

District I
1625 N. French Dr., Hobbs, NM 88240

District II
811 S. First St., 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 & Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-104
Revised August 1, 2011

Submit one copy to appropriate District Office

☒ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address COG Operating LLC 2208 W. Main Street Artesia, NM 88210		² OGRID Number 229137	
		³ Reason for Filing Code/ Effective Date NW	
API Number 30-025-47172	⁵ Pool Name Bobcat Draw; Upper Wolfcamp		⁶ Pool Code 98094
⁷ Property Code 39912	⁸ Property Name Gunner 8 Federal Com		⁹ Well Number 704H

II. ¹⁰ Surface Location

Ul or lot no. C	Section 5	Township 26S	Range 34E	Lot Idn	Feet from the 220	North/South Line North	Feet from the 1950	East/West line West	County Lea
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¹¹ Bottom Hole Location

Ul or lot no. M	Section 8	Township 26S	Range 34E	Lot Idn	Feet from the 53	North/South Line South	Feet from the 972	East/West line West	County Lea
¹² Lse Code F	¹³ Producing Method Code F		¹⁴ Gas Connection Date 1/14/21		¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date	

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
	ACC	O
298751	ETC	G
278421	Holly Refining and Marketing PO Box 159 Artesia, NM 88210	O

IV. Well Completion Data

²¹ Spud Date 5/22/20	²² Ready Date 1/5/20	²³ TD 22,869’	²⁴ PBTD 22,690’	²⁵ Perforations 13,048-22,725’	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set	³⁰ Sacks Cement
14 3/4”		10 3/4”		973’	714
8 3/4”		7 5/8”		12,105’	1797
6 3/4”		5 1/2”		22,851’	1725
		2 7/8”		11,930’	

V. Well Test Data

³¹ Date New Oil 1/14/21	³² Gas Delivery Date 1/14/21	³³ Test Date 1/14/21	³⁴ Test Length 24 Hrs	³⁵ Tbg. Pressure 3400#	³⁶ Csg. Pressure 3500#
³⁷ Choke Size 14/64	³⁸ Oil 861	³⁹ Water 2430	⁴⁰ Gas 374		⁴¹ Test Method Flowing
⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Amanda Avery</i>			OIL CONSERVATION DIVISION Approved by: KURT SIMMONS		
Printed name: Amanda Avery			Title: NMOC, SANTA FE		
Title: Regulatory Analyst			Approval Date: 04/14/2021		
E-mail Address:					
Date: 3/17/21		Phone: 575-748-6962			

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
511 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 746-1283 Fax: (575) 746-9720

DISTRICT III
1000 RIO BRAZOS RD., 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
As Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-47172	Pool Code 98094	Pool Name Bobcat Draw; Upper Wolfcamp
Property Code 39912	Property Name GUNNER 8 FEDERAL COM	Well Number 704H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3339.3'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	5	26-S	34-E		220	NORTH	1950	WEST	LEA

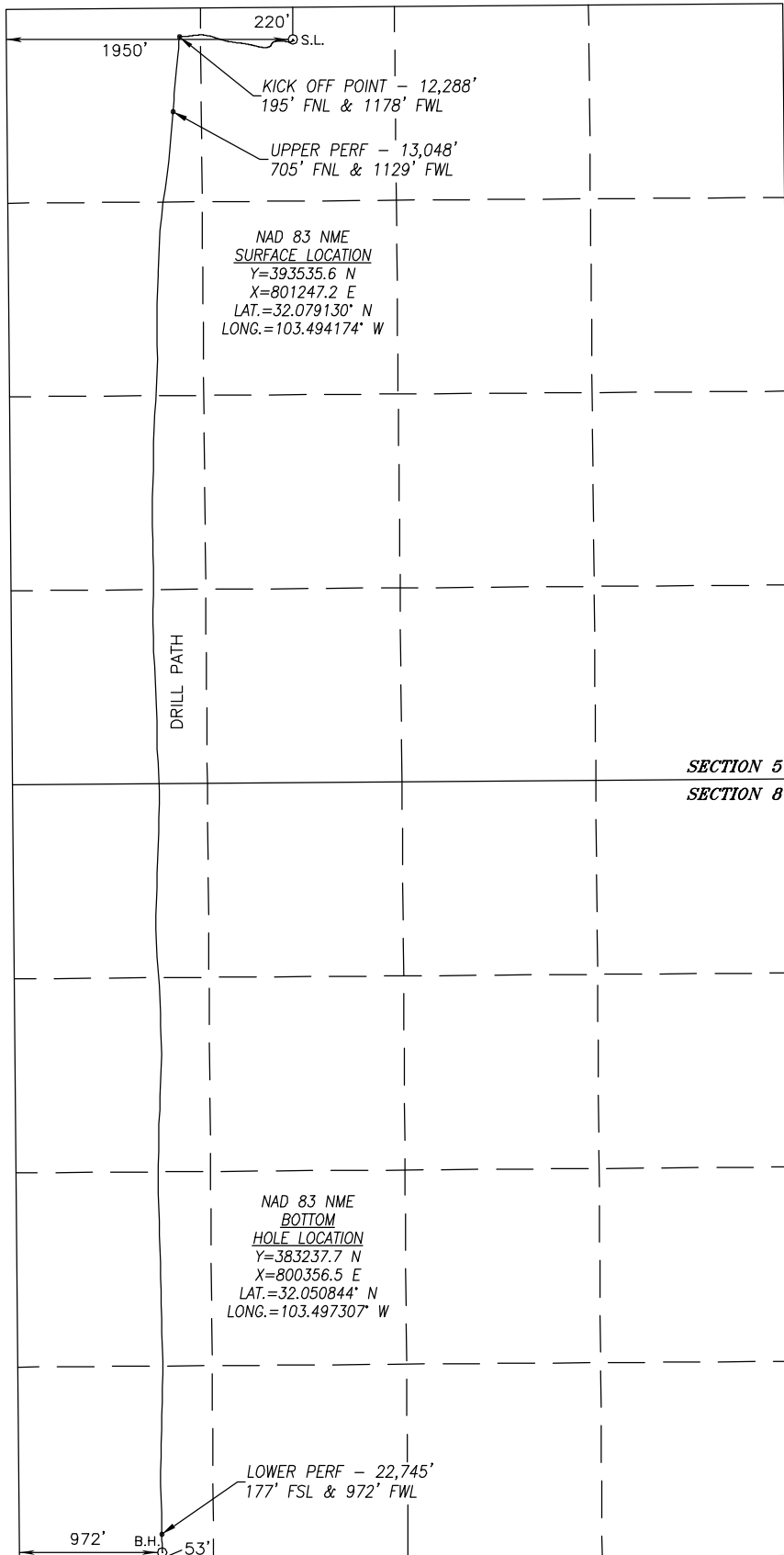
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	8	26-S	34-E		53	SOUTH	972	WEST	LEA
Dedicated Acres 640	Joint or Infill	Consolidation Code	Order No.						

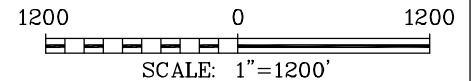
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

SEE PAGE 2

Property Code 39912	Property Name GUNNER 8 FEDERAL COM	Well Number 704H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3339.3'



SURFACE INFO AND BOREPATH SHOWN HEREON IS BASED ON DIRECTIONAL SURVEY REPORT PROVIDED BY COG OPERATING, LLC FOR THE GUNNER 8 FEDERAL COM #704H SUPPLIED TO HARCROW SURVEYING, LLC ON DECEMBER 9, 2020



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.

Amanda Avery 1/6/21

Signature Date

Amanda Avery

Printed Name

aavery@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.

NOV. 15, 2019/JULY 29, 2020

Date of Survey/Date of Geographic Survey

Signature & Seal of Professional Surveyor



Certificate No. CHAD HARCROW 17777

PAGE 2 OF 2

W.O. #20-1662

DRAWN BY: WN

DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)

GUNNER FEDERAL PROJECT (BULLDOG 2634)

GUNNER 8 FEDERAL COM 704H

OWB

Design: AWP

Standard Survey Report

07 July, 2020

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Project	BULLDOG PROSPECT (NM-E)		
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		

Well	GUNNER 8 FEDERAL COM 704H, ACTIVE			
Well Position	+N/-S	0.0 usft	Northing:	393,478.20 usft
	+E/-W	0.0 usft	Easting:	760,060.20 usft
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft
			Latitude:	32° 4' 44.419 N
			Longitude:	103° 29' 37.347 W
			Ground Level:	3,339.3 usft

Wellbore	OWB
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	5/18/2020	6.62	59.82	47,528.63261102

Design	AWP
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Audit Notes:	
Version:	1.0
Phase:	ACTUAL
Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	184.79

Survey Program		Date	7/7/2020	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	11,928.0	GYRO-INTER (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4
11,940.0	22,869.0	MWD-CURVE/LAT (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction

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
	100.0	0.10	36.35	100.0	0.1	0.1	-0.1	0.10	0.10	0.00
	125.0	0.17	357.98	125.0	0.1	0.1	-0.1	0.44	0.28	-153.48
	150.0	0.12	30.13	150.0	0.2	0.1	-0.2	0.37	-0.20	128.60
	175.0	0.14	331.24	175.0	0.2	0.1	-0.2	0.52	0.08	-235.56
	200.0	0.25	290.44	200.0	0.3	0.0	-0.3	0.68	0.44	-163.20
	225.0	0.07	238.97	225.0	0.3	-0.1	-0.3	0.85	-0.72	-205.88
	250.0	0.11	305.68	250.0	0.3	-0.1	-0.3	0.42	0.16	266.84
	275.0	0.18	318.99	275.0	0.3	-0.1	-0.3	0.31	0.28	53.24
	300.0	0.29	303.54	300.0	0.4	-0.2	-0.4	0.50	0.44	-61.80
	325.0	0.30	291.28	325.0	0.5	-0.3	-0.4	0.26	0.04	-49.04
	350.0	0.16	278.97	350.0	0.5	-0.4	-0.5	0.59	-0.56	-49.24
	375.0	0.06	302.08	375.0	0.5	-0.5	-0.5	0.43	-0.40	92.44
	400.0	0.03	118.49	400.0	0.5	-0.5	-0.5	0.36	-0.12	705.64

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)	
425.0	0.03	323.66	425.0	0.5	-0.5	-0.5	0.23	0.00	-619.32	
450.0	0.07	154.38	450.0	0.5	-0.5	-0.5	0.40	0.16	-677.12	
475.0	0.17	226.48	475.0	0.5	-0.5	-0.4	0.65	0.40	288.40	
500.0	0.30	206.55	500.0	0.4	-0.5	-0.3	0.61	0.52	-79.72	
525.0	0.32	161.90	525.0	0.3	-0.6	-0.2	0.94	0.08	-178.60	
550.0	0.41	166.71	550.0	0.1	-0.5	-0.1	0.38	0.36	19.24	
575.0	0.33	178.89	575.0	-0.1	-0.5	0.1	0.45	-0.32	48.72	
600.0	0.29	172.44	600.0	-0.2	-0.5	0.2	0.21	-0.16	-25.80	
625.0	0.26	213.43	625.0	-0.3	-0.5	0.3	0.78	-0.12	163.96	
650.0	0.37	190.37	650.0	-0.4	-0.5	0.5	0.66	0.44	-92.24	
675.0	0.40	193.13	675.0	-0.6	-0.6	0.6	0.14	0.12	11.04	
700.0	0.54	175.46	700.0	-0.8	-0.6	0.8	0.80	0.56	-70.68	
725.0	0.59	164.27	725.0	-1.0	-0.5	1.1	0.48	0.20	-44.76	
750.0	0.60	158.52	750.0	-1.3	-0.5	1.3	0.24	0.04	-23.00	
775.0	0.63	160.16	775.0	-1.5	-0.4	1.6	0.14	0.12	6.56	
800.0	0.50	165.35	800.0	-1.8	-0.3	1.8	0.56	-0.52	20.76	
825.0	0.59	173.00	825.0	-2.0	-0.3	2.0	0.46	0.36	30.60	
850.0	0.71	162.10	850.0	-2.3	-0.2	2.3	0.69	0.48	-43.60	
875.0	0.88	152.66	875.0	-2.6	-0.1	2.6	0.86	0.68	-37.76	
900.0	0.99	145.55	900.0	-2.9	0.2	2.9	0.64	0.44	-28.44	
925.0	0.98	138.15	925.0	-3.3	0.4	3.2	0.51	-0.04	-29.60	
950.0	1.04	129.91	950.0	-3.6	0.7	3.5	0.63	0.24	-32.96	
975.0	1.20	128.85	975.0	-3.9	1.1	3.8	0.65	0.64	-4.24	
1,000.0	1.04	129.75	1,000.0	-4.2	1.5	4.1	0.64	-0.64	3.60	
1,025.0	0.91	136.65	1,025.0	-4.5	1.8	4.3	0.70	-0.52	27.60	
1,050.0	1.02	135.98	1,050.0	-4.8	2.1	4.6	0.44	0.44	-2.68	
1,075.0	1.05	137.17	1,075.0	-5.1	2.4	4.9	0.15	0.12	4.76	
1,100.0	1.00	141.12	1,099.9	-5.5	2.7	5.2	0.35	-0.20	15.80	
1,125.0	1.26	133.66	1,124.9	-5.8	3.0	5.6	1.19	1.04	-29.84	
1,150.0	1.20	130.51	1,149.9	-6.2	3.4	5.9	0.36	-0.24	-12.60	
1,175.0	1.09	127.66	1,174.9	-6.5	3.8	6.2	0.50	-0.44	-11.40	
1,200.0	1.08	129.26	1,199.9	-6.8	4.2	6.4	0.13	-0.04	6.40	
1,225.0	0.85	138.84	1,224.9	-7.1	4.5	6.7	1.12	-0.92	38.32	
1,250.0	0.59	181.22	1,249.9	-7.4	4.6	6.9	2.30	-1.04	169.52	
1,275.0	0.95	242.00	1,274.9	-7.6	4.4	7.2	3.35	1.44	243.12	
1,300.0	1.36	253.71	1,299.9	-7.8	4.0	7.4	1.88	1.64	46.84	
1,325.0	1.38	254.43	1,324.9	-7.9	3.4	7.6	0.11	0.08	2.88	
1,350.0	1.44	254.55	1,349.9	-8.1	2.8	7.8	0.24	0.24	0.48	
1,375.0	1.40	252.79	1,374.9	-8.3	2.2	8.0	0.24	-0.16	-7.04	
1,400.0	1.37	247.49	1,399.9	-8.5	1.6	8.3	0.53	-0.12	-21.20	
1,425.0	1.34	252.37	1,424.9	-8.7	1.1	8.5	0.48	-0.12	19.52	
1,450.0	1.37	251.10	1,449.9	-8.9	0.5	8.8	0.17	0.12	-5.08	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
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Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)	
1,475.0	1.35	246.64	1,474.9	-9.1	0.0	9.0	0.43	-0.08	-17.84	
1,500.0	1.29	248.62	1,499.9	-9.3	-0.6	9.3	0.30	-0.24	7.92	
1,525.0	1.42	251.92	1,524.9	-9.5	-1.1	9.5	0.61	0.52	13.20	
1,550.0	1.36	250.09	1,549.8	-9.7	-1.7	9.8	0.30	-0.24	-7.32	
1,575.0	1.30	244.71	1,574.8	-9.9	-2.2	10.1	0.55	-0.24	-21.52	
1,600.0	1.38	251.78	1,599.8	-10.1	-2.8	10.3	0.73	0.32	28.28	
1,625.0	1.32	248.75	1,624.8	-10.3	-3.3	10.6	0.37	-0.24	-12.12	
1,650.0	1.27	248.92	1,649.8	-10.5	-3.9	10.8	0.20	-0.20	0.68	
1,675.0	1.24	248.94	1,674.8	-10.7	-4.4	11.0	0.12	-0.12	0.08	
1,700.0	1.23	245.67	1,699.8	-10.9	-4.9	11.3	0.28	-0.04	-13.08	
1,725.0	1.22	245.40	1,724.8	-11.1	-5.4	11.6	0.05	-0.04	-1.08	
1,750.0	1.22	239.07	1,749.8	-11.4	-5.8	11.8	0.54	0.00	-25.32	
1,775.0	1.37	241.00	1,774.8	-11.7	-6.3	12.2	0.62	0.60	7.72	
1,800.0	1.60	240.81	1,799.8	-12.0	-6.9	12.5	0.92	0.92	-0.76	
1,825.0	1.65	245.84	1,824.8	-12.3	-7.5	12.9	0.60	0.20	20.12	
1,850.0	1.66	246.70	1,849.8	-12.6	-8.2	13.2	0.11	0.04	3.44	
1,875.0	1.70	248.41	1,874.7	-12.9	-8.9	13.6	0.26	0.16	6.84	
1,900.0	1.58	247.68	1,899.7	-13.1	-9.5	13.9	0.49	-0.48	-2.92	
1,925.0	1.45	247.20	1,924.7	-13.4	-10.1	14.2	0.52	-0.52	-1.92	
1,950.0	1.49	241.01	1,949.7	-13.7	-10.7	14.5	0.65	0.16	-24.76	
1,975.0	1.53	238.26	1,974.7	-14.0	-11.3	14.9	0.33	0.16	-11.00	
2,000.0	1.69	242.23	1,999.7	-14.4	-11.9	15.3	0.78	0.64	15.88	
2,025.0	1.64	240.22	2,024.7	-14.7	-12.5	15.7	0.31	-0.20	-8.04	
2,050.0	1.65	241.41	2,049.7	-15.1	-13.1	16.1	0.14	0.04	4.76	
2,075.0	1.66	243.32	2,074.7	-15.4	-13.8	16.5	0.22	0.04	7.64	
2,100.0	1.76	245.79	2,099.7	-15.7	-14.5	16.9	0.50	0.40	9.88	
2,125.0	1.75	248.70	2,124.6	-16.0	-15.2	17.2	0.36	-0.04	11.64	
2,150.0	1.68	245.19	2,149.6	-16.3	-15.8	17.6	0.50	-0.28	-14.04	
2,175.0	1.60	247.22	2,174.6	-16.6	-16.5	17.9	0.40	-0.32	8.12	
2,200.0	1.43	247.75	2,199.6	-16.8	-17.1	18.2	0.68	-0.68	2.12	
2,225.0	1.22	242.43	2,224.6	-17.1	-17.6	18.5	0.97	-0.84	-21.28	
2,250.0	1.09	233.71	2,249.6	-17.4	-18.1	18.8	0.87	-0.52	-34.88	
2,275.0	1.01	238.75	2,274.6	-17.6	-18.4	19.1	0.49	-0.32	20.16	
2,300.0	0.89	249.68	2,299.6	-17.8	-18.8	19.3	0.87	-0.48	43.72	
2,325.0	0.62	232.17	2,324.6	-17.9	-19.1	19.5	1.41	-1.08	-70.04	
2,350.0	0.44	240.73	2,349.6	-18.1	-19.3	19.6	0.78	-0.72	34.24	
2,375.0	0.20	205.26	2,374.6	-18.2	-19.4	19.7	1.20	-0.96	-141.88	
2,400.0	0.21	197.74	2,399.6	-18.2	-19.4	19.8	0.11	0.04	-30.08	
2,425.0	0.27	87.15	2,424.6	-18.3	-19.4	19.8	1.58	0.24	-442.36	
2,450.0	0.49	90.92	2,449.6	-18.3	-19.2	19.8	0.89	0.88	15.08	
2,475.0	0.53	101.90	2,474.6	-18.3	-19.0	19.8	0.42	0.16	43.92	
2,500.0	0.58	101.02	2,499.6	-18.4	-18.8	19.9	0.20	0.20	-3.52	
2,525.0	0.50	86.15	2,524.6	-18.4	-18.5	19.9	0.64	-0.32	-59.48	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)	
2,550.0	0.63	84.45	2,549.6	-18.3	-18.3	19.8	0.52	0.52	-6.80	
2,575.0	0.33	99.71	2,574.6	-18.3	-18.1	19.8	1.29	-1.20	61.04	
2,600.0	0.33	218.54	2,599.6	-18.4	-18.1	19.9	2.27	0.00	475.32	
2,625.0	1.17	256.62	2,624.6	-18.5	-18.3	20.0	3.73	3.36	152.32	
2,650.0	2.08	269.36	2,649.6	-18.6	-19.0	20.1	3.89	3.64	50.96	
2,675.0	3.02	274.73	2,674.6	-18.5	-20.2	20.2	3.88	3.76	21.48	
2,700.0	3.35	274.23	2,699.5	-18.4	-21.5	20.2	1.32	1.32	-2.00	
2,725.0	3.43	277.91	2,724.5	-18.3	-23.0	20.1	0.93	0.32	14.72	
2,750.0	3.38	278.02	2,749.4	-18.1	-24.5	20.1	0.20	-0.20	0.44	
2,775.0	3.36	276.74	2,774.4	-17.9	-25.9	20.0	0.31	-0.08	-5.12	
2,800.0	3.44	275.62	2,799.3	-17.7	-27.4	20.0	0.42	0.32	-4.48	
2,825.0	3.31	278.27	2,824.3	-17.5	-28.9	19.9	0.81	-0.52	10.60	
2,850.0	3.01	279.97	2,849.3	-17.3	-30.2	19.8	1.26	-1.20	6.80	
2,875.0	2.86	281.65	2,874.2	-17.1	-31.5	19.7	0.69	-0.60	6.72	
2,900.0	2.77	283.55	2,899.2	-16.8	-32.7	19.5	0.52	-0.36	7.60	
2,925.0	2.62	283.44	2,924.2	-16.5	-33.8	19.3	0.60	-0.60	-0.44	
2,950.0	2.68	280.66	2,949.1	-16.3	-35.0	19.2	0.57	0.24	-11.12	
2,975.0	2.63	281.39	2,974.1	-16.1	-36.1	19.0	0.24	-0.20	2.92	
3,000.0	2.42	286.42	2,999.1	-15.8	-37.2	18.9	1.22	-0.84	20.12	
3,025.0	2.28	286.52	3,024.1	-15.5	-38.2	18.7	0.56	-0.56	0.40	
3,050.0	2.11	289.30	3,049.0	-15.2	-39.1	18.4	0.80	-0.68	11.12	
3,075.0	2.02	289.86	3,074.0	-14.9	-39.9	18.2	0.37	-0.36	2.24	
3,100.0	1.92	288.79	3,099.0	-14.7	-40.7	18.0	0.43	-0.40	-4.28	
3,125.0	2.50	281.44	3,124.0	-14.4	-41.7	17.8	2.58	2.32	-29.40	
3,150.0	3.54	279.75	3,149.0	-14.2	-42.9	17.7	4.17	4.16	-6.76	
3,175.0	3.82	279.17	3,173.9	-13.9	-44.5	17.6	1.13	1.12	-2.32	
3,200.0	3.77	277.39	3,198.9	-13.7	-46.2	17.5	0.51	-0.20	-7.12	
3,225.0	3.98	274.93	3,223.8	-13.5	-47.8	17.4	1.07	0.84	-9.84	
3,250.0	4.27	272.70	3,248.7	-13.4	-49.6	17.5	1.33	1.16	-8.92	
3,275.0	4.36	272.41	3,273.7	-13.3	-51.5	17.5	0.37	0.36	-1.16	
3,300.0	4.41	272.88	3,298.6	-13.2	-53.4	17.6	0.25	0.20	1.88	
3,325.0	4.30	273.73	3,323.5	-13.1	-55.3	17.7	0.51	-0.44	3.40	
3,350.0	4.16	274.71	3,348.5	-13.0	-57.2	17.7	0.63	-0.56	3.92	
3,375.0	3.93	277.28	3,373.4	-12.8	-58.9	17.6	1.17	-0.92	10.28	
3,400.0	3.65	276.99	3,398.3	-12.6	-60.6	17.6	1.12	-1.12	-1.16	
3,425.0	3.40	279.34	3,423.3	-12.3	-62.1	17.5	1.15	-1.00	9.40	
3,450.0	3.23	279.48	3,448.2	-12.1	-63.5	17.4	0.68	-0.68	0.56	
3,475.0	3.22	282.53	3,473.2	-11.8	-64.9	17.2	0.69	-0.04	12.20	
3,500.0	2.78	282.21	3,498.2	-11.6	-66.2	17.0	1.76	-1.76	-1.28	
3,525.0	2.53	280.97	3,523.1	-11.3	-67.3	16.9	1.03	-1.00	-4.96	
3,550.0	2.45	279.15	3,548.1	-11.1	-68.4	16.8	0.45	-0.32	-7.28	
3,575.0	2.55	280.54	3,573.1	-11.0	-69.4	16.7	0.47	0.40	5.56	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)
3,600.0	2.84	272.61	3,598.1	-10.8	-70.6	16.7	1.89	1.16	-31.72
3,625.0	3.65	268.24	3,623.0	-10.8	-72.0	16.8	3.39	3.24	-17.48
3,650.0	4.05	267.55	3,648.0	-10.9	-73.7	17.0	1.61	1.60	-2.76
3,675.0	4.35	266.54	3,672.9	-11.0	-75.5	17.2	1.24	1.20	-4.04
3,700.0	5.10	265.72	3,697.8	-11.1	-77.6	17.6	3.01	3.00	-3.28
3,725.0	6.00	266.73	3,722.7	-11.3	-80.0	17.9	3.62	3.60	4.04
3,750.0	6.22	267.29	3,747.6	-11.4	-82.7	18.3	0.91	0.88	2.24
3,775.0	6.37	266.15	3,772.4	-11.6	-85.4	18.7	0.78	0.60	-4.56
3,800.0	6.49	268.09	3,797.3	-11.7	-88.2	19.0	0.99	0.48	7.76
3,825.0	6.47	266.67	3,822.1	-11.8	-91.0	19.4	0.65	-0.08	-5.68
3,850.0	6.41	267.06	3,846.9	-12.0	-93.8	19.8	0.30	-0.24	1.56
3,875.0	6.58	267.53	3,871.8	-12.1	-96.6	20.2	0.71	0.68	1.88
3,900.0	6.31	267.52	3,896.6	-12.2	-99.4	20.5	1.08	-1.08	-0.04
3,925.0	6.40	267.69	3,921.5	-12.4	-102.2	20.9	0.37	0.36	0.68
3,950.0	6.22	267.47	3,946.3	-12.5	-104.9	21.2	0.73	-0.72	-0.88
3,975.0	6.11	267.17	3,971.2	-12.6	-107.6	21.5	0.46	-0.44	-1.20
4,000.0	5.71	267.30	3,996.0	-12.7	-110.2	21.9	1.60	-1.60	0.52
4,025.0	5.15	266.61	4,020.9	-12.9	-112.6	22.2	2.26	-2.24	-2.76
4,050.0	4.35	265.78	4,045.8	-13.0	-114.6	22.5	3.21	-3.20	-3.32
4,075.0	3.71	265.20	4,070.8	-13.1	-116.4	22.8	2.57	-2.56	-2.32
4,100.0	3.18	265.71	4,095.7	-13.2	-117.9	23.0	2.12	-2.12	2.04
4,125.0	2.91	264.97	4,120.7	-13.4	-119.2	23.3	1.09	-1.08	-2.96
4,150.0	2.70	263.96	4,145.7	-13.5	-120.4	23.5	0.86	-0.84	-4.04
4,175.0	2.50	260.52	4,170.6	-13.6	-121.5	23.7	1.01	-0.80	-13.76
4,200.0	2.21	255.30	4,195.6	-13.8	-122.5	24.0	1.44	-1.16	-20.88
4,225.0	2.13	253.74	4,220.6	-14.1	-123.4	24.4	0.40	-0.32	-6.24
4,250.0	2.14	247.87	4,245.6	-14.4	-124.3	24.7	0.88	0.04	-23.48
4,275.0	2.50	248.94	4,270.6	-14.8	-125.3	25.2	1.45	1.44	4.28
4,300.0	3.01	253.74	4,295.5	-15.1	-126.4	25.7	2.24	2.04	19.20
4,325.0	2.99	251.34	4,320.5	-15.5	-127.7	26.1	0.51	-0.08	-9.60
4,350.0	2.86	252.11	4,345.5	-15.9	-128.9	26.6	0.54	-0.52	3.08
4,375.0	2.79	248.29	4,370.4	-16.4	-130.0	27.2	0.80	-0.28	-15.28
4,400.0	2.59	249.97	4,395.4	-16.8	-131.1	27.7	0.86	-0.80	6.72
4,425.0	2.29	243.32	4,420.4	-17.2	-132.1	28.2	1.65	-1.20	-26.60
4,450.0	2.45	239.98	4,445.4	-17.7	-133.0	28.7	0.85	0.64	-13.36
4,475.0	2.58	244.52	4,470.3	-18.2	-134.0	29.3	0.95	0.52	18.16
4,500.0	2.70	242.20	4,495.3	-18.7	-135.0	29.9	0.64	0.48	-9.28
4,525.0	2.46	241.79	4,520.3	-19.2	-136.0	30.5	0.96	-0.96	-1.64
4,550.0	2.14	228.68	4,545.3	-19.8	-136.8	31.2	2.45	-1.28	-52.44
4,575.0	2.01	218.62	4,570.3	-20.5	-137.4	31.9	1.54	-0.52	-40.24
4,600.0	2.03	208.18	4,595.2	-21.2	-137.9	32.6	1.47	0.08	-41.76
4,625.0	2.24	200.82	4,620.2	-22.0	-138.3	33.5	1.38	0.84	-29.44
4,650.0	2.36	205.89	4,645.2	-22.9	-138.7	34.5	0.94	0.48	20.28

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)
4,675.0	2.56	218.22	4,670.2	-23.9	-139.3	35.4	2.26	0.80	49.32
4,700.0	2.82	230.34	4,695.1	-24.7	-140.1	36.3	2.50	1.04	48.48
4,725.0	2.83	231.62	4,720.1	-25.5	-141.1	37.2	0.26	0.04	5.12
4,750.0	2.81	230.37	4,745.1	-26.2	-142.0	38.0	0.26	-0.08	-5.00
4,775.0	2.85	232.27	4,770.1	-27.0	-143.0	38.9	0.41	0.16	7.60
4,800.0	2.67	229.17	4,795.0	-27.8	-143.9	39.7	0.94	-0.72	-12.40
4,825.0	2.49	219.06	4,820.0	-28.6	-144.7	40.6	1.95	-0.72	-40.44
4,850.0	2.50	203.23	4,845.0	-29.5	-145.3	41.5	2.75	0.04	-63.32
4,875.0	2.57	199.65	4,870.0	-30.5	-145.7	42.6	0.69	0.28	-14.32
4,900.0	2.76	196.18	4,894.9	-31.6	-146.0	43.7	1.00	0.76	-13.88
4,925.0	3.13	197.07	4,919.9	-32.9	-146.4	45.0	1.49	1.48	3.56
4,950.0	3.56	205.77	4,944.9	-34.2	-146.9	46.4	2.66	1.72	34.80
4,975.0	3.85	212.54	4,969.8	-35.6	-147.7	47.8	2.10	1.16	27.08
5,000.0	3.99	210.68	4,994.7	-37.1	-148.6	49.4	0.76	0.56	-7.44
5,025.0	3.95	211.79	5,019.7	-38.5	-149.5	50.9	0.35	-0.16	4.44
5,050.0	3.96	211.96	5,044.6	-40.0	-150.4	52.4	0.06	0.04	0.68
5,075.0	4.06	210.80	5,069.6	-41.5	-151.3	54.0	0.52	0.40	-4.64
5,100.0	4.05	211.30	5,094.5	-43.0	-152.2	55.6	0.15	-0.04	2.00
5,125.0	4.12	226.55	5,119.4	-44.4	-153.3	57.0	4.34	0.28	61.00
5,150.0	4.32	236.96	5,144.4	-45.5	-154.8	58.3	3.16	0.80	41.64
5,175.0	4.22	240.82	5,169.3	-46.5	-156.4	59.4	1.22	-0.40	15.44
5,200.0	4.24	240.51	5,194.2	-47.4	-158.0	60.4	0.12	0.08	-1.24
5,225.0	4.13	242.14	5,219.2	-48.3	-159.6	61.4	0.65	-0.44	6.52
5,250.0	3.98	243.37	5,244.1	-49.1	-161.2	62.4	0.69	-0.60	4.92
5,275.0	3.98	240.82	5,269.0	-49.9	-162.7	63.3	0.71	0.00	-10.20
5,300.0	4.10	243.86	5,294.0	-50.7	-164.2	64.2	0.98	0.48	12.16
5,325.0	4.19	249.40	5,318.9	-51.4	-165.9	65.1	1.64	0.36	22.16
5,350.0	4.30	255.17	5,343.8	-52.0	-167.7	65.8	1.76	0.44	23.08
5,375.0	4.26	256.73	5,368.8	-52.4	-169.5	66.4	0.49	-0.16	6.24
5,400.0	4.37	255.92	5,393.7	-52.9	-171.3	67.0	0.50	0.44	-3.24
5,425.0	4.32	257.24	5,418.6	-53.3	-173.1	67.6	0.45	-0.20	5.28
5,450.0	4.22	258.45	5,443.6	-53.7	-175.0	68.1	0.54	-0.40	4.84
5,475.0	4.02	258.79	5,468.5	-54.1	-176.7	68.6	0.81	-0.80	1.36
5,500.0	4.08	259.43	5,493.4	-54.4	-178.5	69.1	0.30	0.24	2.56
5,525.0	4.06	256.72	5,518.4	-54.8	-180.2	69.6	0.77	-0.08	-10.84
5,550.0	4.06	257.43	5,543.3	-55.2	-181.9	70.2	0.20	0.00	2.84
5,575.0	4.18	258.57	5,568.2	-55.5	-183.7	70.7	0.58	0.48	4.56
5,600.0	4.32	261.99	5,593.2	-55.8	-185.5	71.1	1.16	0.56	13.68
5,625.0	5.00	273.91	5,618.1	-55.9	-187.5	71.4	4.72	2.72	47.68
5,650.0	5.37	277.29	5,643.0	-55.7	-189.8	71.3	1.92	1.48	13.52
5,675.0	5.54	276.12	5,667.9	-55.4	-192.1	71.3	0.81	0.68	-4.68
5,700.0	5.66	277.26	5,692.8	-55.1	-194.6	71.2	0.65	0.48	4.56

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)
5,725.0	5.61	276.59	5,717.6	-54.8	-197.0	71.1	0.33	-0.20	-2.68
5,750.0	5.58	276.42	5,742.5	-54.5	-199.4	71.0	0.14	-0.12	-0.68
5,775.0	5.49	277.80	5,767.4	-54.2	-201.8	70.9	0.64	-0.36	5.52
5,800.0	5.25	276.80	5,792.3	-53.9	-204.1	70.8	1.03	-0.96	-4.00
5,825.0	5.13	274.43	5,817.2	-53.7	-206.4	70.8	0.98	-0.48	-9.48
5,850.0	5.03	274.10	5,842.1	-53.6	-208.6	70.8	0.42	-0.40	-1.32
5,875.0	4.97	275.77	5,867.0	-53.4	-210.8	70.8	0.63	-0.24	6.68
5,900.0	4.89	275.66	5,891.9	-53.2	-212.9	70.8	0.32	-0.32	-0.44
5,925.0	4.87	276.18	5,916.8	-52.9	-215.0	70.7	0.19	-0.08	2.08
5,950.0	4.83	275.10	5,941.7	-52.7	-217.1	70.7	0.40	-0.16	-4.32
5,975.0	5.00	274.84	5,966.6	-52.5	-219.2	70.7	0.69	0.68	-1.04
6,000.0	5.71	281.55	5,991.5	-52.2	-221.5	70.5	3.78	2.84	26.84
6,025.0	5.96	282.03	6,016.4	-51.7	-224.0	70.2	1.02	1.00	1.92
6,050.0	6.18	284.38	6,041.3	-51.1	-226.6	69.8	1.33	0.88	9.40
6,075.0	6.18	285.19	6,066.1	-50.4	-229.2	69.4	0.35	0.00	3.24
6,100.0	6.16	286.71	6,091.0	-49.7	-231.8	68.8	0.66	-0.08	6.08
6,125.0	6.13	284.61	6,115.8	-48.9	-234.4	68.3	0.91	-0.12	-8.40
6,150.0	6.12	284.45	6,140.7	-48.3	-237.0	67.9	0.08	-0.04	-0.64
6,175.0	6.18	286.02	6,165.5	-47.6	-239.5	67.4	0.71	0.24	6.28
6,200.0	6.13	285.39	6,190.4	-46.8	-242.1	66.9	0.34	-0.20	-2.52
6,225.0	6.00	283.63	6,215.3	-46.2	-244.7	66.4	0.91	-0.52	-7.04
6,250.0	5.88	283.70	6,240.1	-45.6	-247.2	66.0	0.48	-0.48	0.28
6,275.0	5.61	284.25	6,265.0	-45.0	-249.6	65.7	1.10	-1.08	2.20
6,300.0	5.65	282.55	6,289.9	-44.4	-252.0	65.3	0.69	0.16	-6.80
6,325.0	5.44	282.04	6,314.8	-43.9	-254.4	65.0	0.86	-0.84	-2.04
6,350.0	5.46	281.88	6,339.6	-43.4	-256.7	64.7	0.10	0.08	-0.64
6,375.0	5.50	283.54	6,364.5	-42.9	-259.0	64.3	0.65	0.16	6.64
6,400.0	5.32	283.74	6,389.4	-42.3	-261.3	64.0	0.72	-0.72	0.80
6,425.0	5.10	283.22	6,414.3	-41.8	-263.5	63.6	0.90	-0.88	-2.08
6,450.0	5.03	283.07	6,439.2	-41.3	-265.7	63.3	0.28	-0.28	-0.60
6,475.0	4.99	282.90	6,464.1	-40.8	-267.8	63.0	0.17	-0.16	-0.68
6,500.0	5.06	284.67	6,489.0	-40.3	-269.9	62.7	0.68	0.28	7.08
6,525.0	5.05	283.01	6,513.9	-39.7	-272.1	62.3	0.59	-0.04	-6.64
6,550.0	4.97	281.86	6,538.8	-39.3	-274.2	62.0	0.51	-0.32	-4.60
6,575.0	5.01	283.03	6,563.7	-38.8	-276.3	61.7	0.44	0.16	4.68
6,600.0	4.87	282.50	6,588.6	-38.3	-278.4	61.4	0.59	-0.56	-2.12
6,625.0	4.86	281.43	6,613.6	-37.9	-280.5	61.2	0.37	-0.04	-4.28
6,650.0	4.90	281.15	6,638.5	-37.5	-282.6	60.9	0.19	0.16	-1.12
6,675.0	5.02	280.51	6,663.4	-37.1	-284.7	60.7	0.53	0.48	-2.56
6,700.0	5.02	279.43	6,688.3	-36.7	-286.8	60.5	0.38	0.00	-4.32
6,725.0	5.37	280.51	6,713.2	-36.3	-289.1	60.3	1.45	1.40	4.32
6,750.0	5.92	281.24	6,738.0	-35.8	-291.5	60.0	2.22	2.20	2.92
6,775.0	6.36	282.90	6,762.9	-35.3	-294.1	59.7	1.90	1.76	6.64

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)
6,800.0	6.38	282.95	6,787.7	-34.6	-296.8	59.3	0.08	0.08	0.20
6,825.0	6.57	282.08	6,812.6	-34.0	-299.6	58.9	0.86	0.76	-3.48
6,850.0	6.55	282.97	6,837.4	-33.4	-302.3	58.5	0.41	-0.08	3.56
6,875.0	6.46	283.32	6,862.3	-32.8	-305.1	58.1	0.39	-0.36	1.40
6,900.0	6.47	281.62	6,887.1	-32.2	-307.9	57.8	0.77	0.04	-6.80
6,925.0	6.49	280.70	6,911.9	-31.6	-310.6	57.4	0.42	0.08	-3.68
6,950.0	6.39	281.03	6,936.8	-31.1	-313.4	57.1	0.43	-0.40	1.32
6,975.0	6.41	281.14	6,961.6	-30.5	-316.1	56.8	0.09	0.08	0.44
7,000.0	6.30	280.47	6,986.5	-30.0	-318.8	56.6	0.53	-0.44	-2.68
7,025.0	6.35	280.38	7,011.3	-29.5	-321.5	56.3	0.20	0.20	-0.36
7,050.0	6.30	280.44	7,036.2	-29.0	-324.2	56.0	0.20	-0.20	0.24
7,075.0	6.31	278.65	7,061.0	-28.6	-327.0	55.8	0.79	0.04	-7.16
7,100.0	6.29	279.85	7,085.9	-28.1	-329.7	55.6	0.53	-0.08	4.80
7,125.0	6.17	279.02	7,110.7	-27.7	-332.3	55.4	0.60	-0.48	-3.32
7,150.0	6.05	278.80	7,135.6	-27.3	-335.0	55.2	0.49	-0.48	-0.88
7,175.0	6.06	278.38	7,160.4	-26.9	-337.6	55.0	0.18	0.04	-1.68
7,200.0	5.97	278.36	7,185.3	-26.5	-340.2	54.8	0.36	-0.36	-0.08
7,225.0	5.82	277.15	7,210.2	-26.2	-342.7	54.7	0.78	-0.60	-4.84
7,250.0	5.72	277.99	7,235.0	-25.8	-345.2	54.6	0.52	-0.40	3.36
7,275.0	5.66	277.17	7,259.9	-25.5	-347.7	54.4	0.40	-0.24	-3.28
7,300.0	5.59	275.79	7,284.8	-25.2	-350.1	54.4	0.61	-0.28	-5.52
7,325.0	5.63	276.77	7,309.7	-25.0	-352.5	54.3	0.42	0.16	3.92
7,350.0	5.46	275.34	7,334.6	-24.7	-354.9	54.3	0.88	-0.68	-5.72
7,375.0	5.54	275.35	7,359.5	-24.5	-357.3	54.2	0.32	0.32	0.04
7,400.0	5.41	276.38	7,384.3	-24.2	-359.7	54.2	0.65	-0.52	4.12
7,425.0	5.30	277.71	7,409.2	-23.9	-362.0	54.1	0.66	-0.44	5.32
7,450.0	5.33	275.59	7,434.1	-23.7	-364.3	54.0	0.79	0.12	-8.48
7,475.0	5.31	275.21	7,459.0	-23.5	-366.6	54.0	0.16	-0.08	-1.52
7,500.0	5.35	275.08	7,483.9	-23.3	-368.9	54.0	0.17	0.16	-0.52
7,525.0	5.22	274.75	7,508.8	-23.1	-371.2	54.0	0.53	-0.52	-1.32
7,550.0	5.10	274.38	7,533.7	-22.9	-373.5	54.0	0.50	-0.48	-1.48
7,575.0	4.90	274.34	7,558.6	-22.7	-375.6	54.0	0.80	-0.80	-0.16
7,600.0	4.75	273.09	7,583.5	-22.6	-377.7	54.0	0.73	-0.60	-5.00
7,625.0	4.76	273.44	7,608.4	-22.5	-379.8	54.1	0.12	0.04	1.40
7,650.0	4.85	272.96	7,633.3	-22.3	-381.9	54.2	0.39	0.36	-1.92
7,675.0	4.99	275.23	7,658.2	-22.2	-384.0	54.2	0.96	0.56	9.08
7,700.0	5.83	278.95	7,683.1	-21.9	-386.4	54.1	3.64	3.36	14.88
7,725.0	6.01	281.74	7,708.0	-21.4	-388.9	53.8	1.36	0.72	11.16
7,750.0	6.15	281.59	7,732.9	-20.9	-391.5	53.5	0.56	0.56	-0.60
7,775.0	6.09	282.22	7,757.7	-20.3	-394.1	53.2	0.36	-0.24	2.52
7,800.0	6.17	281.46	7,782.6	-19.8	-396.7	52.9	0.46	0.32	-3.04
7,825.0	5.97	280.05	7,807.4	-19.3	-399.3	52.6	1.00	-0.80	-5.64

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)
7,850.0	5.98	279.27	7,832.3	-18.9	-401.9	52.4	0.33	0.04	-3.12
7,875.0	5.96	279.85	7,857.2	-18.4	-404.4	52.1	0.25	-0.08	2.32
7,900.0	5.95	279.82	7,882.0	-18.0	-407.0	51.9	0.04	-0.04	-0.12
7,925.0	5.87	279.34	7,906.9	-17.6	-409.5	51.7	0.38	-0.32	-1.92
7,950.0	5.83	279.49	7,931.8	-17.1	-412.0	51.5	0.17	-0.16	0.60
7,975.0	5.69	278.77	7,956.6	-16.7	-414.5	51.3	0.63	-0.56	-2.88
8,000.0	5.60	279.69	7,981.5	-16.3	-416.9	51.1	0.51	-0.36	3.68
8,025.0	5.47	278.25	8,006.4	-16.0	-419.3	50.9	0.76	-0.52	-5.76
8,050.0	5.44	277.38	8,031.3	-15.6	-421.7	50.8	0.35	-0.12	-3.48
8,075.0	5.28	277.70	8,056.2	-15.3	-424.0	50.7	0.65	-0.64	1.28
8,100.0	5.22	276.84	8,081.1	-15.1	-426.3	50.6	0.40	-0.24	-3.44
8,125.0	5.11	275.70	8,106.0	-14.8	-428.5	50.5	0.60	-0.44	-4.56
8,150.0	5.00	275.78	8,130.9	-14.6	-430.7	50.5	0.44	-0.44	0.32
8,175.0	4.92	275.19	8,155.8	-14.4	-432.8	50.5	0.38	-0.32	-2.36
8,200.0	4.82	274.68	8,180.7	-14.2	-435.0	50.5	0.44	-0.40	-2.04
8,225.0	4.78	274.93	8,205.6	-14.0	-437.0	50.5	0.18	-0.16	1.00
8,250.0	4.63	275.23	8,230.5	-13.8	-439.1	50.5	0.61	-0.60	1.20
8,275.0	4.60	275.85	8,255.4	-13.6	-441.1	50.4	0.23	-0.12	2.48
8,300.0	4.57	274.18	8,280.4	-13.5	-443.1	50.4	0.55	-0.12	-6.68
8,325.0	5.39	275.94	8,305.3	-13.3	-445.2	50.4	3.34	3.28	7.04
8,350.0	6.77	283.82	8,330.1	-12.8	-447.8	50.2	6.44	5.52	31.52
8,375.0	7.48	286.37	8,354.9	-12.0	-450.8	49.6	3.11	2.84	10.20
8,400.0	7.51	287.99	8,379.7	-11.0	-453.9	48.9	0.85	0.12	6.48
8,425.0	7.50	286.91	8,404.5	-10.1	-457.1	48.2	0.57	-0.04	-4.32
8,450.0	7.46	287.69	8,429.3	-9.1	-460.2	47.5	0.44	-0.16	3.12
8,475.0	7.47	287.62	8,454.1	-8.1	-463.3	46.8	0.05	0.04	-0.28
8,500.0	7.50	287.07	8,478.9	-7.1	-466.4	46.1	0.31	0.12	-2.20
8,525.0	7.42	287.13	8,503.7	-6.2	-469.5	45.4	0.32	-0.32	0.24
8,550.0	7.34	286.28	8,528.4	-5.3	-472.6	44.7	0.54	-0.32	-3.40
8,575.0	7.20	285.86	8,553.2	-4.4	-475.6	44.1	0.60	-0.56	-1.68
8,600.0	7.00	286.89	8,578.1	-3.5	-478.6	43.5	0.95	-0.80	4.12
8,625.0	6.86	287.89	8,602.9	-2.6	-481.4	42.8	0.74	-0.56	4.00
8,650.0	6.65	287.45	8,627.7	-1.7	-484.2	42.1	0.87	-0.84	-1.76
8,675.0	6.53	287.64	8,652.5	-0.8	-487.0	41.5	0.49	-0.48	0.76
8,700.0	6.36	287.26	8,677.4	0.0	-489.6	40.9	0.70	-0.68	-1.52
8,725.0	6.23	286.61	8,702.2	0.8	-492.3	40.3	0.59	-0.52	-2.60
8,750.0	6.07	286.85	8,727.1	1.6	-494.8	39.8	0.65	-0.64	0.96
8,775.0	5.96	286.07	8,751.9	2.3	-497.3	39.2	0.55	-0.44	-3.12
8,800.0	5.86	286.06	8,776.8	3.0	-499.8	38.7	0.40	-0.40	-0.04
8,825.0	5.67	286.26	8,801.7	3.7	-502.2	38.2	0.76	-0.76	0.80
8,850.0	5.59	286.65	8,826.6	4.4	-504.6	37.7	0.35	-0.32	1.56
8,875.0	5.51	286.12	8,851.4	5.1	-506.9	37.3	0.38	-0.32	-2.12
8,900.0	5.31	286.87	8,876.3	5.8	-509.2	36.8	0.85	-0.80	3.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)
8,925.0	5.27	286.01	8,901.2	6.4	-511.4	36.3	0.36	-0.16	-3.44
8,950.0	5.18	283.55	8,926.1	7.0	-513.6	35.9	0.97	-0.36	-9.84
8,975.0	5.19	283.58	8,951.0	7.5	-515.8	35.6	0.04	0.04	0.12
9,000.0	5.17	284.80	8,975.9	8.1	-518.0	35.2	0.45	-0.08	4.88
9,025.0	5.04	284.62	9,000.8	8.6	-520.1	34.8	0.52	-0.52	-0.72
9,050.0	4.99	284.45	9,025.7	9.2	-522.2	34.5	0.21	-0.20	-0.68
9,075.0	5.39	286.51	9,050.6	9.8	-524.4	34.0	1.76	1.60	8.24
9,100.0	6.57	289.35	9,075.5	10.6	-526.9	33.4	4.86	4.72	11.36
9,125.0	7.15	290.86	9,100.3	11.6	-529.7	32.6	2.43	2.32	6.04
9,150.0	7.26	290.70	9,125.1	12.7	-532.6	31.8	0.45	0.44	-0.64
9,175.0	7.16	290.42	9,149.9	13.9	-535.6	30.9	0.42	-0.40	-1.12
9,200.0	7.01	290.59	9,174.7	14.9	-538.4	30.1	0.61	-0.60	0.68
9,225.0	6.87	290.58	9,199.5	16.0	-541.3	29.3	0.56	-0.56	-0.04
9,250.0	6.82	290.27	9,224.4	17.0	-544.1	28.5	0.25	-0.20	-1.24
9,275.0	6.80	290.37	9,249.2	18.1	-546.8	27.7	0.09	-0.08	0.40
9,300.0	6.74	288.63	9,274.0	19.0	-549.6	26.9	0.85	-0.24	-6.96
9,325.0	6.62	289.90	9,298.8	20.0	-552.4	26.2	0.76	-0.48	5.08
9,350.0	6.56	288.16	9,323.7	20.9	-555.1	25.5	0.83	-0.24	-6.96
9,375.0	6.53	281.83	9,348.5	21.7	-557.8	25.0	2.89	-0.12	-25.32
9,400.0	6.51	280.14	9,373.4	22.2	-560.6	24.7	0.77	-0.08	-6.76
9,425.0	6.50	279.21	9,398.2	22.7	-563.4	24.4	0.42	-0.04	-3.72
9,450.0	6.41	278.56	9,423.0	23.1	-566.2	24.2	0.46	-0.36	-2.60
9,475.0	6.25	278.67	9,447.9	23.5	-568.9	24.1	0.64	-0.64	0.44
9,500.0	6.04	279.77	9,472.7	24.0	-571.5	23.9	0.96	-0.84	4.40
9,525.0	5.85	278.73	9,497.6	24.4	-574.1	23.6	0.87	-0.76	-4.16
9,550.0	5.66	279.11	9,522.5	24.8	-576.6	23.5	0.78	-0.76	1.52
9,575.0	5.45	279.17	9,547.4	25.2	-579.0	23.3	0.84	-0.84	0.24
9,600.0	5.24	278.55	9,572.2	25.5	-581.3	23.1	0.87	-0.84	-2.48
9,625.0	4.98	279.78	9,597.1	25.9	-583.5	23.0	1.13	-1.04	4.92
9,650.0	4.72	281.71	9,622.1	26.3	-585.5	22.7	1.23	-1.04	7.72
9,675.0	4.55	282.73	9,647.0	26.7	-587.5	22.5	0.76	-0.68	4.08
9,700.0	4.37	283.70	9,671.9	27.1	-589.4	22.2	0.78	-0.72	3.88
9,725.0	4.18	282.67	9,696.8	27.6	-591.2	21.9	0.82	-0.76	-4.12
9,750.0	4.04	281.79	9,721.8	27.9	-593.0	21.7	0.61	-0.56	-3.52
9,775.0	3.94	280.83	9,746.7	28.3	-594.7	21.5	0.48	-0.40	-3.84
9,800.0	3.81	280.26	9,771.7	28.6	-596.3	21.3	0.54	-0.52	-2.28
9,825.0	3.71	279.10	9,796.6	28.9	-598.0	21.2	0.50	-0.40	-4.64
9,850.0	3.61	279.51	9,821.5	29.1	-599.5	21.0	0.41	-0.40	1.64
9,875.0	3.64	278.58	9,846.5	29.4	-601.1	20.9	0.26	0.12	-3.72
9,900.0	3.67	279.00	9,871.4	29.6	-602.7	20.8	0.16	0.12	1.68
9,925.0	3.73	277.65	9,896.4	29.9	-604.3	20.7	0.42	0.24	-5.40
9,950.0	3.78	276.72	9,921.3	30.1	-605.9	20.7	0.32	0.20	-3.72

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)	
9,975.0	3.89	275.54	9,946.3	30.2	-607.6	20.6	0.54	0.44	-4.72	
10,000.0	3.87	277.38	9,971.2	30.4	-609.2	20.6	0.50	-0.08	7.36	
10,025.0	3.84	279.68	9,996.2	30.7	-610.9	20.5	0.63	-0.12	9.20	
10,050.0	3.77	279.45	10,021.1	30.9	-612.5	20.3	0.29	-0.28	-0.92	
10,075.0	3.66	280.25	10,046.1	31.2	-614.1	20.2	0.49	-0.44	3.20	
10,100.0	3.60	281.36	10,071.0	31.5	-615.7	20.0	0.37	-0.24	4.44	
10,125.0	3.76	279.45	10,096.0	31.8	-617.3	19.9	0.81	0.64	-7.64	
10,150.0	3.83	277.11	10,120.9	32.0	-618.9	19.8	0.68	0.28	-9.36	
10,175.0	3.89	272.58	10,145.8	32.2	-620.6	19.8	1.24	0.24	-18.12	
10,200.0	3.95	271.09	10,170.8	32.2	-622.3	19.8	0.47	0.24	-5.96	
10,225.0	3.89	271.21	10,195.7	32.3	-624.0	19.9	0.24	-0.24	0.48	
10,250.0	3.91	270.31	10,220.7	32.3	-625.7	20.1	0.26	0.08	-3.60	
10,275.0	3.86	270.34	10,245.6	32.3	-627.4	20.2	0.20	-0.20	0.12	
10,300.0	3.81	268.81	10,270.6	32.3	-629.1	20.4	0.46	-0.20	-6.12	
10,325.0	3.64	265.54	10,295.5	32.2	-630.7	20.6	1.09	-0.68	-13.08	
10,350.0	3.67	262.83	10,320.5	32.1	-632.3	20.9	0.70	0.12	-10.84	
10,375.0	3.60	262.70	10,345.4	31.9	-633.8	21.2	0.28	-0.28	-0.52	
10,400.0	3.48	268.73	10,370.4	31.7	-635.4	21.4	1.56	-0.48	24.12	
10,425.0	3.52	260.81	10,395.3	31.6	-636.9	21.7	1.94	0.16	-31.68	
10,450.0	3.38	261.27	10,420.3	31.4	-638.4	22.1	0.57	-0.56	1.84	
10,475.0	3.34	257.62	10,445.2	31.1	-639.8	22.4	0.87	-0.16	-14.60	
10,500.0	3.19	255.45	10,470.2	30.8	-641.2	22.9	0.78	-0.60	-8.68	
10,525.0	3.05	255.63	10,495.1	30.4	-642.5	23.3	0.56	-0.56	0.72	
10,550.0	3.15	254.64	10,520.1	30.1	-643.8	23.8	0.45	0.40	-3.96	
10,575.0	3.17	252.39	10,545.1	29.7	-645.1	24.3	0.50	0.08	-9.00	
10,600.0	3.43	258.11	10,570.0	29.3	-646.5	24.8	1.68	1.04	22.88	
10,625.0	3.81	259.96	10,595.0	29.0	-648.1	25.2	1.59	1.52	7.40	
10,650.0	4.08	261.44	10,619.9	28.8	-649.8	25.6	1.15	1.08	5.92	
10,675.0	4.27	261.76	10,644.9	28.5	-651.6	26.0	0.77	0.76	1.28	
10,700.0	5.18	261.39	10,669.8	28.2	-653.6	26.5	3.64	3.64	-1.48	
10,725.0	6.20	263.07	10,694.6	27.9	-656.1	27.0	4.13	4.08	6.72	
10,750.0	6.61	265.97	10,719.5	27.6	-658.9	27.5	2.09	1.64	11.60	
10,775.0	6.58	266.17	10,744.3	27.4	-661.7	28.0	0.15	-0.12	0.80	
10,800.0	6.15	266.84	10,769.2	27.2	-664.5	28.4	1.75	-1.72	2.68	
10,825.0	5.76	267.08	10,794.0	27.1	-667.1	28.7	1.56	-1.56	0.96	
10,850.0	5.39	267.27	10,818.9	27.0	-669.5	29.0	1.48	-1.48	0.76	
10,875.0	5.28	266.87	10,843.8	26.8	-671.8	29.4	0.46	-0.44	-1.60	
10,900.0	5.09	267.96	10,868.7	26.7	-674.1	29.6	0.86	-0.76	4.36	
10,925.0	4.90	268.74	10,893.6	26.7	-676.3	29.9	0.81	-0.76	3.12	
10,950.0	4.90	268.62	10,918.5	26.6	-678.4	30.1	0.04	0.00	-0.48	
10,975.0	4.90	268.14	10,943.4	26.6	-680.5	30.4	0.16	0.00	-1.92	
11,000.0	4.51	268.50	10,968.3	26.5	-682.6	30.6	1.56	-1.56	1.44	
11,025.0	4.59	267.86	10,993.3	26.4	-684.6	30.8	0.38	0.32	-2.56	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)	
11,050.0	4.66	266.75	11,018.2	26.4	-686.6	31.1	0.45	0.28	-4.44	
11,075.0	5.13	263.41	11,043.1	26.2	-688.7	31.4	2.20	1.88	-13.36	
11,100.0	6.36	260.92	11,068.0	25.8	-691.2	32.0	5.02	4.92	-9.96	
11,125.0	7.02	259.06	11,092.8	25.3	-694.0	32.7	2.78	2.64	-7.44	
11,150.0	7.10	259.14	11,117.6	24.7	-697.1	33.6	0.32	0.32	0.32	
11,175.0	6.92	258.89	11,142.4	24.2	-700.0	34.4	0.73	-0.72	-1.00	
11,200.0	6.70	258.61	11,167.2	23.6	-703.0	35.2	0.89	-0.88	-1.12	
11,225.0	6.01	260.51	11,192.1	23.1	-705.7	36.0	2.88	-2.76	7.60	
11,250.0	5.61	260.18	11,217.0	22.6	-708.2	36.6	1.61	-1.60	-1.32	
11,275.0	5.42	258.39	11,241.8	22.2	-710.5	37.2	1.03	-0.76	-7.16	
11,300.0	5.24	256.78	11,266.7	21.7	-712.8	37.9	0.94	-0.72	-6.44	
11,325.0	5.12	256.77	11,291.6	21.2	-715.0	38.6	0.48	-0.48	-0.04	
11,350.0	5.13	256.99	11,316.5	20.7	-717.2	39.3	0.09	0.04	0.88	
11,375.0	4.85	259.99	11,341.4	20.2	-719.3	39.9	1.53	-1.12	12.00	
11,400.0	4.50	264.88	11,366.4	20.0	-721.3	40.3	2.12	-1.40	19.56	
11,425.0	4.45	266.56	11,391.3	19.8	-723.3	40.7	0.56	-0.20	6.72	
11,450.0	4.73	270.31	11,416.2	19.8	-725.3	40.9	1.64	1.12	15.00	
11,475.0	5.54	273.48	11,441.1	19.9	-727.5	41.0	3.43	3.24	12.68	
11,500.0	5.87	274.24	11,466.0	20.0	-730.0	41.0	1.35	1.32	3.04	
11,525.0	5.94	274.45	11,490.8	20.2	-732.5	41.0	0.29	0.28	0.84	
11,550.0	5.76	273.66	11,515.7	20.4	-735.1	41.1	0.79	-0.72	-3.16	
11,575.0	5.39	272.44	11,540.6	20.5	-737.5	41.1	1.55	-1.48	-4.88	
11,600.0	5.05	271.31	11,565.5	20.6	-739.8	41.3	1.42	-1.36	-4.52	
11,625.0	4.90	271.15	11,590.4	20.6	-742.0	41.4	0.60	-0.60	-0.64	
11,650.0	4.89	268.66	11,615.3	20.6	-744.1	41.6	0.85	-0.04	-9.96	
11,675.0	4.86	268.59	11,640.2	20.6	-746.2	41.8	0.12	-0.12	-0.28	
11,700.0	4.83	269.66	11,665.1	20.6	-748.3	42.0	0.38	-0.12	4.28	
11,725.0	4.58	268.50	11,690.0	20.5	-750.4	42.2	1.07	-1.00	-4.64	
11,750.0	4.44	265.31	11,715.0	20.4	-752.3	42.5	1.15	-0.56	-12.76	
11,775.0	4.18	264.67	11,739.9	20.3	-754.2	42.8	1.06	-1.04	-2.56	
11,800.0	3.98	263.93	11,764.8	20.1	-756.0	43.1	0.83	-0.80	-2.96	
11,825.0	3.82	264.24	11,789.8	19.9	-757.7	43.4	0.65	-0.64	1.24	
11,850.0	3.58	267.63	11,814.7	19.8	-759.3	43.7	1.30	-0.96	13.56	
11,875.0	3.53	270.74	11,839.7	19.8	-760.8	43.8	0.80	-0.20	12.44	
11,900.0	3.32	272.41	11,864.6	19.8	-762.3	43.9	0.93	-0.84	6.68	
11,925.0	2.99	275.19	11,889.6	19.9	-763.7	44.0	1.45	-1.32	11.12	
11,928.0	3.00	272.74	11,892.6	19.9	-763.8	44.0	4.28	0.33	-81.67	
11,940.0	2.71	273.53	11,904.6	19.9	-764.4	44.0	2.44	-2.42	6.58	
12,034.0	1.75	270.14	11,998.5	20.1	-768.1	44.1	1.03	-1.02	-3.61	
12,129.0	0.74	274.58	12,093.5	20.1	-770.2	44.3	1.07	-1.06	4.67	
12,160.0	0.66	265.84	12,124.5	20.1	-770.5	44.3	0.43	-0.26	-28.19	
12,223.0	0.61	232.72	12,187.5	19.9	-771.2	44.6	0.58	-0.08	-52.57	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)	
12,255.0	0.71	233.93	12,219.5	19.7	-771.5	44.8	0.32	0.31	3.78	
12,318.0	4.64	198.84	12,282.4	17.0	-772.6	47.5	6.48	6.24	-55.70	
12,350.0	9.53	191.00	12,314.1	13.2	-773.5	51.4	15.54	15.28	-24.50	
12,397.0	16.41	186.53	12,359.9	2.8	-775.0	62.0	14.78	14.64	-9.51	
12,445.0	23.02	180.38	12,405.1	-13.4	-775.9	78.1	14.42	13.77	-12.81	
12,492.0	30.71	182.09	12,447.0	-34.6	-776.4	99.3	16.44	16.36	3.64	
12,539.0	38.04	185.63	12,485.7	-61.0	-778.2	125.8	16.16	15.60	7.53	
12,587.0	45.88	187.60	12,521.4	-92.9	-782.0	157.8	16.56	16.33	4.10	
12,634.0	51.48	185.67	12,552.4	-127.9	-786.0	193.1	12.31	11.91	-4.11	
12,682.0	54.92	186.07	12,581.2	-166.1	-789.9	231.5	7.20	7.17	0.83	
12,729.0	59.24	185.21	12,606.7	-205.4	-793.8	271.0	9.32	9.19	-1.83	
12,776.0	61.83	185.09	12,629.8	-246.1	-797.5	311.9	5.52	5.51	-0.26	
12,823.0	62.47	185.21	12,651.8	-287.5	-801.2	353.4	1.38	1.36	0.26	
12,871.0	64.47	185.52	12,673.2	-330.3	-805.2	396.4	4.21	4.17	0.65	
12,918.0	66.35	183.68	12,692.8	-372.9	-808.6	439.1	5.35	4.00	-3.91	
12,966.0	66.65	182.78	12,711.9	-416.8	-811.1	483.1	1.83	0.63	-1.88	
13,013.0	67.49	183.88	12,730.2	-460.0	-813.6	526.4	2.80	1.79	2.34	
13,061.0	73.59	186.14	12,746.2	-505.1	-817.6	571.6	13.46	12.71	4.71	
13,108.0	79.70	183.91	12,757.1	-550.6	-821.6	617.3	13.79	13.00	-4.74	
13,156.0	85.04	183.75	12,763.4	-598.1	-824.8	664.9	11.13	11.13	-0.33	
13,202.0	89.24	185.98	12,765.7	-643.8	-828.7	710.8	10.33	9.13	4.85	
13,297.0	88.67	185.31	12,767.5	-738.4	-838.0	805.8	0.93	-0.60	-0.71	
13,391.0	87.38	183.45	12,770.7	-832.0	-845.2	899.7	2.41	-1.37	-1.98	
13,486.0	90.60	189.02	12,772.4	-926.4	-855.5	994.6	6.77	3.39	5.86	
13,580.0	90.18	188.73	12,771.8	-1,019.3	-870.0	1,088.4	0.54	-0.45	-0.31	
13,674.0	88.76	187.82	12,772.6	-1,112.3	-883.5	1,182.2	1.79	-1.51	-0.97	
13,768.0	85.56	186.37	12,777.3	-1,205.4	-895.1	1,276.0	3.74	-3.40	-1.54	
13,863.0	90.82	184.21	12,780.3	-1,299.9	-903.9	1,370.9	5.98	5.54	-2.27	
13,957.0	89.28	183.51	12,780.2	-1,393.7	-910.2	1,464.9	1.80	-1.64	-0.74	
14,051.0	88.66	182.71	12,781.9	-1,487.6	-915.3	1,558.8	1.08	-0.66	-0.85	
14,146.0	86.48	181.20	12,785.9	-1,582.4	-918.5	1,653.6	2.79	-2.29	-1.59	
14,171.0	86.75	181.44	12,787.4	-1,607.4	-919.1	1,678.5	1.44	1.08	0.96	
14,266.0	88.54	182.18	12,791.3	-1,702.2	-922.1	1,773.3	2.04	1.88	0.78	
14,361.0	88.72	181.31	12,793.6	-1,797.2	-925.0	1,868.2	0.93	0.19	-0.92	
14,456.0	91.05	180.13	12,793.8	-1,892.2	-926.2	1,962.9	2.75	2.45	-1.24	
14,551.0	91.12	180.11	12,792.0	-1,987.1	-926.4	2,057.6	0.08	0.07	-0.02	
14,645.0	88.35	177.50	12,792.4	-2,081.1	-924.4	2,151.0	4.05	-2.95	-2.78	
14,740.0	90.92	180.62	12,793.0	-2,176.1	-922.9	2,245.5	4.25	2.71	3.28	
14,835.0	93.45	182.88	12,789.4	-2,270.9	-925.8	2,340.3	3.57	2.66	2.38	
14,929.0	93.87	182.57	12,783.4	-2,364.6	-930.2	2,434.1	0.55	0.45	-0.33	
15,023.0	93.38	182.56	12,777.4	-2,458.4	-934.4	2,527.8	0.52	-0.52	-0.01	
15,118.0	89.50	184.53	12,775.0	-2,553.1	-940.3	2,622.7	4.58	-4.08	2.07	
15,212.0	87.53	183.65	12,777.5	-2,646.8	-947.0	2,716.7	2.30	-2.10	-0.94	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)
15,307.0	90.81	179.14	12,778.9	-2,741.8	-949.3	2,811.5	5.87	3.45	-4.75
15,402.0	90.45	179.85	12,777.8	-2,836.8	-948.5	2,906.1	0.84	-0.38	0.75
15,497.0	88.99	182.75	12,778.3	-2,931.7	-950.6	3,000.9	3.42	-1.54	3.05
15,592.0	89.20	181.94	12,779.8	-3,026.6	-954.5	3,095.8	0.88	0.22	-0.85
15,687.0	89.06	181.53	12,781.2	-3,121.6	-957.4	3,190.6	0.46	-0.15	-0.43
15,782.0	87.50	179.69	12,784.1	-3,216.5	-958.4	3,285.3	2.54	-1.64	-1.94
15,876.0	87.68	179.06	12,788.0	-3,310.4	-957.4	3,378.8	0.70	0.19	-0.67
15,971.0	88.26	177.48	12,791.4	-3,405.3	-954.5	3,473.1	1.77	0.61	-1.66
16,066.0	89.41	179.42	12,793.3	-3,500.3	-952.0	3,567.5	2.37	1.21	2.04
16,160.0	89.01	179.87	12,794.6	-3,594.3	-951.4	3,661.2	0.64	-0.43	0.48
16,255.0	88.94	179.88	12,796.3	-3,689.2	-951.2	3,755.8	0.07	-0.07	0.01
16,350.0	89.19	180.55	12,797.9	-3,784.2	-951.5	3,850.5	0.75	0.26	0.71
16,445.0	89.63	181.13	12,798.8	-3,879.2	-952.9	3,945.2	0.77	0.46	0.61
16,540.0	89.63	179.19	12,799.5	-3,974.2	-953.2	4,039.9	2.04	0.00	-2.04
16,636.0	89.29	178.59	12,800.4	-4,070.2	-951.3	4,135.4	0.72	-0.35	-0.63
16,731.0	88.72	177.81	12,802.0	-4,165.1	-948.3	4,229.8	1.02	-0.60	-0.82
16,825.0	91.61	175.00	12,801.7	-4,258.9	-942.4	4,322.7	4.29	3.07	-2.99
16,920.0	92.06	177.57	12,798.7	-4,353.7	-936.3	4,416.6	2.75	0.47	2.71
17,015.0	91.99	177.43	12,795.3	-4,448.5	-932.1	4,510.8	0.16	-0.07	-0.15
17,110.0	92.25	177.72	12,791.8	-4,543.4	-928.1	4,605.0	0.41	0.27	0.31
17,205.0	90.95	180.43	12,789.2	-4,638.3	-926.6	4,699.5	3.16	-1.37	2.85
17,300.0	90.22	179.38	12,788.2	-4,733.3	-926.4	4,794.1	1.35	-0.77	-1.11
17,394.0	90.49	178.10	12,787.6	-4,827.3	-924.4	4,887.6	1.39	0.29	-1.36
17,489.0	88.82	174.95	12,788.2	-4,922.1	-918.6	4,981.6	3.75	-1.76	-3.32
17,583.0	91.50	179.10	12,787.9	-5,015.9	-913.7	5,074.7	5.26	2.85	4.41
17,678.0	87.78	177.71	12,788.5	-5,110.9	-911.1	5,169.1	4.18	-3.92	-1.46
17,773.0	90.23	180.85	12,790.2	-5,205.8	-909.9	5,263.6	4.19	2.58	3.31
17,868.0	88.65	182.13	12,791.1	-5,300.8	-912.4	5,358.5	2.14	-1.66	1.35
17,963.0	87.73	181.57	12,794.1	-5,395.7	-915.4	5,453.3	1.13	-0.97	-0.59
18,057.0	87.54	181.92	12,798.0	-5,489.6	-918.3	5,547.1	0.42	-0.20	0.37
18,151.0	87.71	181.66	12,801.9	-5,583.4	-921.2	5,640.9	0.33	0.18	-0.28
18,246.0	88.12	181.47	12,805.3	-5,678.3	-923.8	5,735.6	0.48	0.43	-0.20
18,340.0	88.54	182.51	12,808.1	-5,772.2	-927.1	5,829.5	1.19	0.45	1.11
18,435.0	88.33	183.01	12,810.7	-5,867.1	-931.7	5,924.4	0.57	-0.22	0.53
18,530.0	87.94	180.75	12,813.8	-5,962.0	-934.8	6,019.2	2.41	-0.41	-2.38
18,625.0	90.62	178.72	12,815.0	-6,057.0	-934.3	6,113.8	3.54	2.82	-2.14
18,720.0	91.38	178.09	12,813.3	-6,151.9	-931.7	6,208.2	1.04	0.80	-0.66
18,815.0	90.71	175.98	12,811.6	-6,246.8	-926.8	6,302.3	2.33	-0.71	-2.22
18,910.0	90.10	174.56	12,810.9	-6,341.4	-918.9	6,396.0	1.63	-0.64	-1.49
19,005.0	91.58	176.47	12,809.5	-6,436.1	-911.5	6,489.8	2.54	1.56	2.01
19,099.0	91.36	177.00	12,807.1	-6,529.9	-906.2	6,582.8	0.61	-0.23	0.56
19,194.0	91.27	178.55	12,804.9	-6,624.8	-902.5	6,677.1	1.63	-0.09	1.63

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)
19,288.0	90.90	178.42	12,803.1	-6,718.8	-900.0	6,770.5	0.42	-0.39	-0.14
19,383.0	90.62	178.00	12,801.9	-6,813.7	-897.0	6,864.8	0.53	-0.29	-0.44
19,478.0	90.29	179.87	12,801.1	-6,908.7	-895.3	6,959.3	2.00	-0.35	1.97
19,572.0	89.11	181.90	12,801.6	-7,002.7	-896.7	7,053.1	2.50	-1.26	2.16
19,667.0	88.89	183.16	12,803.3	-7,097.6	-900.9	7,148.0	1.35	-0.23	1.33
19,762.0	89.30	181.19	12,804.8	-7,192.5	-904.5	7,242.9	2.12	0.43	-2.07
19,856.0	90.56	182.50	12,804.9	-7,286.4	-907.5	7,336.8	1.93	1.34	1.39
19,951.0	90.76	182.72	12,803.8	-7,381.3	-911.9	7,431.7	0.31	0.21	0.23
20,046.0	89.70	179.70	12,803.4	-7,476.3	-913.9	7,526.5	3.37	-1.12	-3.18
20,140.0	90.53	180.85	12,803.2	-7,570.3	-914.3	7,620.2	1.51	0.88	1.22
20,234.0	92.07	181.84	12,801.1	-7,664.2	-916.5	7,714.0	1.95	1.64	1.05
20,329.0	90.73	179.25	12,798.8	-7,759.2	-917.4	7,808.7	3.07	-1.41	-2.73
20,423.0	90.68	180.01	12,797.6	-7,853.2	-916.8	7,902.3	0.81	-0.05	0.81
20,518.0	87.77	177.63	12,798.9	-7,948.1	-914.9	7,996.8	3.96	-3.06	-2.51
20,612.0	88.19	178.07	12,802.2	-8,042.0	-911.3	8,090.0	0.65	0.45	0.47
20,707.0	88.82	178.36	12,804.7	-8,136.9	-908.4	8,184.4	0.73	0.66	0.31
20,801.0	87.90	177.02	12,807.4	-8,230.8	-904.6	8,277.6	1.73	-0.98	-1.43
20,896.0	89.06	179.44	12,809.9	-8,325.7	-901.7	8,371.9	2.82	1.22	2.55
20,990.0	91.57	179.47	12,809.4	-8,419.7	-900.8	8,465.5	2.67	2.67	0.03
21,085.0	92.30	179.33	12,806.2	-8,514.7	-899.8	8,560.1	0.78	0.77	-0.15
21,180.0	91.96	177.96	12,802.6	-8,609.6	-897.5	8,654.4	1.48	-0.36	-1.44
21,275.0	90.36	178.79	12,800.7	-8,704.5	-894.8	8,748.8	1.90	-1.68	0.87
21,370.0	90.41	177.89	12,800.1	-8,799.5	-892.1	8,843.2	0.95	0.05	-0.95
21,464.0	90.48	177.36	12,799.3	-8,893.4	-888.2	8,936.5	0.57	0.07	-0.56
21,559.0	89.42	180.24	12,799.4	-8,988.3	-886.2	9,031.0	3.23	-1.12	3.03
21,653.0	88.47	180.94	12,801.2	-9,082.3	-887.2	9,124.7	1.26	-1.01	0.74
21,748.0	88.46	181.27	12,803.7	-9,177.3	-889.0	9,219.5	0.35	-0.01	0.35
21,843.0	89.10	181.31	12,805.7	-9,272.2	-891.1	9,314.3	0.67	0.67	0.04
21,936.0	89.03	180.91	12,807.2	-9,365.2	-892.9	9,407.0	0.44	-0.08	-0.43
22,031.0	89.00	180.98	12,808.9	-9,460.2	-894.5	9,501.8	0.08	-0.03	0.07
22,126.0	88.88	180.82	12,810.6	-9,555.1	-896.0	9,596.6	0.21	-0.13	-0.17
22,221.0	89.75	182.71	12,811.8	-9,650.1	-898.9	9,691.4	2.19	0.92	1.99
22,315.0	89.99	181.98	12,812.0	-9,744.0	-902.8	9,785.4	0.82	0.26	-0.78
22,409.0	89.83	178.22	12,812.1	-9,838.0	-902.9	9,879.0	4.00	-0.17	-4.00
22,503.0	89.27	177.04	12,812.9	-9,931.9	-899.0	9,972.3	1.39	-0.60	-1.26
22,597.0	91.31	178.44	12,812.4	-10,025.8	-895.3	10,065.6	2.63	2.17	1.49
22,692.0	92.07	179.20	12,809.6	-10,120.8	-893.4	10,160.0	1.13	0.80	0.80
22,787.0	92.32	179.32	12,806.0	-10,215.7	-892.2	10,254.5	0.29	0.26	0.13
22,810.0	92.46	179.38	12,805.0	-10,238.7	-891.9	10,277.4	0.66	0.61	0.26
LAST MWD @ 22810'MD									
22,820.9	92.46	179.38	12,804.5	-10,249.5	-891.8	10,288.2	0.00	0.00	0.00
LTP @ 22820.9'MD									
22,869.0	92.46	179.38	12,802.5	-10,297.6	-891.3	10,336.1	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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)
PTD @ 22869'MD									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
22,810.0	12,805.0	-10,238.7	-891.9	LAST MWD @ 22810'MD	
22,820.9	12,804.5	-10,249.5	-891.8	LTP @ 22820.9'MD	
22,869.0	12,802.5	-10,297.6	-891.3	PTD @ 22869'MD	

Checked By: _____	Approved By: _____	Date: _____
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1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 21310

CONDITIONS OF APPROVAL

Operator:	COG OPERATING LLC	600 W Illinois Ave	Midland, TX79701	OGRID:	229137	Action Number:	21310	Action Type:	C-104C
OCD Reviewer									Condition
ksimmons									None