

DISTRICT I
1025 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
1230 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

NM OIL CONSERVATION
ARTESIA DISTRICT

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

MAR 10 2015

DAMENED REPORT

WELL LOCATION AND ACREAGE DEDICATION RECEIVED

API Number 30-015- 42977	Pool Code 97788	Pool Name Wildcat;G-01 S192617K; GL-Yeso
Property Code 39004	Property Name BRADLEY 8 FEE	Well Number 5H
GRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3373'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	8	19-S	26-E		150	SOUTH	990	WEST	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
D	8	19-S	26-E		330	NORTH	985	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=611972.4 N, X=475739.2 E B - Y=611972.9 N, X=477054.2 E C - Y=606657.7 N, X=477143.4 E D - Y=606665.7 N, X=475820.8 E GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=606809.7 N X=476808.5 E BOTTOM HOLE LOCATION Y=611642.9 N X=476729.1 E Estimated Completed Interval: 330 FSL 990 FWL	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. 3-10-15 Signature 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. AUGUST 30, 2013 Date of Survey 09/10/2013 Signature & Seal of Professional Surveyor Certificate Number Gary G. Edson 12641 Ronald F. Edson 3239 BKL JWSC W.O. 13.11.9983



COG Operating LLC

Eddy County, NM (NAD27 NME)

Bradley 8 Fee

#5H

WB1

Plan: Plan #1 03-09-15

Surface: 150' FSL, 990' FWL, Sec 8, T19S, R26E, Unit M

PP: 330' FSL, 990' FWL, Sec 8, T19S, R26E, Unit M

BHL: 330' FNL, 985' FWL, Sec 8, T19S, R26E, Unit D

Standard Planning Report

09 March, 2015





Planning Report



Database: Compass 5000 GCR
Company: COG Operating LLC
Project: Eddy County, NM (NAD27 NME)
Site: Bradley 8 Fee
Well: #5H
Wellbore: WB1
Design: Plan #1-03-09-15

Local Co-ordinate Reference: Well #5H
TVD Reference: KB @ 3391.00usft (Silver Oak 3)
MD Reference: KB @ 3391.00usft (Silver Oak 3)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project Eddy County, NM (NAD27 NME)

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

System Datum: Mean Sea Level

Site Bradley 8 Fee

Site Position: Northing: 606,797.50 usft Latitude: 32° 40' 5.40482 N
From: Map Easting: 478,847.80 usft Longitude: 104° 24' 7.45386 W
Position Uncertainty: 0.00 usft Slot Radius: 13-3/16 " Grid Convergence: -0.04 °

Well #5H

Well Position +N/-S 12.20 usft Northing: 606,809.70 usft Latitude: 32° 40' 5.51185 N
+E/-W -2,039.30 usft Easting: 476,808.50 usft Longitude: 104° 24' 31.31116 W
Position Uncertainty 0.00 usft Wellhead Elevation: 0.00 usft Ground Level: 3,373.00 usft

Wellbore WB1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/9/2015	7.62	60.36	48.345

Design Plan #1-03-09-15

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.06

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	
2,554.60	0.00	0.00	2,554.60	0.00	0.00	0.00	0.00	0.00	0.00	
3,377.33	90.50	359.06	3,075.45	525.35	-8.63	11.00	11.00	0.00	359.06	
7,685.93	90.50	359.06	3,037.85	4,833.20	-79.40	0.00	0.00	0.00	0.00	PBHL-Bradley 8 #5H



Planning Report



Database: Compass 5000 GCR
Company: COG Operating LLC
Project: Eddy County, NM (NAD27 NME)
Site: Bradley 8 Fee
Well: #5H
Wellbore: WVB1
Design: Plan #1 03-09-15

Local Co-ordinate Reference: Well #5H
TVD Reference: KB @ 3391.00usft (Silver Oak 3)
MD Reference: KB @ 3391.00usft (Silver Oak 3)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
2,554.60	0.00	0.00	2,554.60	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Start 11°/100' Build									
2,600.00	4.99	359.06	2,599.94	1.98	-0.03	1.98	11.00	11.00	0.00
2,700.00	15.99	359.06	2,698.12	20.16	-0.33	20.16	11.00	11.00	0.00
2,800.00	26.99	359.06	2,791.02	56.74	-0.93	56.75	11.00	11.00	0.00
2,900.00	37.99	359.06	2,875.24	110.37	-1.81	110.39	11.00	11.00	0.00
3,000.00	48.99	359.06	2,947.67	179.08	-2.94	179.11	11.00	11.00	0.00
3,001.21	49.13	359.06	2,948.46	180.00	-2.96	180.02	11.00	11.00	0.00
PP-Bradley 8 #5H									
3,100.00	59.99	359.06	3,005.66	260.35	-4.28	260.39	11.00	11.00	0.00
3,200.00	70.99	359.06	3,047.07	351.19	-5.77	351.24	11.00	11.00	0.00
3,300.00	81.99	359.06	3,070.39	448.27	-7.36	448.33	11.00	11.00	0.00
3,371.34	89.84	359.06	3,075.47	519.36	-8.53	519.43	11.00	11.00	0.00
TL, 3080' TVD @ 0 VZ, 90.5° Inc									
3,377.33	90.50	359.06	3,075.45	525.35	-8.63	525.42	10.99	10.99	0.00
LP, Hold 90.5° Inc, 359.06° Azm									
3,400.00	90.50	359.06	3,075.25	548.02	-9.00	548.09	0.00	0.00	0.00
3,500.00	90.50	359.06	3,074.38	648.00	-10.65	648.09	0.00	0.00	0.00
3,600.00	90.50	359.06	3,073.51	747.98	-12.29	748.08	0.00	0.00	0.00
3,700.00	90.50	359.06	3,072.63	847.96	-13.93	848.08	0.00	0.00	0.00
3,800.00	90.50	359.06	3,071.76	947.95	-15.57	948.07	0.00	0.00	0.00
3,900.00	90.50	359.06	3,070.89	1,047.93	-17.22	1,048.07	0.00	0.00	0.00
4,000.00	90.50	359.06	3,070.02	1,147.91	-18.86	1,148.07	0.00	0.00	0.00
4,100.00	90.50	359.06	3,069.14	1,247.89	-20.50	1,248.06	0.00	0.00	0.00
4,200.00	90.50	359.06	3,068.27	1,347.88	-22.14	1,348.06	0.00	0.00	0.00
4,300.00	90.50	359.06	3,067.40	1,447.86	-23.79	1,448.06	0.00	0.00	0.00
4,400.00	90.50	359.06	3,066.52	1,547.84	-25.43	1,548.05	0.00	0.00	0.00
4,500.00	90.50	359.06	3,065.65	1,647.83	-27.07	1,648.05	0.00	0.00	0.00
4,600.00	90.50	359.06	3,064.78	1,747.81	-28.71	1,748.04	0.00	0.00	0.00
4,700.00	90.50	359.06	3,063.91	1,847.79	-30.36	1,848.04	0.00	0.00	0.00
4,800.00	90.50	359.06	3,063.03	1,947.77	-32.00	1,948.04	0.00	0.00	0.00
4,900.00	90.50	359.06	3,062.16	2,047.76	-33.64	2,048.03	0.00	0.00	0.00
5,000.00	90.50	359.06	3,061.29	2,147.74	-35.28	2,148.03	0.00	0.00	0.00
5,100.00	90.50	359.06	3,060.42	2,247.72	-36.93	2,248.03	0.00	0.00	0.00
5,200.00	90.50	359.06	3,059.54	2,347.70	-38.57	2,348.02	0.00	0.00	0.00
5,300.00	90.50	359.06	3,058.67	2,447.69	-40.21	2,448.02	0.00	0.00	0.00
5,400.00	90.50	359.06	3,057.80	2,547.67	-41.85	2,548.01	0.00	0.00	0.00
5,500.00	90.50	359.06	3,056.93	2,647.65	-43.50	2,648.01	0.00	0.00	0.00
5,600.00	90.50	359.06	3,056.05	2,747.64	-45.14	2,748.01	0.00	0.00	0.00
5,700.00	90.50	359.06	3,055.18	2,847.62	-46.78	2,848.00	0.00	0.00	0.00
5,800.00	90.50	359.06	3,054.31	2,947.60	-48.42	2,948.00	0.00	0.00	0.00
5,900.00	90.50	359.06	3,053.44	3,047.58	-50.07	3,047.99	0.00	0.00	0.00
6,000.00	90.50	359.06	3,052.56	3,147.57	-51.71	3,147.99	0.00	0.00	0.00
6,100.00	90.50	359.06	3,051.69	3,247.55	-53.35	3,247.99	0.00	0.00	0.00
6,200.00	90.50	359.06	3,050.82	3,347.53	-54.99	3,347.98	0.00	0.00	0.00
6,300.00	90.50	359.06	3,049.94	3,447.51	-56.64	3,447.98	0.00	0.00	0.00
6,400.00	90.50	359.06	3,049.07	3,547.50	-58.28	3,547.98	0.00	0.00	0.00
6,500.00	90.50	359.06	3,048.20	3,647.48	-59.92	3,647.97	0.00	0.00	0.00
6,600.00	90.50	359.06	3,047.33	3,747.46	-61.56	3,747.97	0.00	0.00	0.00
6,700.00	90.50	359.06	3,046.45	3,847.45	-63.21	3,847.96	0.00	0.00	0.00
6,800.00	90.50	359.06	3,045.58	3,947.43	-64.85	3,947.96	0.00	0.00	0.00
6,900.00	90.50	359.06	3,044.71	4,047.41	-66.49	4,047.96	0.00	0.00	0.00
7,000.00	90.50	359.06	3,043.84	4,147.39	-68.13	4,147.95	0.00	0.00	0.00

Database:	Compass 5000 GCR	Local Co-ordinate Reference:	Well #5H
Company:	COG Operating LLC	TVD Reference:	KB @ 3391.00usft (Silver Oak 3)
Project:	Eddy County, NM (NAD27-NME)	MD Reference:	KB @ 3391.00usft (Silver Oak 3)
Site:	Bradley 8 Fee	North Reference:	Grid
Well:	#5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #1 03-09-15		

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)
7,100.00	90.50	359.06	3,042.96	4,247.38	-69.78	4,247.95	0.00	0.00	0.00
7,200.00	90.50	359.06	3,042.09	4,347.36	-71.42	4,347.95	0.00	0.00	0.00
7,300.00	90.50	359.06	3,041.22	4,447.34	-73.06	4,447.94	0.00	0.00	0.00
7,400.00	90.50	359.06	3,040.35	4,547.32	-74.70	4,547.94	0.00	0.00	0.00
7,500.00	90.50	359.06	3,039.47	4,647.31	-76.35	4,647.93	0.00	0.00	0.00
7,600.00	90.50	359.06	3,038.60	4,747.29	-77.99	4,747.93	0.00	0.00	0.00
7,685.93	90.50	359.06	3,037.85	4,833.20	-79.40	4,833.85	0.00	0.00	0.00
TD at 7685.93' MD - PBHL-Bradley 8 #5H									

Design Targets

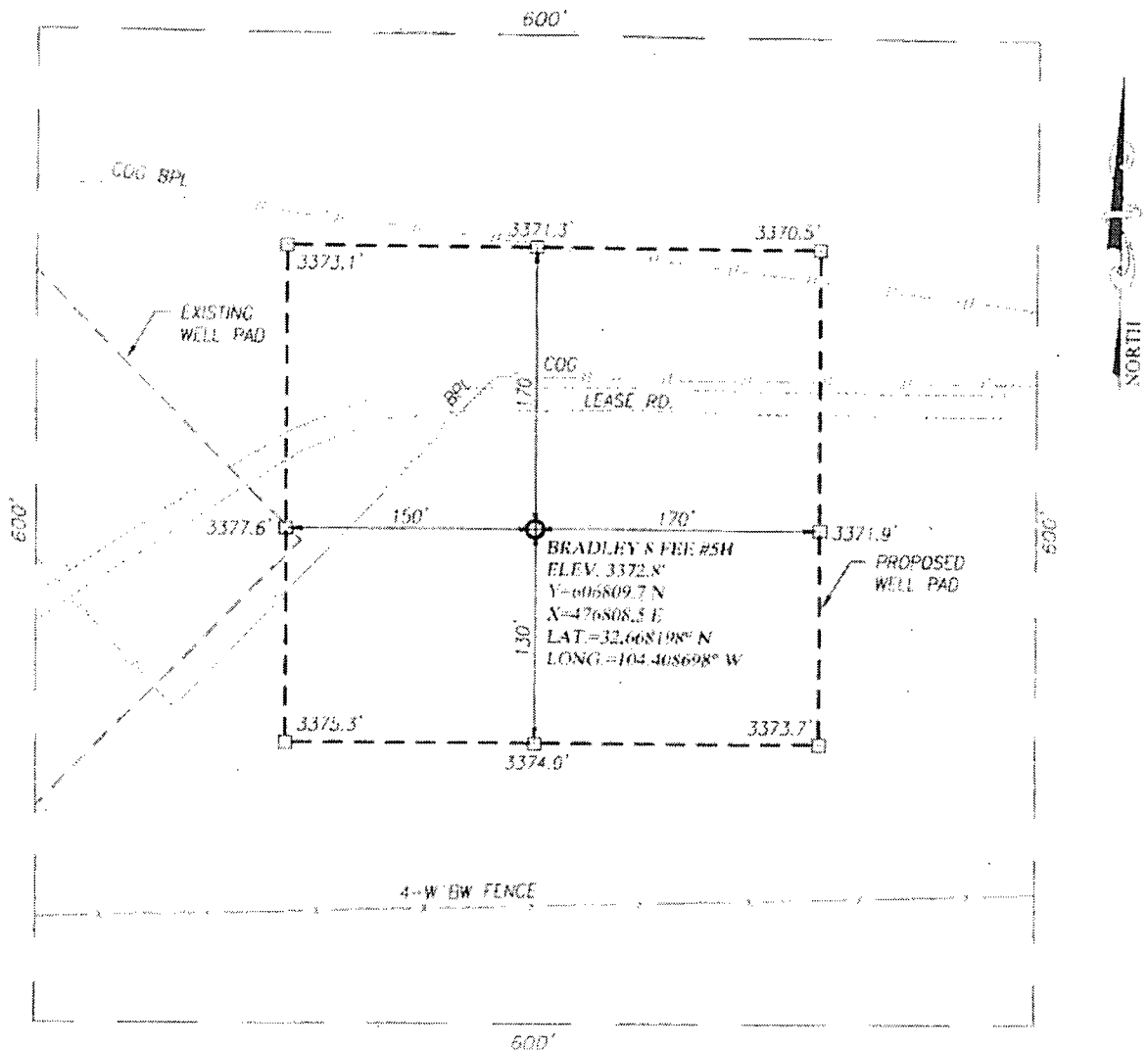
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
hit/miss target									
Shape									
PP-Bradley 8 #5H	0.00	0.00	2,948.46	180.00	-2.96	606,989.70	476,805.54	32° 40' 7.29304 N	104° 24' 31.34725 W
- plan hits target center									
- Point									
PBHL-Bradley 8 #5H	0.00	360.00	3,037.85	4,833.20	-79.40	611,642.90	476,729.10	32° 40' 53.33898 N	104° 24' 32.28034 W
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,371.34	3,075.47	TL, 3080' TVD @ 0 VZ, 90.5° Inc		-0.50	359.06

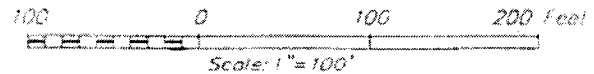
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,554.60	2,554.60	0.00	0.00	KOP, Start 11°/100' Build
3,377.33	3,075.45	525.35	-8.63	LP, Hold 90.5° Inc, 359.06° Azm
7,685.93	3,037.85	4,833.20	-79.40	TD at 7685.93' MD



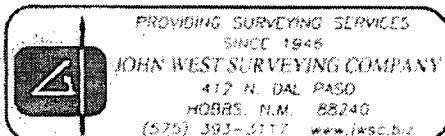
DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HIGHWAY 285 AND CO. RD. 21 (HOCKING R RED) GO WEST APPROX. 0.5 MILES; TURN RIGHT AND GO NORTH APPROX. 0.9 MILES; TURN LEFT AND GO WEST APPROX. 0.1 MILE TO THIS LOCATION.



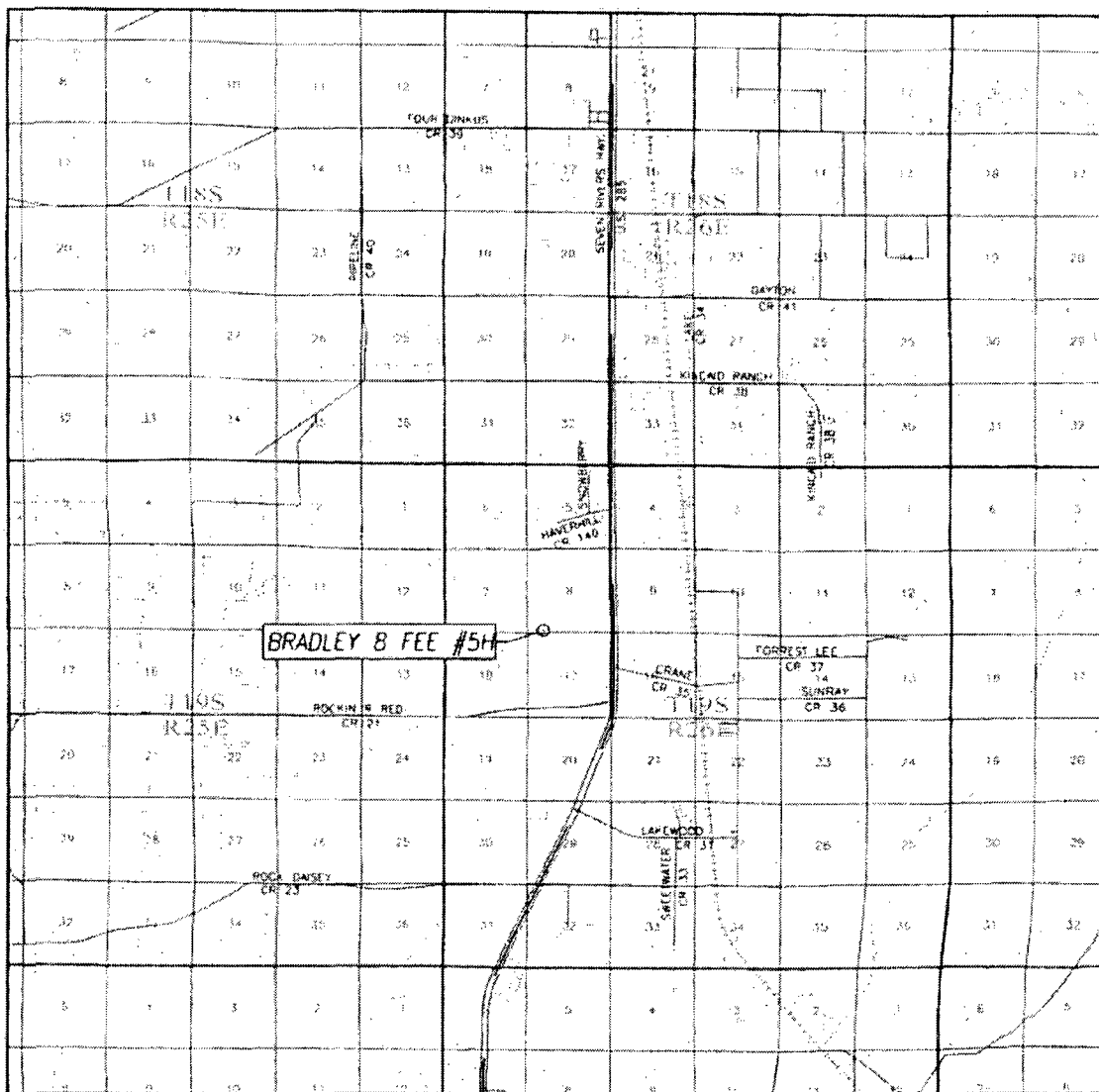
COG OPERATING, LLC

BRADLEY # FEE #5 WELL
LOCATED 150 FEET FROM THE SOUTH LINE
AND 990 FEET FROM THE WEST LINE OF SECTION 8,
TOWNSHIP 19 SOUTH, RANGE 26 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO



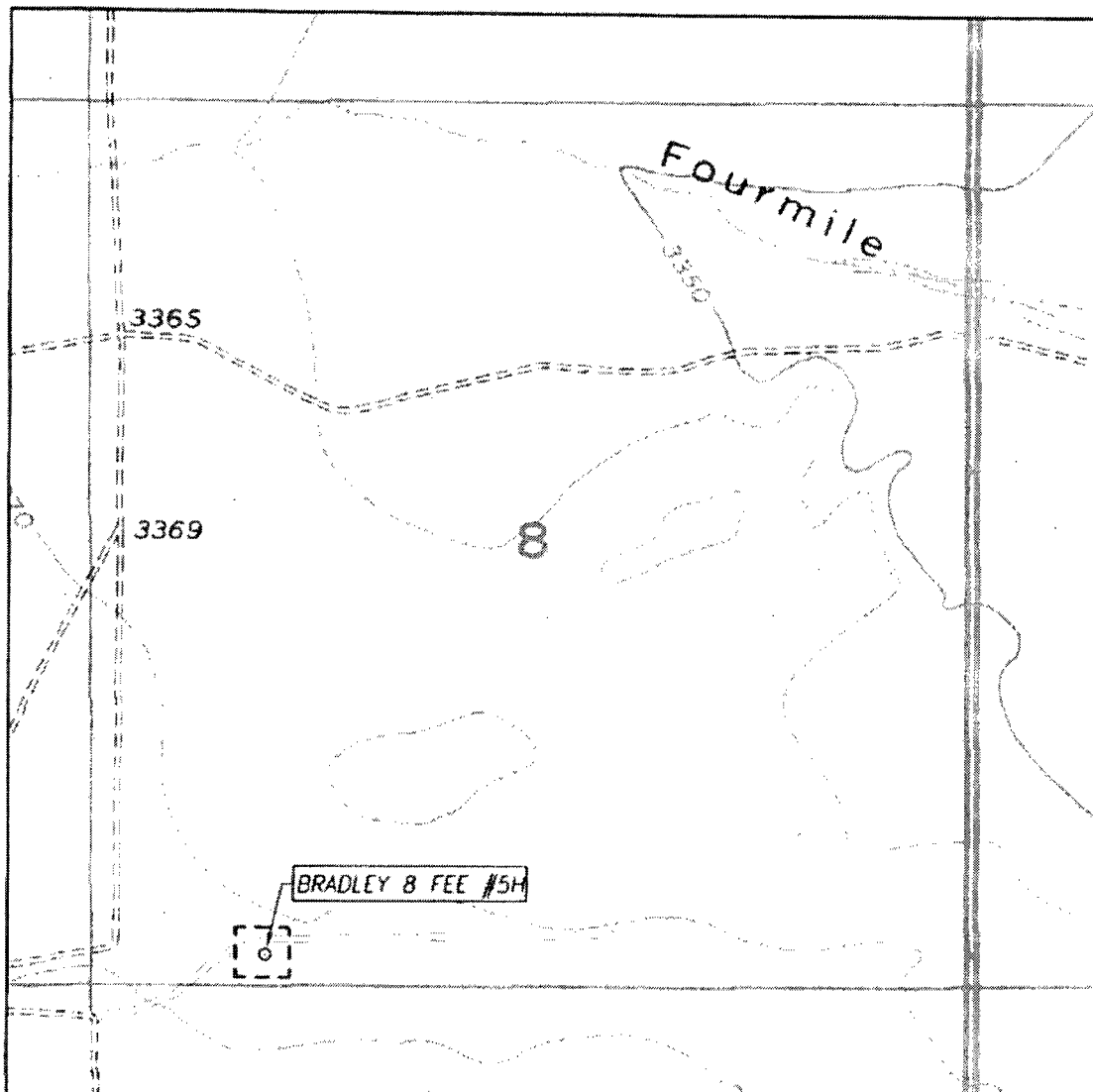
Survey Date: 8/30/13	CAD Date: 5/9/13	Drawn By: BKL
W.O. No.: 13110983	Rev:	Ref. W.O.:
		Sheet 1 of 1

— 10 —




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 (575) 293-3117 www.jwsco.biz

LOCATION VERIFICATION MAP



SCALE: 1" = 1000'

CONTOUR INTERVAL:
DAYTON, N.M. - 10'

SEC. 8 TWP. 19-S RGE. 26-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

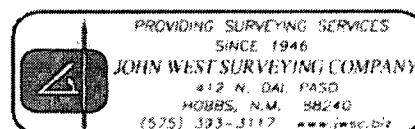
DESCRIPTION 150' FSL & 990' FWL

ELEVATION 3373'

OPERATOR COG OPERATING, LLC

LEASE BRADLEY 8 FEE

U.S.G.S. TOPOGRAPHIC MAP
DAYTON, N.M.





Project: Eddy County, NM (NAD27 NME)
Site: Bradley 8 Fee
Well: #5H
Wellbore: WB1
Design: Plan #1 03-09-15
Rig: Silver Oak 3



Azimuths to Grid North
True North: 0.04°
Magnetic North: 7.66°
Magnetic Field
Strength: 48345.2nT
Dip Angle: 60.36°
Date: 3/9/2015
Model: IGRF2015

WELL DETAILS

+N-S	+E-W	Northing	Ground Level	Easting	Latitude	Longitude
0.00	0.00	806809.70	3373.00	476808.50	32° 40' 5.51184 N	104° 24' 31.31116 W

SECTION DETAILS

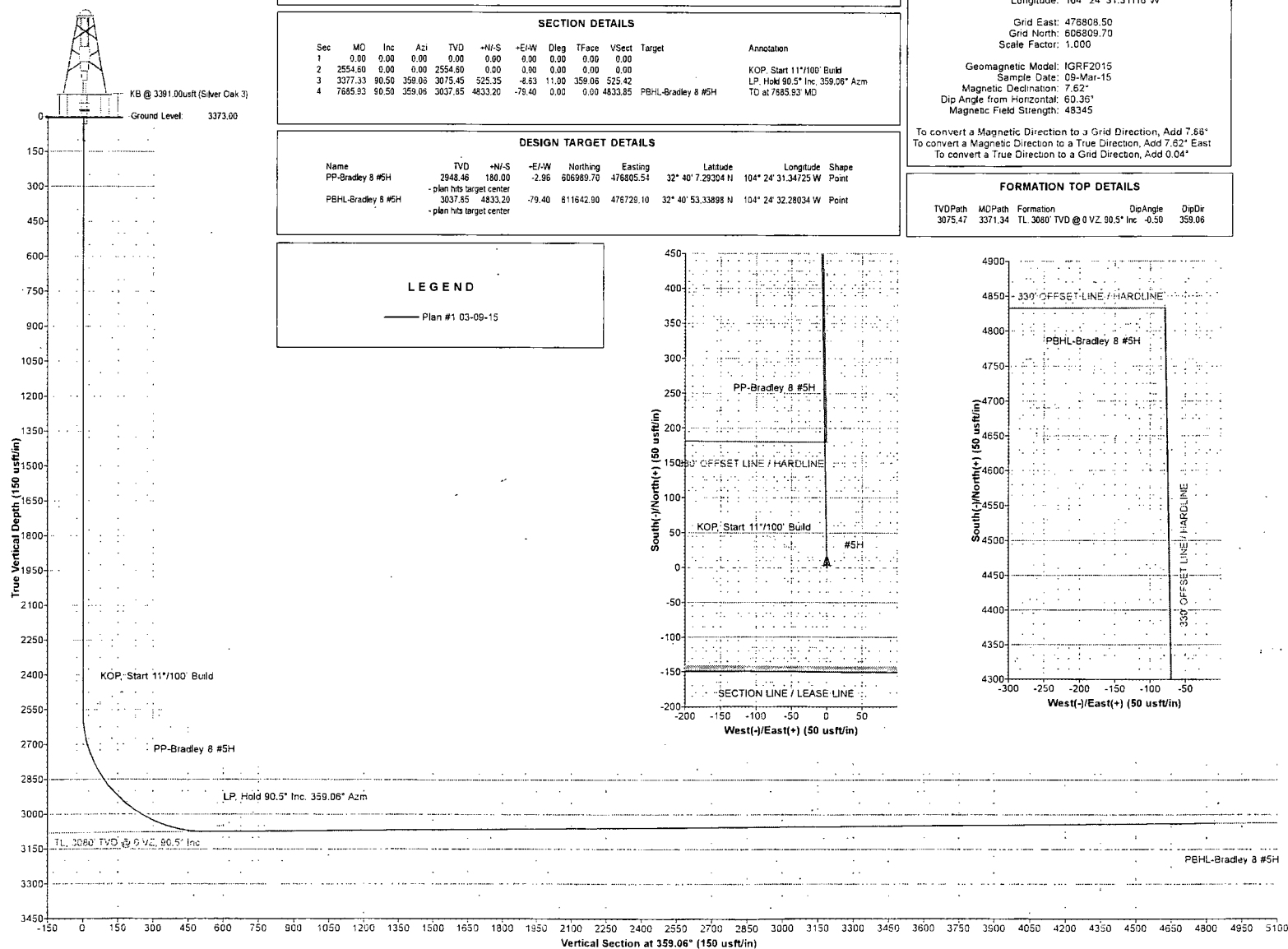
Sec	MO	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSet	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		KOP Start 11°/100' Build
2	2554.60	0.00	0.00	2554.60	0.00	0.00	0.00	0.00	0.00		LP Hold 90.5° Inc. 359.06° Azm
3	3377.33	80.50	359.06	3075.45	525.35	-6.83	11.00	359.06	525.42		TD at 7585.93 MD
4	7685.93	80.50	359.06	3037.85	4833.20	-79.40	0.00	0.00	4833.85	PBHL-Bradley 8 #5H	

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
PP-Bradley 8 #5H	2948.46	180.00	-2.96	606989.70	476805.54	32° 40' 7.29304 N	104° 24' 31.34725 W	Point
PBHL-Bradley 8 #5H	3037.85	4833.20	-79.40	811642.90	476728.10	32° 40' 53.33898 N	104° 24' 32.28034 W	Point

LEGEND

— Plan #1 03-09-15



Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well #5H Grid North

Latitude: 32° 40' 5.51184 N
Longitude: 104° 24' 31.31116 W

Grid East: 476808.50
Grid North: 606809.70
Scale Factor: 1.000

Geomagnetic Model: IGRF2015

Sample Date: 09-Mar-15

Magnetic Declination: 7.62°

Dip Angle from Horizontal: 60.36°

Magnetic Field Strength: 48345

To convert a Magnetic Direction to a Grid Direction, Add 7.66°
To convert a Magnetic Direction to a True Direction, Add 7.62° East
To convert a True Direction to a Grid Direction, Add 0.04°

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3075.47	3371.34	TL 3080' TVD @ 0 VZ 90.5° Inc	-0.50	359.06

