



PHOENIX
TECHNOLOGY SERVICES

30-025-43240

January 23, 2017

Oil Conservation Division
State of New Mexico
1625 N. French Drive
Hobbs, New Mexico 88240

Dear District 1 - Hobbs

Re: BC Operating
Rusty Anchor 7 Federal Com 1H
Lea County, NM
API #30-025-43240
Job No. 60664

HOBBS OCC
JAN 27 2017
RECEIVED

Enclosed please find the Survey Data Certification, and the original plat and one copy of the survey report performed on the above referenced well by Phoenix Technology Services, Inc. (P-5 No. 606018). Other information required by your office is as follows:

Name & Title of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Larry Seebeck	1H	1,246	19,598	12/29/16	01/20/17	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Brittany Carley

Brittany Carley
Operations Administrator

**Phoenix Technology Services
SURVEY DATA CERTIFICATION**



PHOENIX JOB NUMBER

60664

ENERGY COMPANY BC Operating

WELL NAME Rusty Anchor 7 Federal Com 1H

COUNTY & STATE

Lea, New Mexico

API WELL NUMBER

30-025-43240

PROPOSED DIRECTION

357.82

TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
1,142.00 ft	1,141.97 ft	0.30	104.02	-2.48 ft	.74 ft	Gyro

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
29-Dec-16	1,246.00 ft	0.17	246.74

SURVEY INSTRUMENT

TYPE

Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
20-Jan-17	19,598.00 ft	89.33	0.65

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED TD SURVEY DATE	PROJECTED TD SURVEY DEPTH	INCLIN	AZIMUTH
20-Jan-17	19,654.00 ft	89.33	0.65

Larry Seebeck

PRINT YOUR NAME ABOVE


SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	6.75
DECLINATION OR GRID	GRID

20-Jan

TODAY'S DATE

MWD SUPERVISOR 1

Larry Seebeck

DIRECTIONAL DRILLER 1

Ruben Cano

MWD SUPERVISOR 2

Michael Johnson

DIRECTIONAL DRILLER 2

Vinn Adams

12329 Cutten Rd., Houston, Texas 777066 (713)337-0600 (Voice), (713)337-0599 (Fax)



BC Operating, Inc.

Lea County, NM (NAD27 NME)
Rusty Anchor 7 Federal COM
1H

OH / Job #60664

Design: Surveys (Patterson 244)

Standard Survey Report

21 January, 2017

HOBBS OCD
JAN 27 2017
RECEIVED



Company:	BC Operating, Inc.	Local Co-ordinate Reference:	Well 1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	RKB @ 3561.50usft (Patterson 244)
Site:	Rusty Anchor 7 Federal COM	MD Reference:	RKB @ 3561.50usft (Patterson 244)
Well:	1H	North Reference:	Grid
Wellbore:	OH / Job #60664	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 244)	Database:	Compass 5000 GCR

Project	Lea County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Rusty Anchor 7 Federal COM		
Site Position:		Northing:	574,866.71 usft
From:	Map	Easting:	694,542.68 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 34' 43.78019 N
		Longitude:	103° 42' 6.37667 W
		Grid Convergence:	0.34 °

Well	1H		
Well Position	+N/-S	0.00 usft	Northing: 575,822.28 usft
	+E/-W	0.00 usft	Easting: 692,791.01 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 34' 53.33819 N
		Longitude:	103° 42' 26.78171 W
		Ground Level:	3,533.00 usft

Wellbore	OH / Job #60664		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/15/2016	7.08	60.57	48,472

Design	Surveys (Patterson 244)		
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Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	357.82

Survey Program		Date	1/21/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	1,142.00	Phoenix Gyro Surveys (OH / Job #60664)	SPT_GTD	Continuous north-seeking gyro	
1,246.00	19,654.00	Phoenix MWD Surveys (OH / Job #60664)	MWD+HDGM	OWSG Rev.2 MWD + HDGM	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.39	341.49	100.00	0.32	-0.11	0.33	0.39	0.39	0.00
200.00	0.27	26.96	200.00	0.86	-0.11	0.86	0.28	-0.12	45.47
300.00	0.32	221.17	300.00	0.86	-0.19	0.86	0.59	0.05	-165.79
400.00	0.47	205.89	399.99	0.28	-0.55	0.30	0.18	0.15	-15.28
500.00	0.69	97.56	499.99	-0.17	-0.13	-0.17	0.95	0.22	-108.33
600.00	0.54	191.41	599.99	-0.71	0.37	-0.73	0.90	-0.15	93.85
700.00	0.56	205.35	699.98	-1.62	0.07	-1.62	0.13	0.02	13.94
800.00	0.39	220.71	799.98	-2.32	-0.36	-2.30	0.21	-0.17	15.36
900.00	0.31	176.87	899.98	-2.84	-0.57	-2.82	0.27	-0.08	-43.84

Company:	BC Operating, Inc.	Local Co-ordinate Reference:	Well 1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	RKB @ 3561.50usft (Patterson 244)
Site:	Rusty Anchor 7 Federal COM	MD Reference:	RKB @ 3561.50usft (Patterson 244)
Well:	1H	North Reference:	Grid
Wellbore:	OH / Job #60664	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 244)	Database:	Compass 5000 GCR

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)
1,000.00	0.49	47.92	999.98	-2.83	-0.24	-2.82	0.73	0.18	-128.95
1,100.00	0.45	81.03	1,099.97	-2.48	0.47	-2.50	0.27	-0.04	33.11
1,142.00	0.30	104.02	1,141.97	-2.48	0.74	-2.51	0.50	-0.36	54.74
Tie In									
1,246.00	0.17	246.74	1,245.97	-2.61	0.86	-2.64	0.43	-0.13	137.23
1,338.00	0.24	220.69	1,337.97	-2.81	0.61	-2.83	0.12	0.08	-28.32
1,431.00	0.25	215.91	1,430.97	-3.12	0.36	-3.13	0.02	0.01	-5.14
1,523.00	0.40	233.83	1,522.97	-3.47	-0.01	-3.47	0.20	0.16	19.48
1,615.00	0.54	219.03	1,614.97	-4.00	-0.55	-3.97	0.20	0.15	-16.09
1,708.00	0.57	226.31	1,707.96	-4.66	-1.16	-4.61	0.08	0.03	7.83
1,800.00	0.44	230.12	1,799.96	-5.20	-1.76	-5.13	0.15	-0.14	4.14
1,893.00	0.60	249.87	1,892.95	-5.60	-2.49	-5.50	0.26	0.17	21.24
1,985.00	0.66	241.58	1,984.95	-6.02	-3.41	-5.88	0.12	0.07	-9.01
2,079.00	0.64	231.11	2,078.94	-6.60	-4.29	-6.43	0.13	-0.02	-11.14
2,174.00	0.50	240.31	2,173.94	-7.14	-5.07	-6.94	0.18	-0.15	9.68
2,268.00	0.53	216.16	2,267.94	-7.70	-5.68	-7.47	0.23	0.03	-25.69
2,362.00	0.37	194.34	2,361.93	-8.34	-6.01	-8.11	0.25	-0.17	-23.21
2,456.00	0.21	184.55	2,455.93	-8.81	-6.10	-8.57	0.18	-0.17	-10.41
2,549.00	0.36	139.60	2,548.93	-9.20	-5.92	-8.97	0.28	0.16	-48.33
2,644.00	0.49	143.10	2,643.93	-9.75	-5.49	-9.54	0.14	0.14	3.68
2,720.00	0.55	134.58	2,719.92	-10.27	-5.03	-10.07	0.13	0.08	-11.21
2,833.00	0.46	131.70	2,832.92	-10.95	-4.31	-10.78	0.08	-0.08	-2.55
2,928.00	0.31	140.65	2,927.92	-11.40	-3.86	-11.25	0.17	-0.16	9.42
3,023.00	0.48	149.12	3,022.92	-11.94	-3.49	-11.80	0.19	0.18	8.92
3,118.00	0.49	144.93	3,117.91	-12.62	-3.05	-12.49	0.04	0.01	-4.41
3,213.00	0.52	111.71	3,212.91	-13.11	-2.42	-13.01	0.31	0.03	-34.97
3,308.00	0.35	80.08	3,307.91	-13.22	-1.73	-13.14	0.30	-0.18	-33.29
3,403.00	0.34	71.14	3,402.90	-13.08	-1.18	-13.02	0.06	-0.01	-9.41
3,499.00	0.30	49.29	3,498.90	-12.82	-0.72	-12.78	0.13	-0.04	-22.76
3,594.00	0.41	45.55	3,593.90	-12.42	-0.29	-12.40	0.12	0.12	-3.94
3,689.00	0.54	60.02	3,688.90	-11.96	0.34	-11.96	0.19	0.14	15.23
3,783.00	0.68	58.93	3,782.89	-11.45	1.20	-11.49	0.15	0.15	-1.16
3,877.00	0.93	53.75	3,876.88	-10.71	2.30	-10.79	0.28	0.27	-5.51
3,971.00	1.03	62.20	3,970.87	-9.86	3.66	-10.00	0.19	0.11	8.99
4,065.00	1.08	49.30	4,064.85	-8.89	5.08	-9.08	0.26	0.05	-13.72
4,159.00	1.09	58.89	4,158.84	-7.85	6.51	-8.10	0.19	0.01	10.20
4,253.00	1.37	61.65	4,252.81	-6.86	8.27	-7.17	0.30	0.30	2.94
4,347.00	0.88	15.45	4,346.80	-5.63	9.45	-5.98	1.05	-0.52	-49.15
4,441.00	0.91	343.26	4,440.79	-4.22	9.43	-4.57	0.53	0.03	-34.24
4,535.00	0.69	348.10	4,534.78	-2.95	9.10	-3.29	0.24	-0.23	5.15
4,629.00	0.77	337.93	4,628.77	-1.81	8.74	-2.14	0.16	0.09	-10.82
4,723.00	0.93	338.92	4,722.76	-0.51	8.23	-0.83	0.17	0.17	1.05
4,818.00	0.92	338.46	4,817.75	0.92	7.67	0.62	0.01	-0.01	-0.48

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Well:	1H	North Reference:	Grid
Wellbore:	OH / Job #60664	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 244)	Database:	Compass 5000 GCR

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,912.00	0.91	348.17	4,911.74	2.35	7.24	2.07	0.17	-0.01	10.33
5,007.00	0.94	346.90	5,006.72	3.85	6.91	3.58	0.04	0.03	-1.34
5,078.00	0.93	339.58	5,077.71	4.95	6.58	4.70	0.17	-0.01	-10.31
5,192.00	1.02	344.13	5,191.70	6.80	5.98	6.56	0.10	0.08	3.99
5,287.00	0.75	0.27	5,286.69	8.23	5.75	8.01	0.38	-0.28	16.99
5,383.00	0.81	347.73	5,382.68	9.52	5.61	9.30	0.19	0.06	-13.06
5,478.00	0.69	11.67	5,477.67	10.74	5.58	10.52	0.35	-0.13	25.20
5,573.00	0.59	31.37	5,572.66	11.72	5.95	11.48	0.25	-0.11	20.74
5,669.00	0.47	4.06	5,668.66	12.53	6.24	12.28	0.29	-0.13	-28.45
5,764.00	0.40	54.90	5,763.66	13.11	6.54	12.85	0.40	-0.07	53.52
5,859.00	0.59	16.65	5,858.65	13.77	6.95	13.50	0.39	0.20	-40.26
5,954.00	0.44	9.01	5,953.65	14.60	7.14	14.32	0.17	-0.16	-8.04
6,049.00	0.28	18.56	6,048.65	15.18	7.28	14.89	0.18	-0.17	10.05
6,145.00	0.29	45.22	6,144.65	15.57	7.52	15.28	0.14	0.01	27.77
6,240.00	0.51	40.78	6,239.64	16.06	7.97	15.75	0.23	0.23	-4.67
6,335.00	0.41	332.25	6,334.64	16.68	8.09	16.36	0.55	-0.11	-72.14
6,430.00	0.50	300.54	6,429.64	17.19	7.57	16.89	0.28	0.09	-33.38
6,525.00	0.43	246.89	6,524.64	17.27	6.89	16.99	0.45	-0.07	-56.47
6,619.00	0.64	229.56	6,618.63	16.79	6.16	16.54	0.28	0.22	-18.44
6,713.00	0.56	213.04	6,712.63	16.06	5.51	15.84	0.20	-0.09	-17.57
6,808.00	0.70	228.29	6,807.62	15.29	4.83	15.09	0.23	0.15	16.05
6,902.00	1.65	223.39	6,901.60	13.92	3.47	13.78	1.02	1.01	-5.21
6,996.00	1.85	219.85	6,995.56	11.77	1.57	11.70	0.24	0.21	-3.77
7,091.00	1.98	209.31	7,090.50	9.16	-0.22	9.16	0.39	0.14	-11.09
7,185.00	1.82	199.94	7,184.45	6.34	-1.52	6.40	0.37	-0.17	-9.97
7,279.00	1.74	198.24	7,278.41	3.59	-2.48	3.68	0.10	-0.09	-1.81
7,373.00	1.60	203.25	7,372.37	1.02	-3.44	1.15	0.22	-0.15	5.33
7,468.00	1.48	203.35	7,467.33	-1.32	-4.45	-1.15	0.13	-0.13	0.11
7,562.00	1.62	207.03	7,561.30	-3.62	-5.54	-3.41	0.18	0.15	3.91
7,656.00	1.74	199.00	7,655.26	-6.15	-6.61	-5.90	0.28	0.13	-8.54
7,750.00	1.53	197.07	7,749.22	-8.70	-7.44	-8.41	0.23	-0.22	-2.05
7,844.00	1.35	200.26	7,843.19	-10.94	-8.19	-10.62	0.21	-0.19	3.39
7,938.00	1.44	209.32	7,937.16	-13.01	-9.15	-12.65	0.25	0.10	9.64
8,032.00	1.35	250.30	8,031.14	-14.41	-10.77	-13.99	1.04	-0.10	43.60
8,126.00	1.10	206.59	8,125.12	-15.59	-12.22	-15.11	1.00	-0.27	-46.50
8,220.00	1.43	188.45	8,219.09	-17.56	-12.80	-17.06	0.55	0.35	-19.30
8,314.00	1.25	194.37	8,313.07	-19.71	-13.22	-19.19	0.24	-0.19	6.30
8,408.00	0.62	177.44	8,407.06	-21.21	-13.46	-20.69	0.72	-0.67	-18.01
8,502.00	0.45	252.67	8,501.05	-21.83	-13.79	-21.29	0.71	-0.18	80.03
8,597.00	1.04	305.28	8,596.05	-21.44	-14.85	-20.86	0.89	0.62	55.38
8,691.00	0.93	311.58	8,690.03	-20.45	-16.11	-19.82	0.16	-0.12	6.70
8,785.00	1.06	326.54	8,784.02	-19.21	-17.16	-18.55	0.31	0.14	15.91
8,879.00	1.22	323.99	8,878.00	-17.68	-18.23	-16.97	0.18	0.17	-2.71

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Wellbore:	OH / Job #60664	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 244)	Database:	Compass 5000 GCR

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,973.00	1.39	286.90	8,971.98	-16.54	-19.91	-15.77	0.90	0.18	-39.46
9,068.00	1.36	308.21	9,066.95	-15.51	-21.90	-14.66	0.54	-0.03	22.43
9,162.00	1.28	307.51	9,160.92	-14.18	-23.61	-13.27	0.09	-0.09	-0.74
9,256.00	1.30	324.80	9,254.90	-12.67	-25.05	-11.70	0.41	0.02	18.39
9,319.00	1.08	323.42	9,317.89	-11.60	-25.82	-10.61	0.35	-0.35	-2.19
9,358.00	1.20	312.07	9,356.88	-11.04	-26.34	-10.03	0.65	0.31	-29.10
9,453.00	5.59	351.67	9,451.70	-5.79	-27.75	-4.73	4.98	4.62	41.68
9,500.00	13.36	359.25	9,498.02	1.92	-28.16	2.99	16.71	16.53	16.13
9,547.00	18.73	0.44	9,543.18	14.90	-28.17	15.96	11.45	11.43	2.53
9,594.00	24.19	358.06	9,586.90	32.09	-28.44	33.15	11.76	11.62	-5.06
9,642.00	28.29	358.93	9,629.95	53.30	-28.98	54.36	8.58	8.54	1.81
9,689.00	31.74	1.23	9,670.64	76.80	-28.92	77.84	7.74	7.34	4.89
9,736.00	34.73	2.94	9,709.95	102.54	-27.97	103.53	6.67	6.36	3.64
9,783.00	38.76	2.00	9,747.60	130.62	-26.77	131.55	8.66	8.57	-2.00
9,830.00	42.77	2.46	9,783.19	161.28	-25.57	162.14	8.56	8.53	0.98
9,877.00	45.81	2.52	9,816.83	194.07	-24.15	194.84	6.47	6.47	0.13
9,924.00	48.47	2.14	9,848.80	228.49	-22.75	229.19	5.69	5.66	-0.81
9,971.00	50.20	359.47	9,879.43	264.13	-22.26	264.78	5.67	3.68	-5.68
10,018.00	56.21	357.59	9,907.57	301.73	-23.25	302.40	13.18	12.79	-4.00
10,042.00	58.96	357.25	9,920.43	321.97	-24.16	322.65	11.52	11.46	-1.42
10,074.00	62.33	357.05	9,936.11	349.82	-25.55	350.54	10.55	10.53	-0.63
10,105.00	64.12	356.54	9,950.08	377.45	-27.10	378.21	5.96	5.77	-1.65
10,136.00	66.16	355.54	9,963.11	405.51	-29.04	406.32	7.20	6.58	-3.23
10,168.00	68.33	355.79	9,975.49	434.93	-31.27	435.81	6.82	6.78	0.78
10,199.00	70.54	355.59	9,986.38	463.87	-33.45	464.81	7.15	7.13	-0.65
10,246.00	72.91	355.60	10,001.11	508.37	-36.88	509.40	5.04	5.04	0.02
10,293.00	76.47	356.55	10,013.52	553.59	-39.98	554.71	7.82	7.57	2.02
10,340.00	79.89	356.54	10,023.15	599.50	-42.75	600.69	7.28	7.28	-0.02
10,388.00	84.25	357.37	10,029.77	646.96	-45.27	648.22	9.24	9.08	1.73
10,435.00	88.96	358.01	10,032.55	693.83	-47.16	695.12	10.11	10.02	1.36
10,482.00	91.59	358.36	10,032.33	740.80	-48.65	742.11	5.65	5.60	0.74
10,574.00	92.40	357.90	10,029.12	832.69	-51.65	834.06	1.01	0.88	-0.50
10,667.00	92.04	358.86	10,025.52	925.59	-54.28	926.98	1.10	-0.39	1.03
10,759.00	90.79	359.01	10,023.25	1,017.54	-55.99	1,018.93	1.37	-1.36	0.16
10,852.00	91.79	359.03	10,021.15	1,110.50	-57.58	1,111.89	1.08	1.08	0.02
10,944.00	89.94	358.05	10,019.77	1,202.46	-59.92	1,203.87	2.28	-2.01	-1.07
11,036.00	89.41	357.90	10,020.29	1,294.40	-63.17	1,295.86	0.60	-0.58	-0.16
11,127.00	90.03	357.68	10,020.73	1,385.33	-66.68	1,386.86	0.72	0.68	-0.24
11,220.00	91.71	357.77	10,019.32	1,478.24	-70.37	1,479.85	1.81	1.81	0.10
11,312.00	89.36	358.00	10,018.46	1,570.17	-73.77	1,571.84	2.57	-2.55	0.25
11,405.00	90.40	358.20	10,018.66	1,663.11	-76.85	1,664.83	1.14	1.12	0.22
11,497.00	92.60	358.46	10,016.25	1,755.04	-79.53	1,756.79	2.41	2.39	0.28
11,586.00	90.40	358.00	10,013.92	1,843.96	-82.28	1,845.76	2.53	-2.47	-0.52
11,678.00	90.09	358.81	10,013.52	1,935.92	-84.84	1,937.75	0.94	-0.34	0.88

Company:	BC Operating, Inc.	Local Co-ordinate Reference:	Well 1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	RKB @ 3561.50usft (Patterson 244)
Site:	Rusty Anchor 7 Federal COM	MD Reference:	RKB @ 3561.50usft (Patterson 244)
Well:	1H	North Reference:	Grid
Wellbore:	OH / Job #60664	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 244)	Database:	Compass 5000 GCR

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,771.00	90.19	358.25	10,013.30	2,028.89	-87.23	2,030.74	0.61	0.11	-0.60
11,866.00	89.47	0.04	10,013.58	2,123.88	-88.64	2,125.71	2.03	-0.76	1.88
11,961.00	91.18	359.22	10,013.04	2,218.87	-89.26	2,220.66	2.00	1.80	-0.86
12,055.00	93.30	358.42	10,009.37	2,312.77	-91.19	2,314.56	2.41	2.26	-0.85
12,149.00	94.40	358.17	10,003.06	2,406.51	-93.98	2,408.35	1.20	1.17	-0.27
12,243.00	95.21	359.70	9,995.18	2,500.16	-95.72	2,502.00	1.84	0.86	1.63
12,338.00	93.45	1.29	9,988.01	2,594.88	-94.90	2,596.62	2.49	-1.85	1.67
12,432.00	91.71	358.99	9,983.78	2,688.78	-94.68	2,690.43	3.07	-1.85	-2.45
12,526.00	91.15	1.36	9,981.43	2,782.74	-94.39	2,784.32	2.59	-0.60	2.52
12,620.00	89.81	0.00	9,980.64	2,876.73	-93.27	2,878.19	2.03	-1.43	-1.45
12,714.00	90.09	359.62	9,980.72	2,970.73	-93.58	2,972.14	0.50	0.30	-0.40
12,808.00	90.28	359.64	9,980.42	3,064.72	-94.19	3,066.09	0.20	0.20	0.02
12,902.00	90.42	358.70	9,979.85	3,158.71	-95.55	3,160.06	1.01	0.15	-1.00
12,996.00	92.21	357.18	9,977.69	3,252.62	-98.93	3,254.03	2.50	1.90	-1.62
13,090.00	91.93	357.79	9,974.29	3,346.47	-103.05	3,347.96	0.71	-0.30	0.65
13,184.00	91.77	358.12	9,971.26	3,440.36	-106.41	3,441.91	0.39	-0.17	0.35
13,278.00	91.09	358.30	9,968.91	3,534.28	-109.34	3,535.88	0.75	-0.72	0.19
13,372.00	92.10	359.00	9,966.30	3,628.22	-111.55	3,629.83	1.31	1.07	0.74
13,465.00	90.22	358.59	9,964.41	3,721.17	-113.51	3,722.80	2.07	-2.02	-0.44
13,559.00	90.95	358.43	9,963.46	3,815.14	-115.95	3,816.79	0.80	0.78	-0.17
13,653.00	91.57	359.61	9,961.39	3,909.10	-117.56	3,910.74	1.42	0.66	1.26
13,747.00	89.36	356.28	9,960.62	4,003.01	-120.93	4,004.72	4.25	-2.35	-3.54
13,841.00	89.47	356.70	9,961.58	4,096.83	-126.69	4,098.69	0.46	0.12	0.45
13,935.00	90.64	357.63	9,961.49	4,190.72	-131.34	4,192.68	1.59	1.24	0.99
14,029.00	90.36	359.00	9,960.67	4,284.67	-134.10	4,286.67	1.49	-0.30	1.46
14,124.00	89.36	358.09	9,960.91	4,379.64	-136.51	4,381.66	1.42	-1.05	-0.96
14,218.00	89.47	358.27	9,961.87	4,473.58	-139.50	4,475.65	0.22	0.12	0.19
14,312.00	89.39	355.92	9,962.80	4,567.45	-144.26	4,569.63	2.50	-0.09	-2.50
14,407.00	88.99	355.63	9,964.14	4,662.18	-151.26	4,664.56	0.52	-0.42	-0.31
14,501.00	88.91	356.13	9,965.87	4,755.92	-158.01	4,758.49	0.54	-0.09	0.53
14,595.00	88.91	356.65	9,967.65	4,849.72	-163.93	4,852.45	0.55	0.00	0.55
14,689.00	89.61	357.73	9,968.87	4,943.60	-168.54	4,946.43	1.37	0.74	1.15
14,783.00	89.89	359.09	9,969.28	5,037.56	-171.14	5,040.42	1.48	0.30	1.45
14,877.00	90.28	358.26	9,969.14	5,131.53	-173.32	5,134.41	0.98	0.41	-0.88
14,971.00	91.18	359.25	9,967.94	5,225.50	-175.36	5,228.39	1.42	0.96	1.05
15,066.00	91.09	359.19	9,966.06	5,320.47	-176.65	5,323.34	0.11	-0.09	-0.06
15,160.00	91.40	359.50	9,964.02	5,414.44	-177.73	5,417.29	0.47	0.33	0.33
15,254.00	89.89	358.24	9,962.96	5,508.42	-179.58	5,511.26	2.09	-1.61	-1.34
15,348.00	89.80	358.55	9,963.21	5,602.38	-182.21	5,605.25	0.34	-0.10	0.33
15,442.00	89.89	357.80	9,963.47	5,696.33	-185.21	5,699.25	0.80	0.10	-0.80
15,536.00	88.54	359.74	9,964.76	5,790.29	-187.23	5,793.22	2.51	-1.44	2.06
15,630.00	88.88	0.08	9,966.87	5,884.27	-187.37	5,887.14	0.51	0.36	0.36
15,724.00	90.31	357.51	9,967.54	5,978.23	-189.35	5,981.11	3.13	1.52	-2.73

Company:	BC Operating, Inc.	Local Co-ordinate Reference:	Well 1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	RKB @ 3561.50usft (Patterson 244)
Site:	Rusty Anchor 7 Federal COM	MD Reference:	RKB @ 3561.50usft (Patterson 244)
Well:	1H	North Reference:	Grid
Wellbore:	OH / Job #60664	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 244)	Database:	Compass 5000 GCR

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,817.00	91.34	357.11	9,966.20	6,071.12	-193.71	6,074.10	1.19	1.11	-0.43
15,911.00	91.82	356.66	9,963.61	6,164.95	-198.82	6,168.05	0.70	0.51	-0.48
16,005.00	88.54	356.83	9,963.31	6,258.78	-204.16	6,262.02	3.49	-3.49	0.18
16,099.00	88.23	355.77	9,965.96	6,352.55	-210.22	6,355.95	1.17	-0.33	-1.13
16,194.00	89.80	356.07	9,967.59	6,447.29	-216.98	6,450.88	1.68	1.65	0.32
16,288.00	90.48	355.14	9,967.36	6,541.01	-224.18	6,544.80	1.23	0.72	-0.99
16,382.00	92.10	355.22	9,965.25	6,634.65	-232.08	6,638.68	1.73	1.72	0.09
16,476.00	92.55	354.53	9,961.43	6,728.20	-240.47	6,732.47	0.88	0.48	-0.73
16,570.00	95.44	356.22	9,954.89	6,821.65	-248.03	6,826.15	3.56	3.07	1.80
16,664.00	93.17	356.30	9,947.83	6,915.18	-254.14	6,919.84	2.42	-2.41	0.09
16,759.00	90.48	356.27	9,944.80	7,009.92	-260.29	7,014.75	2.83	-2.83	-0.03
16,854.00	90.09	354.10	9,944.33	7,104.58	-268.27	7,109.64	2.32	-0.41	-2.28
16,948.00	89.90	355.70	9,944.34	7,198.21	-276.62	7,203.52	1.71	-0.20	1.70
17,043.00	89.36	355.18	9,944.95	7,292.90	-284.18	7,298.43	0.79	-0.57	-0.55
17,137.00	87.03	355.01	9,947.91	7,386.50	-292.21	7,392.27	2.49	-2.48	-0.18
17,231.00	88.88	353.96	9,951.27	7,480.00	-301.24	7,486.05	2.26	1.97	-1.12
17,325.00	90.98	356.66	9,951.38	7,573.68	-308.92	7,579.95	3.64	2.23	2.87
17,419.00	91.07	357.56	9,949.70	7,667.54	-313.66	7,673.92	0.96	0.10	0.96
17,513.00	91.60	358.02	9,947.51	7,761.44	-317.28	7,767.90	0.75	0.56	0.49
17,607.00	92.32	358.05	9,944.30	7,855.33	-320.51	7,861.84	0.77	0.77	0.03
17,702.00	92.66	356.74	9,940.17	7,950.14	-324.82	7,956.75	1.42	0.36	-1.38
17,796.00	92.73	357.50	9,935.75	8,043.92	-329.54	8,050.63	0.81	0.07	0.81
17,890.00	92.86	357.62	9,931.17	8,137.72	-333.53	8,144.52	0.19	0.14	0.13
17,984.00	93.05	357.45	9,926.32	8,231.51	-337.57	8,238.39	0.27	0.20	-0.18
18,079.00	90.36	357.55	9,923.49	8,326.37	-341.71	8,333.34	2.83	-2.83	0.11
18,173.00	89.61	358.37	9,923.52	8,420.31	-345.06	8,427.34	1.18	-0.80	0.87
18,267.00	89.58	359.18	9,924.18	8,514.28	-347.07	8,521.32	0.86	-0.03	0.86
18,361.00	89.39	359.32	9,925.03	8,608.27	-348.30	8,615.29	0.25	-0.20	0.15
18,455.00	89.14	358.89	9,926.23	8,702.25	-349.77	8,709.26	0.53	-0.27	-0.46
18,549.00	90.00	359.17	9,926.94	8,796.24	-351.36	8,803.23	0.96	0.91	0.30
18,644.00	90.53	358.24	9,926.50	8,891.21	-353.51	8,898.22	1.13	0.56	-0.98
18,738.00	90.76	358.13	9,925.44	8,985.16	-356.48	8,992.21	0.27	0.24	-0.12
18,832.00	90.79	358.34	9,924.17	9,079.10	-359.38	9,086.20	0.23	0.03	0.22
18,927.00	90.40	358.30	9,923.18	9,174.06	-362.16	9,181.19	0.41	-0.41	-0.04
19,021.00	90.11	358.57	9,922.76	9,268.02	-364.73	9,275.19	0.42	-0.31	0.29
19,115.00	92.41	358.32	9,920.70	9,361.96	-367.28	9,369.15	2.46	2.45	-0.27
19,209.00	92.55	358.56	9,916.63	9,455.83	-369.84	9,463.06	0.30	0.15	0.26
19,303.00	92.77	359.05	9,912.27	9,549.71	-371.79	9,556.94	0.57	0.23	0.52
19,397.00	92.69	359.55	9,907.79	9,643.60	-372.94	9,650.80	0.54	-0.09	0.53
19,491.00	92.89	0.42	9,903.22	9,737.49	-372.97	9,744.63	0.95	0.21	0.93
19,567.00	90.21	0.62	9,901.16	9,813.45	-372.28	9,820.51	3.53	-3.52	0.27
Hardline Crossing - 19567' MD									
19,585.00	89.58	0.67	9,901.19	9,831.45	-372.07	9,838.48	3.53	-3.52	0.27
19,598.00	89.33	0.65	9,901.31	9,844.44	-371.92	9,851.47	1.93	-1.92	-0.15

Company:	BC Operating, Inc.	Local Co-ordinate Reference:	Well 1H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	RKB @ 3561.50usft (Patterson 244)
Site:	Rusty Anchor 7 Federal COM	MD Reference:	RKB @ 3561.50usft (Patterson 244)
Well:	1H	North Reference:	Grid
Wellbore:	OH / Job #60664	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 244)	Database:	Compass 5000 GCR

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)
Final Phoenix MWD Survey									
19,654.00	89.33	0.65	9,901.97	9,900.44	-371.29	9,907.40	0.00	0.00	0.00
Projection to TD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,142.00	1,141.97	-2.48	0.74	Tie In
19,567.00	9,901.16	9,813.45	-372.28	Hardline Crossing - 19567' MD
19,598.00	9,901.31	9,844.44	-371.92	Final Phoenix MWD Survey
19,654.00	9,901.97	9,900.44	-371.29	Projection to TD