

Submit 3 Copies to Appropriate District Office
District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources
RECEIVED
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505
HOBSOCD

Form C-103
May 27, 2004

WELL API NO. 30-025-39516
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name GOOD HANDS 15 STATE
8. Well Number 2
9. OGRID Number 229137
10. Pool name or Wildcat TULK; ABO NORTH 60265

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG-BACK TO A DIFFERENT RESERVOIR USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS)	
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐	RECEIVED OCT 20 2009
2. Name of Operator COG Operating LLC	NMOCD ARTESIA
3. Address of Operator 550 W. Texas Ave., Suite 1300	Midland, TX 79701
4. Well Location Unit Letter I : 1980' feet from the South line and 430' feet from the East line Section 15 Township 14S Range 32E NMPM County EDDY	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 4322' GR	
Pit or Below-grade Tank Application ☐ or Closure ☐	
Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____	
Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
OTHER: Request to flip location ☒		OTHER: ☐	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Current BHL: 1980 FSL & 330 FWL, Section 15, T14S R32E, UL L

COG Operating LLC respectfully requests permission to flip this location in order to more effectively recover reserves.

An amended plat is attached for your review with the new location at:

SHL: 1980 FSL & 430 FWL, Section 15, T14S R32E, UL L
BHL: 1980 FSL & 430 FEL, Section 15, T14S R32E, UL I

Also attached are a revised C-144 and directional plan.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Phyllis A. Edwards TITLE Regulatory Analyst DATE 10-15-09

Type or print name **Phyllis A. Edwards** E-mail address: **pedwards@conchoresources.com** Telephone No. **432-685-4340**
For State Use Only

APPROVED BY: [Signature] TITLE PETROLEUM ENGINEER DATE OCT 30 2009
Conditions of Approval (if any):

DISTRICT I
1625 N. French Dr., Hobbs, NM 88241

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88203

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87412

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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OCT 26 2009

OIL
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State of New Mexico
Energy, Minerals and Natural Resources Department

CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-029-39516	Pool Code 60265	Pool Name TULK; ABO, NORTH
Property Code 37747	Property Name GOOD HANDS "15" STATE	Well Number 2H
OGRID No. 299137	Operator Name COG OPERATING LLC	Elevation 4322'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	15	14 S	32 E		1980	SOUTH	430	WEST	LEA

Bottom Hole Location If Different From Surface

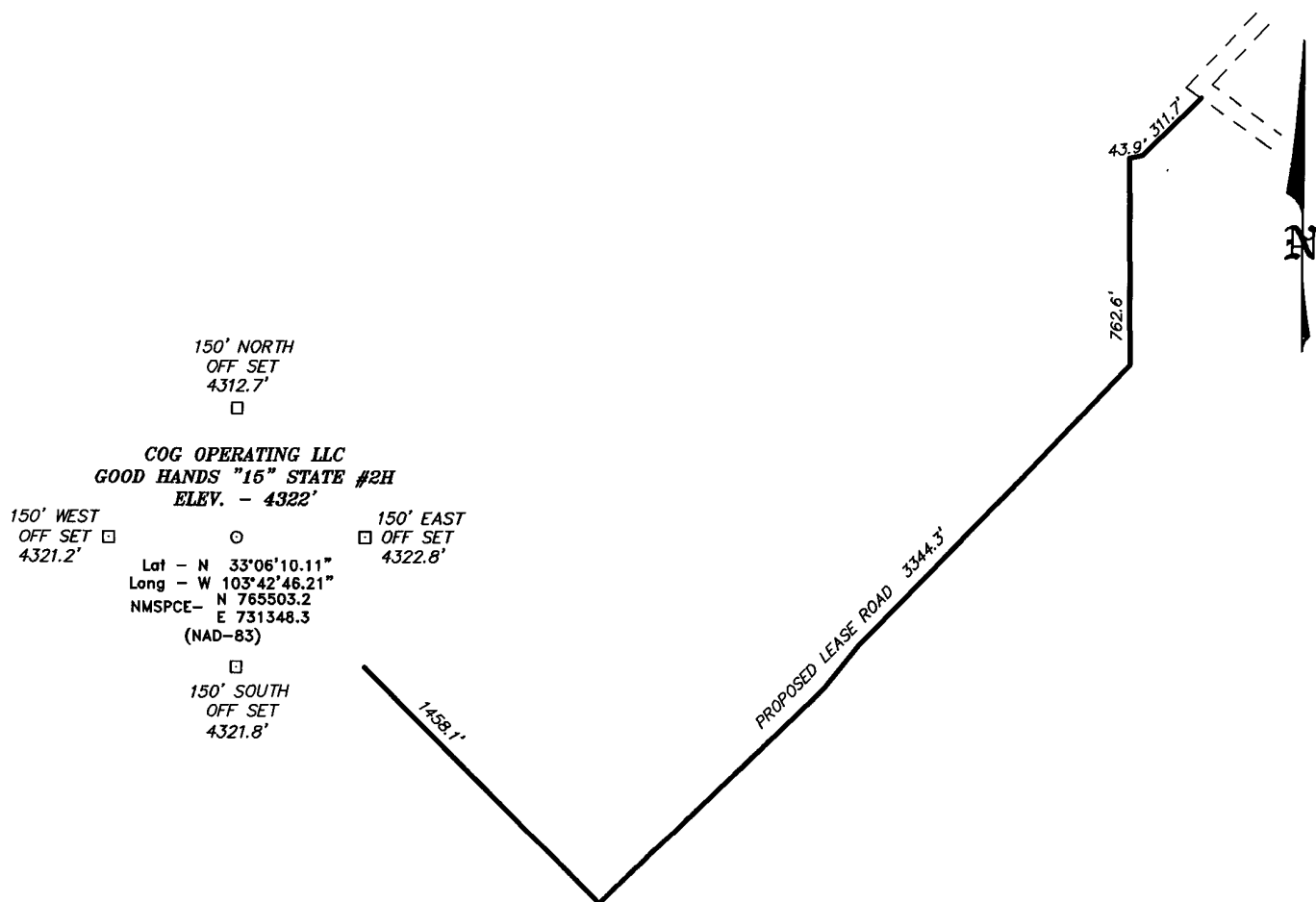
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	15	14 S	32 E		1980	SOUTH	430	EAST	LEA

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

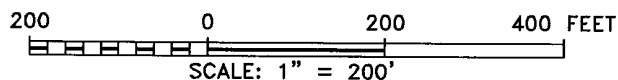
SURFACE LOCATION Lat - N 33°06'10.11" Long - W 103°42'46.21" NMSPC - N 765503.2 E 731348.3 (NAD-83) PROPOSED BOTTOM HOLE LOCATION Lat - N 33°06'10.07" Long - W 103°41'54.10" NMSPC - N 765525.586 E 735780.602 (NAD-83) ABO PENETRATION POINT 430' 4533.5' 430' 1980' 1980' PRODUCING AREA PROJECT AREA	OPERATOR 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 pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Phyllis A. Edwards</i> 10/15/09 Signature Date PHYLLIS A. EDWARDS Printed Name REGULATORY ANALYST 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. OCTOBER 2009 Date Surveyed Signature Seal of Professional Surveyor 7977 Certificate No. Gary L. Jones 7977 BASIN SURVEYS
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SECTION 15, TOWNSHIP 14 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



Directions to Location:

FROM MILE MARKER 15 OF HWY 457; GO NORTH 0.4 MILES TO CO. RD. PRISCILLA, GO WEST ON PRISCILLA FOR 5.0 MILES TO LEASE ROAD, ON LEASE ROAD GO SOUTHERLY 2.2 MILES TO ROAD, GO SOUTHWESTERLY 0.3 MILES TO PROPOSED LEASE ROAD.



COG OPERATING LLC

REF: GOOD HANDS "15" STATE #2H / WELL PAD TOPO

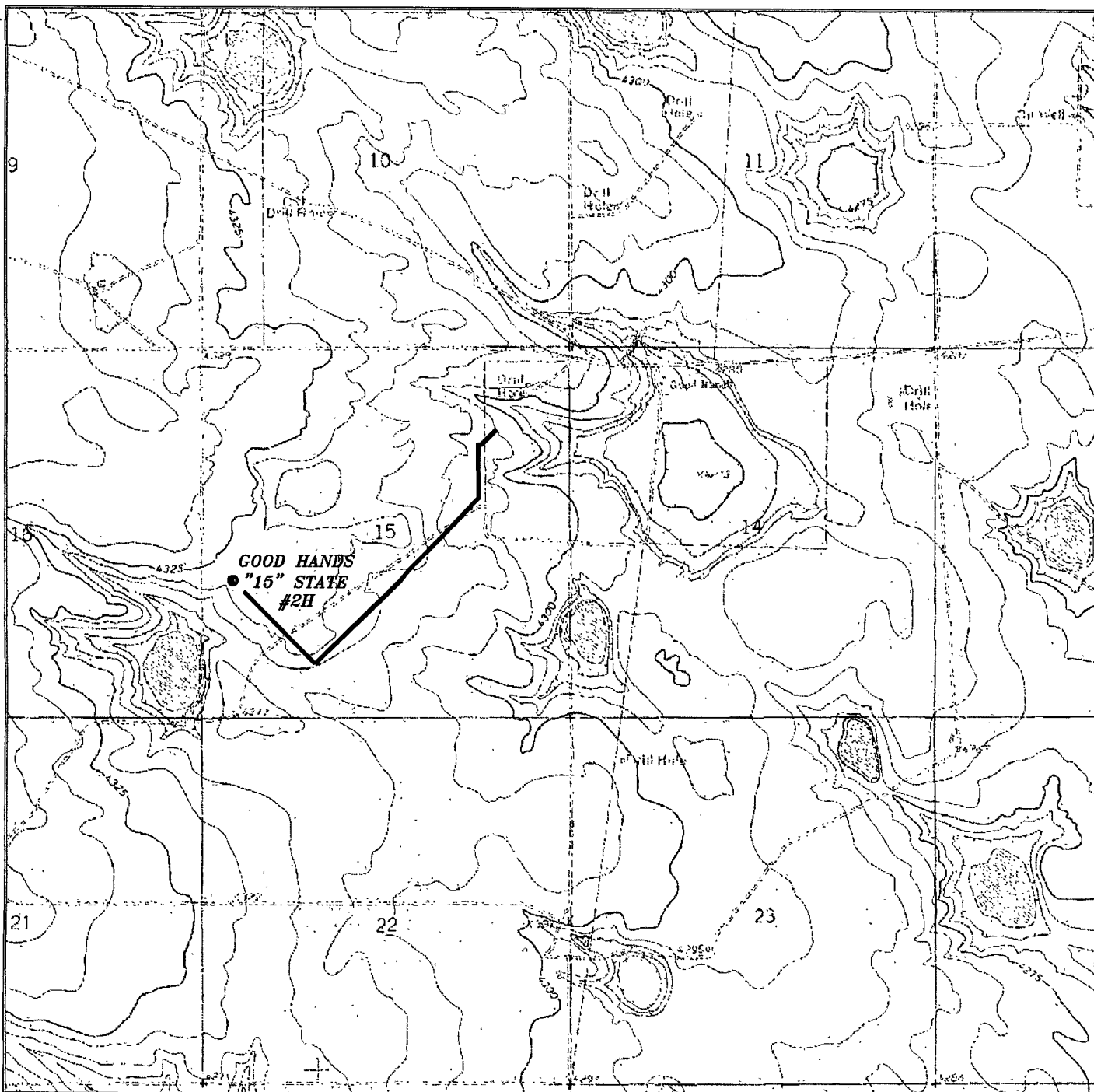
THE GOOD HANDS "15" STATE #2H LOCATED 1980'
FROM THE SOUTH LINE AND 430' FROM THE WEST LINE OF
SECTION 15, TOWNSHIP 14 SOUTH, RANGE 32 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 21848 Drawn By: J. SMALL

Date: 10-14-2009 Disk: JMS 21848

Survey Date: 10-13-2009 Sheet 1 of 1 Sheets



GOOD HANDS "15" STATE #2H
 Located 1980' FSL and 430' FWL
 Section 15, Township 14 South, Range 32 East,
 N.M.P.M., Lea County, New Mexico.

basin
surveys
 focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
 basinsurveys.com

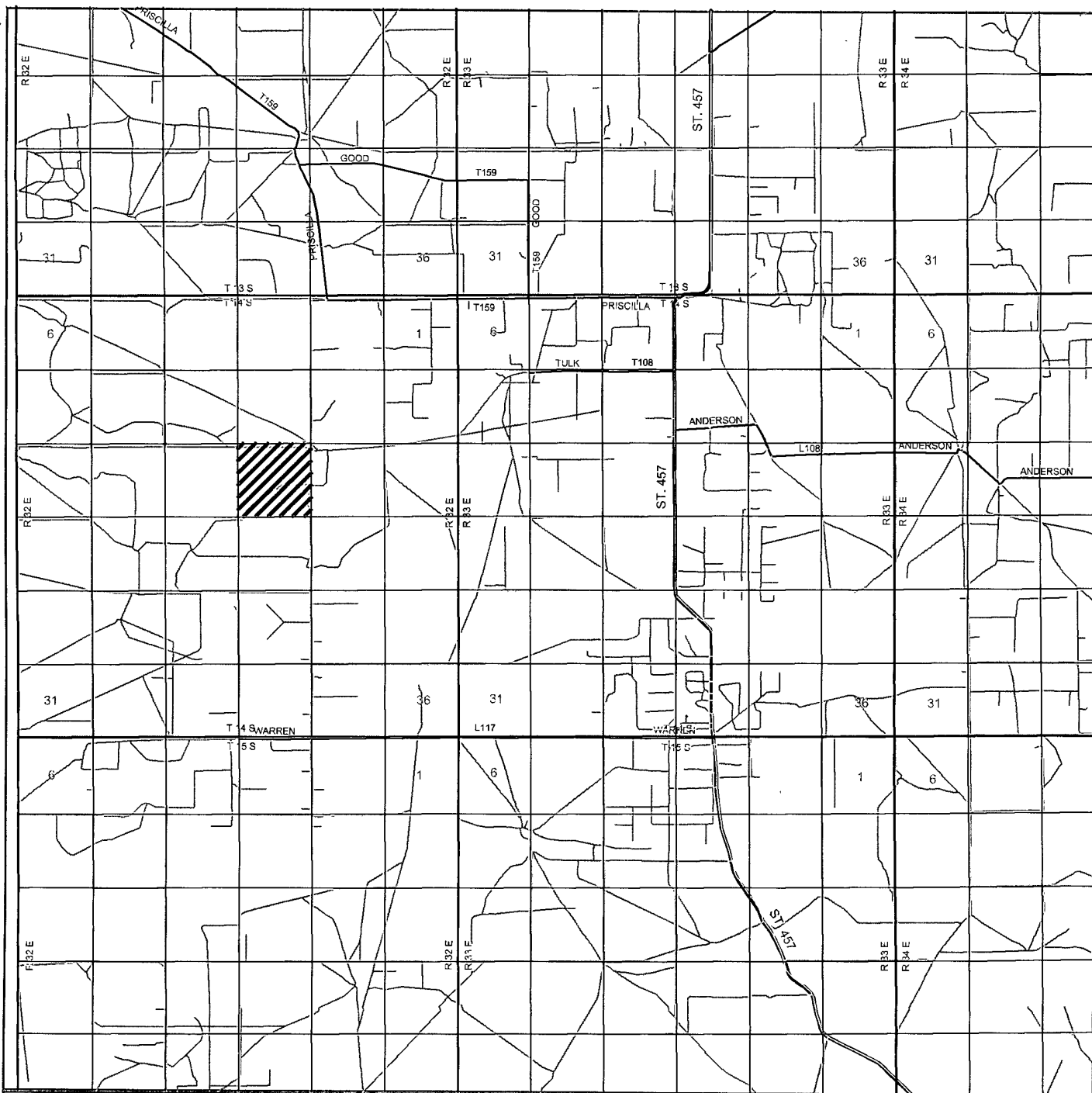
W.O. Number: JMS 21848

Survey Date: 10-13-2009

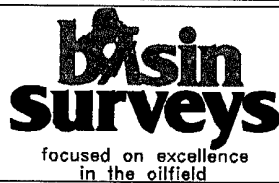
Scale: 1" = 2000'

Date: 10-14-2009

COG
OPERATING
LLC



GOOD HANDS "15" STATE #2H
 Located 1980' FSL and 430' FWL
 Section 15, Township 14 South, Range 32 East,
 N.M.P.M., Lea County, New Mexico.



P.O. Box 1786
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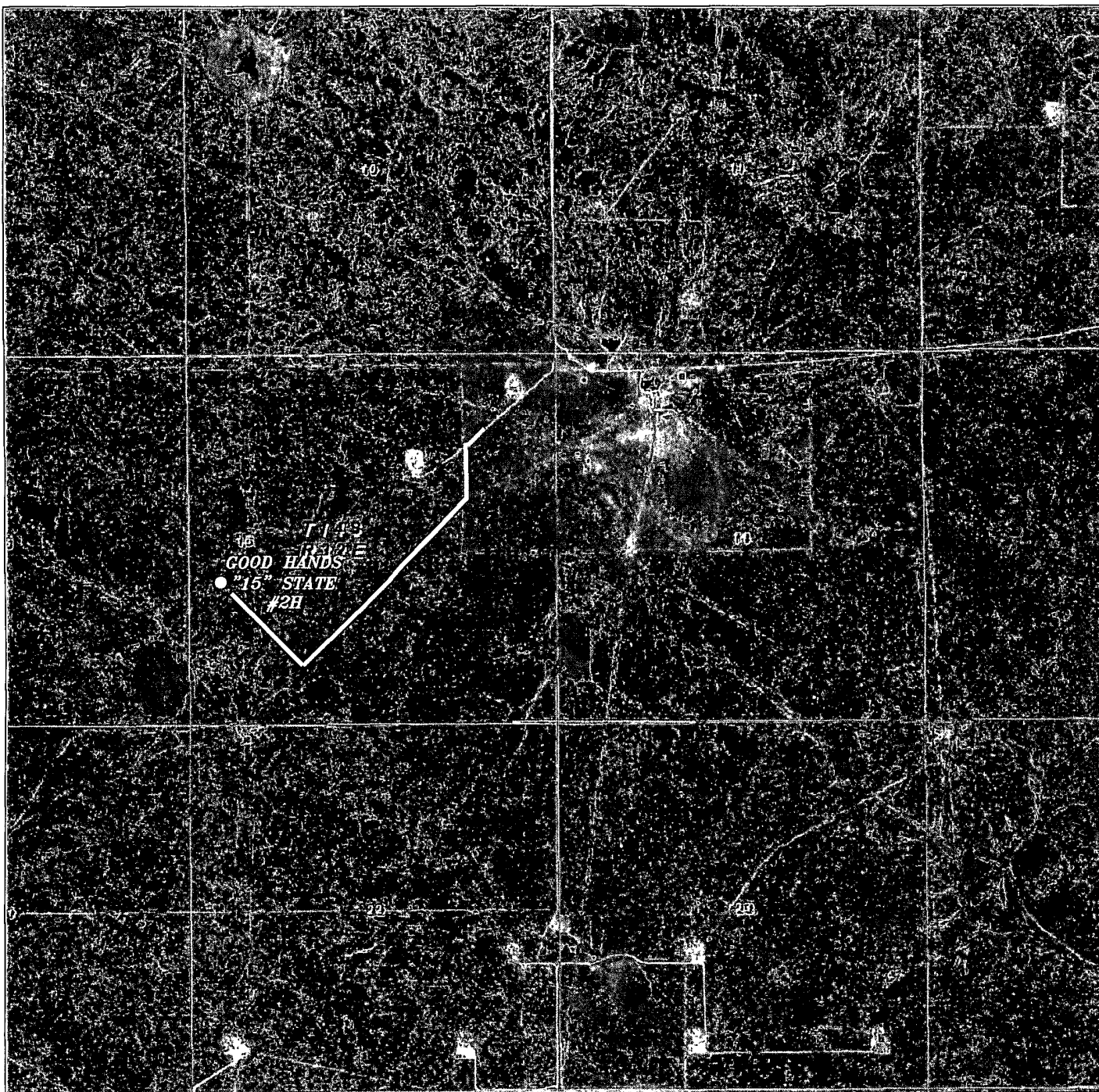
W.O. Number: JMS 21848

Survey Date: 10-13-2009

Scale: 1" = 2000 feet

Date: 10-14-2009

COG
 OPERATING
 LLC



GOOD HANDS "15" STATE #2H

Located 1980' FSL and 430' FWL

Section 15, Township 14 South, Range 32 East,
N.M.P.M., Lea County, New Mexico.

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Scale: 1" = 2000'

YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND



COG
OPERATING
LLC



COG Operating LLC

Lea County(NAD83)
Good Hands "15" State
#2H
OH

RECEIVED
OCT 26 2009
HOBBSOCD

Plan: Plan #2

Pathfinder X & Y Planning Report

16 October, 2009

PATHFINDER



Pathfinder Energy Services
Pathfinder X & Y Planning Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County(NAD83)	TVD Reference:	WELL @ 4320.00ft (18' KB)
Site:	Good Hands "15" State	MD Reference:	WELL @ 4320 00ft (18' KB)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	Midland Database

Project	Lea County(NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Good Hands "15" State		
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Site Position:		Northing:	765,503.200 ft	Latitude:	33° 6' 10 112 N
From:	Map	Easting:	731,348.300 ft	Longitude:	103° 42' 46.206 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.34 °

Well		#2H				
Well Position	+N/-S	0.00 ft	Northing:	765,503.200 ft	Latitude:	33° 6' 10.112 N
	+E/-W	0.00 ft	Easting:	731,348.300 ft	Longitude:	103° 42' 46.206 W
Position Uncertainty	0.00 ft		Wellhead Elevation:	ft	Ground Level:	4,322.00 ft

Wellbore	OH				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	08/24/2009	7.92	61 04	49,334

Design	Plan #2				
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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	89 71

Survey Tool Program	Date 10/16/2009			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	13,043.98	Plan #2 (OH)	MWD	MWD - Standard



Pathfinder Energy Services
Pathfinder X & Y Planning Report



Company: COG Operating LLC
Project: Lea County(NAD83)
Site: Good Hands "15" State
Well: #2H
Wellbore: OH
Design: Plan #2

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 4320.00ft (18' KB)
MD Reference: WELL @ 4320.00ft (18' KB)
North Reference: Gnd
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc. (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-4,320.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
100.00	0.00	0.00	100.00	-4,220.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
200.00	0.00	0.00	200.00	-4,120.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
300.00	0.00	0.00	300.00	-4,020.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
400.00	0.00	0.00	400.00	-3,920.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
500.00	0.00	0.00	500.00	-3,820.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
600.00	0.00	0.00	600.00	-3,720.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
700.00	0.00	0.00	700.00	-3,620.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
800.00	0.00	0.00	800.00	-3,520.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
900.00	0.00	0.00	900.00	-3,420.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
1,000.00	0.00	0.00	1,000.00	-3,320.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
1,100.00	0.00	0.00	1,100.00	-3,220.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
1,200.00	0.00	0.00	1,200.00	-3,120.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
1,300.00	0.00	0.00	1,300.00	-3,020.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
1,400.00	0.00	0.00	1,400.00	-2,920.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
1,500.00	0.00	0.00	1,500.00	-2,820.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
1,600.00	0.00	0.00	1,600.00	-2,720.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
1,700.00	0.00	0.00	1,700.00	-2,620.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
1,800.00	0.00	0.00	1,800.00	-2,520.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
1,900.00	0.00	0.00	1,900.00	-2,420.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
2,000.00	0.00	0.00	2,000.00	-2,320.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
2,100.00	0.00	0.00	2,100.00	-2,220.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
2,200.00	0.00	0.00	2,200.00	-2,120.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
2,300.00	0.00	0.00	2,300.00	-2,020.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
2,400.00	0.00	0.00	2,400.00	-1,920.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
2,500.00	0.00	0.00	2,500.00	-1,820.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30
2,600.00	0.00	0.00	2,600.00	-1,720.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30



Pathfinder Energy Services
Pathfinder X & Y Planning Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County(NAD83)	TVD Reference:	WELL @ 4320.00ft (18' KB)
Site:	Good Hands "15" State	MD Reference:	WELL @ 4320 00ft (18' KB)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	Midland Database

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
2,700.00	0.00	0 00	2,700 00	-1,620.00	0 00	0 00	0 00	0.00	765,503 20	731,348 30	
2,800.00	0.00	0 00	2,800.00	-1,520.00	0 00	0 00	0 00	0 00	765,503 20	731,348.30	
2,900 00	0.00	0 00	2,900 00	-1,420.00	0 00	0 00	0.00	0.00	765,503 20	731,348 30	
3,000.00	0.00	0 00	3,000 00	-1,320.00	0.00	0.00	0 00	0.00	765,503.20	731,348 30	
3,100 00	0.00	0.00	3,100.00	-1,220.00	0 00	0.00	0 00	0.00	765,503 20	731,348.30	
3,200.00	0 00	0 00	3,200 00	-1,120 00	0.00	0 00	0.00	0 00	765,503.20	731,348.30	
3,300.00	0 00	0 00	3,300 00	-1,020.00	0 00	0.00	0.00	0 00	765,503.20	731,348.30	
3,400 00	0.00	0.00	3,400 00	-920 00	0.00	0.00	0 00	0.00	765,503.20	731,348 30	
3,500.00	0.00	0 00	3,500 00	-820 00	0.00	0 00	0 00	0.00	765,503.20	731,348.30	
3,600.00	0 00	0.00	3,600 00	-720.00	0 00	0 00	0.00	0 00	765,503.20	731,348.30	
3,700.00	0.00	0 00	3,700.00	-620.00	0 00	0 00	0 00	0 00	765,503.20	731,348.30	
3,800 00	0.00	0.00	3,800.00	-520.00	0 00	0 00	0.00	0 00	765,503.20	731,348.30	
3,900 00	0 00	0.00	3,900.00	-420 00	0.00	0 00	0 00	0.00	765,503.20	731,348.30	
4,000 00	0 00	0 00	4,000.00	-320.00	0.00	0.00	0 00	0.00	765,503.20	731,348.30	
4,100 00	0.00	0.00	4,100.00	-220.00	0 00	0 00	0 00	0.00	765,503.20	731,348.30	
4,200.00	0 00	0 00	4,200 00	-120 00	0 00	0.00	0 00	0 00	765,503.20	731,348.30	
4,300 00	0 00	0.00	4,300 00	-20 00	0 00	0.00	0.00	0 00	765,503 20	731,348.30	
4,400 00	0.00	0 00	4,400.00	80.00	0 00	0.00	0 00	0.00	765,503.20	731,348.30	
4,500 00	0.00	0.00	4,500.00	180 00	0 00	0 00	0 00	0 00	765,503.20	731,348.30	
4,600.00	0.00	0 00	4,600 00	280 00	0 00	0 00	0.00	0 00	765,503.20	731,348 30	
4,700.00	0 00	0 00	4,700 00	380.00	0.00	0 00	0.00	0.00	765,503 20	731,348.30	
4,800.00	0.00	0.00	4,800 00	480 00	0.00	0 00	0 00	0 00	765,503.20	731,348.30	
4,900 00	0 00	0 00	4,900.00	580.00	0 00	0 00	0.00	0.00	765,503 20	731,348.30	
5,000 00	0 00	0 00	5,000 00	680.00	0 00	0 00	0 00	0.00	765,503.20	731,348.30	
5,100 00	0 00	0.00	5,100.00	780 00	0.00	0 00	0 00	0 00	765,503 20	731,348 30	
5,200.00	0.00	0 00	5,200.00	880 00	0 00	0 00	0 00	0 00	765,503 20	731,348 30	
5,300 00	0 00	0 00	5,300.00	980 00	0.00	0.00	0.00	0.00	765,503 20	731,348 30	



Pathfinder Energy Services
Pathfinder X & Y Planning Report



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5,400.00	0.00	0.00	5,400.00	1,080.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
5,500.00	0.00	0.00	5,500.00	1,180.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
5,600.00	0.00	0.00	5,600.00	1,280.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
5,700.00	0.00	0.00	5,700.00	1,380.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
5,800.00	0.00	0.00	5,800.00	1,480.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
5,900.00	0.00	0.00	5,900.00	1,580.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
6,000.00	0.00	0.00	6,000.00	1,680.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
6,100.00	0.00	0.00	6,100.00	1,780.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
6,200.00	0.00	0.00	6,200.00	1,880.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
6,300.00	0.00	0.00	6,300.00	1,980.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
6,400.00	0.00	0.00	6,400.00	2,080.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
6,500.00	0.00	0.00	6,500.00	2,180.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
6,600.00	0.00	0.00	6,600.00	2,280.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
6,700.00	0.00	0.00	6,700.00	2,380.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
6,800.00	0.00	0.00	6,800.00	2,480.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
6,900.00	0.00	0.00	6,900.00	2,580.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
7,000.00	0.00	0.00	7,000.00	2,680.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
7,100.00	0.00	0.00	7,100.00	2,780.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
7,200.00	0.00	0.00	7,200.00	2,880.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
7,300.00	0.00	0.00	7,300.00	2,980.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
7,400.00	0.00	0.00	7,400.00	3,080.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
7,500.00	0.00	0.00	7,500.00	3,180.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
7,600.00	0.00	0.00	7,600.00	3,280.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
7,700.00	0.00	0.00	7,700.00	3,380.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
7,800.00	0.00	0.00	7,800.00	3,480.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
7,900.00	0.00	0.00	7,900.00	3,580.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	
8,000.00	0.00	0.00	8,000.00	3,680.00	0.00	0.00	0.00	0.00	765,503.20	731,348.30	



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Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
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Site:	Good Hands "15" State	MD Reference:	WELL @ 4320.00ft (18' KB)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	Midland Database

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
8,100.00	0 00	0 00	8,100.00	3,780.00	0 00	0.00	0 00	0.00	765,503.20	731,348.30	
8,200.00	0.00	0 00	8,200.00	3,880.00	0.00	0.00	0 00	0.00	765,503.20	731,348.30	
8,300.00	0 00	0 00	8,300.00	3,980.00	0 00	0.00	0.00	0.00	765,503.20	731,348.30	
8,337.70	0 00	0 00	8,337.70	4,017.70	0 00	0.00	0.00	0.00	765,503.20	731,348.30	
8,350.00	1.48	89.71	8,350.00	4,030.00	0 00	0.16	0 16	12.00	765,503.20	731,348.46	
8,375.00	4.48	89.71	8,374.96	4,054.96	0 01	1.46	1 46	12.00	765,503.21	731,349.76	
8,400.00	7.48	89.71	8,399.82	4,079.82	0.02	4.06	4.06	12.00	765,503.22	731,352.36	
8,425.00	10.48	89.71	8,424.51	4,104.51	0.04	7.96	7.96	12.00	765,503.24	731,356.26	
8,450.00	13.48	89.71	8,448.97	4,128.97	0.07	13.15	13.15	12.00	765,503.27	731,361.45	
8,475.00	16.48	89.71	8,473.12	4,153.12	0 10	19.61	19.61	12.00	765,503.30	731,367.91	
8,500.00	19.48	89.71	8,496.89	4,176.89	0.14	27.32	27.32	12.00	765,503.34	731,375.62	
8,525.00	22.48	89.71	8,520.23	4,200.23	0.18	36.27	36.27	12.00	765,503.38	731,384.57	
8,550.00	25.48	89.71	8,543.07	4,223.07	0.23	46.43	46.43	12.00	765,503.43	731,394.73	
8,575.00	28.48	89.71	8,565.35	4,245.35	0.29	57.76	57.77	12.00	765,503.49	731,406.06	
8,600.00	31.48	89.71	8,587.00	4,267.00	0.35	70.25	70.25	12.00	765,503.55	731,418.55	
8,625.00	34.48	89.71	8,607.97	4,287.97	0.42	83.86	83.86	12.00	765,503.62	731,432.16	
8,650.00	37.48	89.71	8,628.20	4,308.20	0.50	98.54	98.54	12.00	765,503.70	731,446.84	
8,675.00	40.48	89.71	8,647.64	4,327.64	0.58	114.27	114.27	12.00	765,503.78	731,462.57	
8,700.00	43.48	89.71	8,666.22	4,346.22	0.66	130.98	130.99	12.00	765,503.86	731,479.28	
8,725.00	46.48	89.71	8,683.90	4,363.90	0.75	148.65	148.65	12.00	765,503.95	731,496.95	
8,750.00	49.48	89.71	8,700.64	4,380.64	0.84	167.22	167.22	12.00	765,504.04	731,515.52	
8,775.00	52.48	89.71	8,716.38	4,396.38	0.94	186.64	186.64	12.00	765,504.14	731,534.94	
8,800.00	55.48	89.71	8,731.08	4,411.08	1.04	206.86	206.86	12.00	765,504.24	731,555.16	
8,825.00	58.48	89.71	8,744.70	4,424.70	1.15	227.82	227.82	12.00	765,504.35	731,576.12	
8,850.00	61.48	89.71	8,757.21	4,437.21	1.26	249.46	249.46	12.00	765,504.46	731,597.76	
8,875.00	64.48	89.71	8,768.57	4,448.57	1.37	271.73	271.73	12.00	765,504.57	731,620.03	
8,900.00	67.48	89.71	8,778.74	4,458.74	1.49	294.56	294.56	12.00	765,504.69	731,642.86	



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Site:	Good Hands "15" State	MD Reference:	WELL @ 4320.00ft (18' KB)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	Midland Database

Planned Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
8,925.00	70.48	89.71	8,787.71	4,467.71	1.61	317.89	317.90	12.00	765,504.81	731,666.19
8,950.00	73.48	89.71	8,795.45	4,475.45	1.73	341.66	341.67	12.00	765,504.93	731,689.96
8,975.00	76.48	89.71	8,801.93	4,481.93	1.85	365.80	365.81	12.00	765,505.05	731,714.10
9,000.00	79.48	89.71	8,807.13	4,487.13	1.97	390.25	390.26	12.00	765,505.17	731,738.55
9,025.00	82.48	89.71	8,811.05	4,491.05	2.10	414.94	414.94	12.00	765,505.30	731,763.24
9,050.00	85.48	89.71	8,813.68	4,493.68	2.22	439.80	439.80	12.00	765,505.42	731,788.10
9,075.07	88.48	89.71	8,815.00	4,495.00	2.35	464.83	464.83	12.00	765,505.55	731,813.13
9,100.00	88.48	89.71	8,815.66	4,495.66	2.47	489.75	489.76	0.00	765,505.67	731,838.05
9,200.00	88.48	89.71	8,818.30	4,498.30	2.98	589.72	589.72	0.00	765,506.18	731,938.02
9,300.00	88.48	89.71	8,820.95	4,500.95	3.48	689.68	689.69	0.00	765,506.68	732,037.98
9,400.00	88.48	89.71	8,823.59	4,503.59	3.99	789.64	789.65	0.00	765,507.19	732,137.94
9,500.00	88.48	89.71	8,826.24	4,506.24	4.49	889.61	889.62	0.00	765,507.69	732,237.91
9,600.00	88.48	89.71	8,828.89	4,508.89	5.00	989.57	989.58	0.00	765,508.20	732,337.87
9,700.00	88.48	89.71	8,831.53	4,511.53	5.50	1,089.53	1,089.55	0.00	765,508.70	732,437.83
9,800.00	88.48	89.71	8,834.18	4,514.18	6.01	1,189.50	1,189.51	0.00	765,509.21	732,537.80
9,900.00	88.48	89.71	8,836.82	4,516.82	6.51	1,289.46	1,289.48	0.00	765,509.71	732,637.76
10,000.00	88.48	89.71	8,839.47	4,519.47	7.02	1,389.42	1,389.44	0.00	765,510.22	732,737.72
10,100.00	88.48	89.71	8,842.11	4,522.11	7.52	1,489.39	1,489.41	0.00	765,510.72	732,837.69
10,200.00	88.48	89.71	8,844.76	4,524.76	8.03	1,589.35	1,589.37	0.00	765,511.23	732,937.65
10,300.00	88.48	89.71	8,847.40	4,527.40	8.53	1,689.32	1,689.34	0.00	765,511.73	733,037.62
10,400.00	88.48	89.71	8,850.05	4,530.05	9.04	1,789.28	1,789.30	0.00	765,512.24	733,137.58
10,500.00	88.48	89.71	8,852.70	4,532.70	9.54	1,889.24	1,889.27	0.00	765,512.74	733,237.54
10,600.00	88.48	89.71	8,855.34	4,535.34	10.05	1,989.21	1,989.23	0.00	765,513.25	733,337.51
10,700.00	88.48	89.71	8,857.99	4,537.99	10.55	2,089.17	2,089.20	0.00	765,513.75	733,437.47
10,800.00	88.48	89.71	8,860.63	4,540.63	11.06	2,189.13	2,189.16	0.00	765,514.26	733,537.43
10,900.00	88.48	89.71	8,863.28	4,543.28	11.56	2,289.10	2,289.13	0.00	765,514.76	733,637.40
11,000.00	88.48	89.71	8,865.92	4,545.92	12.07	2,389.06	2,389.09	0.00	765,515.27	733,737.36



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Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	Midland Database

Planned Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
11,100.00	88.48	89.71	8,868.57	4,548.57	12.57	2,489.03	2,489.06	0.00	765,515.77	733,837.33
11,200.00	88.48	89.71	8,871.22	4,551.22	13.08	2,588.99	2,589.02	0.00	765,516.28	733,937.29
11,300.00	88.48	89.71	8,873.86	4,553.86	13.58	2,688.95	2,688.99	0.00	765,516.78	734,037.25
11,400.00	88.48	89.71	8,876.51	4,556.51	14.09	2,788.92	2,788.95	0.00	765,517.29	734,137.22
11,500.00	88.48	89.71	8,879.15	4,559.15	14.59	2,888.88	2,888.92	0.00	765,517.79	734,237.18
11,600.00	88.48	89.71	8,881.80	4,561.80	15.09	2,988.84	2,988.88	0.00	765,518.29	734,337.14
11,700.00	88.48	89.71	8,884.44	4,564.44	15.60	3,088.81	3,088.85	0.00	765,518.80	734,437.11
11,800.00	88.48	89.71	8,887.09	4,567.09	16.10	3,188.77	3,188.81	0.00	765,519.30	734,537.07
11,900.00	88.48	89.71	8,889.73	4,569.73	16.61	3,288.74	3,288.78	0.00	765,519.81	734,637.04
12,000.00	88.48	89.71	8,892.38	4,572.38	17.11	3,388.70	3,388.74	0.00	765,520.31	734,737.00
12,100.00	88.48	89.71	8,895.03	4,575.03	17.62	3,488.66	3,488.71	0.00	765,520.82	734,836.96
12,200.00	88.48	89.71	8,897.67	4,577.67	18.12	3,588.63	3,588.67	0.00	765,521.32	734,936.93
12,300.00	88.48	89.71	8,900.32	4,580.32	18.63	3,688.59	3,688.64	0.00	765,521.83	735,036.89
12,400.00	88.48	89.71	8,902.96	4,582.96	19.13	3,788.55	3,788.60	0.00	765,522.33	735,136.85
12,500.00	88.48	89.71	8,905.61	4,585.61	19.64	3,888.52	3,888.57	0.00	765,522.84	735,236.82
12,600.00	88.48	89.71	8,908.25	4,588.25	20.14	3,988.48	3,988.53	0.00	765,523.34	735,336.78
12,700.00	88.48	89.71	8,910.90	4,590.90	20.65	4,088.45	4,088.50	0.00	765,523.85	735,436.75
12,800.00	88.48	89.71	8,913.55	4,593.55	21.15	4,188.41	4,188.46	0.00	765,524.35	735,536.71
12,900.00	88.48	89.71	8,916.19	4,596.19	21.66	4,288.37	4,288.43	0.00	765,524.86	735,636.67
13,000.00	88.48	89.71	8,918.84	4,598.84	22.16	4,388.34	4,388.39	0.00	765,525.36	735,736.64
13,043.98	88.48	89.71	8,920.00	4,600.00	22.39	4,432.30	4,432.36	0.00	765,525.59	735,780.60
PBHL(#2H)										



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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
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Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
PBHL(#2H)	0 00	0 00	8,920.00	22 39	4,432 30	765,525.585	735,780 602	33° 6' 10.071 N	103° 41' 54.101 W
- plan hits target									
- Point									

Checked By: _____ Approved By: _____ Date: _____



PROJECT DETAILS: Lea County(NAD83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid



Azimuths to Grid North
True North: -0.34°
Magnetic North: 7.58°

Magnetic Field
Strength: 49333.7nT
Dip Angle: 61.04°
Date: 08/24/2009
Model: IGRF200510

PATHFINDER

