

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) 748-1233 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015- 41449	² Pool Code 96718	³ Pool Name Loco Hills; Glorieta Yeso
⁴ Property Code 302513	⁵ Property Name JUNIPER STATE	⁶ Well Number 6
⁷ OGRID No. 229137	⁸ Operator Name COG OPERATING, LLC	⁹ Elevation 3660'

^m Surface Location

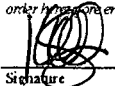
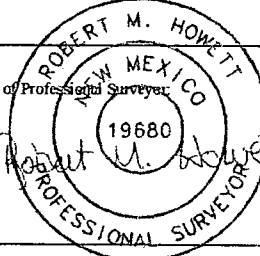
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	21	17-S	30-E		100	NORTH	335	WEST	EDDY

ⁿ 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
M	16	17-S	30-E		330	SOUTH	330	WEST	EDDY

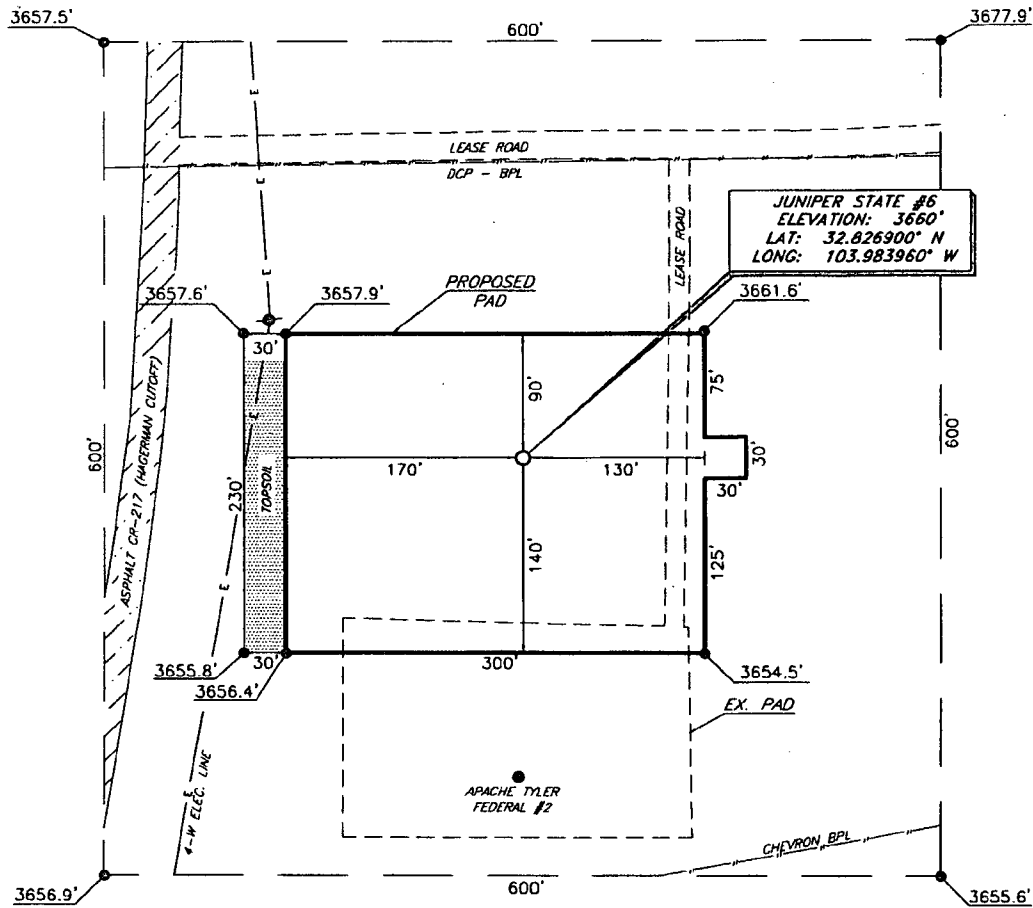
¹² Dedicated Acres 40	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶ CORNER DATA NAD 27 GRID - NM EAST A: FND BRASS CAP 1940 N 663492.3 - E 606989.8 B: FND BRASS CAP 1916 N 664812.6 - E 606985.4 C: FND BRASS CAP 1916 N 667453.2 - E 606975.6 D: FND BRASS CAP 1916 N 670092.7 - E 606967.2 E: FND BRASS CAP 1916 N 670097.0 - E 609609.0 F: FND BRASS CAP 1916 N 670102.3 - E 612250.5 G: FND BRASS CAP 1916 N 667461.9 - E 612259.6 H: FND BRASS CAP 1916 N 664822.3 - E 612258.5 I: FND BRASS CAP 1916 N 664818.5 - E 609582.4 J: FND BRASS CAP 1946 N 663497.0 - E 609630.6 K: FND BRASS CAP 1946 N 664814.7 - E 608306.2 Estimated Completed Interval: 330 FSL & 340 FWL 330' N 00°52'15" W (GRID) 430.03' (HORIZ.) 330' S.L. 100' 335' SEC. 16 SEC. 21 DETAIL "A" 3657.5' 600' 3677.9' 3656.9' 600' 3655.6'	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well on 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 having been entered by the division.  6-13-13 Signature Date Kelly J. Holly Printed Name kholly@concho.com E-mail Address ¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 3/28/13 Date of Survey Signature and Seal of Professional Surveyor  19680 Certificate Number ¹⁹ GEODETIC DATA NAD 27 GRID - NM EAST SURFACE LOCATION N 664713.1 E 607320.6 LAT: 32.826900° N LONG: 103.983960° W BOTTOM LOCATION N 665143.0 E 607314.1
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COG OPERATING, LLC

Juniper State #6
(100' FNL & 335' FWL)
Section 21, T-17-S, R-30-E,
N. M. P. M., Eddy Co., New Mexico



DIRECTIONS TO LOCATION

From the intersection of CR-217 (Hagerman Cutoff) and U.S. Hwy. #82.
Go north on CR-217 approx. 0.4 mile to a lease road.
Turn right and go east approx. 300 feet to lease road.
Turn right and go south approx. 200 feet.
The location is 100 feet west of the lease road.

SCALE: 1" = 100'
0 50 100
BEARINGS ARE
NAD 27 - NW EAST
DISTANCES ARE
GROUND.

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NO.	REVISION	DATE
JOB NO.:	LS130097	
DWG. NO.:	130097PAD	

PROSPERITY CONSULTANTS, LLC



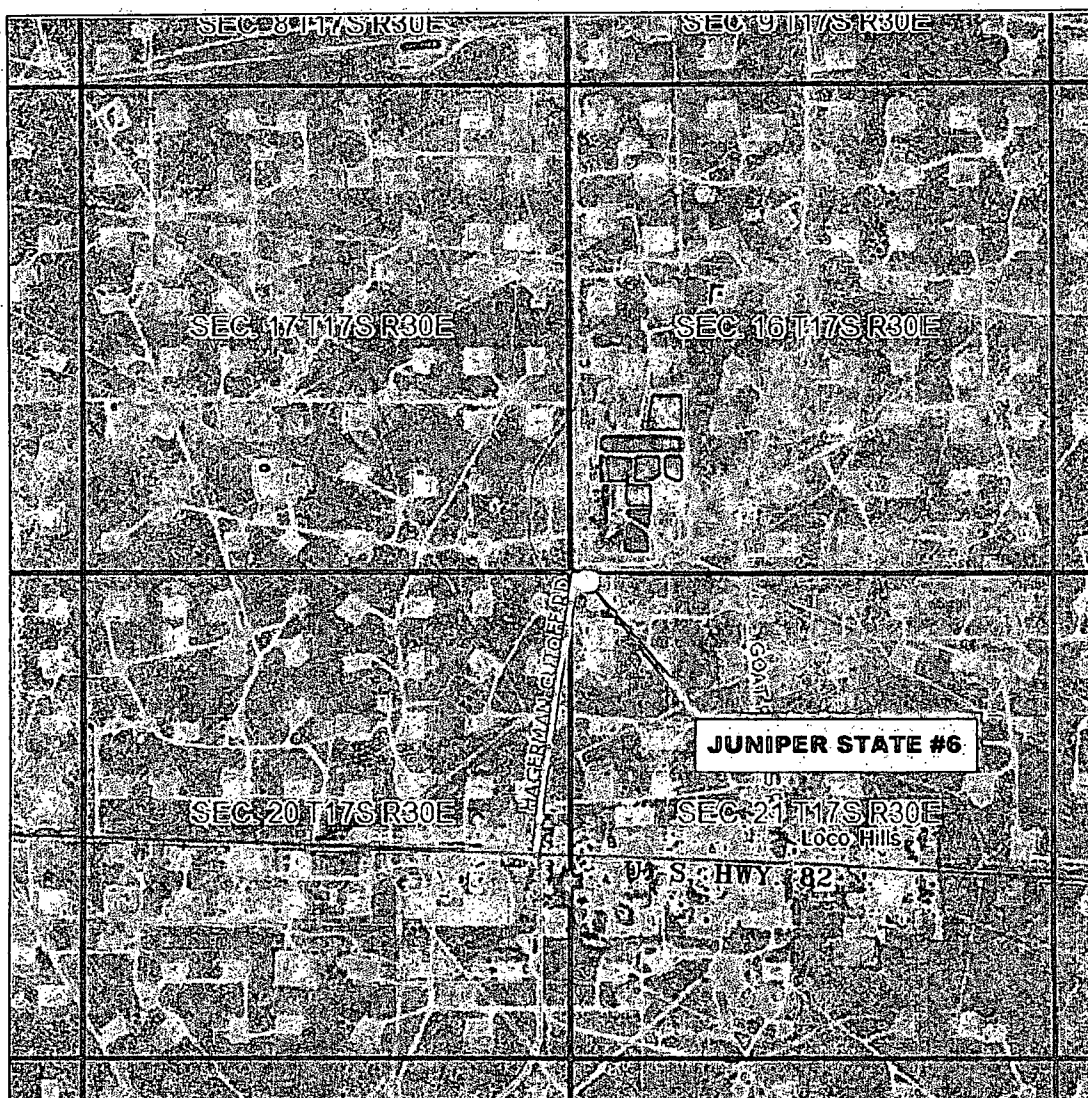
2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664

(512) 992-2087 / (512) 251-2518

SCALE: 1" = 100'
DATE: 3/28/13
SURVEYED BY: BK/KW
DRAWN BY: AF
APPROVED BY: LWB
SHEET : 1 OF 1

VICINITY MAP

NOT TO SCALE



**SECTION 21, TWP. 17 SOUTH, RGE. 30 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO**

OPERATOR: COG Operating, LLC
LEASE: Juniper State
WELL NO.: 6

LOCATION: 100' FNL & 335' FWL
ELEVATION: 3660'

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NO.	REVISION	DATE
JOB NO.:	LS130097	
DWG. NO.:	130097VM	

PROSPERITY CONSULTANTS, LLC

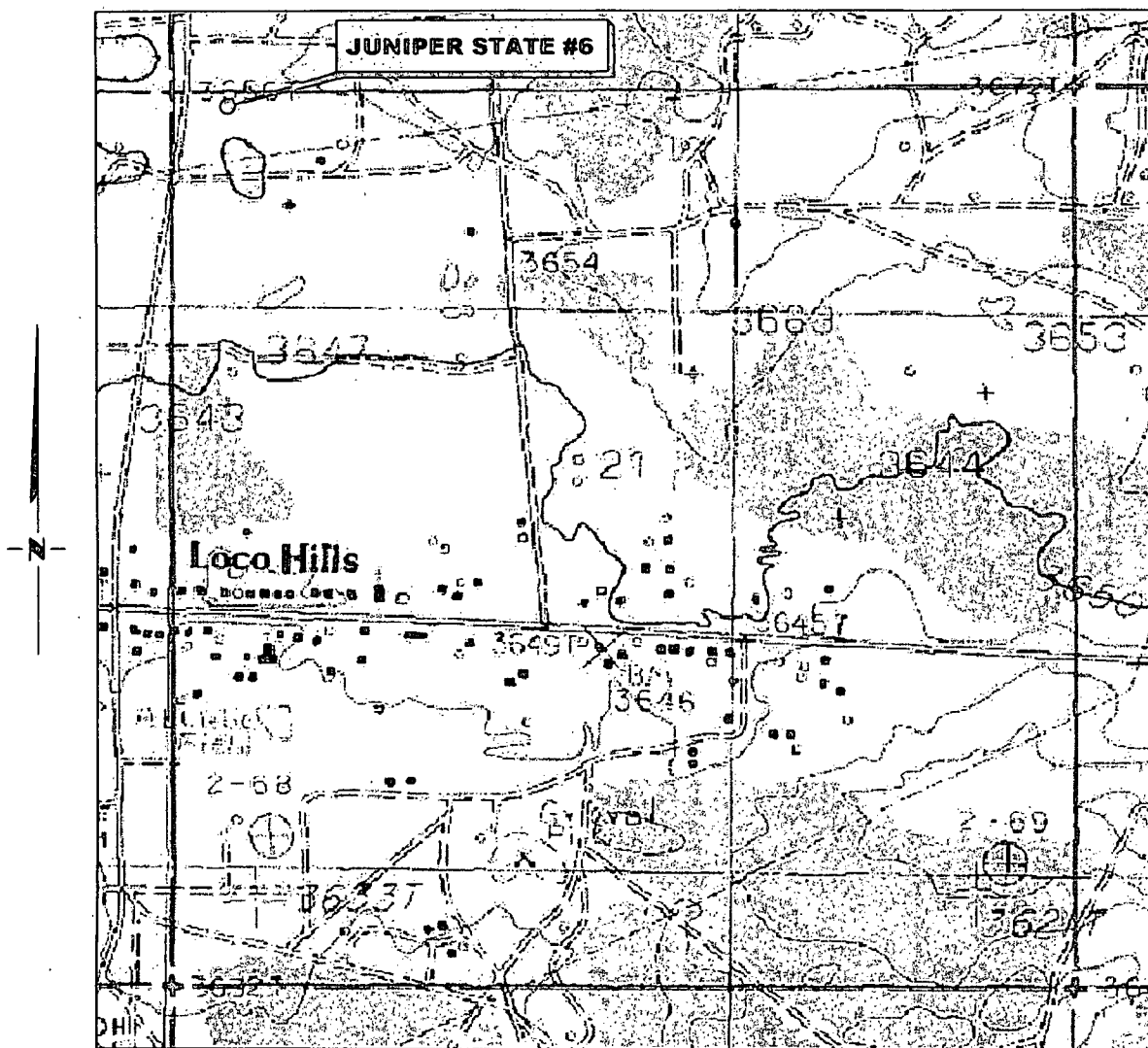


2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664

o (512) 992-2087 f (512) 251-2519

SCALE: 1" = 1000'
DATE: 3/28/13
SURVEYED BY: BK/KW
DRAWN BY: AF
APPROVED BY: LWB
SHEET : 1 OF 1

LOCATION VERIFICATION MAP



**SECTION 21, TWP. 17 SOUTH, RGE. 30 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO**

OPERATOR: COG Operating, LLC
LEASE: Juniper State
WELL NO.: 6
ELEVATION: 3660'

LOCATION: 100' FNL & 335' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Loco Hills, NM (1955)

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NO.	REVISION	DATE
JOB NO.:	LS130097	
DWG. NO.:	130097LVM	

PROSPERITY CONSULTANTS, LLC



2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664

o (512) 992-2087 f (512) 251-2518

SCALE: 1" = 1000'
DATE: 3/28/13
SURVEYED BY: BK/KW
DRAWN BY: of
APPROVED BY: LWB
SHEET : 1 OF 1

Plan Proposal

FOR

COG Operating, LLC
Juniper State #6
Eddy Co., NM

Design #2

Presented By:

Aaron Boger
Account Manager

Bret Wolford
Well Planner

SHL

100' FNL & 335' FWL

Sec.21-T17S-R30E

Top of Paddock (4250' TVD)

177' FSL & 338' FWL

Penetration Point

330' FSL & 340' FWL

PBHL

340' FSL & 340' FWL

Sec.16-T17S-R30E

ATTACHED



COG Operating, LLC

Eddy County(NM27E)

Sec.21-T17S-R30E

Juniper State #6

Wellbore #1

Plan: Design #2

Standard Planning Report

11 June, 2013

Archer

Database:	EDM-5000.1.Single User Db	Local Co-ordinate Reference:	Well Juniper State #6
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3677.00usft
Project:	Eddy County (NM27E)	MD Reference:	WELL @ 3677.00usft
Site:	Sec.21-T17S-R30E	North Reference:	Grid
Well:	Juniper State #6	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Project	Eddy County (NM27E)		
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.21-T17S-R30E		
Site Position:		Northing:	664,713.100 usft
From:	Map	Easting:	607,320.600 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 49' 36.824 N
		Longitude:	103° 59' 2.260 W
		Grid Convergence:	0.19 °

Well	Juniper State #6		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 49' 36.824 N
		Longitude:	103° 59' 2.260 W
		Ground Level:	3,660.00 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	2013/06/07	7.58
			Dip Angle
			(°)
			Field Strength
			(nT)
			60.62
			48,734

Design	Design #2		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			0.46

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,581.79	5.64	0.46	1,581.33	13.85	0.11	2.00	2.00	0.16	0.46	
5,921.43	5.64	0.46	5,900.00	440.00	3.50	0.00	0.00	0.00	0.00	Juniper State #6 Tgt

Database:	EDM:5000.1 Single User Db	Local Co-ordinate Reference:	Well Juniper State #6
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3677.00usft
Project:	Eddy County(NM27E)	MD Reference:	WELL @ 3677.00usft
Site:	Sec.21-T17S-R30E	North Reference:	Grid
Well:	Juniper State #6	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8 5/8" Csg.									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start DLS 2.00° TFO 0.46									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	2.00	0.46	1,399.98	1.75	0.01	1.75	2.00	2.00	0.00
1,500.00	4.00	0.46	1,499.84	6.98	0.06	6.98	2.00	2.00	0.00
Start 4339.64' hold at 1581.79 MD									
1,581.79	5.64	0.46	1,581.33	13.85	0.11	13.85	2.00	2.00	0.00
1,600.00	5.64	0.46	1,599.46	15.64	0.12	15.64	0.00	0.00	0.00
1,700.00	5.64	0.46	1,698.97	25.46	0.20	25.46	0.00	0.00	0.00
1,800.00	5.64	0.46	1,798.49	35.28	0.28	35.28	0.00	0.00	0.00
1,900.00	5.64	0.46	1,898.01	45.10	0.36	45.10	0.00	0.00	0.00
2,000.00	5.64	0.46	1,997.52	54.92	0.44	54.92	0.00	0.00	0.00
2,100.00	5.64	0.46	2,097.04	64.74	0.51	64.74	0.00	0.00	0.00
2,200.00	5.64	0.46	2,196.56	74.56	0.59	74.56	0.00	0.00	0.00
2,300.00	5.64	0.46	2,296.07	84.38	0.67	84.38	0.00	0.00	0.00
2,400.00	5.64	0.46	2,395.59	94.20	0.75	94.20	0.00	0.00	0.00
2,500.00	5.64	0.46	2,495.11	104.02	0.83	104.02	0.00	0.00	0.00
2,600.00	5.64	0.46	2,594.62	113.84	0.91	113.84	0.00	0.00	0.00
2,700.00	5.64	0.46	2,694.14	123.66	0.98	123.66	0.00	0.00	0.00
2,800.00	5.64	0.46	2,793.66	133.48	1.06	133.48	0.00	0.00	0.00
2,900.00	5.64	0.46	2,893.17	143.30	1.14	143.30	0.00	0.00	0.00
3,000.00	5.64	0.46	2,992.69	153.12	1.22	153.12	0.00	0.00	0.00
3,100.00	5.64	0.46	3,092.21	162.94	1.30	162.94	0.00	0.00	0.00
3,200.00	5.64	0.46	3,191.72	172.76	1.37	172.76	0.00	0.00	0.00
3,300.00	5.64	0.46	3,291.24	182.58	1.45	182.58	0.00	0.00	0.00
3,400.00	5.64	0.46	3,390.76	192.40	1.53	192.40	0.00	0.00	0.00
3,500.00	5.64	0.46	3,490.27	202.22	1.61	202.22	0.00	0.00	0.00
3,600.00	5.64	0.46	3,589.79	212.04	1.69	212.04	0.00	0.00	0.00
3,700.00	5.64	0.46	3,689.31	221.86	1.76	221.86	0.00	0.00	0.00
3,800.00	5.64	0.46	3,788.82	231.68	1.84	231.68	0.00	0.00	0.00
3,900.00	5.64	0.46	3,888.34	241.50	1.92	241.50	0.00	0.00	0.00
4,000.00	5.64	0.46	3,987.86	251.32	2.00	251.32	0.00	0.00	0.00
4,100.00	5.64	0.46	4,087.37	261.14	2.08	261.14	0.00	0.00	0.00
4,200.00	5.64	0.46	4,186.89	270.96	2.16	270.96	0.00	0.00	0.00
Paddock									
4,263.42	5.64	0.46	4,250.00	277.18	2.20	277.19	0.00	0.00	0.00
4,300.00	5.64	0.46	4,286.41	280.78	2.23	280.78	0.00	0.00	0.00
4,400.00	5.64	0.46	4,385.92	290.60	2.31	290.60	0.00	0.00	0.00
4,500.00	5.64	0.46	4,485.44	300.42	2.39	300.43	0.00	0.00	0.00
4,600.00	5.64	0.46	4,584.96	310.24	2.47	310.25	0.00	0.00	0.00
4,700.00	5.64	0.46	4,684.47	320.06	2.55	320.07	0.00	0.00	0.00

Database:	EDM,5000.1 Single User Db	Local Co-ordinate Reference:	Well Juniper State #6
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3677.00usft
Project:	Eddy County(NM27E)	MD Reference:	WELL @ 3677.00usft
Site:	Sec.21-T17S-R30E	North Reference:	Grid
Well:	Juniper State #6	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.00	5.64	0.46	4,783.99	329.88	2.62	329.89	0.00	0.00	0.00
4,900.00	5.64	0.46	4,883.51	339.70	2.70	339.71	0.00	0.00	0.00
5,000.00	5.64	0.46	4,983.02	349.52	2.78	349.53	0.00	0.00	0.00
5,100.00	5.64	0.46	5,082.54	359.34	2.86	359.35	0.00	0.00	0.00
5,200.00	5.64	0.46	5,182.06	369.16	2.94	369.17	0.00	0.00	0.00
5,300.00	5.64	0.46	5,281.57	378.98	3.01	378.99	0.00	0.00	0.00
5,400.00	5.64	0.46	5,381.09	388.80	3.09	388.81	0.00	0.00	0.00
5,500.00	5.64	0.46	5,480.61	398.62	3.17	398.63	0.00	0.00	0.00
5,600.00	5.64	0.46	5,580.12	408.44	3.25	408.45	0.00	0.00	0.00
5,700.00	5.64	0.46	5,679.64	418.26	3.33	418.27	0.00	0.00	0.00
5,800.00	5.64	0.46	5,779.16	428.08	3.41	428.09	0.00	0.00	0.00
PP @ 5820' MD									
5,820.00	5.64	0.46	5,799.06	430.04	3.42	430.05	0.00	0.00	0.00
5,900.00	5.64	0.46	5,878.67	437.90	3.48	437.91	0.00	0.00	0.00
TD at 5921.43 - Juniper State #6 Tgt									
5,921.43	5.64	0.46	5,900.00	440.00	3.50	440.01	0.00	0.00	0.00

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									
Juniper State #6 Tgt	0.00	0.00	5,900.00	440.00	3.50	665,153.100	607,324.100	32° 49' 41.178 N	103° 59' 2.202 W
- plan hits target center									
- Circle (radius 10.00)									

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
1,200.00	1,200.00	8 5/8" Csg.	8-5/8	12-1/4		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,263.42	4,250.00	Paddock		0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Local Coordinates	
				Comment	
1,300.00	1,300.00	0.00	0.00	Start DLS 2.00° TFO 0.46	
1,581.79	1,581.33	13.85	0.11	Start 4339.64' hold at 1581.79 MD	
5,820.00	5,799.06	430.04	3.42	PP @ 5820' MD	
5,921.43	5,900.00	440.00	3.50	TD at 5921.43	



COG Operating, LLC
 Project: Eddy County(NM27E)
 Site: Sec.21-T17S-R30E
 Well: Juniper State #6
 Wellbore: Wellbore #1
 Design: Design #2
 Latitude: 32° 49' 36.824 N
 Longitude: 103° 59' 2.260 W
 Ground Level: 3660.00
 WELL @ 3677.00usft

Archer

PROJECT DETAILS: Eddy County(NM27E)

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001
 System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Juniper State #6, Grid North
 Vertical (TVD) Reference: WELL @ 3677.00usft
 Section (VS) Reference: Slot - (0.00N, 0.00E)
 Measured Depth Reference: WELL @ 3677.00usft
 Calculation Method: Minimum Curvature

WELL DETAILS: Juniper State #6

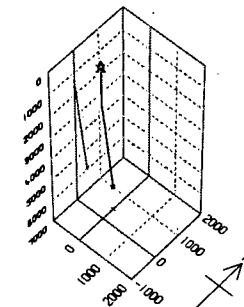
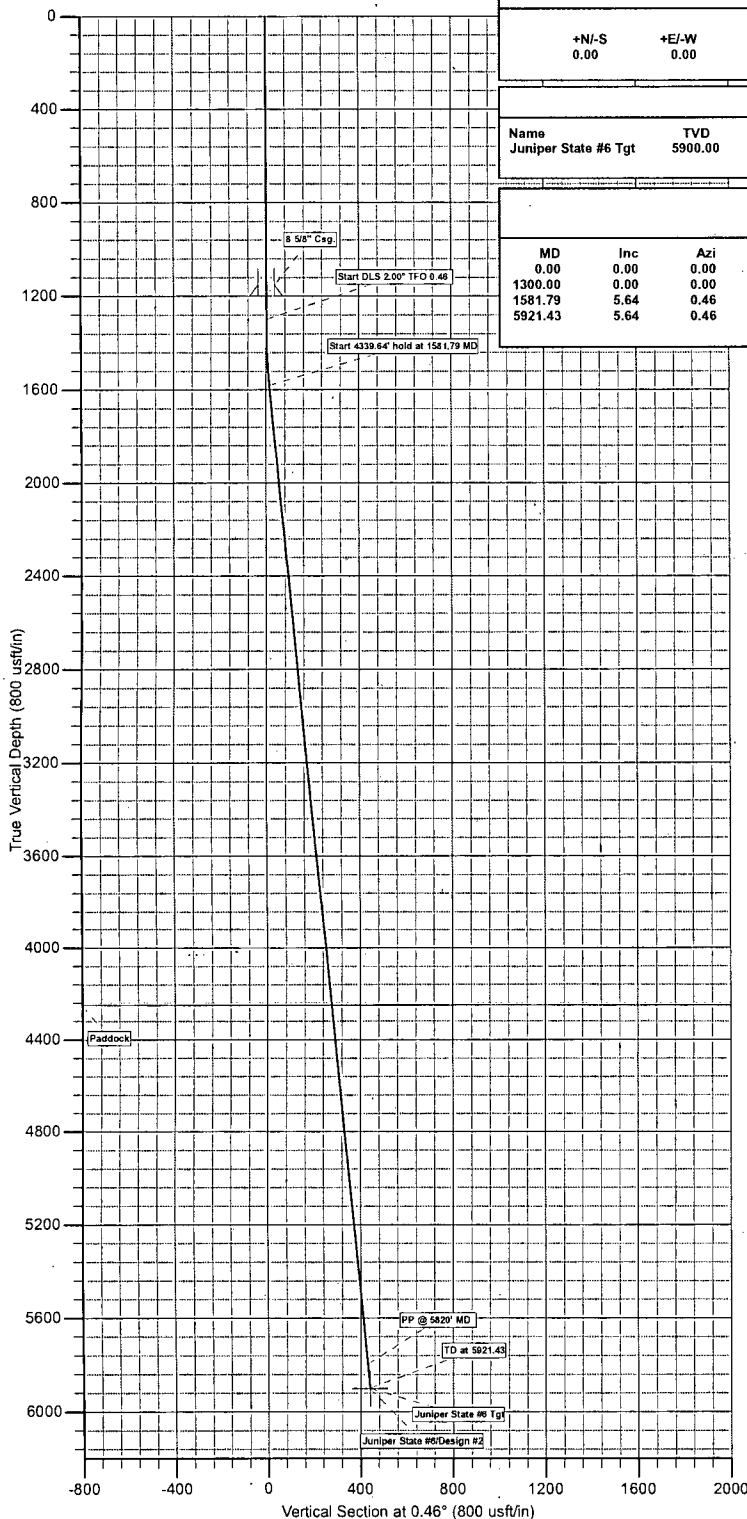
+N/-S	+E/-W	Northing	Ground Level: Easting	Latitude	Longitude	Slot
0.00	0.00	664713.100	607320.600	32° 49' 36.824 N	103° 59' 2.260 W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

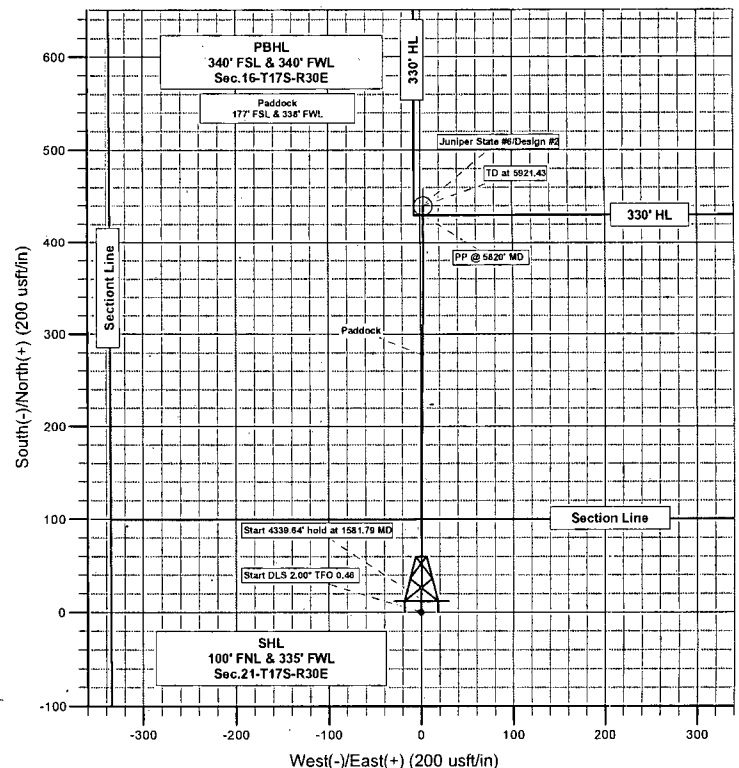
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Juniper State #6 Tgt	5900.00	440.00	3.50	665153.100	607324.100	32° 49' 41.178 N	103° 59' 2.202 W	Circle (Radius: 10.00)

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	Start DLS 2.00° TFO 0.46
1581.79	5.64	0.46	1581.33	13.85	0.11	2.00	0.46	13.85	Start 4339.64' hold at 1581.79 MD
5921.43	5.64	0.46	5900.00	440.00	3.50	0.00	0.00	440.01	TD at 5921.43



Azimuths to Grid North
 True North: -0.19°
 Magnetic North: 7.39°
Magnetic Field
 Strength: 43733.8nT
 Dip Angle: 60.82°
 Date: 2013/06/07
 Model: IGRF2010



Plan: Design #2 (Juniper State #6/Wellbore #1)

Created By: Bret Wolford Date: 9:54, June 11 2013