

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 RT	
API Number 30-015-46784	⁵ Pool Name Willow Lake Bone Spring ; Southeast		⁶ Pool Code 96217
⁷ Property Code 313927	⁸ Property Name Admiral Federal Com		⁹ Well Number 502H

II. ¹⁰ Surface Location

Ul or lot no. M	Section 28	Township 25S	Range 29E	Lot Idn	Feet from the 220	North/South Line South	Feet from the 910	East/West line West	County Eddy
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¹¹ Bottom Hole Location

Ul or lot no. C	Section 21	Township 25S	Range 29E	Lot Idn	Feet from the 50	North/South Line North	Feet from the 1489	East/West line West	County Eddy
¹² Lse Code F	¹³ Producing Method Code		¹⁴ Gas Connection Date		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 3/26/20	²² Ready Date 3/15/21	²³ TD 18,988’	²⁴ PBTD 18,853’	²⁵ Perforations 8,750-18,828’	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set	³⁰ Sacks Cement
17 1/2”		13 3/8”		650’	625
12 1/4”		9 5/8”		3,000’	880
8 1/2”		5 1/2”		18,973’	2885
		2 7/8”		8,002’	

V. Well Test Data

³¹ Date New Oil	³² Gas Delivery Date	³³ Test Date	³⁴ Test Length	³⁵ Tbg. Pressure	³⁶ Csg. Pressure
³⁷ Choke Size	³⁸ Oil	³⁹ Water	⁴⁰ Gas		⁴¹ Test Method
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: NMOCD, SANTA FE		
Title: Regulatory Analyst			Approval Date: 04/15/2021		
E-mail Address:			RT C-104 EXPIRES 07/14/2021 (90 DAYS)		
Date: 3 /15/21	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 30-015-46784	Pool Code 96217	Pool Name Willow Lake Bone Spring; Southeast
Property Code 313927	Property Name ADMIRAL FEDERAL COM	Well Number 502H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 2982.9'

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	28	25-S	29-E		220	SOUTH	910	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
C	21	25-S	29-E		50	NORTH	1489	WEST	EDDY
Dedicated Acres 1280	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

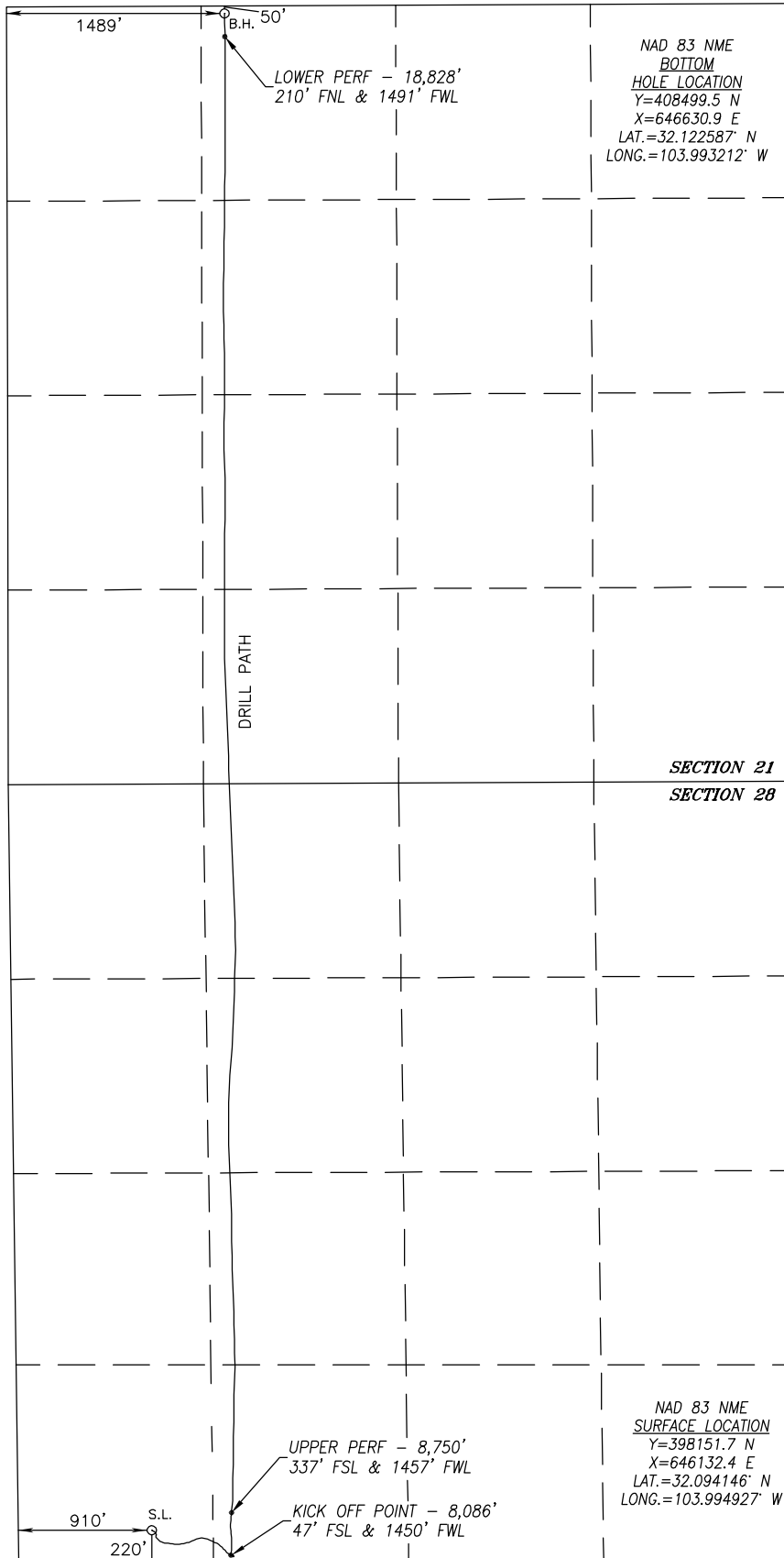
SEE PAGE 2

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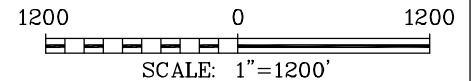
W.O. #21-88

DRAWN BY: WN

Property Code 313927	Property Name ADMIRAL FEDERAL COM	Well Number 502H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 2982.9'



SURFACE INFO AND BOREPATH SHOWN HEREON IS BASED ON DIRECTIONAL SURVEY REPORT PROVIDED BY COG OPERATING, LLC FOR THE ADMIRAL FEDERAL COM 502H SUPPLIED TO HARCROW SURVEYING, LLC ON JANUARY 27, 2021



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 3/15/21
Signature Date

Amanda Avery
Printed Name
amanda.lavery@conocophillips.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.

AUG. 30, 2019/JULY 2, 2020

Date of Survey/Date of Geographic Survey

Signature & Seal of Professional Surveyor



Chad Harcrow 2/1/21
Certificate No. CHAD HARCROW 17777

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W.O. #21-88

DRAWN BY: WN

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-E)

ADMIRAL FEDERAL PROJECT (ATLAS 2529)

ADMIRAL FEDERAL COM 502H

OWB

Design: AWP

Standard Survey Report

02 July, 2020

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 502H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 502H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Project	ATLAS 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	ADMIRAL FEDERAL COM 502H, ACTIVE			
Well Position	+N/-S	0.0 usft	Northing:	398,093.70 usft
	+E/-W	0.0 usft	Easting:	604,947.40 usft
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft
			Ground Level:	2,982.9 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/23/2020	6.84	59.84	47,535.99973547

Design	AWP				
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	2.74	

Survey Program	Date	7/2/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
89.0	581.0	MWD-SURFACE (OWB)	MWD	OWSG MWD - Standard	
679.0	18,988.0	MWD-INTER/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	
89.0	0.22	36.16	89.0	0.1	0.1	0.1	0.25	0.25	0.00	
175.0	0.31	352.65	175.0	0.5	0.2	0.5	0.25	0.10	-50.59	
260.0	0.40	119.92	260.0	0.6	0.4	0.6	0.75	0.11	149.73	
320.0	0.35	133.63	320.0	0.4	0.7	0.4	0.17	-0.08	22.85	
407.0	0.44	141.01	407.0	-0.1	1.1	0.0	0.12	0.10	8.48	
495.0	0.53	148.66	495.0	-0.7	1.5	-0.6	0.13	0.10	8.69	
581.0	0.79	132.14	581.0	-1.4	2.2	-1.3	0.37	0.30	-19.21	
679.0	1.95	110.39	679.0	-2.5	4.2	-2.3	1.28	1.18	-22.19	
768.0	2.10	105.70	767.9	-3.4	7.2	-3.1	0.25	0.17	-5.27	
859.0	2.40	120.41	858.8	-4.9	10.5	-4.4	0.71	0.33	16.16	
949.0	2.13	123.07	948.8	-6.7	13.5	-6.1	0.32	-0.30	2.96	
1,040.0	1.46	120.53	1,039.7	-8.2	15.9	-7.5	0.74	-0.74	-2.79	
1,129.0	1.95	113.36	1,128.7	-9.4	18.3	-8.5	0.60	0.55	-8.06	
1,218.0	1.54	111.80	1,217.6	-10.5	20.8	-9.5	0.46	-0.46	-1.75	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 502H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 502H	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)
1,308.0	0.87	144.62	1,307.6	-11.5	22.3	-10.4	1.04	-0.74	36.47
1,403.0	1.26	146.04	1,402.6	-12.9	23.3	-11.8	0.41	0.41	1.49
1,497.0	2.29	148.39	1,496.6	-15.4	24.9	-14.2	1.10	1.10	2.50
1,592.0	2.78	146.37	1,591.5	-18.9	27.1	-17.6	0.52	0.52	-2.13
1,687.0	2.53	147.91	1,686.4	-22.6	29.5	-21.2	0.27	-0.26	1.62
1,782.0	2.77	164.12	1,781.3	-26.6	31.3	-25.1	0.83	0.25	17.06
1,877.0	2.58	182.16	1,876.2	-30.9	31.8	-29.4	0.90	-0.20	18.99
1,972.0	2.54	181.68	1,971.1	-35.2	31.7	-33.6	0.05	-0.04	-0.51
2,066.0	2.31	181.52	2,065.0	-39.1	31.6	-37.6	0.24	-0.24	-0.17
2,161.0	2.25	189.80	2,159.9	-42.9	31.2	-41.4	0.35	-0.06	8.72
2,256.0	2.35	171.46	2,254.8	-46.7	31.2	-45.1	0.78	0.11	-19.31
2,351.0	3.90	142.72	2,349.7	-51.2	33.4	-49.5	2.27	1.63	-30.25
2,446.0	4.05	138.12	2,444.5	-56.2	37.6	-54.4	0.37	0.16	-4.84
2,541.0	4.97	134.28	2,539.2	-61.6	42.8	-59.5	1.02	0.97	-4.04
2,635.0	6.84	132.07	2,632.7	-68.2	49.9	-65.7	2.00	1.99	-2.35
2,730.0	7.75	125.20	2,726.9	-75.7	59.3	-72.8	1.33	0.96	-7.23
2,825.0	6.13	105.53	2,821.2	-80.7	69.4	-77.3	3.00	-1.71	-20.71
2,920.0	5.13	102.79	2,915.7	-83.0	78.5	-79.2	1.09	-1.05	-2.88
3,081.0	4.60	102.81	3,076.2	-86.1	91.8	-81.6	0.33	-0.33	0.01
3,176.0	4.41	100.03	3,170.9	-87.5	99.1	-82.7	0.30	-0.20	-2.93
3,270.0	4.37	97.74	3,264.6	-88.6	106.2	-83.5	0.19	-0.04	-2.44
3,365.0	7.06	96.30	3,359.1	-89.8	115.6	-84.2	2.84	2.83	-1.52
3,460.0	8.83	96.94	3,453.2	-91.3	128.6	-85.1	1.87	1.86	0.67
3,554.0	8.32	96.54	3,546.2	-92.9	142.5	-86.0	0.55	-0.54	-0.43
3,649.0	8.05	94.64	3,640.2	-94.3	156.0	-86.7	0.40	-0.28	-2.00
3,744.0	7.75	92.57	3,734.3	-95.1	169.0	-86.9	0.44	-0.32	-2.18
3,838.0	6.37	89.34	3,827.6	-95.3	180.6	-86.6	1.53	-1.47	-3.44
3,933.0	7.23	84.54	3,921.9	-94.7	191.8	-85.4	1.08	0.91	-5.05
4,028.0	8.03	81.12	4,016.1	-93.1	204.3	-83.2	0.97	0.84	-3.60
4,123.0	7.76	79.08	4,110.2	-90.9	217.2	-80.4	0.41	-0.28	-2.15
4,218.0	7.56	77.61	4,204.3	-88.3	229.6	-77.2	0.29	-0.21	-1.55
4,313.0	7.09	74.31	4,298.5	-85.4	241.3	-73.8	0.66	-0.49	-3.47
4,408.0	6.30	71.55	4,392.9	-82.1	251.9	-70.0	0.90	-0.83	-2.91
4,502.0	6.33	69.32	4,486.3	-78.7	261.6	-66.1	0.26	0.03	-2.37
4,596.0	5.68	68.19	4,579.8	-75.1	270.8	-62.1	0.70	-0.69	-1.20
4,691.0	4.96	65.07	4,674.4	-71.6	278.9	-58.2	0.82	-0.76	-3.28
4,785.0	8.75	68.88	4,767.7	-67.3	289.3	-53.5	4.06	4.03	4.05
4,880.0	12.06	72.48	4,861.1	-61.8	305.5	-47.1	3.55	3.48	3.79
4,974.0	11.66	70.30	4,953.1	-55.6	323.8	-40.1	0.64	-0.43	-2.32
5,068.0	12.22	89.83	5,045.1	-52.4	342.7	-35.9	4.32	0.60	20.78
5,163.0	12.97	106.03	5,137.9	-55.3	363.0	-37.9	3.79	0.79	17.05
5,257.0	11.14	104.08	5,229.8	-60.4	381.9	-42.1	1.99	-1.95	-2.07
5,352.0	11.86	117.71	5,322.9	-67.2	399.5	-48.0	2.95	0.76	14.35

Concho Resources LLC

Survey Report

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Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
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Well:	ADMIRAL FEDERAL COM 502H	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)
5,446.0	11.16	116.05	5,415.0	-75.7	416.2	-55.7	0.82	-0.74	-1.77
5,540.0	9.43	112.86	5,507.5	-82.6	431.5	-62.0	1.94	-1.84	-3.39
5,635.0	8.43	110.27	5,601.3	-88.1	445.2	-66.7	1.13	-1.05	-2.73
5,729.0	9.67	128.55	5,694.2	-95.4	457.8	-73.4	3.31	1.32	19.45
5,824.0	9.74	137.42	5,787.8	-106.3	469.5	-83.7	1.57	0.07	9.34
5,918.0	9.38	134.90	5,880.5	-117.5	480.3	-94.5	0.59	-0.38	-2.68
6,013.0	8.62	134.17	5,974.4	-128.0	490.9	-104.4	0.81	-0.80	-0.77
6,107.0	8.31	133.09	6,067.3	-137.5	500.9	-113.4	0.37	-0.33	-1.15
6,202.0	7.61	132.10	6,161.4	-146.4	510.6	-121.9	0.75	-0.74	-1.04
6,296.0	6.86	131.27	6,254.7	-154.3	519.4	-129.3	0.81	-0.80	-0.88
6,390.0	6.29	130.38	6,348.1	-161.3	527.6	-136.0	0.62	-0.61	-0.95
6,485.0	5.86	130.07	6,442.5	-167.8	535.2	-142.1	0.45	-0.45	-0.33
6,580.0	4.89	130.43	6,537.1	-173.6	542.0	-147.5	1.02	-1.02	0.38
6,675.0	4.64	99.86	6,631.8	-176.9	548.9	-150.5	2.65	-0.26	-32.18
6,769.0	3.50	119.60	6,725.6	-178.9	555.1	-152.2	1.90	-1.21	21.00
6,864.0	1.58	113.56	6,820.5	-180.9	558.9	-154.0	2.04	-2.02	-6.36
6,959.0	0.25	144.36	6,915.4	-181.6	560.2	-154.6	1.44	-1.40	32.42
7,054.0	1.26	358.75	7,010.4	-180.7	560.3	-153.7	1.55	1.06	-153.27
7,149.0	2.22	3.16	7,105.4	-177.8	560.4	-150.9	1.02	1.01	4.64
7,243.0	1.86	347.40	7,199.3	-174.5	560.1	-147.6	0.71	-0.38	-16.77
7,338.0	1.83	310.31	7,294.3	-172.0	558.6	-145.2	1.24	-0.03	-39.04
7,433.0	2.06	291.52	7,389.2	-170.4	555.9	-143.7	0.71	0.24	-19.78
7,527.0	1.46	264.77	7,483.2	-169.9	553.1	-143.3	1.07	-0.64	-28.46
7,622.0	1.05	245.61	7,578.2	-170.4	551.1	-143.9	0.61	-0.43	-20.17
7,717.0	1.86	251.02	7,673.1	-171.2	548.9	-144.8	0.86	0.85	5.69
7,812.0	2.38	254.80	7,768.1	-172.3	545.5	-146.0	0.57	0.55	3.98
7,906.0	1.44	252.56	7,862.0	-173.1	542.5	-147.0	1.00	-1.00	-2.38
8,001.0	0.46	167.70	7,957.0	-173.9	541.4	-147.8	1.55	-1.03	-89.33
8,096.0	4.83	4.37	8,051.9	-170.2	541.8	-144.2	5.55	4.60	-171.93
8,191.0	10.39	6.51	8,146.0	-157.7	543.1	-131.6	5.86	5.85	2.25
8,285.0	16.69	2.05	8,237.4	-135.8	544.6	-109.6	6.79	6.70	-4.74
8,342.3	20.43	3.70	8,291.7	-117.6	545.5	-91.4	6.60	6.53	2.89
FTP @ 8342.3'MD									
8,374.0	22.51	4.39	8,321.2	-106.0	546.3	-79.8	6.60	6.55	2.17
8,469.0	27.46	357.74	8,407.3	-66.0	546.8	-39.8	5.98	5.21	-7.00
8,501.0	27.93	353.87	8,435.6	-51.1	545.8	-25.0	5.81	1.47	-12.09
8,564.0	31.22	352.84	8,490.4	-20.3	542.1	5.6	5.28	5.22	-1.63
8,596.0	38.04	354.42	8,516.7	-2.2	540.2	23.6	21.49	21.31	4.94
8,627.0	44.98	357.21	8,539.9	18.3	538.7	44.0	23.16	22.39	9.00
8,659.0	50.40	1.68	8,561.5	41.9	538.5	67.6	19.83	16.94	13.97
8,690.0	58.55	6.32	8,579.5	67.1	540.3	92.8	28.96	26.29	14.97
8,722.0	64.06	6.18	8,594.8	94.9	543.4	120.8	17.22	17.22	-0.44
8,737.0	67.09	5.94	8,601.0	108.5	544.8	134.4	20.25	20.20	-1.60

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 502H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 502H	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)	
8,768.0	73.61	5.51	8,611.4	137.6	547.7	163.6	21.07	21.03	-1.39	
8,800.0	75.28	4.15	8,620.0	168.3	550.3	194.4	6.63	5.22	-4.25	
8,831.0	77.00	2.17	8,627.4	198.3	552.0	224.5	8.32	5.55	-6.39	
8,863.0	79.64	1.32	8,633.9	229.6	552.9	255.8	8.65	8.25	-2.66	
8,895.0	81.70	0.96	8,639.1	261.2	553.5	287.3	6.53	6.44	-1.13	
8,926.0	85.53	1.13	8,642.6	292.0	554.1	318.1	12.37	12.35	0.55	
8,989.0	88.49	0.97	8,645.8	354.9	555.3	381.0	4.71	4.70	-0.25	
9,084.0	88.01	0.13	8,648.7	449.9	556.2	475.9	1.02	-0.51	-0.88	
9,179.0	88.50	0.34	8,651.6	544.8	556.6	570.8	0.56	0.52	0.22	
9,274.0	90.33	1.03	8,652.6	639.8	557.7	665.7	2.06	1.93	0.73	
9,369.0	92.41	1.79	8,650.3	734.7	560.0	760.6	2.33	2.19	0.80	
9,464.0	90.02	0.88	8,648.3	829.7	562.2	855.6	2.69	-2.52	-0.96	
9,559.0	91.16	0.84	8,647.3	924.7	563.7	950.5	1.20	1.20	-0.04	
9,654.0	92.16	1.62	8,644.6	1,019.6	565.7	1,045.4	1.33	1.05	0.82	
9,749.0	89.10	1.09	8,643.5	1,114.6	568.0	1,140.4	3.27	-3.22	-0.56	
9,844.0	88.22	357.75	8,645.8	1,209.5	567.0	1,235.2	3.63	-0.93	-3.52	
9,938.0	90.73	359.56	8,646.6	1,303.5	564.8	1,328.9	3.29	2.67	1.93	
10,033.0	91.30	358.53	8,644.9	1,398.4	563.2	1,423.7	1.24	0.60	-1.08	
10,128.0	92.41	358.60	8,641.9	1,493.4	560.8	1,518.4	1.17	1.17	0.07	
10,223.0	89.48	358.38	8,640.3	1,588.3	558.3	1,613.1	3.09	-3.08	-0.23	
10,318.0	88.87	357.56	8,641.7	1,683.2	555.0	1,707.8	1.08	-0.64	-0.86	
10,412.0	90.89	358.00	8,641.9	1,777.2	551.3	1,801.5	2.20	2.15	0.47	
10,507.0	92.77	358.15	8,638.8	1,872.1	548.1	1,896.1	1.99	1.98	0.16	
10,602.0	90.54	359.54	8,636.1	1,967.0	546.2	1,990.8	2.77	-2.35	1.46	
10,697.0	89.09	359.45	8,636.4	2,062.0	545.4	2,085.7	1.53	-1.53	-0.09	
10,792.0	88.13	359.13	8,638.7	2,156.9	544.2	2,180.5	1.07	-1.01	-0.34	
10,887.0	88.30	358.04	8,641.7	2,251.9	541.9	2,275.2	1.16	0.18	-1.15	
10,982.0	88.65	356.85	8,644.2	2,346.7	537.6	2,369.7	1.31	0.37	-1.25	
11,076.0	91.40	358.16	8,644.2	2,440.6	533.5	2,463.3	3.24	2.93	1.39	
11,171.0	92.30	357.69	8,641.1	2,535.5	530.1	2,557.9	1.07	0.95	-0.49	
11,266.0	93.03	357.91	8,636.7	2,630.3	526.5	2,652.5	0.80	0.77	0.23	
11,361.0	90.57	0.06	8,633.7	2,725.3	524.8	2,747.2	3.44	-2.59	2.26	
11,456.0	88.38	359.65	8,634.6	2,820.3	524.5	2,842.1	2.35	-2.31	-0.43	
11,551.0	88.66	1.86	8,637.0	2,915.2	525.8	2,937.0	2.34	0.29	2.33	
11,645.0	88.95	2.75	8,639.0	3,009.1	529.6	3,031.0	1.00	0.31	0.95	
11,740.0	89.82	3.81	8,640.0	3,104.0	535.0	3,126.0	1.44	0.92	1.12	
11,835.0	90.07	3.36	8,640.1	3,198.8	540.9	3,220.9	0.54	0.26	-0.47	
11,930.0	90.61	5.02	8,639.5	3,293.5	547.9	3,315.9	1.84	0.57	1.75	
12,024.0	89.29	3.42	8,639.6	3,387.2	554.8	3,409.9	2.21	-1.40	-1.70	
12,119.0	88.61	2.12	8,641.3	3,482.1	559.4	3,504.9	1.54	-0.72	-1.37	
12,214.0	88.31	1.40	8,643.9	3,577.0	562.3	3,599.8	0.82	-0.32	-0.76	
12,309.0	88.75	1.14	8,646.3	3,672.0	564.4	3,694.7	0.54	0.46	-0.27	
12,404.0	90.13	1.74	8,647.3	3,766.9	566.8	3,789.7	1.58	1.45	0.63	
12,499.0	90.80	2.01	8,646.5	3,861.9	569.9	3,884.7	0.76	0.71	0.28	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 502H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 502H	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)	
12,593.0	90.92	1.15	8,645.1	3,955.8	572.5	3,978.7	0.92	0.13	-0.91	
12,688.0	87.72	357.88	8,646.2	4,050.8	571.7	4,073.5	4.82	-3.37	-3.44	
12,782.0	87.69	358.50	8,650.0	4,144.7	568.7	4,167.1	0.66	-0.03	0.66	
12,877.0	88.70	358.02	8,653.0	4,239.6	565.8	4,261.8	1.18	1.06	-0.51	
12,972.0	90.55	357.73	8,653.6	4,334.5	562.3	4,356.4	1.97	1.95	-0.31	
13,067.0	91.17	357.73	8,652.2	4,429.4	558.6	4,451.1	0.65	0.65	0.00	
13,162.0	91.75	357.56	8,649.7	4,524.3	554.7	4,545.6	0.64	0.61	-0.18	
13,257.0	91.81	357.04	8,646.8	4,619.2	550.2	4,640.2	0.55	0.06	-0.55	
13,351.0	91.33	357.42	8,644.2	4,713.0	545.6	4,733.7	0.65	-0.51	0.40	
13,446.0	89.65	357.48	8,643.4	4,807.9	541.4	4,828.3	1.77	-1.77	0.06	
13,541.0	89.95	357.34	8,643.7	4,902.8	537.1	4,922.9	0.35	0.32	-0.15	
13,636.0	91.32	357.85	8,642.7	4,997.7	533.1	5,017.5	1.54	1.44	0.54	
13,731.0	92.94	357.68	8,639.1	5,092.6	529.4	5,112.1	1.71	1.71	-0.18	
13,826.0	90.08	358.91	8,636.6	5,187.5	526.6	5,206.7	3.28	-3.01	1.29	
13,921.0	87.27	358.31	8,638.8	5,282.4	524.3	5,301.5	3.02	-2.96	-0.63	
14,015.0	87.62	357.97	8,643.0	5,376.3	521.3	5,395.1	0.52	0.37	-0.36	
14,110.0	87.60	357.67	8,647.0	5,471.2	517.6	5,489.6	0.32	-0.02	-0.32	
14,205.0	88.21	357.49	8,650.5	5,566.0	513.6	5,584.2	0.67	0.64	-0.19	
14,300.0	89.36	358.07	8,652.5	5,660.9	510.0	5,678.8	1.36	1.21	0.61	
14,395.0	89.61	358.02	8,653.3	5,755.9	506.7	5,773.5	0.27	0.26	-0.05	
14,490.0	90.45	357.85	8,653.3	5,850.8	503.3	5,868.1	0.90	0.88	-0.18	
14,585.0	90.98	357.81	8,652.1	5,945.7	499.7	5,962.8	0.56	0.56	-0.04	
14,679.0	90.78	359.30	8,650.7	6,039.7	497.3	6,056.5	1.60	-0.21	1.59	
14,774.0	90.93	359.87	8,649.2	6,134.7	496.6	6,151.4	0.62	0.16	0.60	
14,869.0	90.47	0.51	8,648.1	6,229.6	497.0	6,246.3	0.83	-0.48	0.67	
14,964.0	90.60	0.51	8,647.2	6,324.6	497.8	6,341.2	0.14	0.14	0.00	
15,059.0	90.84	359.92	8,646.0	6,419.6	498.2	6,436.1	0.67	0.25	-0.62	
15,154.0	91.13	0.47	8,644.4	6,514.6	498.5	6,531.0	0.65	0.31	0.58	
15,249.0	91.57	359.71	8,642.1	6,609.6	498.6	6,625.9	0.92	0.46	-0.80	
15,344.0	92.43	359.85	8,638.8	6,704.5	498.3	6,720.7	0.92	0.91	0.15	
15,439.0	90.69	1.24	8,636.2	6,799.5	499.2	6,815.6	2.34	-1.83	1.46	
15,533.0	89.90	1.69	8,635.7	6,893.5	501.6	6,909.5	0.97	-0.84	0.48	
15,628.0	89.03	359.98	8,636.6	6,988.4	503.0	7,004.5	2.02	-0.92	-1.80	
15,723.0	89.44	359.12	8,637.9	7,083.4	502.2	7,099.3	1.00	0.43	-0.91	
15,818.0	90.21	358.58	8,638.2	7,178.4	500.3	7,194.1	0.99	0.81	-0.57	
15,913.0	90.72	357.90	8,637.4	7,273.3	497.4	7,288.8	0.89	0.54	-0.72	
16,008.0	91.21	357.52	8,635.8	7,368.3	493.6	7,383.4	0.65	0.52	-0.40	
16,102.0	86.69	1.35	8,637.5	7,462.2	492.7	7,477.2	6.30	-4.81	4.07	
16,197.0	87.67	1.16	8,642.2	7,557.1	494.7	7,572.1	1.05	1.03	-0.20	
16,292.0	88.46	1.09	8,645.4	7,652.0	496.6	7,667.0	0.83	0.83	-0.07	
16,386.0	89.25	0.82	8,647.3	7,746.0	498.2	7,760.9	0.89	0.84	-0.29	
16,481.0	88.72	359.67	8,649.0	7,840.9	498.6	7,855.8	1.33	-0.56	-1.21	
16,577.0	89.61	359.24	8,650.4	7,936.9	497.7	7,951.6	1.03	0.93	-0.45	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 502H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3007.9usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 502H	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)
16,672.0	90.43	359.31	8,650.3	8,031.9	496.5	8,046.5	0.87	0.86	0.07
16,766.0	89.96	359.04	8,650.0	8,125.9	495.1	8,140.3	0.58	-0.50	-0.29
16,861.0	89.92	358.87	8,650.1	8,220.9	493.4	8,235.1	0.18	-0.04	-0.18
16,956.0	89.73	359.20	8,650.4	8,315.9	491.8	8,329.9	0.40	-0.20	0.35
17,051.0	91.06	0.15	8,649.8	8,410.9	491.2	8,424.7	1.72	1.40	1.00
17,145.0	91.04	0.13	8,648.0	8,504.8	491.5	8,518.6	0.03	-0.02	-0.02
17,240.0	88.93	0.61	8,648.1	8,599.8	492.1	8,613.5	2.28	-2.22	0.51
17,335.0	88.52	1.23	8,650.2	8,694.8	493.6	8,708.5	0.78	-0.43	0.65
17,430.0	88.28	1.02	8,652.8	8,789.7	495.5	8,803.4	0.34	-0.25	-0.22
17,525.0	88.29	0.51	8,655.7	8,884.7	496.7	8,898.3	0.54	0.01	-0.54
17,620.0	89.90	0.45	8,657.2	8,979.7	497.5	8,993.2	1.70	1.69	-0.06
17,714.0	90.07	0.25	8,657.2	9,073.7	498.1	9,087.1	0.28	0.18	-0.21
17,809.0	90.29	0.75	8,656.9	9,168.7	498.9	9,182.0	0.58	0.23	0.53
17,903.0	90.27	0.60	8,656.4	9,262.7	500.0	9,276.0	0.16	-0.02	-0.16
17,998.0	90.15	1.05	8,656.1	9,357.7	501.4	9,370.9	0.49	-0.13	0.47
18,093.0	90.45	0.60	8,655.6	9,452.6	502.8	9,465.9	0.57	0.32	-0.47
18,188.0	90.53	0.15	8,654.8	9,547.6	503.4	9,560.8	0.48	0.08	-0.47
18,282.0	90.38	359.97	8,654.0	9,641.6	503.5	9,654.7	0.25	-0.16	-0.19
18,377.0	90.24	0.01	8,653.5	9,736.6	503.5	9,749.6	0.15	-0.15	0.04
18,472.0	90.21	359.84	8,653.1	9,831.6	503.4	9,844.5	0.18	-0.03	-0.18
18,566.0	90.22	359.57	8,652.8	9,925.6	502.9	9,938.3	0.29	0.01	-0.29
18,661.0	90.28	359.69	8,652.4	10,020.6	502.3	10,033.2	0.14	0.06	0.13
18,756.0	90.47	359.46	8,651.8	10,115.6	501.6	10,128.0	0.31	0.20	-0.24
18,851.0	90.46	359.47	8,651.0	10,210.6	500.7	10,222.9	0.01	-0.01	0.01
18,925.0	90.78	359.10	8,650.2	10,284.6	499.7	10,296.7	0.66	0.43	-0.50
LAST MWD SVY @ 18925'MD									
18,938.5	90.78	359.10	8,650.0	10,298.1	499.5	10,310.2	0.00	0.00	0.00
LTP @ 18938.5'MD									
18,988.0	90.78	359.10	8,649.3	10,347.6	498.8	10,359.6	0.00	0.00	0.00
PTD @ 18988'MD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,342.3	8,291.7	-117.6	545.5	FTP @ 8342.3'MD
18,925.0	8,650.2	10,284.6	499.7	LAST MWD SVY @ 18925'MD
18,938.5	8,650.0	10,298.1	499.5	LTP @ 18938.5'MD
18,988.0	8,649.3	10,347.6	498.8	PTD @ 18988'MD

Checked By: _____ Approved By: _____ Date: _____

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) 748-1283 Fax:(575) 748-9720
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) 476-3470 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 20818

CONDITIONS OF APPROVAL

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX79701				OGRID: 229137	Action Number: 20818	Action Type: C-104C
OCD Reviewer ksimmons				Condition None		