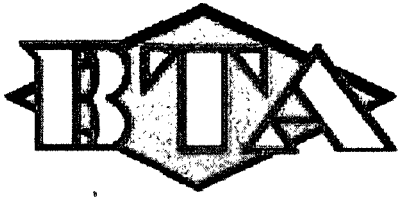


30-025-43725



HOBBS CO

JUN 12 2018

RECEIVED

BTA Oil Producers, LLC

Lea County, NM (NAD 83)

Sec 1, T26-S, R32-E

8105 JV-P Mesa #31H

Wellbore #1

Design: Wellbore #1

QES Survey Certification Report

14 September, 2017



Quintana Energy Services

11390 FM 830

Willis, TX 77318

Phone: (936) 856-4332

Fax: (936) 856-8678



Survey Certification Sheet

Company	Job Number	Date
BTA Oil Producers, LLC	WT-170908	1/22/2018

Lease	Well Name	County & State
SEC 1, T26-S, R32-E	Mesa 8105 JV-P #31H	Lea County, NM

API No.	Survey Depth Range	Survey Type
30-025-43725	775 feet to 20008 feet MD	MWD

Sidetrack Information	Directional Supervisor/Surveyor
Click here to enter text.	Daniel Longoria

Certification Statement

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by Quintana Energy Services (QES). This report represents a true and correct directional survey of this well based on the original data obtained at the well site. Wellbore coordinates are calculated using minimum curvature.

**Christopher
Hughes**

Digitally signed by Christopher Hughes
DN: cn=Christopher Hughes, o=QES,
ou=compliance, email=chrish@qeslp.com,
c=US
Date: 2018.01.23 07:54:37 -06'00'

Christopher Hughes
MWD Compliance Manager
Quintana Energy Services

A large, stylized handwritten signature of Christopher Hughes in black ink, written over a horizontal line.



QES Survey Certification Report



Company:	BTA Oil Producers, LLC	Local Co-ordinate Reference:	Well 8105 JV-P Mesa #31H
Project:	Lea County, NM (NAD 83)	TVD Reference:	WELL @ 3379.0usft (Patterson #594)
Site:	Sec 1, T26-S, R32-E	MD Reference:	WELL @ 3379.0usft (Patterson #594)
Well:	8105 JV-P Mesa #31H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 1, T26-S, R32-E				
Site Position:		Northing:	393,099.20 usft	Latitude:	32° 4' 43.446 N
From:	Map	Easting:	760,413.30 usft	Longitude:	103° 37' 33.646 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.38 °

Well	8105 JV-P Mesa #31H					
Well Position	+N/-S	0.0 usft	Northing:	393,099.20 usft	Latitude:	32° 4' 43.446 N
	+E/-W	0.0 usft	Easting:	760,413.30 usft	Longitude:	103° 37' 33.646 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,354.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/17/2017	6.95	59.92	47,829.32319180

Design:	Wellbore #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	181.82

Survey Program		Date	9/14/2017	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	775.0	GYRO Surveys (Wellbore #1)	GYRO-NS	OWSG Gyrocompass Gyro
911.0	20,008.0	MWD Surveys (Wellbore #1)	MWD default	MWD - Standard

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
775.0	0.71	336.55	774.9	7.6	-4.1	8.6	331.88
GYRO Tie-In @ 775.0' MD / 774.9' TVD							
911.0	1.10	313.50	910.9	9.3	-5.3	10.7	330.04
1,101.0	1.00	269.00	1,100.9	10.5	-8.3	13.4	321.58
1,291.0	0.90	254.40	1,290.9	10.1	-11.4	15.2	311.38
1,481.0	0.90	244.90	1,480.8	9.0	-14.2	16.8	302.43
1,671.0	1.20	247.70	1,670.8	7.6	-17.4	19.0	293.70
1,860.0	2.10	277.50	1,859.7	7.3	-22.7	23.8	287.94
2,049.0	1.50	284.00	2,048.6	8.4	-28.5	29.7	286.40
2,239.0	1.70	274.60	2,238.6	9.2	-33.7	35.0	285.28
2,429.0	1.10	311.40	2,428.5	10.6	-37.9	39.4	285.69



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Site:	Sec 1, T26-S, R32-E	MD Reference:	WELL @ 3379.0usft (Patterson #594)
Well:	8105 JV-P Mesa #31H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
2,618.0	1.30	318.00	2,617.5	13.4	-40.7	42.8	288.28
2,808.0	1.30	305.20	2,807.4	16.3	-43.9	46.8	290.35
2,998.0	1.70	298.50	2,997.4	18.9	-48.1	51.7	291.41
3,188.0	1.80	297.10	3,187.3	21.6	-53.3	57.5	292.05
3,378.0	2.10	307.50	3,377.2	25.1	-58.7	63.8	293.12
3,568.0	2.90	318.60	3,567.0	30.8	-64.6	71.6	295.47
3,758.0	2.90	332.80	3,756.7	38.7	-70.0	80.0	298.91
3,947.0	4.10	320.20	3,945.4	48.1	-76.5	90.4	302.16
4,137.0	3.50	319.30	4,135.0	57.7	-84.6	102.4	304.29
4,327.0	2.50	319.10	4,324.7	65.2	-91.1	112.1	305.60
4,517.0	1.30	324.70	4,514.6	70.1	-95.1	118.2	306.41
4,707.0	1.10	323.00	4,704.6	73.4	-97.4	122.0	306.97
4,778.0	1.00	322.80	4,775.5	74.4	-98.2	123.2	307.14
4,969.0	6.20	309.30	4,966.1	82.3	-107.2	135.1	307.50
5,159.0	6.40	309.30	5,155.0	95.5	-123.3	156.0	307.74
5,349.0	6.30	307.20	5,343.8	108.5	-139.8	177.0	307.80
5,538.0	6.30	306.30	5,531.7	120.9	-156.5	197.7	307.69
5,728.0	6.40	305.90	5,720.5	133.3	-173.4	218.7	307.54
5,918.0	6.20	306.10	5,909.3	145.5	-190.3	239.6	307.40
6,108.0	6.10	305.90	6,098.2	157.5	-206.8	259.9	307.29
6,298.0	6.10	305.00	6,287.2	169.2	-223.2	280.1	307.16
6,488.0	6.30	303.80	6,476.1	180.8	-240.2	300.6	306.97
6,678.0	5.90	318.00	6,665.0	193.8	-255.4	320.6	307.20
6,868.0	5.60	317.90	6,854.0	208.0	-268.1	339.3	307.80
7,058.0	5.30	318.80	7,043.2	221.5	-280.1	357.1	308.33
7,248.0	5.10	321.40	7,232.4	234.7	-291.1	373.9	308.87
7,438.0	5.20	310.00	7,421.6	246.8	-303.0	390.8	309.16
7,628.0	4.60	306.30	7,610.9	256.8	-315.7	407.0	309.13
7,817.0	3.70	306.80	7,799.4	265.0	-326.7	420.7	309.04
8,007.0	3.30	304.50	7,989.1	271.7	-336.2	432.3	308.95
8,197.0	4.10	299.10	8,178.7	278.1	-346.6	444.4	308.75
8,386.0	4.10	306.60	8,367.2	285.5	-357.9	457.8	308.57
8,576.0	3.50	300.50	8,556.8	292.5	-368.4	470.4	308.45
8,766.0	4.20	298.90	8,746.4	298.8	-379.5	483.0	308.21
8,955.0	3.10	297.50	8,935.0	304.5	-390.1	494.8	307.97
9,145.0	2.30	308.70	9,124.8	309.2	-397.6	503.7	307.87
9,252.0	1.90	224.20	9,231.7	309.3	-400.5	506.0	307.68
9,347.0	11.70	187.80	9,325.9	298.6	-402.9	501.5	306.54
9,441.0	20.20	185.00	9,416.2	272.9	-405.6	488.9	303.94
9,536.0	27.40	182.70	9,503.1	234.7	-408.1	470.8	299.90
9,631.0	36.30	180.10	9,583.7	184.6	-409.2	448.9	294.29
9,727.0	44.50	180.20	9,656.8	122.5	-409.3	427.3	286.66
9,821.0	53.50	178.80	9,718.4	51.6	-408.7	411.9	277.20
9,916.0	65.40	179.50	9,766.6	-30.0	-407.5	408.6	265.78



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Site:	Sec 1, T26-S, R32-E	MD Reference:	WELL @ 3379.0usft (Patterson #594)
Well:	8105 JV-P Mesa #31H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
10,011.0	79.70	179.90	9,795.0	-120.4	-407.0	424.5	253.52	
10,106.0	88.30	179.50	9,804.9	-214.8	-406.5	459.8	242.15	
10,231.0	90.90	180.10	9,805.8	-339.8	-406.1	529.5	230.08	
10,322.0	90.00	181.10	9,805.1	-430.8	-407.0	592.7	223.38	
10,417.0	87.40	181.80	9,807.2	-525.7	-409.4	666.4	217.91	
10,607.0	84.90	180.90	9,820.0	-715.2	-413.9	826.4	210.06	
10,797.0	86.30	179.70	9,834.6	-904.7	-414.9	995.3	204.64	
10,987.0	88.70	180.60	9,842.9	-1,094.5	-415.4	1,170.6	200.78	
11,177.0	87.20	180.40	9,849.7	-1,284.3	-417.1	1,350.3	197.99	
11,367.0	89.50	179.20	9,855.1	-1,474.2	-416.4	1,531.9	195.77	
11,557.0	88.30	179.40	9,858.8	-1,664.2	-414.1	1,714.9	193.97	
11,747.0	90.00	178.30	9,861.6	-1,854.1	-410.3	1,899.0	192.48	
11,936.0	88.80	178.10	9,863.6	-2,043.0	-404.3	2,082.6	191.19	
12,127.0	91.10	179.00	9,863.7	-2,233.9	-399.5	2,269.4	190.14	
12,317.0	90.30	179.20	9,861.4	-2,423.9	-396.5	2,456.1	189.29	
12,506.0	90.80	180.40	9,859.6	-2,612.9	-395.8	2,642.7	188.61	
12,696.0	90.30	180.60	9,857.8	-2,802.9	-397.5	2,830.9	188.07	
12,887.0	89.40	179.70	9,858.3	-2,993.9	-398.0	3,020.2	187.57	
13,077.0	88.70	180.40	9,861.4	-3,183.8	-398.2	3,208.6	187.13	
13,267.0	90.80	180.20	9,862.3	-3,373.8	-399.2	3,397.3	186.75	
13,457.0	92.60	180.20	9,856.6	-3,563.7	-399.8	3,586.1	186.40	
13,647.0	93.60	180.60	9,846.3	-3,753.4	-401.1	3,774.8	186.10	
13,836.0	90.40	179.90	9,839.7	-3,942.3	-402.0	3,962.7	185.82	
14,025.0	86.10	178.80	9,845.5	-4,131.1	-399.8	4,150.4	185.53	
14,215.0	87.20	178.70	9,856.6	-4,320.8	-395.7	4,338.8	185.23	
14,405.0	88.10	178.50	9,864.4	-4,510.5	-391.1	4,527.5	184.96	
14,595.0	88.70	178.30	9,869.7	-4,700.4	-385.8	4,716.2	184.69	
14,785.0	89.90	177.30	9,872.0	-4,890.2	-378.5	4,904.9	184.43	
14,975.0	91.30	177.80	9,870.0	-5,080.1	-370.3	5,093.5	184.17	
15,165.0	89.80	178.80	9,868.2	-5,270.0	-364.7	5,282.6	183.96	
15,355.0	91.10	179.20	9,866.7	-5,459.9	-361.4	5,471.9	183.79	
15,545.0	89.30	179.00	9,866.1	-5,649.9	-358.4	5,661.2	183.63	
15,735.0	90.80	179.20	9,865.9	-5,839.8	-355.4	5,850.7	183.48	
15,923.0	89.50	179.50	9,865.4	-6,027.8	-353.3	6,038.2	183.35	
16,113.0	87.90	178.70	9,869.7	-6,217.8	-350.3	6,227.6	183.22	
16,303.0	88.50	178.10	9,875.7	-6,407.6	-345.0	6,416.9	183.08	
16,492.0	89.40	178.30	9,879.2	-6,596.5	-339.1	6,605.2	182.94	
16,681.0	91.00	177.40	9,878.5	-6,785.3	-332.0	6,793.4	182.80	
16,871.0	87.80	179.00	9,880.5	-6,975.2	-326.0	6,982.8	182.68	
17,061.0	88.00	180.60	9,887.4	-7,165.0	-325.3	7,172.4	182.60	
17,251.0	90.10	180.80	9,890.6	-7,355.0	-327.7	7,362.3	182.55	
17,441.0	92.30	181.30	9,886.6	-7,544.9	-331.1	7,552.2	182.51	
17,631.0	88.60	182.00	9,885.1	-7,734.8	-336.6	7,742.1	182.49	
17,820.0	89.10	182.00	9,888.9	-7,923.6	-343.2	7,931.1	182.48	



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Well:	8105 JV-P Mesa #31H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
18,009.0	90.00	180.90	9,890.4	-8,112.6	-348.0	8,120.0	182.46
18,199.0	90.70	180.90	9,889.2	-8,302.5	-351.0	8,309.9	182.42
18,389.0	90.00	179.70	9,888.1	-8,492.5	-352.0	8,499.8	182.37
18,579.0	91.40	179.20	9,885.8	-8,682.5	-350.1	8,689.6	182.31
18,769.0	88.60	179.40	9,885.8	-8,872.5	-347.8	8,879.3	182.25
18,959.0	89.00	179.20	9,889.7	-9,062.4	-345.5	9,069.0	182.18
19,149.0	91.20	178.80	9,889.4	-9,252.4	-342.2	9,258.7	182.12
19,339.0	91.40	178.80	9,885.1	-9,442.3	-338.2	9,448.3	182.05
19,529.0	93.80	178.80	9,876.5	-9,632.0	-334.2	9,637.8	181.99
19,719.0	91.50	179.00	9,867.7	-9,821.8	-330.6	9,827.3	181.93
19,909.0	93.80	179.20	9,858.9	-10,011.5	-327.6	10,016.9	181.87
19,950.0	94.10	179.20	9,856.1	-10,052.4	-327.0	10,057.7	181.86
20,008.0	94.10	179.20	9,851.9	-10,110.3	-326.2	10,115.5	181.85

TD @ 20008.0' MD / 9851.9' TVD

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
775.0	774.9	7.6	-4.1	GYRO Tie-In @ 775.0' MD / 774.9' TVD
20,008.0	9,851.9	-10,110.3	-326.2	TD @ 20008.0' MD / 9851.9' TVD