15-701

Form 3160-3 (March 2012)

NM OIL CONSERVATION
ARTESIA DISTRICT
MAY 16 2016
RECEIVED

OCD Artesia

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.
SHL: NMLC0029358
BHL: NMNM0107697

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.
Screwdriver 24 Federal Com #1H

2. Name of Operator
COG Operating LLC

9. API Well No.
30-015-43788

3a. Address
2208 West Main Street
Artesia, NM 88210

3b. Phone No. *(include area code)*
575-748-6940

10. Field and Pool, or Exploratory
Lusk; Bone Spring, West

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 1540' FSL & 490' FWL UL I (NESE) SHL: Sec 24-19S-T31E
At proposed prod. Zone 2240' FSL & 330' FWL UL L (NWSW) BHL: Sec 24-T19S-R31E

11. Sec., T.R.M. or Blk and Survey or Area
Sec 24-T19S-R31E

14. Distance in miles and direction from nearest town or post office*
Approximately 14 miles from Maljamar

12. County or Parish
Eddy County

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. Unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
490'	SHL: 240 BHL: 2,321.52	160
18. Distance from location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
SHL: 512' BHL: 420'	TVD: 9,210' MD: 13,527'	NMB000740 & NMB000215
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3547.5' GL	9/1/2015	30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall 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 shall 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 authorized officer.

25. Signature	Name *(Printed/Typed)*	Date
Mayte Reyes	Mayte Reyes	6-8-15

Title
Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/George MacDonell		MAY - 5 2016
Title	**Office**	
FIELD MANAGER	CARLSBAD FIELD OFFICE	

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

APPROVAL FOR TWO YEARS

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)

Capitan Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

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

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

NM OIL CONSERVATION
ARTESIA DISTRICT
MAY 16 2016
RECEIVED

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015- 43788	41480	Lusk; Bone Spring, West

Property Code	Property Name	Well Number
314112	SCREWDRIVER 24 FEDERAL COM	1H

OGRID No.	Operator Name	Elevation
229137	COG OPERATING, LLC	3547.5'

Surface Location

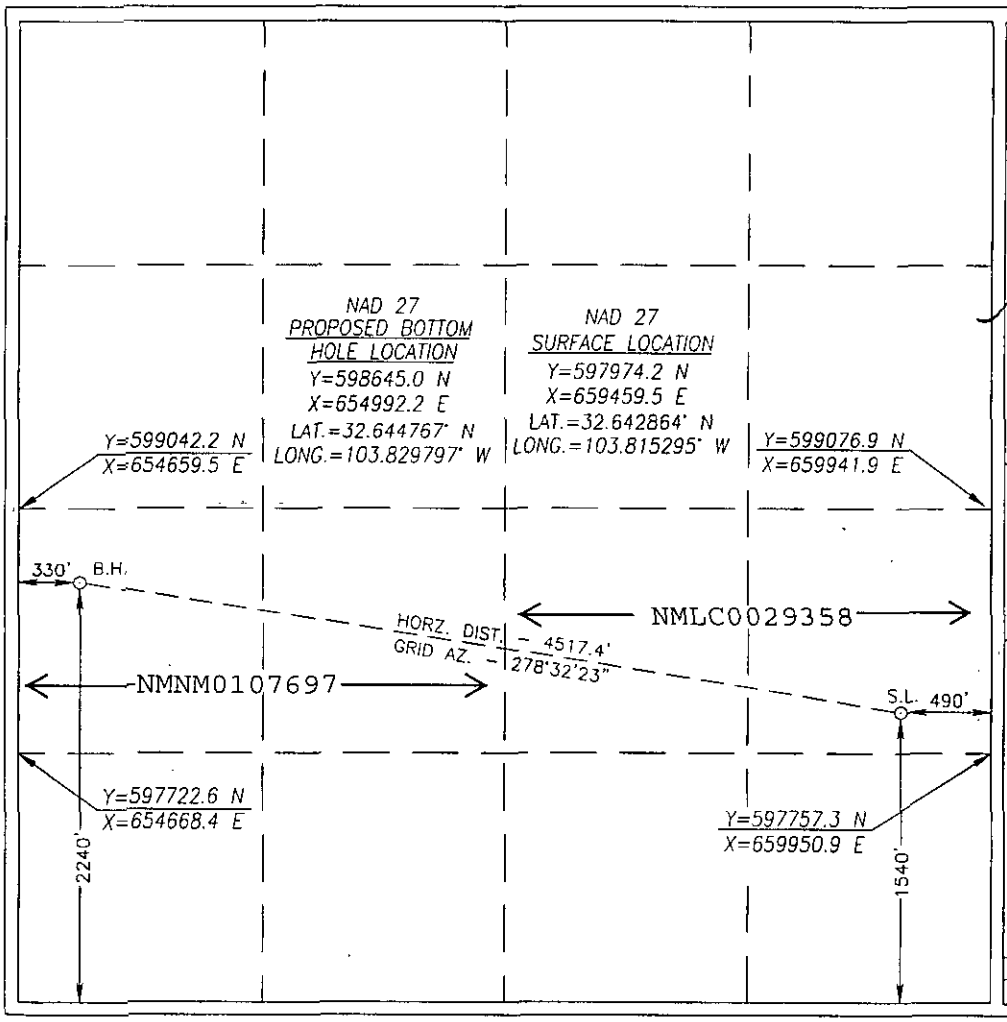
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	24	19-S	31-E		1540	SOUTH	490	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	24	19-S	31-E		2240	SOUTH	330	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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



OPERATOR CERTIFICATION

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

Melanie J Wilson 6/14/15
Signature Date

Melanie J Wilson
Printed Name

mwilson@concho.com
E-mail Address

SURVEYOR CERTIFICATION

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

AUGUST 8, 2014
Date of Survey

Signature & Seal of Professional Surveyor

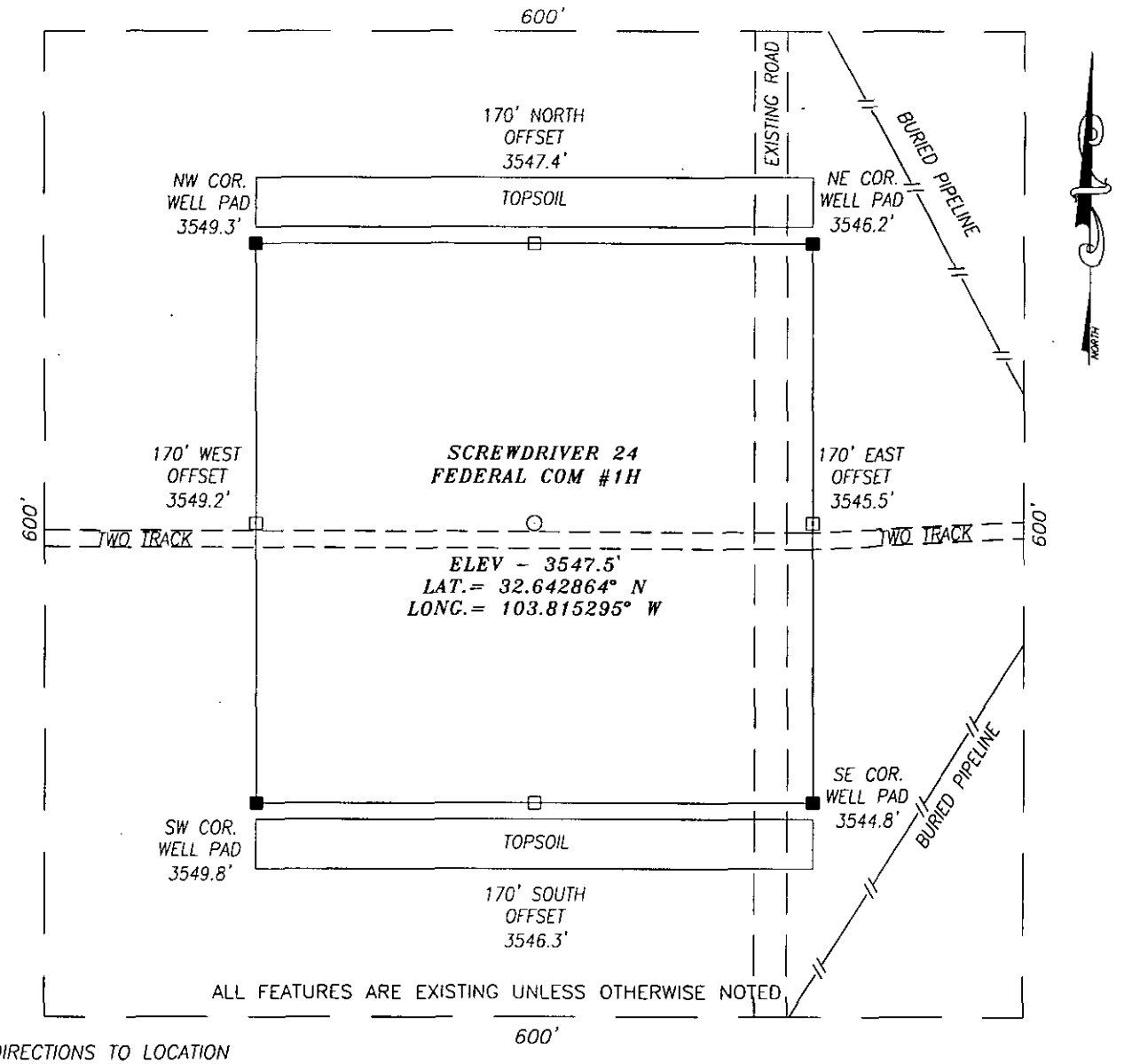
CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 8/28/14
Certificate No. CHAD HARCROW 17777

W.O. # 14-703 DRAWN BY: JC

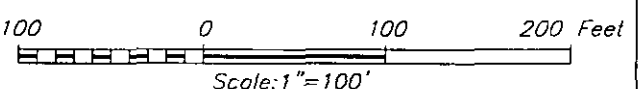
SECTION 24, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF LUSK PLANT RD. AND CR #126A (MALJAMAR RD.) GO APPROX. 1.0 MILE WEST ALONG LUSK PLANT ROAD; THEN TURN LEFT (SOUTH) ONTO A CALICHE LEASE ROAD AND GO APPROX. 0.3 MILE; THEN TURN RIGHT (WEST) ONTO A TWO TRACK ROAD AND GO APPROX. 0.2 MILE; THEN PROPOSED WELL IS APPROX. 10 FEET NORTH.



Scale: 1"=100'

HARCROW SURVEYING, LLC
2314 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com

COG OPERATING LLC		
SCREWDRIVER 24 FEDERAL COM #1H WELL LOCATED 1540 FEET FROM THE SOUTH LINE AND 490 FEET FROM THE EAST LINE OF SECTION 24, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO		
SURVEY DATE: 8/8/2014		PAGE: 1 OF 1
DRAFTING DATE: 5/19/2015		
APPROVED BY: CH	DRAWN BY: JC	FILE: 15-615

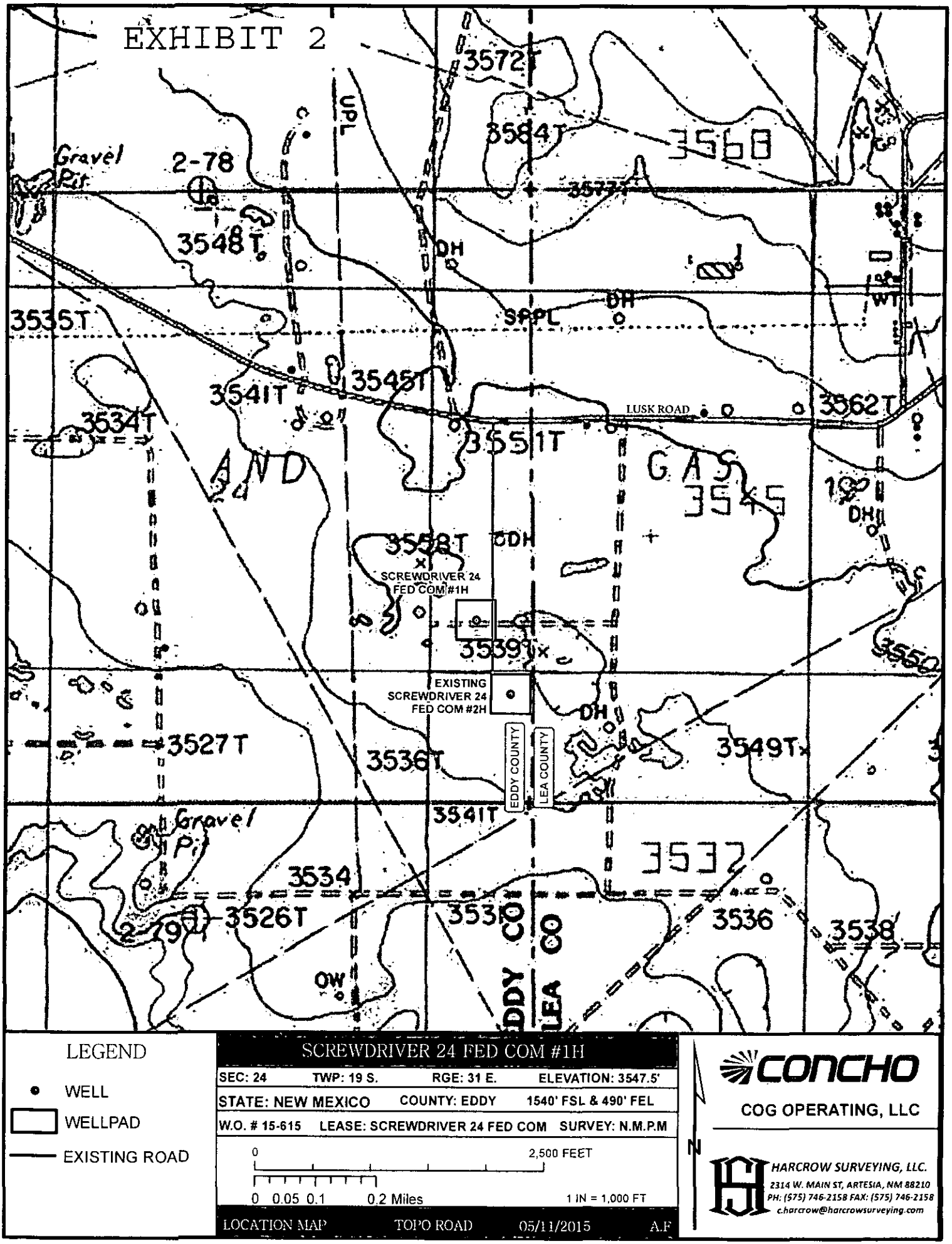


EXHIBIT 2
3572T
3584T
3560
Gravel Pit
2-78
3548T
3573T
DH
3535T
SPPL
3545T
3541T
3534T
LUSK ROAD
3562T
3551T
AND
GAS
3545
3558T
SCREWDRIVER 24 FED COM #1H
3539T
EXISTING SCREWDRIVER 24 FED COM #2H
3527T
3536T
EDDY COUNTY
LEA COUNTY
3549T
Gravel Pit
3532
3534
3526T
3538
OW
EDDY CO
LEA CO
LEGEND
WELL
WELLPAD
EXISTING ROAD
SCREWDRIVER 24 FED COM #1H
SEC: 24 TWP: 19 S. RGE: 31 E. ELEVATION: 3547.5'
STATE: NEW MEXICO COUNTY: EDDY 1540' FSL & 490' FEL
W.O. # 15-615 LEASE: SCREWDRIVER 24 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 TOPO ROAD 05/11/2015 A.F
N
CONCHO
COG OPERATING, LLC
HARCROW SURVEYING, LLC.
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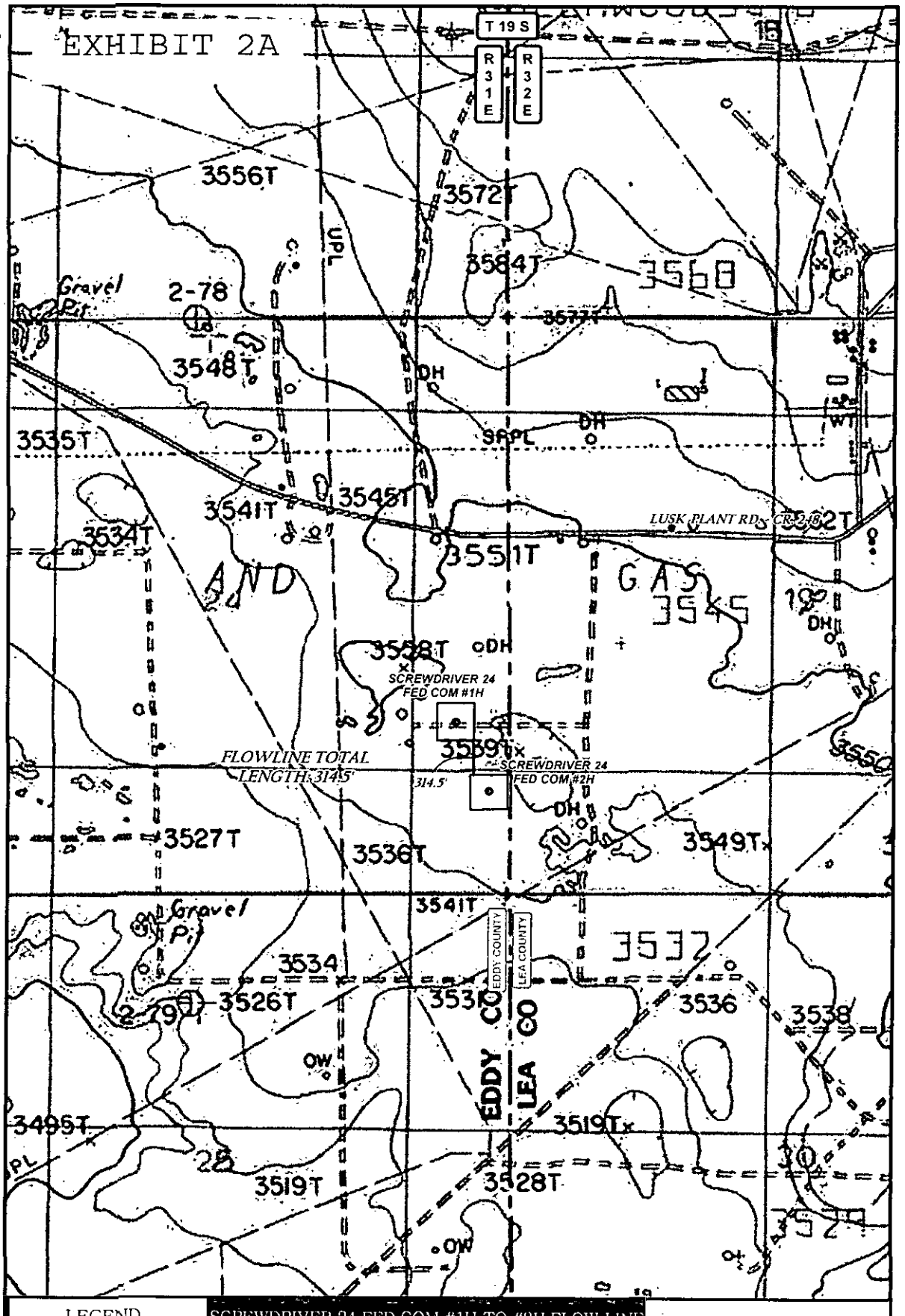
c.harcrow@harcrowsurveying.com



LEGEND

- WELL
- WELLPAD
- FLOWLINE

SCREWDRIVER 24 FED COM #1H TO #2H FLOW LINE

SECTION: 24	TOWNSHIP: 19 S.	RANGE: 31 E.
STATE: NEW MEXICO	COUNTY: EDDY	SURVEY: N.M.P.M
W.O. # 15-615	LEASE: SCREW DRIVER 24 FED COM	

0 2,500 FEET

0 0.05 0.1 0.2 Miles 1 IN = 1,000 FT

PIPELINE OVERVIEW TOPO 05/22/2015 S.P.

CONCHO

COG OPERATING, LLC

N

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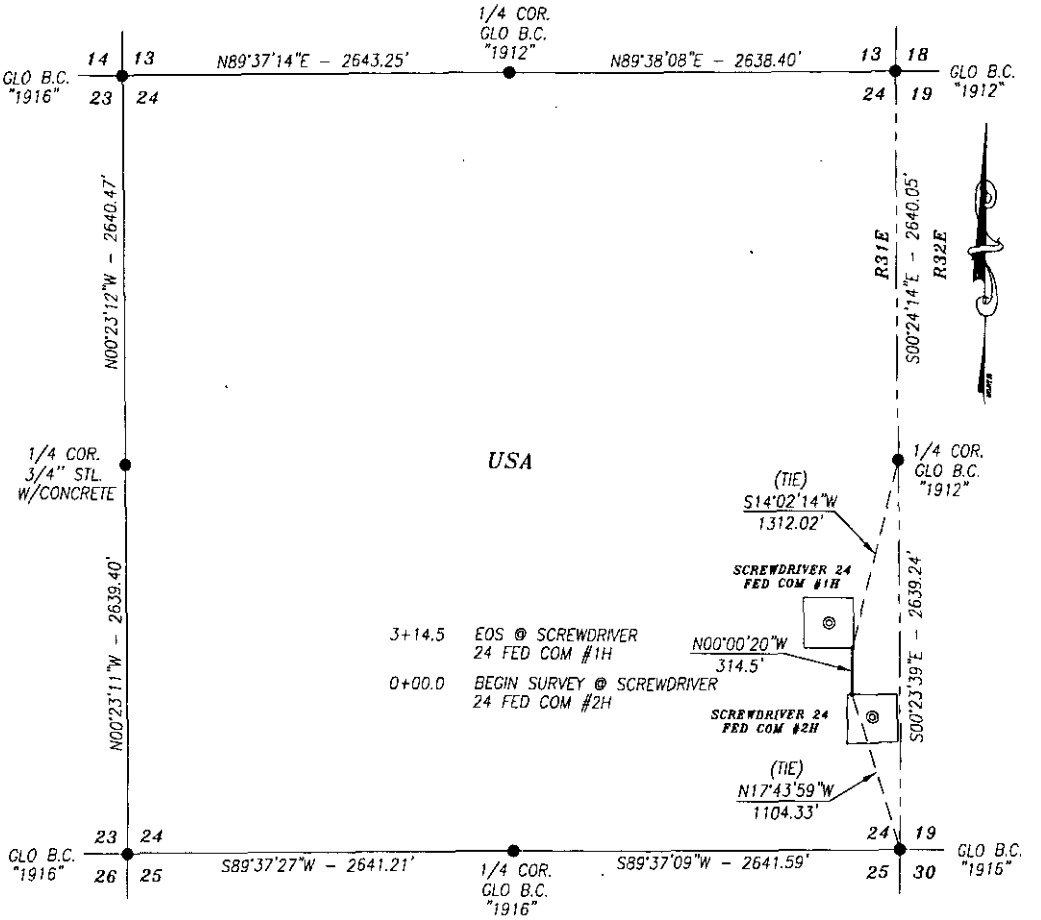
EXHIBIT 2B

FLOW LINE PLAT
COG OPERATING, LLC.

A FLOW LINE FROM THE SCREWDRIVER 24 FED COM #2H TO
THE SCREWDRIVER 24 FED COM #1H

SECTION 24, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 314.5 FEET OR 19.06 RODS OR 0.060 MILES IN LENGTH CROSSING USA LAND IN SECTION 24, TOWNSHIP 19 SOUTH, RANGE 31 EAST, EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

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.

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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

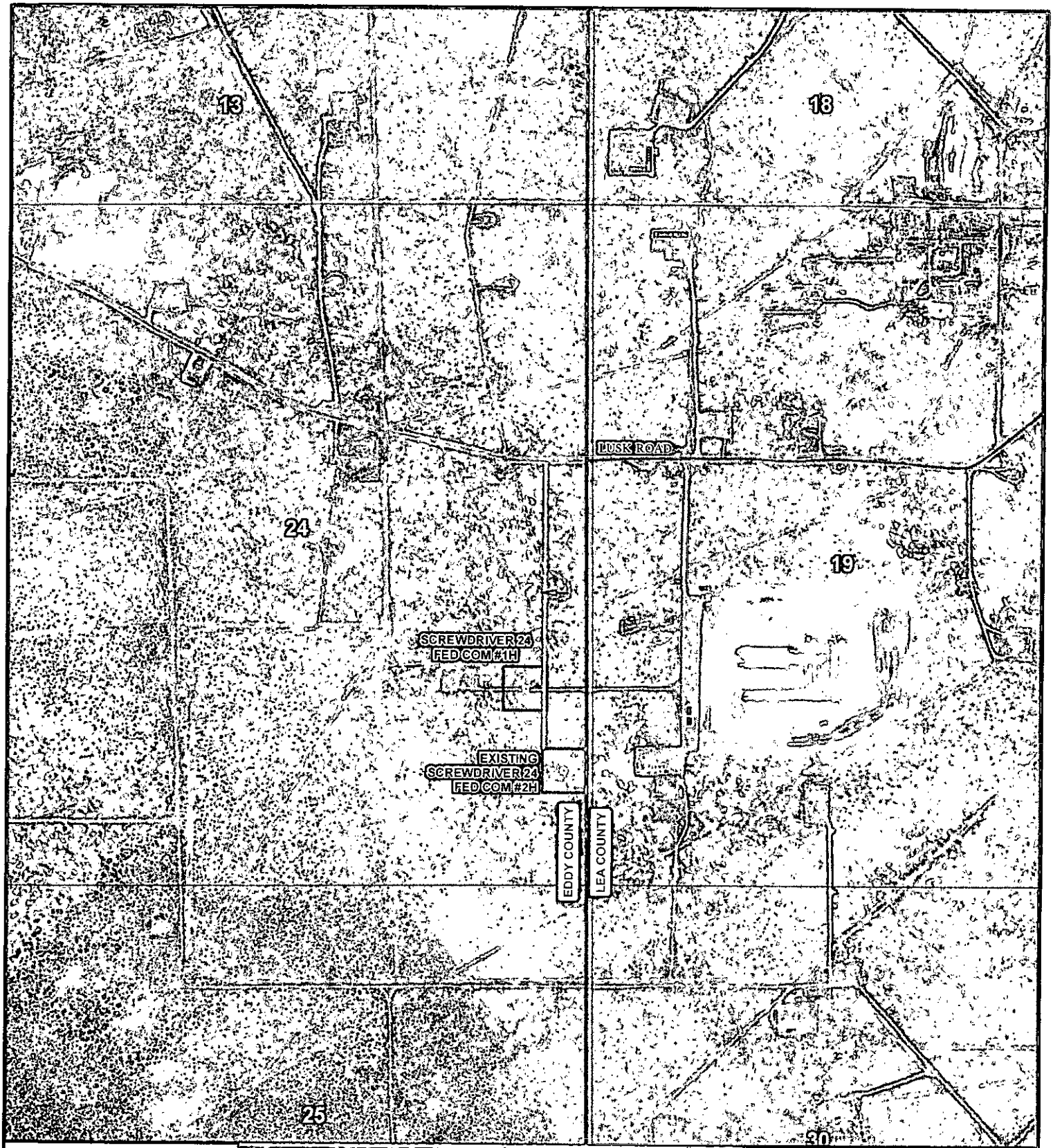
Chad Harcrow 5/22/15
CHAD HARCROW N.M.P.S. NO. 17777 DATE

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

COG OPERATING, LLC

SURVEY OF A PROPOSED FLOW LINE LOCATED IN SECTION 24, TOWNSHIP 19 SOUTH, RANGE 31 EAST, EDDY COUNTY, NMPM, NEW MEXICO

SURVEY DATE: MAY 22, 2015		
DRAFTING DATE: MAY 22, 2015		PAGE 1 OF 1
APPROVED BY: CH	DRAWN BY: SP	FILE: 15-615



LEGEND

- WELL
- WELLPAD
- EXISTING ROAD

SCREWDRIVER 24 FED COM #1H

SEC: 24	TWP: 19 S.	RGE: 31 E.	ELEVATION: 3547.5'
STATE: NEW MEXICO	COUNTY: EDDY		1540' FSL & 490' FEL
W.O. # 15-615	LEASE: SCREWDRIVER 24 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 05/11/2015 A.P

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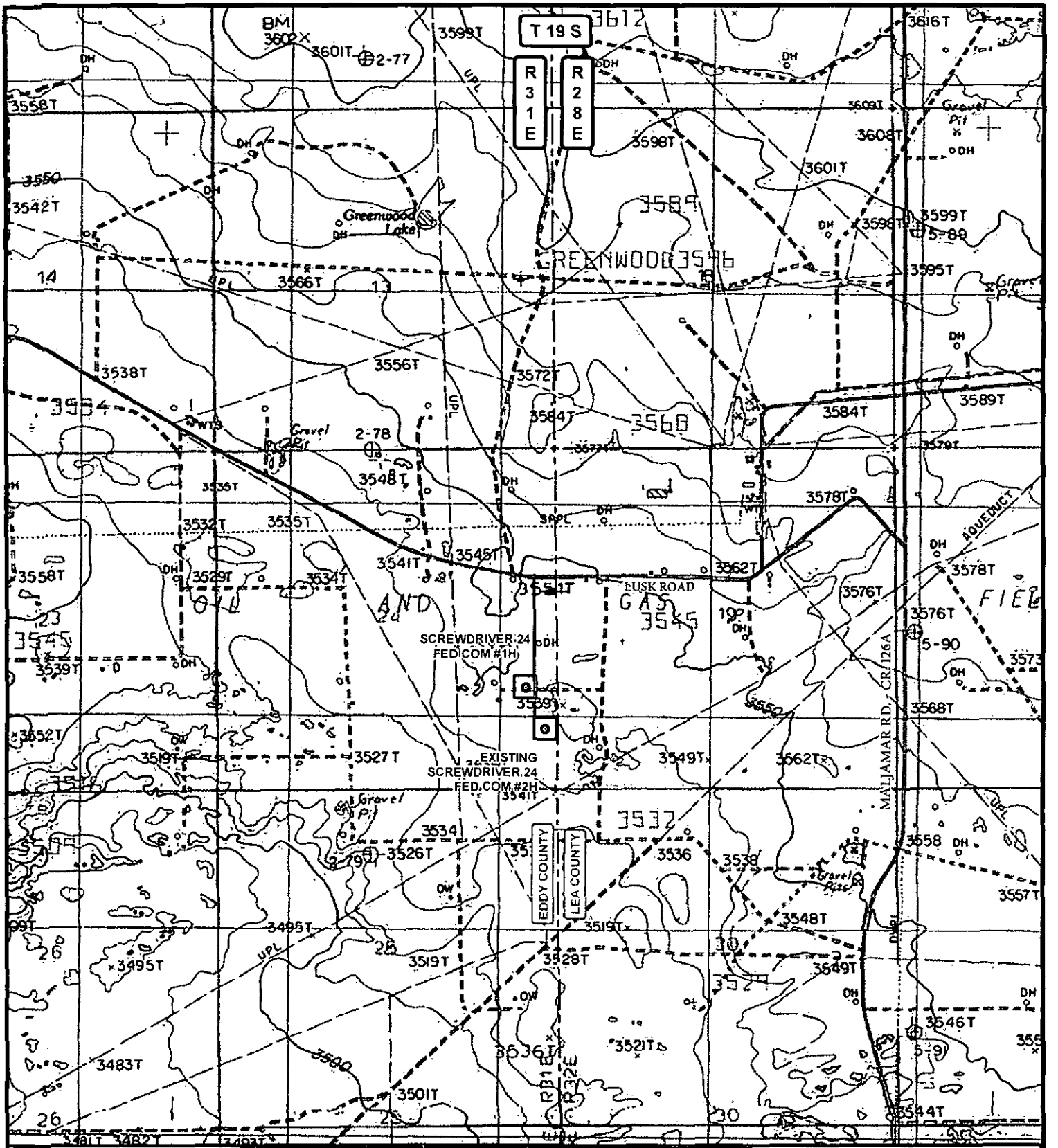

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD

SCREWDRIVER 24 FED COM #1H

SEC: 24	TWP: 19 S.	RGE: 31 E.	ELEVATION: 3547.5'
STATE: NEW MEXICO	COUNTY: EDDY	1540' FSL & 490' FEL	
W.O. # 15-615	LEASE: SCREWDRIVER 24 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 05/11/2015 A.F

N

CONCHO

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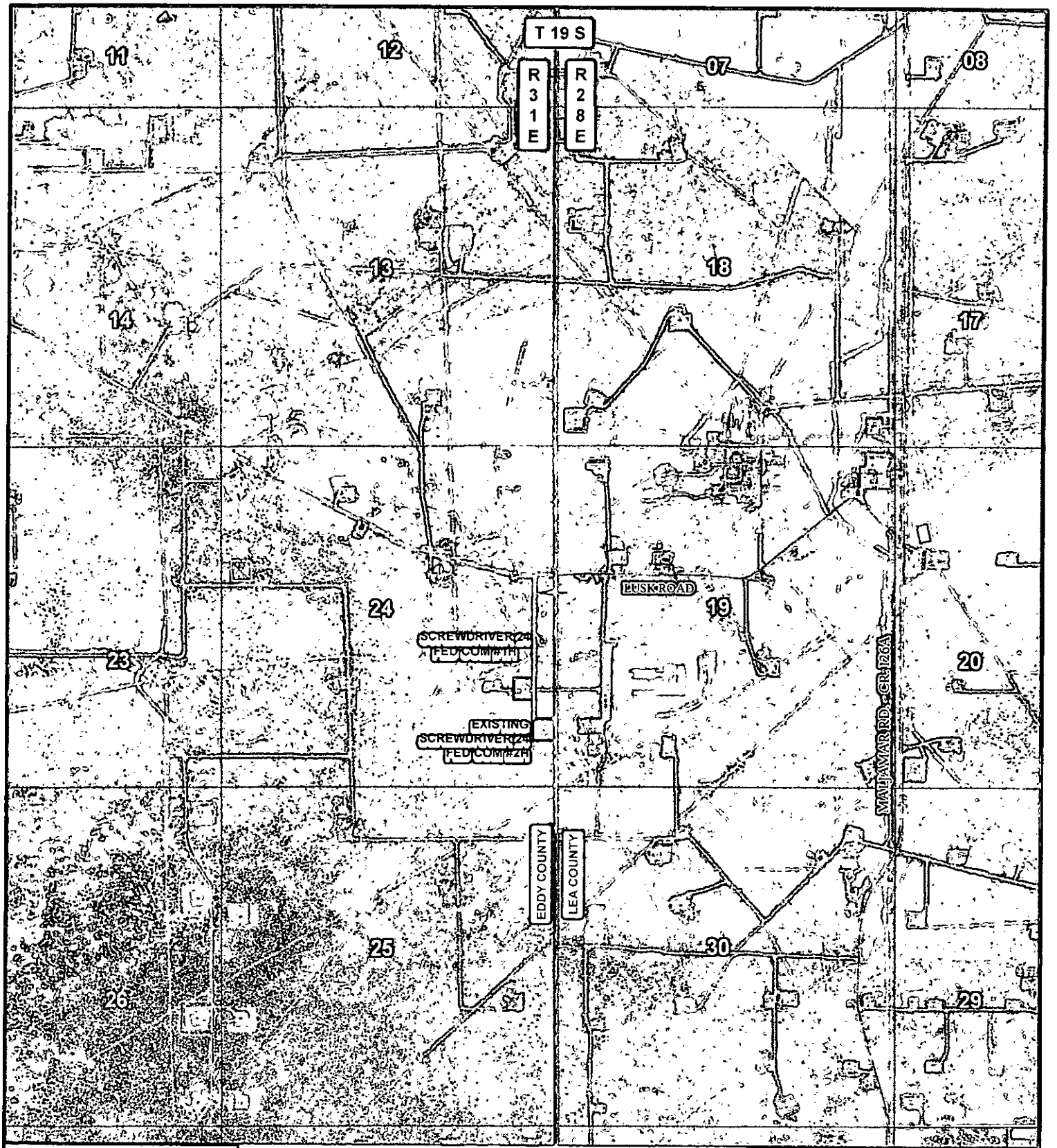

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD

SCREWDRIVER 24 FED COM #1H

SEC: 24	TWP: 19 S.	RGE: 31 E.	ELEVATION: 3547.5'
STATE: NEW MEXICO	COUNTY: EDDY		1540' FSL & 490' FEL
W.O. # 15-615	LEASE: SCREWDRIVER 24 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 05/11/2015 A.P

N

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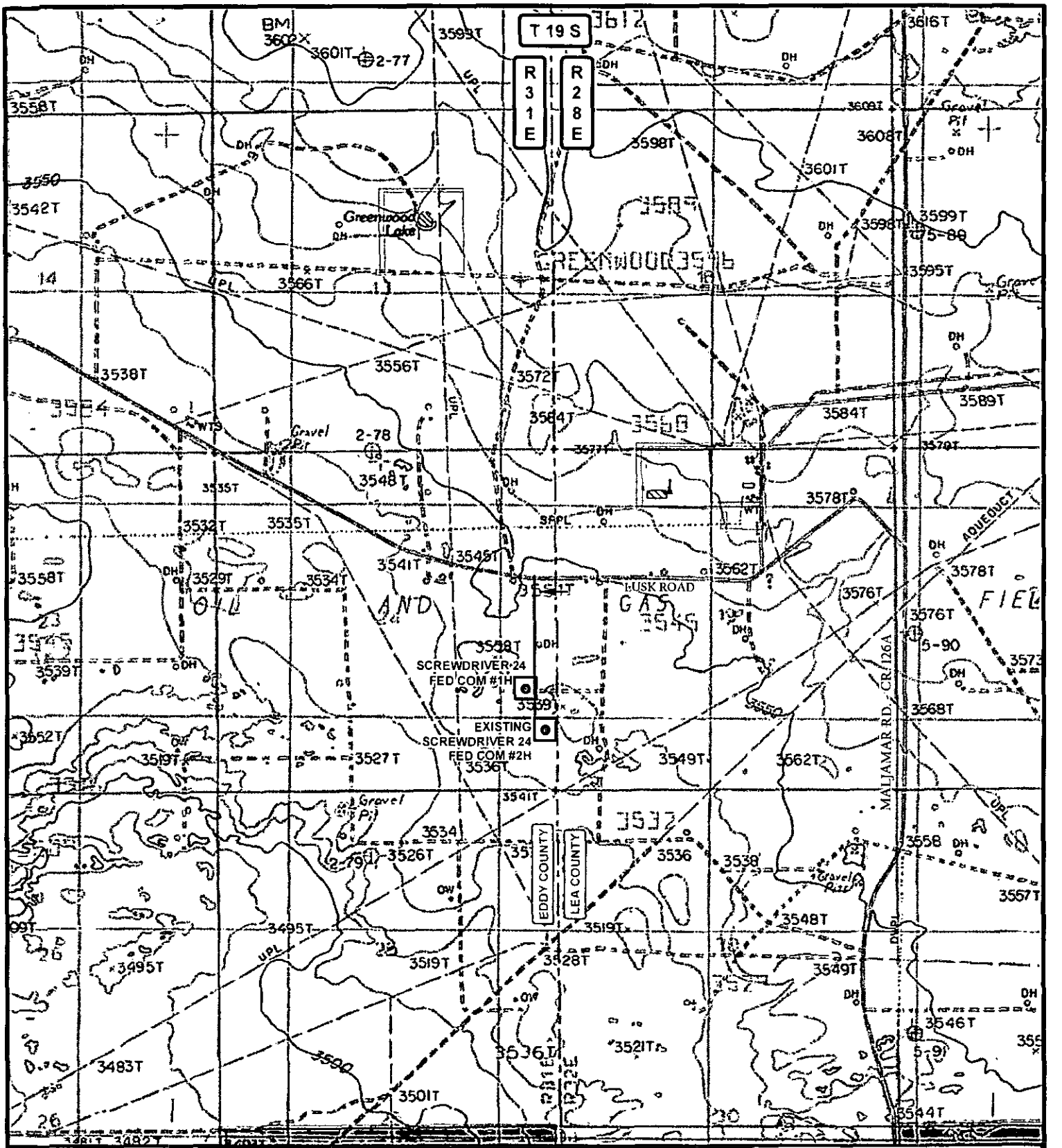

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- US BLM

SCREWDRIVER 24 FED COM #1H			
SEC: 24	TWP: 19 S.	RGE: 31 E.	ELEVATION: 3547.5'
STATE: NEW MEXICO	COUNTY: EDDY		1540' FSL & 490' FEL
W.O. # 15-615	LEASE: SCREWDRIVER 24 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 | LANDSTATUS | 05/11/2015 | A.F

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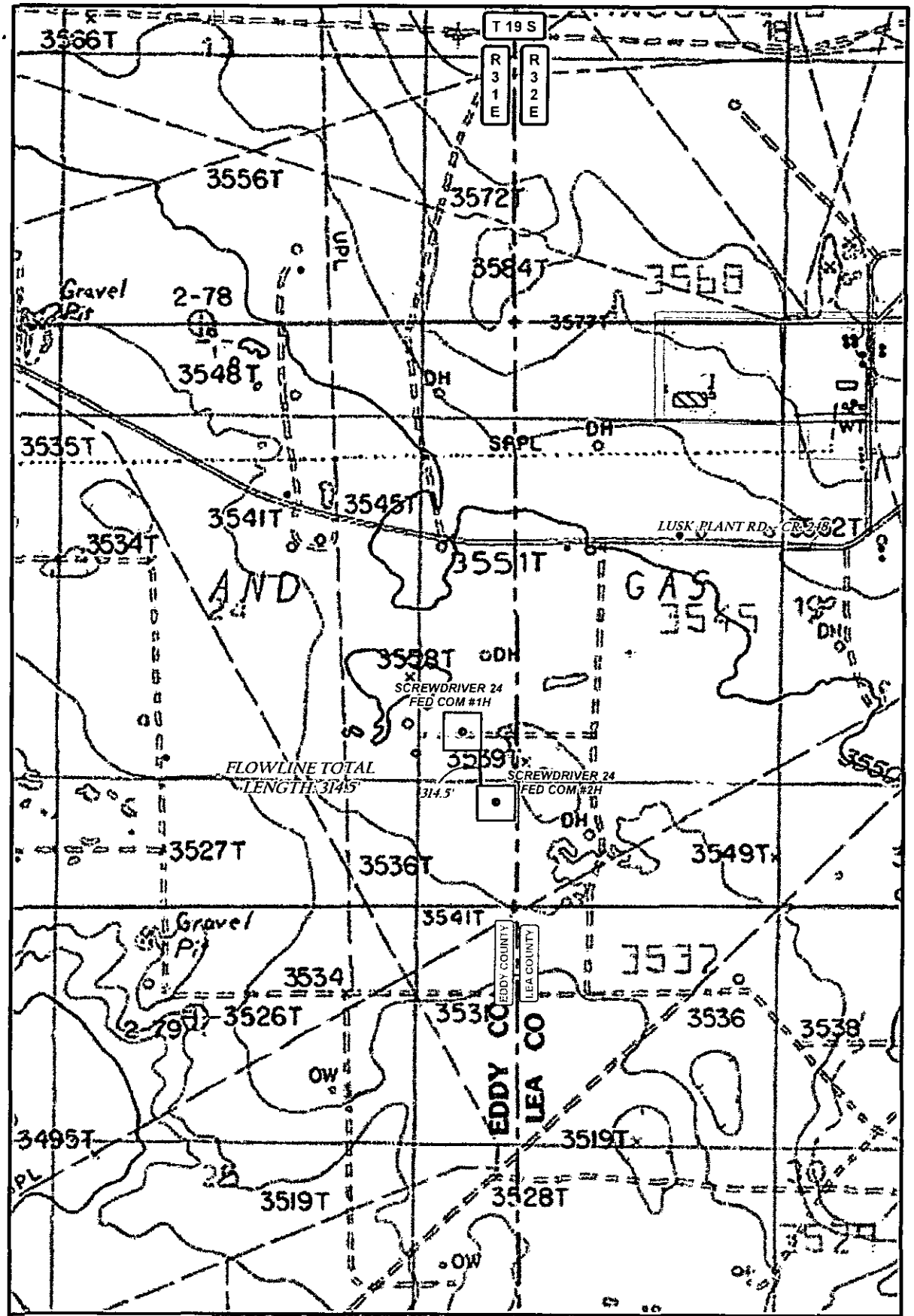

LEGEND

- WELL
- WELLPAD
- FLOWLINE
- PRIVATE
- STATE OF NM
- US BLM

SCREWDRIVER 24 FED COM #1H TO #2H FLOW LINE

SECTION: 24	TOWNSHIP: 19 S.	RANGE: 31 E.
STATE: NEW MEXICO	COUNTY: EDDY	SURVEY: N.M.P.M
W.O. # 15-615	LEASE: SCREW DRIVER 24 FED COM	

0 2,500 FEET

0 0.05 0.1 0.2 Miles 1 IN = 1,000 FT

PIPELINE OVERVIEW | LAND STATUS | 05/22/2015 | S.P.

CONCHO
COG OPERATING, LLC

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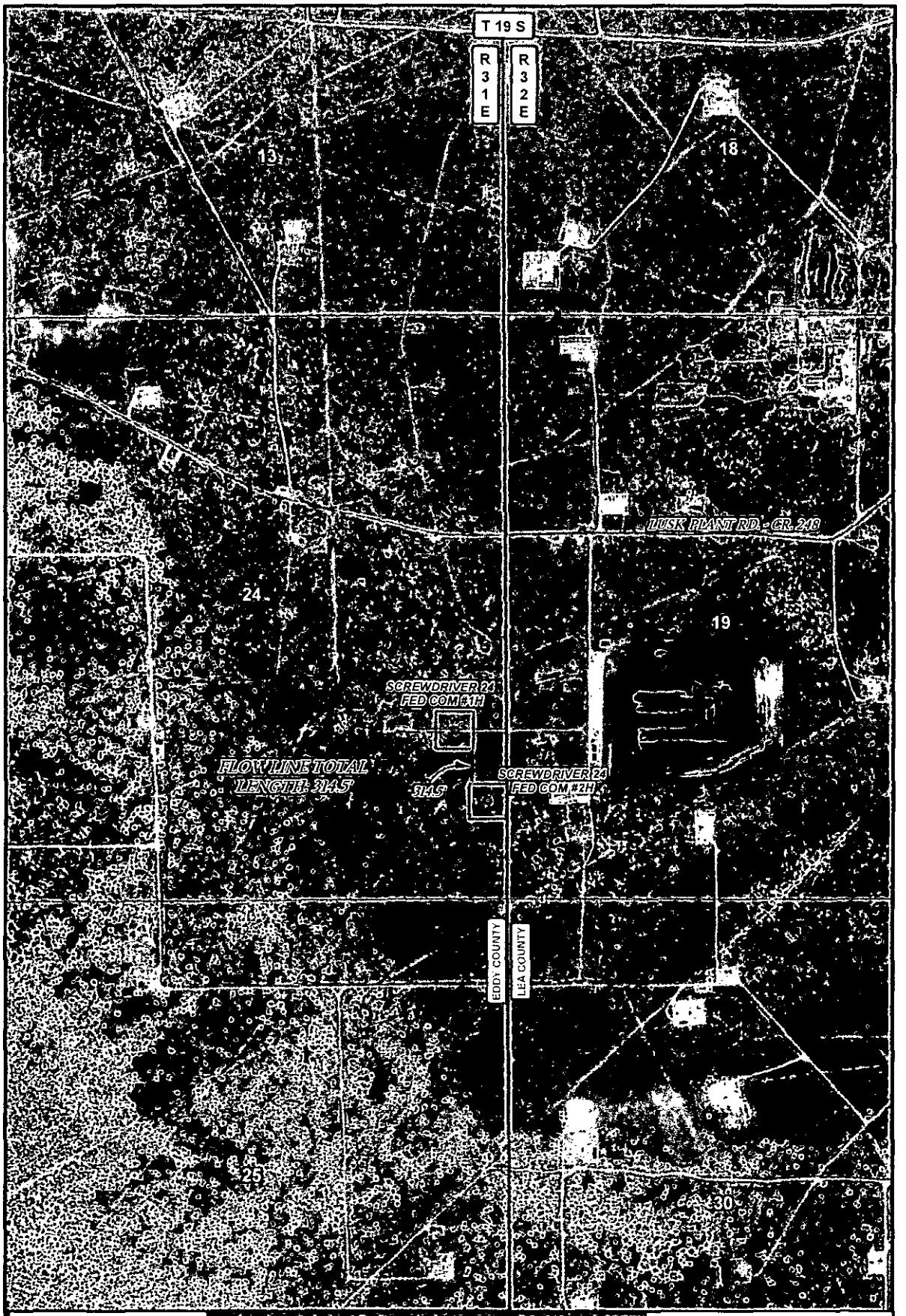

LEGEND

- WELL
- WELLPAD
- FLOWLINE

SCREWDRIVER 24 FED COM #1H TO #2H FLOW LINE

SECTION: 24	TOWNSHIP: 19 S.	RANGE: 31 E.
STATE: NEW MEXICO	COUNTY: EDDY	SURVEY: N.M.P.M
W.O. # 15-615	LEASE: SCREW DRIVER 24 FED COM	

0 2,500 FEET

0 0.05 0.1 0.2 Miles

1 IN = 1,000 FT

PIPELINE OVERVIEW IMAGERY 05/22/2015 S.P.

CONCHO

COG OPERATING, LLC

N

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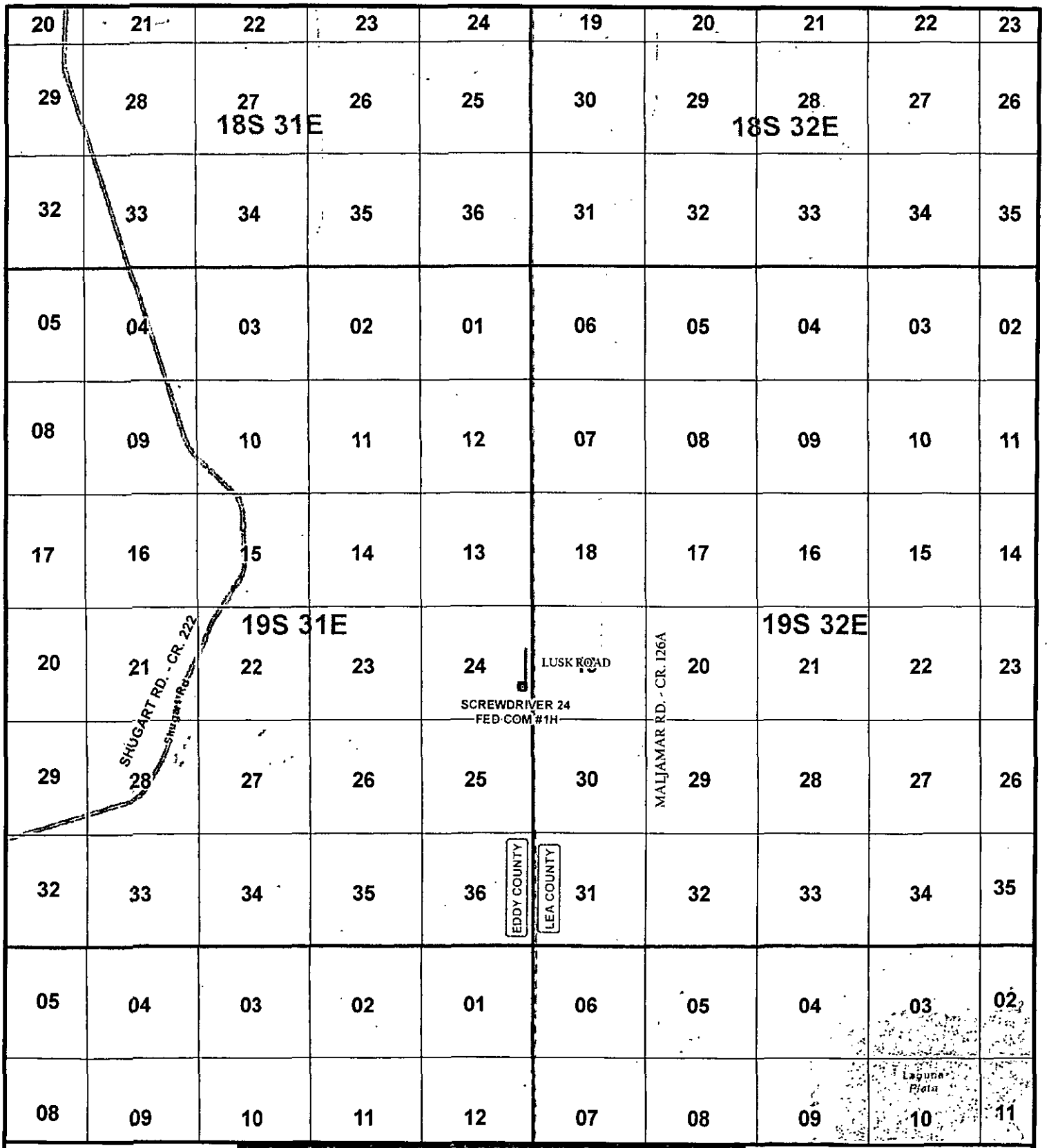

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD

SCREWDRIVER 24 FED COM #1H

SEC: 24	TWP: 19 S.	RGE: 31 E.	ELEVATION: 3547.5'
STATE: NEW MEXICO	COUNTY: EDDY		1540' FSL & 490' FEL
W.O. # 15-615	LEASE: SCREWDRIVER 24 FED COM		SURVEY: N.M.P.M

0 2,500 5,000 7,500 10,000 12,500 15,000 FEET

0 0.4 0.8 1.6 Miles

1 IN = 6,000 FT

VICINITY MAP 05/11/2015 A.F

CONCHO

COG OPERATING, LLC

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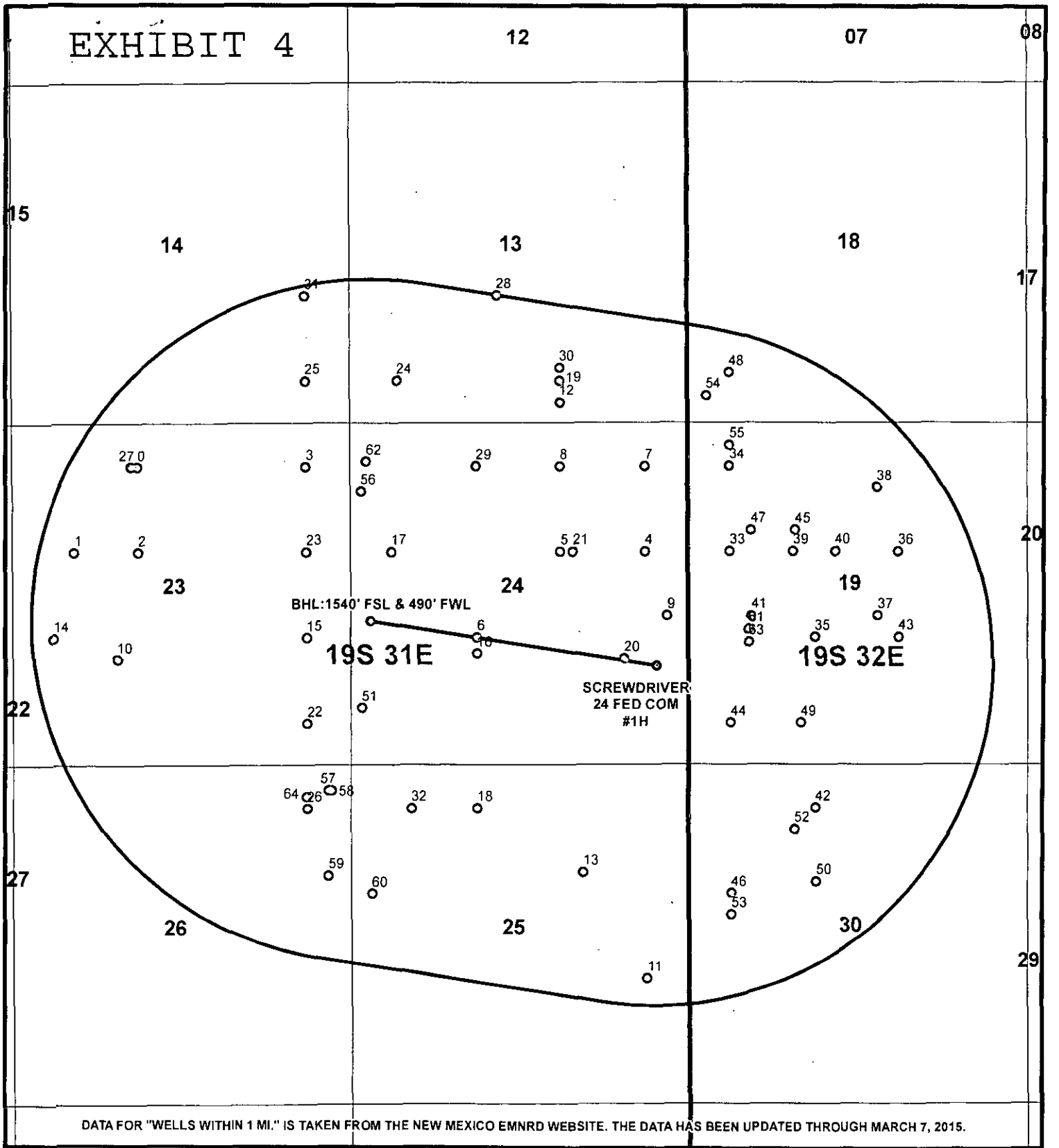
EXHIBIT 4



DATA FOR "WELLS WITHIN 1 MI." IS TAKEN FROM THE NEW MEXICO EMNRD WEBSITE. THE DATA HAS BEEN UPDATED THROUGH MARCH 7, 2015.

LEGEND

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

SCREWDRIVER 24 FED COM #1H

SEC: 24	TWP: 19 S.	RGE: 31 E.	ELEVATION: 3547.5'
STATE: NEW MEXICO		COUNTY: EDDY	730' FSL & 330' FEL
W.O. # 15-615	LEASE: SCREWDRIVER 24 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

1 MILE MAP 05/11/2015 A.F.

CONCHO

COG OPERATING, LLC

N

HARCROW SURVEYING, LLC.
2314 W. MAIN ST, ARTESIA, NM 88210
PH: (575) 513-2570 FAX: (575) 746-2158
chad_harcrow77@yahoo.com

FID_	OPERATOR	WELL_NAME	LATITUDE	LONGITUDE	API	SECTION	TOWNSHIP	RANGE	FTG_NS	NS_CD	FTG_EW	EW_CD	TVD_DEPTH	COMPL_STAT
0	DON ANGLE	ANGLE FED 001	32.65143	-103.842103	3001505781	23	19.0S	31E	660	N	1980	W	0	Plugged
1	ENDURANCE RESOURCES LLC	JONES FEDERAL 003	32.647798	-103.845322	3001505782	23	19.0S	31E	1980	N	990	W	0	Active
2	ENDURANCE RESOURCES LLC	JONES FEDERAL 002	32.647802	-103.84209	3001505783	23	19.0S	31E	1980	N	1980	W	0	Active
3	THREE STATES NAT'L	ANGEL WELCH 001	32.651441	-103.833538	3001505784	23	19.0S	31E	660	N	660	E	0	Plugged
4	TANDEM ENERGY CORPORATION	OHIO JONES 001	32.647835	-103.816344	3001505785	24	19.0S	31E	1980	N	660	E	2470	Active
5	TANDEM ENERGY CORPORATION	OHIO JONES 002	32.647829	-103.820653	3001505786	24	19.0S	31E	1980	N	1980	E	2654	Active
6	PLAINS PROD CO	JONES 003	32.644188	-103.824894	3001505787	24	19.0S	31E	1980	S	1980	W	0	Plugged
7	PLAINS PROD CO	JONES 005	32.651463	-103.816358	3001505788	24	19.0S	31E	660	N	660	E	0	Plugged
8	MACK ENERGY CORP	OHIO JONES FED 006	32.651458	-103.820667	3001505789	24	19.0S	31E	660	N	1980	E	0	Plugged
9	PLAINS PROD CO	JONES 007	32.645108	-103.815256	3001505790	24	19.0S	31E	2310	S	330	E	0	Plugged
10	LYNX PETROLEUM CONSULTANTS INC	JONES FEDERAL 001	32.643257	-103.843151	3001510045	23	19.0S	31E	1650	S	1650	W	12853	Plugged
11	LYNX PETROLEUM CONSULTANTS INC	JONES B FEDERAL 001	32.629679	-103.816274	3001510056	25	19.0S	31E	1980	S	660	E	0	Plugged
12	H N SWEENY	MALONE FED 001	32.654179	-103.820678	3001510119	13	19.0S	31E	330	S	1980	E	0	Plugged
13	FINA OIL & CHEMICAL	JONES FEDERAL 002	32.634217	-103.819522	3001510189	25	19.0S	31E	1650	N	1650	E	12775	Plugged
14	DELHI TAYLOR OIL	JONES FED 2 002	32.64416	-103.846386	3001510201	23	19.0S	31E	1980	S	660	W	0	Plugged
15	DELHI TAYLOR OIL	JONES FED 2 003	32.644177	-103.833512	3001510238	23	19.0S	31E	1980	S	660	E	0	Plugged
16	DOWDCO INC	JONES C FEDERAL 001	32.643501	-103.824891	3001510277	24	19.0S	31E	1730	S	1980	W	0	Plugged
17	DEVON ENERGY PRODUCTION COMPANY, LP	JONES D FEDERAL 001	32.647818	-103.829216	3001510278	24	19.0S	31E	1980	N	660	W	11550	Active
18	DOWDCO INC	JONES B FEDERAL 002	32.636931	-103.824868	3001510279	25	19.0S	31E	660	N	1980	W	0	Plugged
19	PHILLIPS PETROLEUM CO	SIMON A 001	32.655086	-103.820682	3001510357	13	19.0S	31E	660	S	1980	E	0	Plugged
20	PHILLIPS PETROLEUM CO	LUSK DEEP UNIT 008	32.643291	-103.817404	3001510382	24	19.0S	31E	1650	S	990	E	0	Plugged
21	FINA OIL & CHEMICAL	JONES G FED COM 001	32.64783	-103.82	3001510393	24	19.0S	31E	1980	N	1780	E	0	Plugged
22	DEVON ENERGY PRODUCTION COMPANY, LP	JONES FEDERAL B 003	32.640548	-103.833498	3001510394	23	19.0S	31E	660	S	660	E	9800	TA
23	TENNECO OIL CO	JONES FED E 001	32.647813	-103.833525	3001510395	23	19.0S	31E	1980	N	660	E	0	Plugged
24	LYNX PETROLEUM CONSULTANTS INC	SWEENY FEDERAL COM 001	32.655075	-103.828915	3001510397	13	19.0S	31E	660	S	760	W	0	Plugged
25	PHILLIPS PETROLEUM CO & KERR-MCGEE	SIMON FED A 002	32.655069	-103.833552	3001510495	14	19.0S	31E	660	S	660	E	0	Plugged
26	FINA OIL & CHEMICAL	JONES FEDERAL 003	32.63692	-103.833484	3001510584	26	19.0S	31E	660	N	660	E	11570	Plugged
27	TENNECO OIL CO	JONES FED COM 001	32.65143	-103.84243	3001510704	23	19.0S	31E	660	N	1880	W	0	Plugged
28	LYNX PETROLEUM CONSULTANTS INC	HJ FEDERAL 001	32.65871	-103.823868	3001523781	13	19.0S	31E	1980	S	2310	W	12697	Active
29	DEVON ENERGY PRODUCTION COMPANY, LP	RADAR 24 FEDERAL 001	32.651452	-103.82492	3001531357	24	19.0S	31E	660	N	1980	W	12750	Plugged
30	COG OPERATING LLC	MARGARET 13 FEDERAL 001	32.655635	-103.820684	3001531730	13	19.0S	31E	860	S	1980	E	12725	Active
31	COG OPERATING LLC	CHAPARRAL 14 FEDERAL COM 001	32.658698	-103.833565	3001534038	14	19.0S	31E	1980	S	660	E	12765	Active
32	LYNX PETROLEUM CONSULTANTS INC	HOT LIPS 25 FEDERAL 001D	32.636924	-103.828194	3001536562	25	19.0S	31E	661	N	961	W	0	
33	TANDEM ENERGY CORPORATION	MILLER FEDERAL 001	32.64783	-103.812035	3002500902	19	19.0S	32E	1980	N	660	W	2634	Active
34	CARPER DRILLING CO	MILLER 001	32.651458	-103.812049	3002500903	19	19.0S	32E	660	N	660	W	2710	Plugged
35	CARPER DRILLING CO	MILLER 002	32.644182	-103.807712	3002500904	19	19.0S	32E	1980	S	1980	W	2862	Plugged
36	TOM R CONE	SOUTHERN CALIFORNIA PET FEDERAL 001	32.6478	-103.803413	3002500906	19	19.0S	32E	1980	N	1980	E	2715	Active
37	KELLY G STOUT	SOUTHERN CALIFORNIA 002	32.645079	-103.804484	3002500907	19	19.0S	32E	2310	S	2310	E	2552	Plugged
38	KELLY G STOUT	SOUTHERN CALIFORNIA 003	32.650526	-103.804497	3002500908	19	19.0S	32E	990	N	2310	E	2695	Plugged
39	TOM R CONE	GULF FEDERAL 001	32.647819	-103.808803	3002500909	19	19.0S	32E	1980	N	1650	W	2490	Active
40	TOM R CONE	GULF FEDERAL 002	32.647812	-103.806648	3002500910	19	19.0S	32E	1980	N	2310	W	2500	Active
41	SIMMS & REESE OIL CO	GULF 001	32.645099	-103.810947	3002500911	19	19.0S	32E	2310	S	990	W	2640	Plugged
42	CHISOS, LTD	DELHI FEDERAL 001	32.636925	-103.807685	3002520025	30	19.0S	32E	660	N	1980	W	11286	Active
43	COG OPERATING LLC	LUSK DEEP UNIT A 005	32.644168	-103.803404	3002520122	19	19.0S	32E	1980	S	1980	E	12554	Active
44	EL PASO NATURAL GAS	LUSK DEEP UNIT 006	32.640567	-103.812007	3002520247	19	19.0S	32E	660	S	660	W	11432	Plugged
45	TOM R CONE	GULF FEDERAL 003	32.648726	-103.808715	3002520876	19	19.0S	32E	1650	N	1678	W	11223	Active
46	OXY USA INC	GECKO FEDERAL 001	32.63331	-103.811979	3002532678	30	19.0S	32E	1980	N	660	W	7280	Plugged
47	COG OPERATING LLC	LUSK DEEP UNIT A 014	32.648734	-103.810961	3002534573	19	19.0S	32E	1650	N	990	W	12540	Active
48	COG OPERATING LLC	LUSK DEEP UNIT A 016	32.65543	-103.812064	3002535053	18	19.0S	32E	785	S	660	W	12780	Active
49	COG OPERATING LLC	LUSK DEEP UNIT A 021	32.640556	-103.808449	3002535291	19	19.0S	32E	660	S	1750	W	12718	Active
50	COG OPERATING LLC	SL DEEP FEDERAL 002	32.633792	-103.807673	3002536257	30	19.0S	32E	1800	N	1980	W	12640	Active
51	COG OPERATING LLC	SL DEEP FEDERAL 003	32.636022	-103.808759	3002539441	30	19.0S	32E	990	N	1650	W	9580	Active
52	COG OPERATING LLC	SL DEEP FEDERAL 004H	32.632403	-103.811976	3002539538	30	19.0S	32E	2310	N	660	W	10858	New (Not drilled or compl)
53	COG OPERATING LLC	LUSK DEEP UNIT A 028H	32.654458	-103.813235	3002541291	18	19.0S	32E	430	S	300	W	9247	New (Not drilled or compl)
54	COG OPERATING LLC	LUSK DEEP UNIT A 024H	32.652365	-103.812052	3002540863	19	19.0S	32E	330	N	660	W	13660	Active
55	DEVON ENERGY PRODUCTION COMPANY, LP	MIMOSA 24 FEDERAL COM 002H	32.650386	-103.830759	3001540947	24	19.0S	31E	1045	N	190	W	14635	New (Not drilled or compl)
56	DEVON ENERGY PRODUCTION COMPANY, LP	REGULUS 26 FEDERAL 001H	32.637691	-103.83241	3001540098	26	19.0S	31E	380	N	330	E	9156	New (Not drilled or compl)
57	DEVON ENERGY PRODUCTION COMPANY, LP	SPICA 25 FEDERAL 001H	32.637691	-103.832247	3001540099	26	19.0S	31E	380	N	280	E	9266	New (Not drilled or compl)
58	DEVON ENERGY PRODUCTION COMPANY, LP	REGULUS 26 FEDERAL 002H	32.634063	-103.832429	3001540219	26	19.0S	31E	1700	N	340	E	9158	New (Not drilled or compl)
59	DEVON ENERGY PRODUCTION COMPANY, LP	SPICA 25 FEDERAL 002H	32.633296	-103.830206	3001540222	25	19.0S	31E	1980	N	340	W	9264	New (Not drilled or compl)
60	DEVON ENERGY PRODUCTION COMPANY, LP	MIMOSA 24 FEDERAL COM 001H	32.651659	-103.830487	3001540626	24	19.0S	31E	582	N	275	W	9272	New (Not drilled or compl)

COG Operating LLC – Screwdriver 24 Federal Com 1H

1. Geologic Formations

TVD of target	9210'	Pilot hole depth	NA
MD at TD:	13,527'	Deepest expected fresh water:	155

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	738	Water	
Top of Salt	818	Salt	
Tansill	2413	Salt	
Yates	2568	Oil/Gas	
Reef	2833	Brackish Water	Loss Circulation
Queen	4369	Oil/Gas	
Delaware	4433	Oil/Gas	
Bone Spring Lime	7048	Oil/Gas	
1st Bone Spring Sand	8293	Oil/Gas	
2nd Bone Spring Sand	9013	Oil/Gas Target Zone	
3rd Bone Spring Sand	9843	Oil/Gas	

See COA

2. Casing Program

per Timothy Smith

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
20"	0	~~765~~ 810'	16"	65	~~J55~~ H-40	STC	1.68	1.26	8.83
14.75"	0	~~2500~~ 2700'	11.75"	47	J55	STC	1.16	1.47	4.06
10.625"	0	4400	8.625"	32	HCK55	BTC	1.23	1.14	3.57
7.875"	0	13,527'	5.5"	17	P110	LTC	1.73	2.44	1.94
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y

Is well within the designated 4 string boundary.	Y
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?	N
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.	325	13.5	1.75	9	12	Lead: Class C + 4% Gel + 2% CaCl2
See COA	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
1st Int.	500	13.5	1.75	9	12	Lead: Class C + 4% Gel
See COA	250	14.8	1.34	6.34	8	Tail: Class C + 1% CaCl2
2nd Int. 1st Stage	200	12.7	2	10.6	12	1st stage Lead: Econocem HLC 65:35:6 + 5% Salt
See COA	250	14.8	1.34	6.34	8	1st stage Tail: Class C + 2% CaCl
2nd Int. 2ndStage	325	13.5	1.75	9.11	12	2nd stage Lead: Class C + 4% Gel (DV @ ~ 2750')
	100	14.8	1.34	6.34	8	2nd stage Tail: Class C + 2% CaCl
Prod	750	12.7	2	10.6	18	Lead: 35:65:6 H Blend
	925	14.4	1.24	5.7	18	Tail: Versacem 50:50:2 Class H + 1% Salt

Plan on DV Tool set above Reef at approximately ~~2700'~~. 2750' - See COA's
Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results

Casing String	TOC	% Excess
Surface	0'	50% OH
1st Intermediate	0'	50% OH
Intermediate 1st Stage	DVT	50% OH
Intermediate 2nd Stage	0	35% OH
Production	2650'	35% OH

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	✓	Tested to:
14-3/4" 10-5/8"	13-5/8"	2M	Annular	x	2000 psi
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
7-7/8"	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.	
N	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.	

See COA

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	~~765'~~ 810'	FW Gel	8.6-8.8	28-34	N/C
~~765'~~	~~2500'~~ 2700'	Saturated Brine	10.0-10.2	28-34	N/C
~~2500'~~	4400'	FW	8.4	28-34	N/C
4400'	13,526'	Cut Brine	8.4-9.2	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.
N	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	
N	Density	
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	4350 psi at 9210' TVD (EOC - Lateral)
Abnormal Temperature	NO

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.

See COA

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

Is this a walking operation? NO
Will be pre-setting casing? NO

Attachments

- Directional Plan
- BOP & Choke Schematics
- C102 and supporting maps
- Rig plat
- H2S schematic
- H2S contingency plan
- Interim reclamation plat

COG Operating LLC

Eddy County, NM
Screwdriver 24 Federal Com
#1H

OH
Plan #2

Anticollision Report

27 April, 2016

Integrity Directional Services, LLC

Anticollision Report

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County, NM	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Reference Site:	Screwdriver 24 Federal Com	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Multi User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Screwdriver 24 Federal Com - Jones C Fed 1 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 11530-BLIND — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,500.0	2,500.0	2,485.5	2,485.5	5.5	3,048.1	-81.81	190.0	-1,320.0	1,333.6	-1,720.9	3,054.55	0.437	Level 1
2,600.0	2,600.0	2,585.5	2,585.5	5.7	3,171.7	-81.81	190.0	-1,320.0	1,333.6	-1,843.8	3,177.45	0.420	Level 1
2,700.0	2,700.0	2,685.5	2,685.5	5.9	3,294.4	-81.81	190.0	-1,320.0	1,333.6	-1,966.7	3,300.35	0.404	Level 1
2,800.0	2,800.0	2,785.5	2,785.5	6.2	3,417.1	-81.81	190.0	-1,320.0	1,333.6	-2,089.6	3,423.25	0.390	Level 1
2,900.0	2,900.0	2,885.5	2,885.5	6.4	3,539.8	-81.81	190.0	-1,320.0	1,333.6	-2,212.5	3,546.14	0.378	Level 1
3,000.0	3,000.0	2,985.5	2,985.5	6.6	3,662.4	-81.81	190.0	-1,320.0	1,333.6	-2,335.4	3,669.04	0.363	Level 1
3,100.0	3,100.0	3,085.5	3,085.5	6.8	3,785.1	-81.81	190.0	-1,320.0	1,333.6	-2,458.3	3,791.94	0.352	Level 1
3,200.0	3,200.0	3,185.5	3,185.5	7.1	3,907.8	-81.81	190.0	-1,320.0	1,333.6	-2,581.2	3,914.84	0.341	Level 1
3,300.0	3,300.0	3,285.5	3,285.5	7.3	4,030.5	-81.81	190.0	-1,320.0	1,333.6	-2,704.1	4,037.74	0.330	Level 1
3,400.0	3,400.0	3,385.5	3,385.5	7.5	4,153.1	-81.81	190.0	-1,320.0	1,333.6	-2,827.0	4,160.64	0.321	Level 1
3,500.0	3,500.0	3,485.5	3,485.5	7.7	4,275.8	-81.81	190.0	-1,320.0	1,333.6	-2,949.9	4,283.54	0.311	Level 1
3,600.0	3,600.0	3,585.5	3,585.5	8.0	4,398.5	-81.81	190.0	-1,320.0	1,333.6	-3,072.8	4,406.44	0.303	Level 1
3,700.0	3,700.0	3,685.5	3,685.5	8.2	4,521.2	-81.81	190.0	-1,320.0	1,333.6	-3,195.7	4,529.33	0.294	Level 1
3,800.0	3,800.0	3,785.5	3,785.5	8.4	4,643.8	-81.81	190.0	-1,320.0	1,333.6	-3,318.6	4,652.23	0.287	Level 1
3,900.0	3,900.0	3,885.5	3,885.5	8.6	4,766.5	-81.81	190.0	-1,320.0	1,333.6	-3,441.5	4,775.13	0.279	Level 1
4,000.0	4,000.0	3,985.5	3,985.5	8.9	4,889.2	-81.81	190.0	-1,320.0	1,333.6	-3,564.4	4,898.03	0.272	Level 1
4,100.0	4,100.0	4,085.5	4,085.5	9.1	5,011.8	-81.81	190.0	-1,320.0	1,333.6	-3,687.3	5,020.93	0.266	Level 1
4,200.0	4,200.0	4,185.5	4,185.5	9.3	5,134.5	-81.81	190.0	-1,320.0	1,333.6	-3,810.2	5,143.83	0.259	Level 1
4,300.0	4,300.0	4,285.5	4,285.5	9.5	5,257.2	-81.81	190.0	-1,320.0	1,333.6	-3,933.1	5,266.73	0.253	Level 1
4,400.0	4,400.0	4,385.5	4,385.5	9.8	5,379.9	-81.81	190.0	-1,320.0	1,333.6	-4,056.0	5,389.63	0.247	Level 1
4,500.0	4,500.0	4,485.5	4,485.5	10.0	5,502.5	-81.81	190.0	-1,320.0	1,333.6	-4,178.9	5,512.52	0.242	Level 1
4,600.0	4,600.0	4,585.5	4,585.5	10.2	5,625.2	-81.81	190.0	-1,320.0	1,333.6	-4,301.8	5,635.42	0.237	Level 1
4,700.0	4,700.0	4,685.5	4,685.5	10.4	5,747.9	-81.81	190.0	-1,320.0	1,333.6	-4,424.7	5,758.32	0.232	Level 1
4,800.0	4,800.0	4,785.5	4,785.5	10.7	5,870.6	-81.81	190.0	-1,320.0	1,333.6	-4,547.6	5,881.22	0.227	Level 1
4,900.0	4,900.0	4,885.5	4,885.5	10.9	5,993.2	-81.81	190.0	-1,320.0	1,333.6	-4,670.5	6,004.12	0.222	Level 1
5,000.0	5,000.0	4,985.5	4,985.5	11.1	6,115.9	-81.81	190.0	-1,320.0	1,333.6	-4,793.4	6,127.02	0.218	Level 1
5,100.0	5,100.0	5,085.5	5,085.5	11.3	6,238.6	-81.81	190.0	-1,320.0	1,333.6	-4,916.3	6,249.92	0.213	Level 1
5,200.0	5,200.0	5,185.5	5,185.5	11.6	6,361.3	-81.81	190.0	-1,320.0	1,333.6	-5,039.2	6,372.82	0.209	Level 1
5,300.0	5,300.0	5,285.5	5,285.5	11.8	6,483.9	-81.81	190.0	-1,320.0	1,333.6	-5,162.1	6,495.71	0.205	Level 1
5,400.0	5,400.0	5,385.5	5,385.5	12.0	6,606.6	-81.81	190.0	-1,320.0	1,333.6	-5,285.0	6,618.61	0.201	Level 1
5,500.0	5,500.0	5,485.5	5,485.5	12.2	6,729.3	-81.81	190.0	-1,320.0	1,333.6	-5,407.9	6,741.51	0.198	Level 1
5,600.0	5,600.0	5,585.5	5,585.5	12.5	6,852.0	-81.81	190.0	-1,320.0	1,333.6	-5,530.8	6,864.41	0.194	Level 1
5,700.0	5,700.0	5,685.5	5,685.5	12.7	6,974.6	-81.81	190.0	-1,320.0	1,333.6	-5,653.7	6,987.31	0.191	Level 1
5,800.0	5,800.0	5,785.5	5,785.5	12.9	7,097.3	-81.81	190.0	-1,320.0	1,333.6	-5,776.6	7,110.21	0.188	Level 1
5,900.0	5,900.0	5,885.5	5,885.5	13.1	7,220.0	-81.81	190.0	-1,320.0	1,333.6	-5,899.5	7,233.11	0.184	Level 1
6,000.0	6,000.0	5,985.5	5,985.5	13.4	7,342.7	-81.81	190.0	-1,320.0	1,333.6	-6,022.4	7,356.01	0.181	Level 1
6,100.0	6,100.0	6,085.5	6,085.5	13.6	7,465.3	-81.81	190.0	-1,320.0	1,333.6	-6,145.3	7,478.90	0.178	Level 1
6,200.0	6,200.0	6,185.5	6,185.5	13.8	7,588.0	-81.81	190.0	-1,320.0	1,333.6	-6,268.2	7,601.80	0.175	Level 1
6,300.0	6,300.0	6,285.5	6,285.5	14.0	7,710.7	-81.81	190.0	-1,320.0	1,333.6	-6,391.1	7,724.70	0.173	Level 1
6,400.0	6,400.0	6,385.5	6,385.5	14.3	7,833.3	-81.81	190.0	-1,320.0	1,333.6	-6,514.0	7,847.60	0.170	Level 1
6,500.0	6,500.0	6,485.5	6,485.5	14.5	7,956.0	-81.81	190.0	-1,320.0	1,333.6	-6,636.9	7,970.50	0.167	Level 1
6,600.0	6,600.0	6,585.5	6,585.5	14.7	8,078.7	-81.81	190.0	-1,320.0	1,333.6	-6,759.8	8,093.40	0.165	Level 1
6,700.0	6,700.0	6,685.5	6,685.5	14.9	8,201.4	-81.81	190.0	-1,320.0	1,333.6	-6,882.7	8,216.30	0.162	Level 1
6,800.0	6,800.0	6,785.5	6,785.5	15.2	8,324.0	-81.81	190.0	-1,320.0	1,333.6	-7,005.6	8,339.20	0.160	Level 1
6,900.0	6,900.0	6,885.5	6,885.5	15.4	8,446.7	-81.81	190.0	-1,320.0	1,333.6	-7,128.5	8,462.09	0.158	Level 1
7,000.0	7,000.0	6,985.5	6,985.5	15.6	8,569.4	-81.81	190.0	-1,320.0	1,333.6	-7,251.4	8,584.99	0.155	Level 1
7,100.0	7,100.0	7,085.5	7,085.5	15.8	8,692.1	-81.81	190.0	-1,320.0	1,333.6	-7,374.3	8,707.89	0.153	Level 1
7,200.0	7,200.0	7,185.5	7,185.5	16.1	8,814.7	-81.81	190.0	-1,320.0	1,333.6	-7,497.2	8,830.79	0.151	Level 1
7,300.0	7,300.0	7,285.5	7,285.5	16.3	8,937.4	-81.81	190.0	-1,320.0	1,333.6	-7,620.1	8,953.69	0.149	Level 1
7,400.0	7,400.0	7,385.5	7,385.5	16.5	9,060.1	-81.81	190.0	-1,320.0	1,333.6	-7,743.0	9,076.59	0.147	Level 1
7,500.0	7,500.0	7,485.5	7,485.5	16.7	9,182.8	-81.81	190.0	-1,320.0	1,333.6	-7,865.9	9,199.49	0.145	Level 1
7,600.0	7,600.0	7,585.5	7,585.5	16.9	9,305.4	-81.81	190.0	-1,320.0	1,333.6	-7,988.8	9,322.39	0.143	Level 1

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Integrity Directional Services, LLC

Anticollision Report

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County, NM	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Reference Site:	Screwdriver 24 Federal Com	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Multi User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Screwdriver 24 Federal Com - Jones C Fed 1 - Wellbore #1 - Wellbore #1 — Offset Site Error: 0.0 usft

Survey Program: 11530-BLIND — Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,700.0	7,700.0	7,685.5	7,685.5	17.2	9,428.1	-81.81	190.0	-1,320.0	1,333.6	-8,111.7	9,445.28	0.141	Level 1
7,800.0	7,800.0	7,785.5	7,785.5	17.4	9,550.8	-81.81	190.0	-1,320.0	1,333.6	-8,234.6	9,568.18	0.139	Level 1
7,900.0	7,900.0	7,885.5	7,885.5	17.6	9,673.5	-81.81	190.0	-1,320.0	1,333.6	-8,357.5	9,691.08	0.138	Level 1
8,000.0	8,000.0	7,985.5	7,985.5	17.8	9,796.1	-81.81	190.0	-1,320.0	1,333.6	-8,480.4	9,813.98	0.136	Level 1
8,100.0	8,100.0	8,085.5	8,085.5	18.1	9,918.8	-81.81	190.0	-1,320.0	1,333.6	-8,603.3	9,936.88	0.134	Level 1
8,200.0	8,200.0	8,185.5	8,185.5	18.3	10,041.5	-81.81	190.0	-1,320.0	1,333.6	-8,726.2	10,059.78	0.133	Level 1
8,300.0	8,300.0	8,285.5	8,285.5	18.5	10,164.2	-81.81	190.0	-1,320.0	1,333.6	-8,849.1	10,182.68	0.131	Level 1
8,400.0	8,400.0	8,385.5	8,385.5	18.7	10,286.8	-81.81	190.0	-1,320.0	1,333.6	-8,972.0	10,305.58	0.129	Level 1
8,500.0	8,500.0	8,485.5	8,485.5	19.0	10,409.5	-81.81	190.0	-1,320.0	1,333.6	-9,094.9	10,428.47	0.128	Level 1
8,600.0	8,600.0	8,585.5	8,585.5	19.2	10,532.2	-81.81	190.0	-1,320.0	1,333.6	-9,217.8	10,551.37	0.126	Level 1
8,700.0	8,700.0	8,685.5	8,685.5	19.4	10,654.8	-81.81	190.0	-1,320.0	1,333.6	-9,340.7	10,674.27	0.125	Level 1
8,800.0	8,799.8	8,785.3	8,785.3	19.6	10,777.2	-23.58	190.0	-1,320.0	1,329.2	-9,377.3	10,706.51	0.124	Level 1
8,900.0	8,896.6	8,882.1	8,882.1	19.9	10,896.0	-25.15	190.0	-1,320.0	1,306.9	-9,067.5	10,374.45	0.126	Level 1
9,000.0	8,986.2	8,971.7	8,971.7	20.1	11,006.0	-28.38	190.0	-1,320.0	1,266.9	-8,480.4	9,747.30	0.130	Level 1
9,100.0	9,064.8	9,050.3	9,050.3	20.4	11,102.3	-33.95	190.0	-1,320.0	1,211.2	-7,872.0	9,083.18	0.133	Level 1
9,200.0	9,128.8	9,114.3	9,114.3	20.9	11,180.9	-43.00	190.0	-1,320.0	1,142.7	-7,759.5	8,902.22	0.128	Level 1
9,300.0	9,175.5	9,161.0	9,161.0	21.5	11,238.2	-56.78	190.0	-1,320.0	1,065.2	-8,631.7	9,696.92	0.110	Level 1
9,400.0	9,202.9	9,188.4	9,188.4	22.5	11,271.8	-74.85	190.0	-1,320.0	983.0	-9,930.9	10,913.83	0.090	Level 1
9,500.0	9,210.0	9,195.5	9,195.5	23.7	11,280.5	-90.00	190.0	-1,320.0	900.5	-10,403.7	11,304.14	0.080	Level 1
9,600.0	9,210.0	9,195.5	9,195.5	25.1	11,280.5	-90.00	190.0	-1,320.0	820.0	-10,485.5	11,305.55	0.073	Level 1
9,700.0	9,210.0	9,195.5	9,195.5	26.7	11,280.5	-90.00	190.0	-1,320.0	742.0	-10,565.2	11,307.15	0.066	Level 1
9,800.0	9,210.0	9,195.5	9,195.5	28.5	11,280.5	-90.00	190.0	-1,320.0	667.3	-10,641.6	11,308.90	0.059	Level 1
9,900.0	9,210.0	9,195.5	9,195.5	30.4	11,280.5	-90.00	190.0	-1,320.0	597.3	-10,713.4	11,310.76	0.053	Level 1
10,000.0	9,210.0	9,195.5	9,195.5	32.4	11,280.5	-90.00	190.0	-1,320.0	534.1	-10,778.7	11,312.73	0.047	Level 1
10,100.0	9,210.0	9,195.5	9,195.5	34.5	11,280.5	-90.00	190.0	-1,320.0	480.3	-10,834.5	11,314.76	0.042	Level 1
10,200.0	9,210.0	9,195.5	9,195.5	36.7	11,280.5	-90.00	190.0	-1,320.0	439.5	-10,877.3	11,316.85	0.039	Level 1
10,300.0	9,210.0	9,195.5	9,195.5	39.0	11,280.5	-90.00	190.0	-1,320.0	415.6	-10,903.3	11,318.97	0.037	Level 1
10,369.2	9,210.0	9,195.5	9,195.5	40.6	11,280.5	-90.00	190.0	-1,320.0	410.7	-10,909.8	11,320.45	0.036	Level 1, CC, ES, SF
10,400.0	9,210.0	9,195.5	9,195.5	41.3	11,280.5	-90.00	190.0	-1,320.0	411.7	-10,909.4	11,321.11	0.036	Level 1
10,500.0	9,210.0	9,195.5	9,195.5	43.6	11,280.5	-90.00	190.0	-1,320.0	428.2	-10,895.1	11,323.25	0.038	Level 1
10,600.0	9,210.0	9,195.5	9,195.5	46.0	11,280.5	-90.00	190.0	-1,320.0	462.9	-10,862.5	11,325.39	0.041	Level 1
10,700.0	9,210.0	9,195.5	9,195.5	48.4	11,280.5	-90.00	190.0	-1,320.0	512.2	-10,815.4	11,327.52	0.045	Level 1
10,800.0	9,210.0	9,195.5	9,195.5	50.8	11,280.5	-90.00	190.0	-1,320.0	572.2	-10,757.5	11,329.62	0.051	Level 1
10,900.0	9,210.0	9,195.5	9,195.5	53.2	11,280.5	-90.00	190.0	-1,320.0	639.8	-10,691.9	11,331.69	0.056	Level 1
11,000.0	9,210.0	9,195.5	9,195.5	55.6	11,280.5	-90.00	190.0	-1,320.0	712.9	-10,620.8	11,333.72	0.063	Level 1
11,100.0	9,210.0	9,195.5	9,195.5	58.1	11,280.5	-90.00	190.0	-1,320.0	790.0	-10,546.0	11,335.95	0.070	Level 1
11,200.0	9,210.0	9,195.5	9,195.5	60.5	11,280.5	-90.00	190.0	-1,320.0	871.4	-10,467.1	11,338.51	0.077	Level 1
11,300.0	9,210.0	9,195.5	9,195.5	63.0	11,280.5	-90.00	190.0	-1,320.0	956.4	-10,384.7	11,341.08	0.084	Level 1
11,400.0	9,210.0	9,195.5	9,195.5	65.5	11,280.5	-90.00	190.0	-1,320.0	1,044.0	-10,299.6	11,343.67	0.092	Level 1
11,500.0	9,210.0	9,195.5	9,195.5	68.0	11,280.5	-90.00	190.0	-1,320.0	1,133.7	-10,212.5	11,346.28	0.100	Level 1
11,600.0	9,210.0	9,195.5	9,195.5	70.5	11,280.5	-90.00	190.0	-1,320.0	1,225.0	-10,123.9	11,348.89	0.108	Level 1
11,700.0	9,210.0	9,195.5	9,195.5	73.1	11,280.5	-90.00	190.0	-1,320.0	1,317.6	-10,033.9	11,351.52	0.116	Level 1
11,800.0	9,210.0	9,195.5	9,195.5	75.6	11,280.5	-90.00	190.0	-1,320.0	1,411.1	-9,943.0	11,354.16	0.124	Level 1
11,900.0	9,210.0	9,195.5	9,195.5	78.2	11,280.5	-90.00	190.0	-1,320.0	1,505.5	-9,851.3	11,356.80	0.133	Level 1
12,000.0	9,210.0	9,195.5	9,195.5	80.8	11,280.5	-90.00	190.0	-1,320.0	1,600.6	-9,758.8	11,359.45	0.141	Level 1
12,100.0	9,210.0	9,195.5	9,195.5	83.4	11,280.5	-90.00	190.0	-1,320.0	1,696.3	-9,665.9	11,362.11	0.149	Level 1
12,200.0	9,210.0	9,195.5	9,195.5	86.0	11,280.5	-90.00	190.0	-1,320.0	1,792.4	-9,572.4	11,364.78	0.158	Level 1
12,300.0	9,210.0	9,195.5	9,195.5	88.6	11,280.5	-90.00	190.0	-1,320.0	1,888.9	-9,478.5	11,367.45	0.166	Level 1
12,400.0	9,210.0	9,195.5	9,195.5	91.3	11,280.5	-90.00	190.0	-1,320.0	1,985.8	-9,384.4	11,370.13	0.175	Level 1
12,500.0	9,210.0	9,195.5	9,195.5	93.9	11,280.5	-90.00	190.0	-1,320.0	2,082.9	-9,289.9	11,372.81	0.183	Level 1
12,600.0	9,210.0	9,195.5	9,195.5	96.5	11,280.5	-90.00	190.0	-1,320.0	2,180.4	-9,195.1	11,375.50	0.192	Level 1
12,700.0	9,210.0	9,195.5	9,195.5	99.2	11,280.5	-90.00	190.0	-1,320.0	2,278.0	-9,100.2	11,378.19	0.200	Level 1

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Integrity Directional Services, LLC

Anticollision Report

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County, NM	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Reference Site:	Screwdriver 24 Federal Com	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Multi User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Screwdriver 24 Federal Com - Jones C Fed 1 - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 usft

Survey Program: 11530-BLIND — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,800.0	9,210.0	9,195.5	9,195.5	101.8	11,280.5	-90.00	190.0	-1,320.0	2,375.8	-9,005.0	11,380.88	0.209	Level 1
12,900.0	9,210.0	9,195.5	9,195.5	104.5	11,280.5	-90.00	190.0	-1,320.0	2,473.8	-8,909.7	11,383.58	0.217	Level 1
13,000.0	9,210.0	9,195.5	9,195.5	107.2	11,280.5	-90.00	190.0	-1,320.0	2,572.0	-8,814.3	11,386.28	0.226	Level 1
13,100.0	9,210.0	9,195.5	9,195.5	109.8	11,280.5	-90.00	190.0	-1,320.0	2,670.3	-8,718.7	11,388.98	0.234	Level 1
13,200.0	9,210.0	9,195.5	9,195.5	112.5	11,280.5	-90.00	190.0	-1,320.0	2,768.7	-8,623.0	11,391.69	0.243	Level 1
13,300.0	9,210.0	9,195.5	9,195.5	115.2	11,280.5	-90.00	190.0	-1,320.0	2,867.3	-8,527.1	11,394.39	0.252	Level 1
13,400.0	9,210.0	9,195.5	9,195.5	117.9	11,280.5	-90.00	190.0	-1,320.0	2,965.9	-8,431.2	11,397.10	0.260	Level 1
13,500.0	9,210.0	9,195.5	9,195.5	120.6	11,280.5	-90.00	190.0	-1,320.0	3,064.6	-8,335.2	11,399.82	0.269	Level 1
13,600.0	9,210.0	9,195.5	9,195.5	123.2	11,280.5	-90.00	190.0	-1,320.0	3,163.4	-8,239.1	11,402.53	0.277	Level 1

Integrity Directional Services, LLC

Anticollision Report

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County, NM	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Reference Site:	Screwdriver 24 Federal Com	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Multi User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Screwdriver 24 Federal Com - Lusk Deep Unit 8 - Wellbore #1 - Wellbore #1 — Offset Site Error: 0.0 usft

Survey Program: 11540-BLIND — Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-77.59	110.0	-500.0	512.2				
100.0	100.0	85.5	85.5	0.1	105.0	-77.59	110.0	-500.0	512.0	406.9	105.07	4.873	
200.0	200.0	185.5	185.5	0.3	227.8	-77.59	110.0	-500.0	512.0	283.9	228.07	2.245	
300.0	300.0	285.5	285.5	0.5	350.5	-77.59	110.0	-500.0	512.0	160.9	351.08	1.458	Level 3
400.0	400.0	385.5	385.5	0.8	473.3	-77.59	110.0	-500.0	512.0	37.9	474.09	1.080	Level 2
500.0	500.0	485.5	485.5	1.0	596.1	-77.59	110.0	-500.0	512.0	-85.1	597.09	0.857	Level 1
600.0	600.0	585.5	585.5	1.2	718.9	-77.59	110.0	-500.0	512.0	-208.1	720.10	0.711	Level 1
700.0	700.0	685.5	685.5	1.4	841.7	-77.59	110.0	-500.0	512.0	-331.1	843.10	0.607	Level 1
800.0	800.0	785.5	785.5	1.7	964.4	-77.59	110.0	-500.0	512.0	-454.1	966.11	0.530	Level 1
900.0	900.0	885.5	885.5	1.9	1,087.2	-77.59	110.0	-500.0	512.0	-577.2	1,089.11	0.470	Level 1
1,000.0	1,000.0	985.5	985.5	2.1	1,210.0	-77.59	110.0	-500.0	512.0	-700.2	1,212.12	0.422	Level 1
1,100.0	1,100.0	1,085.5	1,085.5	2.3	1,332.8	-77.59	110.0	-500.0	512.0	-823.2	1,335.12	0.383	Level 1
1,200.0	1,200.0	1,185.5	1,185.5	2.6	1,455.6	-77.59	110.0	-500.0	512.0	-946.2	1,458.13	0.351	Level 1
1,300.0	1,300.0	1,285.5	1,285.5	2.8	1,578.3	-77.59	110.0	-500.0	512.0	-1,069.2	1,581.13	0.324	Level 1
1,400.0	1,400.0	1,385.5	1,385.5	3.0	1,701.1	-77.59	110.0	-500.0	512.0	-1,192.2	1,704.14	0.300	Level 1
1,500.0	1,500.0	1,485.5	1,485.5	3.2	1,823.9	-77.59	110.0	-500.0	512.0	-1,315.2	1,827.14	0.280	Level 1
1,600.0	1,600.0	1,585.5	1,585.5	3.5	1,946.7	-77.59	110.0	-500.0	512.0	-1,438.2	1,950.15	0.263	Level 1
1,700.0	1,700.0	1,685.5	1,685.5	3.7	2,069.5	-77.59	110.0	-500.0	512.0	-1,561.2	2,073.15	0.247	Level 1
1,800.0	1,800.0	1,785.5	1,785.5	3.9	2,192.2	-77.59	110.0	-500.0	512.0	-1,684.2	2,196.16	0.233	Level 1
1,900.0	1,900.0	1,885.5	1,885.5	4.1	2,315.0	-77.59	110.0	-500.0	512.0	-1,807.2	2,319.16	0.221	Level 1
2,000.0	2,000.0	1,985.5	1,985.5	4.4	2,437.8	-77.59	110.0	-500.0	512.0	-1,930.2	2,442.17	0.210	Level 1
2,100.0	2,100.0	2,085.5	2,085.5	4.6	2,560.6	-77.59	110.0	-500.0	512.0	-2,053.2	2,565.17	0.200	Level 1
2,200.0	2,200.0	2,185.5	2,185.5	4.8	2,683.4	-77.59	110.0	-500.0	512.0	-2,176.2	2,688.18	0.190	Level 1
2,300.0	2,300.0	2,285.5	2,285.5	5.0	2,806.1	-77.59	110.0	-500.0	512.0	-2,299.2	2,811.18	0.182	Level 1
2,400.0	2,400.0	2,385.5	2,385.5	5.3	2,928.9	-77.59	110.0	-500.0	512.0	-2,422.2	2,934.19	0.174	Level 1
2,500.0	2,500.0	2,485.5	2,485.5	5.5	3,051.7	-77.59	110.0	-500.0	512.0	-2,545.2	3,057.19	0.167	Level 1
2,600.0	2,600.0	2,585.5	2,585.5	5.7	3,174.5	-77.59	110.0	-500.0	512.0	-2,668.2	3,180.20	0.161	Level 1
2,700.0	2,700.0	2,685.5	2,685.5	5.9	3,297.3	-77.59	110.0	-500.0	512.0	-2,791.2	3,303.20	0.155	Level 1
2,800.0	2,800.0	2,785.5	2,785.5	6.2	3,420.0	-77.59	110.0	-500.0	512.0	-2,914.3	3,426.21	0.149	Level 1
2,900.0	2,900.0	2,885.5	2,885.5	6.4	3,542.8	-77.59	110.0	-500.0	512.0	-3,037.3	3,549.21	0.144	Level 1
3,000.0	3,000.0	2,985.5	2,985.5	6.6	3,665.6	-77.59	110.0	-500.0	512.0	-3,160.3	3,672.22	0.139	Level 1
3,100.0	3,100.0	3,085.5	3,085.5	6.8	3,788.4	-77.59	110.0	-500.0	512.0	-3,283.3	3,795.22	0.135	Level 1
3,200.0	3,200.0	3,185.5	3,185.5	7.1	3,911.2	-77.59	110.0	-500.0	512.0	-3,406.3	3,918.23	0.131	Level 1
3,300.0	3,300.0	3,285.5	3,285.5	7.3	4,033.9	-77.59	110.0	-500.0	512.0	-3,529.3	4,041.23	0.127	Level 1
3,400.0	3,400.0	3,385.5	3,385.5	7.5	4,156.7	-77.59	110.0	-500.0	512.0	-3,652.3	4,164.24	0.123	Level 1
3,500.0	3,500.0	3,485.5	3,485.5	7.7	4,279.5	-77.59	110.0	-500.0	512.0	-3,775.3	4,287.24	0.119	Level 1
3,600.0	3,600.0	3,585.5	3,585.5	8.0	4,402.3	-77.59	110.0	-500.0	512.0	-3,898.3	4,410.25	0.116	Level 1
3,700.0	3,700.0	3,685.5	3,685.5	8.2	4,525.1	-77.59	110.0	-500.0	512.0	-4,021.3	4,533.26	0.113	Level 1
3,800.0	3,800.0	3,785.5	3,785.5	8.4	4,647.9	-77.59	110.0	-500.0	512.0	-4,144.3	4,656.26	0.110	Level 1
3,900.0	3,900.0	3,885.5	3,885.5	8.6	4,770.6	-77.59	110.0	-500.0	512.0	-4,267.3	4,779.27	0.107	Level 1
4,000.0	4,000.0	3,985.5	3,985.5	8.9	4,893.4	-77.59	110.0	-500.0	512.0	-4,390.3	4,902.27	0.104	Level 1
4,100.0	4,100.0	4,085.5	4,085.5	9.1	5,016.2	-77.59	110.0	-500.0	512.0	-4,513.3	5,025.28	0.102	Level 1
4,200.0	4,200.0	4,185.5	4,185.5	9.3	5,139.0	-77.59	110.0	-500.0	512.0	-4,636.3	5,148.28	0.099	Level 1
4,300.0	4,300.0	4,285.5	4,285.5	9.5	5,261.8	-77.59	110.0	-500.0	512.0	-4,759.3	5,271.29	0.097	Level 1
4,400.0	4,400.0	4,385.5	4,385.5	9.8	5,384.5	-77.59	110.0	-500.0	512.0	-4,882.3	5,394.29	0.095	Level 1
4,500.0	4,500.0	4,485.5	4,485.5	10.0	5,507.3	-77.59	110.0	-500.0	512.0	-5,005.3	5,517.30	0.093	Level 1
4,600.0	4,600.0	4,585.5	4,585.5	10.2	5,630.1	-77.59	110.0	-500.0	512.0	-5,128.3	5,640.30	0.091	Level 1
4,700.0	4,700.0	4,685.5	4,685.5	10.4	5,752.9	-77.59	110.0	-500.0	512.0	-5,251.3	5,763.31	0.089	Level 1
4,800.0	4,800.0	4,785.5	4,785.5	10.7	5,875.7	-77.59	110.0	-500.0	512.0	-5,374.4	5,886.31	0.087	Level 1
4,900.0	4,900.0	4,885.5	4,885.5	10.9	5,998.4	-77.59	110.0	-500.0	512.0	-5,497.4	6,009.32	0.085	Level 1
5,000.0	5,000.0	4,985.5	4,985.5	11.1	6,121.2	-77.59	110.0	-500.0	512.0	-5,620.4	6,132.32	0.083	Level 1
5,100.0	5,100.0	5,085.5	5,085.5	11.3	6,244.0	-77.59	110.0	-500.0	512.0	-5,743.4	6,255.33	0.082	Level 1

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Integrity Directional Services, LLC

Anticollision Report

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County, NM	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Reference Site:	Screwdriver 24 Federal Com	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Multi User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Screwdriver 24 Federal Com - Lusk Deep Unit 8 - Wellbore #1 - Wellbore #1 — Offset Site Error: 0.0 usft

Survey Program: 11540-BLIND — Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,200.0	5,185.5	5,185.5	11.6	6,366.8	-77.59	110.0	-500.0	512.0	-5,866.4	6,378.33	0.080	Level 1
5,300.0	5,300.0	5,285.5	5,285.5	11.8	6,489.6	-77.59	110.0	-500.0	512.0	-5,989.4	6,501.34	0.079	Level 1
5,400.0	5,400.0	5,385.5	5,385.5	12.0	6,612.3	-77.59	110.0	-500.0	512.0	-6,112.4	6,624.34	0.077	Level 1
5,500.0	5,500.0	5,485.5	5,485.5	12.2	6,735.1	-77.59	110.0	-500.0	512.0	-6,235.4	6,747.35	0.076	Level 1
5,600.0	5,600.0	5,585.5	5,585.5	12.5	6,857.9	-77.59	110.0	-500.0	512.0	-6,358.4	6,870.35	0.075	Level 1
5,700.0	5,700.0	5,685.5	5,685.5	12.7	6,980.7	-77.59	110.0	-500.0	512.0	-6,481.4	6,993.36	0.073	Level 1
5,800.0	5,800.0	5,785.5	5,785.5	12.9	7,103.5	-77.59	110.0	-500.0	512.0	-6,604.4	7,116.36	0.072	Level 1
5,900.0	5,900.0	5,885.5	5,885.5	13.1	7,226.2	-77.59	110.0	-500.0	512.0	-6,727.4	7,239.37	0.071	Level 1
6,000.0	6,000.0	5,985.5	5,985.5	13.4	7,349.0	-77.59	110.0	-500.0	512.0	-6,850.4	7,362.37	0.070	Level 1
6,100.0	6,100.0	6,085.5	6,085.5	13.6	7,471.8	-77.59	110.0	-500.0	512.0	-6,973.4	7,485.38	0.068	Level 1
6,200.0	6,200.0	6,185.5	6,185.5	13.8	7,594.6	-77.59	110.0	-500.0	512.0	-7,096.4	7,608.38	0.067	Level 1
6,300.0	6,300.0	6,285.5	6,285.5	14.0	7,717.4	-77.59	110.0	-500.0	512.0	-7,219.4	7,731.39	0.066	Level 1
6,400.0	6,400.0	6,385.5	6,385.5	14.3	7,840.1	-77.59	110.0	-500.0	512.0	-7,342.4	7,854.39	0.065	Level 1
6,500.0	6,500.0	6,485.5	6,485.5	14.5	7,962.9	-77.59	110.0	-500.0	512.0	-7,465.4	7,977.40	0.064	Level 1
6,600.0	6,600.0	6,585.5	6,585.5	14.7	8,085.7	-77.59	110.0	-500.0	512.0	-7,588.4	8,100.40	0.063	Level 1
6,700.0	6,700.0	6,685.5	6,685.5	14.9	8,208.5	-77.59	110.0	-500.0	512.0	-7,711.5	8,223.41	0.062	Level 1
6,800.0	6,800.0	6,785.5	6,785.5	15.2	8,331.3	-77.59	110.0	-500.0	512.0	-7,834.5	8,346.41	0.061	Level 1
6,900.0	6,900.0	6,885.5	6,885.5	15.4	8,454.0	-77.59	110.0	-500.0	512.0	-7,957.5	8,469.42	0.060	Level 1
7,000.0	7,000.0	6,985.5	6,985.5	15.6	8,576.8	-77.59	110.0	-500.0	512.0	-8,080.5	8,592.43	0.060	Level 1
7,100.0	7,100.0	7,085.5	7,085.5	15.8	8,699.6	-77.59	110.0	-500.0	512.0	-8,203.5	8,715.43	0.059	Level 1
7,200.0	7,200.0	7,185.5	7,185.5	16.1	8,822.4	-77.59	110.0	-500.0	512.0	-8,326.5	8,838.44	0.058	Level 1
7,300.0	7,300.0	7,285.5	7,285.5	16.3	8,945.2	-77.59	110.0	-500.0	512.0	-8,449.5	8,961.44	0.057	Level 1
7,400.0	7,400.0	7,385.5	7,385.5	16.5	9,067.9	-77.59	110.0	-500.0	512.0	-8,572.5	9,084.45	0.056	Level 1
7,500.0	7,500.0	7,485.5	7,485.5	16.7	9,190.7	-77.59	110.0	-500.0	512.0	-8,695.5	9,207.45	0.056	Level 1
7,600.0	7,600.0	7,585.5	7,585.5	16.9	9,313.5	-77.59	110.0	-500.0	512.0	-8,818.5	9,330.46	0.055	Level 1
7,700.0	7,700.0	7,685.5	7,685.5	17.2	9,436.3	-77.59	110.0	-500.0	512.0	-8,941.5	9,453.46	0.054	Level 1
7,800.0	7,800.0	7,785.5	7,785.5	17.4	9,559.1	-77.59	110.0	-500.0	512.0	-9,064.5	9,576.47	0.053	Level 1
7,900.0	7,900.0	7,885.5	7,885.5	17.6	9,681.8	-77.59	110.0	-500.0	512.0	-9,187.5	9,699.47	0.053	Level 1
8,000.0	8,000.0	7,985.5	7,985.5	17.8	9,804.6	-77.59	110.0	-500.0	512.0	-9,310.5	9,822.48	0.052	Level 1
8,100.0	8,100.0	8,085.5	8,085.5	18.1	9,927.4	-77.59	110.0	-500.0	512.0	-9,433.5	9,945.48	0.051	Level 1
8,200.0	8,200.0	8,185.5	8,185.5	18.3	10,050.2	-77.59	110.0	-500.0	512.0	-9,556.5	10,068.49	0.051	Level 1
8,300.0	8,300.0	8,285.5	8,285.5	18.5	10,173.0	-77.59	110.0	-500.0	512.0	-9,679.5	10,191.49	0.050	Level 1
8,400.0	8,400.0	8,385.5	8,385.5	18.7	10,295.7	-77.59	110.0	-500.0	512.0	-9,802.5	10,314.50	0.050	Level 1
8,500.0	8,500.0	8,485.5	8,485.5	19.0	10,418.5	-77.59	110.0	-500.0	512.0	-9,925.5	10,437.50	0.049	Level 1
8,600.0	8,600.0	8,585.5	8,585.5	19.2	10,541.3	-77.59	110.0	-500.0	512.0	-10,048.6	10,560.51	0.048	Level 1
8,700.0	8,700.0	8,685.5	8,685.5	19.4	10,664.1	-77.59	110.0	-500.0	512.0	-10,171.6	10,683.51	0.048	Level 1
8,800.0	8,799.8	8,785.3	8,785.3	19.6	10,786.6	-19.43	110.0	-500.0	507.5	-10,203.0	10,710.44	0.047	Level 1
8,900.0	8,896.6	8,882.1	8,882.1	19.9	10,905.5	-21.39	110.0	-500.0	484.6	-9,866.5	10,351.08	0.047	Level 1
9,000.0	8,986.2	8,971.7	8,971.7	20.1	11,015.5	-25.67	110.0	-500.0	443.6	-9,244.4	9,688.01	0.046	Level 1
9,100.0	9,064.8	9,050.3	9,050.3	20.4	11,112.0	-33.70	110.0	-500.0	387.3	-8,690.2	9,077.51	0.043	Level 1
9,200.0	9,128.8	9,114.3	9,114.3	20.9	11,190.6	-47.72	110.0	-500.0	319.9	-8,981.4	9,301.34	0.034	Level 1
9,300.0	9,175.5	9,161.0	9,161.0	21.5	11,247.9	-67.64	110.0	-500.0	249.0	-10,295.0	10,544.05	0.024	Level 1
9,400.0	9,202.9	9,188.4	9,188.4	22.5	11,281.5	-84.80	110.0	-500.0	189.3	-11,069.6	11,258.87	0.017	Level 1
9,489.9	9,211.4	9,196.9	9,196.9	23.5	11,292.0	-90.00	110.0	-500.0	167.0	-11,148.5	11,315.54	0.015	Level 1, CC, ES, SF
9,500.0	9,210.0	9,195.5	9,195.5	23.7	11,290.3	-90.00	110.0	-500.0	167.6	-11,146.3	11,313.92	0.015	Level 1
9,600.0	9,210.0	9,195.5	9,195.5	25.1	11,290.3	-90.00	110.0	-500.0	198.8	-11,116.5	11,315.33	0.018	Level 1
9,700.0	9,210.0	9,195.5	9,195.5	26.7	11,290.3	-90.00	110.0	-500.0	264.1	-11,052.8	11,316.93	0.023	Level 1
9,800.0	9,210.0	9,195.5	9,195.5	28.5	11,290.3	-90.00	110.0	-500.0	344.7	-10,974.0	11,318.68	0.030	Level 1
9,900.0	9,210.0	9,195.5	9,195.5	30.4	11,290.3	-90.00	110.0	-500.0	431.9	-10,888.7	11,320.55	0.038	Level 1
10,000.0	9,210.0	9,195.5	9,195.5	32.4	11,290.3	-90.00	110.0	-500.0	522.4	-10,800.1	11,322.51	0.046	Level 1
10,100.0	9,210.0	9,195.5	9,195.5	34.5	11,290.3	-90.00	110.0	-500.0	614.7	-10,709.9	11,324.55	0.054	Level 1
10,200.0	9,210.0	9,195.5	9,195.5	36.7	11,290.3	-90.00	110.0	-500.0	707.9	-10,618.7	11,326.63	0.063	Level 1

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Integrity Directional Services, LLC

Anticollision Report

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County, NM	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Reference Site:	Screwdriver 24 Federal Com	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Multi User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Screwdriver 24 Federal Com - Lusk Deep Unit 8 - Wellbore #1 - Wellbore #1 — Offset Site Error: 0.0 usft

Survey Program: 11540-BLIND — Offset Well Error: 0.0 usft

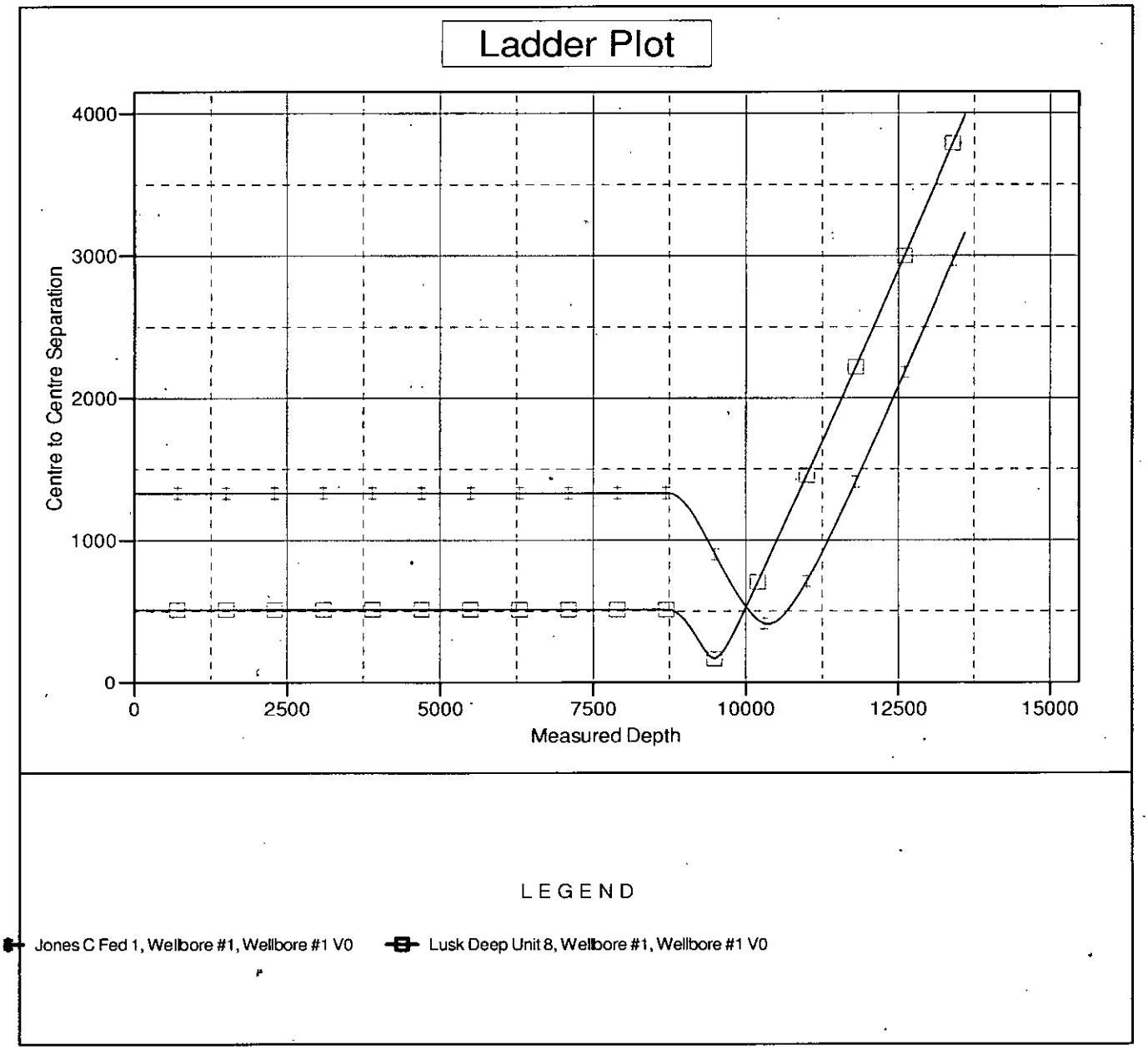
Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.0	9,210.0	9,195.5	9,195.5	39.0	11,290.3	-90.00	110.0	-500.0	801.7	-10,527.1	11,328.75	0.071	Level 1
10,400.0	9,210.0	9,195.5	9,195.5	41.3	11,290.3	-90.00	110.0	-500.0	895.8	-10,435.1	11,330.89	0.079	Level 1
10,500.0	9,210.0	9,195.5	9,195.5	43.6	11,290.3	-90.00	110.0	-500.0	989.9	-10,343.1	11,333.04	0.087	Level 1
10,600.0	9,210.0	9,195.5	9,195.5	46.0	11,290.3	-90.00	110.0	-500.0	1,084.0	-10,251.1	11,335.18	0.096	Level 1
10,700.0	9,210.0	9,195.5	9,195.5	48.4	11,290.3	-90.00	110.0	-500.0	1,178.0	-10,159.3	11,337.30	0.104	Level 1
10,800.0	9,210.0	9,195.5	9,195.5	50.8	11,290.3	-90.00	110.0	-500.0	1,271.8	-10,067.6	11,339.40	0.112	Level 1
10,900.0	9,210.0	9,195.5	9,195.5	53.2	11,290.3	-90.00	110.0	-500.0	1,365.4	-9,976.1	11,341.47	0.120	Level 1
11,000.0	9,210.0	9,195.5	9,195.5	55.6	11,290.3	-90.00	110.0	-500.0	1,458.6	-9,884.9	11,343.50	0.129	Level 1
11,100.0	9,210.0	9,195.5	9,195.5	58.1	11,290.3	-90.00	110.0	-500.0	1,551.6	-9,794.1	11,345.73	0.137	Level 1
11,200.0	9,210.0	9,195.5	9,195.5	60.5	11,290.3	-90.00	110.0	-500.0	1,645.3	-9,703.0	11,348.29	0.145	Level 1
11,300.0	9,210.0	9,195.5	9,195.5	63.0	11,290.3	-90.00	110.0	-500.0	1,739.6	-9,611.3	11,350.87	0.153	Level 1
11,400.0	9,210.0	9,195.5	9,195.5	65.5	11,290.3	-90.00	110.0	-500.0	1,834.5	-9,518.9	11,353.46	0.162	Level 1
11,500.0	9,210.0	9,195.5	9,195.5	68.0	11,290.3	-90.00	110.0	-500.0	1,930.0	-9,426.1	11,356.06	0.170	Level 1
11,600.0	9,210.0	9,195.5	9,195.5	70.5	11,290.3	-90.00	110.0	-500.0	2,025.9	-9,332.8	11,358.68	0.178	Level 1
11,700.0	9,210.0	9,195.5	9,195.5	73.1	11,290.3	-90.00	110.0	-500.0	2,122.1	-9,239.2	11,361.30	0.187	Level 1
11,800.0	9,210.0	9,195.5	9,195.5	75.6	11,290.3	-90.00	110.0	-500.0	2,218.7	-9,145.2	11,363.94	0.195	Level 1
11,900.0	9,210.0	9,195.5	9,195.5	78.2	11,290.3	-90.00	110.0	-500.0	2,315.6	-9,051.0	11,366.58	0.204	Level 1
12,000.0	9,210.0	9,195.5	9,195.5	80.8	11,290.3	-90.00	110.0	-500.0	2,412.8	-8,956.5	11,369.24	0.212	Level 1
12,100.0	9,210.0	9,195.5	9,195.5	83.4	11,290.3	-90.00	110.0	-500.0	2,510.1	-8,861.8	11,371.90	0.221	Level 1
12,200.0	9,210.0	9,195.5	9,195.5	86.0	11,290.3	-90.00	110.0	-500.0	2,607.7	-8,766.9	11,374.56	0.229	Level 1
12,300.0	9,210.0	9,195.5	9,195.5	88.6	11,290.3	-90.00	110.0	-500.0	2,705.4	-8,671.8	11,377.23	0.238	Level 1
12,400.0	9,210.0	9,195.5	9,195.5	91.3	11,290.3	-90.00	110.0	-500.0	2,803.3	-8,576.6	11,379.91	0.246	Level 1
12,500.0	9,210.0	9,195.5	9,195.5	93.9	11,290.3	-90.00	110.0	-500.0	2,901.4	-8,481.2	11,382.59	0.255	Level 1
12,600.0	9,210.0	9,195.5	9,195.5	96.5	11,290.3	-90.00	110.0	-500.0	2,999.6	-8,385.7	11,385.28	0.263	Level 1
12,700.0	9,210.0	9,195.5	9,195.5	99.2	11,290.3	-90.00	110.0	-500.0	3,097.9	-8,290.1	11,387.97	0.272	Level 1
12,800.0	9,210.0	9,195.5	9,195.5	101.8	11,290.3	-90.00	110.0	-500.0	3,196.3	-8,194.4	11,390.66	0.281	Level 1
12,900.0	9,210.0	9,195.5	9,195.5	104.5	11,290.3	-90.00	110.0	-500.0	3,294.7	-8,098.6	11,393.36	0.289	Level 1
13,000.0	9,210.0	9,195.5	9,195.5	107.2	11,290.3	-90.00	110.0	-500.0	3,393.3	-8,002.7	11,396.06	0.298	Level 1
13,100.0	9,210.0	9,195.5	9,195.5	109.8	11,290.3	-90.00	110.0	-500.0	3,492.0	-7,906.8	11,398.76	0.306	Level 1
13,200.0	9,210.0	9,195.5	9,195.5	112.5	11,290.3	-90.00	110.0	-500.0	3,590.7	-7,810.7	11,401.47	0.315	Level 1
13,300.0	9,210.0	9,195.5	9,195.5	115.2	11,290.3	-90.00	110.0	-500.0	3,689.5	-7,714.6	11,404.18	0.324	Level 1
13,400.0	9,210.0	9,195.5	9,195.5	117.9	11,290.3	-90.00	110.0	-500.0	3,788.4	-7,618.5	11,406.89	0.332	Level 1
13,500.0	9,210.0	9,195.5	9,195.5	120.6	11,290.3	-90.00	110.0	-500.0	3,887.3	-7,522.3	11,409.60	0.341	Level 1
13,600.0	9,210.0	9,195.5	9,195.5	123.2	11,290.3	-90.00	110.0	-500.0	3,986.3	-7,426.0	11,412.32	0.349	Level 1

Integrity Directional Services, LLC

Anticollision Report

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County, NM	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Reference Site:	Screwdriver 24 Federal Com	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Multi User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 3565.5usft (Original Well El Coordinates are relative to: #1H
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is 104° 20' 0.000 W Grid Convergence at Surface is: 0.28°



Integrity Directional Services, LLC

Anticollision Report

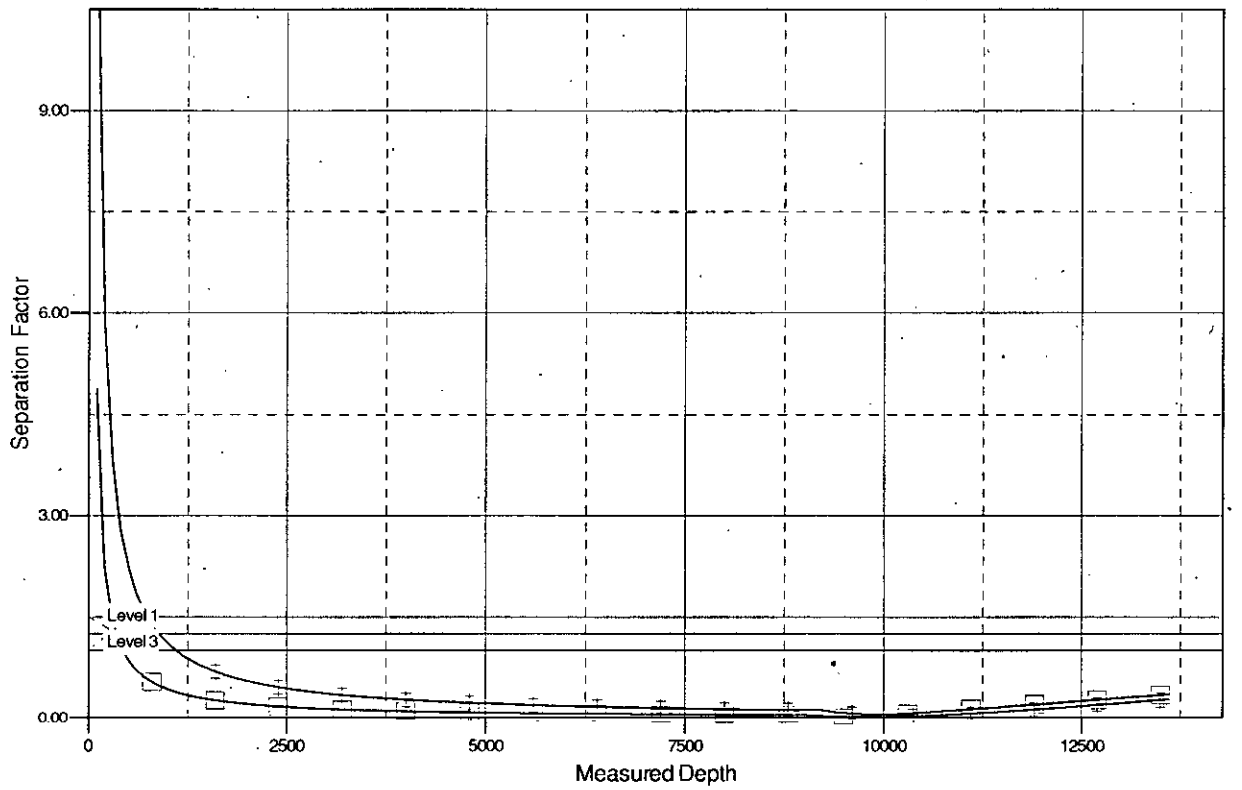
Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Eddy County, NM	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Reference Site:	Screwdriver 24 Federal Com	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Multi User Db
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 3565.5usft (Original Well El Coordinates are relative to: #1H

Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Central Meridian is 104° 20' 0.000 W Grid Convergence at Surface is: 0.28°

Separation Factor Plot



LEGEND

Jones C Fed 1, Wellbore #1, Wellbore #1 V0

Lusk Deep Unit 8, Wellbore #1, Wellbore #1 V0

CONCHO

COG Operating LLC

Eddy County, NM
Screwdriver 24 Federal Com
#1H

OH

Plan: Design #1

Standard Planning Report

02 April, 2015

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #1H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Project:	Eddy County, NM	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site:	Screwdriver 24 Federal Com	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Project Eddy County, 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 Screwdriver 24 Federal Com

Site Position:		**Northing:**	597,974.20 usft	**Latitude:**	32° 38' 34.312 N
From:	Map	**Easting:**	659,459.50 usft	**Longitude:**	103° 48' 55.062 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.28 °

Well #1H

Well Position	**+N/-S**	0.0 usft	**Northing:**	597,974.20 usft	**Latitude:**	32° 38' 34.312 N
	+E/-W	0.0 usft	**Easting:**	659,459.50 usft	**Longitude:**	103° 48' 55.062 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,547.5 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/2/2015	7.26	60.44	48,461

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	278.54

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,732.5	0.00	0.00	8,732.5	0.0	0.0	0.00	0.00	0.00	0.00	
9,482.6	90.00	285.00	9,210.0	123.6	-461.2	12.00	12.00	0.00	285.00	
9,861.4	90.00	277.42	9,210.0	197.2	-832.5	2.00	0.00	-2.00	-90.00	
13,526.9	90.00	277.42	9,210.0	670.8	-4,467.3	0.00	0.00	0.00	0.00	PBHL(SD24FC#1H)

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #1H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Project:	Eddy County, NM	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site:	Screwdriver 24 Federal Com	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #1H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Project:	Eddy County, NM	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site:	Screwdriver 24 Federal Com	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,732.5	0.00	0.00	8,732.5	0.0	0.0	0.0	0.00	0.00	0.00
KOP - 8732.5 'MD, 0.00° INC, 0.00° AZI									
8,750.0	2.10	285.00	8,750.0	0.1	-0.3	0.3	12.00	12.00	0.00
8,775.0	5.10	285.00	8,774.9	0.5	-1.8	1.9	12.00	12.00	0.00
8,800.0	8.10	285.00	8,799.8	1.2	-4.6	4.7	12.00	12.00	0.00
8,825.0	11.10	285.00	8,824.4	2.3	-8.6	8.9	12.00	12.00	0.00
8,850.0	14.10	285.00	8,848.8	3.7	-13.9	14.3	12.00	12.00	0.00
8,875.0	17.10	285.00	8,872.9	5.5	-20.4	21.0	12.00	12.00	0.00
8,900.0	20.10	285.00	8,896.6	7.5	-28.1	28.9	12.00	12.00	0.00
8,925.0	23.10	285.00	8,919.8	9.9	-37.0	38.0	12.00	12.00	0.00
8,950.0	26.10	285.00	8,942.6	12.6	-47.0	48.4	12.00	12.00	0.00
8,975.0	29.10	285.00	8,964.7	15.6	-58.2	59.9	12.00	12.00	0.00
9,000.0	32.10	285.00	8,986.2	18.9	-70.5	72.5	12.00	12.00	0.00
9,025.0	35.10	285.00	9,007.0	22.5	-83.9	86.3	12.00	12.00	0.00
9,050.0	38.10	285.00	9,027.1	26.3	-98.3	101.1	12.00	12.00	0.00
9,075.0	41.10	285.00	9,046.4	30.5	-113.6	116.9	12.00	12.00	0.00
9,100.0	44.10	285.00	9,064.8	34.8	-130.0	133.7	12.00	12.00	0.00
9,125.0	47.10	285.00	9,082.3	39.5	-147.2	151.5	12.00	12.00	0.00
9,150.0	50.10	285.00	9,098.8	44.3	-165.4	170.1	12.00	12.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #1H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Project:	Eddy County, NM	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site:	Screwdriver 24 Federal Com	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,175.0	53.10	285.00	9,114.3	49.4	-184.3	189.6	12.00	12.00	0.00
9,200.0	56.10	285.00	9,128.8	54.6	-204.0	209.8	12.00	12.00	0.00
9,225.0	59.10	285.00	9,142.2	60.1	-224.3	230.8	12.00	12.00	0.00
9,250.0	62.10	285.00	9,154.5	65.7	-245.4	252.4	12.00	12.00	0.00
9,275.0	65.10	285.00	9,165.6	71.5	-267.0	274.7	12.00	12.00	0.00
9,300.0	68.09	285.00	9,175.5	77.5	-289.2	297.5	12.00	12.00	0.00
9,325.0	71.09	285.00	9,184.2	83.5	-311.8	320.7	12.00	12.00	0.00
9,350.0	74.09	285.00	9,191.7	89.7	-334.8	344.4	12.00	12.00	0.00
9,375.0	77.09	285.00	9,197.9	96.0	-358.2	368.5	12.00	12.00	0.00
9,400.0	80.09	285.00	9,202.9	102.3	-381.9	392.8	12.00	12.00	0.00
9,425.0	83.09	285.00	9,206.5	108.7	-405.8	417.4	12.00	12.00	0.00
9,450.0	86.09	285.00	9,208.9	115.2	-429.8	442.1	12.00	12.00	0.00
9,475.0	89.09	285.00	9,209.9	121.6	-453.9	467.0	12.00	12.00	0.00
9,482.6	90.00	285.00	9,210.0	123.6	-461.2	474.5	12.00	12.00	0.00
EOC- 9482.6 'MD, 90.00° INC, 285.00° AZI									
9,500.0	90.00	284.65	9,210.0	128.0	-478.1	491.8	2.00	0.00	-2.00
9,600.0	90.00	282.65	9,210.0	151.6	-575.3	591.4	2.00	0.00	-2.00
9,700.0	90.00	280.65	9,210.0	171.8	-673.2	691.3	2.00	0.00	-2.00
9,800.0	90.00	278.65	9,210.0	188.6	-771.8	791.2	2.00	0.00	-2.00
9,861.4	90.00	277.42	9,210.0	197.2	-832.5	852.6	2.00	0.00	-2.00
9,900.0	90.00	277.42	9,210.0	202.2	-870.9	891.2	0.00	0.00	0.00
10,000.0	90.00	277.42	9,210.0	215.1	-970.0	991.2	0.00	0.00	0.00
10,100.0	90.00	277.42	9,210.0	228.0	-1,069.2	1,091.2	0.00	0.00	0.00
10,200.0	90.00	277.42	9,210.0	240.9	-1,168.3	1,191.2	0.00	0.00	0.00
10,300.0	90.00	277.42	9,210.0	253.9	-1,267.5	1,291.1	0.00	0.00	0.00
10,400.0	90.00	277.42	9,210.0	266.8	-1,366.7	1,391.1	0.00	0.00	0.00
10,500.0	90.00	277.42	9,210.0	279.7	-1,465.8	1,491.1	0.00	0.00	0.00
10,600.0	90.00	277.42	9,210.0	292.6	-1,565.0	1,591.1	0.00	0.00	0.00
10,700.0	90.00	277.42	9,210.0	305.5	-1,664.1	1,691.1	0.00	0.00	0.00
10,800.0	90.00	277.42	9,210.0	318.5	-1,763.3	1,791.0	0.00	0.00	0.00
10,900.0	90.00	277.42	9,210.0	331.4	-1,862.5	1,891.0	0.00	0.00	0.00
11,000.0	90.00	277.42	9,210.0	344.3	-1,961.6	1,991.0	0.00	0.00	0.00
11,100.0	90.00	277.42	9,210.0	357.2	-2,060.8	2,091.0	0.00	0.00	0.00
11,200.0	90.00	277.42	9,210.0	370.2	-2,160.0	2,191.0	0.00	0.00	0.00
11,300.0	90.00	277.42	9,210.0	383.1	-2,259.1	2,291.0	0.00	0.00	0.00
11,400.0	90.00	277.42	9,210.0	396.0	-2,358.3	2,390.9	0.00	0.00	0.00
11,500.0	90.00	277.42	9,210.0	408.9	-2,457.4	2,490.9	0.00	0.00	0.00
11,600.0	90.00	277.42	9,210.0	421.8	-2,556.6	2,590.9	0.00	0.00	0.00
11,700.0	90.00	277.42	9,210.0	434.8	-2,655.8	2,690.9	0.00	0.00	0.00
11,800.0	90.00	277.42	9,210.0	447.7	-2,754.9	2,790.9	0.00	0.00	0.00
11,900.0	90.00	277.42	9,210.0	460.6	-2,854.1	2,890.8	0.00	0.00	0.00
12,000.0	90.00	277.42	9,210.0	473.5	-2,953.2	2,990.8	0.00	0.00	0.00
12,100.0	90.00	277.42	9,210.0	486.4	-3,052.4	3,090.8	0.00	0.00	0.00
12,200.0	90.00	277.42	9,210.0	499.4	-3,151.6	3,190.8	0.00	0.00	0.00
12,300.0	90.00	277.42	9,210.0	512.3	-3,250.7	3,290.8	0.00	0.00	0.00
12,400.0	90.00	277.42	9,210.0	525.2	-3,349.9	3,390.7	0.00	0.00	0.00
12,500.0	90.00	277.42	9,210.0	538.1	-3,449.1	3,490.7	0.00	0.00	0.00
12,600.0	90.00	277.42	9,210.0	551.0	-3,548.2	3,590.7	0.00	0.00	0.00
12,700.0	90.00	277.42	9,210.0	564.0	-3,647.4	3,690.7	0.00	0.00	0.00
12,800.0	90.00	277.42	9,210.0	576.9	-3,746.5	3,790.7	0.00	0.00	0.00
12,900.0	90.00	277.42	9,210.0	589.8	-3,845.7	3,890.6	0.00	0.00	0.00
13,000.0	90.00	277.42	9,210.0	602.7	-3,944.9	3,990.6	0.00	0.00	0.00
13,100.0	90.00	277.42	9,210.0	615.6	-4,044.0	4,090.6	0.00	0.00	0.00
13,200.0	90.00	277.42	9,210.0	628.6	-4,143.2	4,190.6	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #1H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Project:	Eddy County, NM	**MD Reference:**	WELL @ 3565.5usft (Original Well Elev)
Site:	Screwdriver 24 Federal Com	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,300.0	90.00	277.42	9,210.0	641.5	-4,242.3	4,290.6	0.00	0.00	0.00
13,400.0	90.00	277.42	9,210.0	654.4	-4,341.5	4,390.6	0.00	0.00	0.00
13,500.0	90.00	277.42	9,210.0	667.3	-4,440.7	4,490.5	0.00	0.00	0.00
13,526.9	90.00	277.42	9,210.0	670.8	-4,467.3	4,517.4	0.00	0.00	0.00
TD at 13526.9 - PBHL(SD24FC#1H)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL(SD24FC#1H) - plan hits target center - Point	0.00	0.00	9,210.0	670.8	-4,467.3	598,645.00	654,992.20	32° 38' 41.162 N	103° 49' 47.270 W

Plan Annotations

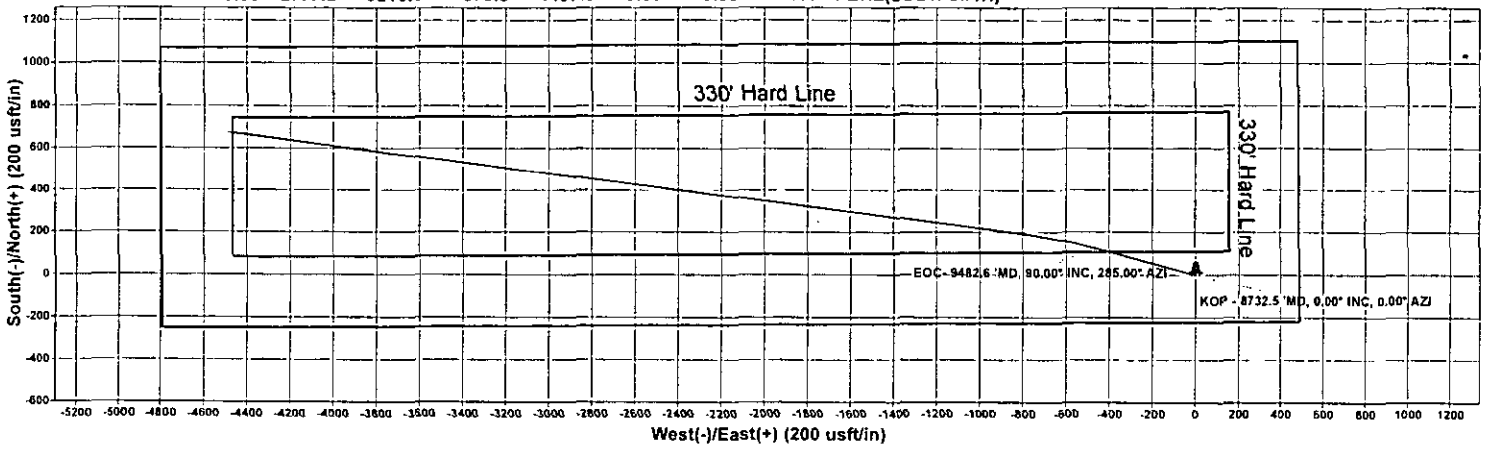
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
8,732.5	8,732.5	0.0	0.0	KOP - 8732.5 'MD, 0.00° INC, 0.00° AZI
9,482.6	9,210.0	123.6	-461.2	EOC- 9482.6 'MD, 90.00° INC, 285.00° AZI
13,526.9	9,210.0	197.2	-832.5	TD at 13526.9

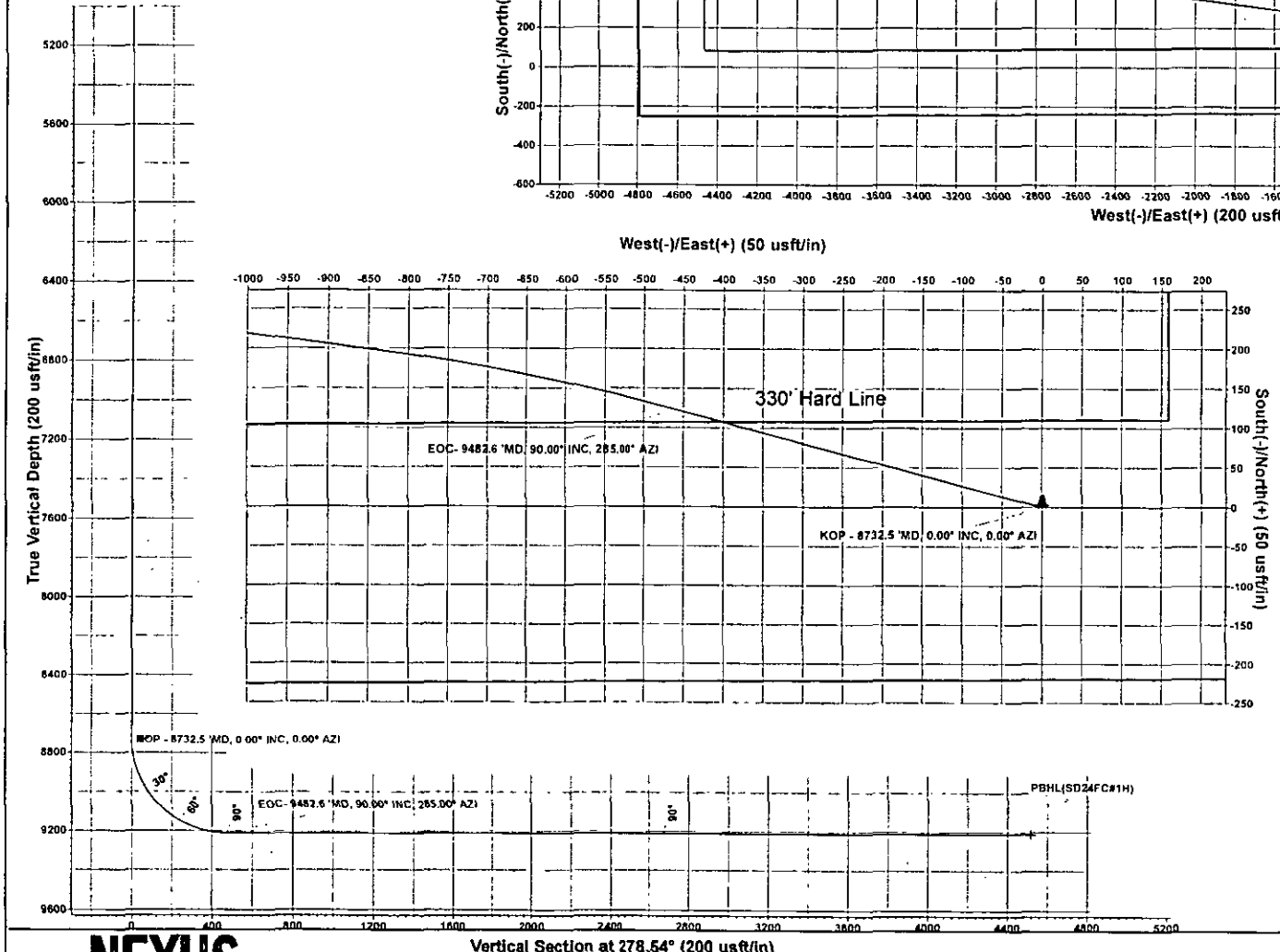
CONCHO

COG Operating LLC
Project: Eddy County, NM
Site: Screwdriver 24 Federal Com
Well: #1H
Wellbore: OH
Plan: Design #1 (#1H/OH)

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	8732.5	0.00	0.00	8732.5	0.0	0.0	0.00	0.00	0.0	
3	9482.6	90.00	285.00	9210.0	123.6	-461.2	12.00	285.00	474.5	
4	9861.4	90.00	277.42	9210.0	197.2	-832.5	2.00	-90.00	852.6	
5	13526.9	90.00	277.42	9210.0	670.8	-4467.3	0.00	0.00	4517.4	PBHL(SD24FC#1H)





WELL DETAILS: #1H

Ground Elevation:: 3547.5
RKB Elevation: WELL @ 3565.5usft (Original Well Elev)
Rig Name: Original Well Elev

Northing	Easting	Latittude	Longitude
597974.20	659459.50	32° 38' 34.312 N	103° 48' 55.062 W

Azimuths to Grid North
True North: -0.28°
Magnetic North: 6.98°

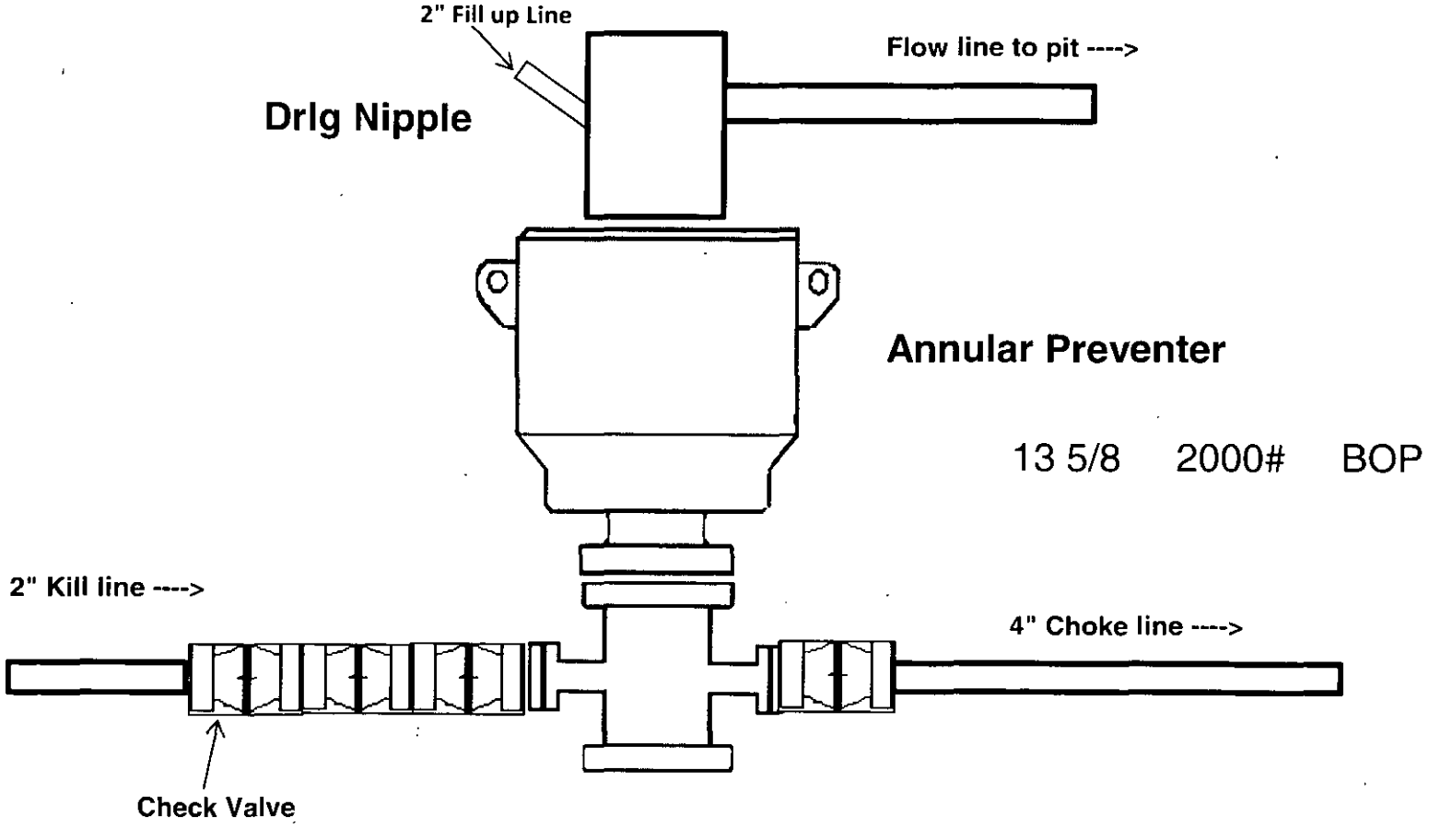
Magnetic Field
Strength: 48460.7snT
Dip Angle: 60.44°
Date: 4/2/2015
Model: IGRF2010

NEXUS DIRECTIONAL SOLUTIONS, L.P.

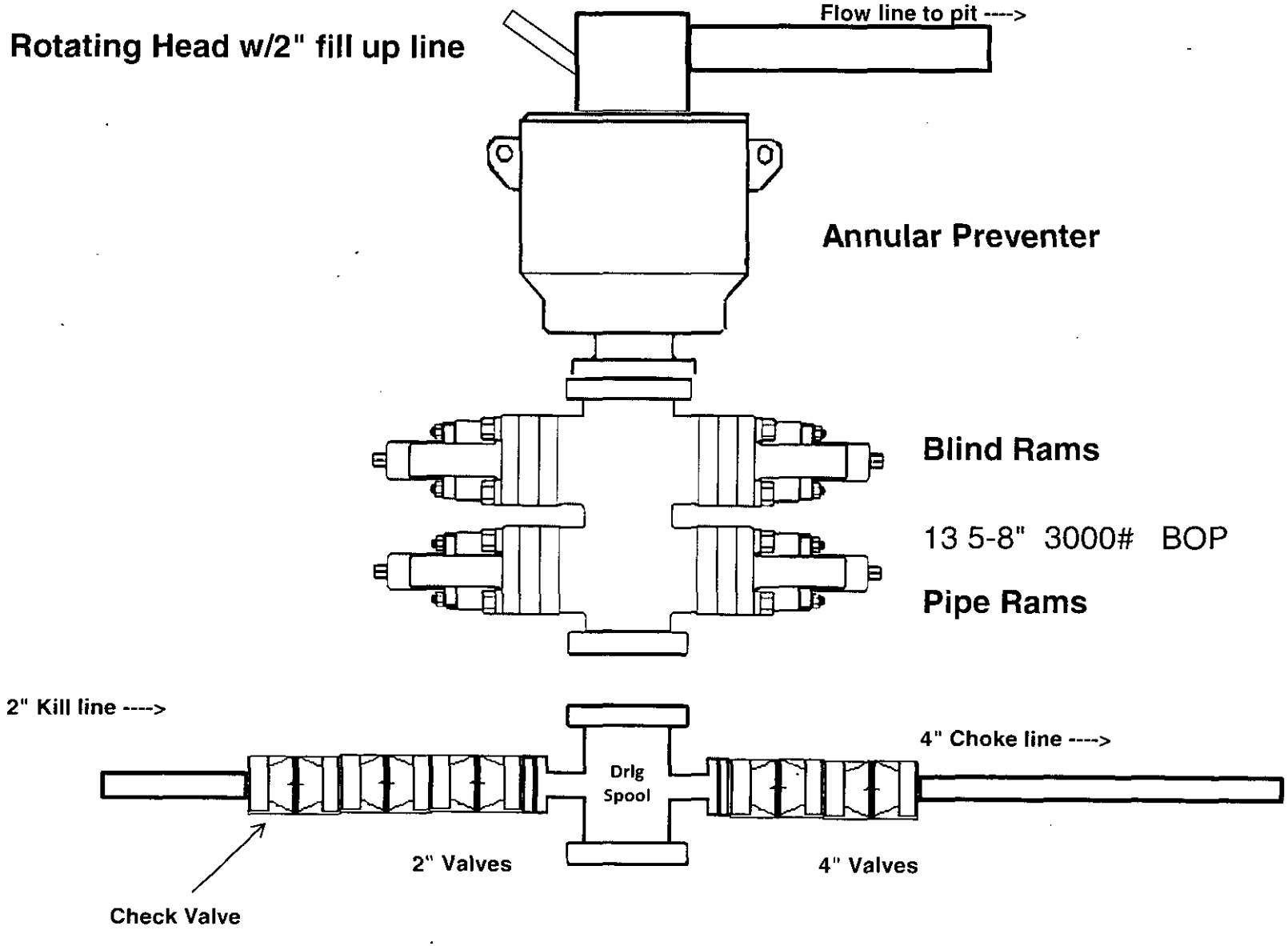
Nexus Directional Solutions

PROJECT DETAILS: Eddy County, NM
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

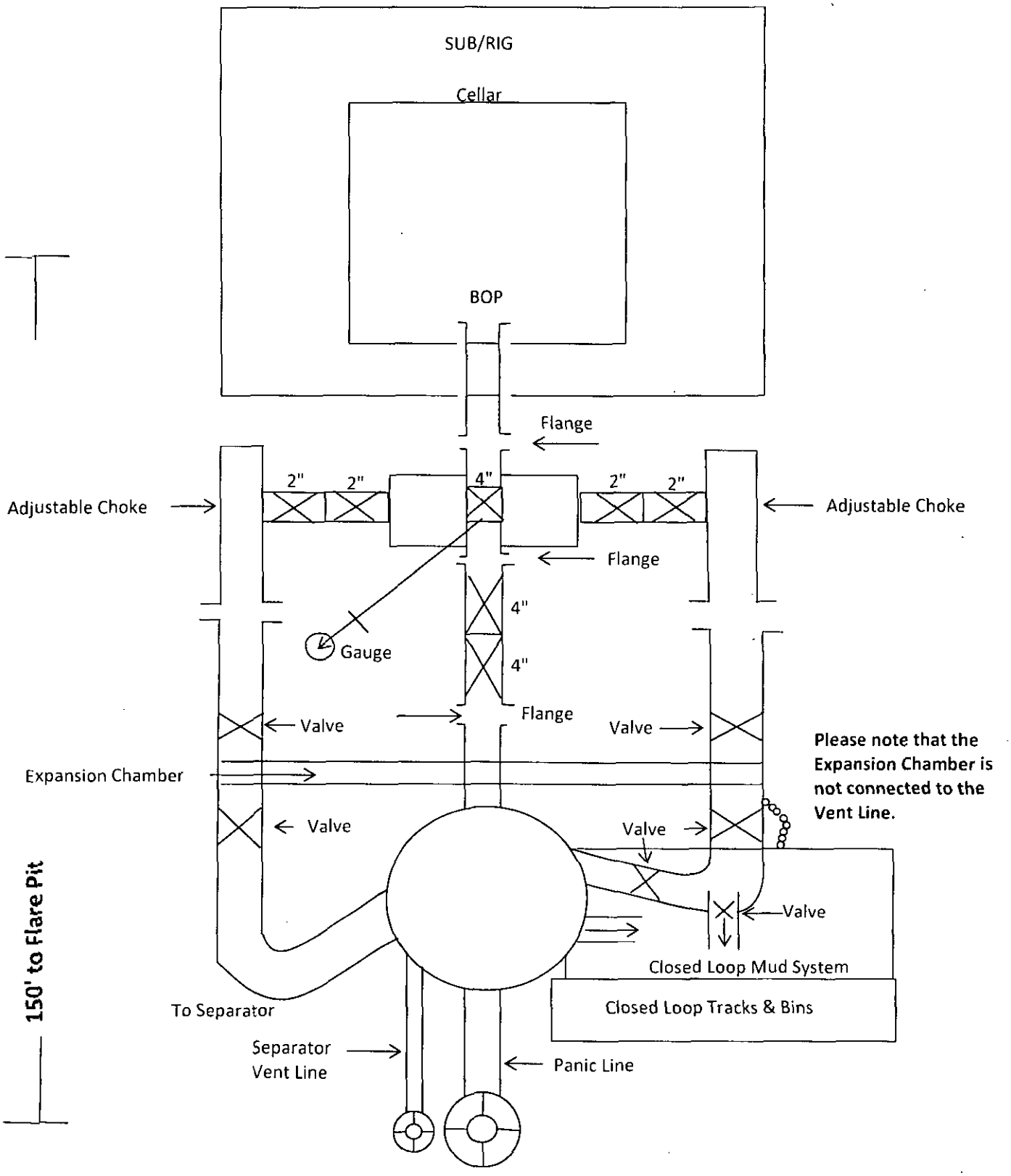
2,000 psi BOP Schematic



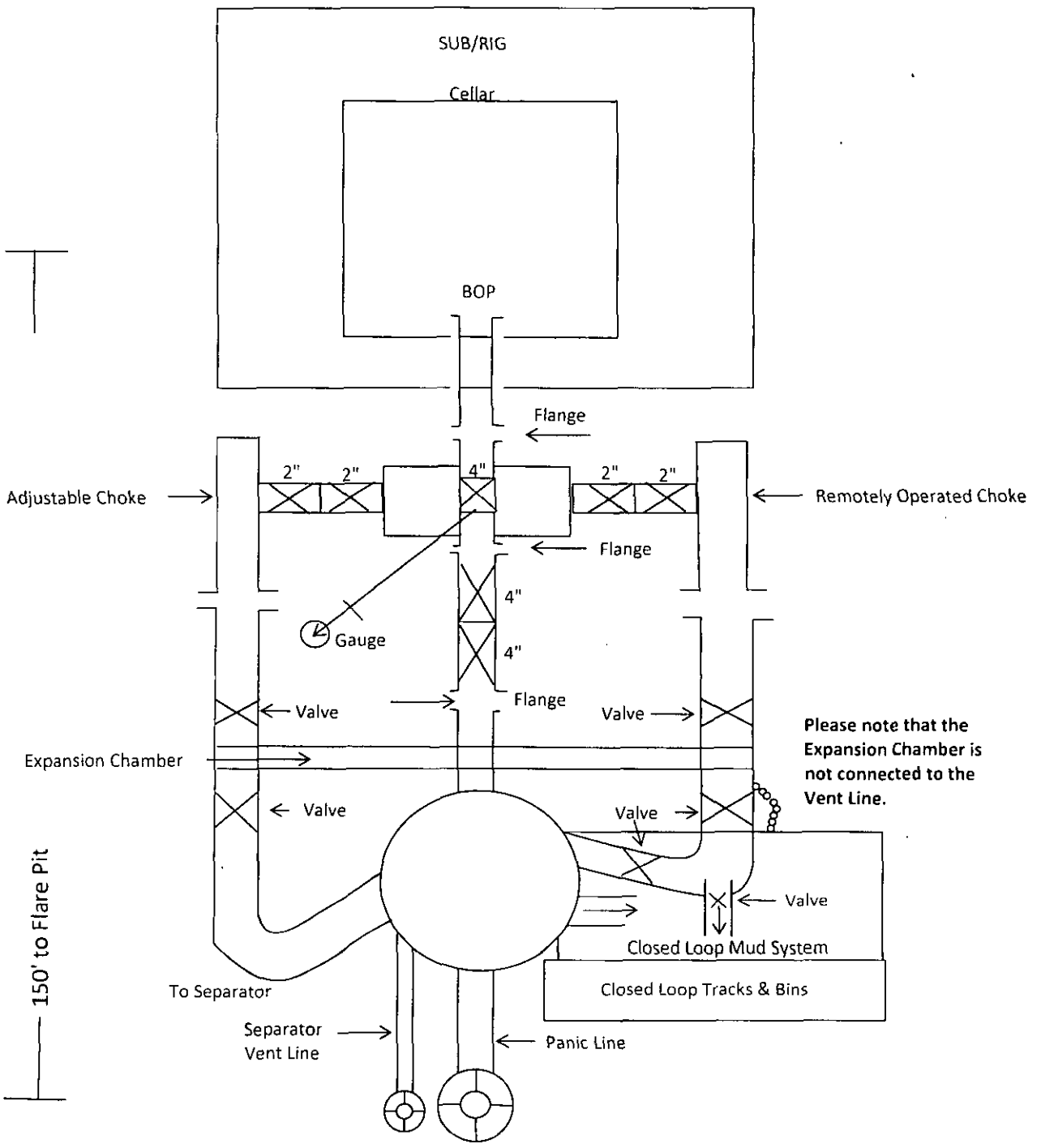
3,000 psi BOP Schematic



2M Choke Manifold Equipment



3M Choke Manifold Equipment



COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram

Well pad will be 340' X 340' with cellar in center of pad

Flare Lines will be from both Choke Manifold & Separator to edge of location.

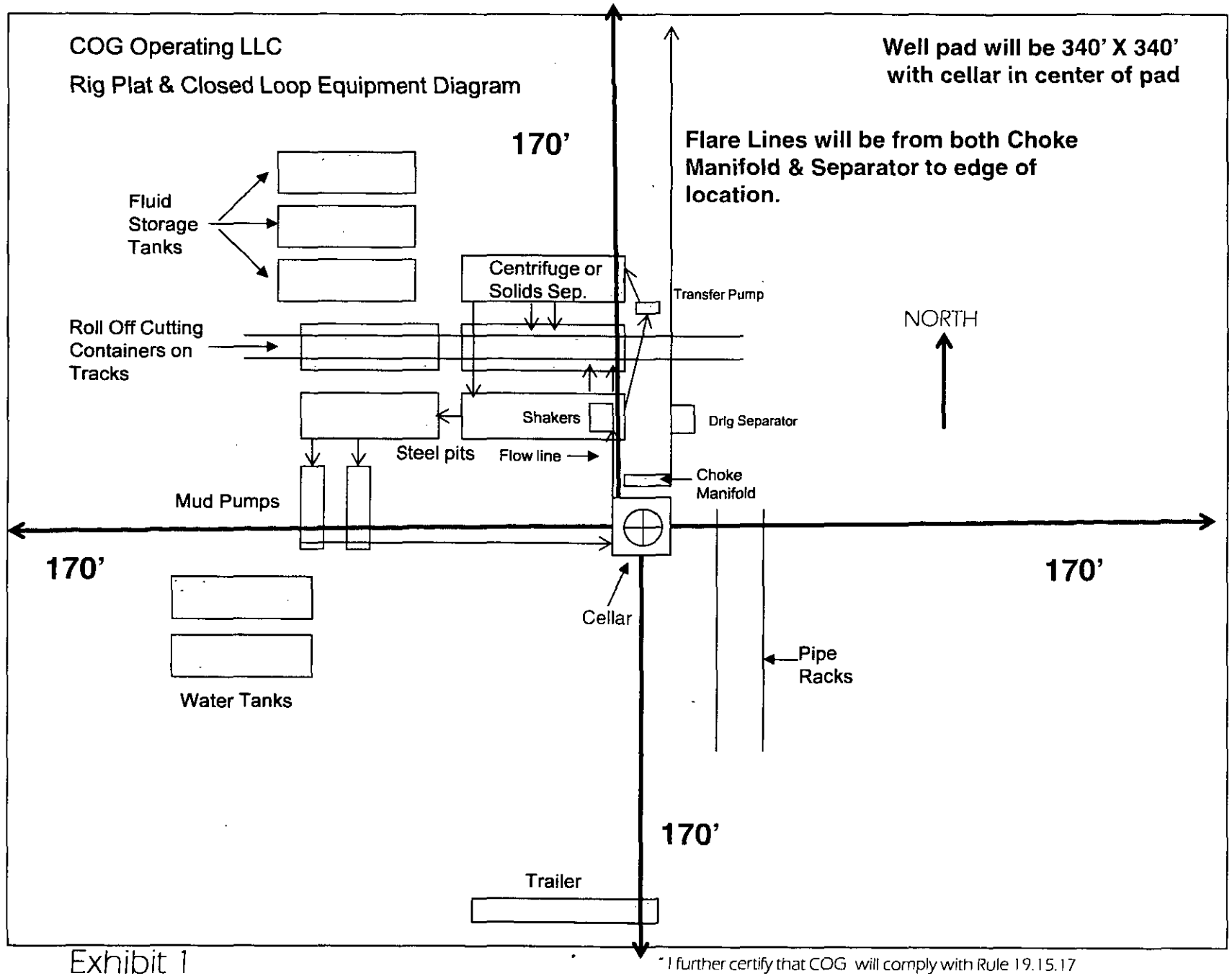
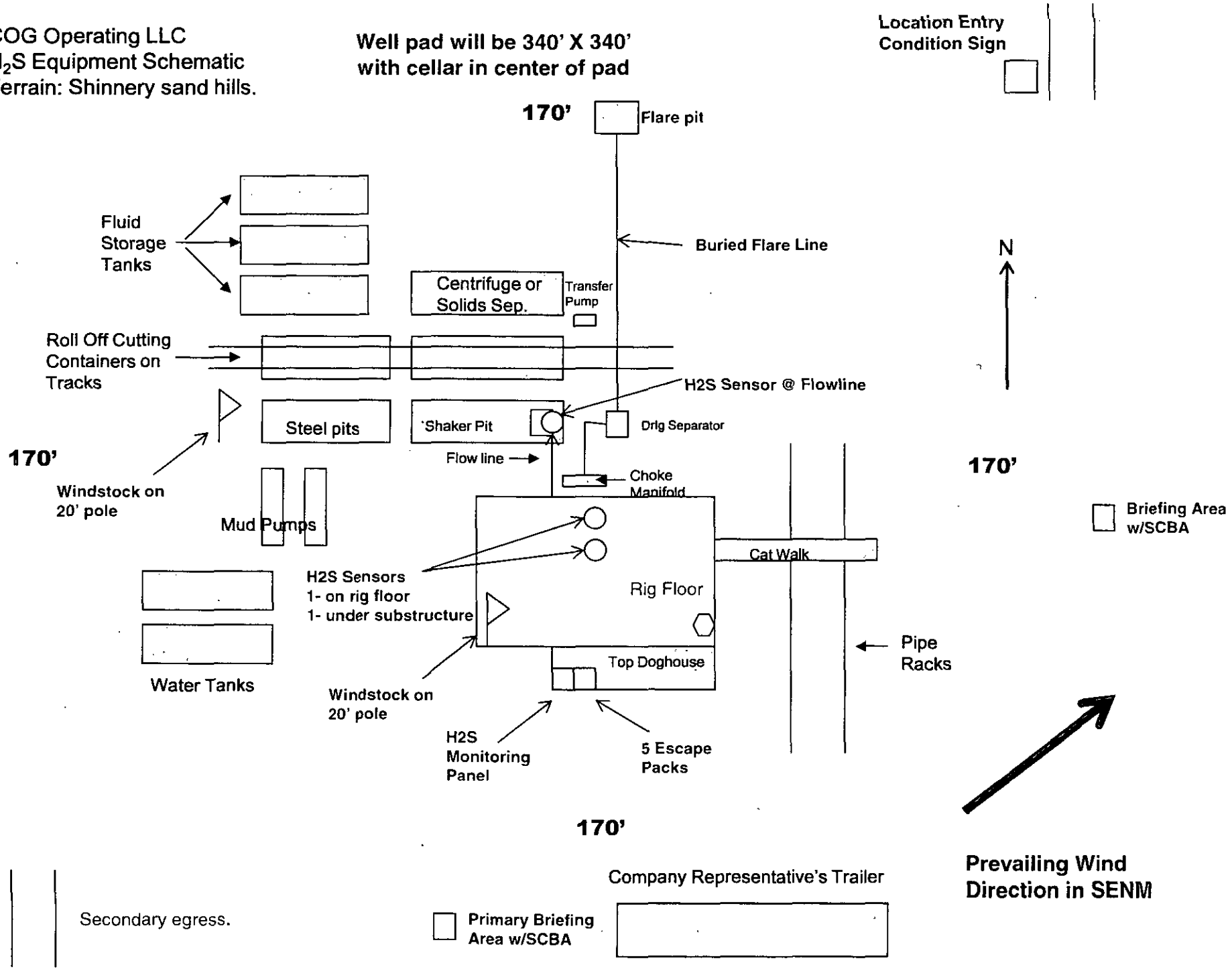


Exhibit 1

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

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

Well pad will be 340' X 340' 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.

W A R N I N G

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	
SHERYL BAKER	575-748-6940	432-934-1873
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

CONCHO

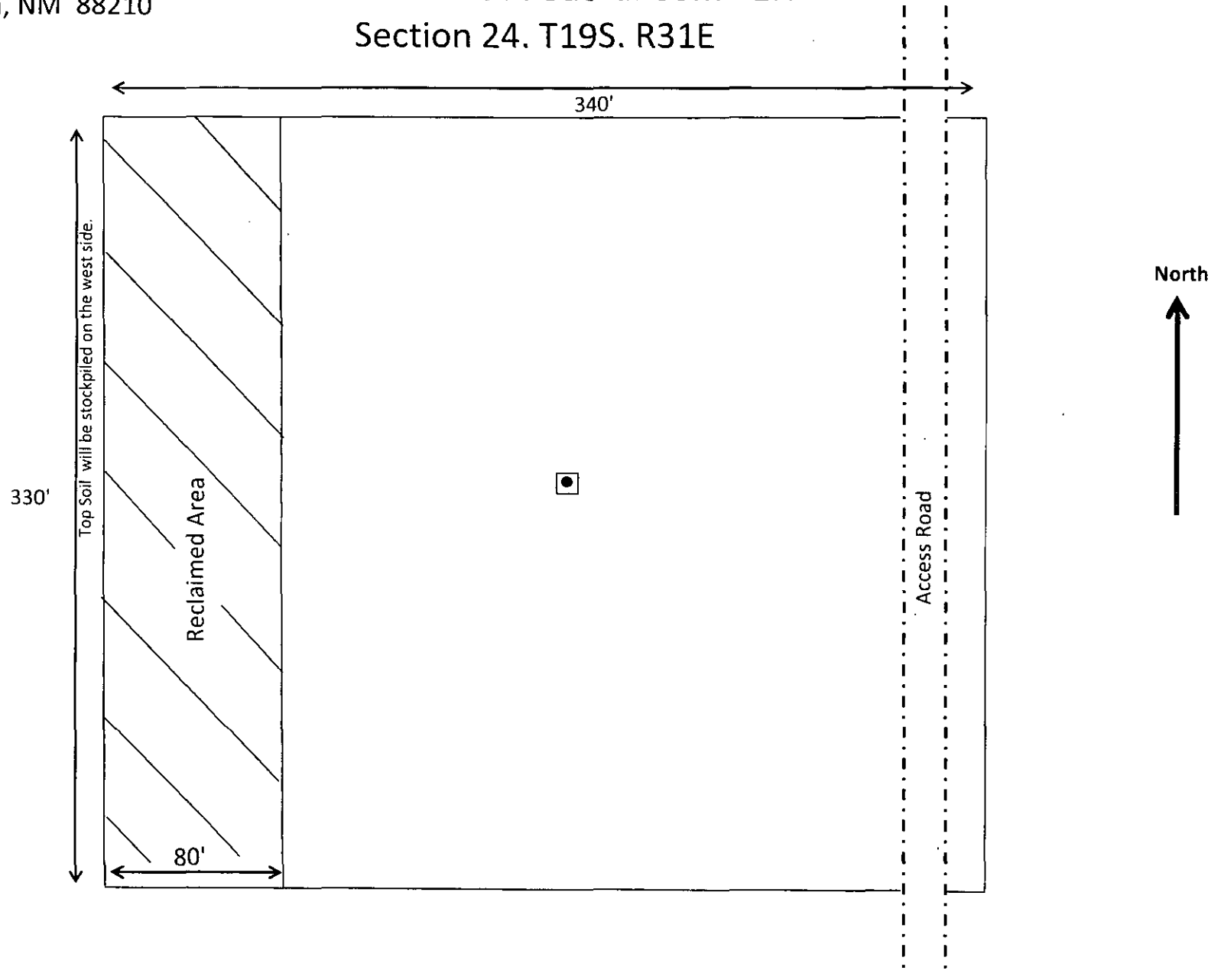
COG Operating LLC
2208 West Main
Artesia, NM 88210

Production Facility Layout

Screwdriver 24 Federal Com #1H

Section 24. T19S. R31E

Exhibit 3



Surface Use Plan of Operations

Introduction

The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what was submitted in this surface use plan. If any other surface disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be acquired prior to any new surface disturbance.

Before any surface disturbance is created, stakes or flagging will be installed to mark boundaries of permitted areas of disturbance, including soils storage areas. As necessary, slope, grade, and other construction control stakes will be placed to ensure construction in accordance with the surface use plan. All boundary markers will be maintained in place until final construction cleanup is completed. If disturbance boundary markers are disturbed or knocked down, they will be replaced before construction proceeds.

If terms and conditions are attached to the approved APD and amend any of the proposed actions in this surface use plan, we will adhere to the terms and conditions.

1. Existing Roads

a. The existing access road route to the proposed project is depicted on Exhibit 2. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of this surface use plan..

b. The existing access road route to the proposed project does not cross lease or unit boundaries, so a BLM right-of-way grant will not be acquired for this proposed road route.

c. The operator will improve or maintain existing roads in a condition the same as or better than before operations begin. The operator will repair pot holes, clear ditches, repair the crown, etc. All existing structures on the entire access route such as cattleguards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.

d. We will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or wind events. BLM written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.

2. New or Reconstructed Access Roads

a. No new road will be constructed for this project.

3. Location of Existing Wells

a. Exhibit 4 of the APD depicts all known wells within a one mile radius of the proposed well.

b. 1 mile well data

4. Location of Existing and/or Proposed Production Facilities

a. All permanent, lasting more than 6 months, above ground structures including but not limited to pumpjacks, storage tanks, barrels, pipeline risers, meter housing, etc. that are not subject to safety requirements will be painted a non-reflective paint color, Shale Green, from the BLM Standard Environmental Colors chart, unless another color is required in the APD Conditions of Approval.

b. If any type of production facilities are located on the well pad, they will be strategically placed to allow for maximum interim reclamation, recontouring, and revegetation of the well location.

c. Production from the proposed well will be transported to the production facility located on the Screwdriver 24 Federal Com #2H. The location of the well is as follows: 900' FSL & 190' FEL of Section 24. T19S. R31E.

d. A pipeline to transport production will be installed from the proposed well to the existing production facility.

i. We plan to install a 4 inch surface Poly pipeline from the proposed well to the production facility. The proposed length of the pipeline will be 315 feet. The working pressure of the pipeline will be 125 psi or less. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline will be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline will be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

ii. Exhibit 2A and Exhibit 2B depicts the proposed production pipeline route from the well to the production facility.

iii. The proposed pipeline does not cross lease boundaries, so a right of way grant will not need to be acquired from the BLM.

If any plans change regarding the production facility or other infrastructure (pipeline, electric line, etc.), we will submit a sundry notice or right of way (if applicable) prior to installation or construction.

Additional Pipeline(s)

We propose to install 2 additional pipeline(s):

1. Surface Oil, Water, Gas pipeline:

a. We plan to install a 4 inch surface Poly pipeline from Screwdriver 24 Federal Com #1H to Screwdriver 24 Federal Com #2H. The proposed length of the pipeline will be 315 feet. The working pressure of the pipeline will be 125 psi or less. The pipeline will transport Oil, Water, Gas. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline will be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline will be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

b. Exhibit 2A and Exhibit 2B depicts the proposed Oil, Water, Gas pipeline route.

c. The proposed pipeline does not cross lease boundaries, so a right of way grant will not need to be acquired from the BLM.

2. Surface Gas Lift Gas pipeline:

a. We plan to install a 4 inch surface Poly pipeline from Screwdriver 24 Federal Com #2H to Screwdriver 24 Federal Com #1H. The proposed length of the pipeline will be 315 feet. The working pressure of the pipeline will be 125 psi or less. The pipeline will transport Gas Lift Gas. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline will be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline will be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

b. Exhibit 2A and Exhibit 2B depicts the proposed Gas Lift Gas pipeline route.

c. The proposed pipeline does not cross lease boundaries, so a right of way grant will not need to be acquired from the BLM.

Electric Line(s)

a. An electric line will be applied for through a sundry notice or BLM right of way at a later date.

5. Location and Types of Water

a. The location of the water well is as follows: Contractors water well.

b. The operator will use established or constructed oil and gas roads to transport water to the well site. The operator will try to utilize the identified access route in the surface use plan.

6. Construction Material

a. Caliche from an approved Federal or State pit

7. Methods for Handling Waste

a. Drilling fluids and produced oil and water from the well during drilling and completion operations will be stored safely and disposed of properly in an NMOCD approved disposal facility.

b. 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. All trash on and around the well site will be collected for disposal.

c. Human waste and grey water will be properly contained and disposed of properly at a state approved disposal facility.

d. After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at a state approved disposal facility.

e. The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

8. Ancillary Facilities

a. No ancillary facilities will be needed for this proposed project.

9. Well Site Layout

a. The following information is presented in the well site survey plat or diagram:

i. reasonable scale (near 1":50')

ii. well pad dimensions

iii. well pad orientation

iv. drilling rig components

v. proposed access road

vi. elevations of all points

vii. topsoil stockpile

viii. reserve pit location/dimensions if applicable

ix. other disturbances needed (flare pit, stinger, frac farm pad, etc.)

x. existing structures within the 600' x 600' archaeoligical surveyed area (pipelines, electric lines, well pads, etc

b. The proposed drilling pad was staked and surveyed by a professional surveyor. The attached survey plat of the well site depicts the drilling pad layout as staked.

c. The submitted survey plat does depict all the necessary information required by Onshore Order No. 1.

d. Topsoil Salvaging

i. Grass, forbs, and small woody vegetation, such as mesquite will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respread evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

10. Plans for Surface Reclamation

Reclamation Objectives

i. The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities.

ii. The long-term objective of final reclamation is to return the land to a condition similar to what existed prior to disturbance. This includes restoration of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.

iii. The BLM will be notified at least 3 days prior to commencement of any reclamation procedures.

iv. If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will gain written permission from the BLM if more time is needed.

v. Interim reclamation will be performed on the well site after the well is drilled and completed. Exhibit 3 depicts the location and dimensions of the planned interim reclamation for the well site.

Interim Reclamation Procedures (If performed)

1. Within 30 days of well completion, the well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production.

2. In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

3. The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

4. Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

5. Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.

6. The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

Final Reclamation (well pad, buried pipelines, etc.)

1. Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment.

2. All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

3. All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

4. After all the disturbed areas have been properly prepared, the areas will be seeded with the proper BLM seed mixture, free of noxious weeds. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

5. Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area.

6. All unused equipment and structures including pipelines, electric line poles, tanks, etc. that serviced the well will be removed.

7. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

11. Surface Ownership

a. The surface ownership of the proposed project is Federal.

12. Other Information

a. A.The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite and shinnery oak. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.
B.There is no permanent or live water in the immediate area.
C.There are no dwellings within 2 miles of this location.
D.If needed, a Cultural Resources Examination is being prepared by Boone Arch Services of NM, LLC., 2030 North Canal, Carlsbad, New Mexico, 88220, phone # 575-885-1352 and the results will be forwarded to your office in the near future. Otherwise, COG will be participating in the Permian Basin MOA Program.

13. Maps and Diagrams

Exhibit 2 - Existing Road
Exhibit 4 - Wells Within One Mile
Exhibit 2A and Exhibit 2B - Production Pipeline
Exhibit 2A and Exhibit 2B - Oil, Water, Gas Pipeline
Exhibit 2A and Exhibit 2B - Gas Lift Gas Pipeline
Exhibit 3 - Interim Reclamation

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 4th day of June, 2015.

Signed: Melanie J Wilson

Printed Name: Melanie J. Wilson
Position: Regulatory Coordinator
Address: 2208 W. Main Street, Artesia, NM 88210
Telephone: (575) 748-6940
Field Representative (if not above signatory): Rand French
E-mail: mwilson@concho.com

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 24 **Township:** 19S **Range:** 31E

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00641		ED		4	1	36	19S	31E	610247	3609634*	300	130	170
CP 00642		ED		2	2	25	19S	31E	611025	3611657*	250		
CP 00722		ED			1	33	19S	31E	605219	3609770*	204		
CP 00723		ED	2	1	1	33	19S	31E	605111	3610071*	139		
CP 00725		ED	1	3	3	28	19S	31E	604906	3610473*	231		
CP 00829		LE		2	4	16	19S	31E	606165	3614009*	120		

Average Depth to Water: **130 feet**

Minimum Depth: **130 feet**

Maximum Depth: **130 feet**

Record Count: 6

PLSS Search:

Township: 19S **Range:** 31E

*UTM location was derived from PLSS - see Help

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**COG Operating, LLC**
LEASE NO.:	**NMNM-107697**
WELL NAME & NO.:	**Screwdriver 24 Federal Com 1H**
SURFACE HOLE FOOTAGE:	**1540' FSL & 0490' FEL**
BOTTOM HOLE FOOTAGE	**2240' FSL & 0330' FWL**
LOCATION:	**Section 24, T. 19 S., R 31 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)

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.

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Below Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Range

The operator must contact the allotment holder prior to construction to identify the location of the pipeline. The operator must take measures to protect the pipeline from compression or other damages. If the pipeline is damaged or compromised in any way near the proposed project as a result of oil and gas activity, the operator is responsible for repairing the pipeline immediately. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

Cultural

As currently proposed, there are stipulations. The cultural conditions of approval consist of having a contract archaeologist monitor the southeast corner of the proposed well pad to ensure all construction and equipment remain outside of archaeology site LA 176300.

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.
- Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

Tank Battery COAs Only:

- Tank battery locations 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.
- Automatic shut off, check values, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

Surface Pipeline COAs Only:

A leak detection plan will be submitted to the BLM Carlsbad Field Office for approval prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

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.

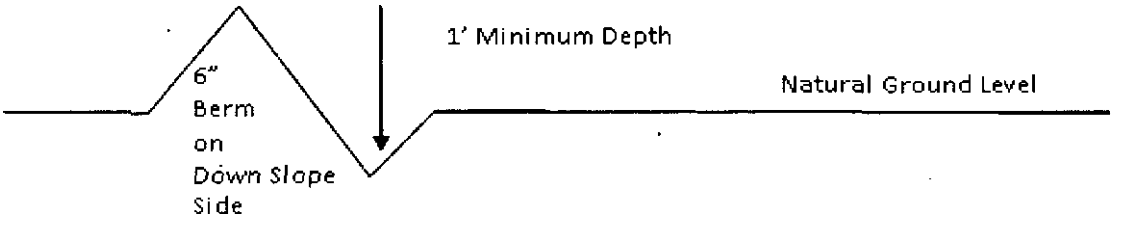
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards 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 cattleguards 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

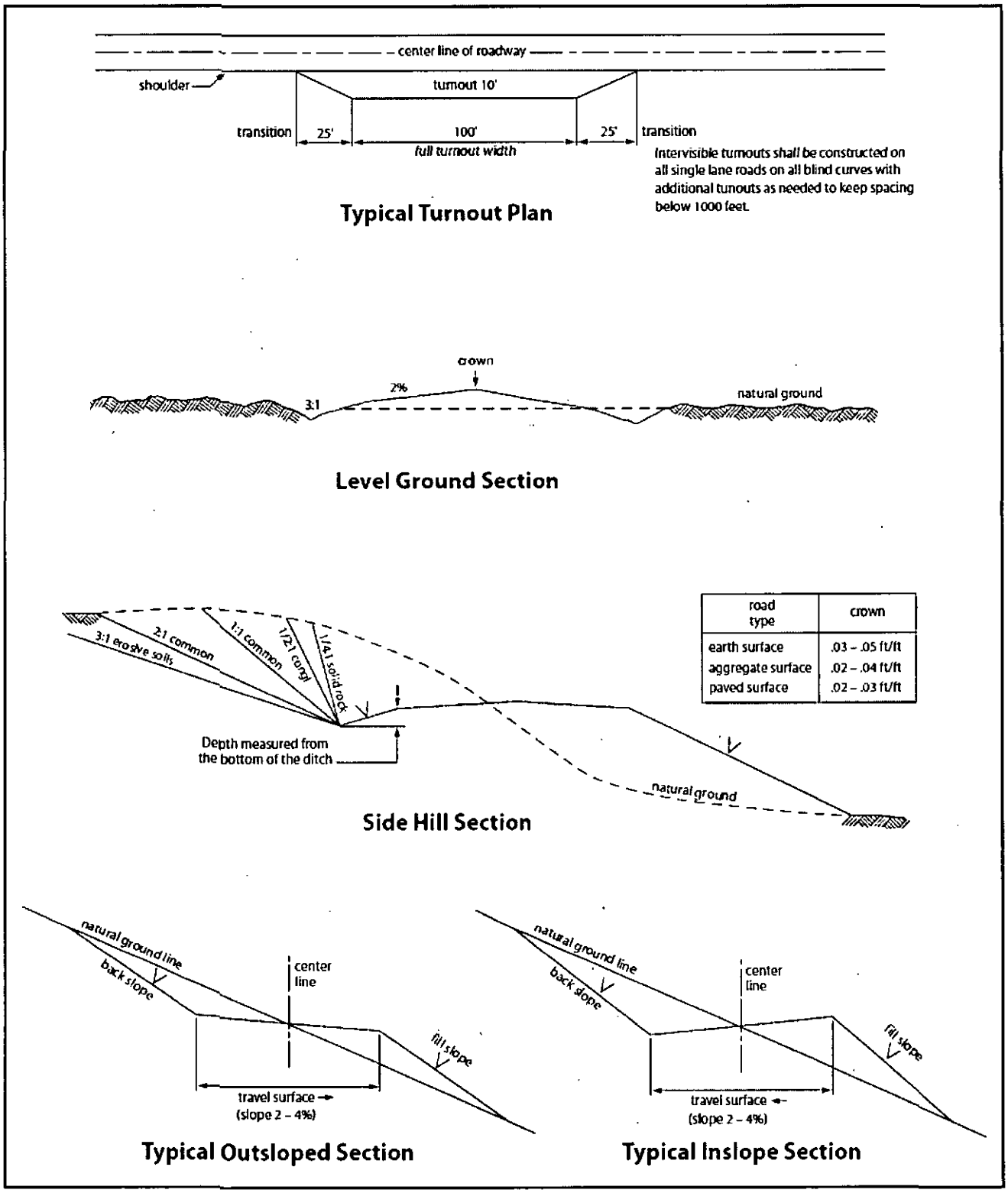


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

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. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Yates** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public *protection items. If Hydrogen Sulfide is encountered, please provide measured* values 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.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

Capitan Reef
Possibility of water flows in the Artesia Group, Salado, and Capitan Reef. Possibility of lost circulation in the Red Beds, Rustler, Artesia Group, Capitan Reef, and Delaware.

1. The **16** inch surface casing shall be set at approximately **810** feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt**) and cemented to the surface. **Excess calculates to 9% - Additional cement may be required.**

    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.

11-3/4'' Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

2. The minimum required fill of cement behind the **11-3/4** inch 1st intermediate casing, which shall be set at approximately **2700** feet (**top of Seven Rivers**), is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to negative 4% - Additional cement will be required.**

3. The minimum required fill of cement behind the **8-5/8** inch 2nd intermediate casing, which shall be set at approximately **4400** feet (**base of Capitan Reef**), is:

DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve approved top of cement on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef. Excess calculates to 1% - Additional cement may be required.**

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

   ☒ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 2804'). Operator shall provide method of verification.

5. 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. **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).**

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **8-5/8** 2nd 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**.

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.

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VIII. 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).

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;

b. Activities of other parties including, but not limited to:
   (1) Land clearing
   (2) Earth-disturbing and earth-moving work
   (3) Blasting
   (4) Vandalism and sabotage;

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of Holder, regardless of fault. Upon failure of Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he/she deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will

be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. 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, powerline 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.

17. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

18. Special Stipulations:

a. **Lesser Prairie-Chicken:** Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted.

b. This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

IX. 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).

X. 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).

Below Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery 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 will be tested and the viability testing of seed shall 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 will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/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 will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. 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 Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

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

NMOCD CONDITION OF APPROVAL

The *New!* Gas Capture Plan (GCP) notice is posted on the NMOCD website under Announcements. The Plan became effective May 1, 2016. A copy of the GCP form is included with the NOTICE and is also in our FORMS section under Unnumbered Forms. Please review filing dates for all applicable activities currently approved or pending and submit accordingly. Failure to file a GCP may jeopardize the operator's ability to obtain C-129 approval to flare gas after the initial 60-day completion period.