

Lowe, Leonard, EMNRD

From: Robyn Russell <Rrussell@concho.com>
Sent: Monday, May 22, 2017 12:29 PM
To: Lowe, Leonard, EMNRD
Cc: Jones, William V, EMNRD; McMillan, Michael, EMNRD
Subject: RE: NSL application for COG Operating LLC, Burch Keely Unit No. 964H
Attachments: Burch Keely Unit 964H NSL Landman Statement.pdf; Burch Keely Unit 964H NSL Engineer Statement.pdf; BKU 964H NMNM88525X Serial Registrar Page.pdf

Hey Leonard,

Attached is the additional information for this NSL application that you had requested. Please let me know if you need anything else.

Thank you,

Robyn Russell
Regulatory Analyst
(432) 685-4385

From: Lowe, Leonard, EMNRD [mailto:Leonard.Lowe@state.nm.us]
Sent: Tuesday, May 16, 2017 11:22 AM
To: Robyn Russell
Cc: Jones, William V, EMNRD; McMillan, Michael, EMNRD
Subject: [External] NSL application for COG Operating LLC, Burch Keely Unit No. 964H
Importance: High

**** External email. Use caution. ****

Ms. Robyn Russell,

Good morning,

In reference to our conversation this morning..

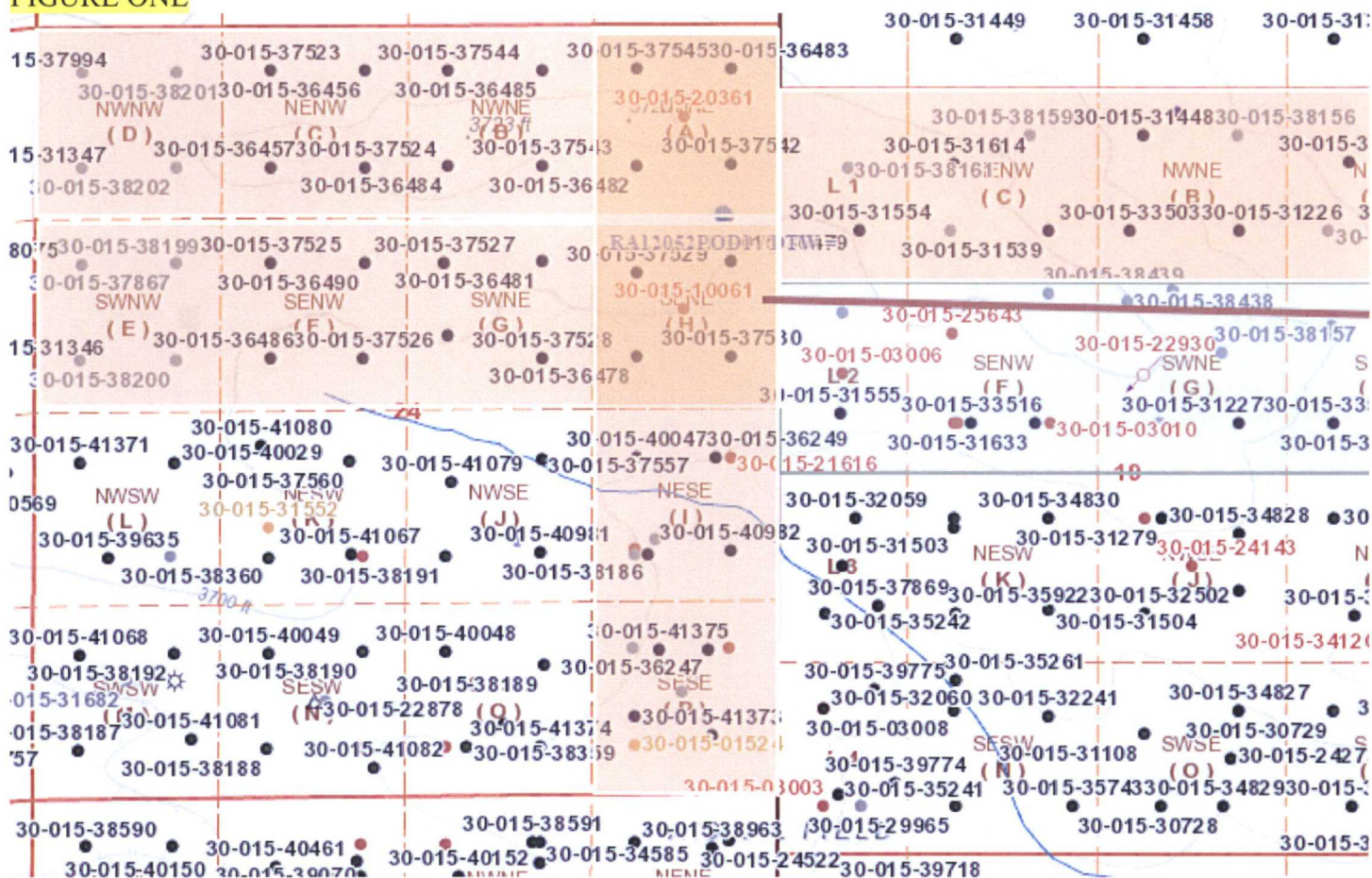
I need additional information for the subject application stated above.

1. Proper notice was not completed. See **Figure One** below. Notice to the affected parties and return receipt of that notice is needed for areas that are less than 100 feet of the project area. Unless the affected tracts are Identical Ownership, then your application needs a statement from your Landman within your application indicating that.
2. A list of the working interest with percentages in the affected area is needed for the affected tracts in No. 1, above.
3. For an unorthodox location request, an engineering statement is required from your engineer.

Your application is current INCOMPLETE and is suspending until a complete application is received at the OCD office.

You may e-mail additional information for your application. Please indicate that what you are submitted is ADDITIONAL INFORMATION to a previously submitted application.

FIGURE ONE



Thank you,

Engineering Bureau

Energy Minerals and Natural Resources Department

1220 South St. Frances

Santa Fe, New Mexico 87004

Office: 505-476-3492

Cell: 505-930-6717

Fax: 505-476-3462

E-mail: leonard.lowe@state.nm.us

Website: <http://www.emnrd.state.nm.us/ocd/>

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Memorandum

To: Leonard Lowe
Engineering Bureau
New Mexico Oil Conservation Division

From: Adam Clay Reker
Landman, NM Shelf Team
COG Operating LLC

Date: May 22, 2017

Subject: Burch Keely Unit #964H NSL Landman Statement

I, Adam Clay Reker, Landman for COG Operating LLC, have examined or have had title attorneys examine the lands and leases associated with the Burch Keely Unit and its offsets:

COG's "Jenkins B" lease covers the NW/4 of Section 20, T17S-R30E and is wholly owned 100% by COG Operating at all depths. This fact was confirmed by a Certified Title Attorney, licensed to examine title in the State of New Mexico via a title opinion that was rendered on March 22, 2017. Said lease being Federal Lease USA LC-054988.



Memorandum

To: Leonard Lowe
Engineering Bureau
New Mexico Oil Conservation Division

From: Bryan Montgomery
Reservoir Engineering Supervisor, NM Shelf Team
COG Operating LLC

Date: May 22, 2017

Subject: Burch Keely Unit #964H NSL Engineer Statement

COG Operating LLC (COG) is requesting a non-standard location exception (NSL) for this horizontal well to be able to access and drain Yeso reserves that would otherwise be left in the reservoir, thereby preventing waste of an economic resource. The Yeso is a very low permeability reservoir that does not sufficiently drain a great distance from wellbores and their hydraulic fractures. In addition, it would not be economical to try to access these reserves with a vertical well.

**DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
CASE RECORDATION
(MASS) Serial Register Page**

Run Time: 09:40 AM

Page 1 of 2

Run Date: 05/19/2017

01 02-25-1920;041STAT0437;30USC181

Case Type 318220: O&G SECONDARY UNIT

Commodity 459: OIL & GAS

Case Disposition: AUTHORIZED

Total Acres
5,129.440

Serial Number
NMNM-- - 088525X

Serial Number: NMNM-- - 088525X

Name & Address			Int Rel	% Interest
BLM CARLSBAD FO	620 E GREENE ST	CARLSBAD NM 88220	OFFICE OF RECORD	0.000000000
COG OPERATING LLC	600 W ILLINOIS AVE	MIDLAND TX 797014882	OPERATOR	100.000000000

Serial Number: NMNM-- - 088525X

Mer Twp	Rng	Sec	STyp	SNr Suff	Subdivision	District/Field Office	County	Mgmt Agency
23	0170S	0290E	012	ALIQ	SESE;	CARLSBAD FIELD OFFICE	EDDY	BUREAU OF LAND MGMT
23	0170S	0290E	013	ALL	ENTIRE SECTION	CARLSBAD FIELD OFFICE	EDDY	BUREAU OF LAND MGMT
23	0170S	0290E	023	ALL	ENTIRE SECTION	CARLSBAD FIELD OFFICE	EDDY	BUREAU OF LAND MGMT
23	0170S	0290E	024	ALL	ENTIRE SECTION	CARLSBAD FIELD OFFICE	EDDY	BUREAU OF LAND MGMT
23	0170S	0290E	025	ALL	ENTIRE SECTION	CARLSBAD FIELD OFFICE	EDDY	BUREAU OF LAND MGMT
23	0170S	0290E	026	ALL	ENTIRE SECTION	CARLSBAD FIELD OFFICE	EDDY	BUREAU OF LAND MGMT
23	0170S	0300E	018	ALL	ENTIRE SECTION	CARLSBAD FIELD OFFICE	EDDY	BUREAU OF LAND MGMT
23	0170S	0300E	019	ALL	ENTIRE SECTION	CARLSBAD FIELD OFFICE	EDDY	BUREAU OF LAND MGMT
23	0170S	0300E	030	ALL	ENTIRE SECTION	CARLSBAD FIELD OFFICE	EDDY	BUREAU OF LAND MGMT

Serial Number: NMNM-- - 088525X

Act Date	Code	Action	Action Remark	Pending Office
06/03/1993	387	CASE ESTABLISHED	DESIGNATION RECEIVED	
06/03/1993	500	GEOGRAPHIC NAME	BURCH-KEELY;	
06/23/1993	519	AGRMT/EXPANSION DESIG	AGREEMENT	
07/08/1993	680	AGREEMENT FILED		
07/19/1993	334	AGRMT APPROVED		
08/01/1993	516	FORMATION	/B/	
08/01/1993	526	ACRES-FED INT 100%	5129.44;100.00%	
08/01/1993	868	EFFECTIVE DATE	/A/ UNIT AGREEMENT	
08/20/1993	974	AUTOMATED RECORD VERIF		MO/MO
07/01/1994	600	RECORDS NOTED		
02/23/1995	421	PLAN OPER/EXPL/DEV FILED	/1/	
02/28/1995	422	PLAN OPER/EXPL/DEV APPV	/1/	
10/01/2010	672	SUCCESSOR OPERATOR	MARBOB/COG	
01/31/2011	519	AGRMT/EXPANSION DESIG	/C/	

Serial Number: NMNM-- - 088525X

Line Nr	Remarks
0002	/A/ EXHIBIT C EFFECTIVE 08/01/1993
0003	LEASE SERIAL NO TR# PH 1% PH 2% PH 3%
0004	NMLC 0 28784A 1 9.72270
0005	NMLC 0 28793A 2 12.68260
0006	NMLC 0 28784B 3A 15.95490
0007	NMLC 0 28784B 3B 14.45700
0008	NMLC 0 28793C 4 20.35470
0009	NMLC 0 28784C 5 25.98970
0010	NMLC 0 54406 6 .83840
0011	/B/ UNITIZATION WILL BE LIMITED TO THE FOLLOWING

NO WARRANTY IS MADE BY BLM FOR USE OF THE DATA FOR PURPOSES NOT INTENDED BY BLM

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
CASE RECORDATION
(MASS) Serial Register Page

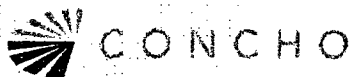
Run Time: 09:40 AM

Page 2 of 2

Run Date: 05/19/2017

0012 INTERVAL: THAT INTERVAL UNDERLYING THE UNIT AREA,
0013 THE VERTICAL LIMITS OF WHICH EXTEND FROM THE TOP OF
0014 THE SEVEN RIVERS FORMATION TO THE BASE OF THE SAN
0015 ANDRES FORMATION OR 5,000' BENEATH THE SURFACE,
0016 WHICHEVER IS THE LESSER. THE UNITIZED FORMATION
0017 WAS EXPANDED, EFFECTIVE AS OF FEBRUARY 22, 1994, TO
0018 INCLUDE THE TOP 500 FEET OF THE PADDOCK FORMATION.
0019 /C/ UNIT TO COMPRISE THAT INTERVAL UNDERLYING THE
0020 UNIT AREA FROM THE TOP OF THE SEVEN RIVERS TO A TRUE
0021 VERTICAL DEPTH OF 5000 FEET BELOW THE SURFACE.
0022 EFFECTIVE 01/31/2001.

Additional Information



May 19, 2017

New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

RE: Burch Keely Unit #964H NSL

To Whom It May Concern,

COG Operating LLC respectfully requests approval of a non-standard location for the following well:

Burch Keely Unit #964H - API# 3001544149
SHL: 1485 FNL 215 FEL, UL H, Sec 24, T17S, R29E
BHL: 1650 FNL 10 FEL, UL H, Sec 19, T17S, R30E
TVD: 4950'

The purpose of this NSL request is to satisfy the approved BLM Sundry for drilling to 1650' FNL and 10' FEL. The granting of this NSL will optimize the completed lateral length of this wellbore, reducing waste while protecting correlative rights, and improving well economics and increasing revenue to the State of New Mexico and the federal government.

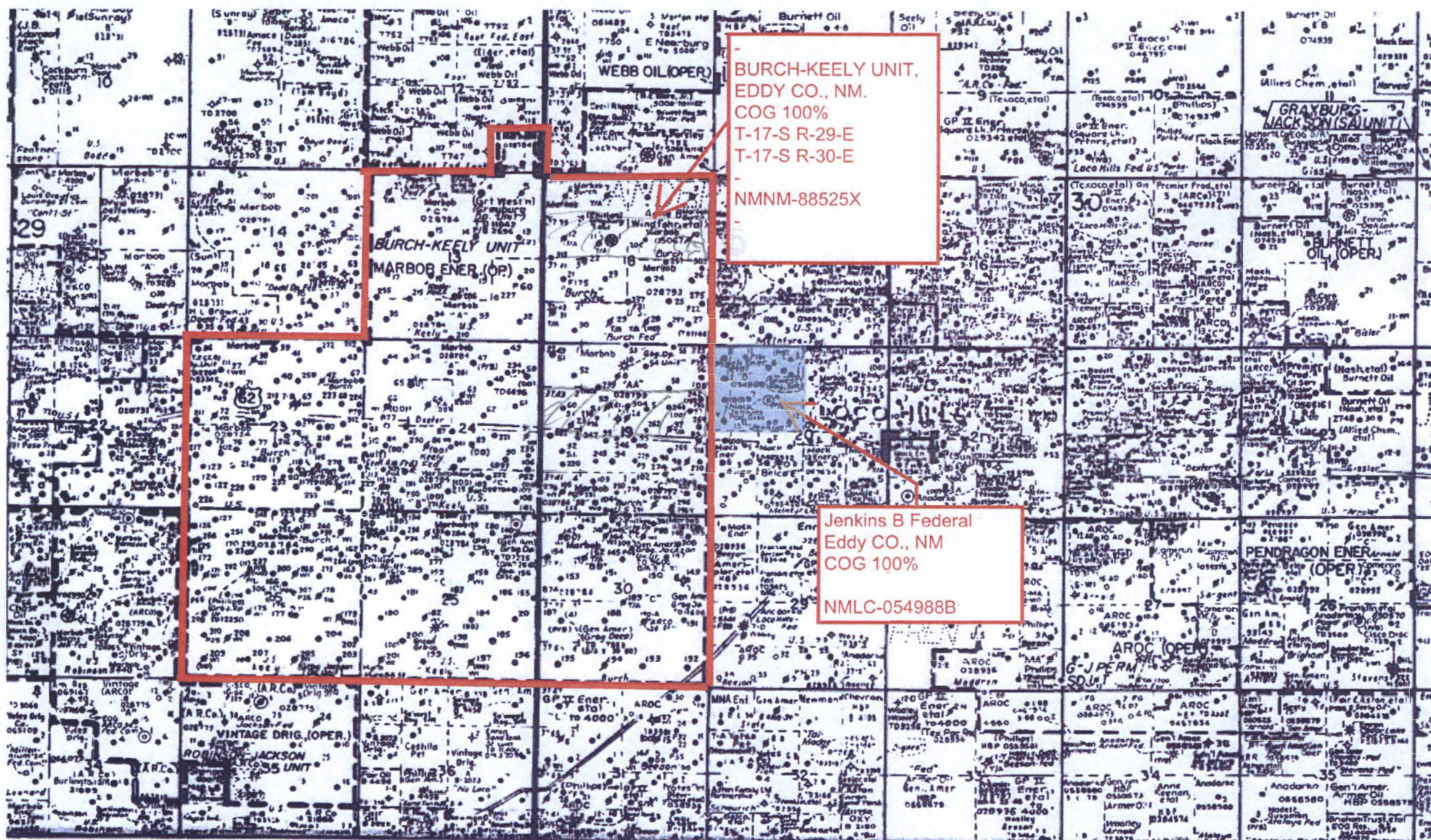
Attached to this application is a plat showing this well's location, a map and legend of offset wells within 1 mile and an updated land plat showing that COG Operating LLC owns and operates the offset Yeso wells in UL A & H of Sec 24, T17S, R29E; Lot 1 of Sec. 19, T17S, R30E; UL D & E of Sec 20, T17S, R30E. All interests are the same in these offsets and no notification is needed.

Please contact me should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Robyn Russell", written over a horizontal line.

Robyn Russell
Regulatory Analyst
COG Operating, LLC
(432) 685-4385
Rrussell@concho.com



Jenkins B Federal
Eddy CO., NM
COG 100%

NMLC-054988B

Additional Information

Lowe, Leonard, EMNRD

From: Lowe, Leonard, EMNRD
Sent: Tuesday, May 16, 2017 10:22 AM
To: 'Russell@concho.com'
Cc: Jones, William V, EMNRD; McMillan, Michael, EMNRD
Subject: NSL application for COG Operating LLC, Burch Keely Unit No. 964H

Importance: High

Ms. Robyn Russell,

Good morning,

In reference to our conversation this morning..

I need additional information for the subject application stated above.

1. Proper notice was not completed. See **Figure One** below. Notice to the affected parties and return receipt of that notice is needed for areas that are less than 100 feet of the project area. Unless the affected tracts are Identical Ownership, then your application needs a statement from your Landman within your application indicating that.
2. A list of the working interest with percentages in the affected area is needed for the affected tracts in No. 1, above.
3. For an unorthodox location request, an engineering statement is required from your engineer.

Your application is current INCOMPLETE and is suspending until a complete application is received at the OCD office.

You may e-mail additional information for your application. Please indicate that what you are submitted is ADDITIONAL INFORMATION to a previously submitted application.

The below image shows the minimum required affected tract areas pertaining to your unorthodox well request. There may be more, the applicant (you) shall determine.

FIGURE ONE

OCD Permitting

[Home](#) [Land Searches](#) [Land Details](#)

Section : 19-17S-29E

Type: Normal

Total Acres: 589.54

County: Eddy (15)

D (1) Federal ¹ Federal ² (15) 27.36	C (C) Federal ¹ Federal ² (15) 40	B (B) Federal ¹ Federal ² (15) 40	A (A) Federal ¹ Federal ² (15) 40
E (2) Federal ¹ Federal ² (15) 27.28	F (F) Federal ¹ Federal ² (15) 40	G (G) Federal ¹ Federal ² (15) 40	H (H) Federal ¹ Federal ² (15) 40
L (3) State ¹ State ² (15) 27.4	K (K) State ¹ State ² (15) 40	J (J) State ¹ State ² (15) 40	I (I) State ¹ State ² (15) 40
M (4) State ¹ State ² (15) 27.5	N (N) State ¹ State ² (15) 40	O (O) State ¹ State ² (15) 40	P (P) State ¹ State ² (15) 40

Note¹ = Surface Owner RightsNote² = Sub-Surface Mineral Rights

Land Restrictions

No land restrictions found for this section.

[Return to Search](#)

Township 17 South Range 29 East of the New Mexico Principal Meridian, New Mexico

County: Eddy - 015

BLM Field Office: Carlsbad

BUREAU OF LAND MANAGEMENT
STATUS OF PUBLIC DOMAIN
LAND AND MINERALS

OG Plat

T17S R29E

Entire Township Included in
NM 057354, EO Wd NM 1 Pot Res 6 (3/11/1926)

CI of Public Lands NM 0560202 (CI No 30-06-01)

UNITIZATION AGREEMENTS

Empire ABO UA
NM 070945X
Empire South Deep UA
NM 070946X
Grayburg Deep UA
NM 070954X
R J UA
NM 071024X
Square Lake 12 UA
NM 071043X
W Loco Hills GB #4 UA
NM 071050X
Burch-Keely UA
NM 088525X
Dodd Federal UA
NM 111789X

COMMUNITIZATION AGREEMENTS

NM 071912
NM 082029
NM 085325
NM 085335
NM 087882
NM 103156
NM 105324
NM 106874
NM 107674
NM 107675
NM 109681
NM 113987
NM 120425
NM 123608
NM 125611
NM 129231
NM 129933
NM 129991
NM 130988
NM 135472
NM 135473
NM 135732
NM 136313

NOTE: The Serial Numbers displayed are in the Bureau's LR2000 system format.
- If there is a zero in the 7th position (from the right), the serial number has a "prefix" zero;
example NM 0012345.
- If there is not a zero in the 7th position (from the right) then the serial number does not have a "prefix" zero;
example NM 012345.

For Index to Segregated Tracts, see survey plat.



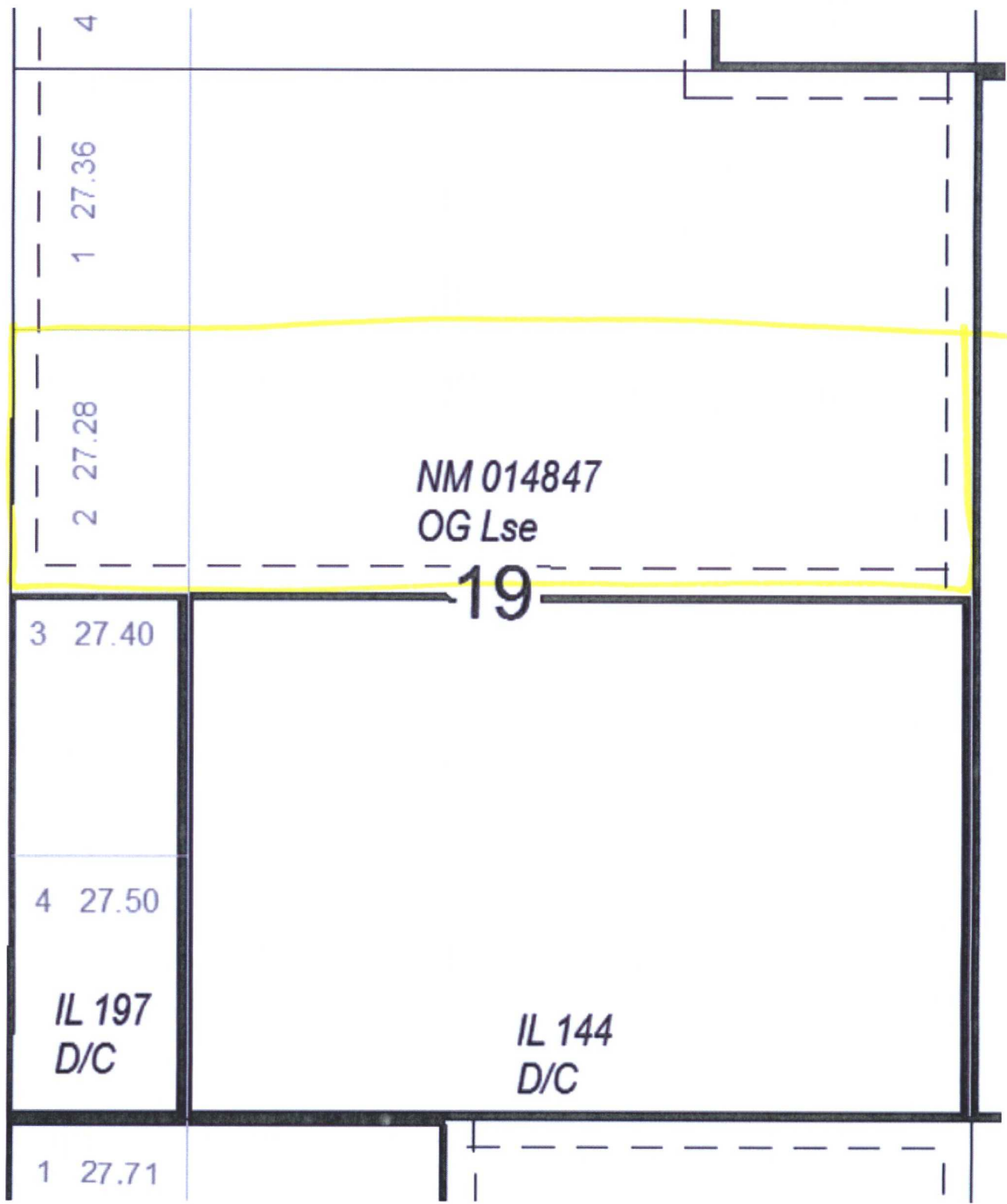
0 0.25 0.5 1 Miles

1 inch = 30 chains
1:23,760

CAVEAT STATEMENT

This plat is the Bureau's Record of Title, and should be used only as a graphic display of the township survey data. Records hereon do not reflect title changes which may have been affected by lateral movements of rivers or other bodies of water. Refer to the cadastral surveys for official survey information.

T 17 S
R 29 E
NMPM



RECEIVED: 5-12-2017	REVIEWER: LRL	TYPE: NSL	APP NO: PKSC 1713550506
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Geological & Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



NSL-

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND
 REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Applicant: COG Operating LLC	OGRID Number: 229137
Well Name: Burch Keely Unit #964H	API: 30-015-44149
Pool: Burch Keely; Glorieta-Upper Yeso	Pool Code: 97918

**SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION
 INDICATED BELOW**

- 1) **TYPE OF APPLICATION:** Check those which apply for [A]
- A. Location - Spacing Unit - Simultaneous Dedication
☒ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD
- B. Check one only for [I] or [II]
- [I] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
- [II] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

2) **NOTIFICATION REQUIRED TO:** Check those which apply.

- A. ☐ Offset operators or lease holders
 B. ☐ Royalty, overriding royalty owners, revenue owners
 C. ☐ Application requires published notice
 D. ☐ Notification and/or concurrent approval by SLO
 E. ☐ Notification and/or concurrent approval by BLM
 F. ☐ Surface owner
 G. ☐ For all of the above, proof of notification or publication is attached, and/or,
 H. ☒ No notice required

FOR OCD ONLY

- ☐ Notice Complete
☐ Application
 Content
 Complete

- 3) **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Robyn Russell

Print or Type Name

Signature

05/10/2017

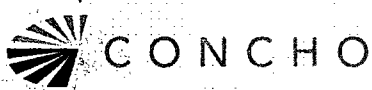
Date

(432) 685-4385

Phone Number

Russell@concho.com

e-mail Address



May 10, 2017

New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

RE: Burch Keely Unit #964H NSL

To Whom It May Concern,

COG Operating LLC respectfully requests approval of a non-standard project area for the following wells:

Burch Keely Unit #964H - API# 3001544149
SHL: 1485 FNL 215 FEL, UL H, Sec 24, T17S, R29E
BHL: 1650 FNL 10 FEL, UL H, Sec 19, T17S, R30E

This non-standard location is requested to maximize the production of this well and reduce waste of the reserves when drilling horizontally in a west/east orientation.

COG Operating LLC is the operator of the offset Yeso wells in UL D & E, Sec 20, T17S, R29E and no notification is needed.

Please contact me should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Robyn Russell", written over a horizontal line.

Robyn Russell
Regulatory Analyst
COG Operating, LLC
(432) 685-4385
Russell@concho.com

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 Road, 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, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-44149	² Pool Code 97918	³ Pool Name Burch Keely; Gloritea-Upper Yeso
⁴ Property Code 308086	⁵ Property Name BURCH KEELY UNIT	
⁷ OGRID NO 229137	⁸ Operator Name COG OPERATING, LLC	⁶ Well Number 964H
		⁹ Elevation 3621'

¹⁰ Surface Location

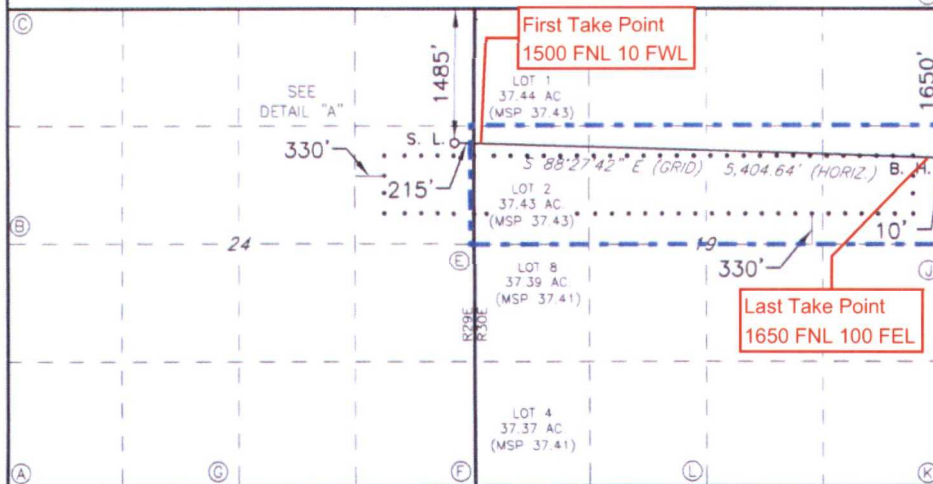
U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North South line	Feet from the	East West line	County
H	24	17S	29E		1485	NORTH	215	EAST	EDDY

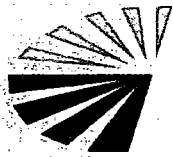
¹¹ Bottom Hole Location If Different From Surface

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North South line	Feet from the	East West line	County
H	19	17S	30E		1650	NORTH	10	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
157.43			

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

¹⁶ GEODETIC DATA NAD 83 GRID - NM EAST SURFACE LOCATION N: 663355.3 - E: 637478.9 LAT: 32.82320017° N LONG: 104.02035989° W BOTTOM HOLE N: 663210.4 - E: 642880.2 LAT: 32.82275654° N LONG: 104.00277863° W DETAIL "A" 3620.6' 600' 3624.6' 600' S. L. 3614.7' 3613.3'	CORNER DATA NAD 83 GRID - NM EAST A: FOUND 2" GALVANIZED IP N: 659552.3 - E: 632418.3 B: FOUND 3/4" IP N: 662189.9 - E: 632413.4 C: FOUND 1" STEEL PIPE N: 664828.6 - E: 632407.9 D: FOUND BRASS CAP "1914" N: 664840.4 - E: 637685.9 E: FOUND BRASS CAP "1914" N: 662203.0 - E: 637700.0 F: FOUND BRASS CAP "1914" N: 659567.0 - E: 637708.9 G: FOUND 1/2" REBAR N: 659559.8 - E: 635063.4	CORNER DATA NAD 83 GRID - NM EAST H: FOUND BRASS CAP "1997" N: 664849.8 - E: 640242.9 I: FOUND BRASS CAP "1916" N: 664850.0 - E: 642884.4 J: FOUND BRASS CAP "1990" N: 662220.5 - E: 642893.7 K: FOUND BRASS CAP "1916" N: 659581.0 - E: 642902.6 L: FOUND BRASS CAP "1916" N: 659574.2 - E: 640262.1	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling under heretofore covered by the division.  05/01/2017 Signature: Robyn M. Russell Printed Name Russell@concho.com E-mail Address
			¹⁸ 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. 6/25/13 Date of Survey Signature and Seal of Professional Surveyor  19680 Certificate Number 3/23/17 BH CHANGE



CONCHO

COG Operating LLC

Eddy County, NM (NAD-27 2015)

Burch Keely Unit #964H

API #: 30-015-44149

SHL: 1485' FNL, 215' FEL, Sec 24, T17S, R29E, Unit H

PP: 1669' FNL, 330' FWL, Sec 19, T17S, R30E, Unit E

BHL: 1650' FNL, 10' FEL, Sec 19, T17S, R30E, Unit H

Plan: Design #1

Standard Planning Report

09 May, 2017



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Burch Keely Unit #964H
Company:	COG Operating LLC	TVD Reference:	KB @ 3639.00usft (Patriot 6)
Project:	Eddy County NM (NAD-27 2015)	MD Reference:	KB @ 3639.00usft (Patriot 6)
Site:	Burch Keely Unit #964H	North Reference:	Grid
Well:	SHL 1485' FNL 215' FEL Sec 24 T17S R29E Unit H	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL 1650' FNL 10' FEL Sec 19 T17S R30E Unit H		
Design:	Design #1		

Project	Eddy County NM (NAD-27 2015)		
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	Burch Keely Unit #964H		
Site Position:	Northing:	663,291.90 usft	Latitude: 32° 49' 23.103 N
From: Map	Easting:	596,299.90 usft	Longitude: 104° 1' 11.465 W
Position Uncertainty:	0.00 usft	Slot Radius: 13.20 in	Grid Convergence: 0.17 °

Well	SHL 1485' FNL 215' FEL Sec 24 T17S R29E Unit H		
Well Position	+N/-S	0.00 usft	Latitude: 32° 49' 23.103 N
	+E/-W	0.00 usft	Longitude: 104° 1' 11.465 W
Position Uncertainty	0.00 usft	Wellhead Elevation: 0.00 usft	Ground Level: 3,621.00 usft

Wellbore	BHL 1650' FNL 10' FEL Sec 19 T17S R30E Unit H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/9/2017	7.22	60.54	48,255

Design					Design #1					
Audit Notes:										
Version:		Phase:		PLAN			Tie On Depth:		0.00	
Vertical Section:		Depth From (TVD)		+N/-S		+E/-W		Direction		
		(usft)		(usft)		(usft)		(°)		
		0.00		0.00		0.00		91.54		

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,125.00	0.00	0.00	1,125.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,301.95	3.54	175.13	1,301.84	-5.44	0.46	2.00	2.00	0.00	175.13	
4,157.93	3.54	175.13	4,152.37	-181.11	15.42	0.00	0.00	0.00	0.00	
4,334.88	0.00	0.00	4,329.21	-186.55	15.88	2.00	-2.00	0.00	180.00	
4,434.88	0.00	0.00	4,429.21	-186.55	15.88	0.00	0.00	0.00	0.00	
5,262.19	91.00	89.56	4,950.00	-182.46	545.86	11.00	11.00	10.83	89.56	
10,118.52	91.00	89.56	4,864.94	-145.00	5,401.30	0.00	0.00	0.00	0.00	PBHL (BKU#964H/L1)

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Burch-Keely Unit #964H
Company:	COG Operating LLC	TVD Reference:	KB @ 3639.00usft (Patriot 6)
Project:	Eddy County, NM (NAD-27 2015)	MD Reference:	KB @ 3639.00usft (Patriot 6)
Site:	Burch Keely Unit #964H	North Reference:	Grid
Well:	SHL 1485' FNL 215' FEL Sec 24, T17S, R29E Unit H	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL 1650' FNL 10' FEL Sec 19, T17S, R30E Unit H		
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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,125.00	0.00	0.00	1,125.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,200.00	1.50	175.13	1,199.99	-0.98	0.08	0.11	2.00	2.00	0.00
1,301.95	3.54	175.13	1,301.84	-5.44	0.46	0.61	2.00	2.00	0.00
Start 2855.97 hold									
1,400.00	3.54	175.13	1,399.70	-11.47	0.98	1.28	0.00	0.00	0.00
1,500.00	3.54	175.13	1,499.51	-17.62	1.50	1.97	0.00	0.00	0.00
1,600.00	3.54	175.13	1,599.32	-23.78	2.02	2.66	0.00	0.00	0.00
1,700.00	3.54	175.13	1,699.13	-29.93	2.55	3.35	0.00	0.00	0.00
1,800.00	3.54	175.13	1,798.94	-36.08	3.07	4.04	0.00	0.00	0.00
1,900.00	3.54	175.13	1,898.75	-42.23	3.59	4.73	0.00	0.00	0.00
2,000.00	3.54	175.13	1,998.56	-48.38	4.12	5.41	0.00	0.00	0.00
2,100.00	3.54	175.13	2,098.37	-54.53	4.64	6.10	0.00	0.00	0.00
2,200.00	3.54	175.13	2,198.17	-60.68	5.17	6.79	0.00	0.00	0.00
2,300.00	3.54	175.13	2,297.98	-66.83	5.69	7.48	0.00	0.00	0.00
2,400.00	3.54	175.13	2,397.79	-72.98	6.21	8.17	0.00	0.00	0.00
2,500.00	3.54	175.13	2,497.60	-79.13	6.74	8.86	0.00	0.00	0.00
2,600.00	3.54	175.13	2,597.41	-85.28	7.26	9.55	0.00	0.00	0.00
2,700.00	3.54	175.13	2,697.22	-91.43	7.78	10.23	0.00	0.00	0.00
2,800.00	3.54	175.13	2,797.03	-97.58	8.31	10.92	0.00	0.00	0.00
2,900.00	3.54	175.13	2,896.84	-103.73	8.83	11.61	0.00	0.00	0.00
3,000.00	3.54	175.13	2,996.65	-109.89	9.35	12.30	0.00	0.00	0.00
3,100.00	3.54	175.13	3,096.46	-116.04	9.88	12.99	0.00	0.00	0.00
3,200.00	3.54	175.13	3,196.27	-122.19	10.40	13.68	0.00	0.00	0.00
3,300.00	3.54	175.13	3,296.08	-128.34	10.92	14.36	0.00	0.00	0.00
3,400.00	3.54	175.13	3,395.89	-134.49	11.45	15.05	0.00	0.00	0.00
3,500.00	3.54	175.13	3,495.70	-140.64	11.97	15.74	0.00	0.00	0.00
3,600.00	3.54	175.13	3,595.51	-146.79	12.50	16.43	0.00	0.00	0.00
3,700.00	3.54	175.13	3,695.31	-152.94	13.02	17.12	0.00	0.00	0.00
3,800.00	3.54	175.13	3,795.12	-159.09	13.54	17.81	0.00	0.00	0.00
3,900.00	3.54	175.13	3,894.93	-165.24	14.07	18.49	0.00	0.00	0.00
4,000.00	3.54	175.13	3,994.74	-171.39	14.59	19.18	0.00	0.00	0.00
4,100.00	3.54	175.13	4,094.55	-177.54	15.11	19.87	0.00	0.00	0.00
4,157.93	3.54	175.13	4,152.37	-181.11	15.42	20.27	0.00	0.00	0.00
Start Drop -2.00									
4,200.00	2.70	175.13	4,194.38	-183.39	15.61	20.53	2.00	-2.00	0.00
4,300.00	0.70	175.13	4,294.33	-186.34	15.86	20.86	2.00	-2.00	0.00
4,334.88	0.00	0.00	4,329.21	-186.55	15.88	20.88	2.00	-2.00	0.00
Start 100.00 hold									
4,400.00	0.00	0.00	4,394.33	-186.55	15.88	20.88	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Burch Keely Unit #964H
Company:	COG Operating LLC	TVD Reference:	KB @ 3639.00usft (Patriot 6)
Project:	Eddy County, NM (NAD-27/2015)	MD Reference:	KB @ 3639.00usft (Patriot 6)
Site:	Burch Keely Unit #964H	North Reference:	Grid
Well:	SHL 1485' FNL 215' FEL Sec 24, T17S, R29E, Unit H	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL 1650' FNL 10' FEL Sec 19, T17S, R30E, Unit H		
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)	
4,434.88	0.00	0.00	4,429.21	-186.55	15.88	20.88	0.00	0.00	0.00	
Start DLS 11.00										
4,450.00	1.66	89.56	4,444.33	-186.55	16.10	21.10	11.00	11.00	0.00	
4,500.00	7.16	89.56	4,494.16	-186.52	19.95	24.94	11.00	11.00	0.00	
4,550.00	12.66	89.56	4,543.39	-186.45	28.55	33.54	11.00	11.00	0.00	
4,600.00	18.16	89.56	4,591.58	-186.35	41.83	46.82	11.00	11.00	0.00	
4,650.00	23.66	89.56	4,638.27	-186.21	59.67	64.65	11.00	11.00	0.00	
4,700.00	29.16	89.56	4,683.03	-186.04	81.91	86.87	11.00	11.00	0.00	
4,750.00	34.66	89.56	4,725.45	-185.84	108.33	113.27	11.00	11.00	0.00	
4,800.00	40.16	89.56	4,765.15	-185.60	138.69	143.62	11.00	11.00	0.00	
4,850.00	45.66	89.56	4,801.76	-185.34	172.72	177.63	11.00	11.00	0.00	
4,900.00	51.16	89.56	4,834.93	-185.05	210.10	214.99	11.00	11.00	0.00	
4,950.00	56.66	89.56	4,864.37	-184.74	250.49	255.36	11.00	11.00	0.00	
5,000.00	62.16	89.56	4,889.81	-184.41	293.52	298.36	11.00	11.00	0.00	
5,050.00	67.66	89.56	4,911.00	-184.06	338.78	343.60	11.00	11.00	0.00	
5,100.00	73.16	89.56	4,927.75	-183.70	385.87	390.66	11.00	11.00	0.00	
5,150.00	78.66	89.56	4,939.92	-183.32	434.35	439.11	11.00	11.00	0.00	
5,200.00	84.16	89.56	4,947.38	-182.94	483.77	488.50	11.00	11.00	0.00	
5,250.00	89.66	89.56	4,950.07	-182.56	533.67	538.38	11.00	11.00	0.00	
5,262.19	91.00	89.56	4,950.00	-182.46	545.86	550.56	11.00	11.00	0.00	
Start 4856.33 hold										
5,300.00	91.00	89.56	4,949.34	-182.17	583.66	588.34	0.00	0.00	0.00	
5,400.00	91.00	89.56	4,947.59	-181.40	683.65	688.27	0.00	0.00	0.00	
5,500.00	91.00	89.56	4,945.84	-180.63	783.63	788.19	0.00	0.00	0.00	
5,600.00	91.00	89.56	4,944.08	-179.86	883.61	888.12	0.00	0.00	0.00	
5,700.00	91.00	89.56	4,942.33	-179.08	983.59	988.04	0.00	0.00	0.00	
5,800.00	91.00	89.56	4,940.58	-178.31	1,083.57	1,087.97	0.00	0.00	0.00	
5,900.00	91.00	89.56	4,938.83	-177.54	1,183.55	1,187.89	0.00	0.00	0.00	
6,000.00	91.00	89.56	4,937.08	-176.77	1,283.54	1,287.82	0.00	0.00	0.00	
6,100.00	91.00	89.56	4,935.33	-176.00	1,383.52	1,387.74	0.00	0.00	0.00	
6,200.00	91.00	89.56	4,933.57	-175.23	1,483.50	1,487.67	0.00	0.00	0.00	
6,300.00	91.00	89.56	4,931.82	-174.46	1,583.48	1,587.59	0.00	0.00	0.00	
6,400.00	91.00	89.56	4,930.07	-173.68	1,683.46	1,687.52	0.00	0.00	0.00	
6,500.00	91.00	89.56	4,928.32	-172.91	1,783.44	1,787.44	0.00	0.00	0.00	
6,600.00	91.00	89.56	4,926.57	-172.14	1,883.43	1,887.37	0.00	0.00	0.00	
6,700.00	91.00	89.56	4,924.82	-171.37	1,983.41	1,987.29	0.00	0.00	0.00	
6,800.00	91.00	89.56	4,923.07	-170.60	2,083.39	2,087.22	0.00	0.00	0.00	
6,900.00	91.00	89.56	4,921.31	-169.83	2,183.37	2,187.14	0.00	0.00	0.00	
7,000.00	91.00	89.56	4,919.56	-169.06	2,283.35	2,287.07	0.00	0.00	0.00	
7,100.00	91.00	89.56	4,917.81	-168.28	2,383.33	2,386.99	0.00	0.00	0.00	
7,200.00	91.00	89.56	4,916.06	-167.51	2,483.32	2,486.92	0.00	0.00	0.00	
7,300.00	91.00	89.56	4,914.31	-166.74	2,583.30	2,586.84	0.00	0.00	0.00	
7,400.00	91.00	89.56	4,912.56	-165.97	2,683.28	2,686.77	0.00	0.00	0.00	
7,500.00	91.00	89.56	4,910.80	-165.20	2,783.26	2,786.69	0.00	0.00	0.00	
7,600.00	91.00	89.56	4,909.05	-164.43	2,883.24	2,886.62	0.00	0.00	0.00	
7,700.00	91.00	89.56	4,907.30	-163.66	2,983.22	2,986.54	0.00	0.00	0.00	
7,800.00	91.00	89.56	4,905.55	-162.88	3,083.21	3,086.47	0.00	0.00	0.00	
7,900.00	91.00	89.56	4,903.80	-162.11	3,183.19	3,186.39	0.00	0.00	0.00	
8,000.00	91.00	89.56	4,902.05	-161.34	3,283.17	3,286.32	0.00	0.00	0.00	
8,100.00	91.00	89.56	4,900.30	-160.57	3,383.15	3,386.24	0.00	0.00	0.00	
8,200.00	91.00	89.56	4,898.54	-159.80	3,483.13	3,486.17	0.00	0.00	0.00	
8,300.00	91.00	89.56	4,896.79	-159.03	3,583.11	3,586.09	0.00	0.00	0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Burch Keely Unit #964H
Company:	COG Operating LLC	TVD Reference:	KB @ 3639.00usft (Patriot 6)
Project:	Eddy County, NM (NAD-27 2015)	MD Reference:	KB @ 3639.00usft (Patriot 6)
Site:	Burch Keely Unit #964H	North Reference:	Grid
Well:	SHL 1485' FNL 215' FEL Sec 24 T17S R29E Unit H	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL 1650' FNL 10' FEL Sec 19 T17S R30E Unit H		
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)
8,400.00	91.00	89.56	4,895.04	-158.26	3,683.10	3,686.02	0.00	0.00	0.00
8,500.00	91.00	89.56	4,893.29	-157.49	3,783.08	3,785.94	0.00	0.00	0.00
8,600.00	91.00	89.56	4,891.54	-156.71	3,883.06	3,885.87	0.00	0.00	0.00
8,700.00	91.00	89.56	4,889.79	-155.94	3,983.04	3,985.79	0.00	0.00	0.00
8,800.00	91.00	89.56	4,888.03	-155.17	4,083.02	4,085.72	0.00	0.00	0.00
8,900.00	91.00	89.56	4,886.28	-154.40	4,183.00	4,185.64	0.00	0.00	0.00
9,000.00	91.00	89.56	4,884.53	-153.63	4,282.99	4,285.57	0.00	0.00	0.00
9,100.00	91.00	89.56	4,882.78	-152.86	4,382.97	4,385.49	0.00	0.00	0.00
9,200.00	91.00	89.56	4,881.03	-152.09	4,482.95	4,485.42	0.00	0.00	0.00
9,300.00	91.00	89.56	4,879.28	-151.31	4,582.93	4,585.34	0.00	0.00	0.00
9,400.00	91.00	89.56	4,877.53	-150.54	4,682.91	4,685.27	0.00	0.00	0.00
9,500.00	91.00	89.56	4,875.77	-149.77	4,782.89	4,785.19	0.00	0.00	0.00
9,600.00	91.00	89.56	4,874.02	-149.00	4,882.88	4,885.12	0.00	0.00	0.00
9,700.00	91.00	89.56	4,872.27	-148.23	4,982.86	4,985.04	0.00	0.00	0.00
9,800.00	91.00	89.56	4,870.52	-147.46	5,082.84	5,084.97	0.00	0.00	0.00
9,900.00	91.00	89.56	4,868.77	-146.69	5,182.82	5,184.89	0.00	0.00	0.00
10,000.00	91.00	89.56	4,867.02	-145.91	5,282.80	5,284.82	0.00	0.00	0.00
10,100.00	91.00	89.56	4,865.26	-145.14	5,382.79	5,384.74	0.00	0.00	0.00
10,118.52	91.00	89.56	4,864.94	-145.00	5,401.30	5,403.25	0.00	0.00	0.00
TD at 10118.52									

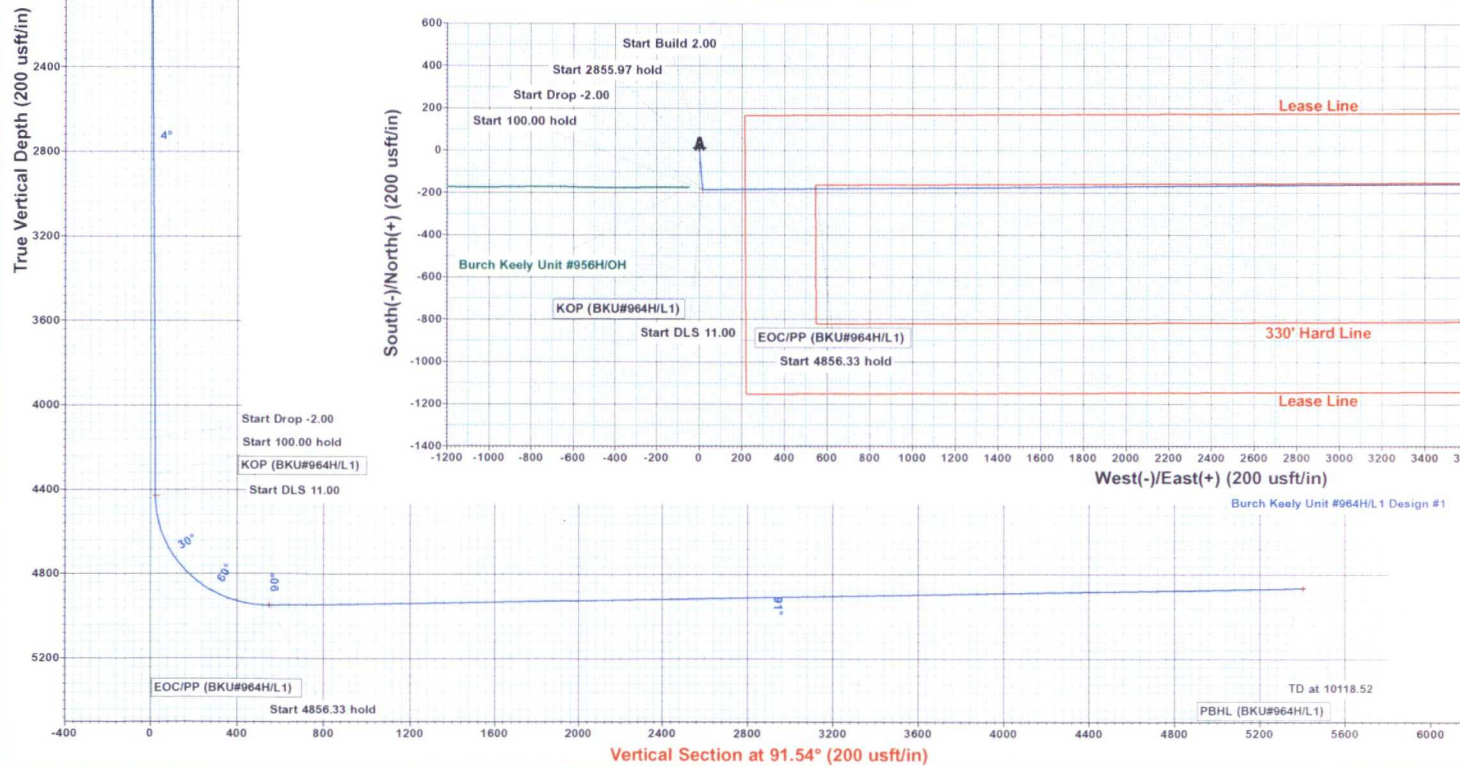
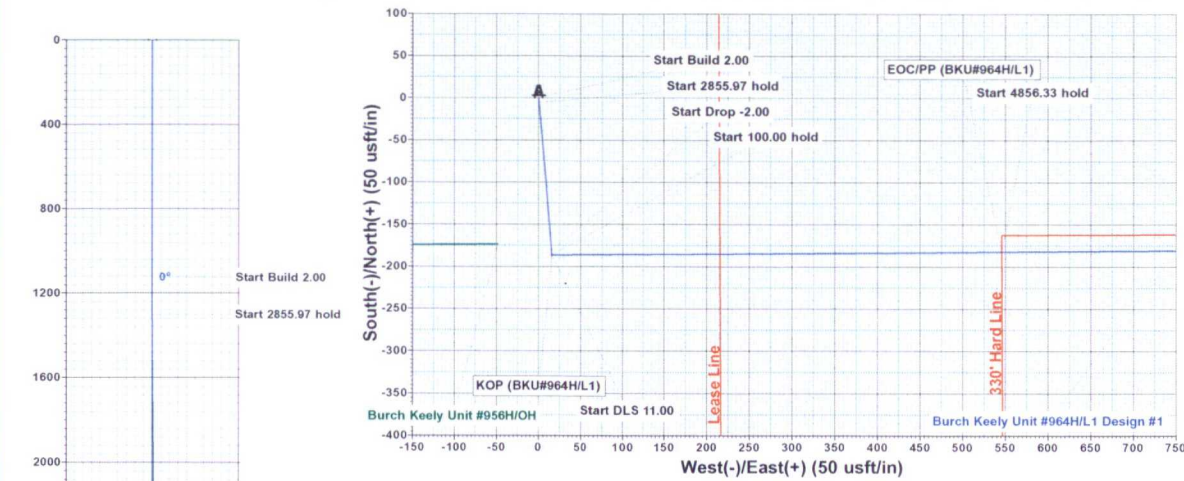
Design Targets									
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Max Dev 97.05' @ 4818	0.00	0.00	0.00	-146.63	5,081.19	663,145.27	601,381.09	32° 49' 21.499 N	104° 0' 11.924 W
- plan misses target center by 4869.80usft at 9883.67usft MD (4869.05 TVD, -146.81 N, 5166.49 E)									
- Circle (radius 97.05)									
KOP (BKU#964H/L1)	0.00	0.00	4,429.21	-186.55	15.88	663,105.35	596,315.78	32° 49' 21.256 N	104° 1' 11.285 W
- plan hits target center									
- Point									
PBHL (BKU#964H/L1)	0.00	0.00	4,864.94	-145.00	5,401.30	663,146.90	601,701.20	32° 49' 21.505 N	104° 0' 8.173 W
- plan hits target center									
- Point									
EOC/PP (BKU#964H/L1)	0.00	0.00	4,950.00	-182.46	545.86	663,109.44	596,845.76	32° 49' 21.281 N	104° 1' 5.074 W
- plan hits target center									
- Point									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Burch Keely Unit #964H
Company:	COG Operating LLC	TVD Reference:	KB @ 3639.00usft (Patriot 6)
Project:	Eddy County NM (NAD-27 2015)	MD Reference:	KB @ 3639.00usft (Patriot 6)
Site:	Burch Keely Unit #964H	North Reference:	Grid
Well:	SHL 1485' FNL 215' FEL Sec 24 T17S R29E Unit H	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL 1650' FNL 10' FEL Sec 19 T17S R30E Unit H		
Design:	Design #1		

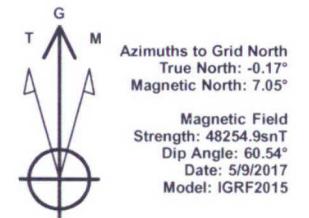
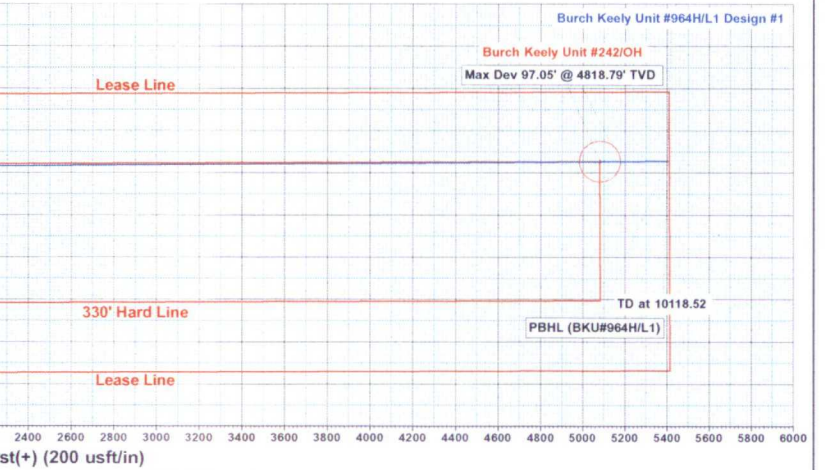
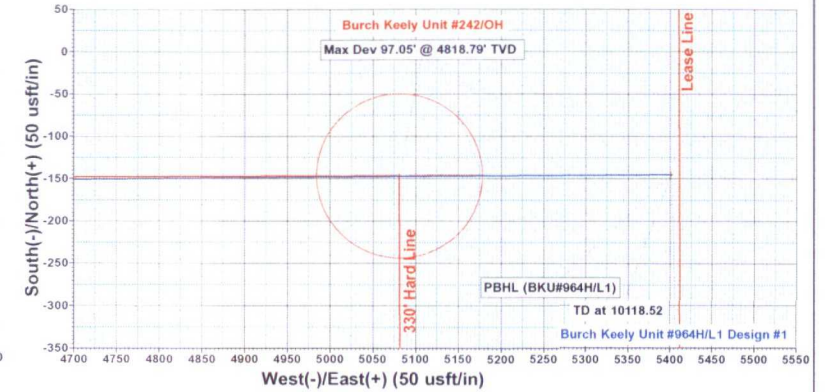
Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,125.00	1,125.00	0.00	0.00	Start Build 2.00
1,301.95	1,301.84	-5.44	0.46	Start 2855.97 hold
4,157.93	4,152.37	-181.11	15.42	Start Drop -2.00
4,334.88	4,329.21	-186.55	15.88	Start 100.00 hold
4,434.88	4,429.21	-186.55	15.88	Start DLS 11.00
5,262.19	4,950.00	-182.46	545.86	Start 4856.33 hold
10,118.52	4,864.94	-145.00	5,401.30	TD at 10118.52



COG Operating LLC
Project: Eddy County, NM (NAD-27 2015)
Site: Burch Keely Unit #964H
Well: SHL: 1485' FNL, 215' FEL, Sec 24, T17S, R29E, Unit H
Wellbore: BHL: 1650' FNL, 10' FEL, Sec 19, T17S, R30E, Unit H
Plan: Design #1 (SHL: 1485' FNL, 215' FEL, Sec 24, T17S, R29E, Unit H/BHL: 1650' FNL, 10' FEL, Sec 19, T17S, R30E, Unit H)



Section Details										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1125.00	0.00	0.00	1125.00	0.00	0.00	0.00	0.00	0.00	
3	1301.95	3.54	175.13	1301.84	-5.44	0.46	2.00	175.13	0.61	
4	4157.93	3.54	175.13	4152.37	-181.11	15.42	0.00	0.00	20.27	
5	4334.88	0.00	0.00	4329.21	-186.55	15.88	2.00	180.00	20.88	
6	4434.88	0.00	0.00	4429.21	-186.55	15.88	0.00	0.00	20.88	
7	5262.19	91.00	89.56	4950.00	-182.46	545.86	11.00	89.56	550.56	
8	10118.52	91.00	89.56	4864.94	-145.00	5401.30	0.00	0.00	5403.25	PBHL (BKU#964H/L1)



Terra Directional Services LLC
3705 South County Road 1210, Midland, TX 79706
Phone: 432-618-1210

Ground Elevation:: 3621.00
RKB Elevation:: KB @ 3639.00usft (Patriot 6)

Northing 663291.90 Easting 596299.90 Latitude 32° 49' 23.103 N Longitude 104° 1' 11.465 W

PROJECT DETAILS: Eddy County, NM (NAD-27 2015)
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



C O N C H O

COG Operating LLC

Eddy County, NM (NAD-27 2015)

Burch Keely Unit #964H

API #: 30-015-44149

SHL: 1485' FNL, 215' FEL, Sec 24, T17S, R29E, Unit H

PP: 1669' FNL, 330' FWL, Sec 19, T17S, R30E, Unit E

BHL: 1650' FNL, 10' FEL, Sec 19, T17S, R30E, Unit H

Design #1

Anticollision Report

09 May, 2017





TDS
Anticollision Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Burch Keely Unit #964H:
Project:	Eddy County, NM (NAD-27 2015)	TVD Reference:	KB @ 3639.00usft (Patriot 6)
Reference Site:	Burch Keely Unit #964H	MD Reference:	KB @ 3639.00usft (Patriot 6)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	SHL: 1485' FNL: 215' FEL: Sec 24, T17S, R29E, Unit H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	BHL: 1650' FNL: 10' FEL: Sec 19, T17S, R30E, Unit H	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum separation factor of 4.00	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date 5/9/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	10,118.52	Design #1 (BHL: 1650' FNL, 10' FEL Sec	MWD	MWD - Standard

Summary						
Site Name	Reference	Offset	Distance		Separation	Warning
	Measured	Measured	Between	Between		
Offset Well - Wellbore - Design	Depth	Depth	Centres	Ellipses	Factor	
	(usft)	(usft)	(usft)	(usft)		
Eddy County Offset Wells						
Burch Keely Unit #242 - OH - OH	9,896.18	4,820.00	43.15	-0.81	0.982	Level 1, CC
Burch Keely Unit #242 - OH - OH	9,900.00	4,820.00	43.32	-5.59	0.886	Level 1, ES, SF
Burch Keely Unit #956H - OH - OH						Out of range

Offset Design	Eddy County Offset Wells - Burch Keely Unit #242 - OH - OH												Offset Site Error	0.00 usft
Survey Program:	418-INC												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,500.00	4,875.77	4,820.00	4,818.79	130.21	319.51	-1.09	-145.90	5,178.24	398.52	290.79	107.73	3.699		
9,600.00	4,874.02	4,820.00	4,818.79	132.95	319.51	-1.09	-145.90	5,178.24	299.31	191.44	107.87	2.775		
9,700.00	4,872.27	4,820.00	4,818.79	135.70	319.51	-1.09	-145.90	5,178.24	200.87	92.89	107.98	1.860		
9,800.00	4,870.52	4,820.00	4,818.79	138.45	319.51	-1.09	-145.90	5,178.24	105.42	-1.12	106.53	0.990	Level 1	
9,896.18	4,868.83	4,820.00	4,818.79	141.10	319.51	-1.09	-145.90	5,178.24	43.15	-0.81	43.96	0.982	Level 1, CC	
9,900.00	4,868.77	4,820.00	4,818.79	141.20	319.51	-1.09	-145.90	5,178.24	43.32	-5.59	48.91	0.886	Level 1, ES, SF	
10,000.00	4,867.02	4,820.00	4,818.79	143.95	319.51	-1.09	-145.90	5,178.24	112.43	7.03	105.40	1.067	Level 2	
10,100.00	4,865.26	4,820.00	4,818.79	146.70	319.51	-1.09	-145.90	5,178.24	208.34	101.65	106.68	1.953		
10,119.00	4,864.93	4,820.00	4,818.79	147.22	319.51	-1.09	-145.90	5,178.24	226.96	119.95	107.01	2.121		

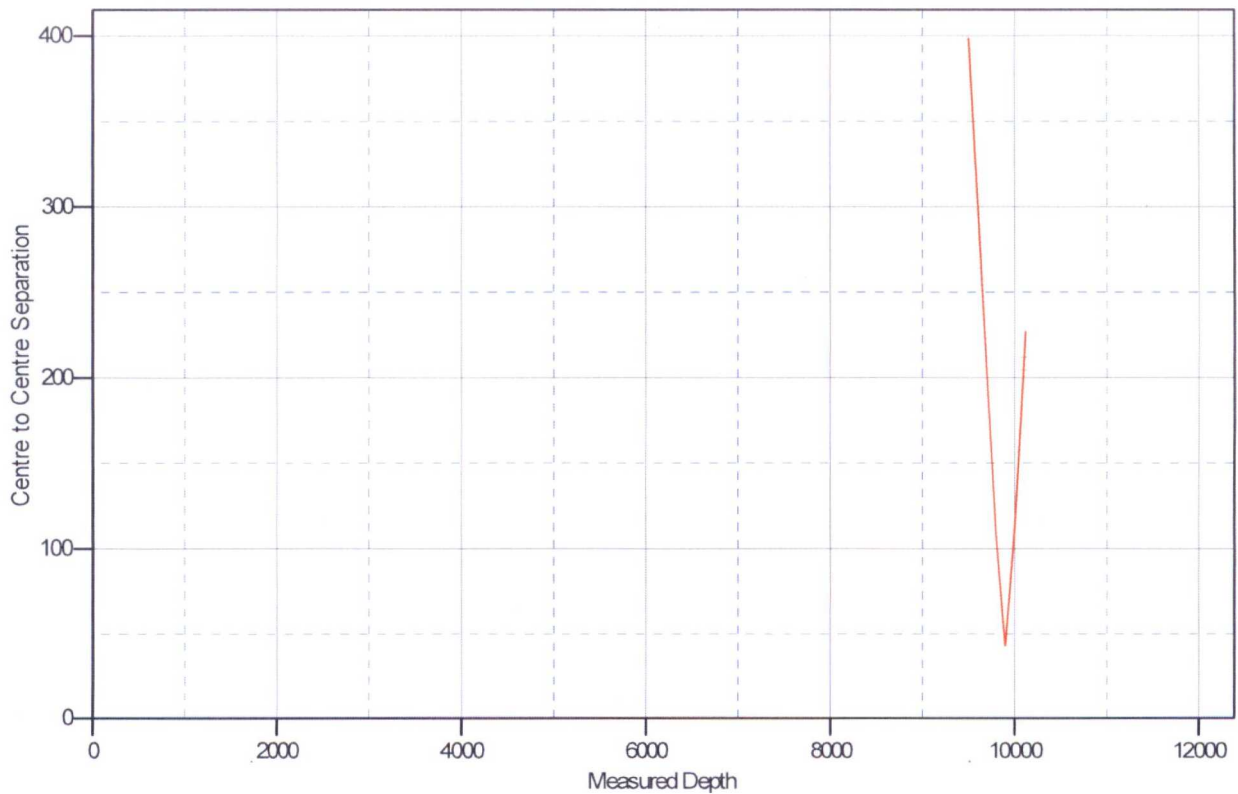
Company: COG Operating LLC
Project: Eddy County, NM (NAD-27 2015)
Reference Site: Burch Keely Unit #964H
Site Error: 0.00 usft
Reference Well: SHL: 1485' FNL, 215' FEL, Sec 24, T17S, R29E, Unit H
Well Error: 0.00 usft
Reference Wellbore: BHL: 1650' FNL, 10' FEL, Sec 19, T17S, R30E, Unit H
Reference Design: Design #1

Local Co-ordinate Reference: Site Burch Keely Unit #964H
TVD Reference: KB @ 3639.00usft (Patriot 6)
MD Reference: KB @ 3639.00usft (Patriot 6)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB @ 3639.00usft (Patriot 6)
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Burch Keely Unit #964H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.17°

Ladder Plot



LEGEND

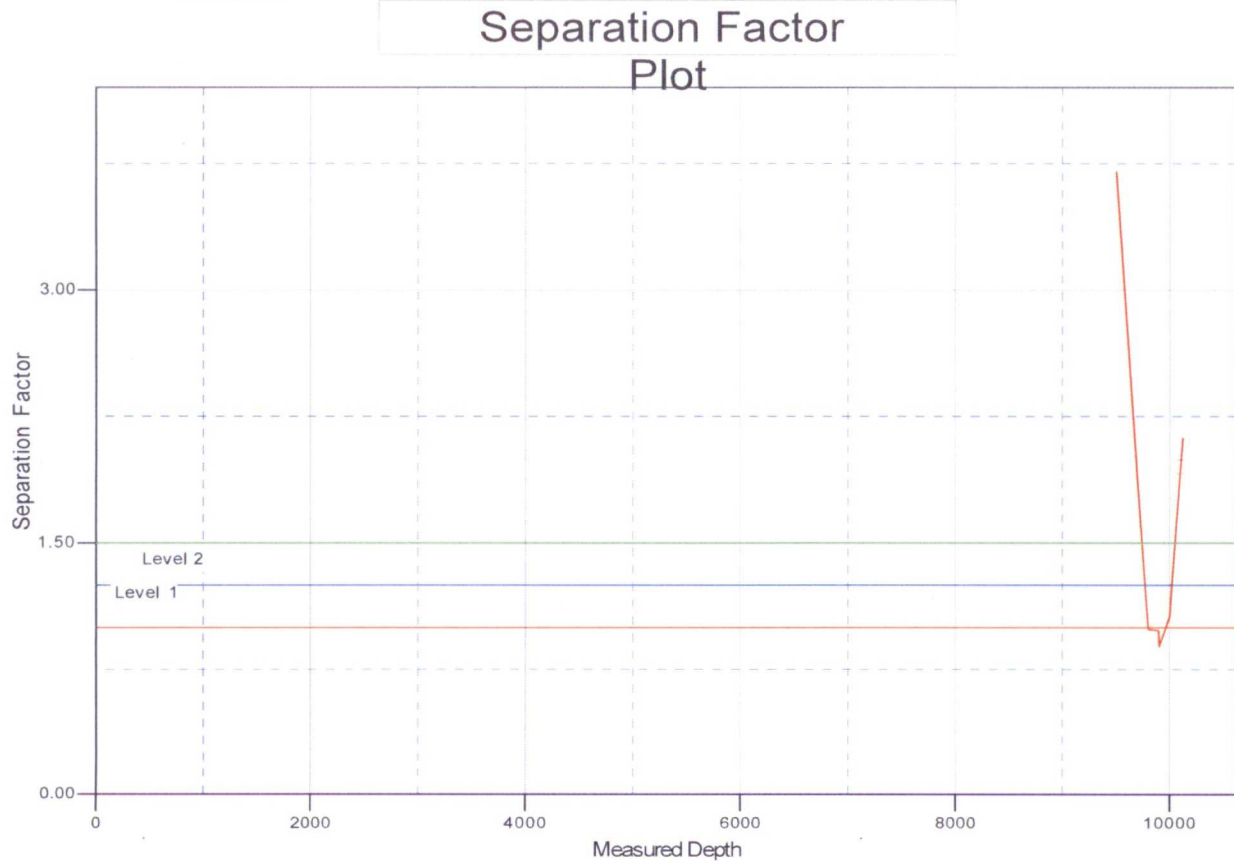
— Burch Keely Unit #242, OH, OHV0

Company: COG Operating LLC
Project: Eddy County, NM (NAD-27 2015)
Reference Site: Burch Keely Unit #964H
Site Error: 0.00 usft
Reference Well: SHL: 1485' FNL, 215' FEL, Sec 24, T17S, R29E, Unit H
Well Error: 0.00 usft
Reference Wellbore: BHL: 1650' FNL, 10' FEL, Sec 19, T17S, R30E, Unit H
Reference Design: Design #1

Local Co-ordinate Reference: Site Burch Keely Unit #964H
TVD Reference: KB @ 3639.00usft (Patriot 6)
MD Reference: KB @ 3639.00usft (Patriot 6)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB @ 3639.00usft (Patriot 6)
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

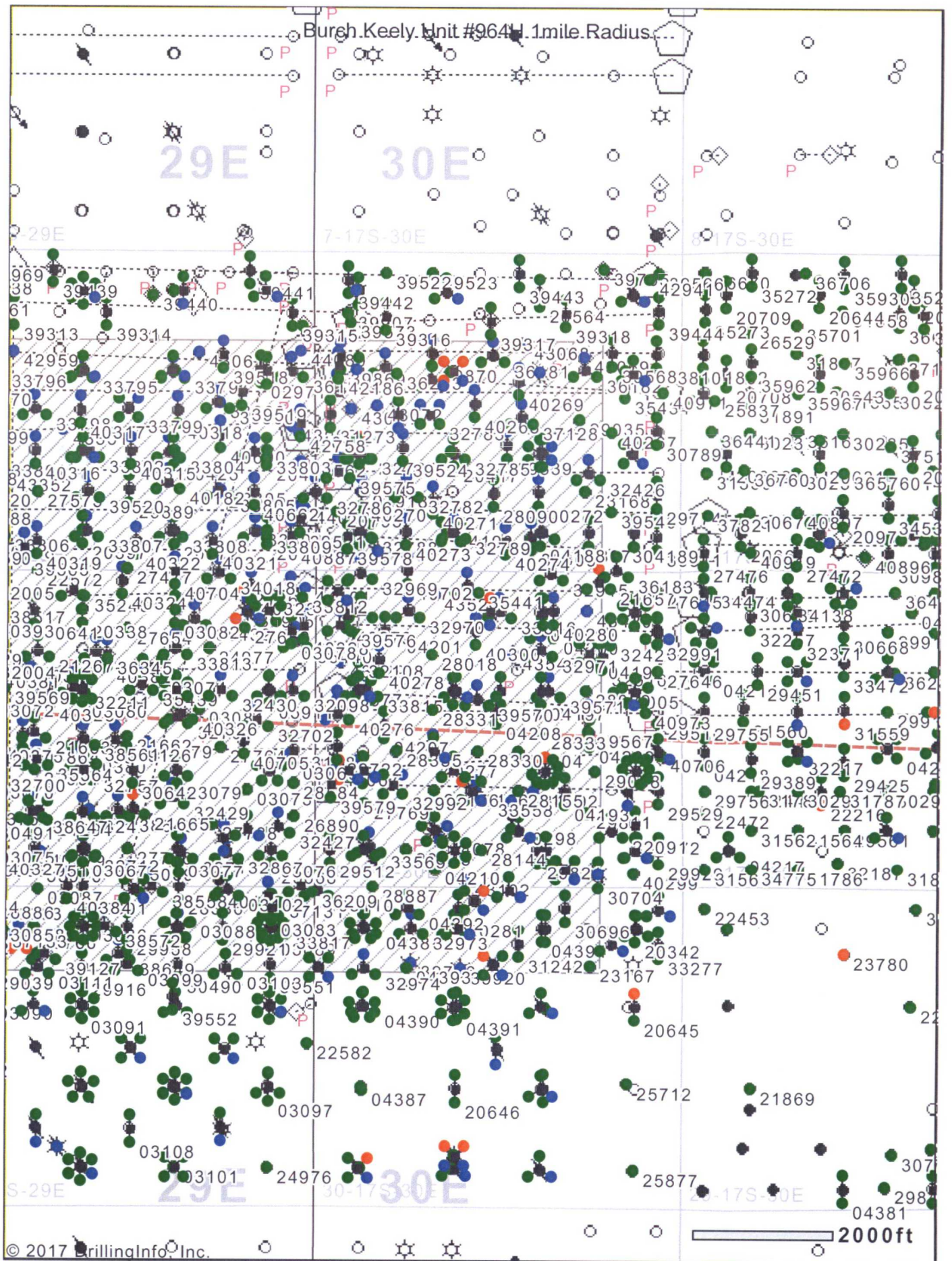
Coordinates are relative to: Burch Keely Unit #964H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.17°



LEGEND

 Burch Keely Unit #242, OH, OHV0

Burch Keely Unit #964H 1mile Radius Map



Burch Keely Unit #964H 1mile Radius List

API#	Operator	County	Legal	Lease	Well#	Date Issued	Permitted Depth	Permit TVD	Total Depth	Well Type	Well Status	Target Formation
30-015-32211	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	878	02/19/02			4,705	O	Inactive	
30-015-32426	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	887	08/30/02	4,800		4,825	O	Inactive	
30-015-32427	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	888	08/30/02	4,800		4,785	O	Inactive	
30-015-32428	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	889	08/30/02	4,800		4,755	O	Inactive	
30-015-32429	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	890	08/30/02	4,800		4,765	O	Inactive	
30-015-32430	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	891	08/30/02	4,800		4,750	O	Inactive	
30-015-32701	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	919	03/24/03	4,800		4,712	O	Inactive	
30-015-32702	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	914	03/24/03	4,800		4,765	O	Inactive	
30-015-32712	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	917	03/25/03	4,800		4,760	O	Inactive	
30-015-32713	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	920	03/25/03	4,800		4,740	O	Inactive	
30-015-32757	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	916	03/24/03	4,800		4,670	O	Inactive	
30-015-32700	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	339	03/24/03			4,650	O	Inactive	
30-015-32782	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	810	05/06/03	4,800		4,715	O	Inactive	
30-015-32783	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	926	05/06/03	4,800		4,710	O	Inactive	
30-015-32784	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	928	05/06/03	4,800		4,710	O	Inactive	
30-015-32785	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	929	05/06/03	4,800		4,710	O	Inactive	
30-015-32786	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	930	05/06/03	4,800		4,662	O	Inactive	
30-015-32788	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	932	05/06/03	4,800		4,719	O	Inactive	
30-015-32789	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	933	05/06/03	4,800		4,740	O	Inactive	
30-015-32787	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	931	05/06/03	4,800		4,730	O	Inactive	
30-015-32811	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	926	05/06/03	4,800		4,800	O	Unknown	
30-015-32867	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	903	06/26/03	4,800		4,860	O	Inactive	
30-015-32915	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	937	06/25/03	4,800		4,720	O	Inactive	
30-015-32969	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	934	08/26/03	4,800		4,728	O	Inactive	
30-015-32970	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	935	08/26/03	4,800		4,730	O	Inactive	
30-015-32971	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	938	08/26/03	4,800		4,836	O	Inactive	
30-015-32973	MARBOB ENERGY CORP.	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	945	08/25/03	4,800		5,000	O	Inactive	
30-015-32974	MARBOB ENERGY CORP.	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	947	08/25/03	4,800		4,950	G	Inactive	
30-015-32098	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	884	11/09/01	4,800		4,664	O	Inactive	
30-015-32992	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	940	09/09/03	4,800		4,750	G	Inactive	
30-015-04188	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	28	09/01/73	0		0	O	Temporarily Abandoned	
30-015-04190	MARBOB ENERGY CORP.	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	29	11/01/49	0		0	O	Temporarily Abandoned	
30-015-04204	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	95	08/30/96	0		0	I	Inactive	
30-015-04209	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	97	08/08/96	0		0	I	Temporarily Abandoned	
30-015-04210	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	104	08/31/99	0		0	I	Inactive	
30-015-04212	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	102	08/29/96	0		0	O	Plugged and Abandoned	
30-015-04187	CONOCOPHILLIPS COMPANY	EDDY	S:18, T:17S, R:30E	GRAYBURG DEEP UNIT	1	01/01/03	0		0	G	Inactive	
30-015-04388	MARBOB ENERGY CORP.	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	142	02/01/00			4,900	O	Inactive	
30-015-04394	MARBOB ENERGY CORP.	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	146	02/17/00	0		0	I	Inactive	
30-015-20281	MARBOB ENERGY CORP.	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	241	07/01/94			6,900	O	Inactive	
30-015-20794	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	101	08/01/96	0		0	O	Plugged and Abandoned	
30-015-21265	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	49	11/01/75	0		3,550	O	Inactive	
30-015-21267	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	65	09/01/74	0		3,425	O	Inactive	
30-015-21268	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	51	09/01/74	0		3,300	O	Inactive	
30-015-21294	MARBOB ENERGY CORP.	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	111	12/01/74	0		0	O	Inactive	
30-015-21657	MARBOB ENERGY CORP.	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	55	03/01/76	0		3,625	O	Inactive	

Burch Keely Unit #964H 1mile Radius List

API#	Operator	County	Legal	Lease	Well#	Date Issued	Permitted Depth	Permit TVD	Total Depth	Well Type	Well Status	Target Formation
30-015-21658	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	22	03/01/76	0		3,300	O	Plugged and Abandoned	
30-015-21659	MARBOB ENERGY CORP	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	145	03/01/76	0		3,295	O	Plugged and Abandoned	
30-015-21662	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	87	12/01/75	0		3,550	O	Inactive	
30-015-21663	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	85	12/01/75	0		0	O	Inactive	
30-015-21665	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	88	01/01/76	0		3,570	O	Inactive	
30-015-22092	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	94	08/30/96	0		3,600	G	Plugged and Abandoned	
30-015-22572	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	45	09/01/78	0		0	O	Inactive	
30-015-23167	MARBOB ENERGY CORP	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	147	03/01/81	0		3,400	O	Inactive	
30-015-23168	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	25	03/01/81	0		3,600	O	Inactive	
30-015-24977	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	48	08/01/85			3,400	O	Inactive	
30-015-25668	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	108	03/01/89			6,900	O	Inactive	
30-015-25796	CONOCOPHILLIPS COMPANY	EDDY	S:19, T:17S, R:30E	GRAYBURG DEEP UNIT	10	01/01/03			11,240	G	Plugged and Abandoned	
30-015-26890	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	106	03/01/92			3,645	O	Inactive	
30-015-27477	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	210	06/13/94			4,600	O	Inactive	
30-015-27573	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	215	03/02/94			4,600	O	Inactive	
30-015-27652	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	234	05/01/94			4,650	O	Inactive	
30-015-27653	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	KEELY A FED	34	04/14/97	0		0	PO	Unknown	
30-015-27654	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	261	05/01/94			4,622	O	Inactive	
30-015-27655	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	KEELY A FED	36	02/10/99	0		0	PO	Unknown	
30-015-27656	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	KEELY C FEDERAL	63	08/26/93	0		4,600	PO	Unknown	
30-015-27672	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	KEELY A FED	33	11/04/95	0		0	PO	Unknown	
30-015-27726	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	219	05/06/94			4,800	O	Inactive	
30-015-27764	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	221	07/08/94			4,650	O	Inactive	
30-015-27769	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	220	07/08/94			4,600	O	Inactive	
30-015-27788	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	222	11/24/93	0		4,600	O	Inactive	
30-015-27988	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	806	05/31/96			8,450	X	Cancelled	
30-015-27991	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	230	05/31/94			4,625	O	Inactive	
30-015-28017	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	813	06/21/96				PO	Unknown	
30-015-28018	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	239	06/21/94			4,808	O	Inactive	
30-015-28019	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	812	06/21/96				PO	Unknown	
30-015-28089	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	244	08/25/94			4,740	O	Inactive	
30-015-28091	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	810	02/10/99			4,715	X	Cancelled	
30-015-28144	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	250	09/30/94			4,831	O	Inactive	
30-015-28145	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	231	01/01/96			4,805	O	Inactive	
30-015-28155	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	229	01/01/96			4,800	O	Inactive	
30-015-28156	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	245	10/05/94			4,775	O	Inactive	
30-015-28330	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	246	03/10/95			4,715	O	Inactive	
30-015-28331	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	238	01/22/96			4,725	O	Inactive	
30-015-28332	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH AA FEDERAL	42	01/31/95				PO	Unknown	
30-015-28333	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	262	08/06/96			4,740	O	Inactive	
30-015-28334	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	840	03/04/99			4,758	PO	Unknown	
30-015-28335	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	247	04/27/95			4,715	O	Inactive	
30-015-28336	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	263	01/22/96			4,795	O	Inactive	
30-015-28584	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	235	06/12/95			4,650	O	Inactive	
30-015-28886	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	266	03/25/96			4,810	O	Inactive	
30-015-28887	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	256	03/25/96			4,845	O	Inactive	
30-015-28913	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	236	03/26/96			4,786	O	Inactive	

Burch Keely Unit #964H 1mile Radius List

API#	Operator	County	Legal	Lease	Well#	Date Issued	Permitted Depth	Permit TVD	Total Depth	Well Type	Well Status	Target Formation
30-015-29035	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	257	07/03/96			4,875	O	Inactive	
30-015-29038	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	265	07/09/96			4,787	O	Inactive	
30-015-29039	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	259	07/09/96			4,845	O	Inactive	
30-015-29301	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	271	06/23/97			4,775	O	Inactive	
30-015-29457	EOG RESOURCES INC.	EDDY	S:13, T:17S, R:29E	GRAYBURG DEEP UNIT	17	07/30/98				PG	Unknown	
30-015-29494	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	841	03/04/99			4,970	X	Cancelled	
30-015-29511	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	281	04/09/97			4,770	O	Inactive	
30-015-29512	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	276	04/09/97			4,775	O	Inactive	
30-015-29528	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	849	03/04/99				X	Cancelled	
30-015-29722	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	282	07/09/97			4,796	O	Inactive	
30-015-29811	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	274	08/20/97			4,751	O	Inactive	
30-015-29821	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	279	08/21/97			4,816	O	Inactive	
30-015-29889	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	286	10/10/97			4,606	O	Inactive	
30-015-29916	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	277	11/07/97			4,856	O	Inactive	
30-015-29921	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	280	11/06/97			4,800	O	Inactive	
30-015-29958	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	284	11/18/97			4,806	O	Inactive	
30-015-30490	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	294	11/04/98			4,920	O	Inactive	
30-015-30491	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	305	11/04/98			4,675	O	Inactive	
30-015-30492	MARBOB ENERGY CORP	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	291	11/04/98			4,850	O	Inactive	
30-015-30633	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	304	04/21/99			4,758	O	Inactive	
30-015-30641	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	311	04/26/99			4,608	O	Inactive	
30-015-30642	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	315	04/23/99			4,670	O	Inactive	
30-015-30646	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	296	05/06/99			5,036	G	Plugged and Abandoned	
30-015-30695	MARBOB ENERGY CORP	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	867	08/25/99				PO	Unknown	
30-015-30696	MARBOB ENERGY CORP	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	301	07/08/99			4,965	O	Inactive	
30-015-30704	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	296Y	07/22/99			4,049	O	Inactive	
30-015-30731	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	297	08/20/99			4,730	O	Inactive	
30-015-31242	MARBOB ENERGY CORP	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	309	07/06/00			4,985	O	Inactive	
30-015-31273	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	313	07/27/00			4,675	O	Inactive	
30-015-31526	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	314	09/07/01			4,671	G	Inactive	
30-015-32004	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	316	10/03/01			4,640	O	Inactive	
30-015-32005	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	317	10/03/01			4,580	O	Inactive	
30-015-32108	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	322	11/09/01			4,737	O	Inactive	
30-015-03083	CONOCOPHILLIPS COMPANY	EDDY	S:25, T:17S, R:29E	GRAYBURG DEEP UNIT	5	01/01/03	0		7,226	O	Inactive	
30-015-29766	CONOCOPHILLIPS COMPANY	EDDY	S:25, T:17S, R:29E	GRAYBURG DEEP UNIT	14	01/01/03			11,400	G	Inactive	
30-015-30300	CONOCOPHILLIPS COMPANY	EDDY	S:30, T:17S, R:30E	GRAYBURG DEEP UNIT	15	01/01/03			11,400	PG	Shut-in	
30-015-21266	STEVENS OPERATING CORPORATION or HANAGAN PETROLEUM CORP	EDDY	S:13, T:17S, R:29E	PRE-ONGARD WELL	24	01/01/70				PO	Unknown	
30-015-21269	STEVENS OPERATING CORPORATION or HANAGAN PETROLEUM CORP	EDDY	S:19, T:17S, R:30E	PRE-ONGARD WELL	30	01/01/70				PO	Unknown	
30-015-28090	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	347	05/06/03			4,705	O	Inactive	
30-015-32785	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	351	07/28/03			4,710	O	Inactive	
30-015-32786	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	352	07/29/03			4,662	O	Inactive	
30-015-32787	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	353	07/29/03			4,730	O	Inactive	
30-015-32788	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	354	07/29/03			4,719	O	Inactive	
30-015-32789	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	355	07/29/03			4,740	O	Inactive	
30-015-32915	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	357	08/19/03			4,720	O	Inactive	
30-015-32782	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	346	07/01/03			4,715	O	Inactive	

Burch Keely Unit #964H 1mile Radius List

API#	Operator	County	Legal	Lease	Well#	Date Issued	Permitted Depth	Permit TVD	Total Depth	Well Type	Well Status	Target Formation
30-015-33343	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	922	03/25/04	4,800		4,920	G	Inactive	
30-015-33558	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	941	07/27/04	4,800		4,850	G	Inactive	
30-015-33569	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	3610	08/02/04	4,800		4,832	G	Inactive	
30-015-33795	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	951	09/13/04	4,800		4,690	G	Inactive	
30-015-33796	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	950	09/15/04	4,800		4,650	G	Inactive	
30-015-33797	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	952	09/15/04	4,800		4,660	G	Inactive	
30-015-33798	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	953	09/15/04	4,800		4,590	G	Inactive	
30-015-33799	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	954	09/15/04	4,800		4,630	G	Inactive	
30-015-33800	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	955	09/15/04	4,800		4,577	G	Inactive	
30-015-33801	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	956	09/13/04	4,800		4,560	G	Inactive	
30-015-33802	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	957	09/13/04	4,800		4,650	G	Inactive	
30-015-33803	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	959	09/15/04	4,800		4,650	G	Inactive	
30-015-33804	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	958	09/15/04	4,800		4,650	G	Inactive	
30-015-33805	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	960	09/15/04	4,800		4,630	G	Inactive	
30-015-33806	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	961	09/15/04	4,800		4,580	G	Inactive	
30-015-33807	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	962	09/13/04	4,800		4,670	G	Inactive	
30-015-33808	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	963	09/15/04	4,800		4,650	G	Inactive	
30-015-33809	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	964	09/13/04	4,800		4,620	G	Inactive	
30-015-33815	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	973	09/15/04	4,800		4,691	G	Inactive	
30-015-33816	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	974	09/15/04	4,800		4,710	G	Inactive	
30-015-33817	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	975	09/13/04	4,800		4,860	G	Inactive	
30-015-33812	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	968	09/13/04	4,800		4,640	G	Inactive	
30-015-33813	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	970	09/15/04	4,800		4,680	G	Inactive	
30-015-32098	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	321	10/31/01			4,664	O	Inactive	
30-015-32211	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	323	01/31/02			4,705	O	Inactive	
30-015-32426	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	329	07/31/02			4,825	O	Inactive	
30-015-32427	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	324	07/31/02			4,785	O	Inactive	
30-015-32428	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	325	07/31/02			4,755	O	Inactive	
30-015-32429	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	326	07/31/02			4,765	O	Inactive	
30-015-32430	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	327	07/31/02			4,750	O	Inactive	
30-015-32701	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	335	02/28/03			4,712	O	Inactive	
30-015-32702	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	334	02/28/03			4,765	O	Inactive	
30-015-32712	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	344	02/28/03			4,760	O	Inactive	
30-015-32713	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	345	02/28/03			4,740	O	Inactive	
30-015-32757	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	340	02/28/03			4,670	O	Inactive	
30-015-32700	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	339	02/28/03			4,650	O	Inactive	
30-015-32784	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	350	04/30/03			4,710	O	Inactive	
30-015-32867	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	365	05/31/03			4,860	O	Inactive	
30-015-32971	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	362	07/31/03			4,836	O	Inactive	
30-015-32973	MARBOB ENERGY CORP	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	366	07/31/03			5,000	O	Inactive	
30-015-32970	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	360	10/31/03			4,730	O	Inactive	
30-015-32969	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	359	10/31/03			4,728	O	Inactive	
30-015-32783	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	349	06/30/03			4,710	O	Inactive	
30-015-32811	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	926	04/30/03			4,800	O	Unknown	
30-015-33343	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	369	02/29/04			4,920	G	Inactive	
30-015-33569	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	944	07/31/04			4,832	G	Inactive	
30-015-32974	MARBOB ENERGY CORP	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	368	07/31/04			4,950	G	Inactive	
30-015-32992	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	363	08/31/04			4,750	G	Inactive	
30-015-33795	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	951	08/31/04			4,690	G	Inactive	
30-015-33796	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	950	08/31/04			4,650	G	Inactive	
30-015-33797	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	952	08/31/04			4,660	G	Inactive	

Burch Keely Unit #964H 1mile Radius List

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30-015-33799	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	954	08/31/04			4,630	G	Inactive	
30-015-33800	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	955	08/31/04			4,577	G	Inactive	
30-015-33798	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	953	08/31/04			4,590	G	Inactive	
30-015-33805	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	960	08/31/04			4,630	G	Inactive	
30-015-33806	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	961	08/31/04			4,580	G	Inactive	
30-015-33807	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	962	08/31/04			4,670	G	Inactive	
30-015-33808	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	963	08/31/04			4,650	G	Inactive	
30-015-33809	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	964	08/31/04			4,620	G	Inactive	
30-015-33815	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	973	08/31/04			4,691	G	Inactive	
30-015-33816	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	974	08/31/04			4,710	G	Inactive	
30-015-33817	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	975	08/31/04			4,860	G	Inactive	
30-015-33812	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	968	08/31/04			4,640	G	Inactive	
30-015-33813	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	970	08/31/04			4,680	G	Inactive	
30-015-34018	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	967	03/17/05	4,800		4,650	G	Inactive	
30-015-34141	GRUY PETROLEUM MANAGEMENT CO. or CIMAREX ENERGY CO OF COLORADO	EDDY	S:24, T:17S, R:29E	GRAYBURG DEEP UNIT	16	02/26/05	12,500		11,300	G	Plugged and Abandoned	MORROW
30-015-34192	GRUY PETROLEUM MANAGEMENT CO. or CIMAREX ENERGY CO OF COLORADO	EDDY	S:19, T:17S, R:30E	GRAYBURG DEEP UNIT	20	05/26/05	12,500		12,500	G	Unknown	MORROW, MORROW
30-015-34214	GRUY PETROLEUM MANAGEMENT CO. or CIMAREX ENERGY CO OF COLORADO	EDDY	S:19, T:17S, R:30E	GRAYBURG DEEP	17	05/26/05	12,500		11,300	G	Plugged and Abandoned	
30-015-34905	GRUY PETROLEUM MANAGEMENT CO. or CIMAREX ENERGY CO OF COLORADO	EDDY	S:24, T:17S, R:29E	GRAYBURG DEE; UNIT	18	03/26/06	12,500		11,230	G	Plugged and Abandoned	
30-015-34905	CIMAREX ENERGY CO OF COLORADO	EDDY	S:24, T:17S, R:29E	GRAYBURG DEEP UNIT	18	05/26/05	12,500		11,230	G	Plugged and Abandoned	
30-015-35246	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	981	02/15/07	4,800		4,600	G	Inactive	
30-015-35432	MARBOB ENERGY CORPORATION or MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	982	02/15/07	4,800		4,570	G	Inactive	
30-015-35439	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	983	02/15/07	4,800		4,630	G	Inactive	
30-015-35440	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	985	02/15/07	4,800		4,662	G	Inactive	
30-015-35441	MARBOB ENERGY CORP	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	988	02/13/07	4,800		4,693	G	Inactive	
30-015-33800	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	955	12/28/05	4,800		4,577	G	Inactive	
30-015-33805	MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	391	12/28/05	4,800		4,630	G	Inactive	
30-015-33809	MARBOB ENERGY CORPORATION or MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	392	12/28/05	4,800		4,620	G	Inactive	
30-015-35564	MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY	984	04/24/07	4,800		6,230	G	Inactive	
30-015-29766	CONOCOPHILLIPS COMPANY	EDDY	S:25, T:17S, R:29E	GRAYBURG DEEP UNIT	14	10/16/07	11,400		11,400	G	Inactive	
30-015-29766	CONOCOPHILLIPS COMPANY	EDDY	S:25, T:17S, R:29E	GRAYBURG DEEP UNIT	14	10/14/07	11,400		11,400	G	Inactive	
30-015-35926	CIMAREX ENERGY CO. OF COLORADO	EDDY	S:24, T:17S, R:29E	GRAYBURG DEEP UNIT	23	11/23/07	9,350		9,350	G	Unknown	QU-GB-SA, SOUTH
30-015-36182	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	992	02/22/08	4,800		5,000	G	Inactive	
30-015-36181	MARBOB ENERGY CORPORATION or MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	991	02/22/08	4,800		5,000	G	Inactive	
30-015-36209	MARBOB ENERGY CORPORATION or MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	994	03/08/08	4,800		5,000	G	Inactive	
30-015-36263	MARBOB ENERGY CORPORATION or MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	990	04/04/08	4,800		5,100	G	Inactive	
30-015-36345	MARBOB ENERGY CORPORATION or MARBOB ENERGY CORP	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	997	04/30/08	4,800		5,100	G	Inactive	
30-015-36180	MARBOB ENERGY CORPORATION or MARBOB ENERGY CORP	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	989	02/22/08	4,800		4,640	G	Inactive	
30-015-37131	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	923	07/15/09	4,800		5,003	G	Inactive	
30-015-37128	MARBOB ENERGY CORP	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	927	06/15/09	4,800		5,060	G	Inactive	

Burch Keely Unit #964H 1mile Radius List

API#	Operator	County	Legal	Lease	Well#	Date Issued	Permitted Depth	Permit TVD	Total Depth	Well Type	Well Status	Target Formation
30-015-37133	MARBOB ENERGY CORP	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	921	06/15/09	4,800		5,110	G	Inactive	
30-015-38517	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	616	02/09/11	4,800		4,580	G	Inactive	
30-015-38558	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	636	02/24/11	5,122	4,800	4,836	O	Inactive	
30-015-38561	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	623	02/24/11	4,600		4,800	G	Inactive	
30-015-38572	COG OPERATING LLC	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	694	03/02/11	4,824	4,800	4,824	G	Inactive	
30-015-38647	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	630	03/10/11	4,800		4,815	G	Inactive	
30-015-38648	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	631	03/10/11	4,800		4,819	G	Inactive	
30-015-38649	COG OPERATING LLC	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	697	03/10/11	4,800		4,835	G	Inactive	
30-015-39127	COG OPERATING LLC	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	696	04/29/11	4,811	4,800	4,838	G	Inactive	SR-Q-G-SA
30-015-39126	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	624	04/29/11	4,842	4,800	4,838	G	Inactive	SR-Q-G-SA
30-015-39524	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	577	10/19/11	4,800		4,656	G	Inactive	SR-Q-G-SA
30-015-39539	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	578	10/19/11	4,800		4,640	G	Inactive	SR-Q-G-SA
30-015-39551	COG OPERATING LLC	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	699	10/24/11	4,800		4,667	G	Inactive	SR-Q-G-SA
30-015-39519	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	530	10/19/11	4,800		4,610	G	Inactive	SR-Q-G-SA
30-015-39520	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	536	10/19/11	4,800		4,667	G	Inactive	SR-Q-G-SA
30-015-39521	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	542	10/19/11	4,811	4,800	4,663	G	Inactive	SR-Q-G-SA
30-015-39518	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	524	10/19/11	4,800		4,693	G	Inactive	SR-Q-G-SA
30-015-39576	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	822H	10/26/11	9,155	4,850	9,103	G	Inactive	SR-Q-G-SA
30-015-39577	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	824H	10/26/11	9,191	4,850	9,191	G	Unknown	SR-Q-G-SA
30-015-39579	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	826H	10/26/11	9,265	4,850	9,232	G	Inactive	SR-Q-G-SA
30-015-39565	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	543	10/25/11	4,800		4,784	O	Completed	SR-Q-G-SA
30-015-39567	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	657	10/25/11	4,800		4,672	G	Inactive	SR-Q-G-SA
30-015-39569	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	620	10/25/11	4,800		4,800	G	Inactive	SR-Q-G-SA
30-015-39570	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	643	10/25/11	4,800		4,660	G	Inactive	SR-Q-G-SA
30-015-39571	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	644	10/25/11	4,800		4,816	G	Inactive	SR-Q-G-SA
30-015-39574	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	816H	10/26/11	9,213	4,850	9,213	G	Unknown	SR-Q-G-SA
30-015-39575	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	818H	10/26/11	9,181	4,850	9,130	G	Inactive	SR-Q-G-SA
30-015-39578	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	820H	10/26/11	9,055	4,850	9,102	G	Inactive	SR-Q-G-SA
30-015-39756	COG OPERATING LLC	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	717	12/01/11	4,800		4,800	G	Unknown	SR-Q-G-SA
30-015-39869	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	564	01/25/12	4,800		4,650	G	Inactive	SR-Q-G-SA
30-015-39870	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	566	01/25/12	4,800		4,672	G	Inactive	SR-Q-G-SA
30-015-39908	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	586	01/25/12	4,800		4,665	G	Inactive	SR-Q-G-SA
30-015-39920	COG OPERATING LLC	EDDY	S:30, T:17S, R:30E	BURCH KEELY UNIT	718	01/29/12	4,800		4,800	G	Unknown	SR-Q-G-SA
30-015-40182	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	537	04/13/12	4,800		4,688	G	Inactive	SR-Q-G-SA
30-015-40183	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	637	04/13/12	4,800		4,770	O	Completed	SR-Q-G-SA
30-015-40268	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	572	05/09/12	4,800		4,678	G	Inactive	SR-Q-G-SA
30-015-40269	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	573	05/09/12	4,800		4,670	O	Inactive	GLORIETA-UPPER YESO
30-015-40271	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	581	05/09/12	4,821	4,800	4,684	G	Inactive	GLORIETA-UPPER YESO
30-015-40272	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	582	05/09/12	4,800		4,667	G	Inactive	GLORIETA-UPPER YESO
30-015-40273	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	584	05/08/12	4,800		4,672	G	Inactive	GLORIETA-UPPER YESO
30-015-40274	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	585	05/08/12	4,800		4,678	G	Inactive	GLORIETA-UPPER YESO
30-015-40276	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	626	05/08/12	4,859	4,800	4,792	O	Completed	SR-Q-G-SA
30-015-40277	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	646	05/09/12	4,800		4,668	G	Inactive	GLORIETA-UPPER YESO
30-015-97918	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	580	05/09/12	4,800		4,800	PO	Unknown	GLORIETA-UPPER YESO
30-015-40270	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	580	05/09/12	4,800		4,680	G	Inactive	GLORIETA-UPPER YESO
30-015-40278	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	651	05/08/12	4,800		4,672	G	Inactive	GLORIETA-UPPER YESO
30-015-40279	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	652	05/08/12	4,800		4,802	G	Inactive	GLORIETA-UPPER YESO
30-015-40280	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	654	05/08/12	4,800		4,828	G	Inactive	GLORIETA-UPPER YESO
30-015-40298	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	649	05/11/12	4,800		4,808	G	Inactive	SR-Q-G-SA
30-015-40300	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	914	05/11/12	4,800		4,819	G	Inactive	SR-Q-G-SA
30-015-40315	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	527	05/16/12	4,800		4,700	G	Inactive	GLORIETA-UPPER YESO

Burch Keely Unit #964H 1mile Radius List

API#	Operator	County	Legal	Lease	Well#	Date Issued	Permitted Depth	Permit TVD	Total Depth	Well Type	Well Status	Target Formation
30-015-40316	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	531	05/17/12	4,800		4,673	G	Inactive	GLORIETA-UPPER YESO
30-015-40317	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	532	05/17/12	4,800		4,670	G	Inactive	GLORIETA-UPPER YESO
30-015-40318	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	533	05/17/12	4,800		4,683	G	Inactive	GLORIETA-UPPER YESO
30-015-40319	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	539	05/17/12	4,800		4,843	G	Inactive	GLORIETA-UPPER YESO
30-015-40321	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	540	05/18/12	4,800		4,678	G	Inactive	GLORIETA-UPPER YESO
30-015-40322	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	544	05/18/12	4,800		4,673	G	Inactive	GLORIETA-UPPER YESO
30-015-40323	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	545	05/18/12	4,800		4,751	G	Inactive	GLORIETA-UPPER YESO
30-015-40324	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	546	05/18/12	4,800		4,708	G	Inactive	GLORIETA-UPPER YESO
30-015-40325	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	621	05/17/12	4,810	4,800	4,712	G	Inactive	GLORIETA-UPPER YESO
30-015-40326	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	625	05/18/12	4,834		4,730	G	Inactive	SR-Q-G-SA
30-015-40327	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	632	05/17/12	4,800		4,807	G	Inactive	SR-Q-G-SA
30-015-40328	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	640	05/17/12	4,815	4,800	4,847	G	Inactive	GLORIETA-UPPER YESO
30-015-40375	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	850	05/31/12	4,100		4,144	G	Inactive	SR-Q-G-SA
30-015-40376	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	852	05/31/12	4,100		4,100	G	Unknown	SR-Q-G-SA
30-015-40377	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	853	05/31/12	4,100		4,100	G	Unknown	SR-Q-G-SA
30-015-40378	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	854	05/31/12	4,123	4,100	4,123	G	Unknown	SR-Q-G-SA
30-015-40379	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	855	05/31/12	4,100		4,100	G	Unknown	SR-Q-G-SA
30-015-40380	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	856	05/31/12	4,100		4,100	G	Unknown	SR-Q-G-SA
30-015-40381	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	857	05/31/12	4,100		4,130	G	Inactive	SR-Q-G-SA
30-015-40382	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	858	05/31/12	4,123	4,100	4,126	G	Inactive	SR-Q-G-SA
30-015-40383	COG OPERATING LLC	EDDY	S:25, T:17S, R:29E	BURCH KEELY UNIT	859	05/31/12	4,100		4,130	G	Inactive	SR-Q-G-SA
30-015-40384	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	860	05/31/12	4,100		4,124	G	Inactive	SR-Q-G-SA
30-015-40662	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	541	09/05/12	4,800		4,650	G	Inactive	GLORIETA-UPPER YESO
30-015-40690	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	519	09/11/12	4,800		4,837	G	Inactive	GLORIETA-UPPER YESO
30-015-40702	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	588	09/12/12	4,800		4,675	G	Inactive	GLORIETA-UPPER YESO
30-015-40704	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	617	09/12/12	4,800		4,645	G	Inactive	GLORIETA-UPPER YESO
30-015-40705	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	629	09/12/12	4,800		4,688	G	Inactive	GLORIETA-UPPER YESO
30-015-40886	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	901	12/05/12	4,800		4,742	G	Inactive	GLORIETA-UPPER YESO
30-015-40887	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	906	12/05/12	4,813	4,800	4,765	O	Completed	GLORIETA-UPPER YESO
30-015-41398	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	851	05/13/13	4,119	4,100	4,119	G	Unknown	SR-Q-G-SA
30-015-41562	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	534	07/16/13	4,811	4,800	4,811	G	Unknown	GLORIETA-UPPER YESO
30-015-42186	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	932H	03/10/14	10,005	4,867	10,048	G	Completed	GLORIETA-UPPER YESO
30-015-42758	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	934H	10/20/14	9,516	4,875	9,599	O	Completed	GLORIETA-UPPER YESO
30-015-42959	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	522	02/24/15	4,650		4,650	PO	Unknown	GLORIETA-UPPER YESO
30-015-43059	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	518	04/20/15	4,712	4,700	4,712	PO	Unknown	GLORIETA-UPPER YESO
30-015-43061	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	529	04/20/15	4,700		4,700	PO	Unknown	GLORIETA-UPPER YESO
30-015-43062	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	547	04/20/15	4,675		4,675	PO	Unknown	GLORIETA-UPPER YESO
30-015-43068	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	568	04/16/15	4,700		4,700	PO	Unknown	GLORIETA-UPPER YESO
30-015-43069	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	569	04/16/15	4,715	4,700	4,715	PO	Unknown	GLORIETA-UPPER YESO
30-015-43071	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	574	04/16/15	4,719	4,700	4,719	PO	Unknown	GLORIETA-UPPER YESO
30-015-43072	COG OPERATING LLC	EDDY	S:18, T:17S, R:30E	BURCH KEELY UNIT	571	04/16/15	4,700		4,700	PO	Unknown	GLORIETA-UPPER YESO
30-015-43102	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	655	05/06/15	4,950		4,950	PO	Unknown	GLORIETA-UPPER YESO
30-015-43178	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	628	06/17/15	4,700		4,700	PO	Active Permit	GLORIETA-UPPER YESO
30-015-43351	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	528	08/31/15	4,600		4,600	PO	Active Permit	GLORIETA-UPPER YESO
30-015-43352	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	535	08/31/15	4,600		4,600	PO	Active Permit	GLORIETA-UPPER YESO
30-015-43179	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	627	06/10/15	4,700		4,700	PO	Active Permit	GLORIETA-UPPER YESO
30-015-43420	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	641	10/15/15	4,750		4,750	PO	Active Permit	GLORIETA-UPPER YESO
30-015-43470	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	647	10/21/15	4,750		4,750	PO	Active Permit	GLORIETA-UPPER YESO
30-015-43526	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	653	12/14/15	4,700		4,700	PO	Active Permit	GLORIETA-UPPER YESO
30-015-43529	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	659	12/14/15	4,700		4,700	PO	Active Permit	GLORIETA-UPPER YESO
30-015-43543	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	642	12/14/15	4,763	4,750	4,763	PO	Active Permit	GLORIETA-UPPER YESO

Burch Keely Unit #964H 1mile Radius List

API#	Operator	County	Legal	Lease	Well#	Date Issued	Permitted Depth	Permit TVD	Total Depth	Well Type	Well Status	Target Formation
30-015-44067	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	966H	02/17/17	9,313	4,879	9,313	PO	Active Permit	GLORIETA-UPPER YESO
30-015-44078	COG OPERATING LLC	EDDY	S:19, T:17S, R:30E	BURCH KEELY UNIT	648	02/16/17	4,809	4,800	4,809	PO	Active Permit	GLORIETA-UPPER YESO
30-015-44079	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	944H	02/17/17	9,746	4,872	9,746	PO	Active Permit	GLORIETA-UPPER YESO
30-015-44080	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	940H	02/17/17	9,785	4,871	9,785	PO	Active Permit	GLORIETA-UPPER YESO
30-015-44081	COG OPERATING LLC	EDDY	S:13, T:17S, R:29E	BURCH KEELY UNIT	942H	02/17/17	9,821	4,870	9,821	PO	Active Permit	GLORIETA-UPPER YESO
30-015-44101	COG OPERATING LLC	EDDY	S:24, T:17S, R:29E	BURCH KEELY UNIT	962H	03/06/17	9,751	4,872	9,751	PO	Active Permit	GLORIETA-UPPER YESO