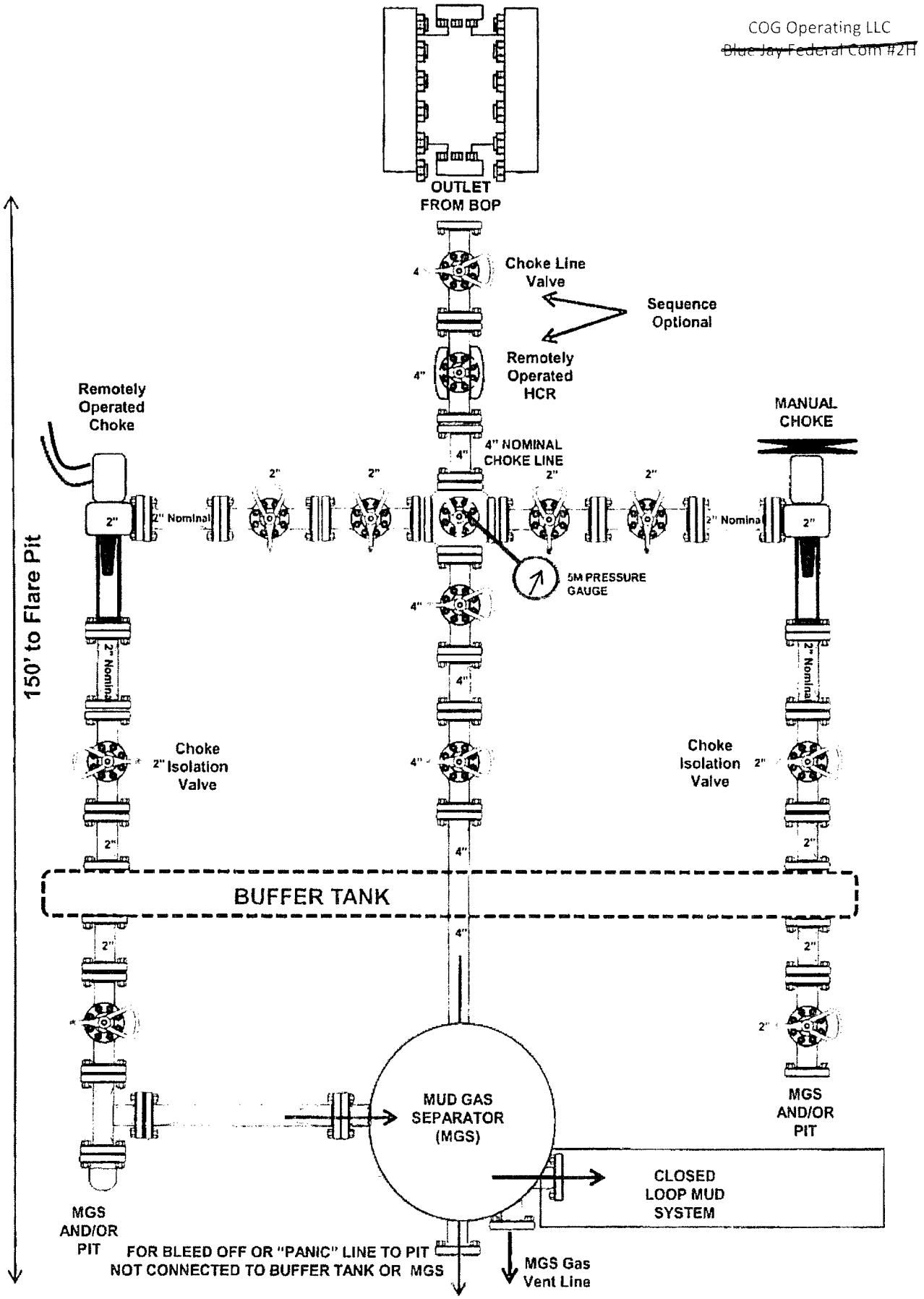
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
7,552.72	7,552.72	0.00	0.00	KOP: 12° /100
8,303.72	8,030.18	-478.45	3.86	EOC: Hold Inc & Azm

2M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)

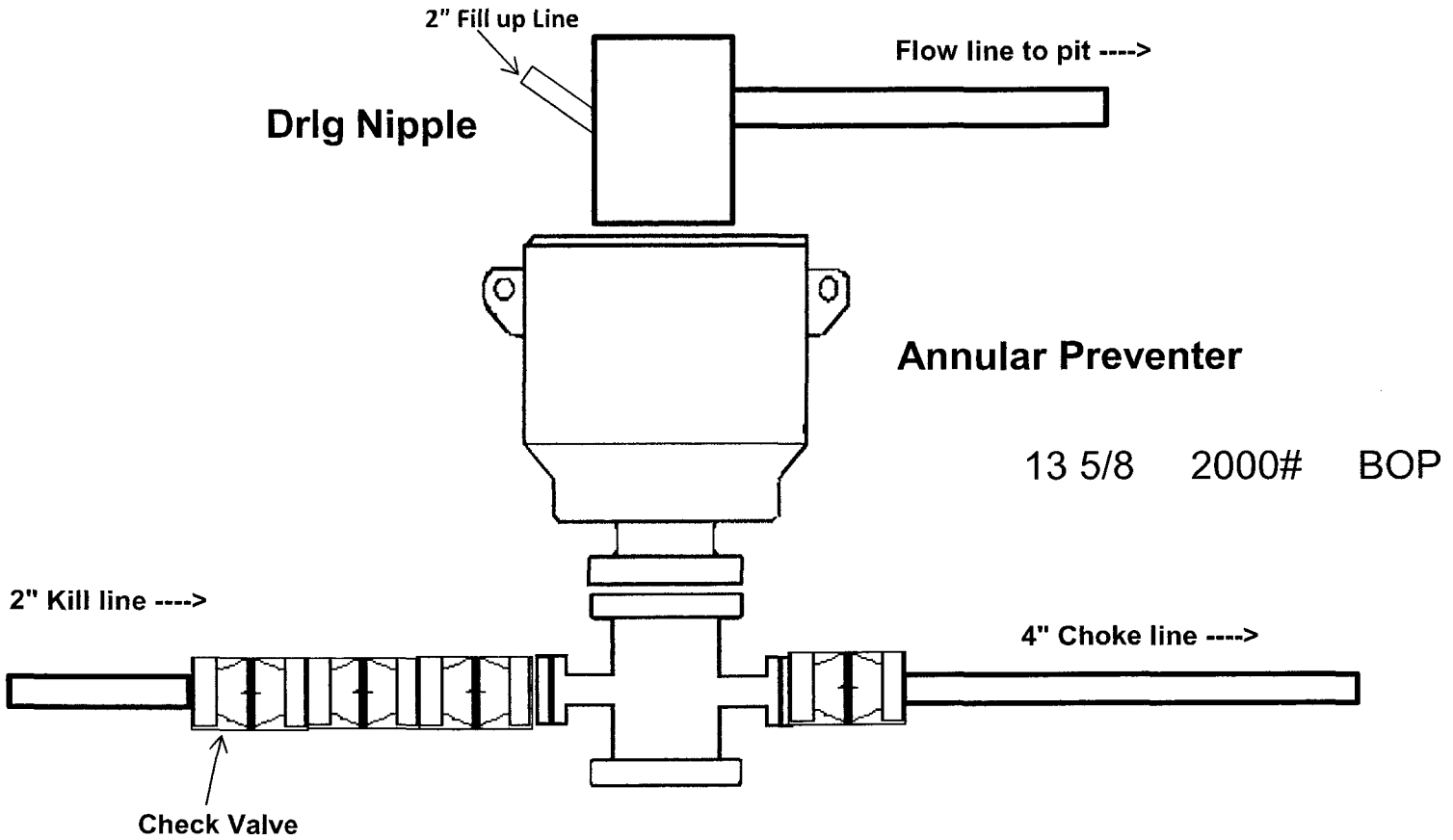
COG Operating LLC

~~Blue Jay Federal Com #2H~~

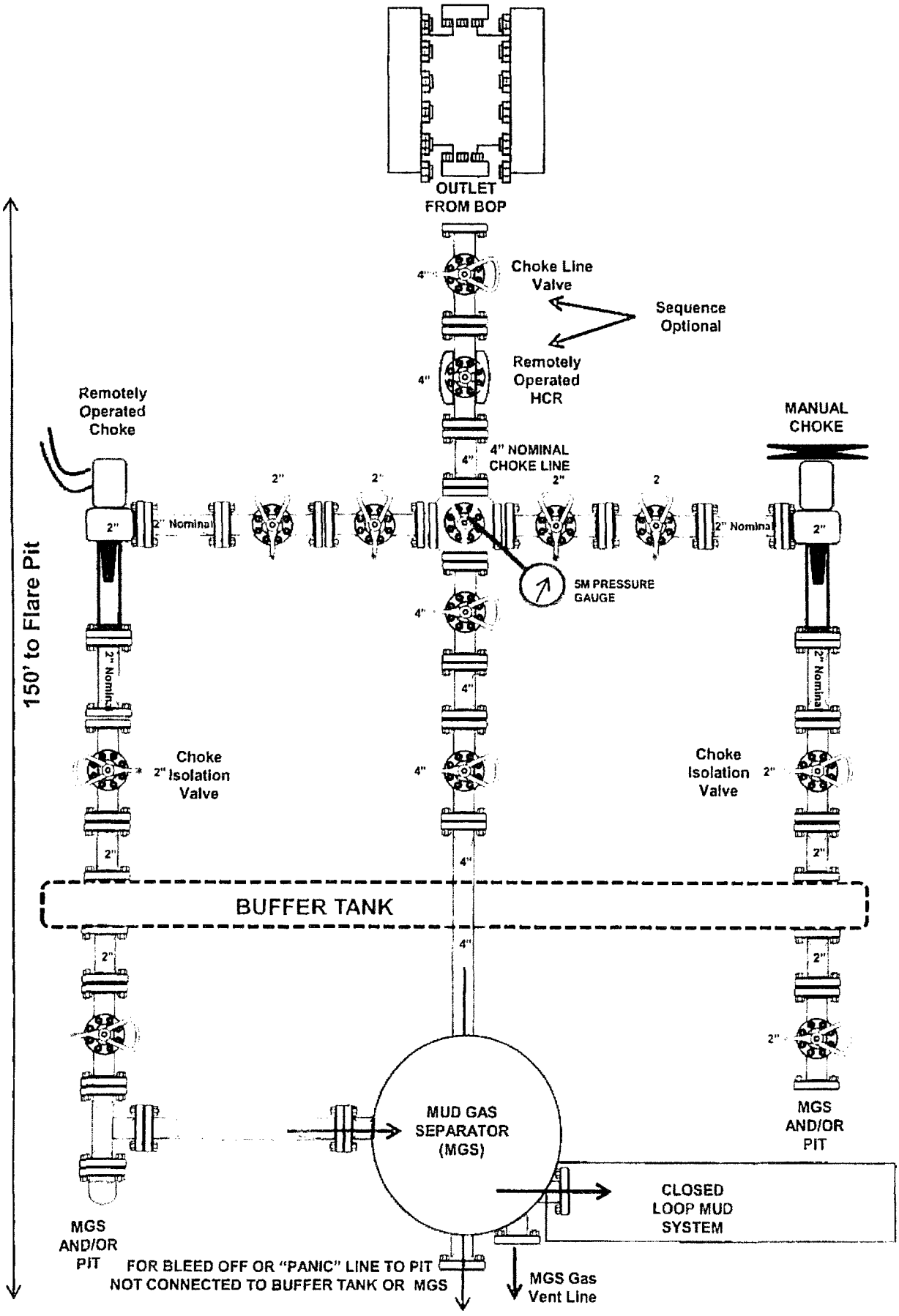


COG Operating LLC
~~Blue Jay Federal Com #2H~~

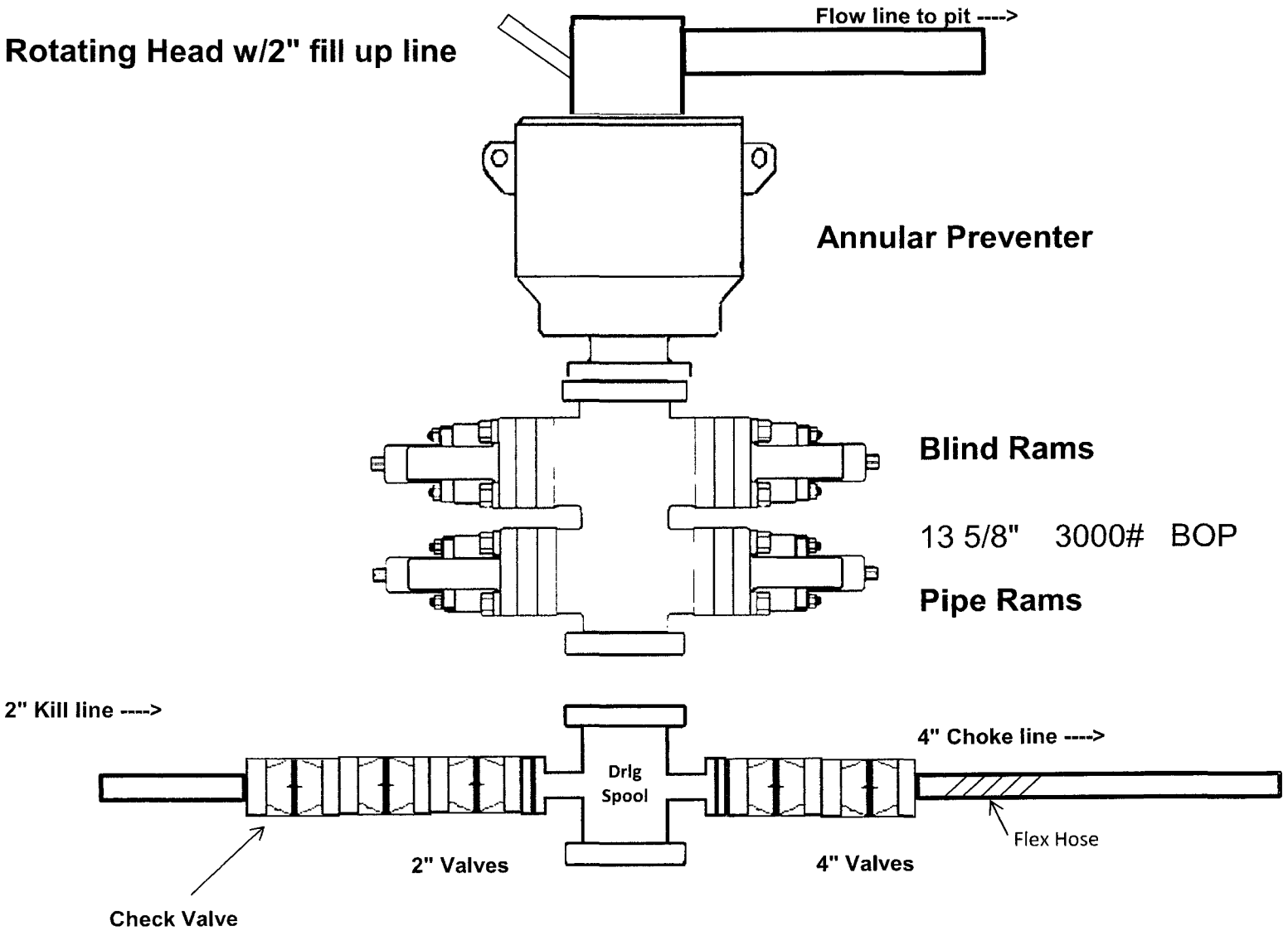
2,000 psi BOP Schematic



3M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)



3,000 psi BOP Schematic



A Tomkins Company

Robsco, Inc.
OILFIELD RUBBER PRODUCTS
4749 Eastpark Drive
Houston, TX 77028
United States of America

Gates Corporation Authorized Rotary and Vibrator Hose Subcontracted Fabricator

Hydrostatic Test Certification

Robsco, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the hydrostatic test per API Spec 7K, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.25 times the working pressure per Table 9.

Assembly Part Number	**Serial Number / Date Code**
36332R3-1/16HUB10K-LL-L	L32461102512R112712-5

		Chart Recorder Information	
Hose Size	**Testers**	**Serial Number**	**Calibration Date**
3.5IN X 32FT	OC CS	Recorder 22349	Oct. 19th 2012

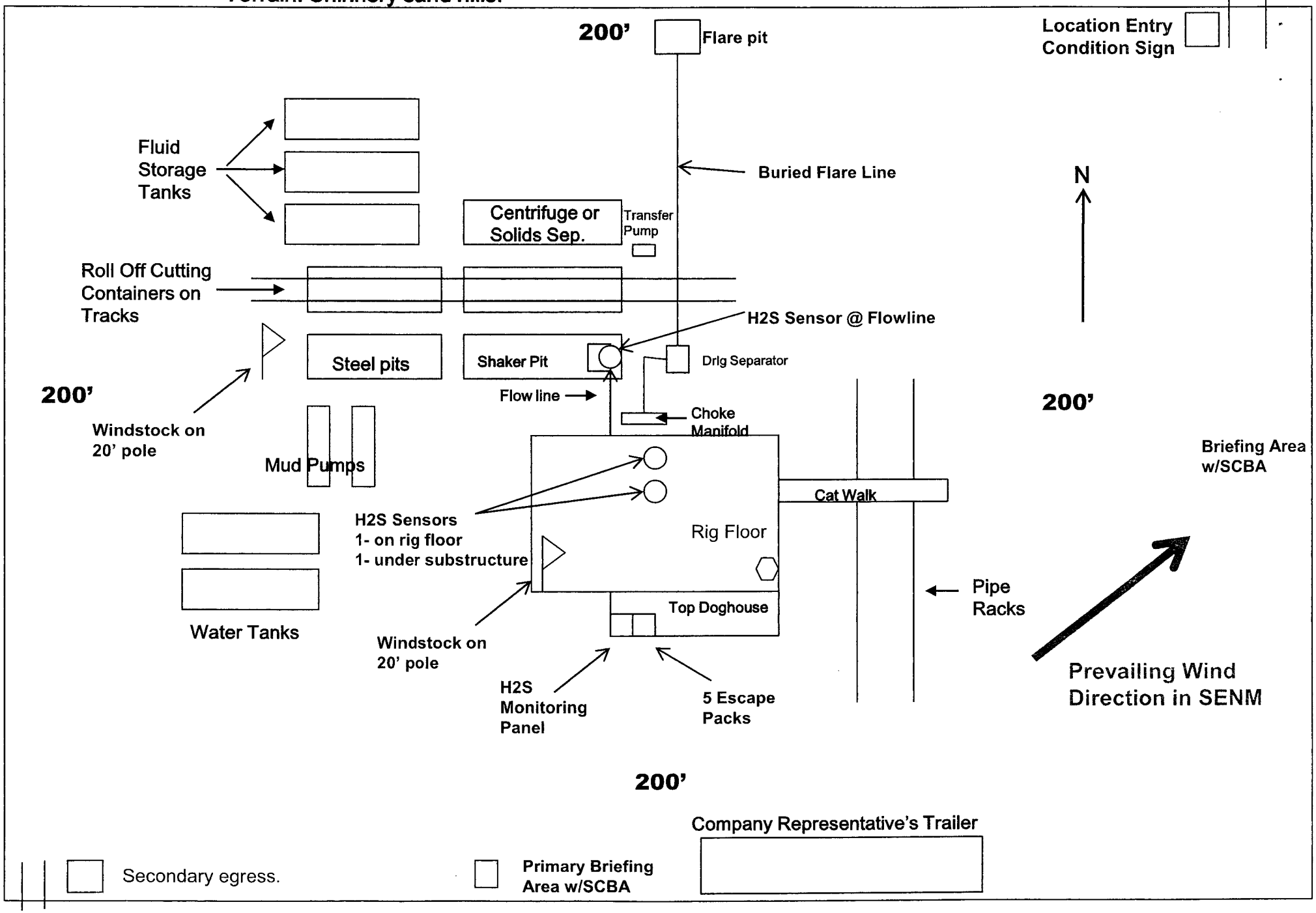
Lloyd's Register Type Approved for Fire Test OD/1000/499 Rev 1

Hydrostatic Test: **Passed**
Visual Inspection: **Passed**

QA Representative Signature	11/28/2012 **Date & Initial**

COG Operating LLC
H_2S Equipment Schematic
Terrain: Shinnery sand hills.

Well pad will be 400' x 400'
with cellar in center of pad



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

a. The hazards and characteristics of hydrogen sulfide (H_2S).
b. The proper use and maintenance of personal protective equipment and life support systems.
c. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
d. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

a. The effects of H2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
c. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H2S. If H2S greater than 100 ppm is encountered in the gas stream we will shut in and install H2S equipment.

a. Well Control Equipment:
   Flare line.
   Choke manifold with remotely operated choke.
   Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
   Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.

c. H2S detection and monitoring equipment:
2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.

d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.

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

g. Communication:
Company vehicles equipped with cellular telephone.

COG OPERATING LLC has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore, we do not believe that an H2S contingency plan is necessary.

WARNING

YOU ARE ENTERING AN H_2S AREA
AUTHORIZED PERSONNEL ONLY

1. ***BEARDS OR CONTACT LENSES NOT ALLOWED***
2. ***HARD HATS REQUIRED***
3. ***SMOKING IN DESIGNATED AREAS ONLY***
4. ***BE WIND CONSCIOUS AT ALL TIMES***
5. ***CK WITH COG OPERATING LLC FOREMAN AT MAIN OFFICE***

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

	OFFICE	MOBILE
COG OPERATING LLC OFFICE	575-748-6940	
SETH WILD	432-683-7443	432-528-3633
WALTER ROYE	575-748-6940	432-934-1886

EMERGENCY RESPONSE NUMBERS

	OFFICE
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram

Well pad will be 400' X 400' with cellar in center of pad

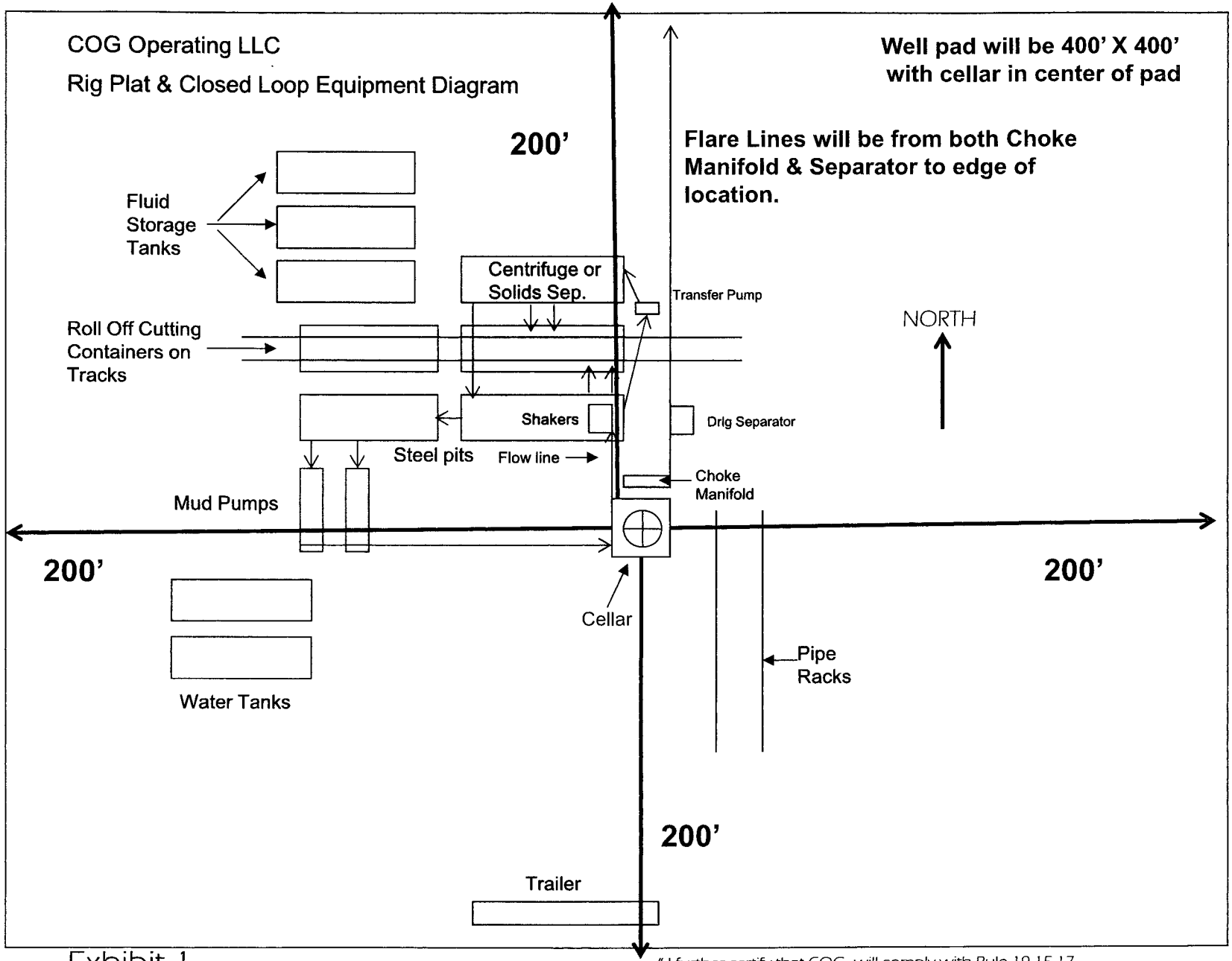


Exhibit 1

"I further certify that COG will comply with Rule 19.15.17 NMAC by using a Closed Loop System."

PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating
LEASE NO.:	NM100550
WELL NAME & NO.:	Myox 20 Federal Com – 5H
SURFACE HOLE FOOTAGE:	330'/N & 2090'/E
BOTTOM HOLE FOOTAGE	200'/S & 2090'/E, sec. 29
LOCATION:	Sec. 20, T. 25 S, R. 28 E
COUNTY:	Eddy County

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM**

office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium Cave Karst
Possibility of water flows in the Castile and Salado
Possibility of lost circulation in the Salado and Delaware

1. The **13-3/8** inch surface casing shall be set at approximately **631** feet and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement should tie-back at least **200** feet into the previous string. Operator shall provide method of verification.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53.

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8"** surface casing shoe shall be **2000 (2M) annular (tested to 2000 psi). In the case where the only BOP installed**

is an annular preventer, it shall be tested to a minimum of 2000 psi (which may require upgrading to 3M or 5M annular).

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8"** intermediate casing shoe shall be **3000 (3M)** psi.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

    e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to

the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

F. SPECIAL REQUIREMENT(S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

Waste Minimization Plan:

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

MHH 06272017

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating
LEASE NO.:	NM100550
WELL NAME & NO.:	Myox 20 Federal Com – 5H
SURFACE HOLE FOOTAGE:	330'/N & 2090'/E
BOTTOM HOLE FOOTAGE	200'/S & 2090'/E, sec. 29
LOCATION:	Section 20, T. 25 S., R. 28 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation
The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:
In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:
No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:
The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:
Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:
Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation
The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:
Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:
ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:
Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:
Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Watershed

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

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

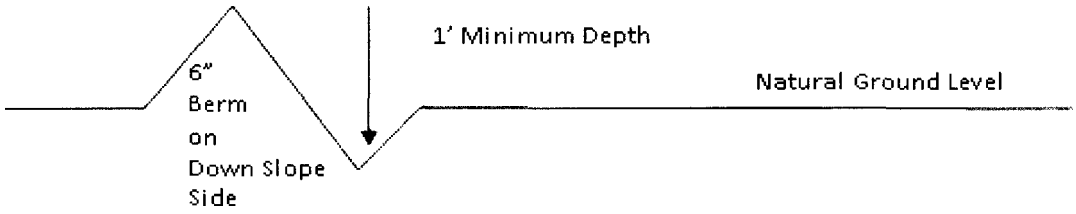
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

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

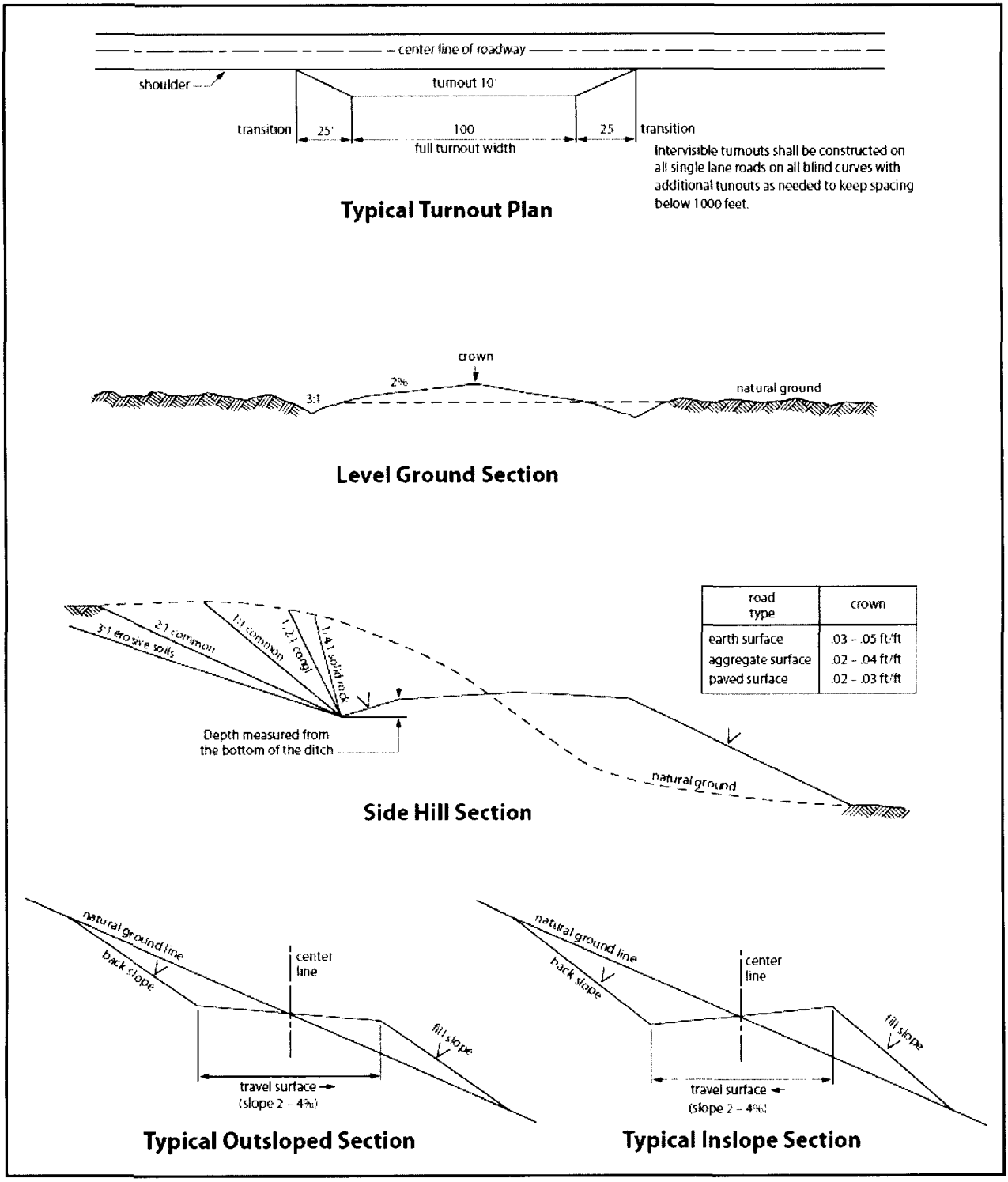


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 1 for Loamy Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed shall be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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