15-897

OCD Hobbs

HOBBS OCD

Form 3160-3
(March 2012)

APR 21 2016

RECEIVED

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: NMNM043564
BHL: NMNM043565

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. 316103
Squints Federal Com #7H

2. Name of Operator
COG Operating LLC. (229137)

9. API Well No.
30-025-43167

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

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

10. Field and Pool, or Exploratory
OJO Chiso; Bone Spring

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 190' FSL & 2010' FWL Unit Letter N (SESW) Sec. 27.T22S.R34E SHL
At proposed prod. Zone 330' FNL & 1980' FWL Unit Letter C (NENW) Sec 22.T22S.R34E BHL

UNORTHODOX LOCATION

11. Sec., T.R.M. or Blk and Survey or Area
Sec. 27 - T22S - R34E

14. Distance in miles and direction from nearest town or post office*
About 17 miles from Eunice

12. County or Parish
Lea County

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. Unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
190'	NMNM043565: 640 NMNM043564: 1,920	320
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: 30' (Prop. Squints #3H) BHL: 6608'	TVD: 10,380 MD: 20,217'	NMB000740 &NMB000215
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3404.4' GL	10/1/2015	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	7-20-15

Title
Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ STEPHEN J. CAFFEY		APR 14 2016
Title	**Office**	
FOR FIELD MANAGER	BLM-CARLSBAD FIELD OFFICE	

Application app... to those rights in the subject lease which would entitle the applicant to conduct operat... APPROVAL FOR TWO YEARS
Conditions of a...

Title 18 U.S.C. S... owingly and willfully to make to any department or agency of the United States any false... ts jurisdiction.

The NMOCD Gas Capture Plan notice has been posted on the web site under Announcements/Notice to Operators. A copy of the GCP form is included with the notice and is also in the Forms section under Unnumbered forms. Please submit accordingly in a timely manner.

(Continued on page 2)

*(Instructions on page 2)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

APR 25 2016

Witness Surface & Intermediate Casing

04/21/16

Capitan Controlled Water Basin

COG Operating LLC, Squints Federal 7H

1. Geologic Formations

TVD of target	10380'	Pilot hole depth	NA
MD at TD:	20217'	Deepest expected fresh water:	605'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1687'	Water	
Top of Salt	1883'	Salt	
Tansill	3623'	Barren	
Yates	3702'	Oil/Gas	
Capitan Reef	4031'	Water	Possible lost circ
Delaware Group	5299'	Oil/Gas	Possible lost circ
Bone Spring	8520'	Oil/Gas	
2nd Bone Spring Sand	10087'	Target Zone	
Wolfcamp	11329'	Oil/Gas	

2. Casing Program

See COA

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0'	1840'	13.375"	54.5	J55	STC	1.30	1.03	5.13
12.25"	0'	5420 ~~5600'~~	9.625"	40	L80	BTC	1.17	1.17	4.09
8.75"	0'	20217'	5-1/2"	17	P110	BTC	1.52	2.17	*1.59D
				BLM Minimum Safety Factor			1.125	1.00	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
- BLM standard formulas were used on all SF calculations.
- Used 9.1 PPG for pore pressure calculations
- Will set DV tool within 100' of the top of the Capitan Reef. Estimated setting depth is 3940'.
- *Explanation for SF's below BLM's minimum standards:
    - 5-1/2" 17# P110 BTC SF Tension = 1.59D.

      More than half of the string length is below the KOP; therefore most of the string weight below the KOP will be supported by the bottom of the hole. The net effect on tension for this portion of the string would be the friction factor (~ 0.30 – 0.45) of the lateral times the supported string weight.

COG Operating LLC, Squints Federal 7H

	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).	N
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.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

2. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	790	13.5	1.75	9.2	13	Lead: Class C + 4% Gel + 2% CaCl2
	275	14.8	1.34	6.4	6	Tail: Class C + 2% CaCl2
Inter. Stg 1	280	12.9	1.92	10.0	12	Lead: Class C Lite (65:35:6) + 4% Salt + 5# Kolseal
	200	14.8	1.34	6.4	6	Tail: Class C
Inter. Stg 2	970	12.9	1.92	10.0	12	Lead: Class C Lite (65:35:6) + 4% Salt + 5# Kolseal
	200	14.8	1.34	6.4	6	Tail: Class C
Prod.	1010	10.3	3.52	21.3	75	Lead: Halliburton Tuned Lite w/ 2# kolseal, 1.5# salt, 1/4# D-Air 5000, 1/8# PEF, etc
	2470	14.4	1.25	5.7	22	Tail:50:50:2 H blend (FR, Retarder, FL adds as necessary)

Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

COG Operating LLC, Squints Federal 7H

Casing String	TOC	% Excess
Surface	0'	36%
Intermediate – Stage 1	3940'	51%
Intermediate – Stage 2	0'	124%
Production	0'	39%

Pilot hole depth: NA
KOP: 9903'

4. Pressure Control Equipment

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

* Actual equipment is 13-5/8" 5M Hydril Annular, will use for 2M WP System.

** - Actual equipment is 13-5/8" 5M Hydril Annular & 13-5/8" 10M Cameron triple ram, will use for 3M WP System.

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.

N	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	Are anchors required by manufacturer? No.
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 attached schematic.

See COA

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. shoe	FW Gel	8.6 – 9.0	28-34	N/C
Surf csg	Int shoe	*Saturated Brine	10.0 - 10.2	28-34	N/C
Int shoe	TMD	Cut Brine	8.6 - 9.3	28-34	N/C

See COA

*If lost circulation is encountered, will switch to fresh water.

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?	Pason PVT

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	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.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Mud log	Production

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4911 psi – 2nd Bone Spring Sand (10380' TVD)
Abnormal Temperature	No

Mitigation measure for abnormal conditions.

- Lost circulation material/sweeps/mud scavengers.
- Maintain stock of LCM and weighting materials onsite.

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

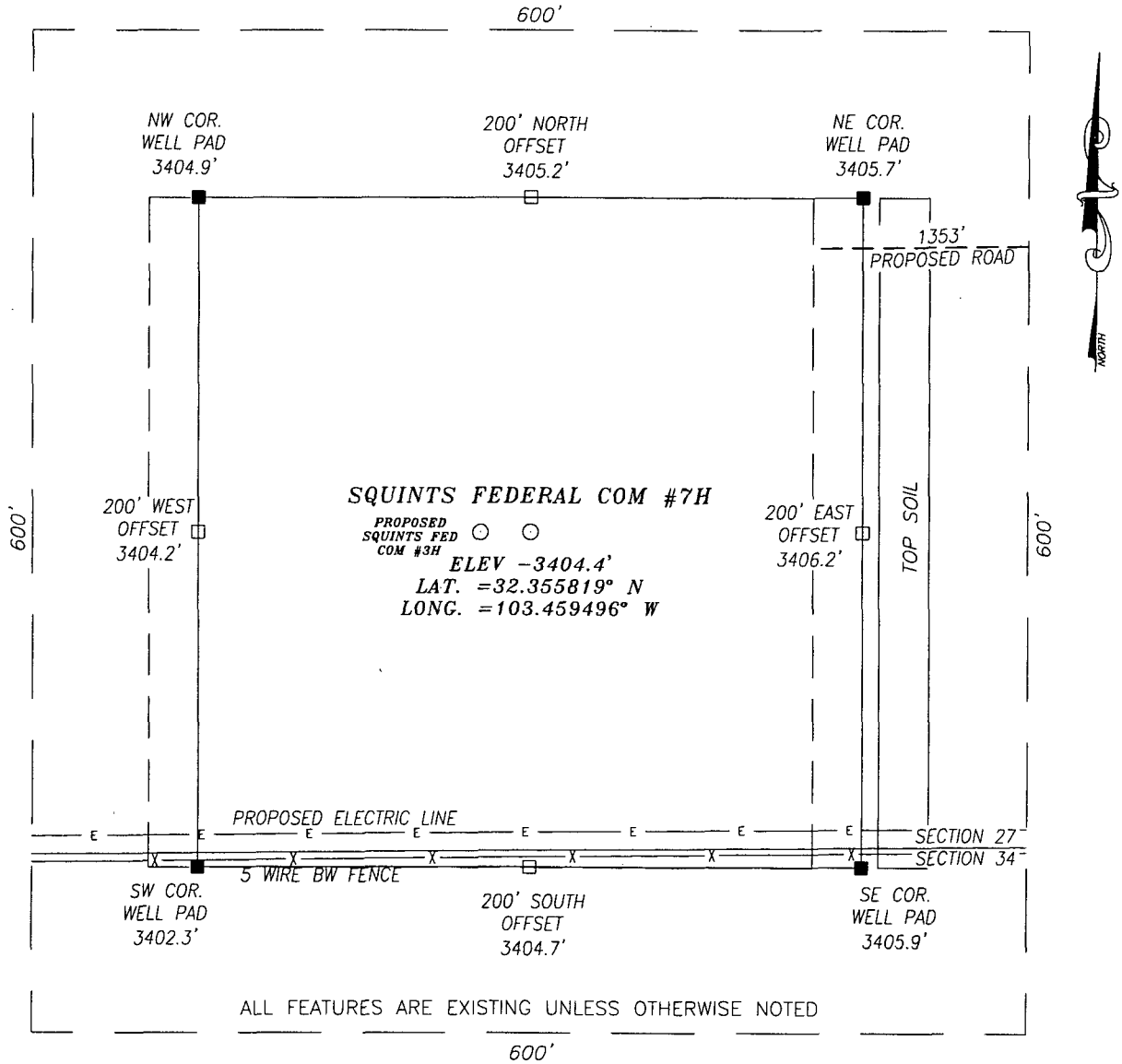
Is this a walking operation? Yes. See COA
Will be pre-setting casing? No.
Will well be hydraulically fractured? Yes.

Attachments

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

SECTION 27, TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M.,

LEA COUNTY NEW MEXICO



DIRECTIONS TO LOCATION
FROM THE INTERSECTION OF HWY 128 AND DELAWARE BASIN ROAD GO NORTH ON DELAWARE BASIN RD. APPROX. 9 MILES TO SHARP RIGHT TURN; THEN CONTINUE ON DELAWARE BASIN RD. APPROX. 4.2 MILES TO A CALICHE LEASE ROAD ON THE LEFT (NORTH); THEN GO ALONG LEASE ROAD APPROX. 2.1 MILES; THEN TURN LEFT (WEST) AND GO APPROX. 1 MILES TO A PROPOSED ROAD ON THE LEFT (SOUTHWEST); PROPOSED WELL IS APPROX. 1520 FEET ALONG PROPOSED ROAD.

100 0 100 200 Feet

Scale: 1"=100'

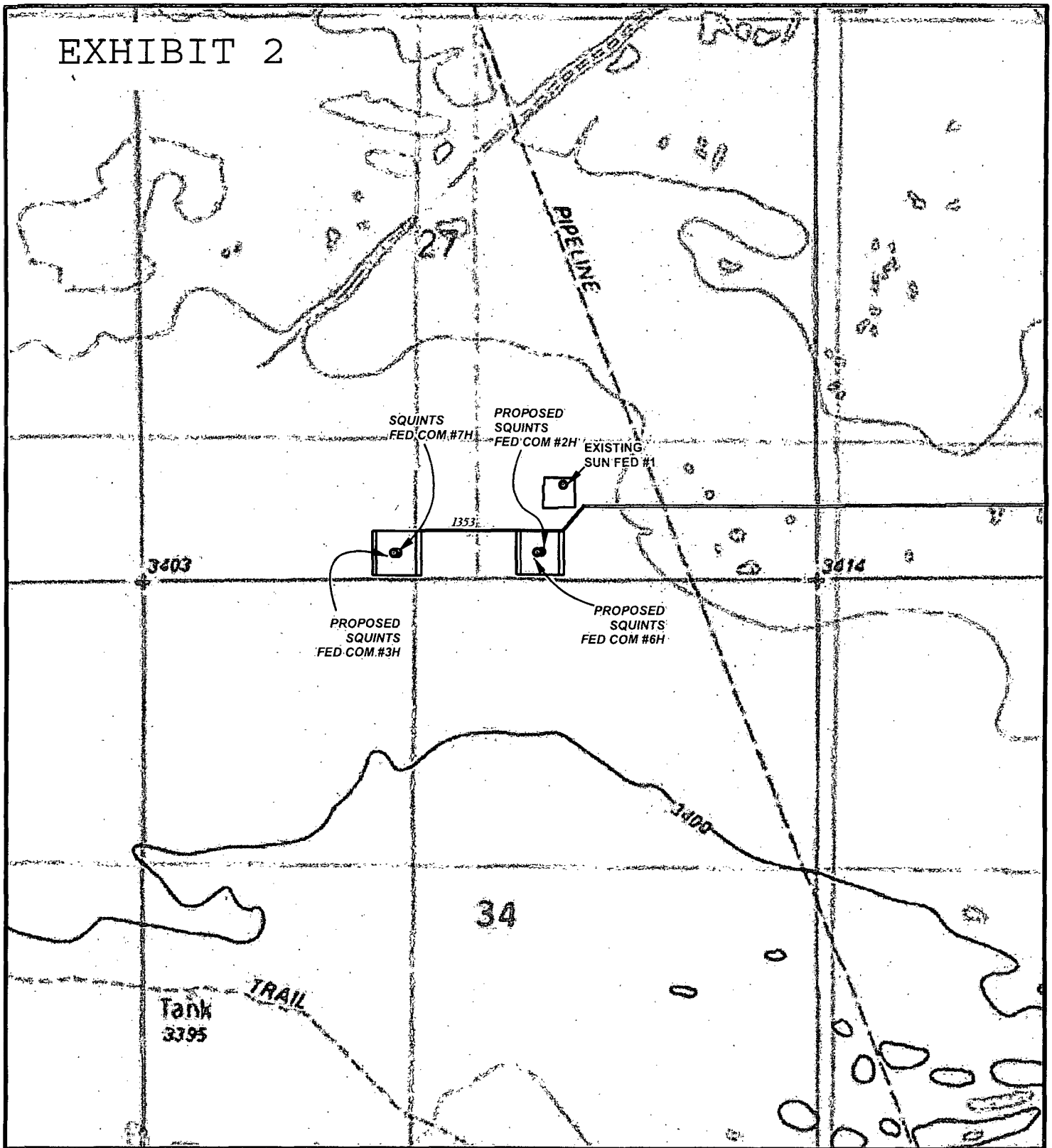
HARCROW SURVEYING, LLC
2314 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com

COG OPERATING, LLC

SQUINTS FEDERAL COM #7H WELL
LOCATED 190 FEET FROM THE SOUTH LINE
AND 2010 FEET FROM THE WEST LINE OF SECTION 27,
TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO

SURVEY DATE: 07/08/2015		PAGE: 1 OF 1
DRAFTING DATE: 07/14/2015		
APPROVED BY: CH	DRAWN BY: WN	FILE: 15-851

EXHIBIT 2



LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

SQUINTS FEDERAL COM #7H			
SEC: 27	TWP: 22 S.	RGE: 34 E.	ELEVATION: 3404.4'
STATE: NEW MEXICO	COUNTY: LEA		190' FSL & 2010' FWL
W.O. # 15-710	LEASE: SQUINTS 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 06/09/2015 A.F

CONCHO

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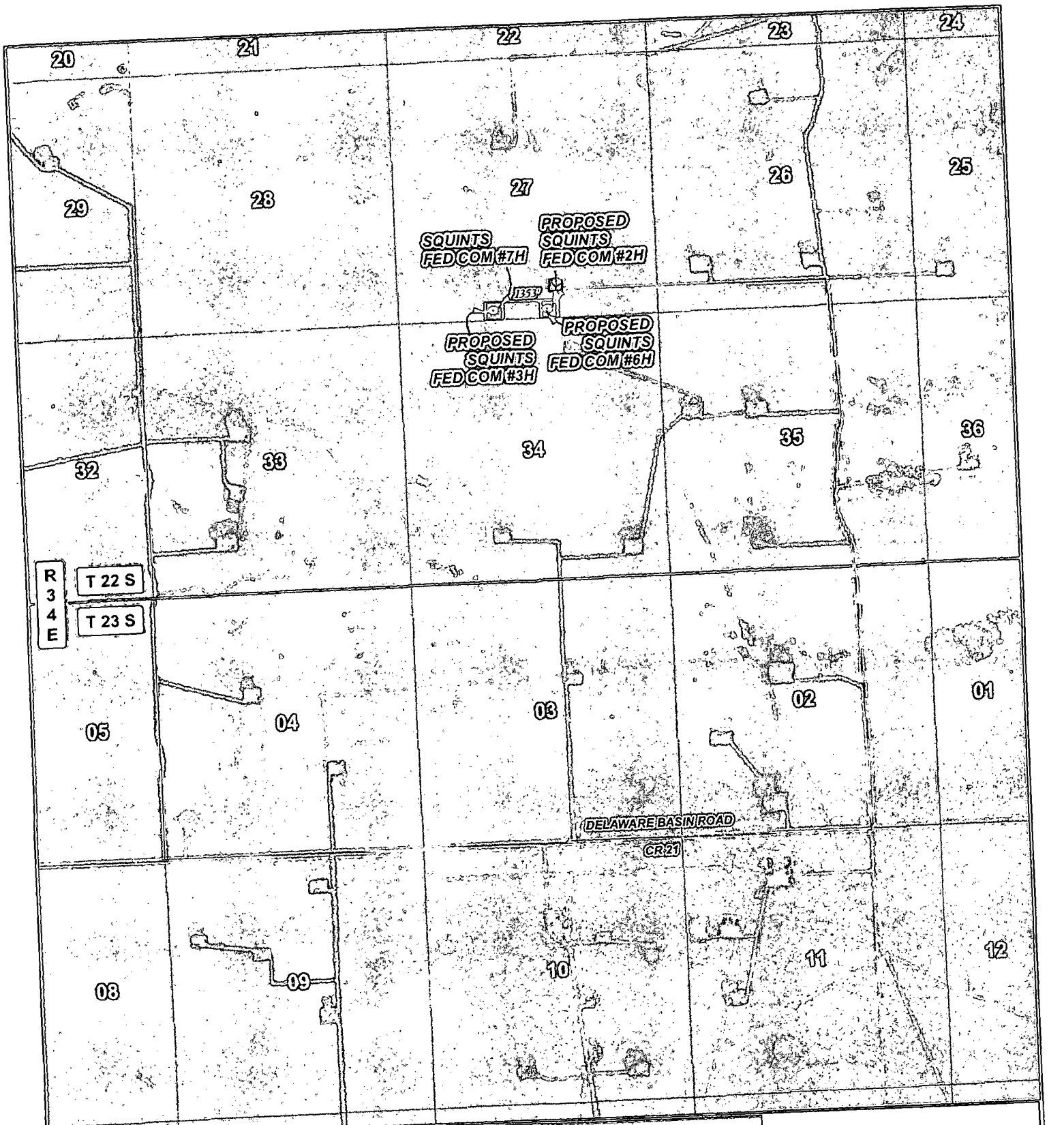

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

SQUINTS FEDERAL COM #7H

SEC: 27	TWP: 22 S.	RGE: 34 E.	ELEVATION: 3404.4'
STATE: NEW MEXICO	COUNTY: LEA		190' FSL & 2010' FWL
W.O. # 15-710	LEASE: SQUINTS FED COM		SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.15 0.3 0.6 Miles

1 IN = 2,500 FT

LOCATION MAP IMAGERY 06/08/2015 AJF

CONCHO

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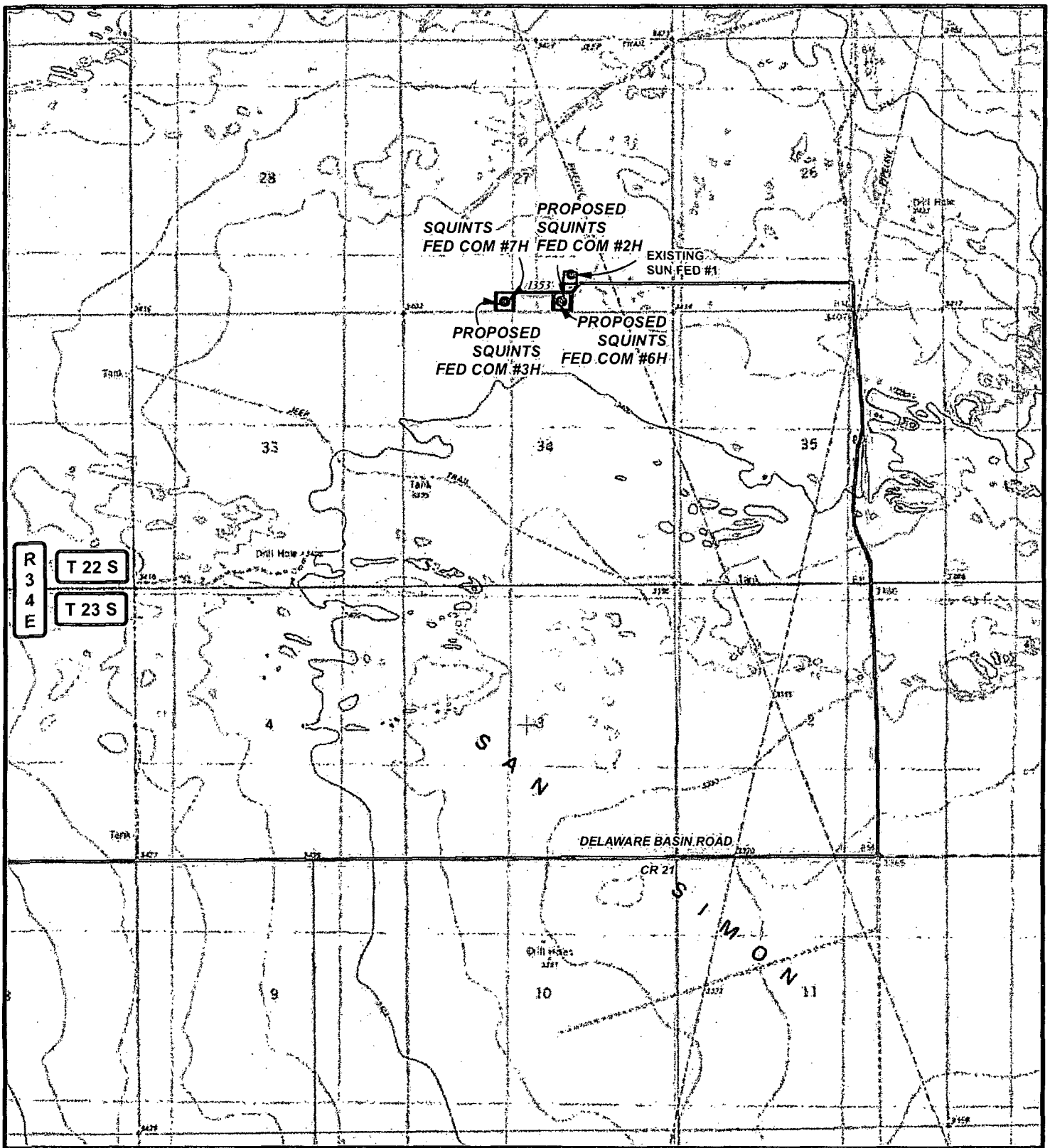

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SQUINTS FEDERAL COM #7H			
SEC: 27	TWP: 22 S.	RGE: 34 E.	ELEVATION: 3404.4'
STATE: NEW MEXICO	COUNTY: LEA		190' FSL & 2010' FWL
W.O. # 15-710	LEASE: SQUINTS FED COM		SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.15 0.3 0.6 Miles

1 IN = 2,500 FT

LOCATION MAP TOPO 06/09/2015 A.F

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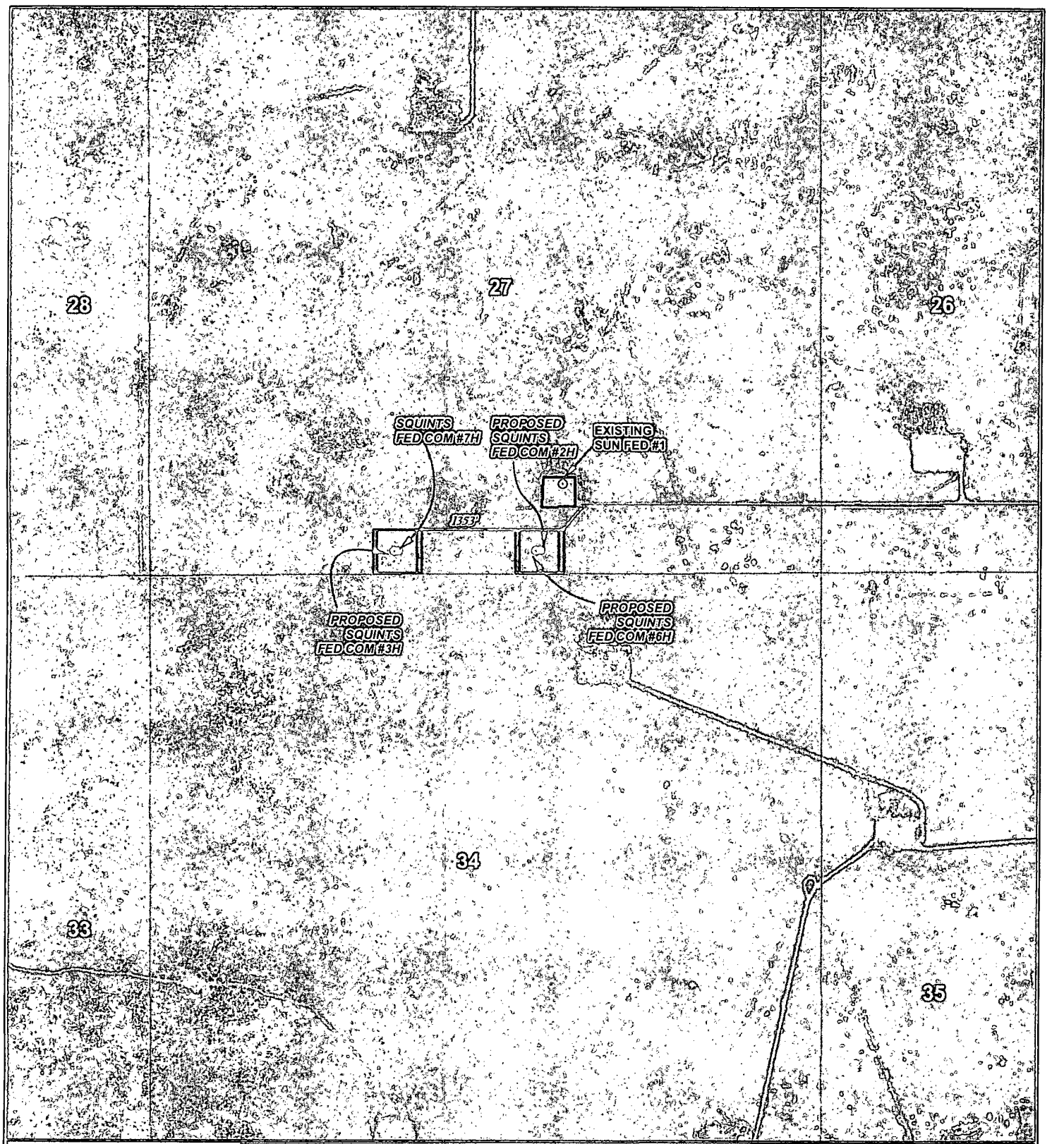

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

SQUINTS FEDERAL COM #7H

SEC: 27	TWP: 22 S.	RGE: 34 E.	ELEVATION: 3404.4'
STATE: NEW MEXICO	COUNTY: LEA		190' FSL & 2010' FWL
W.O. # 15-710	LEASE: SQUINTS 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 06/09/2015 A.F

CONCHO

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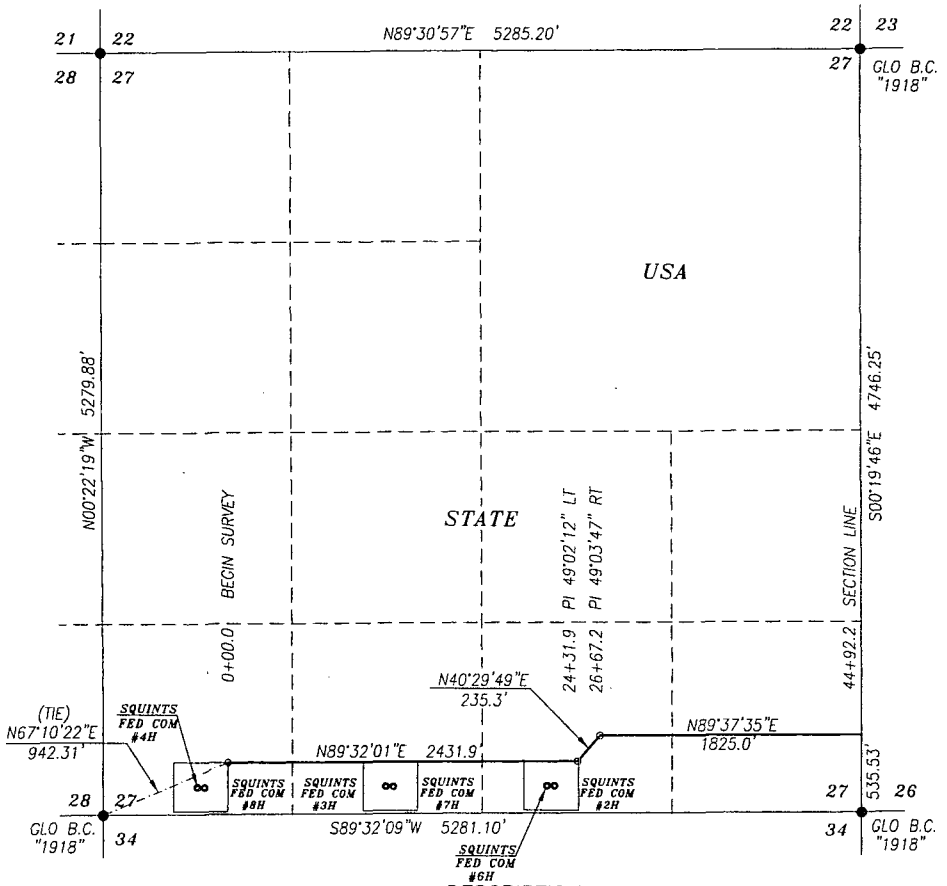
EXHIBIT 2A

ROAD PLAT
COG OPERATING, LLC.

PROPOSED ROAD FROM THE SQUINTS FED COM #8H TO DELAWARE BASIN ROAD IN
SECTION 27, TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 27, TOWNSHIP 22, RANGE 34 EAST, NMPM, LEA COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY; WHICH WILL BE ACCOUNTED FOR IN FOOTAGES, RODS, AND ACREAGES.

BEGINNING AT A POINT IN THE SW/4 SW/4 OF SAID SECTION, WHICH LIES N67°10'22"E 942.31 FEET FROM THE SOUTH QUARTER CORNER; THEN NORTH 89°32'01" 2431.9, THEN NORTH 40°29'49" 235.3 FEET, THEN NORTH 89°42'51" 504.57 FEET TO A POINT ON THE EAST SECTION LINE, WHICH LIES N0019'46"E 535.53 FEET FROM THE SE SECTION CORNER.

SAID STRIP OF LAND BEING 4492.2 FEET OR 272.25 RODS IN LENGTH, CONTAINING 3.094 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 SW/4 27.25 RODS OR 0.311 ACRES
SW/4 SE/4 80.02 RODS OR 0.909 ACRES
SE/4 SW/4 84.96 RODS OR 0.965 ACRES
SE/4 SE/4 80.02 RODS OR 0.909 ACRES

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

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

CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 6/9/15
CHAD HARCROW N.M.P.S. NO. 17777 DATE

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

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

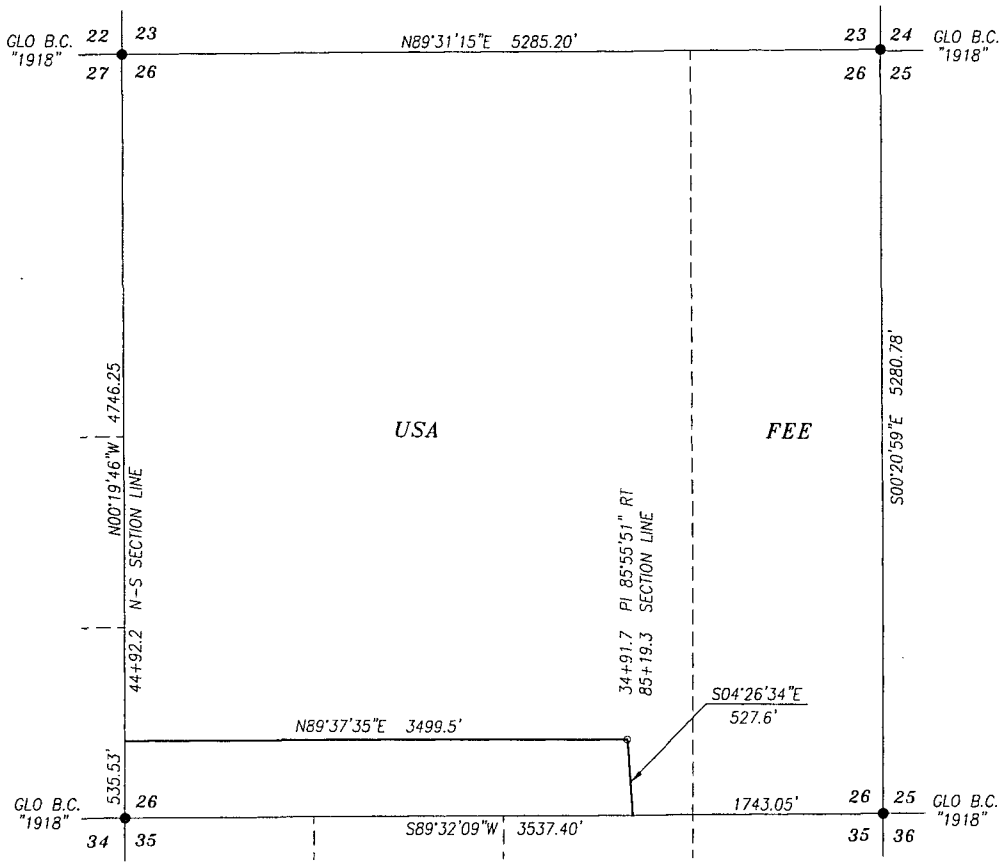
COG OPERATING, LLC

SURVEY OF A PROPOSED PIPELINE LOCATED IN SECTION 27, TOWNSHIP 22 SOUTH, RANGE 34 EAST, LEA COUNTY, NMPM, NEW MEXICO

SURVEY DATE: FEBRUARY 6, 2015		
DRAFTING DATE: JUNE 9, 2015		PAGE 1 OF 5
APPROVED BY: CH	DRAWN BY: JJ	FILE: 15-715

ROAD PLAT
COG OPERATING, LLC.

PROPOSED ROAD FROM THE SQUINTS FED COM #8H TO DELAWARE BASIN ROAD IN
SECTION 26, TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 4027.1 FEET OR 244.07 RODS OR 0.763 MILES IN LENGTH CROSSING FEE LAND IN SECTION 26, TOWNSHIP 22 SOUTH, RANGE 34 EAST, LEA 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 GRID VALUES.

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

CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 6/12/15
CHAD HARCROW N.M.P.S. NO. 17777 DATE

HARCROW SURVEYING, LLC
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PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com

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

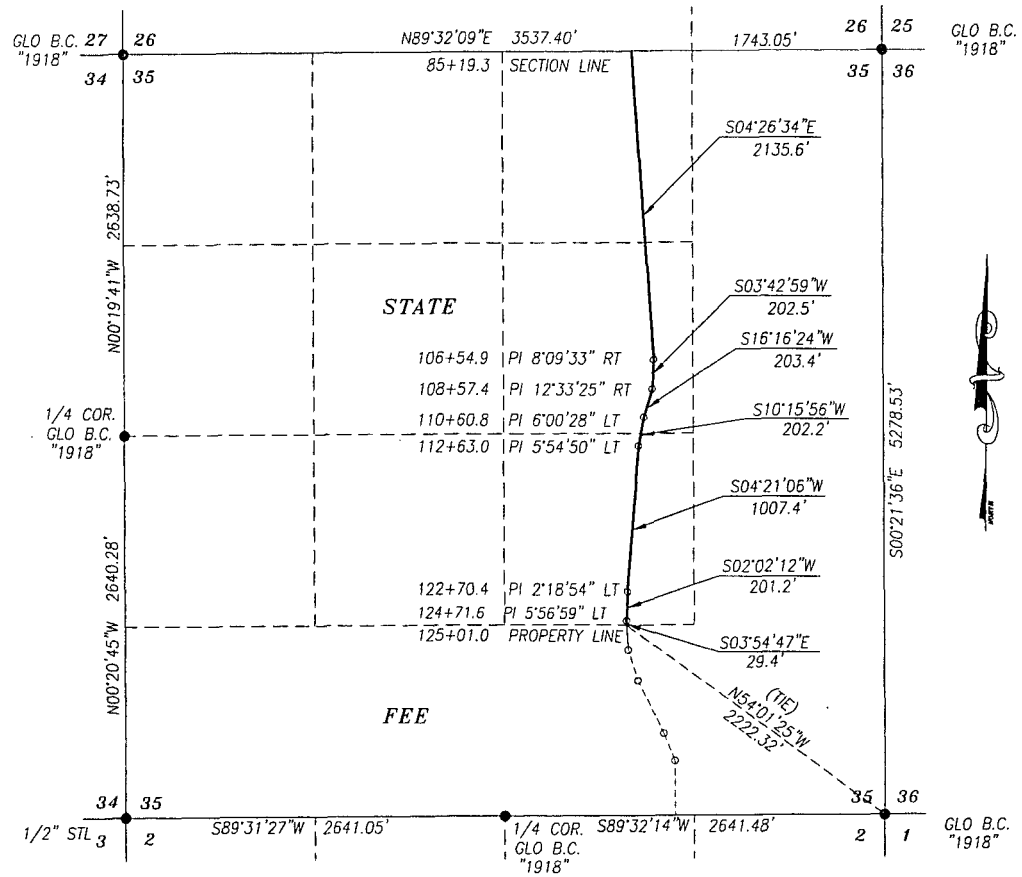
COG OPERATING, LLC

SURVEY OF A PROPOSED PIPELINE LOCATED IN SECTION 26, TOWNSHIP 22 SOUTH, RANGE 34 EAST, LEA COUNTY, NMPM, NEW MEXICO

SURVEY DATE: FEBRUARY 12, 2015		
DRAFTING DATE: JUNE 9, 2015		PAGE 2 OF 5
APPROVED BY: CH	DRAWN BY: JJ	FILE: 15-715

ROAD PLAT
COG OPERATING, LLC.

PROPOSED ROAD FROM THE SQUINTS FED COM #8H TO DELAWARE BASIN ROAD IN
SECTION 35, TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 35, TOWNSHIP 22, RANGE 34 EAST, NMPM, LEA COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY; WHICH WILL BE ACCOUNTED FOR IN FOOTAGES, RODS, AND ACREAGES.

BEGINNING AT A POINT IN THE NW/4 NE/4 OF SAID SECTION, WHICH LIES S8932'09"E 1743.05 FEET FROM THE NORTHEAST SECTION CORNER; THEN S04°26'34" 2135.6 FEET; THEN S03°42'59" 202.5 FEET, THEN S16°16'24"W 203.4 FEET; THEN S10°15'56"W 202.2 FEET; THEN S04°21'06"W 1007.4 FEET; THEN S02°02'12"W 201.2 FEET; THEN S03°54'47"E 29.4 FEET TO A POINT, WHICH LIES N54°01'25"E 2222.32 FEET FROM THE SOUTHEAST SECTION CORNER.

SAID STRIP OF LAND BEING 3981.7 FEET OR 241.32 RODS OR 0.754 MILES IN LENGTH, CONTAINING 2.742 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4 80.19 RODS OR 0.911 ACRES
NE/4 SW/4 80.79 RODS OR 0.918 ACRES
SE/4 SW/4 80.34 RODS OR 0.913 ACRES

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

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

CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 6/12/15
CHAD HARCROW N.M.P.S. NO. 17777 DATE

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

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

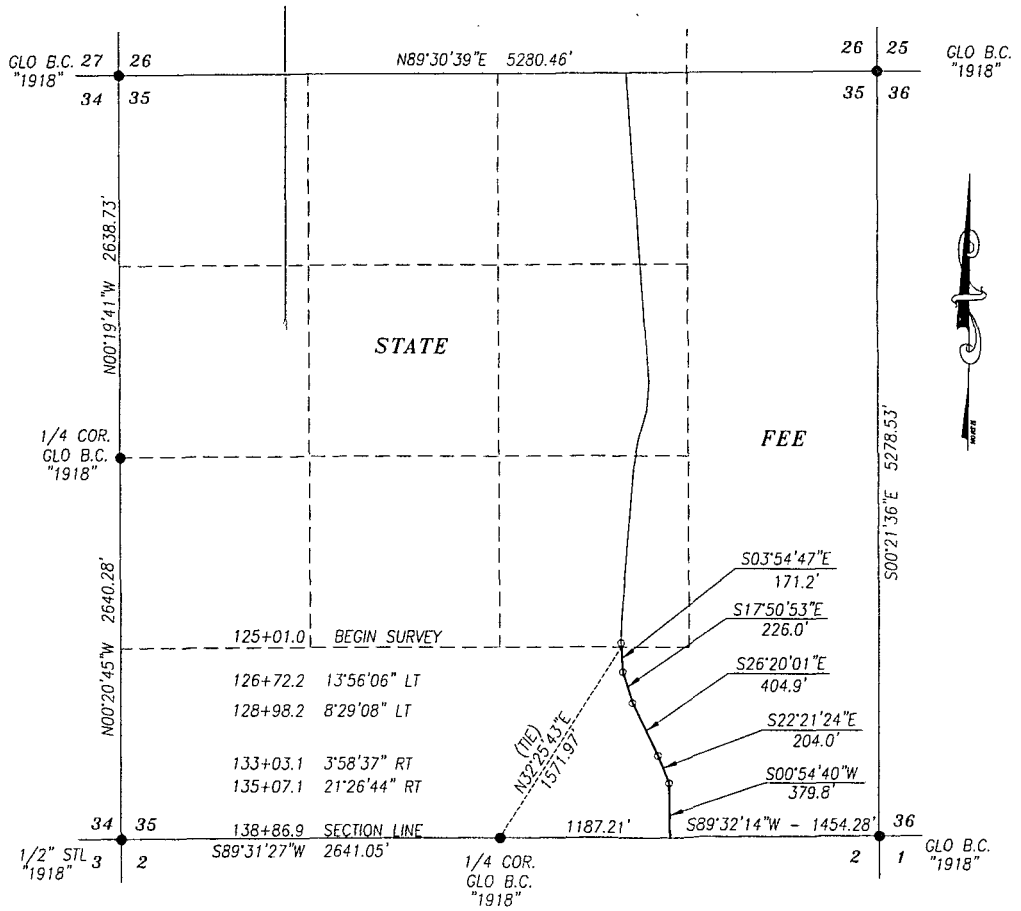
COG OPERATING, LLC

SURVEY OF A PROPOSED PIPELINE LOCATED IN SECTION 35, TOWNSHIP 22 SOUTH, RANGE 34 EAST, LEA COUNTY, NMPM, NEW MEXICO

SURVEY DATE: FEBRUARY 12, 2015		
DRAFTING DATE: MARCH 6, 2015		PAGE 3 OF 5
APPROVED BY: CH	DRAWN BY: JJ	FILE: 15-715

ROAD PLAT
COG OPERATING, LLC.

PROPOSED ROAD FROM THE SQUINTS FED COM #8H TO DELAWARE BASIN ROAD IN SECTION 35, TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 1385.9 FEET OR 83.99 RODS OR 0.262 MILES IN LENGTH CROSSING FEE LAND IN SECTION 35, TOWNSHIP 22 SOUTH, RANGE 34 EAST, LEA 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 GRID VALUES.

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

CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 6/12/15
CHAD HARCROW N.M.P.S. NO. 17777 DATE

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

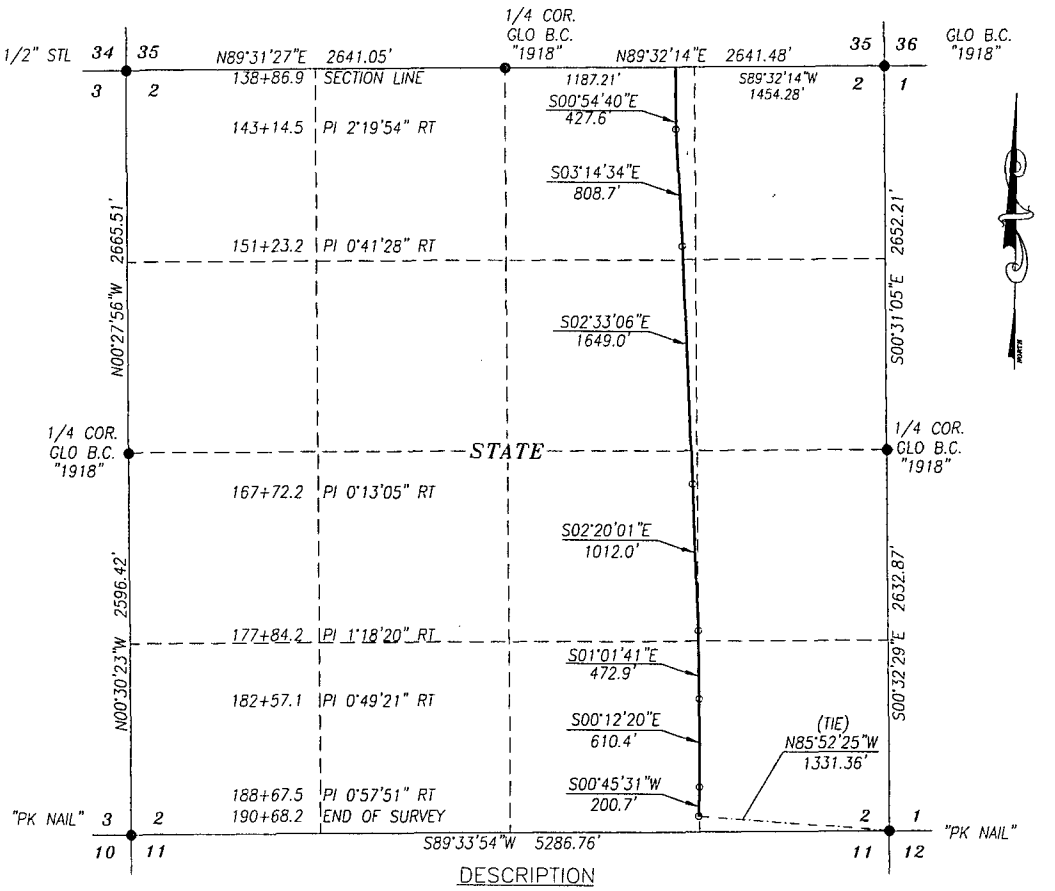
COG OPERATING, LLC

SURVEY OF A PROPOSED PIPELINE LOCATED IN SECTION 35, TOWNSHIP 22 SOUTH, RANGE 34 EAST, LEA COUNTY, NMPM, NEW MEXICO

SURVEY DATE: FEBRUARY 12, 2015		
DRAFTING DATE: JUNE 9, 2015		PAGE 4 OF 5
APPROVED BY: CH	DRAWN BY: JJ	FILE: 15-715

ROAD PLAT
COG OPERATING, LLC.

PROPOSED ROAD FROM THE SQUINTS FED COM #8H TO DELAWARE BASIN ROAD IN
SECTION 2, TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 2, TOWNSHIP 23, RANGE 34 EAST, NMPM, LEA COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY; WHICH WILL BE ACCOUNTED FOR IN FOOTAGES, RODS, AND ACREAGES.

BEGINNING AT A POINT IN THE NW/4 NE/4 OF SAID SECTION, WHICH LIES S89°32'14"E 1454.28 FEET FROM THE NORTHEAST SECTION CORNER; THEN S00°54'40" 427.6 FEET, THEN S03°14'34" 808.7 FEET, THEN S02°33'06" 1649.0 FEET, THEN S02°20'01" 1012.0 FEET, THEN S01°01'41"E 472.9 FEET, THEN S00°12'20"E 610.4 FEET, THEN S00°45'31"W 200.7 TO A POINT, WHICH LIES N85°52'25"W 1331.36 FEET FROM THE SOUTHEAST SECTION CORNER.

SAID STRIP OF LAND BEING 5181.3 FEET OR 314.02 RODS OR 0.981 MILES IN LENGTH, CONTAINING 3.568 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NE/4 80.70 RODS OR 0.917 ACRES
SW/4 NE/4 80.05 RODS OR 0.910 ACRES
NE/4 SE/4 79.86 RODS OR 0.907 ACRES
SW/4 SE/4 28.34 RODS OR 0.322 ACRES
SE/4 SE/4 45.07 RODS OR 0.512 ACRES

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

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

CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 6/12/15
CHAD HARCROW N.M.P.S. NO. 17777 DATE

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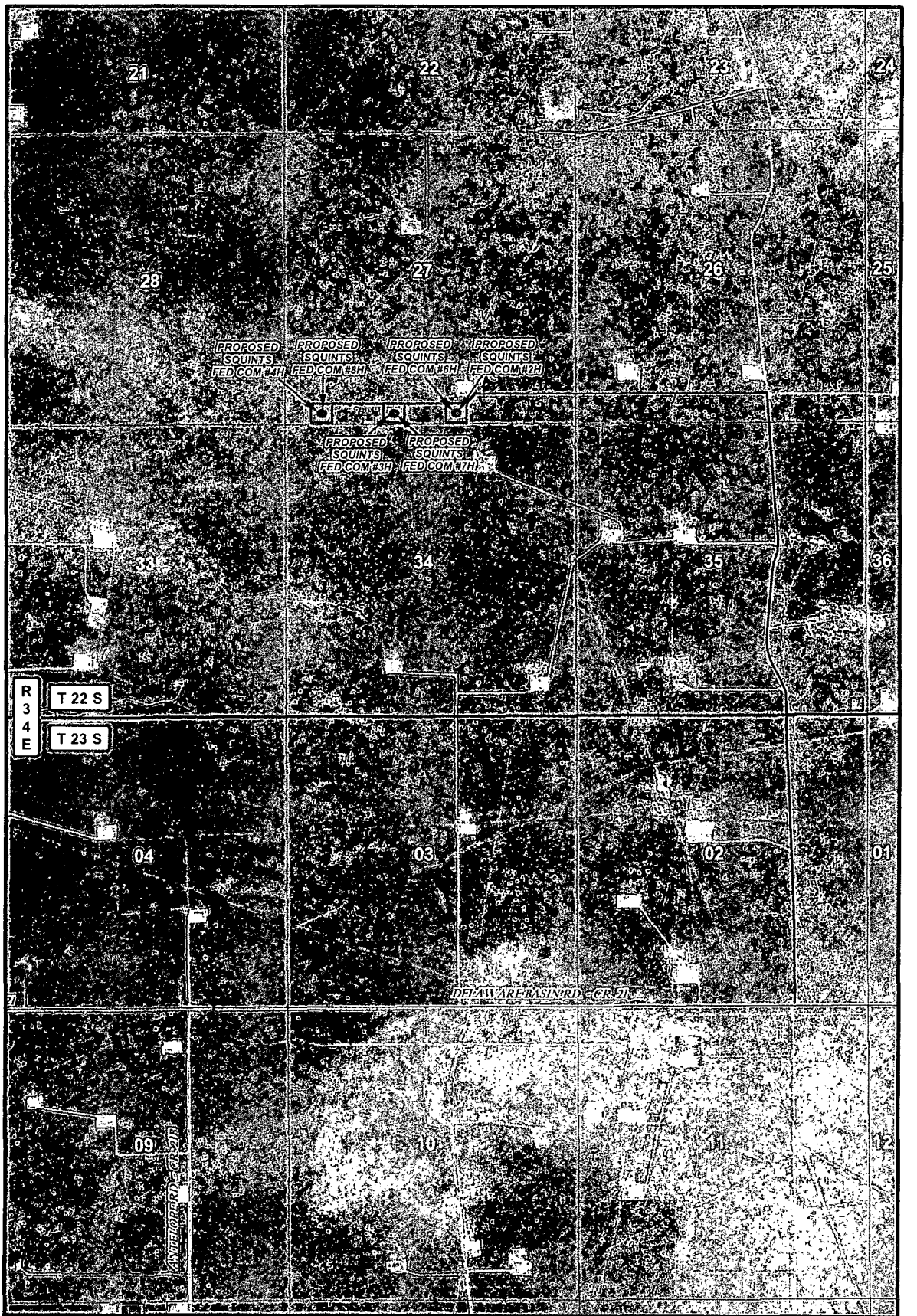
1000 0 1000 2000 FEET
SCALE: 1"=1000'

COG OPERATING, LLC

SURVEY OF A PROPOSED PIPELINE LOCATED IN SECTION 2, TOWNSHIP 23 SOUTH, RANGE 34 EAST, LEA COUNTY, NMPM, NEW MEXICO

SURVEY DATE: FEBRUARY 12, 2015		
DRAFTING DATE: JUNE 9, 2015		PAGE 5 OF 5
APPROVED BY: CH	DRAWN BY: JJ	FILE: 15-715



LEGEND

- WELL
- WELLPAD
- PROPOSED RD.
- EXISTING RD.

SQUINTS FED COM ACCESS ROAD

SECTION: 26, 27, 35, 2	TOWNSHIP: 22,23 S.	RANGE: 34 E.
STATE: NEW MEXICO	COUNTY: LEA	SURVEY: N.M.P.M
W.O. # 15-715		LEASE: SQUINTS FED COM

0 2,500 5,000 FEET

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

PIPELINE OVERVIEW MAGEBY 06/09/2015

CONCHO

COG OPERATING, LLC

N

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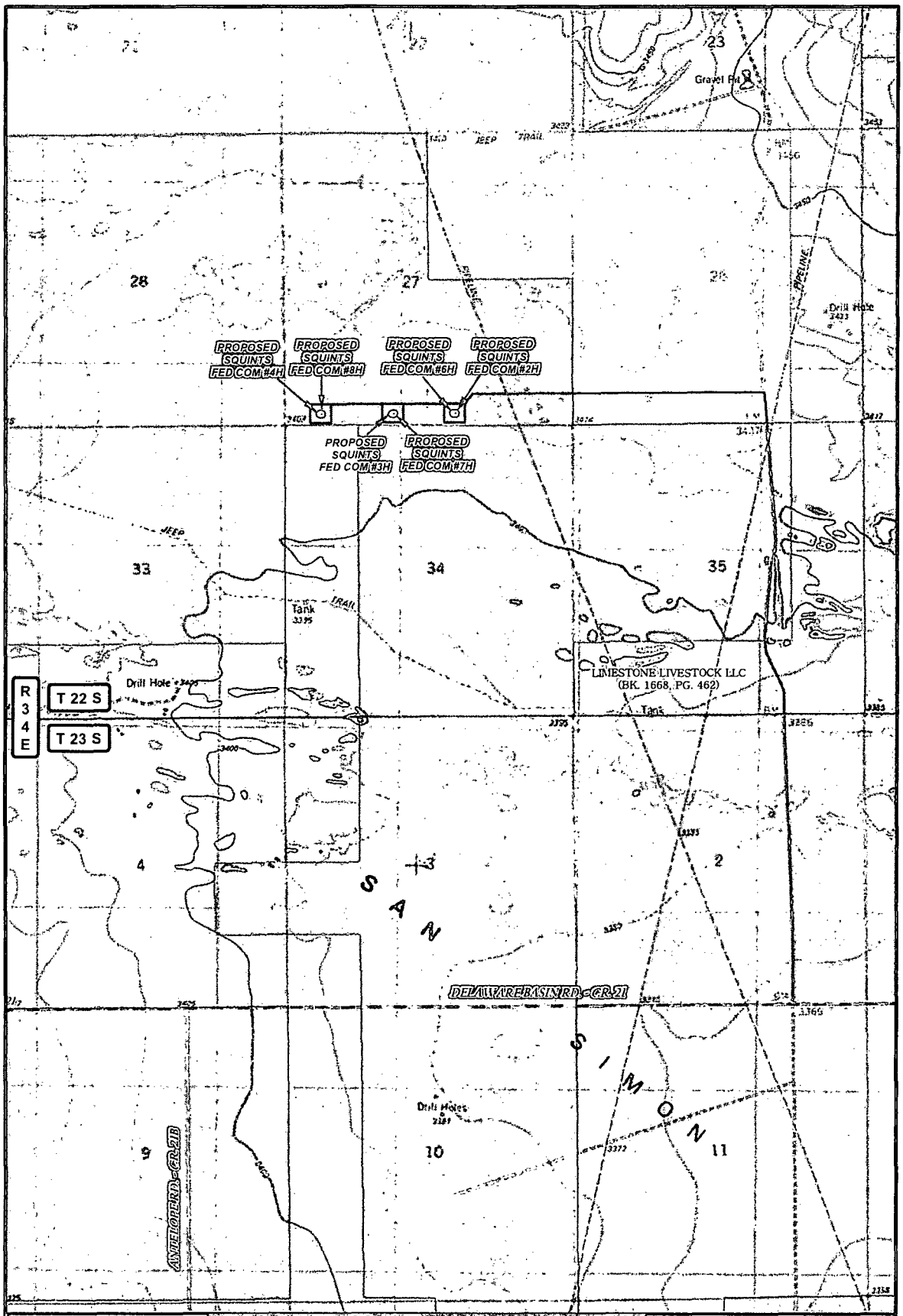

LEGEND

- WELL
- WELLPAD
- PROPOSED RD.
- EXISTING RD.
- PRIVATE
- STATE OF NM
- US BLM

SQUINTS FED COM ACCESS ROAD

SECTION: 26, 27, 35, 2	TOWNSHIP: 22,23 S.	RANGE: 34 E.
STATE: NEW MEXICO	COUNTY: LEA	SURVEY: N.M.P.M
W.O. # 15-715		LEASE: SQUINTS FED COM

0 2,500 5,000 FEET

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

PIPELINE OVERVIEW LAND STATUS 06/09/2015 SD

CONCHO

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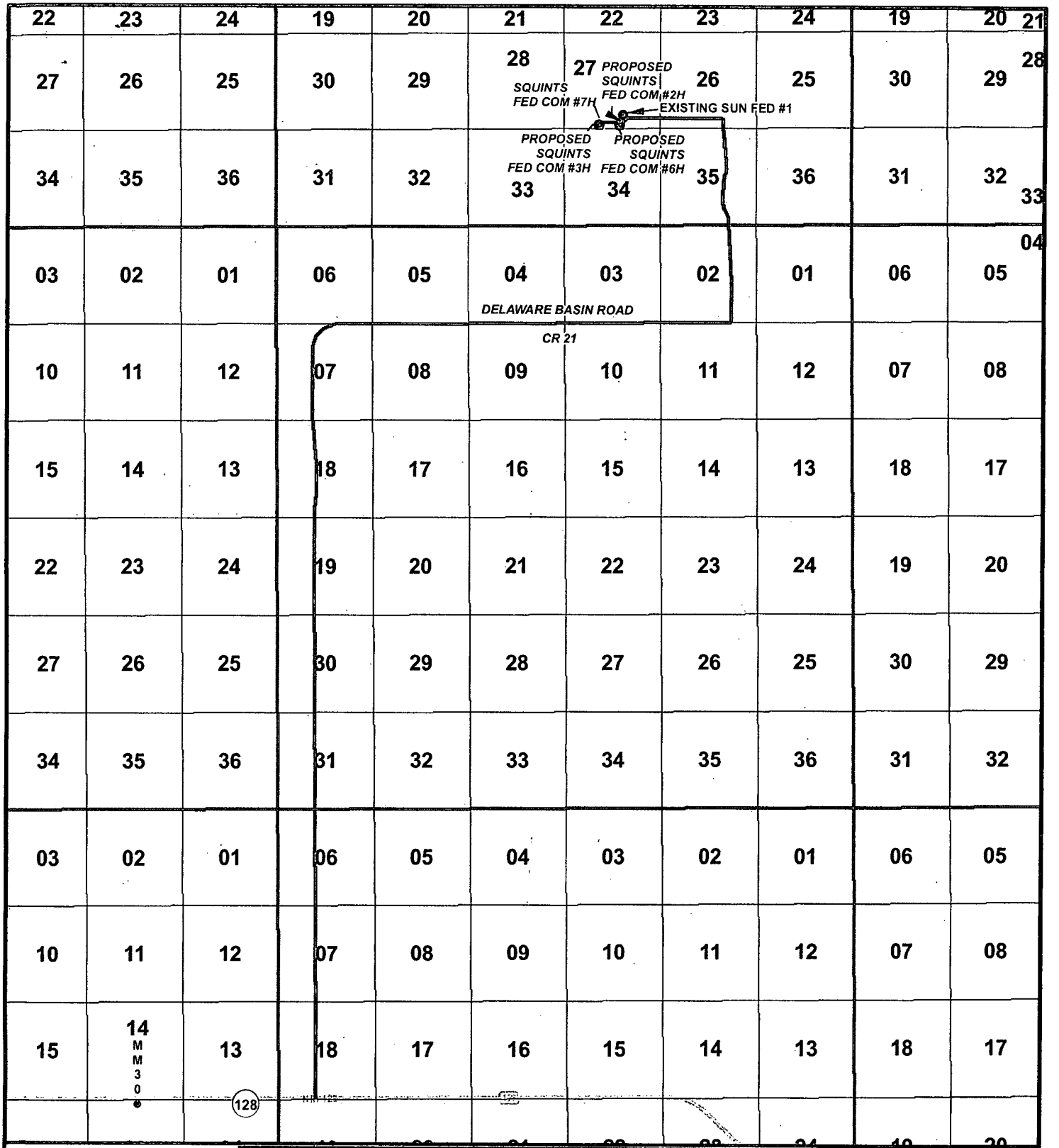

LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

SQUINTS FEDERAL COM #7H

SEC: 27 TWP: 22 S. RGE: 34 E. ELEVATION: 3404.4'

STATE: NEW MEXICO COUNTY: LEA 190' FSL & 2010' FWL

W.O. # 15-710 LEASE: SQUINTS FED COM SURVEY: N.M.P.M

0 2,500 5,000 7,500 10,000 12,500 15,000 17,500 FEET

0 0.5 1 2 Miles 1 IN = 7,000 FT

VICINITY MAP 06/09/2015 A.F

CONCHO

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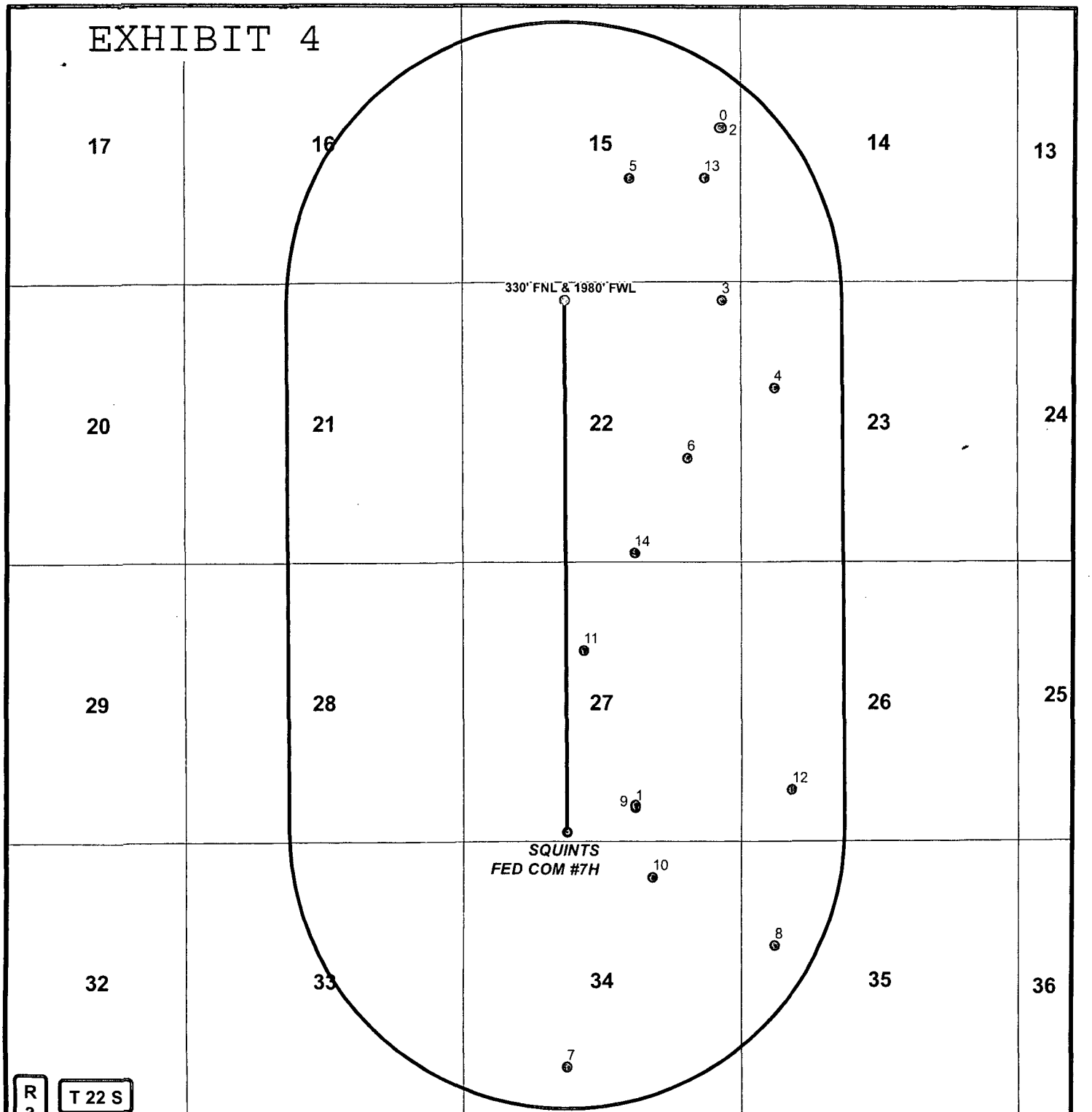
EXHIBIT 4



DATA FOR "WELLS WITHIN 1 MI." IS TAKEN FROM THE NEW MEXICO EMNRD WEBSITE. THE DATA HAS BEEN UPDATED THROUGH JANUARY 12, 2015.

LEGEND

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

SQUINTS FEDERAL COM #7H

SEC: 27 TWP: 22 S. RGE: 34 E. ELEVATION: 3404.4'

STATE: NEW MEXICO COUNTY: LEA 190' FSL & 1980' FWL

W.O. # 15-710 LEASE: SQUINTS FED COM SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.15 0.3 0.6 Miles

1 IN = 2,500 FT

1 MILE MAP 06/09/2015 A.F

CONCHO

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Squints Fed Com #7H

FID	OPERATOR	WELL_NAME	LATITUDE	LONGITUDE	API	SECTION	TOWNSHIP	RANGE	FTG_NS	NS_CD	FTG_EW	EW_CD	TVD_DEPTH	COMPL_STAT
0	MARLAND OIL CO	L B MERCHANT PERMIT 001	32.392497	-103.450437	3002508479	15	22.0S	34E	2340	N	380	E	4053	Plugged
1	J W SORRELLS	SORRELLS 001	32.357233	-103.455758	3002508481	27	22.0S	34E	660	S	1980	E	4202	Plugged
2	MARLAND OIL CO	L B MERCHANT PERMIT 001	32.392497	-103.450274	3002512566	15	22.0S	34E	2340	N	330	E	690	Plugged
3	BYRON,MCKNIGHT & NO	JACQUIE ANN 001	32.383521	-103.450303	3002524146	22	22.0S	34E	330	N	330	E	3881	Plugged
4	AMERICAN QUASAR PET	OJO CHISO 001	32.378983	-103.447096	3002524459	23	22.0S	34E	1980	N	660	W	14739	Plugged
5	AMERICAN QUASAR PET	OJO CHISO UNIT 002	32.38987	-103.45598	3002524780	15	22.0S	34E	1980	S	2080	E	13575	Plugged
6	APACHE CORP	FEDERAL 22 001	32.375364	-103.452478	3002529795	22	22.0S	34E	1980	S	990	E	13435	Plugged
7	BTA OIL PRODUCERS, LLC	MAXUS B 8026 JV-P 002	32.343644	-103.460025	3002530032	34	22.0S	34E	990	S	1980	W	13428	Active
8	BTA OIL PRODUCERS, LLC	MADDOX FEDERAL B 8016 JV-P 002	32.349969	-103.44719	3002530128	35	22.0S	34E	1980	N	660	W	12500	Active
9	COG OPERATING LLC	SUN FEDERAL COM 001	32.35737	-103.455757	3002530603	27	22.0S	34E	710	S	1980	E	12780	Active
10	BTA OIL PRODUCERS	MAXUS B 8026 JV-P 003	32.353603	-103.454695	3002530661	34	22.0S	34E	660	N	1650	E	13500	Plugged
11	ORYX ENERGY CO	ANTELOPE FEDERAL COM 001	32.365388	-103.45889	3002530687	27	22.0S	34E	1650	N	2310	W	13530	Plugged
12	BTA OIL PRODUCERS, LLC	OJO CHISO FED. 003	32.358133	-103.446089	3002530733	26	22.0S	34E	990	S	990	W	13572	Active
13	PETROGULF CORPORATION	FEDERAL 15-43 001I	32.389873	-103.45136	3002538747	15	22.0S	34E	1981	S	661	E	0	
14	MEWBOURNE OIL CO	PERRO LOCO 22 B3OB FEDERAL 001H	32.370431	-103.455715	3002542288	22	22.0S	34E	185	S	1980	E	0	New (Not drilled or compl)