

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on back**5. Lease Serial No.
NMNM136223

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.
PITCHBLEND FED 19-30 038H9. API Well No.
30-025-45653-00-X110. Field and Pool or Exploratory Area
WILDCAT BONE SPRING11. County or Parish, State
LEA COUNTY, NM

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
COG OPERATING LLCContact: MAYTE X REYES
E-Mail: mreyes1@concho.com3a. Address
ONE CONCHO CENTER 600 W ILLINOIS AVENUE
MIDLAND, TX 79701-42873b. Phone No. (include area code)
Ph: 575-748-6945

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 19 T25S R35E 450FNL 710FEL
32.121914 N Lat, 103.400383 W Lon

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent☐ Subsequent Report☐ Final Abandonment Notice☐ Acidize☐ Alter Casing☐ Casing Repair☐ Change Plans☐ Convert to Injection☐ Deepen☐ Hydraulic Fracturing☐ New Construction☐ Plug and Abandon☐ Plug Back☐ Production (Start/Resume)☐ Reclamation☐ Recomplete☐ Temporarily Abandon☐ Water Disposal☐ Water Shut-Off☐ Well Integrity☒ Other
Change to Original A
PD

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

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

BHL Change

From: 2539' FNL & 990' FEL Section 30. T25S. R35E.
To: 2590' FNL & 1170' FEL Section 30. T25S. R35E.

C102 attached.

Directional plan attached.
AC report attached.

All previous Conditions of Approval still apply. DR

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #498696 verified by the BLM Well Information System
For COG OPERATING LLC, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 01/13/2020 (20PP0934SE)

Name (Printed/Typed) MAYTE X REYES

Title SENIOR REGULATORY ANALYST

Signature (Electronic Submission)

Date 01/09/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By DYLAN ROSSMANGO

Title PETROLEUM ENGINEER

Date 01/16/2020

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office Hobbs

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

NORTHERN DELAWARE BASIN

LEA COUNTY, NM

BULLDOG

PITCHBLEND FEDERAL 19-30 38H

OWB

PWP1

Anticollision Report

08 January, 2020

Concho Resources LLC

Anticollision Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well PITCHBLENDE FEDERAL 19-30 38H
Project:	LEA COUNTY, NM	TVD Reference:	KB=26' @ 3356.0usft (MCVAY 8)
Reference Site:	BULLDOG	MD Reference:	KB=26' @ 3356.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PITCHBLENDE FEDERAL 19-30 38H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference	PWP1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum ellipse separation of 1,000.0 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program **Date** 1/8/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	20,075.1	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
BULLDOG						
PITCHBLENDE FEDERAL 19-30 208H - OWB - PWP1	2,810.8	2,812.1	48.8	34.9	3.511	CC
PITCHBLENDE FEDERAL 19-30 208H - OWB - PWP1	2,900.0	2,901.1	49.0	34.7	3.427	ES
PITCHBLENDE FEDERAL 19-30 208H - OWB - PWP1	3,300.0	3,300.8	53.1	36.9	3.274	SF
PITCHBLENDE FEDERAL 19-30 358H - OWB - PWP1	5,416.5	5,416.9	100.0	61.2	2.574	CC
PITCHBLENDE FEDERAL 19-30 358H - OWB - PWP1	5,500.0	5,500.0	100.0	60.6	2.536	ES, SF
PITCHBLENDE FEDERAL 19-30 457H - OWB - NABOR	12,280.9	12,269.6	434.6	347.6	4.993	CC
PITCHBLENDE FEDERAL 19-30 457H - OWB - NABOR	20,075.1	20,292.6	496.2	345.2	3.286	ES, SF
SQUARE BILL FED COM #1H - OWB - ACTUAL WELL	20,075.1	19,779.0	572.0	443.9	4.467	CC, ES, SF
SQUARE BILL FED COM #21H - OWB (PILOT) - ACTU/						Out of range
SQUARE BILL FED COM #21Y - OWB - ACTUAL WELL	20,075.1	19,982.0	933.8	808.1	7.424	CC, ES, SF
SQUARE BILL FED COM #22H - OWB - ACTUAL WELL	20,075.1	20,115.0	347.1	238.6	3.198	CC, ES, SF
SQUARE BILL FED COM #23H - ST01 - ST01 - ACTUA	20,075.1	20,110.0	560.6	431.2	4.333	CC, ES, SF

Offset Design BULLDOG - PITCHBLENDE FEDERAL 19-30 208H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104: 12099-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	3.0	3.0	89.66	0.3	50.0	50.0				
100.0	100.0	101.0	101.0	3.0	3.0	89.66	0.3	50.0	50.0	44.0	6.00	8.329	
200.0	200.0	201.0	201.0	3.0	3.0	89.66	0.3	50.0	50.0	44.0	6.04	8.276	
300.0	300.0	301.0	301.0	3.1	3.0	89.66	0.3	50.0	50.0	43.9	6.12	8.167	
400.0	400.0	401.0	401.0	3.2	3.0	89.66	0.3	50.0	50.0	43.8	6.24	8.009	
500.0	500.0	501.0	501.0	3.4	3.1	89.66	0.3	50.0	50.0	43.6	6.40	7.813	
600.0	600.0	601.0	601.0	3.6	3.1	89.66	0.3	50.0	50.0	43.4	6.59	7.590	
700.0	700.0	701.0	701.0	3.8	3.1	89.66	0.3	50.0	50.0	43.2	6.80	7.350	
800.0	800.0	801.0	801.0	4.0	3.2	89.66	0.3	50.0	50.0	43.0	7.04	7.101	
900.0	900.0	901.0	901.0	4.2	3.2	89.66	0.3	50.0	50.0	42.7	7.30	6.850	
1,000.0	1,000.0	1,001.0	1,001.0	4.5	3.2	89.66	0.3	50.0	50.0	42.4	7.57	6.601	
1,100.0	1,100.0	1,101.0	1,101.0	4.8	3.3	89.66	0.3	50.0	50.0	42.1	7.86	6.359	
1,200.0	1,200.0	1,201.0	1,201.0	5.1	3.4	89.66	0.3	50.0	50.0	41.8	8.16	6.124	
1,300.0	1,300.0	1,301.0	1,301.0	5.4	3.4	89.66	0.3	50.0	50.0	41.5	8.48	5.899	
1,400.0	1,400.0	1,401.0	1,401.0	5.7	3.5	89.66	0.3	50.0	50.0	41.2	8.80	5.684	
1,500.0	1,500.0	1,501.0	1,501.0	6.0	3.5	89.66	0.3	50.0	50.0	40.9	9.12	5.480	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLENDE FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore: OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLENDE FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLENDE FEDERAL 19-30 208H - OWB - PWP1														Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12099-MWD+IFR1+FDIR														Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
1,600.0	1,600.0	1,601.0	1,601.0	6.3	3.6	89.66	0.3	50.0	50.0	40.5	9.46	5.286			
1,700.0	1,700.0	1,701.0	1,701.0	6.6	3.7	89.66	0.3	50.0	50.0	40.2	9.80	5.102			
1,800.0	1,800.0	1,801.0	1,801.0	6.9	3.8	89.66	0.3	50.0	50.0	39.9	10.15	4.827			
1,900.0	1,900.0	1,901.0	1,901.0	7.2	3.9	89.66	0.3	50.0	50.0	39.5	10.50	4.762			
2,000.0	2,000.0	2,001.0	2,001.0	7.6	3.9	89.66	0.3	50.0	50.0	39.1	10.85	4.606			
2,100.0	2,100.0	2,101.0	2,101.0	7.9	4.0	89.66	0.3	50.0	50.0	38.8	11.21	4.459			
2,200.0	2,200.0	2,201.0	2,201.0	8.2	4.1	89.66	0.3	50.0	50.0	38.4	11.58	4.319			
2,300.0	2,300.0	2,301.0	2,301.0	8.6	4.2	89.66	0.3	50.0	50.0	38.1	11.94	4.186			
2,400.0	2,400.0	2,401.0	2,401.0	8.9	4.3	89.66	0.3	50.0	50.0	37.7	12.31	4.061			
2,500.0	2,500.0	2,501.0	2,501.0	9.2	4.4	89.66	0.3	50.0	50.0	37.3	12.69	3.941			
2,600.0	2,600.0	2,601.3	2,601.3	9.6	4.5	87.64	2.0	49.6	49.6	36.6	13.06	3.801			
2,700.0	2,700.0	2,701.3	2,701.2	9.9	4.6	82.83	6.1	48.7	49.1	35.6	13.45	3.648			
2,800.0	2,800.0	2,801.2	2,801.0	10.3	4.7	77.86	10.3	47.8	48.8	35.0	13.86	3.523			
2,810.8	2,810.8	2,812.1	2,811.8	10.3	4.7	77.32	10.7	47.7	48.8	34.9	13.91	3.511 CC			
2,900.0	2,900.0	2,901.1	2,900.8	10.6	4.8	72.88	14.4	46.8	49.0	34.7	14.30	3.427 ES			
3,000.0	3,000.0	3,001.0	3,000.7	10.9	4.9	67.97	18.6	45.9	49.5	34.8	14.75	3.356			
3,100.0	3,100.0	3,100.9	3,100.5	11.3	5.0	63.20	22.7	45.0	50.4	35.1	15.22	3.308			
3,200.0	3,200.0	3,200.9	3,200.3	11.6	5.1	58.61	26.9	44.0	51.6	35.9	15.71	3.282			
3,300.0	3,300.0	3,300.8	3,300.1	12.0	5.2	54.26	31.0	43.1	53.1	36.9	16.22	3.274 SF			
3,400.0	3,400.0	3,400.7	3,399.9	12.3	5.3	50.18	35.2	42.2	54.9	38.2	16.72	3.283			
3,500.0	3,500.0	3,500.6	3,499.8	12.7	5.4	46.37	39.3	41.2	57.0	39.7	17.24	3.305			
3,600.0	3,600.0	3,600.5	3,599.6	13.0	5.5	42.84	43.4	40.3	59.3	41.5	17.75	3.339			
3,700.0	3,700.0	3,700.4	3,699.4	13.4	5.6	39.59	47.6	39.4	61.8	43.5	18.27	3.382			
3,800.0	3,800.0	3,800.3	3,799.2	13.7	5.7	36.60	51.7	38.4	64.5	45.7	18.78	3.433			
3,900.0	3,900.0	3,900.2	3,899.0	14.1	5.8	33.86	55.9	37.5	67.3	48.0	19.29	3.490			
4,000.0	4,000.0	4,000.1	3,998.8	14.4	5.9	31.34	60.0	36.6	70.3	50.5	19.80	3.552			
4,100.0	4,100.0	4,100.0	4,098.7	14.8	6.1	29.04	64.2	35.6	73.4	53.1	20.30	3.617			
4,200.0	4,200.0	4,200.0	4,198.5	15.1	6.2	26.92	68.3	34.7	76.7	55.9	20.81	3.685			
4,300.0	4,300.0	4,299.9	4,298.3	15.5	6.3	24.98	72.5	33.8	80.0	58.7	21.31	3.754			
4,400.0	4,400.0	4,399.8	4,398.1	15.8	6.4	23.19	76.6	32.8	83.4	61.6	21.80	3.825			
4,500.0	4,500.0	4,499.7	4,497.9	16.2	6.5	21.55	80.8	31.9	86.9	64.6	22.30	3.896			
4,600.0	4,600.0	4,499.6	4,497.8	16.5	6.6	20.03	84.9	31.0	90.4	67.6	22.79	3.968			
4,700.0	4,700.0	4,699.5	4,697.6	16.9	6.7	18.63	89.1	30.0	94.0	70.8	23.28	4.039			
4,800.0	4,800.0	4,799.4	4,797.4	17.2	6.9	17.34	93.2	29.1	97.7	73.0	23.79	4.110			
4,900.0	4,900.0	4,699.3	4,697.2	17.6	7.0	16.13	97.4	28.2	101.4	77.2	24.26	4.180			
5,000.0	5,000.0	4,999.2	4,997.0	18.0	7.1	15.02	101.5	27.2	105.2	80.4	24.75	4.249			
5,100.0	5,100.0	5,099.1	5,096.9	18.3	7.2	13.88	105.6	26.3	108.9	83.7	25.24	4.317			
5,200.0	5,200.0	5,199.0	5,196.7	18.7	7.3	13.01	109.8	25.4	112.8	87.0	25.72	4.384			
5,300.0	5,300.0	5,299.0	5,296.5	19.0	7.4	12.10	113.9	24.4	116.6	90.4	26.21	4.449			
5,400.0	5,400.0	5,398.9	5,396.3	19.4	7.6	11.25	118.1	23.5	120.5	93.8	26.69	4.514			
5,500.0	5,500.0	5,498.8	5,496.1	19.7	7.7	10.46	122.2	22.6	124.4	97.2	27.18	4.577			
5,600.0	5,600.0	5,498.7	5,496.0	20.1	7.8	57.39	126.4	21.6	127.4	99.7	27.64	4.607			
5,700.0	5,699.8	5,698.7	5,695.9	20.4	7.9	58.59	130.5	20.7	128.5	100.4	28.08	4.577			
5,766.9	5,766.5	5,765.5	5,762.6	20.7	8.0	60.15	133.3	20.1	128.3	100.0	28.34	4.527			
5,800.0	5,799.5	5,798.5	5,795.6	20.8	8.0	61.07	134.7	19.8	128.0	99.6	28.47	4.498			
5,900.0	5,899.0	5,898.3	5,895.3	21.1	8.2	63.87	138.8	18.8	127.5	98.7	28.84	4.421			
6,000.0	5,998.6	5,998.1	5,995.0	21.5	8.3	66.69	143.0	17.9	127.3	98.1	29.19	4.359			
6,028.6	6,027.0	6,026.6	6,023.5	21.6	8.3	67.49	144.1	17.6	127.2	98.0	29.29	4.344			
6,100.0	6,098.2	6,097.9	6,094.7	21.8	8.4	69.51	147.1	17.0	127.3	97.8	29.54	4.311			
6,200.0	6,197.7	6,197.7	6,194.5	22.2	8.5	72.32	151.2	16.0	127.7	97.8	29.86	4.276			
6,300.0	6,297.3	6,297.5	6,294.2	22.5	8.6	75.10	155.4	15.1	128.4	98.2	30.18	4.253			
6,400.0	6,396.9	6,397.3	6,393.9	22.9	8.8	77.86	159.5	14.2	129.4	98.9	30.49	4.243			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well PITCHBLEND FEDERAL 19-30 38H
Project:	LEA COUNTY, NM	TVD Reference:	KB=26' @ 3356.0usft (MCVAY 8)
Reference Site:	BULLDOG	MD Reference:	KB=26' @ 3356.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	PITCHBLEND FEDERAL 19-30 38H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design BULLDOG - PITCHBLEND FEDERAL 19-30 208H - OWB - PWP1														Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12099-MWD+IFR1+FDIR														Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
6,500.0	6,496.4	6,497.1	6,493.6	23.2	8.9	80.56	163.7	13.2	130.6	99.9	30.79	4.243			
6,600.0	6,596.0	6,596.9	6,593.3	23.6	9.0	83.21	167.8	12.3	132.2	101.1	31.08	4.254			
6,700.0	6,695.6	6,696.7	6,693.0	23.9	9.1	85.79	172.0	11.4	134.0	102.7	31.37	4.274			
6,800.0	6,795.1	6,796.5	6,792.7	24.3	9.2	88.29	176.1	10.4	136.1	104.5	31.65	4.302			
6,900.0	6,894.7	6,896.3	6,892.4	24.6	9.4	90.71	180.2	9.5	138.5	106.6	31.93	4.338			
7,000.0	6,994.3	6,996.2	6,992.2	25.0	9.5	93.05	184.4	8.6	141.1	108.9	32.21	4.380			
7,100.0	7,093.8	7,096.0	7,091.9	25.3	9.6	95.31	188.5	7.6	143.9	111.4	32.50	4.429			
7,200.0	7,193.4	7,195.8	7,191.6	25.7	9.7	97.47	192.7	6.7	147.0	114.2	32.78	4.483			
7,300.0	7,293.0	7,295.6	7,291.3	26.1	9.9	99.54	196.8	5.8	150.2	117.1	33.07	4.541			
7,400.0	7,392.5	7,395.4	7,391.0	26.4	10.0	101.52	201.0	4.9	153.6	120.3	33.37	4.604			
7,500.0	7,492.1	7,495.2	7,490.7	26.8	10.1	103.41	205.9	3.9	157.2	123.6	33.67	4.669			
7,600.0	7,591.7	7,595.0	7,590.4	27.1	10.2	105.22	209.2	3.0	161.0	127.0	33.98	4.737			
7,700.0	7,691.2	7,694.8	7,690.1	27.5	10.4	106.94	213.4	2.1	164.9	130.6	34.30	4.808			
7,800.0	7,790.8	7,794.6	7,789.9	27.8	10.5	108.59	217.5	1.1	169.0	134.4	34.63	4.880			
7,900.0	7,890.4	7,894.4	7,889.6	28.2	10.6	110.15	221.7	0.2	173.2	138.2	34.96	4.954			
8,000.0	7,989.9	7,994.2	7,989.3	28.5	10.7	111.64	225.8	-0.7	177.5	142.2	35.30	5.029			
8,100.0	8,089.5	8,094.0	8,089.0	28.9	10.9	113.06	229.9	-1.7	181.9	146.3	35.64	5.104			
8,200.0	8,189.1	8,193.8	8,188.7	29.3	11.0	114.41	234.1	-2.6	186.5	150.5	36.00	5.180			
8,300.0	8,288.6	8,293.6	8,288.4	29.6	11.1	115.69	238.2	-3.5	191.1	154.7	36.36	5.256			
8,400.0	8,388.2	8,393.4	8,388.1	30.0	11.2	116.91	242.4	-4.5	195.8	159.1	36.72	5.333			
8,500.0	8,487.8	8,493.2	8,487.8	30.3	11.4	118.08	246.5	-5.4	200.6	163.5	37.10	5.409			
8,600.0	8,587.3	8,593.0	8,587.6	30.7	11.5	119.19	250.7	-6.3	205.5	168.1	37.47	5.485			
8,700.0	8,686.9	8,692.8	8,687.3	31.0	11.6	120.25	254.8	-7.3	210.5	172.6	37.86	5.560			
8,800.0	8,786.5	8,792.6	8,787.0	31.4	11.7	121.26	258.9	-8.2	215.5	177.3	38.25	5.635			
8,900.0	8,886.0	8,892.4	8,886.7	31.8	11.9	122.22	263.1	-9.1	220.6	182.0	38.64	5.710			
9,000.0	8,985.6	8,992.2	8,986.4	32.1	12.0	123.14	267.2	-10.1	225.8	186.7	39.04	5.783			
9,100.0	9,085.2	9,092.0	9,086.1	32.5	12.1	124.02	271.4	-11.0	231.0	191.6	39.44	5.856			
9,200.0	9,184.7	9,191.8	9,185.8	32.8	12.2	124.86	275.5	-11.9	236.3	196.4	39.85	5.929			
9,300.0	9,284.3	9,291.6	9,285.5	33.2	12.4	125.66	279.7	-12.9	241.6	201.3	40.26	6.000			
9,400.0	9,383.9	9,391.4	9,385.3	33.5	12.5	126.43	283.8	-13.8	246.9	206.3	40.68	6.071			
9,500.0	9,483.4	9,491.2	9,485.0	33.9	12.6	127.16	287.9	-14.7	252.3	211.2	41.09	6.141			
9,600.0	9,583.0	9,591.0	9,584.7	34.3	12.7	127.87	292.1	-15.7	257.8	216.3	41.51	6.210			
9,700.0	9,682.6	9,690.8	9,684.4	34.6	12.9	128.54	296.2	-16.6	263.3	221.3	41.93	6.278			
9,800.0	9,782.1	9,790.6	9,784.1	35.0	13.0	129.19	300.4	-17.5	268.8	226.4	42.36	6.345			
9,900.0	9,881.7	9,890.4	9,883.5	35.3	13.1	129.81	304.5	-18.4	274.3	231.5	42.79	6.411			
10,000.0	9,981.3	9,990.2	9,983.5	35.7	13.2	130.41	308.7	-19.4	279.9	236.7	43.21	6.477			
10,100.0	10,080.8	10,090.0	10,083.2	36.1	13.4	130.98	312.8	-20.3	285.5	241.8	43.65	6.541			
10,200.0	10,180.4	10,189.8	10,183.0	36.4	13.5	131.53	316.9	-21.2	291.1	247.0	44.08	6.605			
10,300.0	10,280.0	10,289.6	10,282.7	36.8	13.6	132.06	321.1	-22.2	296.8	252.3	44.51	6.667			
10,400.0	10,379.5	10,389.4	10,382.4	37.1	13.7	132.57	325.2	-23.1	302.5	257.5	44.95	6.729			
10,500.0	10,479.1	10,489.2	10,482.1	37.5	13.9	133.06	329.4	-24.0	308.2	262.8	45.39	6.790			
10,600.0	10,578.7	10,589.1	10,581.8	37.9	14.0	133.54	333.5	-25.0	313.9	268.1	45.82	6.850			
10,700.0	10,678.2	10,688.9	10,681.5	38.2	14.1	133.99	337.6	-25.9	319.6	273.4	46.26	6.909			
10,800.0	10,777.8	10,788.7	10,781.2	38.6	14.3	134.43	341.8	-26.8	325.4	278.7	46.70	6.968			
10,900.0	10,877.4	10,888.5	10,880.9	38.9	14.4	134.86	345.9	-27.8	331.2	284.1	47.15	7.025			
11,000.0	10,976.9	10,988.3	10,980.7	39.3	14.5	135.27	350.1	-28.7	337.0	289.4	47.59	7.082			
11,100.0	11,076.5	11,088.1	11,080.4	39.7	14.6	135.67	354.2	-29.6	342.8	294.8	48.03	7.138			
11,200.0	11,176.1	11,187.9	11,180.1	40.0	14.8	136.05	358.4	-30.6	348.7	300.2	48.47	7.193			
11,300.0	11,275.6	11,287.7	11,279.8	40.4	14.9	136.42	362.5	-31.5	354.5	305.6	48.92	7.247			
11,400.0	11,375.2	11,387.5	11,379.5	40.7	15.0	136.78	366.6	-32.4	360.4	311.0	49.36	7.300			
11,500.0	11,474.8	11,487.3	11,479.2	41.1	15.1	137.13	370.8	-33.4	366.3	316.4	49.81	7.353			
11,600.0	11,574.3	11,587.1	11,578.9	41.5	15.3	137.46	374.9	-34.3	372.2	321.9	50.26	7.405			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLENDE FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore: OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLENDE FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLENDE FEDERAL 19-30 208H - OWB - PWP1														Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12099-MWD+IFR1+FDIR														Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
11,700.0	11,673.9	11,686.9	11,678.6	41.8	15.4	137.79	379.1	-35.2	378.1	327.4	50.70	7.456			
11,800.0	11,773.5	11,786.7	11,778.4	42.2	15.5	138.10	383.2	-36.2	384.0	332.8	51.15	7.507			
11,900.0	11,873.0	11,886.5	11,878.1	42.5	15.7	138.41	387.4	-37.1	389.9	338.3	51.60	7.556			
11,946.3	11,919.1	11,932.7	11,924.2	42.7	15.7	138.55	389.3	-37.5	392.6	340.8	51.81	7.579			
11,950.0	11,922.8	11,936.4	11,927.9	42.7	15.7	142.26	389.4	-37.6	392.9	341.0	51.82	7.581			
11,975.0	11,947.7	11,961.3	11,952.9	42.8	15.7	178.76	390.5	-37.8	394.3	342.4	51.93	7.594			
12,000.0	11,972.7	11,986.2	11,977.7	42.9	15.8	-142.44	391.5	-38.0	395.7	343.7	52.02	7.608			
12,025.0	11,997.5	12,011.0	12,002.5	43.0	15.8	-122.19	392.5	-38.3	397.1	345.0	52.09	7.624			
12,050.0	12,022.3	12,035.6	12,027.1	43.1	15.8	-112.62	393.5	-38.5	398.5	346.3	52.14	7.642			
12,075.0	12,046.8	12,060.0	12,051.4	43.1	15.8	-107.64	394.6	-38.7	399.9	347.7	52.19	7.663			
12,100.0	12,071.1	12,084.0	12,075.4	43.2	15.9	-104.90	395.6	-38.9	401.4	349.1	52.22	7.686			
12,125.0	12,095.0	12,107.6	12,099.0	43.3	15.9	-103.41	396.5	-39.2	403.0	350.7	52.25	7.712			
12,150.0	12,118.6	12,130.8	12,122.2	43.4	15.9	-102.71	397.5	-39.4	404.8	352.5	52.28	7.743			
12,175.0	12,141.6	12,153.5	12,144.9	43.4	15.9	-102.51	398.4	-39.6	406.9	354.6	52.31	7.779			
12,200.0	12,164.2	12,175.6	12,166.9	43.5	15.9	-102.66	399.4	-39.8	409.3	357.0	52.34	7.820			
12,225.0	12,186.2	12,197.1	12,188.4	43.5	15.9	-103.04	400.2	-40.0	412.2	359.9	52.39	7.869			
12,250.0	12,207.5	12,221.3	12,212.6	43.6	15.9	-103.78	400.7	-40.2	415.6	363.1	52.46	7.922			
12,275.0	12,228.1	12,246.5	12,237.8	43.7	15.9	-104.64	399.9	-40.4	419.3	366.7	52.56	7.978			
12,300.0	12,247.9	12,272.7	12,263.8	43.7	15.9	-105.59	397.6	-40.6	423.3	370.7	52.68	8.036			
12,325.0	12,267.0	12,299.8	12,290.7	43.8	15.9	-106.59	393.8	-40.8	427.7	374.9	52.83	8.096			
12,350.0	12,285.1	12,328.0	12,318.4	43.8	15.9	-107.65	388.1	-41.0	432.4	379.4	53.02	8.155			
12,375.0	12,302.4	12,357.5	12,346.8	43.8	15.9	-108.75	380.5	-41.2	437.3	384.0	53.24	8.214			
12,400.0	12,318.6	12,388.3	12,378.0	43.9	15.9	-109.89	370.7	-41.4	442.4	388.9	53.50	8.269			
12,425.0	12,333.9	12,420.6	12,405.8	43.9	15.9	-111.05	358.5	-41.5	447.6	393.8	53.79	8.322			
12,450.0	12,348.1	12,454.4	12,436.2	43.9	16.0	-112.22	343.5	-41.7	453.0	398.8	54.11	8.371			
12,475.0	12,361.2	12,490.1	12,466.9	43.9	16.0	-113.41	325.4	-41.8	458.3	403.8	54.46	8.415			
12,500.0	12,373.2	12,527.6	12,497.7	44.0	16.0	-114.59	303.9	-41.8	463.6	408.8	54.83	8.455			
12,525.0	12,384.0	12,567.2	12,528.2	44.0	16.0	-115.75	278.8	-41.9	468.7	413.5	55.21	8.490			
12,550.0	12,393.7	12,608.9	12,558.0	44.0	16.0	-116.88	249.6	-41.8	473.7	418.1	55.59	8.520			
12,575.0	12,402.1	12,652.8	12,586.5	44.0	16.1	-117.95	216.3	-41.8	478.3	422.3	55.97	8.546			
12,600.0	12,409.3	12,698.8	12,613.0	44.1	16.1	-118.95	178.6	-41.6	482.4	426.1	56.32	8.565			
12,625.0	12,415.2	12,747.0	12,636.6	44.1	16.1	-119.83	136.7	-41.4	486.1	429.4	56.66	8.578			
12,650.0	12,419.8	12,797.1	12,656.6	44.1	16.2	-120.58	90.8	-41.2	489.1	432.1	56.98	8.584			
12,675.0	12,423.2	12,848.8	12,672.1	44.1	16.2	-121.17	41.4	-40.8	491.4	434.1	57.28	8.579			
12,700.0	12,425.2	12,901.8	12,682.4	44.1	16.2	-121.57	-10.5	-40.4	492.9	435.4	57.57	8.563			
12,723.0	12,426.0	12,951.1	12,686.7	44.1	16.2	-121.76	-59.6	-40.0	493.6	435.8	57.82	8.538			
12,800.0	12,426.6	13,035.3	12,687.6	44.2	16.2	-121.78	-143.8	-39.2	493.7	435.6	58.08	8.500			
12,900.0	12,427.4	13,135.3	12,688.4	44.2	16.3	-121.78	-243.8	-38.2	493.7	435.3	58.41	8.452			
13,000.0	12,428.2	13,235.3	12,689.2	44.3	16.3	-121.78	-343.7	-37.3	493.7	434.9	58.79	8.398			
13,100.0	12,429.0	13,335.3	12,690.0	44.4	16.3	-121.78	-443.7	-36.3	493.7	434.5	59.22	8.336			
13,200.0	12,429.9	13,435.3	12,690.8	44.5	16.4	-121.78	-543.7	-35.3	493.7	434.0	59.70	8.269			
13,300.0	12,430.7	13,535.3	12,691.7	44.6	16.4	-121.78	-643.7	-34.4	493.7	433.5	60.23	8.196			
13,400.0	12,431.5	13,635.3	12,692.5	44.7	16.5	-121.78	-743.7	-33.4	493.7	432.9	60.81	8.119			
13,500.0	12,432.3	13,735.3	12,693.3	44.9	16.6	-121.78	-843.7	-32.5	493.7	432.3	61.43	8.037			
13,600.0	12,433.1	13,835.3	12,694.1	45.0	16.7	-121.77	-943.7	-31.5	493.7	431.6	62.09	7.951			
13,700.0	12,433.9	13,935.3	12,694.9	45.2	16.9	-121.77	-1,043.7	-30.5	493.7	430.9	62.80	7.862			
13,800.0	12,434.8	14,035.3	12,695.7	45.4	17.3	-121.77	-1,143.7	-29.6	493.7	430.2	63.54	7.771			
13,900.0	12,435.6	14,135.3	12,696.5	45.6	17.7	-121.77	-1,243.7	-28.6	493.7	429.4	64.31	7.677			
14,000.0	12,436.4	14,235.3	12,697.4	45.8	18.3	-121.77	-1,343.7	-27.6	493.7	428.6	65.12	7.581			
14,100.0	12,437.2	14,335.3	12,698.2	46.1	19.0	-121.77	-1,443.7	-26.7	493.7	427.8	65.97	7.484			
14,200.0	12,438.0	14,435.3	12,699.0	46.3	19.7	-121.77	-1,543.6	-25.7	493.7	426.9	66.84	7.386			
14,300.0	12,438.8	14,535.3	12,699.8	46.6	20.4	-121.77	-1,643.6	-24.8	493.7	426.0	67.75	7.288			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLENDE FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLENDE FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLENDE FEDERAL 19-30 208H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-Standard Keeper 104, 12099-MWD+IFR1+FDIR													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,400.0	12,439.7	14,635.3	12,700.6	46.8	21.1	-121.77	-1,743.6	-23.8	493.7	425.1	68.68	7.189	
14,500.0	12,440.5	14,735.3	12,701.4	47.1	21.9	-121.77	-1,843.6	-22.8	493.7	424.1	69.64	7.090	
14,600.0	12,441.3	14,835.3	12,702.3	47.4	22.6	-121.77	-1,943.6	-21.9	493.8	423.1	70.63	6.991	
14,700.0	12,442.1	14,935.3	12,703.1	47.8	23.4	-121.77	-2,043.6	-20.9	493.8	422.1	71.64	6.892	
14,800.0	12,442.9	15,035.3	12,703.9	48.1	24.2	-121.77	-2,143.6	-20.0	493.8	421.1	72.67	6.794	
14,900.0	12,443.7	15,135.3	12,704.7	48.5	25.0	-121.77	-2,243.6	-19.0	493.8	420.0	73.73	6.697	
15,000.0	12,444.6	15,235.3	12,705.5	48.8	25.8	-121.77	-2,343.6	-18.0	493.8	419.0	74.81	6.601	
15,100.0	12,445.4	15,335.3	12,706.3	49.2	26.6	-121.77	-2,443.6	-17.1	493.8	417.9	75.90	6.505	
15,200.0	12,446.2	15,435.3	12,707.2	49.6	27.4	-121.77	-2,543.6	-16.1	493.8	416.8	77.02	6.411	
15,300.0	12,447.0	15,535.3	12,708.0	50.0	28.2	-121.77	-2,643.6	-15.1	493.8	415.6	78.16	6.318	
15,400.0	12,447.8	15,635.3	12,708.8	50.4	29.0	-121.77	-2,743.6	-14.2	493.8	414.5	79.31	6.226	
15,500.0	12,448.6	15,735.3	12,709.6	50.8	29.8	-121.77	-2,843.5	-13.2	493.8	413.3	80.48	6.136	
15,600.0	12,449.5	15,835.3	12,710.4	51.2	30.7	-121.77	-2,943.5	-12.3	493.8	412.1	81.67	6.046	
15,700.0	12,450.3	15,935.3	12,711.2	51.7	31.5	-121.77	-3,043.5	-11.3	493.8	410.9	82.87	5.959	
15,800.0	12,451.1	16,035.3	12,712.1	52.1	32.3	-121.77	-3,143.5	-10.3	493.8	409.7	84.09	5.873	
15,900.0	12,451.9	16,135.3	12,712.9	52.6	33.1	-121.77	-3,243.5	-9.4	493.8	408.5	85.32	5.788	
16,000.0	12,452.7	16,235.3	12,713.7	53.1	34.0	-121.77	-3,343.5	-8.4	493.8	407.2	86.56	5.705	
16,100.0	12,453.5	16,335.3	12,714.5	53.5	34.8	-121.77	-3,443.5	-7.5	493.8	406.0	87.82	5.623	
16,200.0	12,454.4	16,435.3	12,715.3	54.0	35.6	-121.77	-3,543.5	-6.5	493.8	404.7	89.09	5.543	
16,300.0	12,455.2	16,535.3	12,716.1	54.5	36.4	-121.77	-3,643.5	-5.5	493.8	403.4	90.38	5.464	
16,400.0	12,456.0	16,635.3	12,717.0	55.0	37.3	-121.77	-3,743.5	-4.6	493.8	402.1	91.67	5.387	
16,500.0	12,456.8	16,735.3	12,717.8	55.6	38.1	-121.77	-3,843.5	-3.6	493.8	400.8	92.98	5.311	
16,600.0	12,457.6	16,835.3	12,718.6	56.1	39.0	-121.77	-3,943.5	-2.6	493.8	399.5	94.30	5.237	
16,700.0	12,458.4	16,935.3	12,719.4	56.6	39.8	-121.77	-4,043.4	-1.7	493.8	398.2	95.62	5.164	
16,800.0	12,459.3	17,035.3	12,720.2	57.2	40.6	-121.77	-4,143.4	-0.7	493.8	396.9	96.96	5.093	
16,900.0	12,460.1	17,135.3	12,721.0	57.7	41.5	-121.77	-4,243.4	0.2	493.8	395.5	98.31	5.023	
17,000.0	12,460.9	17,235.3	12,721.9	58.3	42.3	-121.77	-4,343.4	1.2	493.8	394.2	99.67	4.955	
17,100.0	12,461.7	17,335.3	12,722.7	58.9	43.2	-121.77	-4,443.4	2.2	493.8	392.8	101.03	4.888	
17,200.0	12,462.5	17,435.3	12,723.5	59.4	44.0	-121.77	-4,543.4	3.1	493.9	391.4	102.41	4.822	
17,300.0	12,463.3	17,535.3	12,724.3	60.0	44.8	-121.76	-4,643.4	4.1	493.9	390.1	103.79	4.758	
17,400.0	12,464.2	17,635.3	12,725.1	60.6	45.7	-121.76	-4,743.4	5.0	493.9	388.7	105.18	4.695	
17,500.0	12,465.0	17,735.3	12,725.9	61.2	46.5	-121.76	-4,843.4	6.0	493.9	387.3	106.58	4.634	
17,600.0	12,465.8	17,835.3	12,726.8	61.8	47.4	-121.76	-4,943.4	7.0	493.9	385.9	107.99	4.573	
17,700.0	12,466.6	17,935.3	12,727.6	62.4	48.2	-121.76	-5,043.4	7.9	493.9	384.5	109.40	4.514	
17,800.0	12,467.4	18,035.3	12,728.4	63.0	49.1	-121.76	-5,143.4	8.9	493.9	383.1	110.82	4.457	
17,900.0	12,468.2	18,135.3	12,729.2	63.6	49.9	-121.76	-5,243.4	9.9	493.9	381.6	112.25	4.400	
18,000.0	12,469.1	18,235.3	12,730.0	64.3	50.8	-121.76	-5,343.3	10.8	493.9	380.2	113.68	4.345	
18,100.0	12,469.9	18,335.3	12,730.8	64.9	51.6	-121.76	-5,443.3	11.8	493.9	378.8	115.12	4.290	
18,200.0	12,470.7	18,435.3	12,731.7	65.5	52.5	-121.76	-5,543.3	12.7	493.9	377.3	116.57	4.237	
18,300.0	12,471.5	18,535.3	12,732.5	66.2	53.3	-121.76	-5,643.3	13.7	493.9	375.9	118.02	4.185	
18,400.0	12,472.3	18,635.3	12,733.3	66.8	54.2	-121.76	-5,743.3	14.7	493.9	374.4	119.47	4.134	
18,500.0	12,473.1	18,735.3	12,734.1	67.5	55.0	-121.76	-5,843.3	15.6	493.9	373.0	120.94	4.084	
18,600.0	12,474.0	18,835.3	12,734.9	68.1	55.9	-121.76	-5,943.3	16.6	493.9	371.5	122.41	4.035	
18,700.0	12,474.8	18,935.3	12,735.7	68.8	56.7	-121.76	-6,043.3	17.5	493.9	370.0	123.88	3.987	
18,800.0	12,475.6	19,035.3	12,736.6	69.4	57.6	-121.76	-6,143.3	18.5	493.9	368.6	125.36	3.940	
18,900.0	12,476.4	19,135.3	12,737.4	70.1	58.4	-121.76	-6,243.3	19.5	493.9	367.1	126.84	3.894	
19,000.0	12,477.2	19,235.3	12,738.2	70.8	59.3	-121.76	-6,343.3	20.4	493.9	365.6	128.33	3.849	
19,100.0	12,478.0	19,335.3	12,739.0	71.5	60.1	-121.76	-6,443.3	21.4	493.9	364.1	129.82	3.805	
19,200.0	12,478.9	19,435.3	12,739.8	72.1	61.0	-121.76	-6,543.2	22.4	493.9	362.6	131.32	3.761	
19,300.0	12,479.7	19,535.3	12,740.6	72.8	61.8	-121.76	-6,643.2	23.3	493.9	361.1	132.82	3.719	
19,400.0	12,480.5	19,635.3	12,741.5	73.5	62.7	-121.76	-6,743.2	24.3	493.9	359.6	134.32	3.677	
19,500.0	12,481.3	19,735.3	12,742.3	74.2	63.6	-121.76	-6,843.2	25.2	493.9	358.1	135.83	3.636	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLEND FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore: OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLEND FEDERAL 19-30 208H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12099-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
19,600.0	12,482.1	19,835.3	12,743.1	74.9	64.4	-121.76	-6,943.2	26.2	493.9	356.6	137.34	3.596		
19,700.0	12,482.9	19,935.3	12,743.9	75.6	65.3	-121.76	-7,043.2	27.2	494.0	355.1	138.86	3.557		
19,800.0	12,483.8	20,035.3	12,744.7	76.3	66.1	-121.76	-7,143.2	28.1	494.0	353.6	140.38	3.519		
19,900.0	12,484.6	20,135.3	12,745.5	77.0	67.0	-121.76	-7,243.2	29.1	494.0	352.1	141.90	3.481		
20,000.0	12,485.4	20,235.3	12,746.4	77.7	67.8	-121.76	-7,343.2	30.0	494.0	350.5	143.43	3.444		
20,075.1	12,486.0	20,310.3	12,747.0	78.2	68.5	-121.76	-7,418.2	30.8	494.0	349.4	144.58	3.417		

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLEND FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore: OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLEND FEDERAL 19-30 358H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toothface (')	Offset Wellbore Centre		Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.4	0.4	3.0	3.0	89.66	0.6	100.0	100.0					
100.0	100.0	100.4	100.4	3.0	3.0	89.66	0.6	100.0	100.0	94.0	6.01	16.651		
200.0	200.0	200.4	200.4	3.0	3.0	89.66	0.6	100.0	100.0	93.9	6.08	16.447		
300.0	300.0	300.4	300.4	3.1	3.1	89.66	0.6	100.0	100.0	93.8	6.24	16.035		
400.0	400.0	400.4	400.4	3.2	3.2	89.66	0.6	100.0	100.0	93.5	6.47	15.459		
500.0	500.0	500.4	500.4	3.4	3.4	89.66	0.6	100.0	100.0	93.2	6.77	14.773		
600.0	600.0	600.4	600.4	3.6	3.6	89.66	0.6	100.0	100.0	92.9	7.13	14.026		
700.0	700.0	700.4	700.4	3.8	3.8	89.66	0.6	100.0	100.0	92.5	7.54	13.261		
800.0	800.0	800.4	800.4	4.0	4.0	89.66	0.6	100.0	100.0	92.0	8.00	12.507		
900.0	900.0	900.4	900.4	4.2	4.2	89.66	0.6	100.0	100.0	91.5	8.49	11.783		
1,000.0	1,000.0	1,000.4	1,000.4	4.5	4.5	89.66	0.6	100.0	100.0	91.0	9.01	11.101		
1,100.0	1,100.0	1,100.4	1,100.4	4.8	4.8	89.66	0.6	100.0	100.0	90.4	9.55	10.466		
1,200.0	1,200.0	1,200.4	1,200.4	5.1	5.1	89.66	0.6	100.0	100.0	89.9	10.12	9.879		
1,300.0	1,300.0	1,300.4	1,300.4	5.4	5.4	89.66	0.6	100.0	100.0	89.3	10.71	9.338		
1,400.0	1,400.0	1,400.4	1,400.4	5.7	5.7	89.66	0.6	100.0	100.0	88.7	11.31	8.842		
1,500.0	1,500.0	1,500.4	1,500.4	6.0	6.0	89.66	0.6	100.0	100.0	88.1	11.92	8.387		
1,600.0	1,600.0	1,600.4	1,600.4	6.3	6.3	89.66	0.6	100.0	100.0	87.5	12.55	7.969		
1,700.0	1,700.0	1,700.4	1,700.4	6.6	6.6	89.66	0.6	100.0	100.0	86.8	13.18	7.586		
1,800.0	1,800.0	1,800.4	1,800.4	6.9	6.9	89.66	0.6	100.0	100.0	86.2	13.82	7.234		
1,900.0	1,900.0	1,900.4	1,900.4	7.2	7.2	89.66	0.6	100.0	100.0	85.5	14.47	6.909		
2,000.0	2,000.0	2,000.4	2,000.4	7.6	7.6	89.66	0.6	100.0	100.0	84.9	15.13	6.610		
2,100.0	2,100.0	2,100.4	2,100.4	7.9	7.9	89.66	0.6	100.0	100.0	84.2	15.79	6.333		
2,200.0	2,200.0	2,200.4	2,200.4	8.2	8.2	89.66	0.6	100.0	100.0	83.5	16.46	6.077		
2,300.0	2,300.0	2,300.4	2,300.4	8.6	8.6	89.66	0.6	100.0	100.0	82.9	17.12	5.840		
2,400.0	2,400.0	2,400.4	2,400.4	8.9	8.9	89.66	0.6	100.0	100.0	82.2	17.80	5.619		
2,500.0	2,500.0	2,500.4	2,500.4	9.2	9.2	89.66	0.6	100.0	100.0	81.5	18.47	5.413		
2,600.0	2,600.0	2,600.4	2,600.4	9.6	9.6	89.66	0.6	100.0	100.0	80.8	19.15	5.221		
2,700.0	2,700.0	2,700.4	2,700.4	9.9	9.9	89.66	0.6	100.0	100.0	80.2	19.84	5.041		
2,800.0	2,800.0	2,800.4	2,800.4	10.3	10.3	89.66	0.6	100.0	100.0	79.5	20.52	4.873		
2,900.0	2,900.0	2,900.4	2,900.4	10.6	10.6	89.66	0.6	100.0	100.0	78.8	21.21	4.715		
3,000.0	3,000.0	3,000.4	3,000.4	10.9	10.9	89.66	0.6	100.0	100.0	78.1	21.90	4.567		
3,100.0	3,100.0	3,100.4	3,100.4	11.3	11.3	89.66	0.6	100.0	100.0	77.4	22.59	4.428		
3,200.0	3,200.0	3,200.4	3,200.4	11.6	11.6	89.66	0.6	100.0	100.0	76.7	23.28	4.296		
3,300.0	3,300.0	3,300.4	3,300.4	12.0	12.0	89.66	0.6	100.0	100.0	76.0	23.97	4.172		
3,400.0	3,400.0	3,400.4	3,400.4	12.3	12.3	89.66	0.6	100.0	100.0	75.3	24.67	4.054		
3,500.0	3,500.0	3,500.4	3,500.4	12.7	12.7	89.66	0.6	100.0	100.0	74.6	25.36	3.943		
3,600.0	3,600.0	3,600.4	3,600.4	13.0	13.0	89.66	0.6	100.0	100.0	73.9	26.06	3.837		
3,700.0	3,700.0	3,700.4	3,700.4	13.4	13.4	89.66	0.6	100.0	100.0	73.2	26.76	3.737		
3,800.0	3,800.0	3,800.4	3,800.4	13.7	13.7	89.66	0.6	100.0	100.0	72.5	27.46	3.642		
3,900.0	3,900.0	3,900.4	3,900.4	14.1	14.1	89.66	0.6	100.0	100.0	71.8	28.16	3.552		
4,000.0	4,000.0	4,000.4	4,000.4	14.4	14.4	89.66	0.6	100.0	100.0	71.1	28.86	3.465		
4,100.0	4,100.0	4,100.4	4,100.4	14.8	14.8	89.66	0.6	100.0	100.0	70.4	29.56	3.383		
4,200.0	4,200.0	4,200.4	4,200.4	15.1	15.1	89.66	0.6	100.0	100.0	69.7	30.26	3.305		
4,300.0	4,300.0	4,300.4	4,300.4	15.5	15.5	89.66	0.6	100.0	100.0	69.0	30.97	3.229		
4,400.0	4,400.0	4,400.4	4,400.4	15.8	15.8	89.66	0.6	100.0	100.0	68.3	31.67	3.158		
4,500.0	4,500.0	4,500.4	4,500.4	16.2	16.2	89.66	0.6	100.0	100.0	67.6	32.37	3.089		
4,600.0	4,600.0	4,600.4	4,600.4	16.5	16.5	89.66	0.6	100.0	100.0	66.9	33.08	3.023		
4,700.0	4,700.0	4,700.4	4,700.4	16.9	16.9	89.66	0.6	100.0	100.0	66.2	33.78	2.960		
4,800.0	4,800.0	4,800.4	4,800.4	17.2	17.2	89.66	0.6	100.0	100.0	65.5	34.49	2.900		
4,900.0	4,900.0	4,900.4	4,900.4	17.6	17.6	89.66	0.6	100.0	100.0	64.8	35.20	2.841		
5,000.0	5,000.0	5,000.4	5,000.4	18.0	18.0	89.66	0.6	100.0	100.0	64.1	35.90	2.785		
5,100.0	5,100.0	5,100.4	5,100.4	18.3	18.3	89.66	0.6	100.0	100.0	63.4	36.61	2.732		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLEND FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore: OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLEND FEDERAL 19-30 358H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error: 3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,200.0	5,200.4	5,200.4	18.7	18.7	89.66	0.6	100.0	100.0	62.7	37.32	2.680	
5,300.0	5,300.0	5,300.4	5,300.4	19.0	19.0	89.66	0.6	100.0	100.0	62.0	38.02	2.630	
5,400.0	5,400.0	5,400.4	5,400.4	19.4	19.4	89.66	0.6	100.0	100.0	61.3	38.73	2.582	
5,416.5	5,416.5	5,416.9	5,416.9	19.4	19.4	89.66	0.6	100.0	100.0	61.2	38.85	2.574 CC	
5,500.0	5,500.0	5,500.0	5,500.0	19.7	19.7	89.66	0.6	100.0	100.0	60.6	39.44	2.536 ES, SF	
5,600.0	5,600.0	5,598.5	5,598.5	20.1	20.1	136.56	2.0	100.9	102.2	62.1	40.13	2.547	
5,700.0	5,699.8	5,696.3	5,696.1	20.4	20.4	136.09	6.3	103.6	108.8	68.0	40.80	2.666	
5,766.9	5,766.5	5,762.5	5,762.1	20.7	20.6	135.82	10.4	106.2	115.4	74.2	41.26	2.798	
5,800.0	5,799.5	5,795.4	5,794.9	20.8	20.8	135.85	12.5	107.6	119.0	77.5	41.49	2.869	
5,900.0	5,899.0	5,894.8	5,894.1	21.1	21.1	135.94	18.8	111.6	129.9	87.7	42.18	3.078	
6,000.0	5,998.6	5,994.2	5,993.2	21.5	21.5	136.02	25.1	115.6	140.7	97.8	42.88	3.281	
6,100.0	6,098.2	6,093.6	6,092.3	21.8	21.8	136.09	31.4	119.6	151.5	107.9	43.57	3.477	
6,200.0	6,197.7	6,193.0	6,191.5	22.2	22.2	136.14	37.7	123.6	162.3	118.1	44.27	3.667	
6,300.0	6,297.3	6,292.4	6,290.6	22.5	22.5	136.19	44.1	127.6	173.2	128.2	44.97	3.851	
6,400.0	6,396.9	6,391.8	6,389.7	22.9	22.9	136.24	50.4	131.6	184.0	138.3	45.66	4.029	
6,500.0	6,496.4	6,491.3	6,488.9	23.2	23.2	136.28	56.7	135.6	194.8	148.5	46.36	4.202	
6,600.0	6,596.0	6,590.7	6,588.0	23.6	23.6	136.31	63.0	139.6	205.6	158.6	47.06	4.370	
6,700.0	6,695.6	6,690.1	6,687.1	23.9	23.9	136.34	69.3	143.6	216.5	168.7	47.76	4.533	
6,800.0	6,795.1	6,789.5	6,786.2	24.3	24.3	136.37	75.6	147.6	227.3	178.8	48.46	4.691	
6,900.0	6,894.7	6,888.9	6,885.4	24.6	24.6	136.40	81.9	151.7	238.1	189.0	49.16	4.844	
7,000.0	6,994.3	6,988.3	6,984.5	25.0	25.0	136.42	88.2	155.7	249.0	199.1	49.86	4.993	
7,100.0	7,093.8	7,087.7	7,083.6	25.3	25.3	136.44	94.5	159.7	259.8	209.2	50.56	5.138	
7,200.0	7,193.4	7,187.1	7,182.8	25.7	25.7	136.46	100.8	163.7	270.6	219.4	51.26	5.279	
7,300.0	7,293.0	7,286.5	7,281.9	26.1	26.0	136.48	107.1	167.7	281.4	229.5	51.97	5.416	
7,400.0	7,392.5	7,386.0	7,381.0	26.4	26.4	136.50	113.5	171.7	292.3	239.6	52.67	5.549	
7,500.0	7,492.1	7,485.4	7,480.2	26.8	26.7	136.52	119.8	175.7	303.1	249.7	53.37	5.679	
7,600.0	7,591.7	7,584.8	7,579.3	27.1	27.1	136.53	126.1	179.7	313.9	259.9	54.07	5.805	
7,700.0	7,691.2	7,684.2	7,678.4	27.5	27.4	136.54	132.4	183.7	324.8	270.0	54.78	5.928	
7,800.0	7,790.8	7,783.6	7,777.6	27.8	27.8	136.56	138.7	187.7	335.6	280.1	55.48	6.048	
7,900.0	7,890.4	7,883.0	7,876.7	28.2	28.1	136.57	145.0	191.7	346.4	290.2	56.19	6.165	
8,000.0	7,989.9	7,982.4	7,975.8	28.5	28.5	136.58	151.3	195.7	357.2	300.3	56.89	6.279	
8,100.0	8,089.5	8,081.8	8,074.9	28.9	28.9	136.59	157.6	199.7	368.1	310.5	57.60	6.390	
8,200.0	8,189.1	8,181.3	8,174.1	29.3	29.2	136.60	163.9	203.8	378.9	320.6	58.31	6.498	
8,300.0	8,288.6	8,280.7	8,273.2	29.6	29.5	136.61	170.2	207.8	389.7	330.7	59.01	6.604	
8,400.0	8,388.2	8,380.1	8,372.3	30.0	29.9	136.62	176.5	211.8	400.6	340.8	59.72	6.707	
8,500.0	8,487.8	8,479.5	8,471.5	30.3	30.3	136.63	182.8	215.8	411.4	351.0	60.42	6.808	
8,600.0	8,587.3	8,578.9	8,570.6	30.7	30.6	136.64	189.2	219.8	422.2	361.1	61.13	6.906	
8,700.0	8,686.9	8,678.3	8,669.7	31.0	31.0	136.64	195.5	223.8	433.0	371.2	61.84	7.003	
8,800.0	8,786.5	8,777.7	8,768.9	31.4	31.3	136.65	201.8	227.8	443.9	381.3	62.55	7.096	
8,900.0	8,886.0	8,877.1	8,868.0	31.8	31.7	136.66	208.1	231.8	454.7	391.4	63.26	7.188	
9,000.0	8,985.6	8,976.6	8,967.1	32.1	32.1	136.66	214.4	235.8	465.5	401.6	63.96	7.278	
9,100.0	9,085.2	9,076.0	9,066.2	32.5	32.4	136.67	220.7	239.8	476.3	411.7	64.67	7.366	
9,200.0	9,184.7	9,175.4	9,165.4	32.8	32.8	136.68	227.0	243.8	487.2	421.8	65.38	7.451	
9,300.0	9,284.3	9,274.8	9,264.5	33.2	33.1	136.68	233.3	247.8	498.0	431.9	66.09	7.535	
9,400.0	9,383.9	9,374.2	9,363.6	33.5	33.5	136.69	239.6	251.9	508.8	442.0	66.80	7.617	
9,500.0	9,483.4	9,473.6	9,462.8	33.9	33.8	136.69	245.9	255.9	519.7	452.1	67.51	7.698	
9,600.0	9,583.0	9,573.0	9,561.9	34.3	34.2	136.70	252.2	259.9	530.5	462.3	68.22	7.776	
9,700.0	9,682.6	9,672.4	9,661.0	34.6	34.5	136.70	258.6	263.9	541.3	472.4	68.93	7.853	
9,800.0	9,782.1	9,771.8	9,760.2	35.0	34.9	136.71	264.9	267.9	552.1	482.5	69.64	7.929	
9,900.0	9,881.7	9,871.3	9,859.3	35.3	35.3	136.71	271.2	271.9	563.0	492.6	70.35	8.002	
10,000.0	9,981.3	9,970.7	9,958.4	35.7	35.6	136.72	277.5	275.9	573.8	502.7	71.06	8.075	
10,100.0	10,080.8	10,070.1	10,057.6	36.1	36.0	136.72	283.8	279.9	584.6	512.9	71.77	8.146	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLENDE FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore: OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLENDE FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLENDE FEDERAL 19-30 358H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.0	10,180.4	10,169.5	10,156.7	36.4	36.3	136.73	290.1	283.9	595.5	523.0	72.48	8.215	
10,300.0	10,280.0	10,268.9	10,255.8	36.8	36.7	136.73	296.4	287.9	606.3	533.1	73.19	8.283	
10,400.0	10,379.5	10,368.3	10,354.9	37.1	37.0	136.73	302.7	291.9	617.1	543.2	73.91	8.350	
10,500.0	10,479.1	10,467.7	10,454.1	37.5	37.4	136.74	309.0	295.9	627.9	553.3	74.62	8.415	
10,600.0	10,578.7	10,567.1	10,553.2	37.9	37.7	136.74	315.3	299.9	638.8	563.4	75.33	8.480	
10,700.0	10,678.2	10,666.6	10,652.3	38.2	38.1	136.74	321.6	304.0	649.6	573.6	76.04	8.543	
10,800.0	10,777.8	10,766.0	10,751.5	38.6	38.5	136.75	328.0	308.0	660.4	583.7	76.75	8.605	
10,900.0	10,877.4	10,865.4	10,850.6	38.9	38.8	136.75	334.3	312.0	671.3	593.8	77.47	8.665	
11,000.0	10,976.9	10,964.8	10,949.7	39.3	39.2	136.75	340.6	316.0	682.1	603.9	78.18	8.725	
11,100.0	11,076.5	11,064.2	11,048.9	39.7	39.5	136.76	346.9	320.0	692.9	614.0	78.89	8.783	
11,200.0	11,176.1	11,163.6	11,148.0	40.0	39.9	136.76	353.2	324.0	703.7	624.1	79.60	8.841	
11,300.0	11,275.6	11,263.0	11,247.1	40.4	40.2	136.76	359.5	328.0	714.6	634.2	80.32	8.897	
11,400.0	11,375.2	11,362.4	11,346.3	40.7	40.6	136.76	365.8	332.0	725.4	644.4	81.03	8.952	
11,500.0	11,474.8	11,461.9	11,445.4	41.1	41.0	136.77	372.1	336.0	736.2	654.5	81.74	9.007	
11,600.0	11,574.3	11,561.3	11,544.5	41.5	41.3	136.77	378.4	340.0	747.0	664.6	82.46	9.060	
11,700.0	11,673.9	11,660.7	11,643.6	41.8	41.7	136.77	384.7	344.0	757.9	674.7	83.17	9.112	
11,800.0	11,773.5	11,760.1	11,742.8	42.2	42.0	136.77	391.0	348.0	768.7	684.8	83.88	9.164	
11,900.0	11,873.0	11,859.5	11,841.9	42.5	42.4	136.78	397.4	352.0	779.5	694.9	84.60	9.215	
11,946.3	11,919.1	11,905.5	11,887.8	42.7	42.6	136.78	400.3	353.9	784.5	699.6	84.93	9.238	
11,950.0	11,922.8	11,909.2	11,891.5	42.7	42.6	140.50	400.5	354.1	784.9	700.0	84.95	9.240	
11,975.0	11,947.7	11,934.0	11,916.2	42.8	42.7	177.14	402.1	355.1	787.7	702.5	85.13	9.252	
12,000.0	11,972.7	11,958.6	11,940.7	42.9	42.7	-143.77	402.9	356.1	790.4	705.0	85.30	9.265	
12,025.0	11,997.5	11,983.2	11,965.3	43.0	42.8	-123.05	402.5	357.1	793.0	707.6	85.47	9.279	
12,050.0	12,022.3	12,007.8	11,989.9	43.1	42.9	-112.82	400.9	358.1	795.7	710.1	85.63	9.293	
12,075.0	12,046.8	12,032.6	12,014.4	43.1	43.0	-107.02	397.9	359.1	798.4	712.6	85.79	9.307	
12,100.0	12,071.1	12,057.4	12,038.9	43.2	43.1	-103.32	393.7	360.2	801.0	715.1	85.94	9.321	
12,125.0	12,095.0	12,082.3	12,063.2	43.3	43.1	-100.75	388.1	361.2	803.6	717.5	86.09	9.334	
12,150.0	12,118.6	12,107.4	12,087.2	43.4	43.2	-98.86	381.3	362.3	806.2	719.9	86.24	9.348	
12,175.0	12,141.6	12,132.4	12,110.9	43.4	43.3	-97.39	373.2	363.3	808.7	722.3	86.39	9.361	
12,200.0	12,164.2	12,157.6	12,134.3	43.5	43.3	-96.22	363.9	364.4	811.1	724.6	86.53	9.374	
12,225.0	12,186.2	12,182.9	12,157.2	43.5	43.4	-95.25	353.2	365.4	813.5	726.9	86.67	9.387	
12,250.0	12,207.5	12,208.2	12,179.5	43.6	43.5	-94.44	341.4	366.4	815.9	729.1	86.80	9.400	
12,275.0	12,228.1	12,233.7	12,201.3	43.7	43.5	-93.76	328.3	367.4	818.1	731.2	86.93	9.412	
12,300.0	12,247.9	12,259.2	12,222.5	43.7	43.6	-93.16	314.0	368.4	820.3	733.2	87.05	9.425	
12,325.0	12,267.0	12,284.9	12,242.9	43.8	43.6	-92.65	298.5	369.4	822.4	735.2	87.17	9.434	
12,350.0	12,285.1	12,310.6	12,262.5	43.8	43.7	-92.20	282.0	370.4	824.3	737.1	87.28	9.445	
12,375.0	12,302.4	12,336.4	12,281.3	43.8	43.7	-91.80	264.3	371.3	826.2	738.8	87.38	9.455	
12,400.0	12,318.6	12,362.3	12,299.1	43.9	43.8	-91.45	245.5	372.2	828.0	740.5	87.48	9.465	
12,425.0	12,333.9	12,388.3	12,316.0	43.9	43.8	-91.14	225.8	373.1	829.7	742.1	87.58	9.474	
12,450.0	12,348.1	12,414.3	12,331.8	43.9	43.8	-90.87	205.1	373.9	831.2	743.6	87.66	9.482	
12,475.0	12,361.2	12,440.5	12,346.5	43.9	43.9	-90.63	183.5	374.7	832.7	744.9	87.75	9.490	
12,500.0	12,373.2	12,466.7	12,360.0	44.0	43.9	-90.42	161.1	375.5	834.0	746.2	87.82	9.496	
12,525.0	12,384.0	12,493.0	12,372.4	44.0	43.9	-90.25	137.9	376.2	835.2	747.3	87.89	9.503	
12,550.0	12,393.7	12,519.3	12,383.4	44.0	44.0	-90.10	114.0	376.9	836.2	748.3	87.95	9.508	
12,575.0	12,402.1	12,545.7	12,393.1	44.0	44.0	-89.97	89.4	377.5	837.2	749.1	88.01	9.512	
12,600.0	12,409.3	12,572.2	12,401.5	44.1	44.0	-89.87	64.3	378.1	837.9	749.9	88.06	9.516	
12,625.0	12,415.2	12,598.7	12,408.5	44.1	44.1	-89.79	38.7	378.6	838.6	750.5	88.10	9.519	
12,650.0	12,419.8	12,625.3	12,414.1	44.1	44.1	-89.73	12.8	379.1	839.1	751.0	88.13	9.521	
12,675.0	12,423.2	12,651.9	12,418.2	44.1	44.1	-89.70	-13.5	379.5	839.5	751.3	88.16	9.522	
12,700.0	12,425.2	12,678.5	12,420.8	44.1	44.1	-89.69	-40.0	379.9	839.7	751.5	88.18	9.522	
12,723.0	12,426.0	12,703.0	12,422.0	44.1	44.1	-89.70	-64.5	380.1	839.7	751.5	88.19	9.522	
12,800.0	12,426.6	12,780.4	12,422.6	44.2	44.1	-89.70	-141.9	380.9	839.7	751.5	88.23	9.517	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLEND FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLEND FEDERAL 19-30 358H - OWB - PWP1													Offset Site Error: 0.0 usft	
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error: 3.0 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
12,900.0	12,427.4	12,880.4	12,423.4	44.2	44.2	-89.70	-241.9	381.8	839.8	751.4	88.32	9.508		
13,000.0	12,428.2	12,980.4	12,424.3	44.3	44.2	-89.70	-341.9	382.8	839.8	751.3	88.43	9.496		
13,100.0	12,429.0	13,080.4	12,425.1	44.4	44.3	-89.70	-441.9	383.8	839.8	751.2	88.58	9.480		
13,200.0	12,429.9	13,180.4	12,425.9	44.5	44.4	-89.70	-541.9	384.7	839.8	751.0	88.77	9.460		
13,300.0	12,430.7	13,280.4	12,426.7	44.6	44.5	-89.70	-641.8	385.7	839.8	750.8	88.98	9.437		
13,400.0	12,431.5	13,380.4	12,427.5	44.7	44.7	-89.70	-741.8	386.6	839.8	750.5	89.23	9.411		
13,500.0	12,432.3	13,480.4	12,428.3	44.9	44.8	-89.70	-841.8	387.6	839.8	750.3	89.51	9.381		
13,600.0	12,433.1	13,580.4	12,429.2	45.0	44.9	-89.70	-941.8	388.6	839.8	749.9	89.83	9.349		
13,700.0	12,433.9	13,680.4	12,430.0	45.2	45.1	-89.70	-1,041.8	389.5	839.8	749.6	90.18	9.313		
13,800.0	12,434.8	13,780.4	12,430.8	45.4	45.3	-89.70	-1,141.8	390.5	839.8	749.2	90.55	9.274		
13,900.0	12,435.6	13,880.4	12,431.6	45.6	45.5	-89.70	-1,241.8	391.4	839.8	748.8	90.96	9.232		
14,000.0	12,436.4	13,980.4	12,432.4	45.8	45.7	-89.70	-1,341.8	392.4	839.8	748.4	91.40	9.188		
14,100.0	12,437.2	14,080.4	12,433.2	46.1	46.0	-89.70	-1,441.8	393.4	839.8	747.9	91.88	9.141		
14,200.0	12,438.0	14,180.4	12,434.1	46.3	46.2	-89.70	-1,541.8	394.3	839.8	747.4	92.38	9.091		
14,300.0	12,438.8	14,280.4	12,434.9	46.6	46.5	-89.70	-1,641.8	395.3	839.8	746.9	92.91	9.039		
14,400.0	12,439.7	14,380.4	12,435.7	46.8	46.8	-89.70	-1,741.8	396.2	839.8	746.3	93.47	8.985		
14,500.0	12,440.5	14,480.4	12,436.5	47.1	47.1	-89.70	-1,841.7	397.2	839.8	745.8	94.05	8.929		
14,600.0	12,441.3	14,580.4	12,437.3	47.4	47.4	-89.70	-1,941.7	398.2	839.8	745.1	94.67	8.871		
14,700.0	12,442.1	14,680.4	12,438.1	47.8	47.7	-89.70	-2,041.7	399.1	839.8	744.5	95.31	8.811		
14,800.0	12,442.9	14,780.4	12,438.9	48.1	48.0	-89.70	-2,141.7	400.1	839.8	743.8	95.98	8.750		
14,900.0	12,443.7	14,880.4	12,439.8	48.5	48.4	-89.70	-2,241.7	401.1	839.8	743.2	96.68	8.687		
15,000.0	12,444.6	14,980.4	12,440.6	48.8	48.7	-89.70	-2,341.7	402.0	839.8	742.4	97.40	8.623		
15,100.0	12,445.4	15,080.4	12,441.4	49.2	49.1	-89.70	-2,441.7	403.0	839.8	741.7	98.15	8.557		
15,200.0	12,446.2	15,180.4	12,442.2	49.6	49.5	-89.70	-2,541.7	403.9	839.8	740.9	98.92	8.490		
15,300.0	12,447.0	15,280.4	12,443.0	50.0	49.9	-89.70	-2,641.7	404.9	839.8	740.1	99.71	8.423		
15,400.0	12,447.8	15,380.4	12,443.8	50.4	50.3	-89.70	-2,741.7	405.9	839.8	739.3	100.53	8.354		
15,500.0	12,448.6	15,480.4	12,444.7	50.8	50.7	-89.70	-2,841.7	406.8	839.9	738.5	101.37	8.285		
15,600.0	12,449.5	15,580.4	12,445.5	51.2	51.1	-89.70	-2,941.7	407.8	839.9	737.6	102.24	8.215		
15,700.0	12,450.3	15,680.4	12,446.3	51.7	51.6	-89.70	-3,041.7	408.7	839.9	736.7	103.12	8.144		
15,800.0	12,451.1	15,780.4	12,447.1	52.1	52.0	-89.70	-3,141.6	409.7	839.9	735.8	104.03	8.073		
15,900.0	12,451.9	15,880.4	12,447.9	52.6	52.5	-89.70	-3,241.6	410.7	839.9	734.9	104.96	8.002		
16,000.0	12,452.7	15,980.4	12,448.7	53.1	53.0	-89.70	-3,341.6	411.6	839.9	734.0	105.91	7.930		
16,100.0	12,453.5	16,080.4	12,449.6	53.5	53.5	-89.70	-3,441.6	412.6	839.9	733.0	106.87	7.859		
16,200.0	12,454.4	16,180.4	12,450.4	54.0	53.9	-89.70	-3,541.6	413.5	839.9	732.0	107.86	7.787		
16,300.0	12,455.2	16,280.4	12,451.2	54.5	54.4	-89.70	-3,641.6	414.5	839.9	731.0	108.86	7.715		
16,400.0	12,456.0	16,380.4	12,452.0	55.0	55.0	-89.70	-3,741.6	415.5	839.9	730.0	109.89	7.643		
16,500.0	12,456.8	16,480.4	12,452.8	55.6	55.5	-89.70	-3,841.6	416.4	839.9	729.0	110.93	7.572		
16,600.0	12,457.6	16,580.4	12,453.6	56.1	56.0	-89.70	-3,941.6	417.4	839.9	727.9	111.98	7.500		
16,700.0	12,458.4	16,680.4	12,454.4	56.6	56.5	-89.70	-4,041.6	418.4	839.9	726.8	113.06	7.429		
16,800.0	12,459.3	16,780.4	12,455.3	57.2	57.1	-89.70	-4,141.6	419.3	839.9	725.8	114.15	7.358		
16,900.0	12,460.1	16,880.4	12,456.1	57.7	57.6	-89.70	-4,241.6	420.3	839.9	724.7	115.25	7.288		
17,000.0	12,460.9	16,980.4	12,456.9	58.3	58.2	-89.70	-4,341.5	421.2	839.9	723.5	116.37	7.217		
17,100.0	12,461.7	17,080.4	12,457.7	58.9	58.8	-89.70	-4,441.5	422.2	839.9	722.4	117.51	7.148		
17,200.0	12,462.5	17,180.4	12,458.5	59.4	59.3	-89.70	-4,541.5	423.2	839.9	721.3	118.66	7.079		
17,300.0	12,463.3	17,280.4	12,459.3	60.0	59.9	-89.70	-4,641.5	424.1	839.9	720.1	119.82	7.010		
17,400.0	12,464.2	17,380.4	12,460.2	60.6	60.5	-89.70	-4,741.5	425.1	839.9	718.9	121.00	6.942		
17,500.0	12,465.0	17,480.4	12,461.0	61.2	61.1	-89.70	-4,841.5	426.0	839.9	717.7	122.19	6.874		
17,600.0	12,465.8	17,580.4	12,461.8	61.8	61.7	-89.70	-4,941.5	427.0	839.9	716.5	123.39	6.807		
17,700.0	12,466.6	17,680.4	12,462.6	62.4	62.3	-89.70	-5,041.5	428.0	839.9	715.3	124.61	6.741		
17,800.0	12,467.4	17,780.4	12,463.4	63.0	62.9	-89.70	-5,141.5	428.9	839.9	714.1	125.83	6.675		
17,900.0	12,468.2	17,880.4	12,464.2	63.6	63.5	-89.70	-5,241.5	429.9	839.9	712.9	127.07	6.610		
18,000.0	12,469.1	17,980.4	12,465.1	64.3	64.2	-89.70	-5,341.5	430.8	840.0	711.6	128.32	6.546		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Reference Site: BULLDOG
 Site Error: 0.0 usft
 Reference Well: PITCHBLEND FEDERAL 19-30 38H
 Well Error: 3.0 usft
 Reference Wellbore OWB
 Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
 TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 2.00 sigma
 Database: edm
 Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLEND FEDERAL 19-30 358H - OWB - PWP1													Offset Site Error: 0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
18,100.0	12,469.9	18,080.4	12,465.9	64.9	64.8	-89.70	-5,441.5	431.8	840.0	710.4	129.58	6.482	
18,200.0	12,470.7	18,180.4	12,466.7	65.5	65.4	-89.70	-5,541.5	432.8	840.0	709.1	130.86	6.419	
18,300.0	12,471.5	18,280.4	12,467.5	66.2	66.1	-89.70	-5,641.4	433.7	840.0	707.8	132.14	6.357	
18,400.0	12,472.3	18,380.4	12,468.3	66.8	66.7	-89.70	-5,741.4	434.7	840.0	706.5	133.43	6.295	
18,500.0	12,473.1	18,480.4	12,469.1	67.5	67.4	-89.70	-5,841.4	435.6	840.0	705.2	134.73	6.234	
18,600.0	12,474.0	18,580.4	12,470.0	68.1	68.0	-89.70	-5,941.4	436.6	840.0	703.9	136.04	6.174	
18,700.0	12,474.8	18,680.4	12,470.8	68.8	68.7	-89.70	-6,041.4	437.6	840.0	702.6	137.36	6.115	
18,800.0	12,475.6	18,780.4	12,471.6	69.4	69.4	-89.70	-6,141.4	438.5	840.0	701.3	138.69	6.056	
18,900.0	12,476.4	18,880.4	12,472.4	70.1	70.0	-89.70	-6,241.4	439.5	840.0	700.0	140.03	5.999	
19,000.0	12,477.2	18,980.4	12,473.2	70.8	70.7	-89.70	-6,341.4	440.5	840.0	698.6	141.38	5.941	
19,100.0	12,478.0	19,080.4	12,474.0	71.5	71.4	-89.70	-6,441.4	441.4	840.0	697.3	142.73	5.885	
19,200.0	12,478.9	19,180.4	12,474.8	72.1	72.1	-89.70	-6,541.4	442.4	840.0	695.9	144.10	5.829	
19,300.0	12,479.7	19,280.4	12,475.7	72.8	72.7	-89.70	-6,641.4	443.3	840.0	694.5	145.47	5.774	
19,400.0	12,480.5	19,380.4	12,476.5	73.5	73.4	-89.70	-6,741.4	444.3	840.0	693.2	146.85	5.720	
19,500.0	12,481.3	19,480.4	12,477.3	74.2	74.1	-89.70	-6,841.4	445.3	840.0	691.8	148.23	5.667	
19,600.0	12,482.1	19,580.4	12,478.1	74.9	74.8	-89.70	-6,941.3	446.2	840.0	690.4	149.63	5.614	
19,700.0	12,482.9	19,680.4	12,478.9	75.6	75.5	-89.70	-7,041.3	447.2	840.0	689.0	151.03	5.562	
19,800.0	12,483.8	19,780.4	12,479.7	76.3	76.2	-89.70	-7,141.3	448.1	840.0	687.6	152.43	5.511	
19,900.0	12,484.6	19,880.4	12,480.6	77.0	76.9	-89.70	-7,241.3	449.1	840.0	686.2	153.84	5.460	
20,000.0	12,485.4	19,980.4	12,481.4	77.7	77.6	-89.70	-7,341.3	450.1	840.0	684.8	155.26	5.410	
20,075.1	12,486.0	20,055.5	12,482.0	78.2	78.2	-89.70	-7,416.4	450.8	840.0	683.7	156.33	5.373	

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLEND FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore: OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLEND FEDERAL 19-30 457H - OWB - NABORS #1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,500.0	4,500.0	4,637.5	4,614.6	16.2	16.7	-71.02	322.6	-938.0	997.6	964.9	32.70	30.512		
4,600.0	4,600.0	4,736.5	4,712.6	16.5	17.1	-70.48	328.0	-925.1	987.0	953.6	33.40	29.549		
4,700.0	4,700.0	4,827.5	4,802.8	16.9	17.4	-69.98	332.9	-913.5	976.8	942.7	34.10	28.645		
4,800.0	4,800.0	4,911.2	4,885.8	17.2	17.7	-69.57	336.8	-904.2	968.0	933.2	34.78	27.831		
4,900.0	4,900.0	5,000.0	4,974.2	17.6	18.0	-69.22	340.1	-896.2	960.8	925.4	35.46	27.093		
5,000.0	5,000.0	5,079.6	5,053.5	18.0	18.3	-68.97	342.4	-890.7	955.3	919.2	36.12	26.450		
5,100.0	5,100.0	5,164.2	5,138.0	18.3	18.6	-68.78	344.2	-886.5	951.4	914.7	36.78	25.871		
5,200.0	5,200.0	5,248.9	5,222.7	18.7	18.9	-68.67	345.2	-884.0	949.2	911.7	37.42	25.362		
5,300.0	5,300.0	5,334.9	5,308.7	19.0	19.2	-68.64	345.5	-883.3	948.5	910.4	38.07	24.915		
5,400.0	5,400.0	5,434.9	5,408.7	19.4	19.5	-68.64	345.5	-883.3	948.5	909.7	38.77	24.465		
5,500.0	5,500.0	5,534.9	5,508.7	19.7	19.9	-68.64	345.5	-883.3	948.5	909.0	39.47	24.031		
5,600.0	5,600.0	5,634.9	5,608.7	20.1	20.2	-21.62	345.5	-883.3	946.8	906.7	40.17	23.573		
5,700.0	5,699.8	5,734.7	5,708.5	20.4	20.6	-21.77	345.5	-883.3	942.0	901.1	40.86	23.053		
5,766.9	5,766.5	5,801.4	5,775.2	20.7	20.8	-21.93	345.5	-883.3	936.9	895.6	41.32	22.672		
5,800.0	5,799.5	5,834.4	5,808.2	20.8	20.9	-22.00	345.5	-883.3	934.1	892.5	41.55	22.478		
5,900.0	5,899.0	5,933.9	5,907.7	21.1	21.3	-22.22	345.5	-883.3	925.4	883.2	42.25	21.906		
6,000.0	5,998.6	6,033.5	6,007.3	21.5	21.6	-22.44	345.5	-883.3	916.8	873.9	42.94	21.352		
6,100.0	6,098.2	6,133.1	6,106.9	21.8	22.0	-22.66	345.5	-883.3	908.2	864.6	43.63	20.815		
6,200.0	6,197.7	6,232.6	6,206.4	22.2	22.3	-22.89	345.5	-883.3	899.7	855.3	44.33	20.295		
6,300.0	6,297.3	6,332.2	6,306.0	22.5	22.6	-23.12	345.5	-883.3	891.1	846.1	45.02	19.791		
6,400.0	6,396.9	6,431.8	6,405.6	22.9	23.0	-23.36	345.5	-883.3	882.5	836.8	45.72	19.303		
6,500.0	6,496.4	6,531.3	6,505.1	23.2	23.3	-23.60	345.5	-883.3	874.0	827.6	46.42	18.829		
6,600.0	6,596.0	6,630.9	6,604.7	23.6	23.7	-23.85	345.5	-883.3	865.5	818.4	47.12	18.369		
6,700.0	6,695.6	6,730.4	6,704.3	23.9	24.0	-24.10	345.5	-883.3	857.0	809.1	47.81	17.923		
6,800.0	6,795.1	6,830.0	6,803.8	24.3	24.4	-24.36	345.5	-883.3	848.5	800.0	48.51	17.490		
6,900.0	6,894.7	6,929.6	6,903.4	24.6	24.7	-24.62	345.5	-883.3	840.0	790.8	49.21	17.069		
7,000.0	6,994.3	7,029.1	7,003.0	25.0	25.1	-24.88	345.5	-883.3	831.5	781.6	49.91	16.660		
7,100.0	7,093.8	7,128.7	7,102.5	25.3	25.4	-25.16	345.5	-883.3	823.1	772.5	50.61	16.263		
7,200.0	7,193.4	7,228.3	7,202.1	25.7	25.8	-25.43	345.5	-883.3	814.7	763.4	51.31	15.877		
7,300.0	7,293.0	7,327.8	7,301.7	26.1	26.1	-25.72	345.5	-883.3	806.3	754.3	52.01	15.501		
7,400.0	7,392.5	7,427.4	7,401.2	26.4	26.5	-26.01	345.5	-883.3	797.9	745.2	52.72	15.136		
7,500.0	7,492.1	7,527.0	7,500.8	26.8	26.8	-26.30	345.5	-883.3	789.6	736.1	53.42	14.780		
7,600.0	7,591.7	7,626.5	7,600.4	27.1	27.2	-26.61	345.5	-883.3	781.2	727.1	54.12	14.434		
7,700.0	7,691.2	7,726.1	7,699.9	27.5	27.5	-26.91	345.5	-883.3	772.8	718.0	54.83	14.098		
7,800.0	7,790.8	7,825.7	7,799.5	27.6	27.9	-27.23	345.5	-883.3	764.6	709.1	55.53	13.770		
7,900.0	7,890.4	7,925.2	7,899.1	28.2	28.2	-27.55	345.5	-883.3	756.3	700.1	56.23	13.450		
8,000.0	7,989.9	8,024.8	7,998.6	28.5	28.6	-27.88	345.5	-883.3	748.1	691.2	56.94	13.139		
8,100.0	8,089.5	8,124.4	8,098.2	28.9	28.9	-28.22	345.5	-883.3	739.9	682.2	57.64	12.836		
8,200.0	8,189.1	8,223.9	8,197.8	29.3	29.3	-28.56	345.5	-883.3	731.7	673.3	58.35	12.541		
8,300.0	8,288.6	8,323.5	8,297.3	29.6	29.7	-28.91	345.5	-883.3	723.5	664.5	59.05	12.253		
8,400.0	8,388.2	8,423.1	8,396.9	30.0	30.0	-29.27	345.5	-883.3	715.4	655.6	59.76	11.972		
8,500.0	8,487.8	8,522.6	8,496.5	30.3	30.4	-29.64	345.5	-883.3	707.3	646.8	60.46	11.698		
8,600.0	8,587.3	8,622.2	8,596.0	30.7	30.7	-30.02	345.5	-883.3	699.2	638.0	61.17	11.431		
8,700.0	8,686.9	8,721.8	8,695.6	31.0	31.1	-30.40	345.5	-883.3	691.2	629.3	61.88	11.170		
8,800.0	8,786.5	8,821.3	8,795.2	31.4	31.4	-30.80	345.5	-883.3	683.1	620.6	62.58	10.916		
8,900.0	8,886.0	8,920.9	8,894.7	31.8	31.8	-31.20	345.5	-883.3	675.2	611.9	63.29	10.668		
9,000.0	8,985.6	9,020.5	8,994.3	32.1	32.1	-31.61	345.5	-883.3	667.2	603.2	64.00	10.426		
9,100.0	9,085.2	9,120.0	9,093.9	32.5	32.5	-32.04	345.5	-883.3	659.3	594.6	64.70	10.189		
9,200.0	9,184.7	9,219.6	9,193.4	32.8	32.8	-32.47	345.5	-883.3	651.4	586.0	65.41	9.959		
9,300.0	9,284.3	9,319.2	9,293.0	33.2	33.2	-32.92	345.5	-883.3	643.6	577.5	66.12	9.734		
9,400.0	9,383.9	9,418.7	9,392.6	33.5	33.5	-33.37	345.5	-883.3	635.8	569.0	66.83	9.514		
9,500.0	9,483.4	9,518.3	9,492.1	33.9	33.9	-33.84	345.5	-883.3	628.0	560.5	67.54	9.299		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

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Well Error: 3.0 usft
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Local Co-ordinate Reference: Well PITCHBLENDE FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
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Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLENDE FEDERAL 19-30 457H - OWB - NABORS #1													Offset Site Error: 0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error: 3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,600.0	9,583.0	9,617.9	9,591.7	34.3	34.2	-34.31	345.5	-883.3	620.3	552.1	68.24	9.089	
9,700.0	9,682.6	9,717.4	9,691.3	34.6	34.6	-34.80	345.5	-883.3	612.6	543.7	68.95	8.885	
9,800.0	9,782.1	9,817.0	9,790.8	35.0	34.9	-35.31	345.5	-883.3	605.0	535.3	69.66	8.685	
9,900.0	9,881.7	9,916.6	9,890.4	35.3	35.3	-35.82	345.5	-883.3	597.4	527.1	70.37	8.490	
10,000.0	9,981.3	10,016.1	9,990.0	35.7	35.6	-36.35	345.5	-883.3	589.9	518.8	71.08	8.299	
10,100.0	10,080.8	10,115.7	10,089.5	36.1	36.0	-36.89	345.5	-883.3	582.4	510.6	71.79	8.113	
10,200.0	10,180.4	10,215.3	10,189.1	36.4	36.4	-37.45	345.5	-883.3	575.0	502.5	72.50	7.931	
10,300.0	10,280.0	10,314.8	10,288.7	36.8	36.7	-38.02	345.5	-883.3	567.6	494.4	73.21	7.753	
10,400.0	10,379.5	10,414.4	10,388.2	37.1	37.1	-38.60	345.5	-883.3	560.3	486.4	73.92	7.580	
10,500.0	10,479.1	10,514.0	10,487.8	37.5	37.4	-39.20	345.5	-883.3	553.1	478.4	74.63	7.411	
10,600.0	10,578.7	10,613.5	10,587.4	37.9	37.8	-39.82	345.5	-883.3	545.9	470.5	75.34	7.245	
10,700.0	10,678.2	10,713.1	10,686.9	38.2	38.1	-40.45	345.5	-883.3	538.7	462.7	76.05	7.084	
10,800.0	10,777.8	10,812.7	10,786.5	38.6	38.5	-41.10	345.5	-883.3	531.7	454.9	76.76	6.926	
10,900.0	10,877.4	10,912.2	10,886.1	38.9	38.8	-41.77	345.5	-883.3	524.7	447.2	77.47	6.773	
11,000.0	10,976.9	11,011.8	10,985.6	39.3	39.2	-42.45	345.5	-883.3	517.8	439.6	78.19	6.623	
11,100.0	11,076.5	11,111.4	11,085.2	39.7	39.5	-43.15	345.5	-883.3	510.9	432.0	78.90	6.476	
11,200.0	11,176.1	11,210.9	11,184.8	40.0	39.9	-43.87	345.5	-883.3	504.2	424.6	79.61	6.333	
11,300.0	11,275.6	11,310.5	11,284.3	40.4	40.2	-44.62	345.5	-883.3	497.5	417.2	80.32	6.194	
11,400.0	11,375.2	11,410.1	11,383.9	40.7	40.6	-45.38	345.5	-883.3	490.9	409.9	81.03	6.058	
11,500.0	11,474.8	11,509.6	11,483.5	41.1	41.0	-46.16	345.5	-883.3	484.4	402.7	81.74	5.926	
11,600.0	11,574.3	11,609.2	11,583.0	41.5	41.3	-46.96	345.5	-883.3	478.0	395.5	82.46	5.797	
11,700.0	11,673.9	11,708.8	11,682.6	41.8	41.7	-47.78	345.5	-883.3	471.7	388.5	83.17	5.671	
11,800.0	11,773.5	11,808.3	11,782.2	42.2	42.0	-48.63	345.5	-883.3	465.5	381.6	83.88	5.549	
11,900.0	11,873.0	11,907.9	11,881.7	42.5	42.4	-49.50	345.5	-883.3	459.4	374.8	84.60	5.430	
11,946.3	11,919.1	11,954.0	11,927.8	42.7	42.5	-49.91	345.5	-883.3	456.6	371.6	84.93	5.376	
11,950.0	11,922.8	11,957.7	11,931.5	42.7	42.6	-46.24	345.5	-883.3	456.3	371.4	84.95	5.372	
11,975.0	11,947.7	11,982.6	11,956.4	42.8	42.6	-9.79	345.5	-883.3	454.7	369.6	85.13	5.342	
12,000.0	11,972.7	12,007.5	11,981.4	42.9	42.7	29.33	345.5	-883.3	453.0	367.7	85.30	5.310	
12,025.0	11,997.5	12,032.4	12,006.2	43.0	42.8	50.27	345.5	-883.3	451.1	365.6	85.48	5.278	
12,050.0	12,022.3	12,057.2	12,031.0	43.1	42.9	60.90	345.5	-883.3	449.1	363.5	85.64	5.244	
12,075.0	12,046.8	12,081.7	12,055.5	43.1	43.0	67.27	345.5	-883.3	447.0	361.2	85.81	5.210	
12,100.0	12,071.1	12,106.0	12,079.8	43.2	43.1	71.72	345.5	-883.3	444.9	358.9	85.97	5.175	
12,125.0	12,095.0	12,129.9	12,103.7	43.3	43.2	75.19	345.5	-883.3	442.8	356.7	86.13	5.141	
12,150.0	12,118.6	12,153.5	12,132.3	43.4	43.3	78.14	345.5	-883.3	440.8	354.5	86.29	5.108	
12,175.0	12,141.6	12,176.5	12,150.3	43.4	43.3	80.76	345.5	-883.3	438.9	352.4	86.44	5.077	
12,200.0	12,164.2	12,199.1	12,172.9	43.5	43.4	83.23	345.5	-883.3	437.2	350.6	86.59	5.049	
12,225.0	12,186.2	12,221.0	12,194.9	43.5	43.5	85.54	345.5	-883.3	435.9	349.2	86.73	5.026	
12,250.0	12,207.5	12,242.4	12,216.2	43.6	43.6	87.75	345.5	-883.3	435.0	348.1	86.87	5.007	
12,275.0	12,228.1	12,264.3	12,238.1	43.7	43.6	89.92	345.2	-883.3	434.6	347.6	87.01	4.995	
12,280.9	12,232.8	12,269.6	12,243.4	43.7	43.7	90.42	345.0	-883.3	434.6	347.6	87.04	4.993 CC	
12,300.0	12,247.9	12,287.2	12,261.0	43.7	43.7	92.03	343.9	-883.3	434.8	347.6	87.14	4.989	
12,325.0	12,267.0	12,310.8	12,284.4	43.8	43.8	94.07	341.3	-883.3	435.4	348.2	87.26	4.990	
12,350.0	12,285.1	12,335.2	12,308.5	43.8	43.9	96.06	337.5	-883.2	436.6	349.2	87.37	4.997	
12,375.0	12,302.4	12,360.5	12,333.2	43.8	43.9	97.99	332.3	-883.2	438.3	350.8	87.46	5.011	
12,400.0	12,318.6	12,386.7	12,358.6	43.9	44.0	99.89	325.4	-883.1	440.5	353.0	87.52	5.033	
12,425.0	12,333.9	12,414.1	12,384.5	43.9	44.1	101.75	316.8	-883.0	443.2	355.6	87.53	5.063	
12,450.0	12,348.1	12,442.6	12,411.1	43.9	44.2	103.58	306.3	-882.9	446.3	358.8	87.49	5.101	
12,475.0	12,361.2	12,472.5	12,438.1	43.9	44.3	105.38	293.6	-882.8	449.9	362.5	87.38	5.148	
12,500.0	12,373.2	12,503.9	12,465.6	44.0	44.3	107.17	278.4	-882.7	453.8	366.6	87.18	5.205	
12,525.0	12,384.0	12,537.0	12,493.5	44.0	44.4	108.92	260.5	-882.5	458.0	371.1	86.89	5.271	
12,550.0	12,393.7	12,572.0	12,521.4	44.0	44.5	110.66	239.6	-882.3	462.5	376.0	86.49	5.347	
12,575.0	12,402.1	12,609.0	12,549.3	44.0	44.6	112.36	215.3	-882.1	467.1	381.1	85.99	5.432	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLEND FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore: OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLEND FEDERAL 19-30 457H - OWB - NABORS #1													Offset Site Error: 0.0 usft	
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error: 3.0 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
12,600.0	12,409.3	12,648.2	12,576.7	44.1	44.6	114.01	187.2	-881.8	471.8	386.4	85.37	5.526		
12,625.0	12,415.2	12,689.7	12,603.1	44.1	44.7	115.61	155.1	-881.5	476.5	391.8	84.67	5.628		
12,650.0	12,419.8	12,733.8	12,627.9	44.1	44.7	117.12	118.7	-881.1	481.0	397.1	83.89	5.734		
12,675.0	12,423.2	12,780.4	12,650.4	44.1	44.8	118.52	77.9	-880.7	485.3	402.2	83.09	5.840		
12,700.0	12,425.2	12,829.7	12,669.7	44.1	44.8	119.77	32.7	-880.3	489.2	406.9	82.33	5.942		
12,723.0	12,426.0	12,877.0	12,683.8	44.1	44.9	120.75	-12.5	-879.9	492.3	410.6	81.71	6.025		
12,800.0	12,426.6	13,017.5	12,699.2	44.2	45.0	122.16	-151.7	-878.6	495.8	414.7	81.14	6.110		
12,900.0	12,427.4	13,117.5	12,700.0	44.2	45.1	122.16	-251.7	-877.6	495.8	414.6	81.26	6.102		
13,000.0	12,428.2	13,217.5	12,700.8	44.3	45.2	122.16	-351.7	-876.7	495.8	414.4	81.41	6.090		
13,100.0	12,429.0	13,317.5	12,701.7	44.4	45.3	122.16	-451.7	-875.7	495.8	414.2	81.60	6.077		
13,200.0	12,429.9	13,417.5	12,702.5	44.5	45.4	122.16	-551.7	-874.7	495.8	414.0	81.82	6.060		
13,300.0	12,430.7	13,517.5	12,703.3	44.6	45.5	122.16	-651.7	-873.8	495.8	413.8	82.07	6.042		
13,400.0	12,431.5	13,617.5	12,704.1	44.7	45.6	122.16	-751.7	-872.8	495.8	413.5	82.36	6.021		
13,500.0	12,432.3	13,717.5	12,704.9	44.9	45.8	122.16	-851.7	-871.9	495.8	413.2	82.68	5.997		
13,600.0	12,433.1	13,817.5	12,705.8	45.0	46.0	122.16	-951.7	-870.9	495.9	412.8	83.03	5.972		
13,700.0	12,433.9	13,917.5	12,706.6	45.2	46.1	122.16	-1,051.7	-870.0	495.9	412.4	83.42	5.944		
13,800.0	12,434.8	14,017.5	12,707.4	45.4	46.4	122.16	-1,151.7	-869.0	495.9	412.0	83.84	5.915		
13,900.0	12,435.6	14,117.5	12,708.2	45.6	46.6	122.16	-1,251.7	-868.1	495.9	411.6	84.29	5.883		
14,000.0	12,436.4	14,217.5	12,709.1	45.8	46.8	122.16	-1,351.7	-867.1	495.9	411.1	84.77	5.850		
14,100.0	12,437.2	14,317.5	12,709.9	46.1	47.0	122.16	-1,451.6	-866.2	495.9	410.6	85.28	5.815		
14,200.0	12,438.0	14,417.5	12,710.7	46.3	47.3	122.16	-1,551.6	-865.2	495.9	410.1	85.82	5.778		
14,300.0	12,438.8	14,517.5	12,711.5	46.6	47.6	122.16	-1,651.6	-864.3	495.9	409.5	86.40	5.740		
14,400.0	12,439.7	14,617.5	12,712.3	46.8	47.9	122.16	-1,751.6	-863.3	495.9	408.9	87.00	5.700		
14,500.0	12,440.5	14,717.5	12,713.2	47.1	48.2	122.16	-1,851.6	-862.4	495.9	408.3	87.63	5.659		
14,600.0	12,441.3	14,817.5	12,714.0	47.4	48.5	122.16	-1,951.6	-861.4	495.9	407.6	88.28	5.617		
14,700.0	12,442.1	14,917.5	12,714.8	47.8	48.8	122.17	-2,051.6	-860.4	495.9	407.0	88.97	5.574		
14,800.0	12,442.9	15,017.5	12,715.6	48.1	49.2	122.17	-2,151.6	-859.5	495.9	406.3	89.68	5.530		
14,900.0	12,443.7	15,117.5	12,716.5	48.5	49.5	122.17	-2,251.6	-858.5	495.9	405.5	90.41	5.485		
15,000.0	12,444.6	15,217.5	12,717.3	48.8	49.9	122.17	-2,351.6	-857.6	495.9	404.8	91.18	5.439		
15,100.0	12,445.4	15,317.5	12,718.1	49.2	50.3	122.17	-2,451.6	-856.6	495.9	404.0	91.96	5.393		
15,200.0	12,446.2	15,417.5	12,718.9	49.6	50.7	122.17	-2,551.6	-855.7	496.0	403.2	92.77	5.346		
15,300.0	12,447.0	15,517.5	12,719.7	50.0	51.1	122.17	-2,651.6	-854.7	496.0	402.4	93.61	5.298		
15,400.0	12,447.8	15,617.5	12,720.6	50.4	51.5	122.17	-2,751.5	-853.8	496.0	401.5	94.46	5.250		
15,500.0	12,448.6	15,717.5	12,721.4	50.8	51.9	122.17	-2,851.5	-852.8	496.0	400.6	95.34	5.202		
15,600.0	12,449.5	15,817.5	12,722.2	51.2	52.3	122.17	-2,951.5	-851.9	496.0	399.7	96.24	5.153		
15,700.0	12,450.3	15,917.5	12,723.0	51.7	52.8	122.17	-3,051.5	-850.9	496.0	398.8	97.16	5.105		
15,800.0	12,451.1	16,017.5	12,723.9	52.1	53.2	122.17	-3,151.5	-850.0	496.0	397.9	98.11	5.056		
15,900.0	12,451.9	16,117.5	12,724.7	52.6	53.7	122.17	-3,251.5	-849.0	496.0	396.9	99.07	5.007		
16,000.0	12,452.7	16,217.5	12,725.5	53.1	54.2	122.17	-3,351.5	-848.1	496.0	396.0	100.05	4.958		
16,100.0	12,453.5	16,317.5	12,726.3	53.5	54.7	122.17	-3,451.5	-847.1	496.0	395.0	101.05	4.909		
16,200.0	12,454.4	16,417.5	12,727.1	54.0	55.2	122.17	-3,551.5	-846.2	496.0	393.9	102.06	4.860		
16,300.0	12,455.2	16,517.5	12,728.0	54.5	55.7	122.17	-3,651.5	-845.2	496.0	392.9	103.10	4.811		
16,400.0	12,456.0	16,617.5	12,728.8	55.0	56.2	122.17	-3,751.5	-844.2	496.0	391.9	104.15	4.763		
16,500.0	12,456.8	16,717.5	12,729.6	55.6	56.7	122.17	-3,851.5	-843.3	496.0	390.8	105.22	4.714		
16,600.0	12,457.6	16,817.5	12,730.4	56.1	57.2	122.17	-3,951.4	-842.3	496.0	389.7	106.30	4.666		
16,700.0	12,458.4	16,917.5	12,731.2	56.6	57.8	122.17	-4,051.4	-841.4	496.0	388.6	107.40	4.618		
16,800.0	12,459.3	17,017.5	12,732.1	57.2	58.3	122.17	-4,151.4	-840.4	496.0	387.5	108.52	4.571		
16,900.0	12,460.1	17,117.5	12,732.9	57.7	58.9	122.17	-4,251.4	-839.5	496.1	386.4	109.65	4.524		
17,000.0	12,460.9	17,217.5	12,733.7	58.3	59.4	122.17	-4,351.4	-838.5	496.1	385.3	110.79	4.477		
17,100.0	12,461.7	17,317.5	12,734.5	58.9	60.0	122.17	-4,451.4	-837.6	496.1	384.1	111.95	4.431		
17,200.0	12,462.5	17,417.5	12,735.4	59.4	60.6	122.17	-4,551.4	-836.6	496.1	383.0	113.12	4.385		
17,300.0	12,463.3	17,517.5	12,736.2	60.0	61.2	122.17	-4,651.4	-835.7	496.1	381.8	114.31	4.340		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLENDE FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore: OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLENDE FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - PITCHBLENDE FEDERAL 19-30 457H - OWB - NABORS #1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
17,400.0	12,464.2	17,617.5	12,737.0	60.6	61.8	122.17	-4,751.4	-834.7	496.1	380.6	115.50	4.295		
17,500.0	12,465.0	17,717.5	12,737.8	61.2	62.4	122.17	-4,851.4	-833.8	496.1	379.4	116.71	4.251		
17,600.0	12,465.8	17,817.5	12,738.6	61.8	63.0	122.17	-4,951.4	-832.8	496.1	378.2	117.93	4.207		
17,700.0	12,466.6	17,917.5	12,739.5	62.4	63.6	122.17	-5,051.4	-831.9	496.1	376.9	119.16	4.163		
17,800.0	12,467.4	18,017.5	12,740.3	63.0	64.2	122.17	-5,151.4	-830.9	496.1	375.7	120.41	4.120		
17,900.0	12,468.2	18,117.5	12,741.1	63.6	64.8	122.17	-5,251.3	-829.9	496.1	374.5	121.66	4.078		
18,000.0	12,469.1	18,217.5	12,741.9	64.3	65.4	122.17	-5,351.3	-829.0	496.1	373.2	122.92	4.036		
18,100.0	12,469.9	18,317.5	12,742.8	64.9	66.1	122.17	-5,451.3	-828.0	496.1	371.9	124.20	3.995		
18,200.0	12,470.7	18,417.5	12,743.6	65.5	66.7	122.18	-5,551.3	-827.1	496.1	370.7	125.48	3.954		
18,300.0	12,471.5	18,517.5	12,744.4	66.2	67.3	122.18	-5,651.3	-826.1	496.1	369.4	126.77	3.914		
18,400.0	12,472.3	18,617.5	12,745.2	66.8	68.0	122.18	-5,751.3	-825.2	496.1	368.1	128.07	3.874		
18,500.0	12,473.1	18,717.5	12,746.0	67.5	68.6	122.18	-5,851.3	-824.2	496.2	366.8	129.39	3.835		
18,600.0	12,474.0	18,817.5	12,746.9	68.1	69.3	122.18	-5,951.3	-823.3	496.2	365.5	130.71	3.796		
18,700.0	12,474.8	18,917.5	12,747.7	68.8	69.9	122.18	-6,051.3	-822.3	496.2	364.1	132.03	3.758		
18,800.0	12,475.6	19,017.5	12,748.5	69.4	70.6	122.18	-6,151.3	-821.4	496.2	362.8	133.37	3.720		
18,900.0	12,476.4	19,117.5	12,749.3	70.1	71.3	122.18	-6,251.3	-820.4	496.2	361.5	134.71	3.683		
19,000.0	12,477.2	19,217.5	12,750.2	70.8	71.9	122.18	-6,351.3	-819.5	496.2	360.1	136.06	3.647		
19,100.0	12,478.0	19,317.5	12,751.0	71.5	72.6	122.18	-6,451.3	-818.5	496.2	358.8	137.42	3.611		
19,200.0	12,478.9	19,417.5	12,751.8	72.1	73.3	122.18	-6,551.2	-817.6	496.2	357.4	138.79	3.575		
19,300.0	12,479.7	19,517.5	12,752.6	72.8	74.0	122.18	-6,651.2	-816.6	496.2	356.0	140.16	3.540		
19,400.0	12,480.5	19,617.5	12,753.4	73.5	74.7	122.18	-6,751.2	-815.6	496.2	354.7	141.54	3.506		
19,500.0	12,481.3	19,717.5	12,754.3	74.2	75.4	122.18	-6,851.2	-814.7	496.2	353.3	142.93	3.472		
19,600.0	12,482.1	19,817.5	12,755.1	74.9	76.1	122.18	-6,951.2	-813.7	496.2	351.9	144.32	3.438		
19,700.0	12,482.9	19,917.5	12,755.9	75.6	76.8	122.18	-7,051.2	-812.8	496.2	350.5	145.72	3.405		
19,800.0	12,483.8	20,017.5	12,756.7	76.3	77.5	122.18	-7,151.2	-811.8	496.2	349.1	147.13	3.373		
19,900.0	12,484.6	20,117.5	12,757.5	77.0	78.2	122.18	-7,251.2	-810.9	496.2	347.7	148.54	3.341		
20,000.0	12,485.4	20,217.5	12,758.4	77.7	78.9	122.18	-7,351.2	-809.9	496.2	346.3	149.95	3.309		
20,075.1	12,486.0	20,292.6	12,759.0	78.2	79.4	122.18	-7,426.2	-809.2	496.2	345.2	151.02	3.286 ES, SF		

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Reference Site: BULLDOG
 Site Error: 0.0 usft
 Reference Well: PITCHBLEND FEDERAL 19-30 38H
 Well Error: 3.0 usft
 Reference Wellbore: OWB
 Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
 TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: edm
 Offset TVD Reference: Offset Datum

Offset Design BULLDOG - SQUARE BILL FED COM #1H - OWB - ACTUAL WELLPATH														Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 11855-MWD+IFR1+MS														Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
19,500.0	12,481.3	19,779.0	12,430.7	74.2	60.4	-89.79	-7,689.0	117.9	983.8	890.6	93.14	10.562			
19,600.0	12,482.1	19,779.0	12,430.7	74.9	60.4	-89.79	-7,689.0	117.9	899.4	802.1	97.27	9.246			
19,700.0	12,482.9	19,779.0	12,430.7	75.6	60.4	-89.79	-7,689.0	117.9	818.5	716.3	102.21	8.008			
19,800.0	12,483.8	19,779.0	12,430.7	76.3	60.4	-89.79	-7,689.0	117.9	742.3	634.3	108.07	6.869			
19,900.0	12,484.6	19,779.0	12,430.7	77.0	60.4	-89.79	-7,689.0	117.9	672.4	557.6	114.86	5.855			
20,000.0	12,485.4	19,779.0	12,430.7	77.7	60.4	-89.79	-7,689.0	117.9	611.0	488.6	122.35	4.994			
20,075.1	12,486.0	19,779.0	12,430.7	78.2	60.4	-89.79	-7,689.0	117.9	572.0	443.9	128.07	4.467	CC, ES, SF		

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Reference Site: BULLDOG
Site Error: 0.0 usft
Reference Well: PITCHBLENDE FEDERAL 19-30 38H
Well Error: 3.0 usft
Reference Wellbore: OWB
Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLENDE FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: edm
Offset TVD Reference: Offset Datum

Offset Design BULLDOG - SQUARE BILL FED COM #21Y - OWB - ACTUAL WELLPATH													Offset Site Error:	0.0 usft
Survey Program: 10-Standard Keeper 104, 15088-MWD+IFR1+MS													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
20,000.0	12,485.4	19,982.0	12,631.4	77.7	53.5	-103.10	-7,732.9	468.8	962.0	837.5	124.52	7.726		
20,075.1	12,486.0	19,982.0	12,631.4	78.2	53.5	-103.10	-7,732.9	468.8	933.8	808.1	125.79	7.424	CC, ES, SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Reference Site: BULLDOG
 Site Error: 0.0 usft
 Reference Well: PITCHBLEND FEDERAL 19-30 38H
 Well Error: 3.0 usft
 Reference Wellbore: OWB
 Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
 TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: edm
 Offset TVD Reference: Offset Datum

Offset Design BULLDOG - SQUARE BILL FED COM #22H - OWB - ACTUAL WELLPATH													Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104. 11856-MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,400.0	12,480.5	20,115.0	12,548.1	73.5	61.0	-119.48	-7,675.5	-180.9	958.7	885.1	73.59	13.029		
19,500.0	12,481.3	20,115.0	12,548.1	74.2	61.0	-119.48	-7,675.5	-180.9	862.2	787.0	75.22	11.462		
19,600.0	12,482.1	20,115.0	12,548.1	74.9	61.0	-119.48	-7,675.5	-180.9	766.5	689.1	77.39	9.904		
19,700.0	12,482.9	20,115.0	12,548.1	75.6	61.0	-119.48	-7,675.5	-180.9	672.1	591.7	80.37	8.362		
19,800.0	12,483.8	20,115.0	12,548.1	76.3	61.0	-119.48	-7,675.5	-180.9	579.6	495.0	84.55	6.854		
19,900.0	12,484.6	20,115.0	12,548.1	77.0	61.0	-119.48	-7,675.5	-180.9	490.0	399.4	90.59	5.409		
20,000.0	12,485.4	20,115.0	12,548.1	77.7	61.0	-119.48	-7,675.5	-180.9	405.3	305.9	99.42	4.077		
20,075.1	12,485.0	20,115.0	12,548.1	78.2	61.0	-119.48	-7,675.5	-180.9	347.1	238.6	108.55	3.198 CC, ES, SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Reference Site: BULLDOG
 Site Error: 0.0 usft
 Reference Well: PITCHBLENDE FEDERAL 19-30 38H
 Well Error: 3.0 usft
 Reference Wellbore: OWB
 Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLENDE FEDERAL 19-30 38H
 TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: edm
 Offset TVD Reference: Offset Datum

Offset Design BULLDOG - SQUARE BILL FED COM #23H - ST01 - ST01 - ACTUAL WELLPATH													Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 11866-MWD+IFR1+MS													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference Semi Major Axis (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
19,500.0	12,481.3	20,110.0	12,603.7	74.2	64.5	110.27	-7,691.3	-850.6	973.9	883.2	90.69	10.738		
19,600.0	12,482.1	20,110.0	12,603.7	74.9	64.5	110.27	-7,691.3	-850.6	889.2	794.1	95.09	9.351		
19,700.0	12,482.9	20,110.0	12,603.7	75.6	64.5	110.27	-7,691.3	-850.6	808.0	707.6	100.41	8.047		
19,800.0	12,483.8	20,110.0	12,603.7	76.3	64.5	110.27	-7,691.3	-850.6	731.5	624.7	106.81	6.849		
19,900.0	12,484.6	20,110.0	12,603.7	77.0	64.5	110.27	-7,691.3	-850.6	661.3	546.9	114.32	5.784		
20,000.0	12,485.4	20,110.0	12,603.7	77.7	64.5	110.27	-7,691.3	-850.6	599.6	476.8	122.77	4.884		
20,075.1	12,486.0	20,110.0	12,603.7	78.2	64.5	110.27	-7,691.3	-850.6	560.6	431.2	129.36	4.333	CC, ES, SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

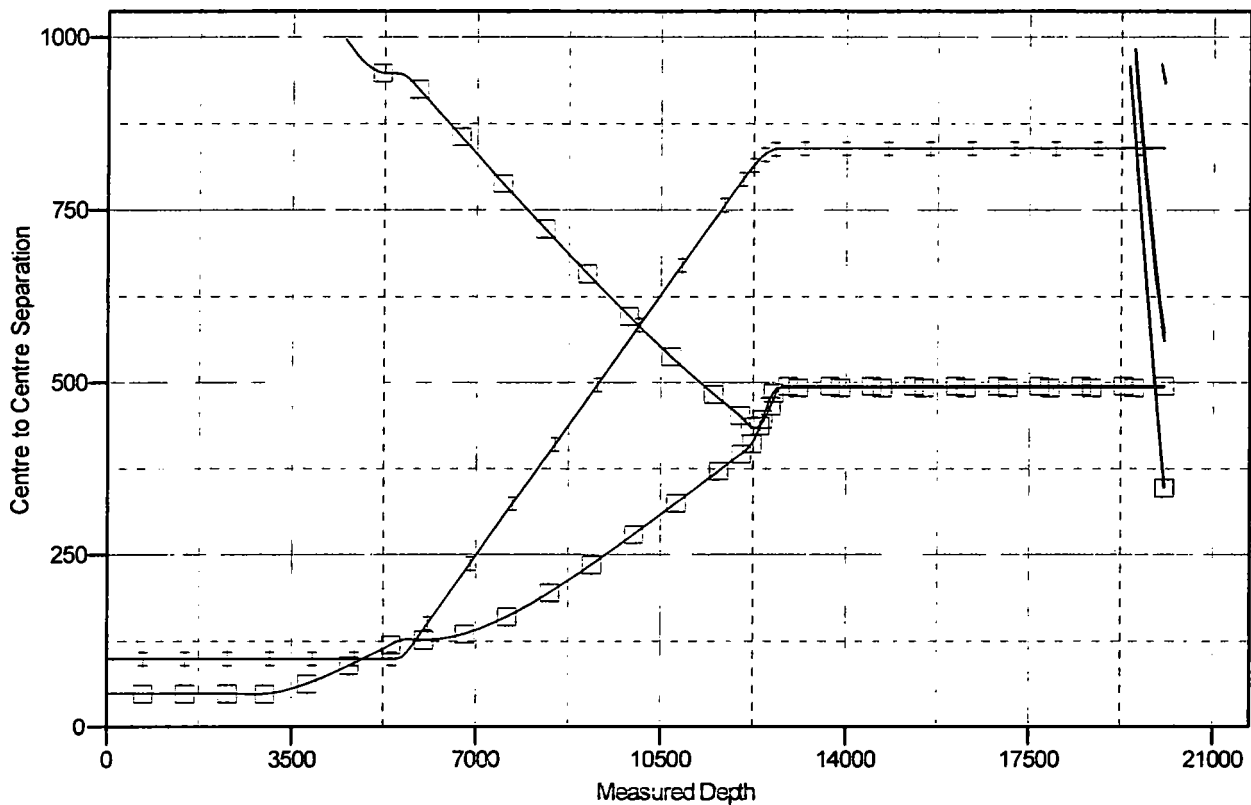
Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Reference Site: BULLDOG
 Site Error: 0.0 usft
 Reference Well: PITCHBLEND FEDERAL 19-30 38H
 Well Error: 3.0 usft
 Reference Wellbore: OWB
 Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
 TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: edm
 Offset TVD Reference: Offset Datum

Reference Depths are relative to KB=26' @ 3356.0usft (MCVAY 8)
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PITCHBLEND FEDERAL 19-30 38H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.50°

Ladder Plot



LEGEND

PITCHBLEND FEDERAL 19-30 38H, OWB, PWP1 VD
 PITCHBLEND FEDERAL 19-30 38H, OWB, PWP1 VD
 PITCHBLEND FEDERAL 19-30 45H, OWB, NABORS 91 VD

SQUARE BLUFED COM #2H, ST01, ST01, ACTUAL WELLPATH VD
 SQUARE BLUFED COM #1H, OWB, ACTUAL WELLPATH VD
 SQUARE BLUFED COM #2H, OWB, ACTUAL WELLPATH VD

SQUARE BLUFED COM #2H, OWB, ACTUAL WELLPATH VD

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

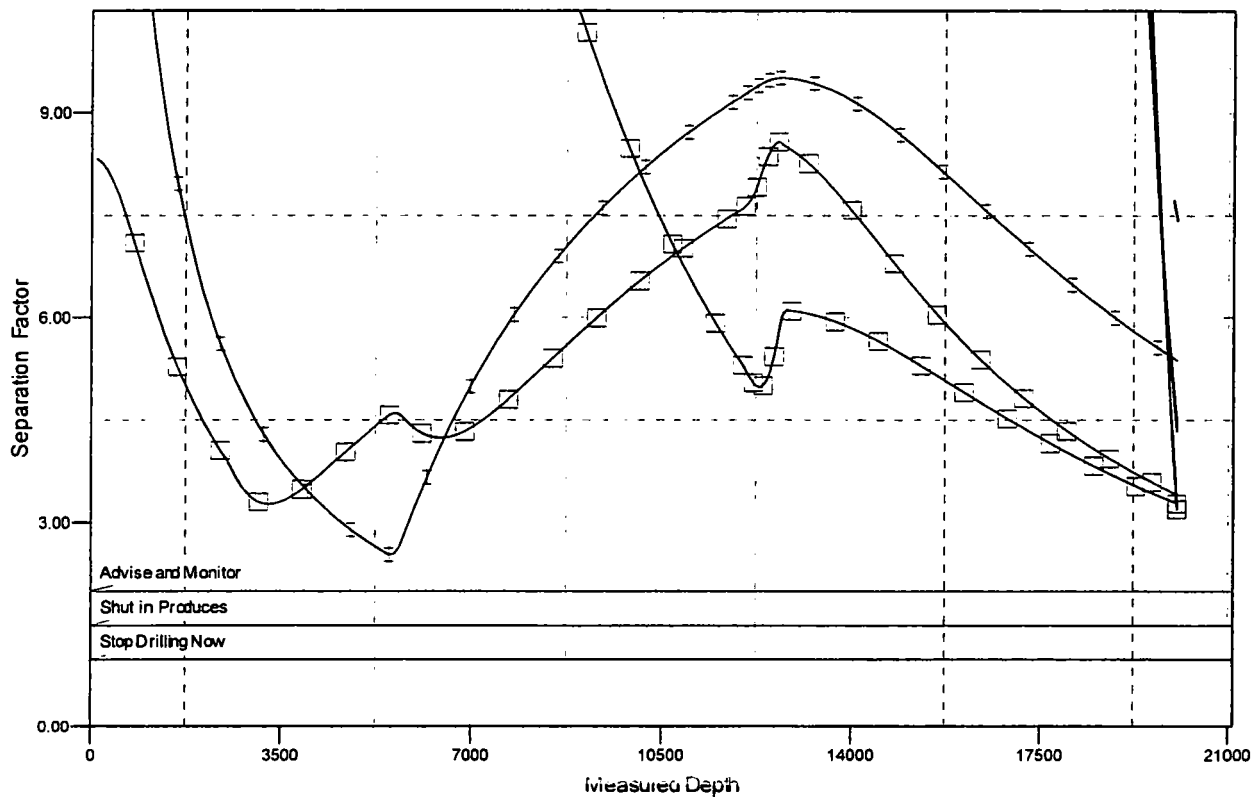
Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Reference Site: BULLDOG
 Site Error: 0.0 usft
 Reference Well: PITCHBLEND FEDERAL 19-30 38H
 Well Error: 3.0 usft
 Reference Wellbore: OWB
 Reference Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
 TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: edm
 Offset TVD Reference: Offset Datum

Reference Depths are relative to KB=26' @ 3356.0usft (MCVAY 8)
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PITCHBLEND FEDERAL 19-30 38H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.50°

Separation Factor Plot



LEGEND

PITCHBLEND FEDERAL 19-30 20H, OWB, PWP1 V0
 PITCHBLEND FEDERAL 19-30 32H, OWB, PWP1 V0
 PITCHBLEND FEDERAL 19-30 45H, OWB, NABORS #1 V0

SQUARE BELFED COM #24, STD, STD, ACTUAL WELLPATH V0
 SQUARE BELFED COM #14, OWB, ACTUAL WELLPATH V0
 SQUARE BELFED COM #14, OWB, ACTUAL WELLPATH V0

SQUARE BELFED COM #24, OWB, ACTUAL WELLPATH V0

NORTHERN DELAWARE BASIN

LEA COUNTY, NM

BULLDOG

PITCHBLEND FEDERAL 19-30 38H

OWB

Plan: PWP1

Standard Survey Report

08 January, 2020

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well PITCHBLENDE FEDERAL 19-30 38H
Project:	LEA COUNTY, NM	TVD Reference:	KB=26' @ 3356.0usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	KB=26' @ 3356.0usft (MCVAY 8)
Well:	PITCHBLENDE FEDERAL 19-30 38H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Project	LEA COUNTY, NM		
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	PITCHBLENDE FEDERAL 19-30 38H				
Well Position	+N/-S	0.0 usft	Northing:	409,280.80 usft	Latitude: 32° 7' 18.439 N
	+E/-W	0.0 usft	Easting:	788,974.90 usft	Longitude: 103° 23' 59.721 W
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft	Ground Level: 3,330.0 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/6/2020	6.59	59.96	47,633.24227695

Design PWP1

Audit Notes:

Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	183.00

Survey Tool Program Date 1/8/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	20,075.1	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Site: BULLDOG
 Well: PITCHBLENDE FEDERAL 19-30 38H
 Wellbore: OWB
 Design: PWP1

Local Co-ordinate Reference: Well PITCHBLENDE FEDERAL 19-30 38H
 TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: edm

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)
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
5,600.0	2.00	312.93	5,600.0	1.2	-1.3	-1.1	2.00	2.00	0.00
5,700.0	4.00	312.93	5,699.8	4.8	-5.1	-4.5	2.00	2.00	0.00

Concho Resources LLC

Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: PITCHBLEND FEDERAL 19-30 38H
Wellbore: OWB
Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: edm

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)
5,766.9	5.34	312.93	5,766.5	8.5	-9.1	-8.0	2.00	2.00	0.00
Start 6179.4 hold at 5766.9 MD									
5,800.0	5.34	312.93	5,799.5	10.6	-11.4	-10.0	0.00	0.00	0.00
5,900.0	5.34	312.93	5,899.0	16.9	-18.2	-15.9	0.00	0.00	0.00
6,000.0	5.34	312.93	5,998.6	23.2	-25.0	-21.9	0.00	0.00	0.00
6,100.0	5.34	312.93	6,098.2	29.6	-31.8	-27.9	0.00	0.00	0.00
6,200.0	5.34	312.93	6,197.7	35.9	-38.6	-33.8	0.00	0.00	0.00
6,300.0	5.34	312.93	6,297.3	42.2	-45.4	-39.8	0.00	0.00	0.00
6,400.0	5.34	312.93	6,396.9	48.6	-52.2	-45.8	0.00	0.00	0.00
6,500.0	5.34	312.93	6,496.4	54.9	-59.0	-51.7	0.00	0.00	0.00
6,600.0	5.34	312.93	6,596.0	61.2	-65.8	-57.7	0.00	0.00	0.00
6,700.0	5.34	312.93	6,695.6	67.6	-72.7	-63.7	0.00	0.00	0.00
6,800.0	5.34	312.93	6,795.1	73.9	-79.5	-69.7	0.00	0.00	0.00
6,900.0	5.34	312.93	6,894.7	80.3	-86.3	-75.6	0.00	0.00	0.00
7,000.0	5.34	312.93	6,994.3	86.6	-93.1	-81.6	0.00	0.00	0.00
7,100.0	5.34	312.93	7,093.8	92.9	-99.9	-87.6	0.00	0.00	0.00
7,200.0	5.34	312.93	7,193.4	99.3	-106.7	-93.5	0.00	0.00	0.00
7,300.0	5.34	312.93	7,293.0	105.6	-113.5	-99.5	0.00	0.00	0.00
7,400.0	5.34	312.93	7,392.5	111.9	-120.3	-105.5	0.00	0.00	0.00
7,500.0	5.34	312.93	7,492.1	118.3	-127.1	-111.5	0.00	0.00	0.00
7,600.0	5.34	312.93	7,591.7	124.6	-134.0	-117.4	0.00	0.00	0.00
7,700.0	5.34	312.93	7,691.2	130.9	-140.8	-123.4	0.00	0.00	0.00
7,800.0	5.34	312.93	7,790.8	137.3	-147.6	-129.4	0.00	0.00	0.00
7,900.0	5.34	312.93	7,890.4	143.6	-154.4	-135.3	0.00	0.00	0.00
8,000.0	5.34	312.93	7,989.9	150.0	-161.2	-141.3	0.00	0.00	0.00
8,100.0	5.34	312.93	8,089.5	156.3	-168.0	-147.3	0.00	0.00	0.00
8,200.0	5.34	312.93	8,189.1	162.6	-174.8	-153.3	0.00	0.00	0.00
8,300.0	5.34	312.93	8,288.6	169.0	-181.6	-159.2	0.00	0.00	0.00
8,400.0	5.34	312.93	8,388.2	175.3	-188.4	-165.2	0.00	0.00	0.00
8,500.0	5.34	312.93	8,487.8	181.6	-195.3	-171.2	0.00	0.00	0.00
8,600.0	5.34	312.93	8,587.3	188.0	-202.1	-177.1	0.00	0.00	0.00
8,700.0	5.34	312.93	8,686.9	194.3	-208.9	-183.1	0.00	0.00	0.00
8,800.0	5.34	312.93	8,786.5	200.6	-215.7	-189.1	0.00	0.00	0.00
8,900.0	5.34	312.93	8,886.0	207.0	-222.5	-195.0	0.00	0.00	0.00
9,000.0	5.34	312.93	8,985.6	213.3	-229.3	-201.0	0.00	0.00	0.00
9,100.0	5.34	312.93	9,085.2	219.7	-236.1	-207.0	0.00	0.00	0.00
9,200.0	5.34	312.93	9,184.7	226.0	-242.9	-213.0	0.00	0.00	0.00
9,300.0	5.34	312.93	9,284.3	232.3	-249.8	-218.9	0.00	0.00	0.00
9,400.0	5.34	312.93	9,383.9	238.7	-256.6	-224.9	0.00	0.00	0.00
9,500.0	5.34	312.93	9,483.4	245.0	-263.4	-230.9	0.00	0.00	0.00
9,600.0	5.34	312.93	9,583.0	251.3	-270.2	-236.8	0.00	0.00	0.00
9,700.0	5.34	312.93	9,682.6	257.7	-277.0	-242.8	0.00	0.00	0.00
9,800.0	5.34	312.93	9,782.1	264.0	-283.8	-248.8	0.00	0.00	0.00

Concho Resources LLC

Survey Report

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Project: LEA COUNTY, NM
Site: BULLDOG
Well: PITCHBLEND FEDERAL 19-30 38H
Wellbore: OWB
Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: edm

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)
9,900.0	5.34	312.93	9,881.7	270.3	-290.6	-254.8	0.00	0.00	0.00
10,000.0	5.34	312.93	9,981.3	276.7	-297.4	-260.7	0.00	0.00	0.00
10,100.0	5.34	312.93	10,080.8	283.0	-304.2	-266.7	0.00	0.00	0.00
10,200.0	5.34	312.93	10,180.4	289.4	-311.1	-272.7	0.00	0.00	0.00
10,300.0	5.34	312.93	10,280.0	295.7	-317.9	-278.6	0.00	0.00	0.00
10,400.0	5.34	312.93	10,379.5	302.0	-324.7	-284.6	0.00	0.00	0.00
10,500.0	5.34	312.93	10,479.1	308.4	-331.5	-290.6	0.00	0.00	0.00
10,600.0	5.34	312.93	10,578.7	314.7	-338.3	-296.6	0.00	0.00	0.00
10,700.0	5.34	312.93	10,678.2	321.0	-345.1	-302.5	0.00	0.00	0.00
10,800.0	5.34	312.93	10,777.8	327.4	-351.9	-308.5	0.00	0.00	0.00
10,900.0	5.34	312.93	10,877.4	333.7	-358.7	-314.5	0.00	0.00	0.00
11,000.0	5.34	312.93	10,976.9	340.0	-365.5	-320.4	0.00	0.00	0.00
11,100.0	5.34	312.93	11,076.5	346.4	-372.4	-326.4	0.00	0.00	0.00
11,200.0	5.34	312.93	11,176.1	352.7	-379.2	-332.4	0.00	0.00	0.00
11,300.0	5.34	312.93	11,275.6	359.1	-386.0	-338.4	0.00	0.00	0.00
11,400.0	5.34	312.93	11,375.2	365.4	-392.8	-344.3	0.00	0.00	0.00
11,500.0	5.34	312.93	11,474.8	371.7	-399.6	-350.3	0.00	0.00	0.00
11,600.0	5.34	312.93	11,574.3	378.1	-406.4	-356.3	0.00	0.00	0.00
11,700.0	5.34	312.93	11,673.9	384.4	-413.2	-362.2	0.00	0.00	0.00
11,800.0	5.34	312.93	11,773.5	390.7	-420.0	-368.2	0.00	0.00	0.00
11,900.0	5.34	312.93	11,873.0	397.1	-426.8	-374.2	0.00	0.00	0.00
11,946.3	5.34	312.93	11,919.1	400.0	-430.0	-376.9	0.00	0.00	0.00
Start DLS 12.00 TFO -133.39									
12,000.0	4.77	233.79	11,972.7	400.4	-433.6	-377.1	12.00	-1.07	-147.32
12,100.0	15.26	193.80	12,071.1	385.1	-440.1	-361.5	12.00	10.50	-39.99
12,200.0	27.03	187.05	12,164.2	349.6	-446.1	-325.8	12.00	11.77	-6.75
12,300.0	38.94	184.23	12,247.9	295.5	-451.2	-271.5	12.00	11.90	-2.82
12,400.0	50.88	182.58	12,318.6	225.2	-455.3	-201.0	12.00	11.94	-1.65
12,500.0	62.84	181.41	12,373.2	141.7	-458.2	-117.5	12.00	11.96	-1.17
12,600.0	74.81	180.47	12,409.3	48.6	-459.7	-24.5	12.00	11.97	-0.94
12,700.0	86.78	179.64	12,425.2	-49.9	-459.7	73.9	12.00	11.97	-0.84
12,723.0	89.53	179.45	12,426.0	-72.9	-459.6	96.9	12.00	11.97	-0.81
Start 7352.1 hold at 12723.0 MD									
12,800.0	89.53	179.45	12,426.6	-149.9	-458.8	173.7	0.00	0.00	0.00
12,900.0	89.53	179.45	12,427.4	-249.9	-457.9	273.5	0.00	0.00	0.00
13,000.0	89.53	179.45	12,428.2	-349.9	-456.9	373.3	0.00	0.00	0.00
13,100.0	89.53	179.45	12,429.0	-449.9	-456.0	473.1	0.00	0.00	0.00
13,200.0	89.53	179.45	12,429.9	-549.9	-455.0	573.0	0.00	0.00	0.00
13,300.0	89.53	179.45	12,430.7	-649.9	-454.0	672.8	0.00	0.00	0.00
13,400.0	89.53	179.45	12,431.5	-749.9	-453.1	772.6	0.00	0.00	0.00
13,500.0	89.53	179.45	12,432.3	-849.9	-452.1	872.4	0.00	0.00	0.00
13,600.0	89.53	179.45	12,433.1	-949.9	-451.2	972.2	0.00	0.00	0.00
13,700.0	89.53	179.45	12,433.9	-1,049.8	-450.2	1,072.0	0.00	0.00	0.00
13,800.0	89.53	179.45	12,434.8	-1,149.8	-449.3	1,171.8	0.00	0.00	0.00

Concho Resources LLC

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Wellbore: OWB
Design: PWP1

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13,900.0	89.53	179.45	12,435.6	-1,249.8	-448.3	1,271.6	0.00	0.00	0.00
14,000.0	89.53	179.45	12,436.4	-1,349.8	-447.3	1,371.4	0.00	0.00	0.00
14,100.0	89.53	179.45	12,437.2	-1,449.8	-446.4	1,471.2	0.00	0.00	0.00
14,200.0	89.53	179.45	12,438.0	-1,549.8	-445.4	1,571.0	0.00	0.00	0.00
14,300.0	89.53	179.45	12,438.8	-1,649.8	-444.5	1,670.8	0.00	0.00	0.00
14,400.0	89.53	179.45	12,439.7	-1,749.8	-443.5	1,770.6	0.00	0.00	0.00
14,500.0	89.53	179.45	12,440.5	-1,849.8	-442.6	1,870.4	0.00	0.00	0.00
14,600.0	89.53	179.45	12,441.3	-1,949.8	-441.6	1,970.2	0.00	0.00	0.00
14,700.0	89.53	179.45	12,442.1	-2,049.8	-440.6	2,070.0	0.00	0.00	0.00
14,800.0	89.53	179.45	12,442.9	-2,149.8	-439.7	2,169.8	0.00	0.00	0.00
14,900.0	89.53	179.45	12,443.7	-2,249.8	-438.7	2,269.6	0.00	0.00	0.00
15,000.0	89.53	179.45	12,444.6	-2,349.7	-437.8	2,369.4	0.00	0.00	0.00
15,100.0	89.53	179.45	12,445.4	-2,449.7	-436.8	2,469.2	0.00	0.00	0.00
15,200.0	89.53	179.45	12,446.2	-2,549.7	-435.9	2,569.0	0.00	0.00	0.00
15,300.0	89.53	179.45	12,447.0	-2,649.7	-434.9	2,668.9	0.00	0.00	0.00
15,400.0	89.53	179.45	12,447.8	-2,749.7	-433.9	2,768.7	0.00	0.00	0.00
15,500.0	89.53	179.45	12,448.6	-2,849.7	-433.0	2,868.5	0.00	0.00	0.00
15,600.0	89.53	179.45	12,449.5	-2,949.7	-432.0	2,968.3	0.00	0.00	0.00
15,700.0	89.53	179.45	12,450.3	-3,049.7	-431.1	3,068.1	0.00	0.00	0.00
15,800.0	89.53	179.45	12,451.1	-3,149.7	-430.1	3,167.9	0.00	0.00	0.00
15,900.0	89.53	179.45	12,451.9	-3,249.7	-429.2	3,267.7	0.00	0.00	0.00
16,000.0	89.53	179.45	12,452.7	-3,349.7	-428.2	3,367.5	0.00	0.00	0.00
16,100.0	89.53	179.45	12,453.5	-3,449.7	-427.2	3,467.3	0.00	0.00	0.00
16,200.0	89.53	179.45	12,454.4	-3,549.6	-426.3	3,567.1	0.00	0.00	0.00
16,300.0	89.53	179.45	12,455.2	-3,649.6	-425.3	3,666.9	0.00	0.00	0.00
16,400.0	89.53	179.45	12,456.0	-3,749.6	-424.4	3,766.7	0.00	0.00	0.00
16,500.0	89.53	179.45	12,456.8	-3,849.6	-423.4	3,866.5	0.00	0.00	0.00
16,600.0	89.53	179.45	12,457.6	-3,949.6	-422.5	3,966.3	0.00	0.00	0.00
16,700.0	89.53	179.45	12,458.4	-4,049.6	-421.5	4,066.1	0.00	0.00	0.00
16,800.0	89.53	179.45	12,459.3	-4,149.6	-420.5	4,165.9	0.00	0.00	0.00
16,900.0	89.53	179.45	12,460.1	-4,249.6	-419.6	4,265.7	0.00	0.00	0.00
17,000.0	89.53	179.45	12,460.9	-4,349.6	-418.6	4,365.5	0.00	0.00	0.00
17,100.0	89.53	179.45	12,461.7	-4,449.6	-417.7	4,465.3	0.00	0.00	0.00
17,200.0	89.53	179.45	12,462.5	-4,549.6	-416.7	4,565.1	0.00	0.00	0.00
17,300.0	89.53	179.45	12,463.3	-4,649.6	-415.8	4,665.0	0.00	0.00	0.00
17,400.0	89.53	179.45	12,464.2	-4,749.6	-414.8	4,764.8	0.00	0.00	0.00
17,500.0	89.53	179.45	12,465.0	-4,849.5	-413.8	4,864.6	0.00	0.00	0.00
17,600.0	89.53	179.45	12,465.8	-4,949.5	-412.9	4,964.4	0.00	0.00	0.00
17,700.0	89.53	179.45	12,466.6	-5,049.5	-411.9	5,064.2	0.00	0.00	0.00
17,800.0	89.53	179.45	12,467.4	-5,149.5	-411.0	5,164.0	0.00	0.00	0.00
17,900.0	89.53	179.45	12,468.2	-5,249.5	-410.0	5,263.8	0.00	0.00	0.00
18,000.0	89.53	179.45	12,469.1	-5,349.5	-409.1	5,363.6	0.00	0.00	0.00
18,100.0	89.53	179.45	12,469.9	-5,449.5	-408.1	5,463.4	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: PITCHBLEND FEDERAL 19-30 38H
Wellbore: OWB
Design: PWP1

Local Co-ordinate Reference: Well PITCHBLEND FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: edm

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)
18,200.0	89.53	179.45	12,470.7	-5,549.5	-407.1	5,563.2	0.00	0.00	0.00
18,300.0	89.53	179.45	12,471.5	-5,649.5	-406.2	5,663.0	0.00	0.00	0.00
18,400.0	89.53	179.45	12,472.3	-5,749.5	-405.2	5,762.8	0.00	0.00	0.00
18,500.0	89.53	179.45	12,473.1	-5,849.5	-404.3	5,862.6	0.00	0.00	0.00
18,600.0	89.53	179.45	12,474.0	-5,949.5	-403.3	5,962.4	0.00	0.00	0.00
18,700.0	89.53	179.45	12,474.8	-6,049.5	-402.4	6,062.2	0.00	0.00	0.00
18,800.0	89.53	179.45	12,475.6	-6,149.4	-401.4	6,162.0	0.00	0.00	0.00
18,900.0	89.53	179.45	12,476.4	-6,249.4	-400.4	6,261.8	0.00	0.00	0.00
19,000.0	89.53	179.45	12,477.2	-6,349.4	-399.5	6,361.6	0.00	0.00	0.00
19,100.0	89.53	179.45	12,478.0	-6,449.4	-398.5	6,461.4	0.00	0.00	0.00
19,200.0	89.53	179.45	12,478.9	-6,549.4	-397.6	6,561.2	0.00	0.00	0.00
19,300.0	89.53	179.45	12,479.7	-6,649.4	-396.6	6,661.0	0.00	0.00	0.00
19,400.0	89.53	179.45	12,480.5	-6,749.4	-395.7	6,760.9	0.00	0.00	0.00
19,500.0	89.53	179.45	12,481.3	-6,849.4	-394.7	6,860.7	0.00	0.00	0.00
19,600.0	89.53	179.45	12,482.1	-6,949.4	-393.7	6,960.5	0.00	0.00	0.00
19,700.0	89.53	179.45	12,482.9	-7,049.4	-392.8	7,060.3	0.00	0.00	0.00
19,800.0	89.53	179.45	12,483.8	-7,149.4	-391.8	7,160.1	0.00	0.00	0.00
19,900.0	89.53	179.45	12,484.6	-7,249.4	-390.9	7,259.9	0.00	0.00	0.00
20,000.0	89.53	179.45	12,485.4	-7,349.3	-389.9	7,359.7	0.00	0.00	0.00
20,075.1	89.53	179.45	12,486.0	-7,424.4	-389.2	7,434.6	0.00	0.00	0.00

TD at 20075.1

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
FTP (PITCHBLEND)	0.00	0.00	12,426.0	347.6	-463.4	409,628.40	788,511.50	32° 7' 21.918 N	103° 24' 5.074 W
- plan misses target center by 161.8usft at 12390.1usft MD (12312.3 TVD, 232.8 N, -455.0 E)									
- Circle (radius 50.0)									
PBHL (PITCHBLEND)	-0.47	359.45	12,486.0	-7,424.4	-389.2	401,856.40	788,585.70	32° 6' 5.006 N	103° 24' 4.992 W
- plan hits target center									
- Rectangle (sides W100.0 H7,772.4 D20.0)									
LTP (PITCHBLEND)	0.00	0.00	12,486.0	-7,374.4	-389.7	401,906.40	788,585.20	32° 6' 5.501 N	103° 24' 4.993 W
- plan misses target center by 25.1usft at 20000.0usft MD (12485.4 TVD, -7349.3 N, -389.9 E)									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5500	5500	0	0	Start Build 2.00
5767	5767	8	-9	Start 6179.4 hold at 5766.9 MD
11,946	11,919	400	-430	Start DLS 12.00 TFO -133.39
12,723	12,426	-73	-460	Start 7352.1 hold at 12723.0 MD
20,075	12,486	-7424	-389	TD at 20075.1

Concho Resources LLC

Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: PITCHBLENDE FEDERAL 19-30 38H
Wellbore: OWB
Design: PWP1

Local Co-ordinate Reference: Well PITCHBLENDE FEDERAL 19-30 38H
TVD Reference: KB=26' @ 3356.0usft (MCVAY 8)
MD Reference: KB=26' @ 3356.0usft (MCVAY 8)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: edm

Checked By: _____	Approved By: _____	Date: _____
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DISTRICT I
1885 N. FRENCH DR., HOBBS, NM 88240
Phone: (505) 893-0181 Fax: (505) 893-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (505) 748-1253 Fax: (505) 748-0720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-8178 Fax: (505) 334-8170

DISTRICT IV
1820 S. ST. FRANCIS DR., SANTA FE, NM 87503
Phone: (505) 476-3460 Fax: (505) 476-3468

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-45653	Pool Code 97779	Pool Name Dogie Draw; Delaware
Property Code	Property Name PITCHBLEND FEDERAL 19-30	Well Number 38H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3329.9'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	19	25-S	35-E		450	NORTH	710	EAST	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
H	30	25-S	35-E		2590	NORTH	1170	EAST	LEA

Dedicated Acres 240	Joint or Infill	Consolidation Code	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

NAD 83 NME <u>SURFACE LOCATION</u> Y=409338.9 N X=830161.6 E LAT.=32.121914° N LONG.=103.400388° W POINT LEGEND <table><tr><td>1</td><td>Y=409792.6 N X=830887.3 E</td></tr><tr><td>2</td><td>Y=404613.1 N X=830918.0 E</td></tr><tr><td>3</td><td>Y=398234.4 N X=830888.3 E</td></tr><tr><td>4</td><td>Y=399219.8 N X=828326.2 E</td></tr><tr><td>5</td><td>Y=409778.9 N X=828228.9 E</td></tr></table> NAD 83 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=401914.3 N X=829772.7 E LAT.=32.101516° N LONG.=103.401851° W	1	Y=409792.6 N X=830887.3 E	2	Y=404613.1 N X=830918.0 E	3	Y=398234.4 N X=830888.3 E	4	Y=399219.8 N X=828326.2 E	5	Y=409778.9 N X=828228.9 E	LOT 1 39.90 Ac LOT 2 39.88 Ac LOT 3 40.00 Ac LOT 4 40.12 Ac SECTION 19 SECTION 30 LOT 1 40.00 Ac LOT 2 40.04 Ac LOT 3 40.07 Ac LOT 4 40.09 Ac 100' FNL & 1170' FEL Y=409688.5 N X=829698.2 E LAT.=32.122881° N LONG.=103.401875° W GRID AZ. TO FTP 306°52'39" 2540' FNL & 1170' FEL Y=401964.3 N X=829772.3 E LAT.=32.101654° N LONG.=103.401852° W GRID AZ. = 179°27'03" HORZ. DIST. = 7772.6' 450' S.L. 710' 2590' 1170' B.H. NMMN136223	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 unless 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. <i>Mayte Reyes</i> Signature Date Mayte Reyes Printed Name mreyes1@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. DECEMBER 5, 2019 Date of Survey Signature & Seal of Professional Surveyor <i>Chad L. Harcrow</i> 12/20/19 Certificate No. CHAD HARCROW 17777 W.O. # 19-2290 DRAWN BY: DS
1	Y=409792.6 N X=830887.3 E											
2	Y=404613.1 N X=830918.0 E											
3	Y=398234.4 N X=830888.3 E											
4	Y=399219.8 N X=828326.2 E											
5	Y=409778.9 N X=828228.9 E											