

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

☒ AMENDED REPORT
NMOC

AS DRILLED PLAT

JUL 25 2019

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35883		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 318864	*Property Name ALLISON UNIT		*Well Number 110H
*GRID No. 372171	*Operator Name HILCORP ENERGY COMPANY		*Elevation 6152'

¹⁰ Surface Location

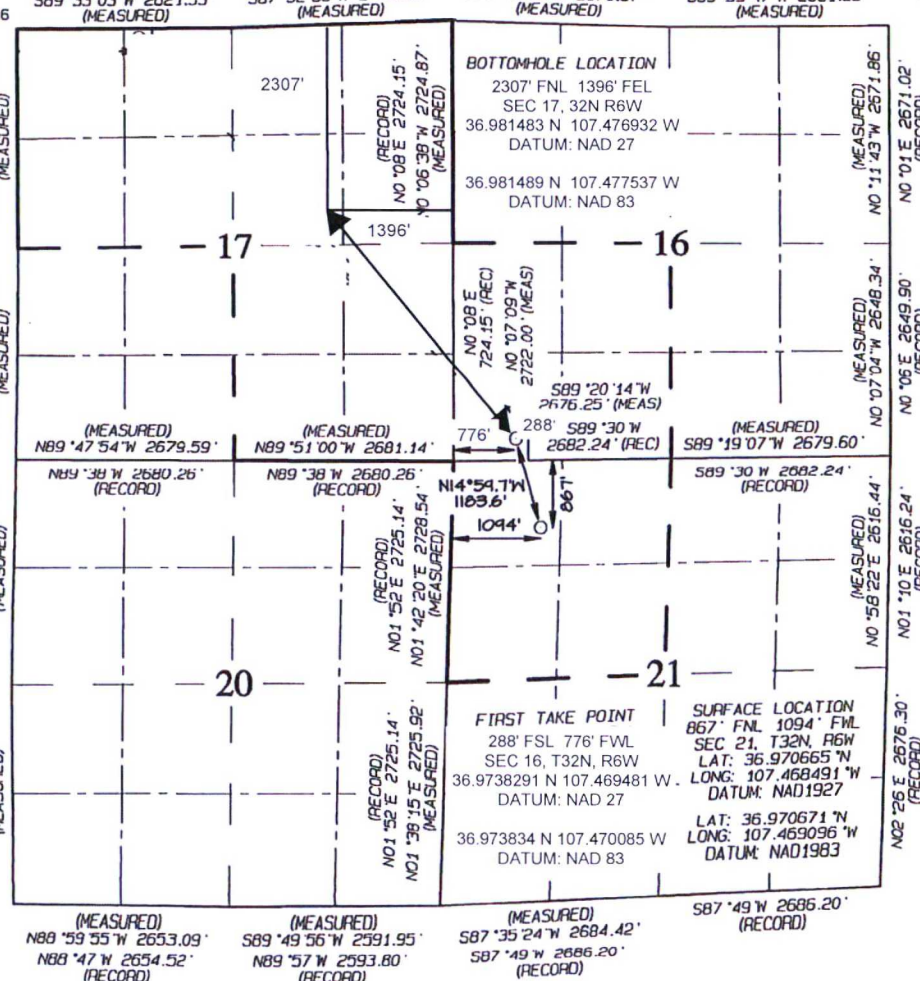
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	21	32N	6W		867	NORTH	1094	WEST	SAN JUAN

¹¹ 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
G	17	32N	6W		2307	NORTH	1396	EAST	SAN JUAN

¹² Dedicated Acres 640.00	SW/4 - Section 16 E/2 - Section 17 NW/4 - Section 21	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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



¹⁷ OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

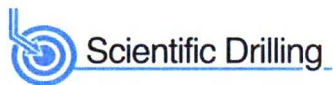
Signature: *Priscilla Shorty*
Date: 7/9/19
Printed Name: Priscilla Shorty
pshorty@hilcorp.com
E-mail Address

¹⁸ 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.

Date Revised: APRIL 8, 2019
Date of Survey: AUGUST 4, 2018
Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269



Directional Survey Certification

2948 I-70 Business Loop
Grand Junction, CO 81504
(970)-245-9447 Fax (970)-245-9454

Operator	Hilcorp Energy
Well Name & No.	Allison Unit 110H
County & State	San Juan, NM
SDI Job No.	OP.019788
Rig	Aztec 777

I, Janie Collins, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 627 feet to a measured depth of 6,962 feet is true and correct as determined from all available records.



Signature

19-Jul-19

Date

Janie Collins
Colorado District Well Planner
Scientific Drilling International



Hilcorp Energy Corp.

San Juan, NM NAD27 (GRID NORTH)

Allison Unit 110H

Allison Unit 110H

OH

Design: OH

Survey Report - Geographic

19 July, 2019



www.scientificdrilling.com



Scientific Drilling, Intl
Survey Report - Geographic



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Allison Unit 110H
Project:	San Juan, NM NAD27 (GRID NORTH)	TVD Reference:	GL 6152' & RKB 17' @ 6169.00usft (Aztec 777)
Site:	Allison Unit 110H	MD Reference:	GL 6152' & RKB 17' @ 6169.00usft (Aztec 777)
Well:	Allison Unit 110H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Project	San Juan, NM NAD27 (GRID NORTH)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site	Allison Unit 110H			
Site Position:		Northing:	2,172,794.07 usft	Latitude: 36.9706650
From:	Lat/Long	Easting:	606,580.64 usft	Longitude: -107.4684910
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: 0.22 °

Well	Allison Unit 110H			
Well Position	+N/-S	0.00 usft	Northing:	2,172,794.07 usft
	+E/-W	0.00 usft	Easting:	606,580.64 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level: 6,152.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/10/2019	8.90	63.47	49,843

Design	OH			
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	321.052

Survey Program	Date	7/19/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
627.00	6,962.00	Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM	

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	2,172,794.07	606,580.64	36.9706650	-107.4684910
627.00	0.10	161.730	627.00	-0.52	0.17	2,172,793.55	606,580.81	36.9706635	-107.4684905
779.00	0.28	116.820	779.00	-0.81	0.54	2,172,793.25	606,581.18	36.9706627	-107.4684892
869.00	0.10	241.620	869.00	-0.95	0.67	2,172,793.12	606,581.31	36.9706624	-107.4684888
929.00	0.12	230.200	929.00	-1.01	0.58	2,172,793.05	606,581.22	36.9706622	-107.4684891
990.00	0.14	236.740	990.00	-1.10	0.47	2,172,792.97	606,581.10	36.9706620	-107.4684895
1,050.00	0.43	59.240	1,050.00	-1.02	0.60	2,172,793.05	606,581.24	36.9706622	-107.4684890
1,111.00	0.66	51.410	1,111.00	-0.69	1.07	2,172,793.38	606,581.71	36.9706631	-107.4684874
1,171.00	0.52	63.920	1,170.99	-0.35	1.58	2,172,793.72	606,582.22	36.9706640	-107.4684856
1,231.00	0.56	30.160	1,230.99	0.02	1.98	2,172,794.09	606,582.61	36.9706650	-107.4684843
1,262.00	0.70	22.950	1,261.99	0.33	2.13	2,172,794.40	606,582.76	36.9706658	-107.4684838
1,292.00	1.74	11.560	1,291.98	0.94	2.29	2,172,795.01	606,582.93	36.9706675	-107.4684832



Scientific Drilling, Intl

Survey Report - Geographic



Company: Hilcorp Energy Corp.
Project: San Juan, NM NAD27 (GRID NORTH)
Site: Allison Unit 110H
Well: Allison Unit 110H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Allison Unit 110H
TVD Reference: GL 6152' & RKB 17' @ 6169.00usft (Aztec 777)
MD Reference: GL 6152' & RKB 17' @ 6169.00usft (Aztec 777)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,323.00	2.93	7.940	1,322.95	2.19	2.49	2,172,796.26	606,583.13	36.9706710	-107.4684825
1,355.00	3.91	2.990	1,354.90	4.09	2.66	2,172,798.16	606,583.30	36.9706762	-107.4684819
1,386.00	4.88	359.590	1,385.81	6.46	2.71	2,172,800.53	606,583.35	36.9706827	-107.4684817
1,418.00	6.24	357.680	1,417.65	9.56	2.63	2,172,803.63	606,583.27	36.9706912	-107.4684819
1,449.00	7.79	356.340	1,448.42	13.34	2.43	2,172,807.41	606,583.06	36.9707016	-107.4684826
1,481.00	9.32	355.710	1,480.06	18.09	2.09	2,172,812.16	606,582.73	36.9707146	-107.4684836
1,512.00	10.68	355.110	1,510.59	23.46	1.66	2,172,817.52	606,582.30	36.9707294	-107.4684851
1,543.00	12.04	354.820	1,540.98	29.54	1.12	2,172,823.61	606,581.76	36.9707461	-107.4684868
1,575.00	13.32	354.380	1,572.20	36.53	0.46	2,172,830.60	606,581.10	36.9707653	-107.4684890
1,607.00	14.60	354.130	1,603.26	44.21	-0.31	2,172,838.28	606,580.33	36.9707864	-107.4684915
1,638.00	16.00	353.120	1,633.16	52.34	-1.22	2,172,846.41	606,579.41	36.9708087	-107.4684945
1,669.00	17.40	352.560	1,662.85	61.18	-2.34	2,172,855.25	606,578.30	36.9708330	-107.4684982
1,701.00	18.47	350.900	1,693.29	70.93	-3.76	2,172,865.00	606,576.88	36.9708598	-107.4685030
1,732.00	19.28	348.040	1,722.63	80.78	-5.59	2,172,874.85	606,575.04	36.9708869	-107.4685091
1,763.00	20.47	347.730	1,751.78	91.09	-7.81	2,172,885.16	606,572.83	36.9709152	-107.4685166
1,794.00	21.10	345.290	1,780.76	101.78	-10.38	2,172,895.85	606,570.26	36.9709446	-107.4685252
1,826.00	22.12	344.870	1,810.51	113.17	-13.41	2,172,907.24	606,567.23	36.9709760	-107.4685355
1,857.00	23.39	345.260	1,839.10	124.76	-16.50	2,172,918.82	606,564.14	36.9710078	-107.4685459
1,889.00	24.47	345.600	1,868.35	137.32	-19.76	2,172,931.39	606,560.87	36.9710424	-107.4685569
1,920.00	25.86	344.900	1,896.41	150.06	-23.12	2,172,944.13	606,557.52	36.9710774	-107.4685682
1,951.00	26.93	345.320	1,924.17	163.38	-26.66	2,172,957.45	606,553.98	36.9711140	-107.4685802
1,983.00	28.16	345.700	1,952.55	177.71	-30.36	2,172,971.78	606,550.27	36.9711534	-107.4685927
2,014.00	29.32	345.100	1,979.73	192.13	-34.12	2,172,986.20	606,546.52	36.9711931	-107.4686053
2,045.00	30.52	345.820	2,006.60	207.10	-38.00	2,173,001.17	606,542.64	36.9712342	-107.4686184
2,077.00	31.69	346.510	2,033.99	223.15	-41.95	2,173,017.22	606,538.68	36.9712784	-107.4686317
2,108.00	32.87	347.210	2,060.20	239.28	-45.72	2,173,033.34	606,534.92	36.9713227	-107.4686444
2,140.00	34.42	347.820	2,086.84	256.58	-49.55	2,173,050.65	606,531.09	36.9713703	-107.4686573
2,172.00	35.82	346.730	2,113.02	274.54	-53.60	2,173,068.61	606,527.03	36.9714196	-107.4686709
2,203.00	36.51	345.400	2,138.04	292.29	-58.01	2,173,086.36	606,522.63	36.9714684	-107.4686858
2,235.00	37.32	344.380	2,163.63	310.85	-63.02	2,173,104.92	606,517.61	36.9715195	-107.4687027
2,266.00	38.32	344.200	2,188.12	329.15	-68.17	2,173,123.21	606,512.47	36.9715698	-107.4687201
2,298.00	39.62	344.790	2,212.99	348.54	-73.55	2,173,142.61	606,507.09	36.9716231	-107.4687382
2,329.00	41.07	345.390	2,236.62	367.93	-78.71	2,173,162.00	606,501.93	36.9716764	-107.4687557
2,360.00	42.58	345.750	2,259.72	387.95	-83.86	2,173,182.02	606,496.78	36.9717315	-107.4687730
2,392.00	44.16	345.340	2,282.98	409.23	-89.35	2,173,203.30	606,491.29	36.9717900	-107.4687915
2,423.00	45.78	345.340	2,304.91	430.43	-94.89	2,173,224.49	606,485.75	36.9718482	-107.4688102
2,454.00	47.61	344.930	2,326.17	452.23	-100.68	2,173,246.30	606,479.96	36.9719082	-107.4688298
2,486.00	48.80	343.790	2,347.50	475.20	-107.11	2,173,269.27	606,473.52	36.9719714	-107.4688515
2,517.00	50.06	342.470	2,367.66	497.73	-113.95	2,173,291.80	606,466.69	36.9720333	-107.4688746
2,548.00	51.30	342.830	2,387.31	520.62	-121.10	2,173,314.69	606,459.54	36.9720963	-107.4688988
2,579.00	52.37	344.040	2,406.46	543.98	-128.05	2,173,338.05	606,452.59	36.9721605	-107.4689222
2,611.00	53.74	345.190	2,425.70	568.64	-134.83	2,173,362.71	606,445.81	36.9722283	-107.4689451
2,642.00	54.95	345.300	2,443.77	593.00	-141.24	2,173,387.07	606,439.39	36.9722953	-107.4689668
2,673.00	55.43	345.340	2,461.46	617.62	-147.69	2,173,411.69	606,432.94	36.9723630	-107.4689885
2,705.00	55.81	345.010	2,479.53	643.15	-154.45	2,173,437.22	606,426.19	36.9724332	-107.4690113
2,736.00	56.92	345.630	2,496.70	668.12	-160.99	2,173,462.19	606,419.65	36.9725018	-107.4690334
2,767.00	58.90	344.940	2,513.17	693.52	-167.66	2,173,487.59	606,412.97	36.9725717	-107.4690559
2,798.00	60.41	344.420	2,528.83	719.32	-174.73	2,173,513.39	606,405.90	36.9726426	-107.4690798
2,830.00	61.06	343.910	2,544.47	746.18	-182.35	2,173,540.24	606,398.29	36.9727164	-107.4691055
2,861.00	61.97	343.610	2,559.26	772.34	-189.97	2,173,566.40	606,390.67	36.9727884	-107.4691312
2,893.00	62.81	343.500	2,574.09	799.53	-198.00	2,173,593.60	606,382.64	36.9728632	-107.4691584
2,924.00	64.33	343.910	2,587.89	826.18	-205.79	2,173,620.24	606,374.85	36.9729364	-107.4691847
2,956.00	65.81	343.970	2,601.38	854.06	-213.81	2,173,648.13	606,366.82	36.9730131	-107.4692118
2,987.00	67.19	344.460	2,613.74	881.42	-221.55	2,173,675.48	606,359.09	36.9730883	-107.4692379
3,018.00	68.30	344.660	2,625.48	909.07	-229.19	2,173,703.14	606,351.45	36.9731644	-107.4692637



Scientific Drilling, Intl

Survey Report - Geographic



Company: Hilcorp Energy Corp.
Project: San Juan, NM NAD27 (GRID NORTH)
Site: Allison Unit 110H
Well: Allison Unit 110H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Allison Unit 110H
TVD Reference: GL 6152' & RKB 17' @ 6169.00usft (Aztec 777)
MD Reference: GL 6152' & RKB 17' @ 6169.00usft (Aztec 777)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,050.00	69.14	345.490	2,637.09	937.88	-236.86	2,173,731.95	606,343.77	36.9732436	-107.4692896
3,081.00	70.03	345.540	2,647.90	966.01	-244.13	2,173,760.08	606,336.51	36.9733209	-107.4693141
3,113.00	71.82	345.620	2,658.36	995.30	-251.66	2,173,789.37	606,328.98	36.9734015	-107.4693395
3,217.00	77.51	344.460	2,685.85	1,092.15	-277.56	2,173,886.22	606,303.08	36.9736678	-107.4694269
3,248.00	78.67	344.800	2,692.25	1,121.40	-285.59	2,173,915.47	606,295.04	36.9737482	-107.4694540
3,279.00	80.16	345.300	2,697.95	1,150.84	-293.46	2,173,944.91	606,287.18	36.9738291	-107.4694805
3,311.00	81.50	345.150	2,703.05	1,181.39	-301.51	2,173,975.46	606,279.13	36.9739131	-107.4695077
3,342.00	83.40	345.570	2,707.12	1,211.12	-309.28	2,174,005.19	606,271.36	36.9739949	-107.4695339
3,373.00	85.76	345.440	2,710.05	1,241.00	-317.00	2,174,035.06	606,263.64	36.9740770	-107.4695600
3,436.00	88.52	346.040	2,713.19	1,301.97	-332.50	2,174,096.04	606,248.14	36.9742447	-107.4696122
3,499.00	88.49	347.340	2,714.83	1,363.26	-347.00	2,174,157.33	606,233.64	36.9744132	-107.4696610
3,562.00	88.59	349.540	2,716.44	1,424.96	-359.62	2,174,219.03	606,221.02	36.9745828	-107.4697034
3,624.00	89.80	349.390	2,717.31	1,485.91	-370.95	2,174,279.97	606,209.69	36.9747503	-107.4697414
3,688.00	92.45	348.250	2,716.05	1,548.67	-383.36	2,174,342.74	606,197.28	36.9749228	-107.4697831
3,750.00	92.65	348.310	2,713.30	1,609.32	-395.94	2,174,403.39	606,184.70	36.9750895	-107.4698254
3,813.00	91.51	346.580	2,711.01	1,670.77	-409.62	2,174,464.84	606,171.01	36.9752585	-107.4698714
3,876.00	92.72	344.290	2,708.68	1,731.70	-425.45	2,174,525.77	606,155.18	36.9754260	-107.4699248
3,939.00	90.67	343.710	2,706.82	1,792.23	-442.81	2,174,586.29	606,137.83	36.9755924	-107.4699834
4,002.00	90.90	344.570	2,705.96	1,852.82	-460.03	2,174,646.89	606,120.61	36.9757590	-107.4700416
4,065.00	89.87	342.460	2,705.53	1,913.23	-477.90	2,174,707.29	606,102.74	36.9759252	-107.4701020
4,127.00	89.73	341.620	2,705.75	1,972.21	-497.02	2,174,766.27	606,083.62	36.9760873	-107.4701667
4,190.00	91.21	340.150	2,705.23	2,031.73	-517.65	2,174,825.79	606,062.99	36.9762511	-107.4702365
4,253.00	90.30	339.240	2,704.40	2,090.81	-539.51	2,174,884.87	606,041.13	36.9764136	-107.4703106
4,316.00	89.87	337.900	2,704.31	2,149.45	-562.53	2,174,943.52	606,018.11	36.9765749	-107.4703886
4,378.00	90.34	335.470	2,704.20	2,206.38	-587.06	2,175,000.45	605,993.58	36.9767315	-107.4704718
4,440.00	89.53	331.630	2,704.27	2,261.88	-614.67	2,175,055.95	605,965.97	36.9768842	-107.4705656
4,503.00	89.66	330.670	2,704.71	2,317.06	-645.07	2,175,111.13	605,935.57	36.9770361	-107.4706690
4,565.00	89.93	328.470	2,704.93	2,370.51	-676.47	2,175,164.58	605,904.17	36.9771833	-107.4707758
4,628.00	91.31	325.810	2,704.25	2,423.43	-710.65	2,175,217.49	605,869.99	36.9773290	-107.4708921
4,691.00	91.98	324.730	2,702.44	2,475.18	-746.52	2,175,269.25	605,834.12	36.9774715	-107.4710142
4,753.00	91.71	322.600	2,700.45	2,525.10	-783.24	2,175,319.16	605,797.40	36.9776090	-107.4711393
4,816.00	90.37	320.500	2,699.30	2,574.42	-822.40	2,175,368.49	605,758.23	36.9777449	-107.4712727
4,879.00	89.60	317.580	2,699.32	2,621.99	-863.70	2,175,416.06	605,716.94	36.9778760	-107.4714135
4,941.00	91.11	314.820	2,698.94	2,666.73	-906.60	2,175,460.80	605,674.03	36.9779993	-107.4715598
5,004.00	90.84	312.040	2,697.86	2,710.03	-952.34	2,175,504.10	605,628.29	36.9781187	-107.4717158
5,067.00	89.70	307.960	2,697.57	2,750.52	-1,000.59	2,175,544.59	605,580.04	36.9782304	-107.4718804
5,129.00	89.70	305.520	2,697.89	2,787.60	-1,050.27	2,175,581.67	605,530.36	36.9783328	-107.4720500
5,192.00	89.73	304.940	2,698.20	2,823.95	-1,101.73	2,175,618.01	605,478.90	36.9784332	-107.4722257
5,254.00	89.87	305.010	2,698.42	2,859.49	-1,152.54	2,175,653.55	605,428.10	36.9785313	-107.4723992
5,317.00	89.43	304.020	2,698.81	2,895.18	-1,204.45	2,175,689.25	605,376.19	36.9786299	-107.4725764
5,379.00	90.03	304.460	2,699.10	2,930.07	-1,255.70	2,175,724.13	605,324.94	36.9787263	-107.4727515
5,442.00	89.83	304.960	2,699.17	2,965.94	-1,307.49	2,175,760.01	605,273.15	36.9788253	-107.4729283
5,505.00	89.66	305.860	2,699.46	3,002.44	-1,358.83	2,175,796.51	605,221.81	36.9789261	-107.4731036
5,569.00	89.20	306.130	2,700.09	3,040.05	-1,410.61	2,175,834.12	605,170.03	36.9790300	-107.4732804
5,631.00	88.89	308.780	2,701.13	3,077.75	-1,459.82	2,175,871.82	605,120.82	36.9791340	-107.4734483
5,694.00	91.01	309.810	2,701.18	3,117.65	-1,508.57	2,175,911.71	605,072.07	36.9792441	-107.4736147
5,757.00	91.85	306.900	2,699.61	3,156.72	-1,557.95	2,175,950.79	605,022.69	36.9793520	-107.4737833
5,818.00	91.88	305.600	2,697.62	3,192.77	-1,607.12	2,175,986.84	604,973.52	36.9794515	-107.4739511
5,878.00	92.18	306.460	2,695.50	3,228.04	-1,655.61	2,176,022.11	604,925.03	36.9795489	-107.4741167
5,939.00	91.24	307.350	2,693.68	3,264.66	-1,704.36	2,176,058.72	604,876.27	36.9796500	-107.4742831
5,999.00	92.38	308.220	2,691.78	3,301.40	-1,751.76	2,176,095.47	604,828.88	36.9797514	-107.4744449
6,059.00	92.18	308.090	2,689.39	3,338.44	-1,798.90	2,176,132.50	604,781.74	36.9798536	-107.4746058
6,120.00	93.19	308.810	2,686.54	3,376.33	-1,846.62	2,176,170.39	604,734.02	36.9799582	-107.4747687
6,180.00	93.12	308.540	2,683.24	3,413.76	-1,893.39	2,176,207.83	604,687.25	36.9800615	-107.4749283
6,242.00	91.75	308.350	2,680.60	3,452.28	-1,941.90	2,176,246.34	604,638.73	36.9801678	-107.4750939



Scientific Drilling, Intl
Survey Report - Geographic



Company: Hilcorp Energy Corp.
Project: San Juan, NM NAD27 (GRID NORTH)
Site: Allison Unit 110H
Well: Allison Unit 110H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Allison Unit 110H
TVD Reference: GL 6152' & RKB 17' @ 6169.00usft (Aztec 777)
MD Reference: GL 6152' & RKB 17' @ 6169.00usft (Aztec 777)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,302.00	92.55	309.020	2,678.35	3,489.75	-1,988.71	2,176,283.82	604,591.93	36.9802712	-107.4752537
6,363.00	90.10	310.080	2,676.94	3,528.58	-2,035.72	2,176,322.65	604,544.91	36.9803783	-107.4754141
6,423.00	90.44	311.680	2,676.66	3,567.85	-2,081.09	2,176,361.91	604,499.55	36.9804866	-107.4755689
6,484.00	90.81	312.200	2,675.99	3,608.61	-2,126.46	2,176,402.68	604,454.18	36.9805991	-107.4757237
6,544.00	90.97	313.180	2,675.06	3,649.29	-2,170.56	2,176,443.36	604,410.08	36.9807113	-107.4758742
6,605.00	90.74	312.740	2,674.15	3,690.86	-2,215.19	2,176,484.92	604,365.45	36.9808259	-107.4760265
6,665.00	90.94	311.560	2,673.27	3,731.12	-2,259.67	2,176,525.18	604,320.97	36.9809369	-107.4761782
6,725.00	88.59	311.670	2,673.52	3,770.96	-2,304.52	2,176,565.03	604,276.11	36.9810469	-107.4763313
6,786.00	88.12	312.060	2,675.27	3,811.65	-2,349.93	2,176,605.72	604,230.71	36.9811591	-107.4764862
6,846.00	87.75	311.310	2,677.43	3,851.53	-2,394.71	2,176,645.60	604,185.93	36.9812691	-107.4766390
6,894.00	88.99	312.420	2,678.79	3,883.55	-2,430.44	2,176,677.62	604,150.20	36.9813574	-107.4767609
6,962.00	88.99	312.420	2,679.99	3,929.41	-2,480.63	2,176,723.48	604,100.00	36.9814839	-107.4769322

Checked By: _____ Approved By: _____ Date: _____

Well Name: ALLISON UNIT #110H

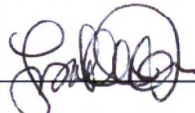
Operator HILCORP ENERGY COMPANY	Legal WellName ALLISON UNIT #110H	API / UWI 3004535883	County SAN JUAN	State/Province NEW MEXICO
Surface Legal Location D-21-32N-6W	North/South Distance (ft) 867.00	N/S Ref FNL	East/West Distance (ft) 1,094.0	E/W Ref FWL
Date 7/19/2019	Description DIRECTIONAL SURVEY			

Survey Data						
Date	TVD (ftKB)	MD (ftKB)	Incl (°)	Azm (°)	Method	Survey Company
7/12/2019	0.00	0.00	0.00	0.00	IncAzi-MWD	Scientific Drilling
7/12/2019	627.00	627.00	0.10	161.73	IncAzi-MWD	Scientific Drilling
7/12/2019	779.00	779.00	0.28	116.82	IncAzi-MWD	Scientific Drilling
7/12/2019	869.00	869.00	0.10	241.62	IncAzi-MWD	Scientific Drilling
7/12/2019	929.00	929.00	0.12	230.20	IncAzi-MWD	Scientific Drilling
7/12/2019	990.00	990.00	0.14	236.74	IncAzi-MWD	Scientific Drilling
7/12/2019	1,050.00	1,050.00	0.43	59.24	IncAzi-MWD	Scientific Drilling
7/12/2019	1,111.00	1,111.00	0.66	51.41	IncAzi-MWD	Scientific Drilling
7/12/2019	1,170.99	1,171.00	0.52	63.92	IncAzi-MWD	Scientific Drilling
7/12/2019	1,230.99	1,231.00	0.56	30.16	IncAzi-MWD	Scientific Drilling
7/12/2019	1,261.99	1,262.00	0.70	22.95	IncAzi-MWD	Scientific Drilling
7/12/2019	1,291.98	1,292.00	1.74	11.56	IncAzi-MWD	Scientific Drilling
7/12/2019	1,322.95	1,323.00	2.93	7.94	IncAzi-MWD	Scientific Drilling
7/12/2019	1,354.90	1,355.00	3.91	2.99	IncAzi-MWD	Scientific Drilling
7/12/2019	1,385.81	1,386.00	4.88	359.59	IncAzi-MWD	Scientific Drilling
7/12/2019	1,417.65	1,418.00	6.24	357.68	IncAzi-MWD	Scientific Drilling
7/12/2019	1,448.42	1,449.00	7.79	356.34	IncAzi-MWD	Scientific Drilling
7/12/2019	1,480.06	1,481.00	9.32	355.71	IncAzi-MWD	Scientific Drilling
7/12/2019	1,510.59	1,512.00	10.68	355.11	IncAzi-MWD	Scientific Drilling
7/12/2019	1,540.98	1,543.00	12.04	354.82	IncAzi-MWD	Scientific Drilling
7/12/2019	1,572.20	1,575.00	13.32	354.38	IncAzi-MWD	Scientific Drilling
7/12/2019	1,603.26	1,607.00	14.60	354.13	IncAzi-MWD	Scientific Drilling
7/12/2019	1,633.16	1,638.00	16.00	353.12	IncAzi-MWD	Scientific Drilling
7/12/2019	1,662.85	1,669.00	17.40	352.56	IncAzi-MWD	Scientific Drilling
7/12/2019	1,693.29	1,701.00	18.47	350.90	IncAzi-MWD	Scientific Drilling
7/12/2019	1,722.63	1,732.00	19.28	348.04	IncAzi-MWD	Scientific Drilling
7/12/2019	1,751.78	1,763.00	20.47	347.73	IncAzi-MWD	Scientific Drilling
7/12/2019	1,780.76	1,794.00	21.10	345.29	IncAzi-MWD	Scientific Drilling
7/12/2019	1,810.51	1,826.00	22.12	344.87	IncAzi-MWD	Scientific Drilling
7/12/2019	1,839.10	1,857.00	23.39	345.26	IncAzi-MWD	Scientific Drilling
7/12/2019	1,868.35	1,889.00	24.47	345.60	IncAzi-MWD	Scientific Drilling
7/12/2019	1,896.41	1,920.00	25.86	344.90	IncAzi-MWD	Scientific Drilling
7/12/2019	1,924.17	1,951.00	26.93	345.32	IncAzi-MWD	Scientific Drilling

I, the undersigned, certify that I acting in my capacity as AREA SUPERVISOR for Hilcorp Energy Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.



Subscribed and sworn to me this July 19, 2019



Notary Public in and for San Juan County, New Mexico

My Commission expires 11/2/2022



Well Name: ALLISON UNIT #110H

Survey Data						
Date	TVD (ftKB)	MD (ftKB)	Incl (°)	Azm (°)	Method	Survey Company
7/13/2019	1,952.55	1,983.00	28.16	345.70	IncAzi-MWD	Scientific Drilling
7/13/2019	1,979.73	2,014.00	29.32	345.10	IncAzi-MWD	Scientific Drilling
7/13/2019	2,006.60	2,045.00	30.52	345.82	IncAzi-MWD	Scientific Drilling
7/13/2019	2,033.99	2,077.00	31.69	346.51	IncAzi-MWD	Scientific Drilling
7/13/2019	2,060.20	2,108.00	32.87	347.21	IncAzi-MWD	Scientific Drilling
7/13/2019	2,086.84	2,140.00	34.42	347.82	IncAzi-MWD	Scientific Drilling
7/13/2019	2,113.02	2,172.00	35.82	346.73	IncAzi-MWD	Scientific Drilling
7/13/2019	2,138.04	2,203.00	36.51	345.40	IncAzi-MWD	Scientific Drilling
7/13/2019	2,163.63	2,235.00	37.32	344.38	IncAzi-MWD	Scientific Drilling
7/13/2019	2,188.12	2,266.00	38.32	344.20	IncAzi-MWD	Scientific Drilling
7/13/2019	2,212.99	2,298.00	39.62	344.79	IncAzi-MWD	Scientific Drilling
7/13/2019	2,236.62	2,329.00	41.07	345.39	IncAzi-MWD	Scientific Drilling
7/13/2019	2,259.72	2,360.00	42.58	345.75	IncAzi-MWD	Scientific Drilling
7/13/2019	2,282.98	2,392.00	44.16	345.34	IncAzi-MWD	Scientific Drilling
7/13/2019	2,304.91	2,423.00	45.78	345.34	IncAzi-MWD	Scientific Drilling
7/13/2019	2,326.17	2,454.00	47.61	344.93	IncAzi-MWD	Scientific Drilling
7/13/2019	2,347.50	2,486.00	48.80	343.79	IncAzi-MWD	Scientific Drilling
7/13/2019	2,367.66	2,517.00	50.06	342.47	IncAzi-MWD	Scientific Drilling
7/13/2019	2,387.31	2,548.00	51.30	342.83	IncAzi-MWD	Scientific Drilling
7/13/2019	2,406.46	2,579.00	52.37	344.04	IncAzi-MWD	Scientific Drilling
7/13/2019	2,425.70	2,611.00	53.74	345.19	IncAzi-MWD	Scientific Drilling
7/13/2019	2,443.77	2,642.00	54.95	345.30	IncAzi-MWD	Scientific Drilling
7/13/2019	2,461.46	2,673.00	55.43	345.34	IncAzi-MWD	Scientific Drilling
7/13/2019	2,479.53	2,705.00	55.81	345.01	IncAzi-MWD	Scientific Drilling
7/13/2019	2,496.70	2,736.00	56.92	345.63	IncAzi-MWD	Scientific Drilling
7/13/2019	2,513.17	2,767.00	58.90	344.94	IncAzi-MWD	Scientific Drilling
7/13/2019	2,528.83	2,798.00	60.41	344.42	IncAzi-MWD	Scientific Drilling
7/13/2019	2,544.47	2,830.00	61.06	343.91	IncAzi-MWD	Scientific Drilling
7/13/2019	2,559.26	2,861.00	61.97	343.61	IncAzi-MWD	Scientific Drilling
7/13/2019	2,574.09	2,893.00	62.81	343.50	IncAzi-MWD	Scientific Drilling
7/13/2019	2,587.89	2,924.00	64.33	343.91	IncAzi-MWD	Scientific Drilling
7/13/2019	2,601.38	2,956.00	65.81	343.97	IncAzi-MWD	Scientific Drilling
7/13/2019	2,613.74	2,987.00	67.19	344.46	IncAzi-MWD	Scientific Drilling
7/13/2019	2,625.48	3,018.00	68.30	344.66	IncAzi-MWD	Scientific Drilling
7/13/2019	2,637.09	3,050.00	69.14	345.49	IncAzi-MWD	Scientific Drilling
7/13/2019	2,647.90	3,081.00	70.03	345.54	IncAzi-MWD	Scientific Drilling
7/14/2019	2,658.36	3,113.00	71.82	345.62	IncAzi-MWD	Scientific Drilling
7/15/2019	2,685.85	3,217.00	77.51	344.46	IncAzi-MWD	Scientific Drilling

I, the undersigned, certify that I acting in my capacity as AREA SUPERVISOR for Hilcorp Energy Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.



Subscribed and sworn to me this July 19, 2019


Notary Public in and for San Juan County, New Mexico

My Commission expires 1/2/2022

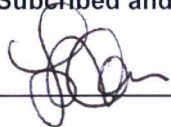

Well Name: ALLISON UNIT #110H

Survey Data						
Date	TVD (ftKB)	MD (ftKB)	Incl (°)	Azm (°)	Method	Survey Company
7/15/2019	2,692.25	3,248.00	78.67	344.80	IncAzi-MWD	Scientific Drilling
7/15/2019	2,697.95	3,279.00	80.16	345.30	IncAzi-MWD	Scientific Drilling
7/15/2019	2,703.05	3,311.00	81.50	345.15	IncAzi-MWD	Scientific Drilling
7/15/2019	2,707.12	3,342.00	83.40	345.57	IncAzi-MWD	Scientific Drilling
7/15/2019	2,710.05	3,373.00	85.76	345.44	IncAzi-MWD	Scientific Drilling
7/15/2019	2,713.19	3,436.00	88.52	346.04	IncAzi-MWD	Scientific Drilling
7/15/2019	2,714.83	3,499.00	88.49	347.34	IncAzi-MWD	Scientific Drilling
7/15/2019	2,716.44	3,562.00	88.59	349.54	IncAzi-MWD	Scientific Drilling
7/15/2019	2,717.31	3,624.00	89.80	349.39	IncAzi-MWD	Scientific Drilling
7/15/2019	2,716.05	3,688.00	92.45	348.25	IncAzi-MWD	Scientific Drilling
7/15/2019	2,713.30	3,750.00	92.65	348.31	IncAzi-MWD	Scientific Drilling
7/15/2019	2,711.01	3,813.00	91.51	346.58	IncAzi-MWD	Scientific Drilling
7/15/2019	2,708.68	3,876.00	92.72	344.29	IncAzi-MWD	Scientific Drilling
7/15/2019	2,706.82	3,939.00	90.67	343.71	IncAzi-MWD	Scientific Drilling
7/15/2019	2,705.96	4,002.00	90.90	344.57	IncAzi-MWD	Scientific Drilling
7/15/2019	2,705.53	4,065.00	89.87	342.46	IncAzi-MWD	Scientific Drilling
7/15/2019	2,705.75	4,127.00	89.73	341.62	IncAzi-MWD	Scientific Drilling
7/15/2019	2,705.23	4,190.00	91.21	340.15	IncAzi-MWD	Scientific Drilling
7/15/2019	2,704.40	4,253.00	90.30	339.24	IncAzi-MWD	Scientific Drilling
7/15/2019	2,704.31	4,316.00	89.87	337.90	IncAzi-MWD	Scientific Drilling
7/15/2019	2,704.20	4,378.00	90.34	335.47	IncAzi-MWD	Scientific Drilling
7/15/2019	2,704.27	4,440.00	89.53	331.63	IncAzi-MWD	Scientific Drilling
7/15/2019	2,704.71	4,503.00	89.66	330.67	IncAzi-MWD	Scientific Drilling
7/16/2019	2,704.93	4,565.00	89.93	328.47	IncAzi-MWD	Scientific Drilling
7/16/2019	2,704.25	4,628.00	91.31	325.81	IncAzi-MWD	Scientific Drilling
7/16/2019	2,702.44	4,691.00	91.98	324.73	IncAzi-MWD	Scientific Drilling
7/16/2019	2,700.45	4,753.00	91.71	322.60	IncAzi-MWD	Scientific Drilling
7/16/2019	2,699.30	4,816.00	90.37	320.50	IncAzi-MWD	Scientific Drilling
7/16/2019	2,699.32	4,879.00	89.60	317.58	IncAzi-MWD	Scientific Drilling
7/16/2019	2,698.94	4,941.00	91.11	314.82	IncAzi-MWD	Scientific Drilling
7/16/2019	2,697.86	5,004.00	90.84	312.04	IncAzi-MWD	Scientific Drilling
7/16/2019	2,697.57	5,067.00	89.70	307.96	IncAzi-MWD	Scientific Drilling
7/16/2019	2,697.89	5,129.00	89.70	305.52	IncAzi-MWD	Scientific Drilling
7/16/2019	2,698.20	5,192.00	89.73	304.94	IncAzi-MWD	Scientific Drilling
7/16/2019	2,698.42	5,254.00	89.87	305.01	IncAzi-MWD	Scientific Drilling
7/16/2019	2,698.81	5,317.00	89.43	304.02	IncAzi-MWD	Scientific Drilling
7/16/2019	2,699.10	5,379.00	90.03	304.46	IncAzi-MWD	Scientific Drilling
7/16/2019	2,699.17	5,442.00	89.83	304.96	IncAzi-MWD	Scientific Drilling

I, the undersigned, certify that I acting in my capacity as AREA SUPERVISOR for Hilcorp Energy Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.



Subscribed and sworn to me this July 19, 2019



Notary Public in and for San Juan County, New Mexico

My Commission expires 1/2/2022



Well Name: ALLISON UNIT #110H
Survey Data

Date	TVD (ftKB)	MD (ftKB)	Incl (°)	Azm (°)	Method	Survey Company
7/16/2019	2,699.46	5,505.00	89.66	305.86	IncAzi-MWD	Scientific Drilling
7/16/2019	2,700.09	5,569.00	89.20	306.13	IncAzi-MWD	Scientific Drilling
7/16/2019	2,701.13	5,631.00	88.89	308.78	IncAzi-MWD	Scientific Drilling
7/16/2019	2,701.18	5,694.00	91.01	309.81	IncAzi-MWD	Scientific Drilling
7/16/2019	2,699.61	5,757.00	91.85	306.90	IncAzi-MWD	Scientific Drilling
7/16/2019	2,697.62	5,818.00	91.88	305.60	IncAzi-MWD	Scientific Drilling
7/16/2019	2,695.50	5,878.00	92.18	306.46	IncAzi-MWD	Scientific Drilling
7/16/2019	2,693.68	5,939.00	91.24	307.35	IncAzi-MWD	Scientific Drilling
7/16/2019	2,691.78	5,999.00	92.38	308.22	IncAzi-MWD	Scientific Drilling
7/16/2019	2,689.39	6,059.00	92.18	308.09	IncAzi-MWD	Scientific Drilling
7/16/2019	2,686.54	6,120.00	93.19	308.81	IncAzi-MWD	Scientific Drilling
7/16/2019	2,683.23	6,180.00	93.12	308.54	IncAzi-MWD	Scientific Drilling
7/16/2019	2,680.60	6,242.00	91.75	308.35	IncAzi-MWD	Scientific Drilling
7/16/2019	2,678.35	6,302.00	92.55	309.02	IncAzi-MWD	Scientific Drilling
7/16/2019	2,676.94	6,363.00	90.10	310.08	IncAzi-MWD	Scientific Drilling
7/17/2019	2,676.66	6,423.00	90.44	311.68	IncAzi-MWD	Scientific Drilling
7/17/2019	2,675.99	6,484.00	90.81	312.20	IncAzi-MWD	Scientific Drilling
7/17/2019	2,675.06	6,544.00	90.97	313.18	IncAzi-MWD	Scientific Drilling
7/17/2019	2,674.15	6,605.00	90.74	312.74	IncAzi-MWD	Scientific Drilling
7/17/2019	2,673.27	6,665.00	90.94	311.56	IncAzi-MWD	Scientific Drilling
7/17/2019	2,673.52	6,725.00	88.59	311.67	IncAzi-MWD	Scientific Drilling
7/17/2019	2,675.27	6,786.00	88.12	312.06	IncAzi-MWD	Scientific Drilling
7/17/2019	2,677.43	6,846.00	87.75	311.31	IncAzi-MWD	Scientific Drilling
7/17/2019	2,678.79	6,894.00	88.99	312.42	IncAzi-MWD	Scientific Drilling
7/17/2019	2,679.99	6,962.00	88.99	312.42	IncAzi-MWD	Scientific Drilling

I, the undersigned, certify that I acting in my capacity as AREA SUPERVISOR for Hilcorp Energy Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.



Subscribed and sworn to me this July 19, 2019



Notary Public in and for San Juan County, New Mexico

My Commission expires 1/2/2022

