District I
1625 N. French Dr , Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S St Francis Dr., Santa Fe, NM 87505

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

Form C-144 CLEZ
July 21, 2008

For closed-loop systems *that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure*, submit to the appropriate NMOCD District Office.

Closed-Loop System Permit or Closure Plan Application

(that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

Type of action: ☒ Permit ☐ Closure

Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: COG OPERATING LLC OGRID #: 229137
Address: 550 WEST TEXAS, SUITE 100 MIDLAND, TX 79701
Facility or well name: OUIMET STATE COM #4H
API Number: 30-015- 40419 OCD Permit Number: 213113
U/L or Qtr/Qtr UL H Section 2 Township 17S Range 29E County: EDDY
Center of Proposed Design: Latitude N/A Longitude N/A NAD: ☐1927 ☐ 1983
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Operation: ☒ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent) ☐ P&A
☐ Above Ground Steel Tanks or ☒ Haul-off Bins

3.
Signs: Subsection C of 19.15.17.11 NMAC
☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
☒ Signed in compliance with 19.15.3.103 NMAC

RECEIVED
JUN 21 2012
NMOCD ARTESIA

4.
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.
☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☒ Closure Plan (Please complete Box 5) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Previously Approved Design (attach copy of design) API Number: _____
☐ Previously Approved Operating and Maintenance Plan API Number: _____

5.
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17 13.D NMAC)
Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.
Disposal Facility Name: CRI Disposal Facility Permit Number: R1966
Disposal Facility Name: GM INC Disposal Facility Permit Number: 711-019-001
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please provide the information below) ☒ No

Required for impacted areas which will not be used for future service and operations:
☐ Soil Backfill and Cover Design Specifications - - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.
Name (Print): Kacie Connally Title: PERMITTING TECH
Signature: Kacie Connally Date: 4-17-2012
e-mail address: kconnally@concho.com Telephone: 432-221-0336

7.
OCD Approval: ☒ Permit Application (including closure plan) ☐ Closure Plan (only)

OCD Representative Signature: [signature] **Approval Date:** 6/25/2012

Title: Dist II Supervisor **OCD Permit Number:** 213113

8.
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:** _____

9.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

10.
Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

Closed Loop Operation & Maintenance Procedure

All drilling fluid circulated over shaker(s) with cuttings discharged into roll off container.

Fluid and fines below shaker(s) are circulated with transfer pump through centrifuge(s) or solids separator with cuttings and fines discharged into roll off container.

Fluid is continuously re-circulated through equipment with polymer added to aid separation of cutting fines.

Roll off containers are lined and de-watered with fluids re-circulated into system.

Additional tank is used to capture unused drilling fluid or cement returns from casing jobs.

This equipment will be maintained 24 hrs./day by solids control personnel and or rig crews that stay on location.

Cuttings will be hauled to either:

CRI (permit number R9166)
or
GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.

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, New Mexico 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-	96210	Empire; Glorieta Yeso

Property Code	Property Name	Well Number
	OUIMET STATE COM	4H

OGRID No.	Operator Name	Elevation
229137	COG OPERATING, LLC	3663'

Surface Location

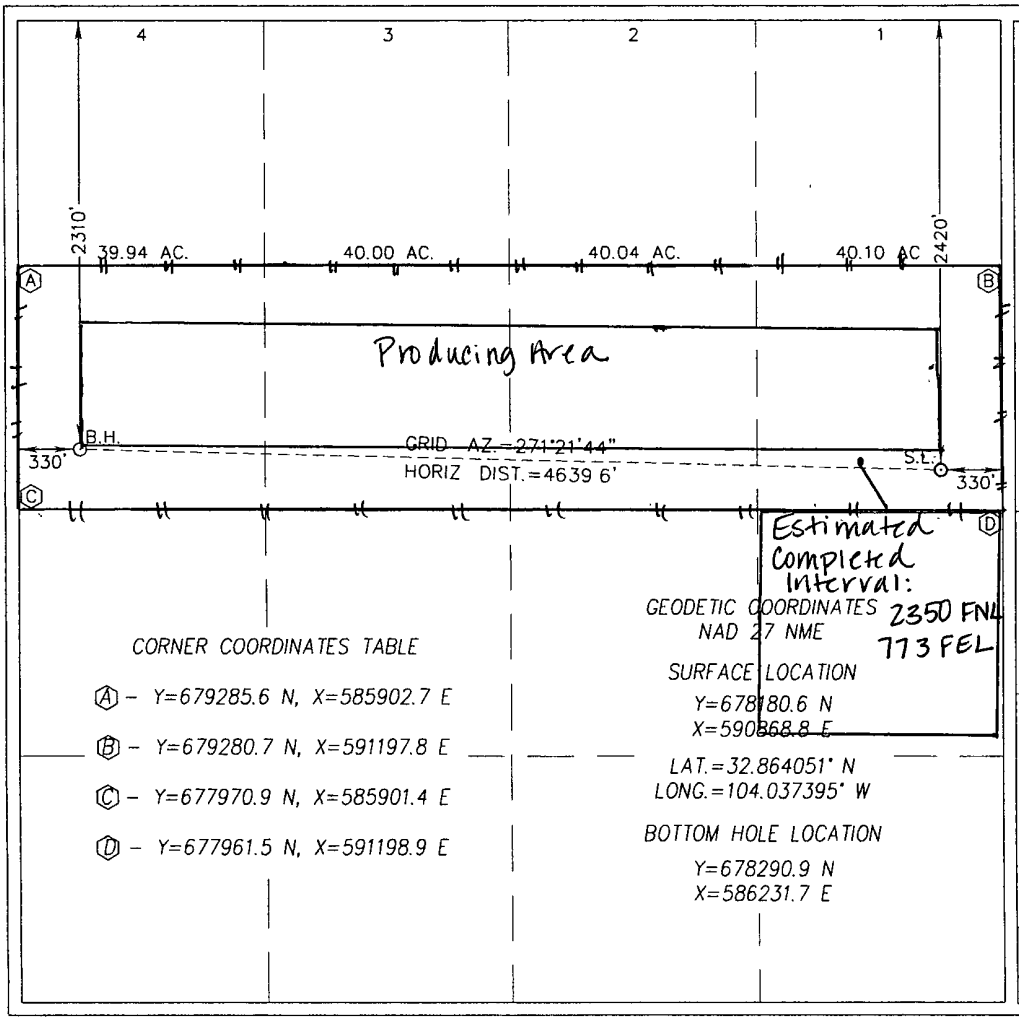
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	2	17-S	29-E		2420	NORTH	330	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	2	17-S	29-E		2310	NORTH	330	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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



CORNER COORDINATES TABLE

(A) - Y=679285.6 N, X=585902.7 E

(B) - Y=679280.7 N, X=591197.8 E

(C) - Y=677970.9 N, X=585901.4 E

(D) - Y=677961.5 N, X=591198.9 E

GEODETIC COORDINATES
NAD 27 NME

SURFACE LOCATION
Y=678180.6 N
X=590868.8 E
LAT.=32.864051° N
LONG.=104.037395° W

BOTTOM HOLE LOCATION
Y=678290.9 N
X=586231.7 E

OPERATOR CERTIFICATION

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

Signature 6-20-12 Date

Kelly J. Holly
Printed Name

kholly@concho.com
E-mail Address

SURVEYOR CERTIFICATION

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

APRIL 27, 2012
Date of Survey

Signature & Seal of Professional Surveyor

RONALD S. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

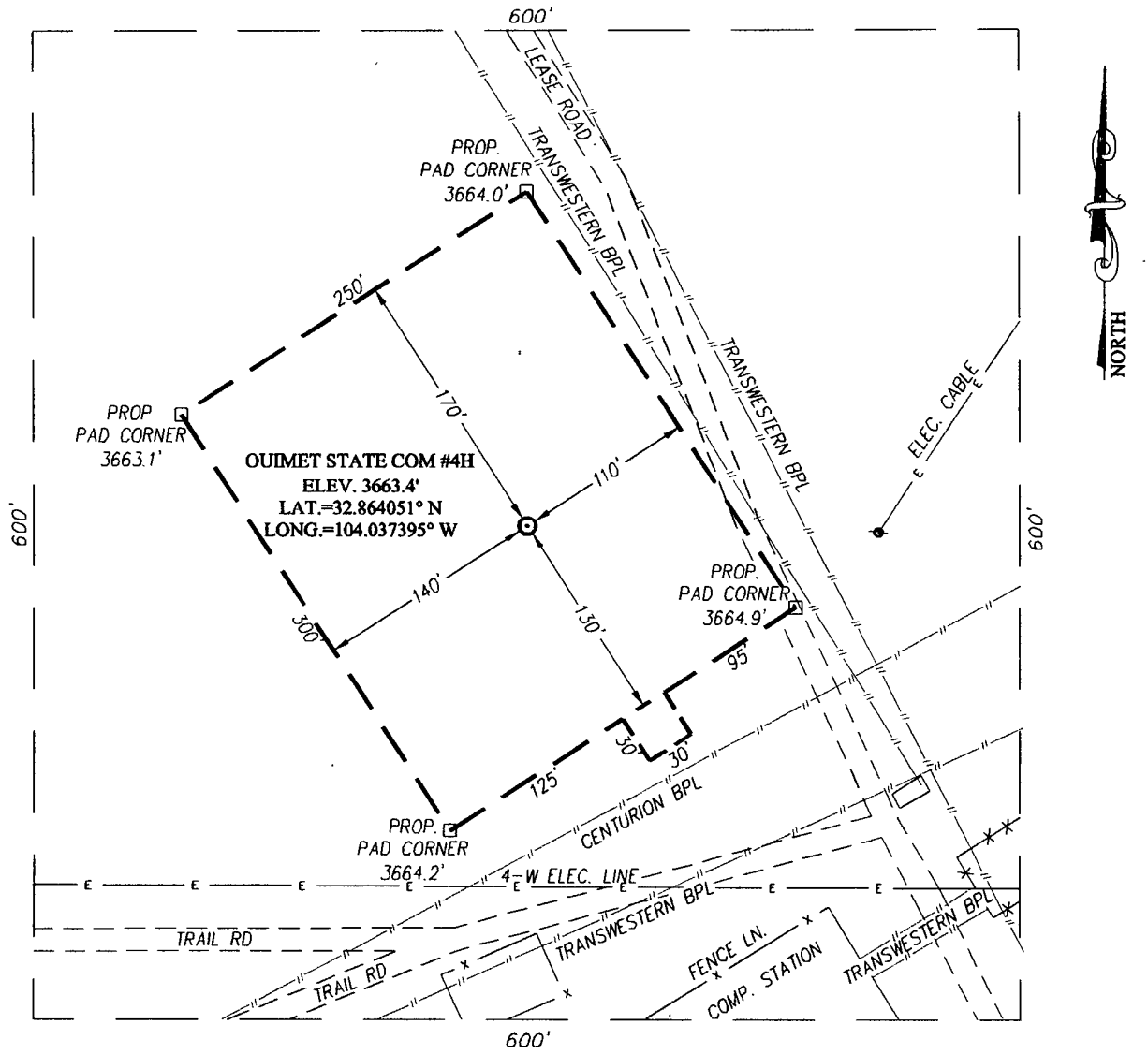
Ronald J. Eidson 05/21/2012

Certificate Number ..... Gary G. Eidson 12641
Ronald J. Eidson 3239

AF JWSC W.O · 12.11 0794

SECTION 2, TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.

EDDY COUNTY NEW MEXICO



100 0 100 200 Feet

Scale: 1"=100'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U S HWY #82 AND CO RD. #215 (KEWANEE) GO NORTH ON CO. RD. #215 APPROX. 2.9 MILES. VEER LEFT AND GO NORTHWEST 279 FEET TO THIS LOCATION.

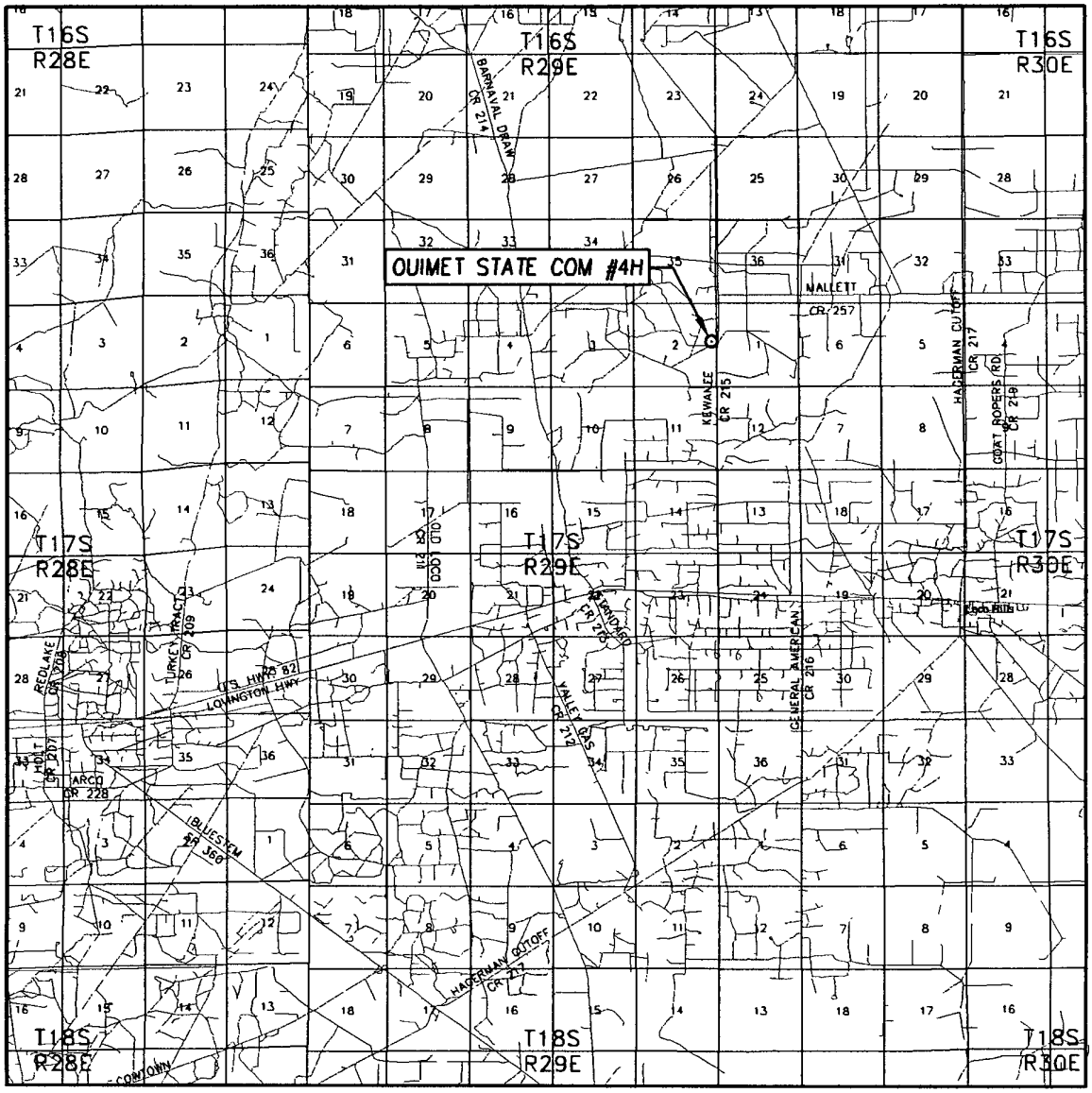
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N DAL PASO
HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz

COG OPERATING, LLC

OUIMET STATE COM #4H WELL
LOCATED 2420 FEET FROM THE NORTH LINE
AND 330 FEET FROM THE EAST LINE OF SECTION 2,
TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

Survey Date: 4/27/12	CAD Date: 5/21/12		Drawn By: AF
W.O. No.. 12110794	Rev: .	Rel. W.O:	Sheet 1 of 1

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 2 TWP. 17-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 2420' FNL & 330' FEL

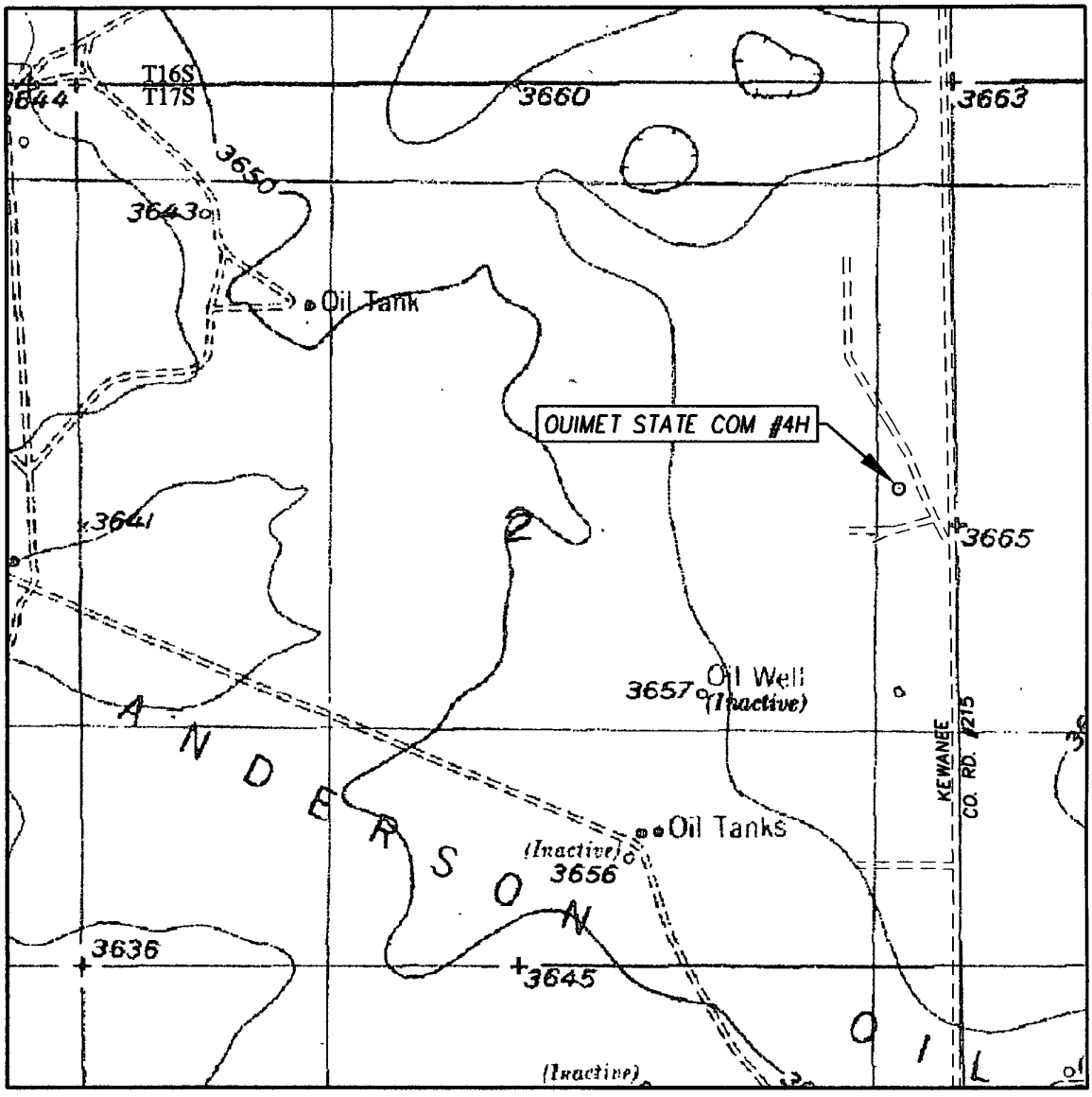
ELEVATION 3663'

OPERATOR COG OPERATING, LLC

LEASE OUIMET STATE COM

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz

LOCATION VERIFICATION MAP



SCALE: 1" = 1000'

CONTOUR INTERVAL:
RED LAKE SE, N.M. – 10'

SEC. 2 TWP. 17-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 2420' FNL & 330' FEL

ELEVATION 3663'

OPERATOR COG OPERATING, LLC

LEASE OUIMET STATE COM

U.S.G.S. TOPOGRAPHIC MAP
RED LAKE SE, N.M.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz

COG Operating LLC

Eddy County, NM
Ouimet State Com 4H
Ouimet State Com 4H

Wellbore #1

Plan: Plan #1

Surface: 2420' FNL, 330' FEL, Sec 2, T17S, R29E, Unit H
BHL: 2310' FNL, 330' FWL, Sec 2, T17S, R29E, Unit E
PP: 2350' FNL, 773' FEL, Sec 2 T17S, R29E, Unit H

Standard Planning Report

31 May, 2012

Crescent Directional Drilling

Planning Report

Database:	R5000 Houston DB	**Local Co-ordinate Reference:**	Site Ouimet State Com 4H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3681 00ft (Original Well Elev)
Project:	Eddy County, NM	**MD Reference:**	WELL @ 3681 00ft (Original Well Elev)
Site:	Ouimet State Com 4H	**North Reference:**	Grid
Well:	Ouimet State Com 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project Eddy County, NM

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

Site Ouimet State Com 4H

Site Position:		**Northing:**	678,180 60 ft	**Latitude:**	32 86404777
From:	Map	**Easting:**	590,868 80 ft	**Longitude:**	-104 03739883
Position Uncertainty:	0 00 ft	**Slot Radius:**	13 200 in	**Grid Convergence:**	0 16 °

Well Ouimet State Com 4H

Well Position	**+N/-S**	0.00 ft	**Northing:**	678,180 60 ft	**Latitude:**	32 86404777
	+E/-W	0 00 ft	**Easting:**	590,868 80 ft	**Longitude:**	-104 03739883
Position Uncertainty		0 00 ft	**Wellhead Elevation:**		**Ground Level:**	3,663 00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/31/2012	7 73	60 67	48,852

Design Plan #1

Audit Notes:

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

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0 00	0 00	271 36

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0 00	0 00	0 00	0.00	0 00	0 00	0 00	0 00	0 00	0 00	
3,822 61	0 00	0 00	3,822 61	0 00	0 00	0 00	0 00	0 00	0 00	
4,580 94	91 00	284 30	4,300.00	119 99	-470 75	12 00	12 00	0 00	284 30	
4,958 75	91 00	269 19	4,293 39	164 21	-844.79	4 00	0 00	-4 00	-89 89	
8,752.01	91 00	269.19	4,227.50	110 30	-4,637 10	0.00	0 00	0.00	0 00	PBHL (Ouimet State (

Database:	R5000 Houston DB	**Local Co-ordinate Reference:**	Site Ouimet State Com 4H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3681.00ft (Original Well Elev)
Project:	Eddy County, NM	**MD Reference:**	WELL @ 3681.00ft (Original Well Elev)
Site:	Ouimet State Com 4H	**North Reference:**	Grid
Well:	Ouimet State Com 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,822 61	0 00	0 00	3,822 61	0 00	0 00	0 00	0.00	0 00	0 00
KOP - Start Build @ 12.00°/100'									
3,900 00	9 29	284 30	3,899 66	1 55	-6 06	6 10	12 00	12 00	0.00
4,000 00	21 29	284 30	3,995 95	8.05	-31 57	31 75	12 00	12 00	0 00
4,100 00	33 29	284 30	4,084.66	19.35	-75 91	76 35	12 00	12 00	0 00
4,200 00	45 29	284 30	4,161.91	34 96	-137 15	137 95	12 00	12 00	0 00
4,300 00	57.29	284 30	4,224.34	54.20	-212 63	213.86	12.00	12 00	0 00
4,400.00	69 29	284 30	4,269.21	76 22	-299.03	300 76	12 00	12 00	0 00
4,500 00	81 29	284 30	4,294 56	100 07	-392 58	394 85	12 00	12 00	0 00
4,552 63	87 60	284 30	4,299 66	113 00	-443 32	445 88	12 00	12 00	0 00
PP @ 4552.63 MD, 4299.66 TVD, 87.60 INC, 284.30 AZ, 445.88 VS									
4,580.94	91 00	284.30	4,300 00	119 99	-470 75	473 47	12 00	12 00	0 00
Landing Point - Start Turn @ 4.00°/100'									
4,600 00	91 00	283.54	4,299.67	124 57	-489.24	492 06	4 00	0 01	-4 00
4,700 00	91 01	279 54	4,297.92	144 57	-587 18	590.46	4 00	0.00	-4 00
4,800 00	91 01	275 54	4,296.16	157 68	-686 29	689 84	4 00	0 00	-4 00
4,900.00	91.00	271.54	4,294 41	163 85	-786 06	789.73	4 00	-0 01	-4 00
4,958 75	91 00	269 19	4,293 39	164.21	-844 79	848 46	4.00	-0 01	-4 00
EOT - Hold @ 269.19° AZ									
5,000 00	91 00	269 19	4,292 67	163 63	-886 03	889 67	0.00	0 00	0 00
5,100 00	91 00	269 19	4,290 93	162 21	-986 01	989 59	0 00	0 00	0 00
5,200 00	91 00	269.19	4,289.20	160 79	-1,085.98	1,089 50	0 00	0.00	0 00
5,300 00	91 00	269.19	4,287 46	159 36	-1,185.96	1,189 41	0 00	0 00	0 00
5,400.00	91.00	269 19	4,285 72	157 94	-1,285 93	1,289 33	0 00	0 00	0 00
5,500 00	91 00	269.19	4,283 98	156 52	-1,385 91	1,389.24	0 00	0.00	0 00
5,600 00	91 00	269 19	4,282.25	155.10	-1,485 88	1,489 15	0 00	0 00	0.00
5,700 00	91 00	269 19	4,280 51	153.68	-1,585.86	1,589 06	0.00	0 00	0 00
5,800 00	91 00	269 19	4,278 77	152.26	-1,685.83	1,688 98	0.00	0.00	0 00
5,900 00	91.00	269 19	4,277 04	150 84	-1,785 81	1,788 89	0 00	0 00	0 00
6,000 00	91 00	269 19	4,275 30	149 42	-1,885 78	1,888 80	0 00	0.00	0.00
6,100 00	91 00	269 19	4,273 56	147.99	-1,985 76	1,988 72	0 00	0 00	0.00
6,200 00	91 00	269 19	4,271 83	146 57	-2,085 73	2,088 63	0 00	0 00	0 00
6,300 00	91 00	269 19	4,270 09	145.15	-2,185 71	2,188 54	0 00	0 00	0 00
6,400 00	91 00	269 19	4,268 35	143.73	-2,285.68	2,288 45	0.00	0 00	0 00
6,500 00	91.00	269 19	4,266 62	142 31	-2,385.66	2,388 37	0 00	0 00	0 00
6,600.00	91.00	269.19	4,264.88	140 89	-2,485 63	2,488 28	0 00	0.00	0 00
6,700 00	91 00	269.19	4,263.14	139 47	-2,585 61	2,588 19	0 00	0.00	0 00
6,800 00	91 00	269.19	4,261 40	138.04	-2,685 58	2,688 10	0 00	0 00	0 00
6,900 00	91 00	269 19	4,259 67	136.62	-2,785 56	2,788 02	0 00	0 00	0 00
7,000 00	91 00	269 19	4,257 93	135 20	-2,885.53	2,887 93	0 00	0 00	0 00
7,100 00	91 00	269 19	4,256 19	133 78	-2,985.51	2,987 84	0 00	0 00	0 00
7,200 00	91 00	269.19	4,254 46	132 36	-3,085 48	3,087.76	0 00	0 00	0 00
7,300 00	91 00	269 19	4,252 72	130 94	-3,185 46	3,187 67	0 00	0 00	0 00
7,400 00	91 00	269 19	4,250 98	129 52	-3,285.43	3,287 58	0 00	0 00	0 00
7,500 00	91 00	269 19	4,249 25	128.10	-3,385 40	3,387 49	0 00	0 00	0 00
7,600 00	91.00	269 19	4,247 51	126 67	-3,485 38	3,487.41	0 00	0 00	0.00
7,700 00	91.00	269 19	4,245 77	125 25	-3,585 35	3,587.32	0 00	0 00	0 00
7,800 00	91.00	269.19	4,244 04	123.83	-3,685 33	3,687.23	0 00	0 00	0 00
7,900 00	91.00	269.19	4,242 30	122.41	-3,785 30	3,787 14	0 00	0 00	0 00
8,000.00	91 00	269 19	4,240.56	120 99	-3,885 28	3,887 06	0 00	0 00	0.00
8,100 00	91 00	269 19	4,238 82	119.57	-3,985.25	3,986 97	0 00	0.00	0 00
8,200 00	91 00	269 19	4,237 09	118 15	-4,085 23	4,086 88	0 00	0 00	0 00
8,300 00	91 00	269 19	4,235 35	116 72	-4,185 20	4,186.80	0 00	0 00	0 00

Database:	R5000 Houston DB	**Local Co-ordinate Reference:**	Site Ouimet State Com 4H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3681 00ft (Original Well Elev)
Project:	Eddy County, NM	**MD Reference:**	WELL @ 3681 00ft (Original Well Elev)
Site:	Ouimet State Com 4H	**North Reference:**	Grid
Well:	Ouimet State Com 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,400 00	91 00	269 19	4,233 61	115 30	-4,285 18	4,286 71	0 00	0 00	0 00
8,500 00	91.00	269 19	4,231 88	113 88	-4,385.15	4,386 62	0 00	0 00	0 00
8,600 00	91 00	269 19	4,230.14	112.46	-4,485 13	4,486 53	0 00	0 00	0 00
8,700 00	91 00	269 19	4,228 40	111 04	-4,585 10	4,586 45	0 00	0 00	0 00
8,752 01	91 00	269 19	4,227 50	110 30	-4,637 10	4,638 41	0.00	0 00	0 00
TD @ 8752.01' MD, 4227.50' TVD - PBHL (Ouimet State Com 4H Plan 1)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL (Ouimet State Cor - plan hits target center - Point	0 00	0 00	4,227 50	110 30	-4,637.10	678,290 90	586,231 70	32 86438576	-104 05249963

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
3,822 61	3,822 61	0.00	0 00	KOP - Start Build @ 12 00°/100'
4,552 63	4,299 66	113 00	-443 32	PP @ 4552 63 MD, 4299 66 TVD, 87 60 INC, 284 30 AZ, 445 88 VS
4,580 94	4,300 00	119 99	-470 75	Landing Point - Start Turn @ 4 00°/100'
4,958 75	4,293 39	164 21	-844 79	EOT - Hold @ 269 19° AZ
8,752 01	4,227 50	110 30	-4,637 10	TD @ 8752 01' MD, 4227 50' TVD

CRESCENT DIRECTIONAL DRILLING

COG Operating LLC
Ouimet State Com 4H
Eddy County, NM
Plan #1

CONCHO

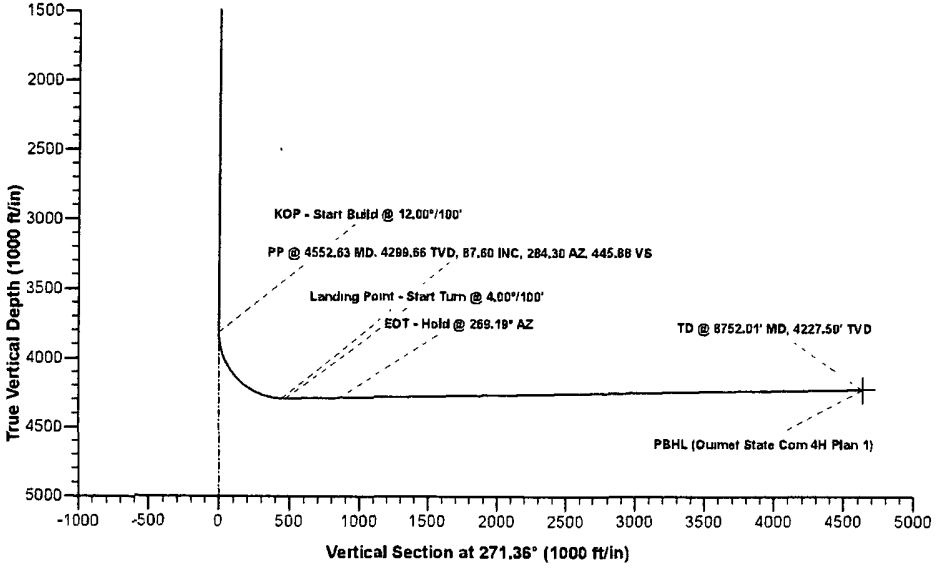
Surface Location		Ground Elev: 3663.00 WELL @ 3681.00ft (Original Well Elev)			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	678180.60	590868.80	32.86404777	-104.03739883

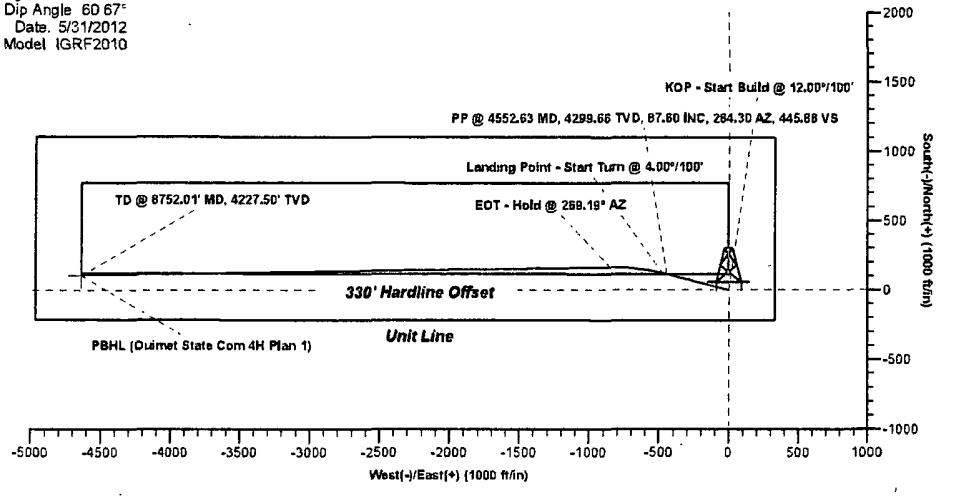
TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (Ouimet State Com 4H Plan 1)	4227.50	110.30	-4637.10	678290.90	586231.70	32.86438576	-104.05249963

Azimuths to Grid North
True North: -0.16°
Magnetic North: 7.57°

Magnetic Field
Strength: 48852.0snT
Dip Angle: 60.67°
Date: 5/31/2012
Model: IGRF2010





SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3822.61	0.00	0.00	3822.61	0.00	0.00	0.00	0.00	0.00	KOP - Start Build @ 12.00°/100'
3	4580.94	91.00	284.30	4300.00	119.99	-470.75	12.00	284.30	473.47	Landing Point - Start Turn @ 4.00°/100'
4	4958.75	91.00	269.19	4293.39	164.21	-844.79	4.00	-89.89	848.46	EOT - Hold @ 269.19° AZ
5	8752.01	91.00	269.19	4227.50	110.30	-4637.10	0.00	0.00	4638.41	TD @ 8752.01' MD, 4227.50' TVD