

Submit 1 Copy 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

Form C-103
October 13, 2009

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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.)		WELL API NO. 30-015-43390 ✓
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐		5. Indicate Type of Lease STATE ☒ FEE ☐ ✓
2. Name of Operator COG Operating LLC ✓		6. State Oil & Gas Lease No.
3. Address of Operator 2208 W. Main Street, Artesia, NM 88210		7. Lease Name or Unit Agreement Name Lajitas BWQ State Com ✓
4. Well Location Unit Letter <u>O</u> : <u>660</u> feet from the <u>South</u> line and <u>2440</u> feet from the <u>East</u> line Section <u>26</u> Township <u>18S</u> Range <u>28E</u> NMPM <u>Eddy</u> County ✓		8. Well Number 1H ✓
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3492'		9. OGRID Number 229137 ✓
		10. Pool name or Wildcat Illinois Camp; Bone Spring, East ✓

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

NOTICE OF INTENTION TO:
PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
OTHER ☒ BHL Change

SUBSEQUENT REPORT OF:
REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

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 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

COG Operating LLC respectfully requests approval for the following changes to the original approved APD.

BHL

From: 660' FNL & 2310' FSL
To: 660' FSL & 50' FEL
C102 attached.

Section 25. T18S. R28E.
Section 25. T18S. R28E

DRILLING

TD for this well will be 14721'.

Cement pumped for production string will be upped to 2975 sxs.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Mayte Reyes TITLE: Regulatory Analyst DATE: 4/21/2016

Type or print name: Mayte Reyes E-mail address: mreyes1@conchoresources.com PHONE: (575) 748-6945

For State Use Only

APPROVED BY: [Signature] TITLE: Petroleum Engineer DATE: 08/15/2016

Conditions of Approval (if any):

DISTRICT I

1025 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-6720

DISTRICT II

811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 354-8178 Fax: (505) 354-8170

DISTRICT IV

1218 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3463State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1218 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

□ AMENDED REPORT

API Number 30-025-43390	Pool Code 33590	Pool Name Illinois Camp; Bone Spring
Property Code 316131	Property Name LAJITAS BWQ STATE COM	Well Number 1H
OGRID No. 229137	Operator Name COG OPERATING LLC	Elevation 3492

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	26	18 S	28 E		660	SOUTH	2440	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
P	25	18 S	28 E		660	SOUTH	50	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
240			

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

N. 627964.7 E. 596028.1 (NAD83)		N. 628003.6 E. 596315.8 (NAD83)		N. 628042.4 E. 601243.1 (NAD83)		N. 628080.1 E. 603818.5 (NAD83)		N. 628117.9 E. 606389.9 (NAD83)	
N. 625324.1 E. 596034.4 (NAD83)									
N. 625395.4 E. 601241.4 (NAD83)									
N. 625458.9 E. 606388.8 (NAD83)									
N. 622680.4 E. 596035.1 (NAD83)									
N. 627112.1 E. 598837.0 (NAD83)									
N. 625153.8 E. 629501.8 (NAD83)									
N. 622781.7 E. 603812.9 (NAD83)									
N. 622818.6 E. 606385.2 (NAD83)									

SURFACE LOCATION

Lat - N 32°42'48.80"

Long - W 104°08'47.39"

NMSPCE- N 623374.0

E 598801.4

(NAD-83)

Lat - N 32°42'48.38"

Long - W 104°08'45.56"

NMSPCE- N 623311.4

E 557622.0

(NAD-27)

BOTTOM HOLE LOCATION

Lat - N 32°42'49.69"

Long - W 104°07'19.20"

NMSPCE- N 623478.0

E 606335.6

(NAD-83)

Lat - N 32°42'49.27"

Long - W 104°07'17.37"

NMSPCE- N 623415.4

E 565156.2

(NAD-27)

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 undivided 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 order heretofore entered by the division.

Signature: Mayte Reyes Date: 4-21-16

Printed Name: Mayte Reyes

Email Address: mreyes1@concho.com

SURVEYOR CERTIFICATION

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

Date Surveyed: 7/7/15

Signature & Seal of Professional Land Surveyor: [Signature]

Certificate No. Gary L. Jones 7977

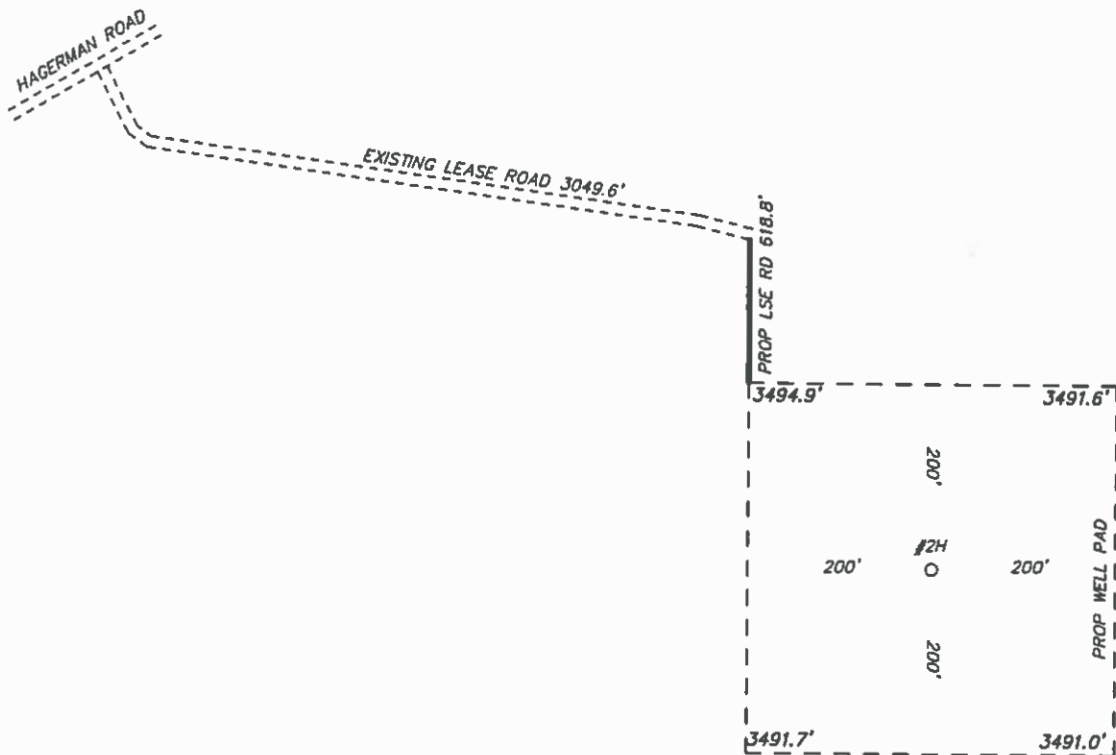
BASIN SURVEYS

0' 500' 1000' 1500' 2000'

SCALE: 1" = 1000'

WO Num.: 31835

SECTION 26, TOWNSHIP 18 SOUTH, RANGE 28 EAST. N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

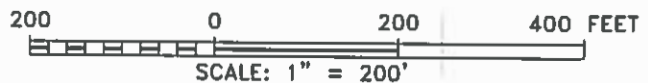


COG OPERATING LLC
LAJITAS BWQ STATE COM #1H
ELEV. - 3492'
Lat - N 32°42'48.80"
Long - W 104°08'47.39"
NMSPCE- N 623374.0
E 598801.4
(NAD-83)

Directions to Location:

FROM THE INTERSECTION OF DEPCO AND HAGERMAN CUTOFF
GO EAST ON HAGERMAN CUTOFF 1.55 MILES, GO EAST ON
EXISTING LEASE ROAD 0.60 MILES TO PROPOSED LEASE
ROAD DUE SOUTH.

LOCO HILLS, NM IS ±8 MILES TO THE NORTHEAST OF LOCATION.



COG OPERATING, LLC

REF: LAJITAS BWQ STATE COM #1H / WELL PAD TOPO

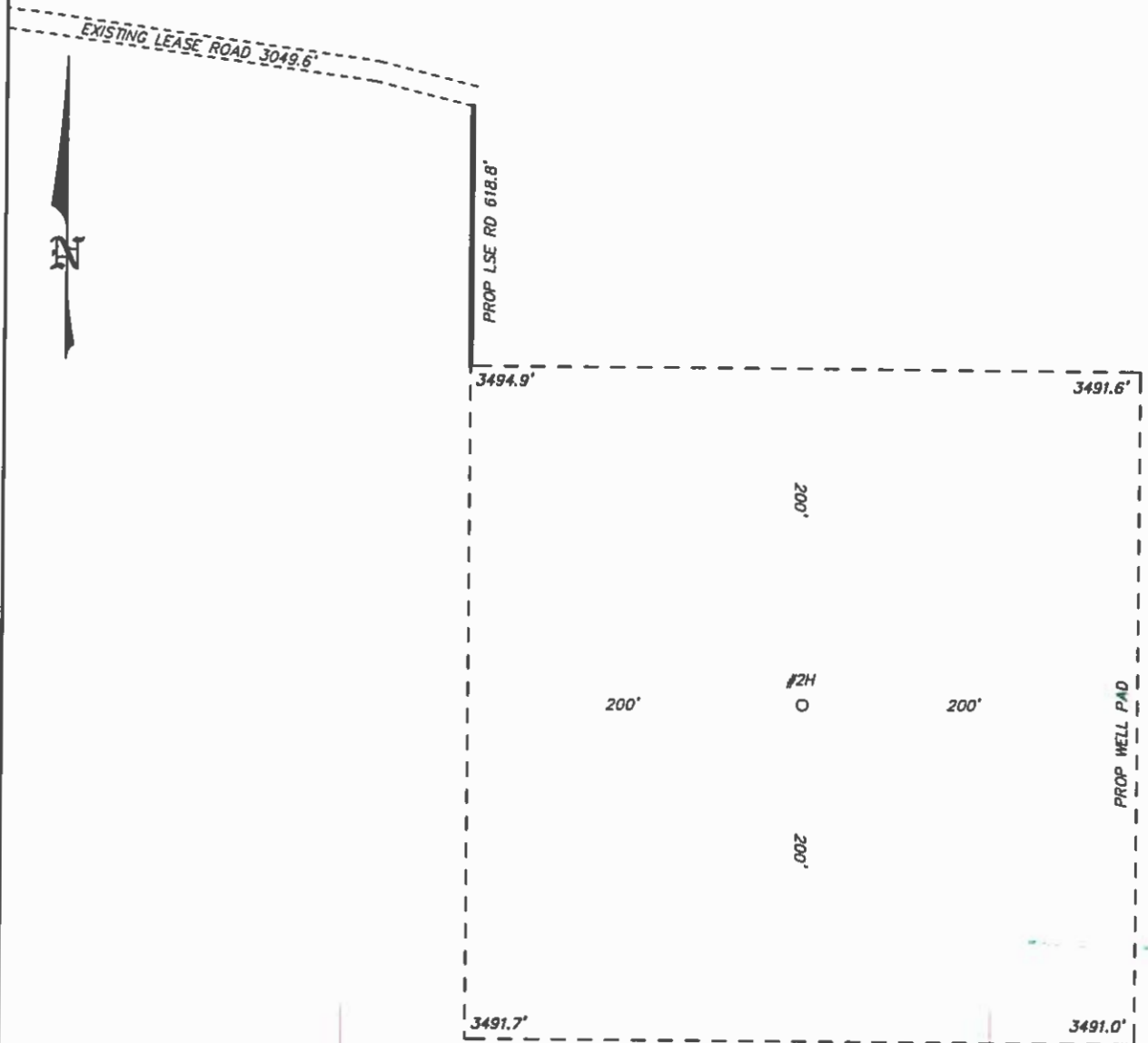
THE LAJITAS BWQ STATE COM #1H LOCATED 660' FROM
THE SOUTH LINE AND 2440' FROM THE EAST LINE OF
SECTION 26, TOWNSHIP 18 SOUTH, RANGE 28 EAST.

N.M.P.M., EDDY COUNTY, NEW MEXICO.



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

SECTION 26, TOWNSHIP 18 SOUTH, RANGE 28 EAST. N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



COG OPERATING, LLC

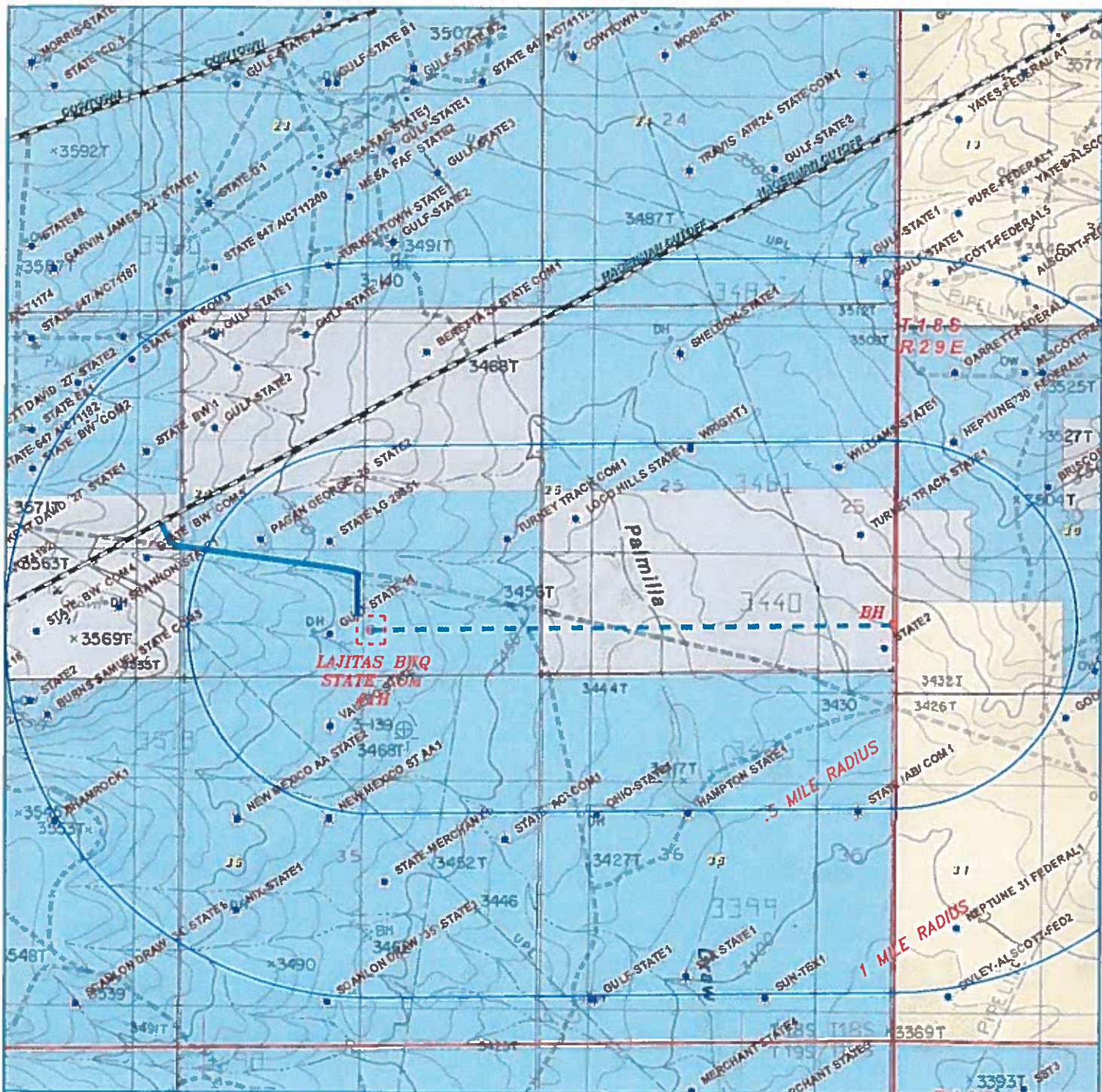
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LAJITAS BWQ STATE COM #1H

Located 660' FSL and 2440' FEL

Section 26, Township 18 South, Range 28 East,
N.M.P.M., Eddy County, New Mexico.

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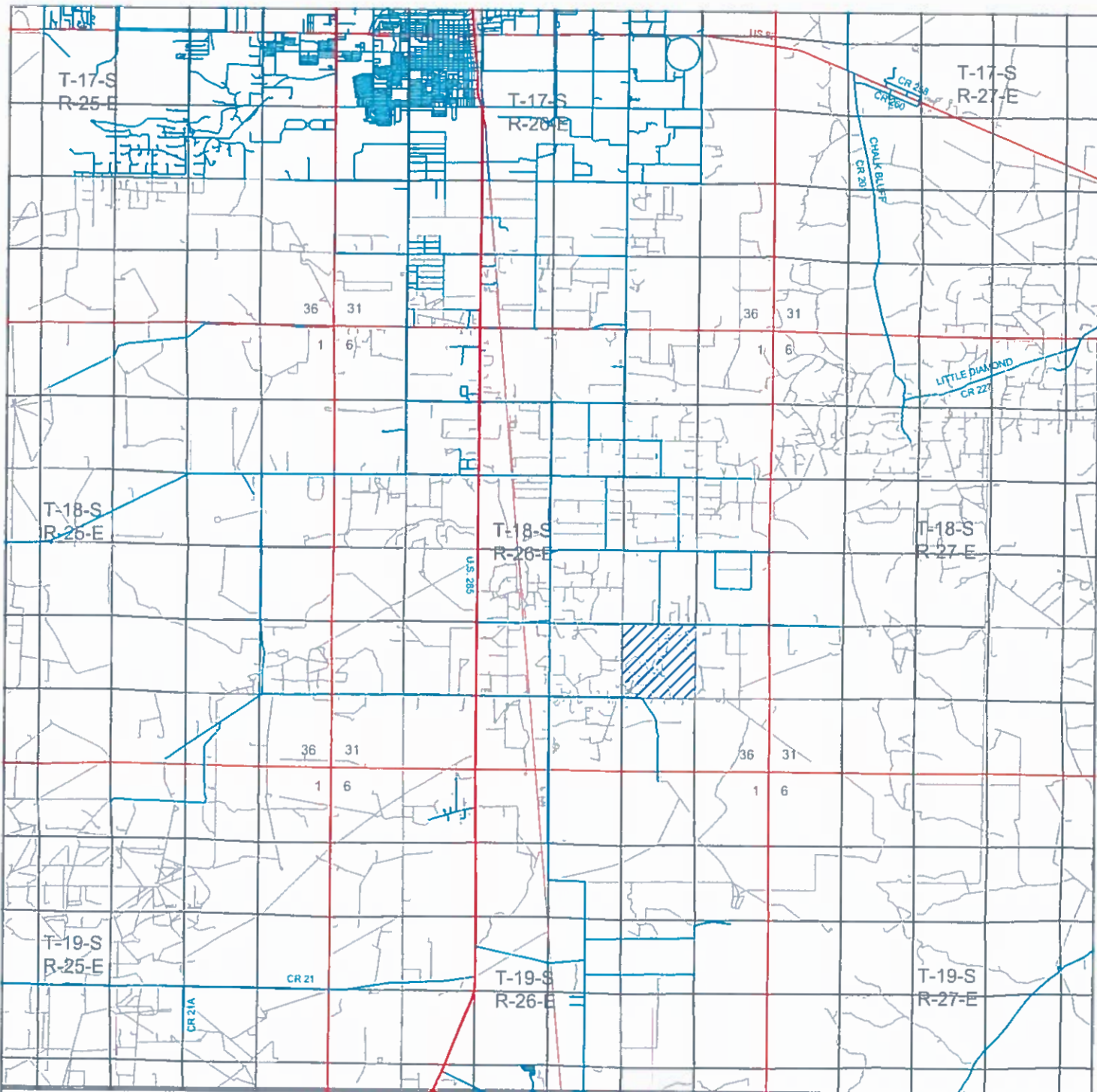
0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'

W.O. Number: KAN 31835

Survey Date: 08-10-2015

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

COG
OPERATING,
LLC



LAJITAS BWQ STATE COM #1H

Located 660' FSL and 2440' FEL
 Section 26, Township 18 South, Range 28 East,
 N.M.P.M., Eddy County, New Mexico.



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

0 1 MI 2 MI 3 MI 4 MI
 SCALE: 1" = 2 MILES

W.O. Number: KAN 31835

Survey Date: 08-10-2015

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

**COG
 OPERATING,
 LLC**

COG Production L L C

Lea County, NM (NAD27 NME)

Sec. 26, T 18S. , R 28 E

Lajitas BWQ State C #1H

Wellbore #1

Plan: Plan #1

Standard Survey Report

20 April, 2016

Integrity Directional Services, LLC

Survey Report

Company:	COG Production L L C	Local Co-ordinate Reference:	Well Lajitas BWQ State C #1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=20' @ 3512.0usft
Site:	Sec. 26, T 18S. , R 28 E	MD Reference:	KB=20' @ 3512.0usft
Well:	Lajitas BWQ State C #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Multi User Db

Project	Lea County, NM (NAD27 NME)		
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	Sec. 26, T 18S. , R 28 E				
Site Position:		Northing:	623,311.40 usft	Latitude:	32° 42' 48.384 N
From:	Map	Easting:	557,622.00 usft	Longitude:	104° 8' 45.556 W
Position Uncertainty:	5.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.10 °

Well	Lajitas BWQ State C #1H					
Well Position	+N/-S	0.0 usft	Northing:	623,311.40 usft	Latitude:	32° 42' 48.384 N
	+E/-W	0.0 usft	Easting:	557,622.00 usft	Longitude:	104° 8' 45.556 W
Position Uncertainty		5.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,492.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/7/2016	7.38	60.43	48,289

Design	Plan #1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	89.21	

Survey Tool Program	Date 4/20/2016				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	14,721.8	Plan #1 (Wellbore #1)	MWD	MWD - Standard	

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
97.0	0.00	0.00	97.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustier									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
212.0	0.00	0.00	212.0	0.0	0.0	0.0	0.00	0.00	0.00
TOS									
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report

Company:	COG Production L L C	Local Co-ordinate Reference:	Well Lajitas BWQ State C #1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=20' @ 3512.0usft
Site:	Sec. 26, T 18S, R 28 E	MD Reference:	KB=20' @ 3512.0usft
Well:	Lajitas BWQ State C #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Multi User Db

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)
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
687.0	0.00	0.00	687.0	0.0	0.0	0.0	0.00	0.00	0.00
BOS / Tansill									
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
815.0	0.00	0.00	815.0	0.0	0.0	0.0	0.00	0.00	0.00
Yates									
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,153.0	0.00	0.00	1,153.0	0.0	0.0	0.0	0.00	0.00	0.00
Seven Rivers									
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,786.0	0.00	0.00	1,786.0	0.0	0.0	0.0	0.00	0.00	0.00
Queen									
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,170.0	0.00	0.00	2,170.0	0.0	0.0	0.0	0.00	0.00	0.00
Grayberg									
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,597.0	0.00	0.00	2,597.0	0.0	0.0	0.0	0.00	0.00	0.00
San Andres									
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,662.0	0.00	0.00	3,662.0	0.0	0.0	0.0	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report

Company:	COG Production L L C	Local Co-ordinate Reference:	Well Lajitas BWQ State C #1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=20' @ 3512.0usft
Site:	Sec. 26, T 18S. , R 28 E	MD Reference:	KB=20' @ 3512.0usft
Well:	Lajitas BWQ State C #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Multi User Db

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)
Bone Sprg (BSGL)									
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,401.0	0.00	0.00	6,401.0	0.0	0.0	0.0	0.00	0.00	0.00
FBSG_sand									
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,910.8	0.00	0.00	6,910.8	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 12.00									
7,000.0	10.70	89.21	6,999.5	0.1	8.3	8.3	12.00	12.00	0.00
7,100.0	22.70	89.21	7,095.1	0.5	37.0	37.0	12.00	12.00	0.00
7,200.0	34.70	89.21	7,182.6	1.2	84.9	84.9	12.00	12.00	0.00
7,224.0	37.58	89.21	7,202.0	1.4	99.1	99.1	12.00	12.00	0.00
SBSG_sand									
7,300.0	46.70	89.21	7,258.3	2.1	150.0	150.0	12.00	12.00	0.00

Integrity Directional Services, LLC

Survey Report

Company:	COG Production L L C	Local Co-ordinate Reference:	Well Lajitas BWQ State C #1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=20' @ 3512.0usft
Site:	Sec. 26, T 18S. , R 28 E	MD Reference:	KB=20' @ 3512.0usft
Well:	Lajitas BWQ State C #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Multi User Db

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)
7,400.0	58.70	89.21	7,318.8	3.2	229.4	229.4	12.00	12.00	0.00
7,500.0	70.70	89.21	7,361.4	4.4	319.7	319.7	12.00	12.00	0.00
7,600.0	82.70	89.21	7,384.4	5.8	416.8	416.8	12.00	12.00	0.00
7,645.6	88.18	89.21	7,388.0	6.4	462.2	462.3	12.00	12.00	0.00
Start 7076.2 hold at 7645.6 MD									
7,700.0	88.18	89.21	7,389.8	7.1	516.6	516.6	0.00	0.00	0.00
7,800.0	88.18	89.21	7,392.9	8.5	616.5	616.6	0.00	0.00	0.00
7,900.0	88.18	89.21	7,396.1	9.9	716.5	716.5	0.00	0.00	0.00
8,000.0	88.18	89.21	7,399.3	11.3	816.4	816.5	0.00	0.00	0.00
8,100.0	88.18	89.21	7,402.5	12.6	916.4	916.4	0.00	0.00	0.00
8,200.0	88.18	89.21	7,405.6	14.0	1,016.3	1,016.4	0.00	0.00	0.00
8,300.0	88.18	89.21	7,408.8	15.4	1,116.2	1,116.3	0.00	0.00	0.00
8,400.0	88.18	89.21	7,412.0	16.8	1,216.2	1,216.3	0.00	0.00	0.00
8,500.0	88.18	89.21	7,415.2	18.2	1,316.1	1,316.2	0.00	0.00	0.00
8,600.0	88.18	89.21	7,418.4	19.5	1,416.0	1,416.2	0.00	0.00	0.00
8,700.0	88.18	89.21	7,421.5	20.9	1,516.0	1,516.1	0.00	0.00	0.00
8,800.0	88.18	89.21	7,424.7	22.3	1,615.9	1,616.1	0.00	0.00	0.00
8,900.0	88.18	89.21	7,427.9	23.7	1,715.9	1,716.0	0.00	0.00	0.00
9,000.0	88.18	89.21	7,431.1	25.1	1,815.8	1,816.0	0.00	0.00	0.00
9,100.0	88.18	89.21	7,434.3	26.4	1,915.7	1,915.9	0.00	0.00	0.00
9,200.0	88.18	89.21	7,437.4	27.8	2,015.7	2,015.9	0.00	0.00	0.00
9,300.0	88.18	89.21	7,440.6	29.2	2,115.6	2,115.8	0.00	0.00	0.00
9,400.0	88.18	89.21	7,443.8	30.6	2,215.6	2,215.8	0.00	0.00	0.00
9,500.0	88.18	89.21	7,447.0	32.0	2,315.5	2,315.7	0.00	0.00	0.00
9,600.0	88.18	89.21	7,450.2	33.3	2,415.4	2,415.7	0.00	0.00	0.00
9,700.0	88.18	89.21	7,453.3	34.7	2,515.4	2,515.6	0.00	0.00	0.00
9,800.0	88.18	89.21	7,456.5	36.1	2,615.3	2,615.6	0.00	0.00	0.00
9,900.0	88.18	89.21	7,459.7	37.5	2,715.3	2,715.5	0.00	0.00	0.00
10,000.0	88.18	89.21	7,462.9	38.9	2,815.2	2,815.5	0.00	0.00	0.00
10,100.0	88.18	89.21	7,466.1	40.2	2,915.1	2,915.4	0.00	0.00	0.00
10,200.0	88.18	89.21	7,469.2	41.6	3,015.1	3,015.4	0.00	0.00	0.00
10,300.0	88.18	89.21	7,472.4	43.0	3,115.0	3,115.3	0.00	0.00	0.00
10,400.0	88.18	89.21	7,475.6	44.4	3,215.0	3,215.3	0.00	0.00	0.00
10,500.0	88.18	89.21	7,478.8	45.8	3,314.9	3,315.2	0.00	0.00	0.00
10,600.0	88.18	89.21	7,482.0	47.1	3,414.8	3,415.2	0.00	0.00	0.00
10,700.0	88.18	89.21	7,485.1	48.5	3,514.8	3,515.1	0.00	0.00	0.00
10,800.0	88.18	89.21	7,488.3	49.9	3,614.7	3,615.1	0.00	0.00	0.00
10,900.0	88.18	89.21	7,491.5	51.3	3,714.7	3,715.0	0.00	0.00	0.00
11,000.0	88.18	89.21	7,494.7	52.7	3,814.6	3,815.0	0.00	0.00	0.00
11,100.0	88.18	89.21	7,497.9	54.0	3,914.5	3,914.9	0.00	0.00	0.00
11,200.0	88.18	89.21	7,501.0	55.4	4,014.5	4,014.9	0.00	0.00	0.00
11,300.0	88.18	89.21	7,504.2	56.8	4,114.4	4,114.8	0.00	0.00	0.00
11,400.0	88.18	89.21	7,507.4	58.2	4,214.4	4,214.8	0.00	0.00	0.00
11,500.0	88.18	89.21	7,510.6	59.6	4,314.3	4,314.7	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report

Company:	COG Production L L C	Local Co-ordinate Reference:	Well Lajitas BWQ State C #1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=20' @ 3512.0usft
Site:	Sec. 26, T 18S. , R 28 E	MD Reference:	KB=20' @ 3512.0usft
Well:	Lajitas BWQ State C #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Multi User Db

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)
11,600.0	88.18	89.21	7,513.8	60.9	4,414.2	4,414.7	0.00	0.00	0.00
11,700.0	88.18	89.21	7,516.9	62.3	4,514.2	4,514.6	0.00	0.00	0.00
11,800.0	88.18	89.21	7,520.1	63.7	4,614.1	4,614.6	0.00	0.00	0.00
11,900.0	88.18	89.21	7,523.3	65.1	4,714.1	4,714.5	0.00	0.00	0.00
12,000.0	88.18	89.21	7,526.5	66.5	4,814.0	4,814.5	0.00	0.00	0.00
12,100.0	88.18	89.21	7,529.6	67.8	4,913.9	4,914.4	0.00	0.00	0.00
12,200.0	88.18	89.21	7,532.8	69.2	5,013.9	5,014.4	0.00	0.00	0.00
12,300.0	88.18	89.21	7,536.0	70.6	5,113.8	5,114.3	0.00	0.00	0.00
12,400.0	88.18	89.21	7,539.2	72.0	5,213.8	5,214.3	0.00	0.00	0.00
12,500.0	88.18	89.21	7,542.4	73.3	5,313.7	5,314.2	0.00	0.00	0.00
12,600.0	88.18	89.21	7,545.5	74.7	5,413.6	5,414.2	0.00	0.00	0.00
12,700.0	88.18	89.21	7,548.7	76.1	5,513.6	5,514.1	0.00	0.00	0.00
12,800.0	88.18	89.21	7,551.9	77.5	5,613.5	5,614.1	0.00	0.00	0.00
12,900.0	88.18	89.21	7,555.1	78.9	5,713.5	5,714.0	0.00	0.00	0.00
13,000.0	88.18	89.21	7,558.3	80.2	5,813.4	5,814.0	0.00	0.00	0.00
13,100.0	88.18	89.21	7,561.4	81.6	5,913.3	5,913.9	0.00	0.00	0.00
13,200.0	88.18	89.21	7,564.6	83.0	6,013.3	6,013.9	0.00	0.00	0.00
13,300.0	88.18	89.21	7,567.8	84.4	6,113.2	6,113.8	0.00	0.00	0.00
13,400.0	88.18	89.21	7,571.0	85.8	6,213.2	6,213.8	0.00	0.00	0.00
13,500.0	88.18	89.21	7,574.2	87.1	6,313.1	6,313.7	0.00	0.00	0.00
13,600.0	88.18	89.21	7,577.3	88.5	6,413.0	6,413.7	0.00	0.00	0.00
13,700.0	88.18	89.21	7,580.5	89.9	6,513.0	6,513.6	0.00	0.00	0.00
13,800.0	88.18	89.21	7,583.7	91.3	6,612.9	6,613.6	0.00	0.00	0.00
13,900.0	88.18	89.21	7,586.9	92.7	6,712.9	6,713.5	0.00	0.00	0.00
14,000.0	88.18	89.21	7,590.1	94.0	6,812.8	6,813.5	0.00	0.00	0.00
14,100.0	88.18	89.21	7,593.2	95.4	6,912.7	6,913.4	0.00	0.00	0.00
14,200.0	88.18	89.21	7,596.4	96.8	7,012.7	7,013.4	0.00	0.00	0.00
14,300.0	88.18	89.21	7,599.6	98.2	7,112.6	7,113.3	0.00	0.00	0.00
14,400.0	88.18	89.21	7,602.8	99.6	7,212.6	7,213.3	0.00	0.00	0.00
14,500.0	88.18	89.21	7,606.0	100.9	7,312.5	7,313.2	0.00	0.00	0.00
14,600.0	88.18	89.21	7,609.1	102.3	7,412.4	7,413.2	0.00	0.00	0.00
14,700.0	88.18	89.21	7,612.3	103.7	7,512.4	7,513.1	0.00	0.00	0.00
14,721.8	88.18	89.21	7,613.0	104.0	7,534.2	7,534.9	0.00	0.00	0.00
TD at 14721.8									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Lajitas BWQ State C #1 - hit/miss target - Shape - Point	0.00	0.00	7,613.0	104.0	7,534.2	623,415.40	565,156.20	32° 42' 49.273 N	104° 7' 17.369 W

Integrity Directional Services, LLC

Survey Report

Company:	COG Production L L C	Local Co-ordinate Reference:	Well Lajitas BWQ State C #1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=20' @ 3512.0usft
Site:	Sec. 26, T 18S. , R 28 E	MD Reference:	KB=20' @ 3512.0usft
Well:	Lajitas BWQ State C #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Multi User Db

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
400.0	400.0	13 3/8"	13-3/8	17-1/2
3,200.0	3,200.0	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
97.0	97.0	Rustler	Empty	0.00	
212.0	212.0	TOS	Empty	0.00	
687.0	687.0	BOS / Tansill	Empty	0.00	
815.0	815.0	Yates	Empty	0.00	
1,153.0	1,153.0	Seven Rivers	Empty	0.00	
1,786.0	1,786.0	Queen	Empty	0.00	
2,170.0	2,170.0	Grayberg	Empty	0.00	
2,597.0	2,597.0	San Andres	Empty	0.00	
3,662.0	3,662.0	Bone Sprg (BSGL)	Empty	0.00	
6,401.0	6,401.0	FBSG_sand	Empty	0.00	
7,224.0	7,202.0	SBSG_sand	Empty	0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
6911	6911	0	0	Start Build 12.00
7646	7388	6	462	Start 7076.2 hold at 7645.6 MD
14,722	7613	104	7534	TD at 14721.8

Checked By: _____ Approved By: _____ Date: _____

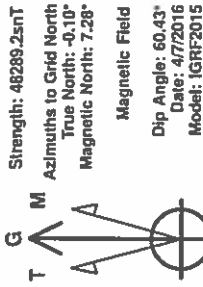
COG Production L.L.C

Project: Lea County, NM (NAD27 NME)
Site: Sec. 26, T. 18S., R. 28 E
Well: Lajitas BWQ State C #1H
Wellbore: Wellbore #1

Plan: Plan #1 (Lajitas BWQ State C #1H/Wellbore #1)

Section Details

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
6910.8	0.00	0.00	6910.8	0.0	0.0	0.00	0.00	0.0	
7645.6	88.18	89.21	7388.0	6.4	462.2	12.00	89.21	462.3	Lajitas BWQ State C #1H PBHL
14721.8	88.18	89.21	7613.0	104.0	7534.2	0.00	0.00	7534.9	Lajitas BWQ State C #1H PBHL



WELL DETAILS: Lajitas BWQ State C #1H

Ground Elevation:: 3492.0
RKB Elevation: KB=20' @ 3512.0usft
Rig Name:

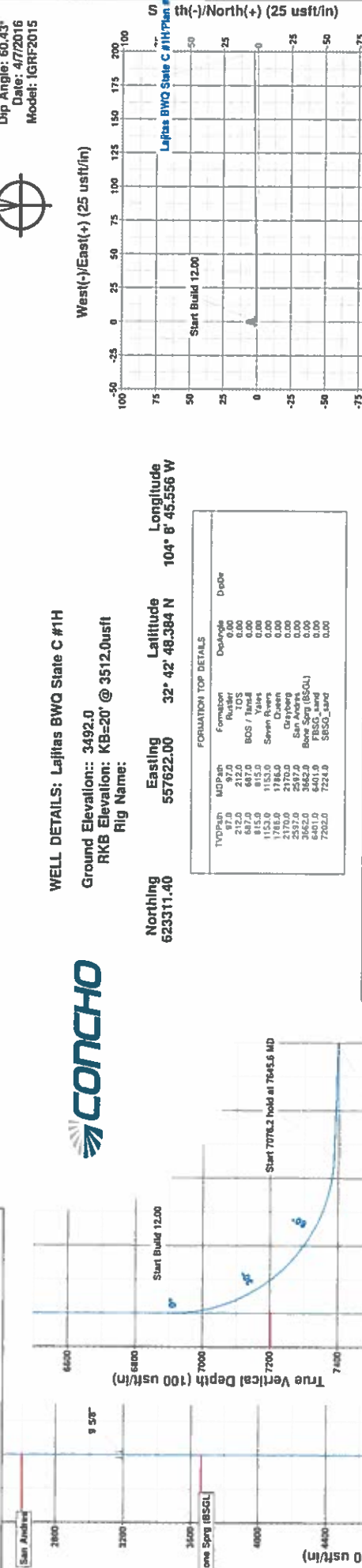
Northing 623311.40
Easting 557622.00
Latitude 32° 42' 48.384 N
Longitude 104° 6' 45.556 W

FORMATION TOP DETAILS			
TVD(ft)	MD(ft)	Formation	Dip(°)
97.0	212.0	TOB	0.00
687.0	687.0	BOG / Tusa	0.00
1153.0	1153.0	Seven	0.00
1786.0	1786.0	Seven	0.00
2170.0	2170.0	Grayberg	0.00
2557.0	2557.0	Salt	0.00
3622.0	3622.0	Black	0.00
6401.0	6401.0	FBSC sand	0.00
7202.0	7202.0	SBSC sand	0.00

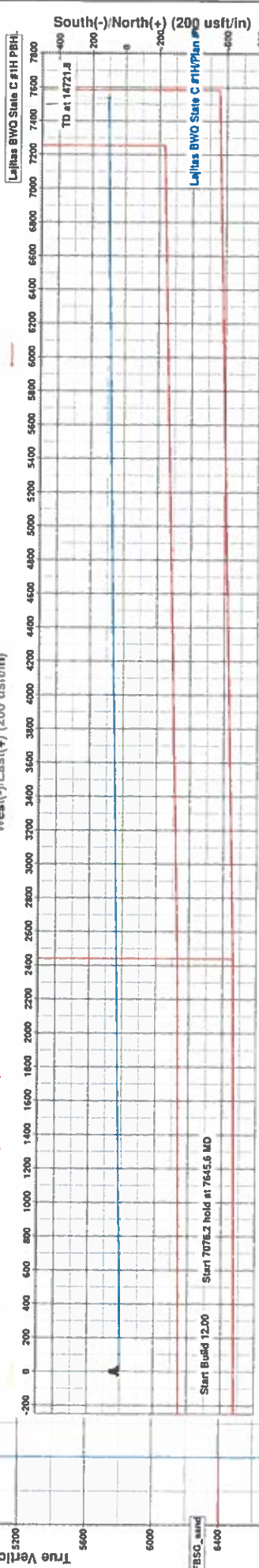
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Lajitas BWQ State C #1H PBHL	7613.0	104.0	7534.2	623311.40	557622.00	32° 42' 48.384 N	104° 6' 45.556 W	Point

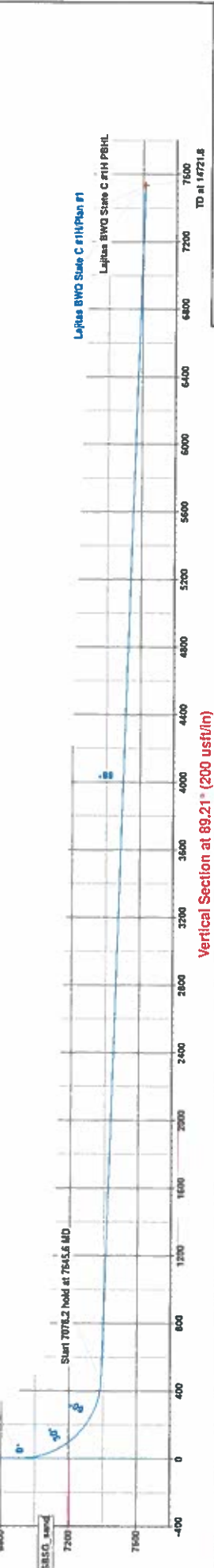
Vertical Section at 89.21° (100 usft/in)



West(-)/East(+) (200 usft/in)



South(-)/North(+) (200 usft/in)



Vertical Section at 89.21° (200 usft/in)



PROJECT DETAILS: Lea County, NM (NAD27 NME)
Geoid 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

Integrity Directional Services

