

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

☒ AS-DRILLED

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-31369	² Pool Code 97232	³ Pool Name BASIN MANCOS
⁴ Property Code 322485	⁵ Property Name SAN JUAN 29-6 UNIT COM 601	⁶ Well Number 1H
⁷ GRID No. 372171	⁸ Operator Name HILCORP ENERGY COMPANY	⁹ Elevation 6782'

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
E	8	29N	6W		2579	NORTH	18	WEST	RIO ARriba

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	9	29N	6W		2374	NORTH	2379	EAST	RIO ARriba

¹² Dedicated Acres 1280.00	Entire Section 8 Entire Section 9	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

A SURFACE LOCATION
2579' FNL 18' FWL
SEC 8, T29N, R6W
LAT: 36.740356°N
LONG: 107.494667°W
DATUM: NAD1927
LAT: 36.740362°N
LONG: 107.495272°W
DATUM: NAD1983

B PILOT HOLE
2334' FNL 129' FWL
SEC 8, T29N, R6W
LAT: 36.741028°N
LONG: 107.494288°W
DATUM: NAD1927
LAT: 36.741035°N
LONG: 107.494893°W
DATUM: NAD1983

C HEEL PERF / POE
2362' FNL 891' FWL
SEC 8, T29N, R6W
LAT: 36.740954°N
LONG: 107.491687°W
DATUM: NAD1927
LAT: 36.740961°N
LONG: 107.492292°W
DATUM: NAD1983

D TOE PERF / BHL
2374' FNL 2379' FEL
SEC 9, T29N, R6W
LAT: 36.740885°N
LONG: 107.466776°W
DATUM: NAD1927
LAT: 36.740891°N
LONG: 107.467380°W
DATUM: NAD1983

A N24°13.9'E 260.9'
B S88°10.4'E 162.6'
C N89°54.2'E 1299.2'
D N89°54.2'E 1299.2'

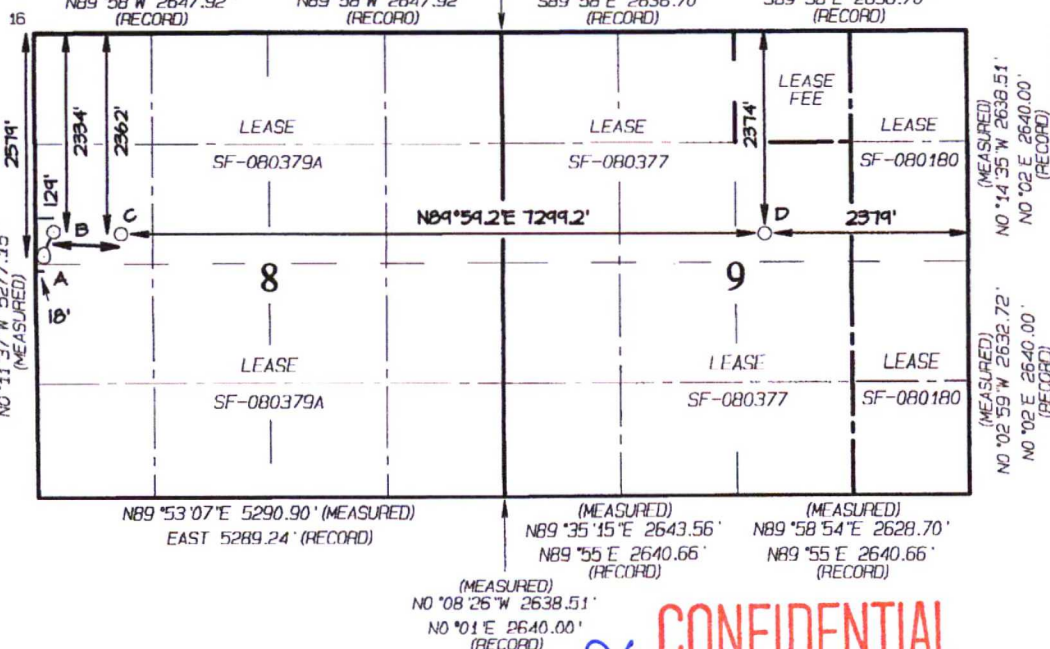
(MEASURED)
N0°05'37"W 2637.57'
N0°01'E 2640.00'
(RECORD)

(MEASURED)
N89°44'06"E 2642.02'
N89°58'W 2647.92'
(RECORD)

(MEASURED)
S89°56'32"E 2655.94'
N89°58'W 2647.92'
(RECORD)

(MEASURED)
N89°49'32"E 2636.98'
S89°58'E 2636.70'
(RECORD)

(MEASURED)
N89°50'54"E 2632.55'
S89°58'E 2636.70'
(RECORD)



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.

Tammy Jones 1/28/2019

Signature Date

TAMMY JONES

Printed Name

tajones@hilcorp.com

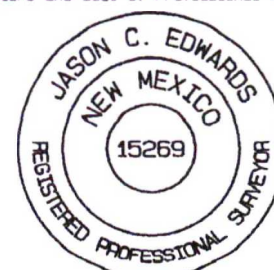
E-mail Address

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: JANUARY 28, 2019
Survey Date: JANUARY 5, 2018

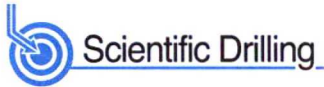
Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269

CONFIDENTIAL



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.	San Juan 29-6 Unit Com 601 A 1H Pilot
County & State	Rio Arriba, NM
SDI Job No.	OP.014783
Rig	PD 829

I, Janie Collins, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 160 feet to a measured depth of 6,860 feet is true and correct as determined from all available records.

Signature

25-Jan-19

Date

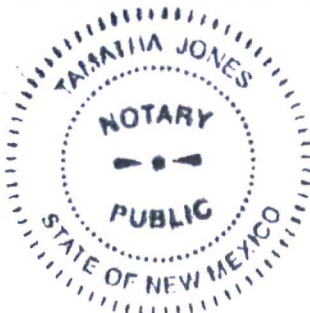
Janie Collins

Colorado District Well Planner
Scientific Drilling International

Subscribed and sworn to me this 25-Jan-2019

Notary Public in and for San Juan County, New Mexico

My Commission expires 12-Mar-2022



CONFIDENTIAL



Scientific Drilling, Intl

Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	Pilot	Survey Calculation Method:	Minimum Curvature
Design:	Pilot	Database:	Grand Junction District

Project	Rio Arriba, NM NAD27		
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	San Juan 29-6 Pad				
Site Position:		Northing:	2,088,907.82 usft	Latitude:	36.7403199
From:	Lat/Long	Easting:	599,185.38 usft	Longitude:	-107.4948233
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.20 °

Well	San Juan 29-6 Unit Com 601 A 1H - Slot A01					
Well Position	+N/-S	0.00 usft	Northing:	2,088,921.13 usft	Latitude:	36.7403560
	+E/-W	0.00 usft	Easting:	599,231.13 usft	Longitude:	-107.4946670
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,782.00 usft

Wellbore	Pilot				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/28/2018	8.93	63.32	49,839

Design	Pilot				
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	25.244	

Survey Program	Date	1/25/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
160.00	6,860.00	Survey #1 - Surface MWD Survey (Pilot)	MWD+HDGM	OWSG MWD + HDGM

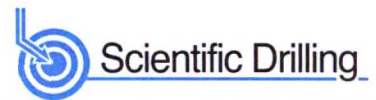
Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.00	1.20	274.000	159.99	0.12	-1.67	-0.61	0.75	0.75	0.00
252.00	1.00	263.000	251.97	0.09	-3.43	-1.38	0.32	-0.22	-11.96
345.00	0.30	64.000	344.97	0.09	-4.02	-1.63	1.38	-0.75	173.12
395.00	0.98	320.880	394.97	0.48	-4.17	-1.34	2.18	1.36	-206.24
427.00	0.79	316.810	426.96	0.86	-4.49	-1.14	0.63	-0.59	-12.72
458.00	1.33	341.630	457.96	1.35	-4.75	-0.80	2.25	1.74	80.06
490.00	1.99	3.310	489.94	2.26	-4.84	-0.02	2.81	2.06	67.75
522.00	2.51	16.780	521.92	3.49	-4.60	1.19	2.31	1.63	42.09
553.00	2.71	18.040	552.89	4.83	-4.18	2.59	0.67	0.65	4.06

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Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	Pilot	Survey Calculation Method:	Minimum Curvature
Design:	Pilot	Database:	Grand Junction District

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)
585.00	2.89	20.550	584.85	6.31	-3.66	4.14	0.68	0.56	7.84
616.00	2.84	29.830	615.81	7.71	-3.01	5.69	1.50	-0.16	29.94
648.00	3.25	36.240	647.76	9.13	-2.07	7.37	1.66	1.28	20.03
679.00	3.19	38.800	678.72	10.51	-1.01	9.07	0.50	-0.19	8.26
711.00	3.07	42.660	710.67	11.83	0.12	10.75	0.76	-0.38	12.06
742.00	2.82	39.930	741.63	13.03	1.18	12.28	0.92	-0.81	-8.81
774.00	2.71	43.490	773.59	14.18	2.20	13.76	0.64	-0.34	11.13
806.00	2.90	42.070	805.55	15.33	3.26	15.26	0.63	0.59	-4.44
837.00	2.93	38.830	836.51	16.53	4.29	16.78	0.54	0.10	-10.45
869.00	2.87	38.730	868.47	17.79	5.30	18.35	0.19	-0.19	-0.31
901.00	2.85	40.200	900.43	19.02	6.32	19.90	0.24	-0.06	4.59
932.00	2.91	39.040	931.39	20.22	7.31	21.41	0.27	0.19	-3.74
964.00	2.88	39.750	963.35	21.47	8.33	22.97	0.15	-0.09	2.22
995.00	2.84	38.300	994.31	22.67	9.31	24.48	0.27	-0.13	-4.68
1,027.00	2.74	38.580	1,026.27	23.89	10.28	25.99	0.32	-0.31	0.88
1,059.00	2.61	39.610	1,058.24	25.05	11.22	27.44	0.43	-0.41	3.22
1,090.00	2.59	37.990	1,089.21	26.15	12.10	28.81	0.25	-0.06	-5.23
1,122.00	2.53	33.310	1,121.17	27.31	12.93	30.21	0.68	-0.19	-14.63
1,154.00	2.54	30.270	1,153.14	28.51	13.68	31.62	0.42	0.03	-9.50
1,198.00	2.72	26.050	1,197.10	30.29	14.63	33.64	0.60	0.41	-9.59
1,243.00	2.79	27.400	1,242.05	32.22	15.60	35.80	0.21	0.16	3.00
1,288.00	2.51	25.680	1,287.00	34.08	16.53	37.88	0.65	-0.62	-3.82
1,332.00	2.43	26.760	1,330.96	35.78	17.37	39.77	0.21	-0.18	2.45
1,377.00	2.48	28.080	1,375.91	37.49	18.26	41.70	0.17	0.11	2.93
1,422.00	2.45	28.530	1,420.87	39.20	19.17	43.63	0.08	-0.07	1.00
1,467.00	2.56	26.530	1,465.83	40.94	20.08	45.60	0.31	0.24	-4.44
1,511.00	2.42	25.090	1,509.79	42.66	20.92	47.51	0.35	-0.32	-3.27
1,556.00	2.33	21.930	1,554.75	44.37	21.66	49.37	0.35	-0.20	-7.02
1,601.00	2.52	19.370	1,599.71	46.15	22.33	51.27	0.49	0.42	-5.69
1,645.00	2.17	18.270	1,643.67	47.86	22.91	53.06	0.80	-0.80	-2.50
1,690.00	2.39	12.290	1,688.64	49.58	23.38	54.82	0.72	0.49	-13.29
1,735.00	1.95	14.540	1,733.60	51.24	23.77	56.48	1.00	-0.98	5.00
1,779.00	2.22	12.370	1,777.58	52.80	24.14	58.05	0.64	0.61	-4.93
1,824.00	2.18	7.090	1,822.54	54.50	24.43	59.71	0.46	-0.09	-11.73
1,869.00	1.95	11.980	1,867.51	56.10	24.70	61.27	0.64	-0.51	10.87
1,913.00	1.85	10.650	1,911.49	57.53	24.98	62.69	0.25	-0.23	-3.02
1,958.00	1.95	13.660	1,956.46	58.98	25.30	64.14	0.31	0.22	6.69
2,003.00	2.06	8.630	2,001.44	60.53	25.60	65.67	0.46	0.24	-11.18
2,048.00	2.19	13.540	2,046.41	62.16	25.92	67.28	0.50	0.29	10.91
2,092.00	2.29	21.850	2,090.37	63.80	26.45	68.98	0.77	0.23	18.89
2,137.00	2.62	22.370	2,135.33	65.58	27.17	70.91	0.73	0.73	1.16
2,182.00	2.56	22.180	2,180.29	67.46	27.95	72.94	0.13	-0.13	-0.42



Scientific Drilling, Intl Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	Pilot	Survey Calculation Method:	Minimum Curvature
Design:	Pilot	Database:	Grand Junction District

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)	
2,226.00	2.50	28.090	2,224.24	69.22	28.77	74.88	0.61	-0.14	13.43	
2,271.00	2.45	23.640	2,269.20	70.97	29.62	76.82	0.44	-0.11	-9.89	
2,316.00	2.38	23.700	2,314.16	72.70	30.38	78.72	0.16	-0.16	0.13	
2,361.00	2.44	26.130	2,359.12	74.42	31.17	80.61	0.26	0.13	5.40	
2,405.00	2.30	20.130	2,403.08	76.09	31.89	82.42	0.65	-0.32	-13.64	
2,450.00	2.37	24.870	2,448.05	77.78	32.59	84.25	0.46	0.16	10.53	
2,495.00	2.97	27.880	2,493.00	79.66	33.53	86.35	1.37	1.33	6.69	
2,540.00	3.23	27.000	2,537.93	81.82	34.65	88.78	0.59	0.58	-1.96	
2,584.00	2.93	25.370	2,581.87	83.94	35.69	91.14	0.71	-0.68	-3.70	
2,629.00	2.88	27.540	2,626.81	85.98	36.71	93.42	0.27	-0.11	4.82	
2,674.00	3.13	24.670	2,671.75	88.10	37.75	95.78	0.65	0.56	-6.38	
2,718.00	3.01	25.500	2,715.68	90.23	38.74	98.14	0.29	-0.27	1.89	
2,763.00	3.02	21.210	2,760.62	92.40	39.68	100.50	0.50	0.02	-9.53	
2,808.00	2.84	24.550	2,805.56	94.52	40.57	102.80	0.55	-0.40	7.42	
2,853.00	2.93	24.210	2,850.51	96.58	41.51	105.06	0.20	0.20	-0.76	
2,897.00	2.90	21.860	2,894.45	98.64	42.38	107.30	0.28	-0.07	-5.34	
2,987.00	2.77	20.540	2,984.34	102.79	44.00	111.74	0.16	-0.14	-1.47	
3,031.00	2.62	25.280	3,028.29	104.70	44.80	113.80	0.61	-0.34	10.77	
3,076.00	2.55	21.920	3,073.24	106.56	45.61	115.83	0.37	-0.16	-7.47	
3,121.00	2.42	22.920	3,118.20	108.36	46.35	117.78	0.30	-0.29	2.22	
3,166.00	2.43	23.310	3,163.16	110.11	47.10	119.68	0.04	0.02	0.87	
3,255.00	2.37	19.210	3,252.08	113.58	48.45	123.40	0.20	-0.07	-4.61	
3,300.00	2.59	21.830	3,297.04	115.40	49.14	125.34	0.55	0.49	5.82	
3,345.00	2.46	19.610	3,342.00	117.26	49.84	127.32	0.36	-0.29	-4.93	
3,389.00	2.63	15.870	3,385.95	119.12	50.43	129.25	0.54	0.39	-8.50	
3,434.00	2.58	17.170	3,430.91	121.08	51.01	131.27	0.17	-0.11	2.89	
3,479.00	2.56	14.550	3,475.86	123.02	51.57	133.26	0.26	-0.04	-5.82	
3,524.00	2.60	13.470	3,520.82	124.99	52.06	135.25	0.14	0.09	-2.40	
3,568.00	2.60	10.530	3,564.77	126.94	52.47	137.19	0.30	0.00	-6.68	
3,613.00	2.32	4.970	3,609.73	128.85	52.74	139.03	0.82	-0.62	-12.36	
3,658.00	1.98	2.180	3,654.70	130.53	52.84	140.60	0.79	-0.76	-6.20	
3,703.00	2.10	5.250	3,699.67	132.13	52.95	142.09	0.36	0.27	6.82	
3,747.00	2.92	7.390	3,743.63	134.04	53.17	143.92	1.88	1.86	4.86	
3,837.00	2.90	6.590	3,833.51	138.58	53.72	148.26	0.05	-0.02	-0.89	
3,881.00	2.98	8.270	3,877.45	140.82	54.02	150.40	0.27	0.18	3.82	
3,926.00	2.94	15.260	3,922.39	143.09	54.49	152.66	0.81	-0.09	15.53	
3,971.00	3.20	16.240	3,967.33	145.41	55.14	155.04	0.59	0.58	2.18	
4,016.00	3.53	20.700	4,012.25	147.91	55.98	157.66	0.94	0.73	9.91	
4,061.00	3.58	26.320	4,057.17	150.46	57.10	160.44	0.78	0.11	12.49	
4,105.00	3.54	25.450	4,101.08	152.92	58.29	163.18	0.15	-0.09	-1.98	
4,150.00	3.17	25.290	4,146.00	155.30	59.42	165.81	0.82	-0.82	-0.36	
4,195.00	3.13	28.230	4,190.94	157.51	60.53	168.28	0.37	-0.09	6.53	
4,239.00	3.19	25.860	4,234.87	159.67	61.63	170.70	0.33	0.14	-5.39	

CONFIDENTIAL



Scientific Drilling, Intl

Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	Pilot	Survey Calculation Method:	Minimum Curvature
Design:	Pilot	Database:	Grand Junction District

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)
4,284.00	3.31	24.850	4,279.80	161.97	62.73	173.26	0.30	0.27	-2.24
4,329.00	3.36	26.960	4,324.72	164.33	63.87	175.87	0.29	0.11	4.69
4,373.00	3.58	25.560	4,368.64	166.72	65.05	178.54	0.54	0.50	-3.18
4,418.00	3.71	26.780	4,413.55	169.28	66.31	181.40	0.34	0.29	2.71
4,463.00	3.79	27.830	4,458.45	171.90	67.66	184.34	0.23	0.18	2.33
4,507.00	3.54	28.300	4,502.36	174.38	68.98	187.15	0.57	-0.57	1.07
4,552.00	3.17	26.070	4,547.28	176.72	70.19	189.78	0.87	-0.82	-4.96
4,597.00	2.88	26.000	4,592.22	178.86	71.23	192.15	0.64	-0.64	-0.16
4,642.00	2.69	25.490	4,637.17	180.82	72.18	194.34	0.43	-0.42	-1.13
4,686.00	2.55	24.200	4,681.12	182.65	73.02	196.35	0.35	-0.32	-2.93
4,731.00	2.87	25.490	4,726.07	184.58	73.92	198.48	0.72	0.71	2.87
4,776.00	3.09	27.070	4,771.01	186.68	74.96	200.82	0.52	0.49	3.51
4,821.00	3.19	26.230	4,815.94	188.88	76.06	203.28	0.24	0.22	-1.87
4,865.00	3.17	24.200	4,859.88	191.09	77.10	205.72	0.26	-0.05	-4.61
4,910.00	3.20	24.130	4,904.81	193.37	78.13	208.22	0.07	0.07	-0.16
4,955.00	3.23	22.070	4,949.74	195.69	79.12	210.74	0.27	0.07	-4.58
4,999.00	3.35	26.480	4,993.66	197.99	80.15	213.26	0.64	0.27	10.02
5,044.00	3.43	32.210	5,038.58	200.30	81.46	215.92	0.77	0.18	12.73
5,088.00	3.39	32.640	5,082.51	202.51	82.86	218.51	0.11	-0.09	0.98
5,133.00	3.36	32.320	5,127.43	204.75	84.28	221.14	0.08	-0.07	-0.71
5,178.00	3.39	32.340	5,172.35	206.99	85.70	223.77	0.07	0.07	0.04
5,223.00	3.20	32.870	5,217.28	209.17	87.09	226.33	0.43	-0.42	1.18
5,267.00	3.32	28.990	5,261.21	211.31	88.38	228.82	0.57	0.27	-8.82
5,312.00	3.30	31.330	5,306.13	213.56	89.68	231.41	0.30	-0.04	5.20
5,357.00	3.21	30.600	5,351.06	215.75	91.00	233.95	0.22	-0.20	-1.62
5,401.00	3.28	29.110	5,394.99	217.91	92.24	236.44	0.25	0.16	-3.39
5,446.00	3.59	29.460	5,439.91	220.26	93.56	239.13	0.69	0.69	0.78
5,491.00	3.55	29.960	5,484.82	222.69	94.95	241.92	0.11	-0.09	1.11
6,137.00	2.04	359.430	6,130.06	251.52	104.82	272.20	0.32	-0.23	-4.73
6,182.00	1.54	8.620	6,175.04	252.92	104.90	273.51	1.28	-1.11	20.42
6,227.00	0.34	96.810	6,220.04	253.50	105.13	274.13	3.48	-2.67	195.98
6,271.00	0.81	138.310	6,264.03	253.26	105.46	274.05	1.36	1.07	94.32
6,316.00	0.97	143.530	6,309.03	252.71	105.90	273.74	0.40	0.36	11.60
6,361.00	0.78	133.810	6,354.02	252.19	106.35	273.46	0.53	-0.42	-21.60
6,405.00	0.92	136.630	6,398.02	251.73	106.81	273.24	0.33	0.32	6.41
6,450.00	1.05	141.900	6,443.01	251.14	107.31	272.92	0.35	0.29	11.71
6,495.00	1.04	139.680	6,488.01	250.51	107.83	272.57	0.09	-0.02	-4.93
6,539.00	1.21	137.850	6,532.00	249.86	108.40	272.22	0.39	0.39	-4.16
6,584.00	1.22	140.270	6,576.99	249.14	109.02	271.84	0.12	0.02	5.38
6,629.00	1.12	142.580	6,621.98	248.42	109.60	271.43	0.25	-0.22	5.13
6,674.00	1.12	148.210	6,666.97	247.70	110.09	270.99	0.24	0.00	12.51
6,718.00	1.01	150.840	6,710.96	246.99	110.51	270.53	0.27	-0.25	5.98



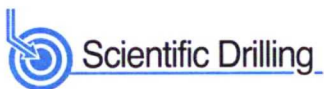
Scientific Drilling, Intl
Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	Pilot	Survey Calculation Method:	Minimum Curvature
Design:	Pilot	Database:	Grand Junction District

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)
6,763.00	0.97	160.330	6,755.95	246.29	110.83	270.03	0.37	-0.09	21.09
6,798.00	0.88	170.300	6,790.95	245.74	110.98	269.60	0.53	-0.26	28.49
6,860.00	0.88	170.300	6,852.94	244.80	111.14	268.82	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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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.	San Juan 29-6 Unit Com 601 A 1H Lateral
County & State	Rio Arriba, NM
SDI Job No.	OP.015399
Rig	PD 829

I, Janie Collins, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 6,374 feet to a measured depth of 15,081 feet is true and correct as determined from all available records.

Signature

25-Jan-19

Date

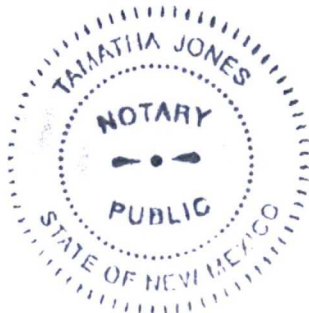
Janie Collins

Colorado District Well Planner
Scientific Drilling International

Subscribed and sworn to me this 25-Jan-2019

Notary Public in and for San Juan County, New Mexico

My Commission expires 12-Mar-2022



CONFIDENTIAL



Scientific Drilling, Intl

Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Project	Rio Arriba, NM NAD27		
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	San Juan 29-6 Pad				
Site Position:		Northing:	2,088,907.82 usft	Latitude:	36.7403199
From:	Lat/Long	Easting:	599,185.38 usft	Longitude:	-107.4948233
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.20 °

Well	San Juan 29-6 Unit Com 601 A 1H - Slot A01					
Well Position	+N/-S	0.00 usft	Northing:	2,088,921.13 usft	Latitude:	36.7403560
	+E/-W	0.00 usft	Easting:	599,231.13 usft	Longitude:	-107.4946670
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,782.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/14/2018	8.98	63.33	49,920
	HDGM	12/23/2018	8.92	63.30	49,821

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	6,330.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00		88.660

Survey Program	Date 1/15/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
160.00	6,330.00	Survey #1 - Surface MWD Survey (Pilot)	MWD+HDGM	OWSG MWD + HDGM
6,374.00	15,081.00	Survey #1 - MWD Survey (OH)	MWD+HDGM	OWSG 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	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.00	1.20	274.000	159.99	0.12	-1.67	-1.67	0.75	0.75	0.00
252.00	1.00	263.000	251.97	0.09	-3.43	-3.43	0.32	-0.22	-11.96
345.00	0.30	64.000	344.97	0.09	-4.02	-4.01	1.38	-0.75	173.12
395.00	0.98	320.880	394.97	0.48	-4.17	-4.16	2.18	1.36	-206.24
427.00	0.79	316.810	426.96	0.86	-4.49	-4.47	0.63	-0.59	-12.72
458.00	1.33	341.630	457.96	1.35	-4.75	-4.72	2.25	1.74	80.06
490.00	1.99	3.310	489.94	2.26	-4.84	-4.78	2.81	2.06	67.75



Scientific Drilling, Intl
Survey Report

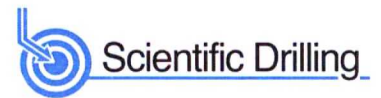


Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)	
522.00	2.51	16.780	521.92	3.49	-4.60	-4.52	2.31	1.63	42.09	
553.00	2.71	18.040	552.89	4.83	-4.18	-4.06	0.67	0.65	4.06	
585.00	2.89	20.550	584.85	6.31	-3.66	-3.51	0.68	0.56	7.84	
616.00	2.84	29.830	615.81	7.71	-3.01	-2.82	1.50	-0.16	29.94	
648.00	3.25	36.240	647.76	9.13	-2.07	-1.86	1.66	1.28	20.03	
679.00	3.19	38.800	678.72	10.51	-1.01	-0.77	0.50	-0.19	8.26	
711.00	3.07	42.660	710.67	11.83	0.12	0.40	0.76	-0.38	12.06	
742.00	2.82	39.930	741.63	13.03	1.18	1.48	0.92	-0.81	-8.81	
774.00	2.71	43.490	773.59	14.18	2.20	2.53	0.64	-0.34	11.13	
806.00	2.90	42.070	805.55	15.33	3.26	3.62	0.63	0.59	-4.44	
837.00	2.93	38.830	836.51	16.53	4.29	4.67	0.54	0.10	-10.45	
869.00	2.87	38.730	868.47	17.79	5.30	5.72	0.19	-0.19	-0.31	
901.00	2.85	40.200	900.43	19.02	6.32	6.76	0.24	-0.06	4.59	
932.00	2.91	39.040	931.39	20.22	7.31	7.78	0.27	0.19	-3.74	
964.00	2.88	39.750	963.35	21.47	8.33	8.83	0.15	-0.09	2.22	
995.00	2.84	38.300	994.31	22.67	9.31	9.84	0.27	-0.13	-4.68	
1,027.00	2.74	38.580	1,026.27	23.89	10.28	10.83	0.32	-0.31	0.88	
1,059.00	2.61	39.610	1,058.24	25.05	11.22	11.80	0.43	-0.41	3.22	
1,090.00	2.59	37.990	1,089.21	26.15	12.10	12.71	0.25	-0.06	-5.23	
1,122.00	2.53	33.310	1,121.17	27.31	12.93	13.57	0.68	-0.19	-14.63	
1,154.00	2.54	30.270	1,153.14	28.51	13.68	14.34	0.42	0.03	-9.50	
1,198.00	2.72	26.050	1,197.10	30.29	14.63	15.33	0.60	0.41	-9.59	
1,243.00	2.79	27.400	1,242.05	32.22	15.60	16.35	0.21	0.16	3.00	
1,288.00	2.51	25.680	1,287.00	34.08	16.53	17.32	0.65	-0.62	-3.82	
1,332.00	2.43	26.760	1,330.96	35.78	17.37	18.20	0.21	-0.18	2.45	
1,377.00	2.48	28.080	1,375.91	37.49	18.26	19.13	0.17	0.11	2.93	
1,422.00	2.45	28.530	1,420.87	39.20	19.17	20.09	0.08	-0.07	1.00	
1,467.00	2.56	26.530	1,465.83	40.94	20.08	21.03	0.31	0.24	-4.44	
1,511.00	2.42	25.090	1,509.79	42.66	20.92	21.91	0.35	-0.32	-3.27	
1,556.00	2.33	21.930	1,554.75	44.37	21.66	22.69	0.35	-0.20	-7.02	
1,601.00	2.52	19.370	1,599.71	46.15	22.33	23.40	0.49	0.42	-5.69	
1,645.00	2.17	18.270	1,643.67	47.86	22.91	24.02	0.80	-0.80	-2.50	
1,690.00	2.39	12.290	1,688.64	49.58	23.38	24.53	0.72	0.49	-13.29	
1,735.00	1.95	14.540	1,733.60	51.24	23.77	24.96	1.00	-0.98	5.00	
1,779.00	2.22	12.370	1,777.58	52.80	24.14	25.37	0.64	0.61	-4.93	
1,824.00	2.18	7.090	1,822.54	54.50	24.43	25.70	0.46	-0.09	-11.73	
1,869.00	1.95	11.980	1,867.51	56.10	24.70	26.00	0.64	-0.51	10.87	
1,913.00	1.85	10.650	1,911.49	57.53	24.98	26.32	0.25	-0.23	-3.02	
1,958.00	1.95	13.660	1,956.46	58.98	25.30	26.67	0.31	0.22	6.69	
2,003.00	2.06	8.630	2,001.44	60.53	25.60	27.01	0.46	0.24	-11.18	
2,048.00	2.19	13.540	2,046.41	62.16	25.92	27.37	0.50	0.29	10.91	
2,092.00	2.29	21.850	2,090.37	63.80	26.45	27.93	0.77	0.23	18.89	



Scientific Drilling, Intl
Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)
2,137.00	2.62	22.370	2,135.33	65.58	27.17	28.70	0.73	0.73	1.16
2,182.00	2.56	22.180	2,180.29	67.46	27.95	29.52	0.13	-0.13	-0.42
2,226.00	2.50	28.090	2,224.24	69.22	28.77	30.38	0.61	-0.14	13.43
2,271.00	2.45	23.640	2,269.20	70.97	29.62	31.27	0.44	-0.11	-9.89
2,316.00	2.38	23.700	2,314.16	72.70	30.38	32.07	0.16	-0.16	0.13
2,361.00	2.44	26.130	2,359.12	74.42	31.17	32.91	0.26	0.13	5.40
2,405.00	2.30	20.130	2,403.08	76.09	31.89	33.66	0.65	-0.32	-13.64
2,450.00	2.37	24.870	2,448.05	77.78	32.59	34.40	0.46	0.16	10.53
2,495.00	2.97	27.880	2,493.00	79.66	33.53	35.38	1.37	1.33	6.69
2,540.00	3.23	27.000	2,537.93	81.82	34.65	36.55	0.59	0.58	-1.96
2,584.00	2.93	25.370	2,581.87	83.94	35.69	37.65	0.71	-0.68	-3.70
2,629.00	2.88	27.540	2,626.81	85.98	36.71	38.71	0.27	-0.11	4.82
2,674.00	3.13	24.670	2,671.75	88.10	37.75	39.80	0.65	0.56	-6.38
2,718.00	3.01	25.500	2,715.68	90.23	38.74	40.84	0.29	-0.27	1.89
2,763.00	3.02	21.210	2,760.62	92.40	39.68	41.83	0.50	0.02	-9.53
2,808.00	2.84	24.550	2,805.56	94.52	40.57	42.77	0.55	-0.40	7.42
2,853.00	2.93	24.210	2,850.51	96.58	41.51	43.76	0.20	0.20	-0.76
2,897.00	2.90	21.860	2,894.45	98.64	42.38	44.68	0.28	-0.07	-5.34
2,987.00	2.77	20.540	2,984.34	102.79	44.00	46.39	0.16	-0.14	-1.47
3,031.00	2.62	25.280	3,028.29	104.70	44.80	47.23	0.61	-0.34	10.77
3,076.00	2.55	21.920	3,073.24	106.56	45.61	48.09	0.37	-0.16	-7.47
3,121.00	2.42	22.920	3,118.20	108.36	46.35	48.88	0.30	-0.29	2.22
3,166.00	2.43	23.310	3,163.16	110.11	47.10	49.66	0.04	0.02	0.87
3,255.00	2.37	19.210	3,252.08	113.58	48.45	51.10	0.20	-0.07	-4.61
3,300.00	2.59	21.830	3,297.04	115.40	49.14	51.82	0.55	0.49	5.82
3,345.00	2.46	19.610	3,342.00	117.26	49.84	52.57	0.36	-0.29	-4.93
3,389.00	2.63	15.870	3,385.95	119.12	50.43	53.21	0.54	0.39	-8.50
3,434.00	2.58	17.170	3,430.91	121.08	51.01	53.83	0.17	-0.11	2.89
3,479.00	2.56	14.550	3,475.86	123.02	51.57	54.43	0.26	-0.04	-5.82
3,524.00	2.60	13.470	3,520.82	124.99	52.06	54.97	0.14	0.09	-2.40
3,568.00	2.60	10.530	3,564.77	126.94	52.47	55.43	0.30	0.00	-6.68
3,613.00	2.32	4.970	3,609.73	128.85	52.74	55.74	0.82	-0.62	-12.36
3,658.00	1.98	2.180	3,654.70	130.53	52.84	55.88	0.79	-0.76	-6.20
3,703.00	2.10	5.250	3,699.67	132.13	52.95	56.03	0.36	0.27	6.82
3,747.00	2.92	7.390	3,743.63	134.04	53.17	56.29	1.88	1.86	4.86
3,837.00	2.90	6.590	3,833.51	138.58	53.72	56.95	0.05	-0.02	-0.89
3,881.00	2.98	8.270	3,877.45	140.82	54.02	57.30	0.27	0.18	3.82
3,926.00	2.94	15.260	3,922.39	143.09	54.49	57.82	0.81	-0.09	15.53
3,971.00	3.20	16.240	3,967.33	145.41	55.14	58.53	0.59	0.58	2.18
4,016.00	3.53	20.700	4,012.25	147.91	55.98	59.43	0.94	0.73	9.91
4,061.00	3.58	26.320	4,057.17	150.46	57.10	60.60	0.78	0.11	12.49
4,105.00	3.54	25.450	4,101.08	152.92	58.29	61.85	0.15	-0.09	-1.98
4,150.00	3.17	25.290	4,146.00	155.30	59.42	63.03	0.82	-0.82	-0.36

Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)	
4,195.00	3.13	28.230	4,190.94	157.51	60.53	64.20	0.37	-0.09	6.53	
4,239.00	3.19	25.860	4,234.87	159.67	61.63	65.35	0.33	0.14	-5.39	
4,284.00	3.31	24.850	4,279.80	161.97	62.73	66.50	0.30	0.27	-2.24	
4,329.00	3.36	26.960	4,324.72	164.33	63.87	67.70	0.29	0.11	4.69	
4,373.00	3.58	25.560	4,368.64	166.72	65.05	68.93	0.54	0.50	-3.18	
4,418.00	3.71	26.780	4,413.55	169.28	66.31	70.25	0.34	0.29	2.71	
4,463.00	3.79	27.830	4,458.45	171.90	67.66	71.66	0.23	0.18	2.33	
4,507.00	3.54	28.300	4,502.36	174.38	68.98	73.04	0.57	-0.57	1.07	
4,552.00	3.17	26.070	4,547.28	176.72	70.19	74.30	0.87	-0.82	-4.96	
4,597.00	2.88	26.000	4,592.22	178.86	71.23	75.39	0.64	-0.64	-0.16	
4,642.00	2.69	25.490	4,637.17	180.82	72.18	76.39	0.43	-0.42	-1.13	
4,686.00	2.55	24.200	4,681.12	182.65	73.02	77.28	0.35	-0.32	-2.93	
4,731.00	2.87	25.490	4,726.07	184.58	73.92	78.22	0.72	0.71	2.87	
4,776.00	3.09	27.070	4,771.01	186.68	74.96	79.30	0.52	0.49	3.51	
4,821.00	3.19	26.230	4,815.94	188.88	76.06	80.46	0.24	0.22	-1.87	
4,865.00	3.17	24.200	4,859.88	191.09	77.10	81.55	0.26	-0.05	-4.61	
4,910.00	3.20	24.130	4,904.81	193.37	78.13	82.63	0.07	0.07	-0.16	
4,955.00	3.23	22.070	4,949.74	195.69	79.12	83.67	0.27	0.07	-4.58	
4,999.00	3.35	26.480	4,993.66	197.99	80.15	84.76	0.64	0.27	10.02	
5,044.00	3.43	32.210	5,038.58	200.30	81.46	86.12	0.77	0.18	12.73	
5,088.00	3.39	32.640	5,082.51	202.51	82.86	87.58	0.11	-0.09	0.98	
5,133.00	3.36	32.320	5,127.43	204.75	84.28	89.05	0.08	-0.07	-0.71	
5,178.00	3.39	32.340	5,172.35	206.99	85.70	90.52	0.07	0.07	0.04	
5,223.00	3.20	32.870	5,217.28	209.17	87.09	91.96	0.43	-0.42	1.18	
5,267.00	3.32	28.990	5,261.21	211.31	88.38	93.30	0.57	0.27	-8.82	
5,312.00	3.30	31.330	5,306.13	213.56	89.68	94.65	0.30	-0.04	5.20	
5,357.00	3.21	30.600	5,351.06	215.75	91.00	96.02	0.22	-0.20	-1.62	
5,401.00	3.28	29.110	5,394.99	217.91	92.24	97.31	0.25	0.16	-3.39	
5,446.00	3.59	29.460	5,439.91	220.26	93.56	98.68	0.69	0.69	0.78	
5,491.00	3.55	29.960	5,484.82	222.69	94.95	100.13	0.11	-0.09	1.11	
6,137.00	2.04	359.430	6,130.06	251.52	104.82	110.67	0.32	-0.23	-4.73	
6,182.00	1.54	8.620	6,175.04	252.92	104.90	110.79	1.28	-1.11	20.42	
6,227.00	0.34	96.810	6,220.04	253.50	105.13	111.03	3.48	-2.67	195.98	
6,271.00	0.81	138.310	6,264.03	253.26	105.46	111.36	1.36	1.07	94.32	
6,316.00	0.97	143.530	6,309.03	252.71	105.90	111.78	0.40	0.36	11.60	
6,330.00	0.91	140.945	6,323.03	252.53	106.04	111.92	0.53	-0.44	-18.47	
6,374.00	3.06	96.460	6,367.00	252.13	107.43	113.30	5.67	4.89	-101.10	
6,419.00	4.05	93.110	6,411.91	251.91	110.21	116.07	2.25	2.20	-7.44	
6,464.00	3.95	94.400	6,456.80	251.70	113.34	119.20	0.30	-0.22	2.87	
6,509.00	4.46	97.620	6,501.68	251.35	116.62	122.47	1.25	1.13	7.16	
6,553.00	8.19	99.960	6,545.41	250.58	121.40	127.23	8.50	8.48	5.32	
6,598.00	12.14	98.110	6,589.69	249.36	129.25	135.05	8.81	8.78	-4.11	



Scientific Drilling, Intl
Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)
6,643.00	15.44	94.110	6,633.39	248.26	139.91	145.68	7.63	7.33	-8.89
6,688.00	19.34	91.510	6,676.33	247.63	153.34	159.09	8.83	8.67	-5.78
6,732.00	22.79	94.390	6,717.38	246.79	169.12	174.85	8.18	7.84	6.55
6,777.00	25.43	99.400	6,758.45	244.54	187.35	193.02	7.42	5.87	11.13
6,822.00	28.62	98.480	6,798.54	241.38	207.55	213.14	7.15	7.09	-2.04
6,867.00	30.97	97.620	6,837.58	238.25	229.69	235.20	5.31	5.22	-1.91
6,911.00	32.91	95.980	6,874.92	235.50	252.80	258.24	4.83	4.41	-3.73
6,956.00	35.32	93.020	6,912.18	233.55	277.95	283.34	6.50	5.36	-6.58
7,000.00	37.69	91.530	6,947.54	232.52	304.10	309.46	5.75	5.39	-3.39
7,045.00	40.34	90.650	6,982.51	231.98	332.42	337.76	6.02	5.89	-1.96
7,090.00	44.40	91.250	7,015.74	231.47	362.74	368.06	9.07	9.02	1.33
7,135.00	47.97	92.250	7,046.90	230.47	395.19	400.47	8.09	7.93	2.22
7,179.00	50.72	93.000	7,075.56	228.94	428.53	433.77	6.38	6.25	1.70
7,224.00	52.92	93.230	7,103.37	227.02	463.85	469.03	4.91	4.89	0.51
7,269.00	55.21	92.120	7,129.78	225.32	500.24	505.38	5.47	5.09	-2.47
7,313.00	57.64	91.140	7,154.11	224.28	536.88	541.98	5.83	5.52	-2.23
7,358.00	60.32	90.390	7,177.30	223.77	575.44	580.52	6.12	5.96	-1.67
7,403.00	63.71	90.380	7,198.41	223.51	615.17	620.23	7.53	7.53	-0.02
7,448.00	66.83	90.330	7,217.24	223.25	656.04	661.08	6.93	6.93	-0.11
7,492.00	68.68	91.340	7,233.89	222.66	696.76	701.78	4.71	4.20	2.30
7,537.00	72.16	91.000	7,248.97	221.79	739.14	744.13	7.77	7.73	-0.76
7,582.00	76.74	91.380	7,261.03	220.89	782.47	787.43	10.21	10.18	0.84
7,627.00	81.58	92.390	7,269.49	219.44	826.63	831.54	10.98	10.76	2.24
7,703.00	84.52	91.670	7,278.69	216.76	902.02	906.84	3.98	3.87	-0.95
7,748.00	85.60	92.020	7,282.56	215.32	946.83	951.60	2.52	2.40	0.78
7,792.00	87.04	92.490	7,285.39	213.59	990.70	995.43	3.44	3.27	1.07
7,837.00	88.52	93.060	7,287.13	211.42	1,035.61	1,040.27	3.52	3.29	1.27
7,882.00	89.40	93.790	7,287.95	208.73	1,080.52	1,085.11	2.54	1.96	1.62
7,926.00	89.77	92.880	7,288.27	206.17	1,124.45	1,128.96	2.23	0.84	-2.07
7,971.00	89.87	92.800	7,288.41	203.94	1,169.39	1,173.84	0.28	0.22	-0.18
8,016.00	89.90	91.920	7,288.50	202.09	1,214.35	1,218.75	1.96	0.07	-1.96
8,061.00	89.73	90.940	7,288.64	200.96	1,259.34	1,263.69	2.21	-0.38	-2.18
8,105.00	89.66	91.330	7,288.88	200.09	1,303.33	1,307.65	0.90	-0.16	0.89
8,150.00	89.90	89.790	7,289.05	199.65	1,348.33	1,352.63	3.46	0.53	-3.42
8,195.00	89.50	89.830	7,289.29	199.80	1,393.32	1,397.62	0.89	-0.89	0.09
8,239.00	89.83	89.410	7,289.54	200.09	1,437.32	1,441.61	1.21	0.75	-0.95
8,284.00	89.90	88.770	7,289.65	200.81	1,482.32	1,486.61	1.43	0.16	-1.42
8,329.00	89.87	89.080	7,289.74	201.65	1,527.31	1,531.61	0.69	-0.07	0.69
8,374.00	89.87	88.630	7,289.84	202.55	1,572.30	1,576.61	1.00	0.00	-1.00
8,418.00	89.97	88.050	7,289.90	203.83	1,616.28	1,620.61	1.34	0.23	-1.32
8,463.00	90.10	87.510	7,289.88	205.57	1,661.25	1,665.60	1.23	0.29	-1.20
8,508.00	90.03	88.250	7,289.82	207.23	1,706.22	1,710.60	1.65	-0.16	1.64
8,552.00	90.17	87.690	7,289.75	208.79	1,750.19	1,754.59	1.31	0.32	-1.27



Scientific Drilling, Intl
Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)	
8,597.00	90.07	88.170	7,289.65	210.42	1,795.16	1,799.59	1.09	-0.22	1.07	
8,642.00	90.17	88.820	7,289.56	211.60	1,840.14	1,844.59	1.46	0.22	1.44	
8,687.00	90.07	88.960	7,289.46	212.47	1,885.13	1,889.59	0.38	-0.22	0.31	
8,731.00	90.03	89.240	7,289.43	213.16	1,929.13	1,933.59	0.64	-0.09	0.64	
8,763.00	90.00	90.410	7,289.42	213.26	1,961.13	1,965.58	3.66	-0.09	3.66	
8,795.00	90.20	90.680	7,289.36	212.96	1,993.13	1,997.56	1.05	0.63	0.84	
8,826.00	90.03	90.550	7,289.30	212.62	2,024.12	2,028.54	0.69	-0.55	-0.42	
8,858.00	90.10	90.840	7,289.26	212.23	2,056.12	2,060.52	0.93	0.22	0.91	
8,890.00	90.20	90.470	7,289.18	211.87	2,088.12	2,092.50	1.20	0.31	-1.16	
8,921.00	90.07	90.400	7,289.11	211.63	2,119.12	2,123.49	0.48	-0.42	-0.23	
8,953.00	90.07	90.510	7,289.07	211.38	2,151.12	2,155.47	0.34	0.00	0.34	
8,984.00	90.03	90.780	7,289.04	211.03	2,182.11	2,186.45	0.88	-0.13	0.87	
9,016.00	90.17	90.210	7,288.98	210.75	2,214.11	2,218.44	1.83	0.44	-1.78	
9,048.00	89.90	90.430	7,288.97	210.58	2,246.11	2,250.42	1.09	-0.84	0.69	
9,079.00	90.00	90.530	7,288.99	210.32	2,277.11	2,281.41	0.46	0.32	0.32	
9,111.00	89.80	90.820	7,289.05	209.94	2,309.11	2,313.39	1.10	-0.63	0.91	
9,142.00	89.90	90.190	7,289.13	209.67	2,340.11	2,344.37	2.06	0.32	-2.03	
9,174.00	89.87	90.780	7,289.19	209.39	2,372.11	2,376.36	1.85	-0.09	1.84	
9,206.00	89.60	91.030	7,289.34	208.89	2,404.10	2,408.33	1.15	-0.84	0.78	
9,237.00	89.53	90.610	7,289.58	208.45	2,435.10	2,439.31	1.37	-0.23	-1.35	
9,268.00	89.60	91.260	7,289.81	207.94	2,466.09	2,470.28	2.11	0.23	2.10	
9,300.00	89.70	90.590	7,290.01	207.42	2,498.09	2,502.26	2.12	0.31	-2.09	
9,331.00	89.46	91.760	7,290.23	206.79	2,529.08	2,533.23	3.85	-0.77	3.77	
9,363.00	89.70	90.210	7,290.47	206.24	2,561.07	2,565.20	4.90	0.75	-4.84	
9,395.00	89.73	90.780	7,290.63	205.96	2,593.07	2,597.18	1.78	0.09	1.78	
9,426.00	89.66	90.020	7,290.79	205.74	2,624.07	2,628.17	2.46	-0.23	-2.45	
9,457.00	89.53	90.220	7,291.01	205.68	2,655.07	2,659.15	0.77	-0.42	0.65	
9,489.00	89.60	91.130	7,291.26	205.30	2,687.07	2,691.13	2.85	0.22	2.84	
9,521.00	89.53	90.620	7,291.50	204.81	2,719.06	2,723.11	1.61	-0.22	-1.59	
9,552.00	89.63	90.800	7,291.73	204.43	2,750.06	2,754.09	0.66	0.32	0.58	
9,584.00	89.60	90.620	7,291.94	204.03	2,782.05	2,786.07	0.57	-0.09	-0.56	
9,616.00	89.60	90.730	7,292.16	203.66	2,814.05	2,818.05	0.34	0.00	0.34	
9,661.00	89.46	90.970	7,292.53	202.99	2,859.05	2,863.01	0.62	-0.31	0.53	
9,705.00	89.63	91.070	7,292.88	202.21	2,903.04	2,906.97	0.45	0.39	0.23	
9,750.00	89.66	91.200	7,293.16	201.31	2,948.03	2,951.93	0.30	0.07	0.29	
9,795.00	89.73	91.040	7,293.40	200.43	2,993.02	2,996.89	0.39	0.16	-0.36	
9,839.00	89.83	90.260	7,293.57	199.94	3,037.01	3,040.86	1.79	0.23	-1.77	
9,884.00	89.53	90.930	7,293.82	199.47	3,082.01	3,085.83	1.63	-0.67	1.49	
9,929.00	89.73	90.370	7,294.11	198.96	3,127.01	3,130.81	1.32	0.44	-1.24	
9,973.00	89.76	90.410	7,294.31	198.66	3,171.01	3,174.78	0.11	0.07	0.09	
10,018.00	89.50	90.500	7,294.60	198.30	3,216.00	3,219.76	0.61	-0.58	0.20	
10,063.00	89.66	89.630	7,294.93	198.25	3,261.00	3,264.75	1.97	0.36	-1.93	



Scientific Drilling, Intl Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)
10,108.00	89.70	89.870	7,295.18	198.45	3,306.00	3,309.74	0.54	0.09	0.53
10,153.00	89.80	89.260	7,295.38	198.79	3,351.00	3,354.73	1.37	0.22	-1.36
10,197.00	89.97	88.800	7,295.46	199.53	3,394.99	3,398.73	1.11	0.39	-1.05
10,242.00	91.34	89.610	7,294.95	200.16	3,439.98	3,443.72	3.54	3.04	1.80
10,287.00	92.01	89.380	7,293.63	200.55	3,484.96	3,488.70	1.57	1.49	-0.51
10,331.00	91.91	90.110	7,292.13	200.75	3,528.94	3,532.67	1.67	-0.23	1.66
10,376.00	91.68	89.820	7,290.72	200.78	3,573.91	3,577.63	0.82	-0.51	-0.64
10,421.00	90.70	90.320	7,289.79	200.72	3,618.90	3,622.61	2.44	-2.18	1.11
10,466.00	89.53	91.210	7,289.70	200.12	3,663.90	3,667.58	3.27	-2.60	1.98
10,510.00	89.90	90.960	7,289.91	199.29	3,707.89	3,711.54	1.01	0.84	-0.57
10,555.00	89.53	90.680	7,290.14	198.64	3,752.88	3,756.50	1.03	-0.82	-0.62
10,600.00	89.36	92.020	7,290.57	197.58	3,797.87	3,801.45	3.00	-0.38	2.98
10,645.00	89.56	90.910	7,291.00	196.43	3,842.85	3,846.39	2.51	0.44	-2.47
10,689.00	89.33	90.570	7,291.42	195.86	3,886.84	3,890.36	0.93	-0.52	-0.77
10,734.00	89.36	91.030	7,291.94	195.24	3,931.84	3,935.33	1.02	0.07	1.02
10,779.00	89.46	89.290	7,292.40	195.11	3,976.83	3,980.31	3.87	0.22	-3.87
10,824.00	89.33	89.220	7,292.88	195.70	4,021.83	4,025.30	0.33	-0.29	-0.16
10,868.00	89.43	89.010	7,293.35	196.38	4,066.82	4,069.30	0.53	0.23	-0.48
10,913.00	89.46	88.920	7,293.79	197.19	4,110.81	4,114.30	0.21	0.07	-0.20
10,958.00	89.26	89.080	7,294.29	197.97	4,155.80	4,159.29	0.57	-0.44	0.36
11,002.00	89.43	89.030	7,294.79	198.70	4,199.79	4,203.29	0.40	0.39	-0.11
11,047.00	89.36	88.430	7,295.27	199.70	4,244.78	4,248.29	1.34	-0.16	-1.33
11,092.00	89.33	88.930	7,295.78	200.73	4,289.76	4,293.28	1.11	-0.07	1.11
11,137.00	89.36	89.010	7,296.30	201.54	4,334.75	4,338.28	0.19	0.07	0.18
11,182.00	89.36	89.200	7,296.80	202.25	4,379.74	4,383.28	0.42	0.00	0.42
11,226.00	89.36	89.150	7,297.29	202.88	4,423.74	4,427.27	0.11	0.00	-0.11
11,271.00	89.30	89.640	7,297.82	203.35	4,468.73	4,472.26	1.10	-0.13	1.09
11,316.00	89.43	89.650	7,298.32	203.63	4,513.73	4,517.26	0.29	0.29	0.02
11,360.00	89.30	90.410	7,298.81	203.61	4,557.72	4,561.24	1.75	-0.30	1.73
11,405.00	89.43	90.200	7,299.30	203.37	4,602.72	4,606.22	0.55	0.29	-0.47
11,450.00	89.36	89.900	7,299.78	203.33	4,647.72	4,651.20	0.68	-0.16	-0.67
11,494.00	89.40	90.230	7,300.26	203.28	4,691.72	4,695.19	0.76	0.09	0.75
11,539.00	89.16	90.380	7,300.82	203.04	4,736.71	4,740.16	0.63	-0.53	0.33
11,583.00	89.09	90.730	7,301.49	202.62	4,780.70	4,784.14	0.81	-0.16	0.80
11,628.00	89.19	89.980	7,302.17	202.34	4,825.70	4,829.11	1.68	0.22	-1.67
11,673.00	89.09	90.290	7,302.84	202.23	4,870.69	4,874.09	0.72	-0.22	0.69
11,718.00	89.16	90.040	7,303.53	202.10	4,915.69	4,919.07	0.58	0.16	-0.56
11,763.00	89.16	90.170	7,304.19	202.02	4,960.68	4,964.05	0.29	0.00	0.29
11,807.00	89.13	90.180	7,304.85	201.88	5,004.68	5,008.03	0.07	-0.07	0.02
11,852.00	88.93	90.190	7,305.61	201.74	5,049.67	5,053.01	0.44	-0.44	0.02
11,897.00	89.13	90.000	7,306.37	201.66	5,094.66	5,097.99	0.61	0.44	-0.42
11,941.00	89.06	91.670	7,307.07	201.02	5,138.65	5,141.95	3.80	-0.16	3.80
11,986.00	89.33	92.540	7,307.70	199.37	5,183.62	5,186.86	2.02	0.60	1.93



Scientific Drilling, Intl Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,031.00	90.47	92.640	7,307.78	197.34	5,228.57	5,231.75	2.54	2.53	0.22	
12,076.00	89.90	92.930	7,307.63	195.15	5,273.52	5,276.64	1.42	-1.27	0.64	
12,121.00	90.00	91.020	7,307.67	193.60	5,318.49	5,321.56	4.25	0.22	-4.24	
12,165.00	90.20	91.390	7,307.59	192.67	5,362.48	5,365.52	0.96	0.45	0.84	
12,210.00	90.13	90.630	7,307.46	191.88	5,407.47	5,410.48	1.70	-0.16	-1.69	
12,255.00	90.27	91.100	7,307.31	191.20	5,452.46	5,455.44	1.09	0.31	1.04	
12,299.00	90.17	90.560	7,307.14	190.56	5,496.46	5,499.41	1.25	-0.23	-1.23	
12,344.00	90.10	89.990	7,307.03	190.35	5,541.46	5,544.39	1.28	-0.16	-1.27	
12,389.00	90.13	89.310	7,306.94	190.62	5,586.46	5,589.39	1.51	0.07	-1.51	
12,433.00	90.07	89.650	7,306.87	191.02	5,630.46	5,633.38	0.78	-0.14	0.77	
12,478.00	90.27	89.550	7,306.73	191.34	5,675.45	5,678.38	0.50	0.44	-0.22	
12,523.00	90.30	90.250	7,306.51	191.42	5,720.45	5,723.37	1.56	0.07	1.56	
12,567.00	90.27	88.850	7,306.29	191.76	5,764.45	5,767.36	3.18	-0.07	-3.18	
12,612.00	90.27	89.540	7,306.08	192.39	5,809.44	5,812.36	1.53	0.00	1.53	
12,657.00	90.17	89.740	7,305.90	192.68	5,854.44	5,857.35	0.50	-0.22	0.44	
12,701.00	90.27	89.750	7,305.73	192.87	5,898.44	5,901.34	0.23	0.23	0.02	
12,746.00	90.13	89.560	7,305.58	193.14	5,943.44	5,946.33	0.52	-0.31	-0.42	
12,791.00	89.93	89.790	7,305.55	193.40	5,988.44	5,991.33	0.68	-0.44	0.51	
12,835.00	90.17	89.220	7,305.52	193.78	6,032.44	6,035.32	1.41	0.55	-1.30	
12,880.00	90.07	89.760	7,305.42	194.18	6,077.44	6,080.32	1.22	-0.22	1.20	
12,925.00	90.30	89.580	7,305.28	194.44	6,122.44	6,125.31	0.65	0.51	-0.40	
12,970.00	90.00	89.280	7,305.16	194.89	6,167.43	6,170.30	0.94	-0.67	-0.67	
13,014.00	90.03	89.660	7,305.15	195.29	6,211.43	6,214.30	0.87	0.07	0.86	
13,059.00	90.34	90.750	7,305.00	195.13	6,256.43	6,259.28	2.52	0.69	2.42	
13,104.00	90.17	90.630	7,304.80	194.59	6,301.43	6,304.25	0.46	-0.38	-0.27	
13,148.00	90.03	90.920	7,304.72	193.99	6,345.42	6,348.22	0.73	-0.32	0.66	
13,193.00	90.17	90.600	7,304.65	193.40	6,390.42	6,393.19	0.78	0.31	-0.71	
13,238.00	90.10	90.600	7,304.54	192.93	6,435.42	6,438.17	0.16	-0.16	0.00	
13,282.00	90.13	90.420	7,304.45	192.53	6,479.41	6,482.14	0.41	0.07	-0.41	
13,327.00	90.17	90.670	7,304.33	192.11	6,524.41	6,527.12	0.56	0.09	0.56	
13,372.00	89.83	90.300	7,304.33	191.73	6,569.41	6,572.10	1.12	-0.76	-0.82	
13,416.00	90.20	90.420	7,304.32	191.45	6,613.41	6,616.08	0.88	0.84	0.27	
13,461.00	90.13	90.420	7,304.19	191.12	6,658.41	6,661.06	0.16	-0.16	0.00	
13,506.00	90.10	90.350	7,304.10	190.82	6,703.41	6,706.04	0.17	-0.07	-0.16	
13,551.00	90.20	90.420	7,303.98	190.51	6,748.41	6,751.02	0.27	0.22	0.16	
13,595.00	90.20	91.100	7,303.83	189.93	6,792.40	6,794.98	1.55	0.00	1.55	
13,640.00	90.17	90.630	7,303.69	189.25	6,837.40	6,839.95	1.05	-0.07	-1.04	
13,685.00	90.13	90.930	7,303.57	188.64	6,882.39	6,884.92	0.67	-0.09	0.67	
13,729.00	90.07	89.330	7,303.49	188.54	6,926.39	6,928.90	3.64	-0.14	-3.64	
13,774.00	90.13	90.020	7,303.41	188.79	6,971.39	6,973.90	1.54	0.13	1.53	
13,819.00	90.24	89.470	7,303.27	188.99	7,016.39	7,018.89	1.25	0.24	-1.22	
13,864.00	89.97	89.510	7,303.18	189.40	7,061.39	7,063.88	0.61	-0.60	0.09	



Scientific Drilling, Intl Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 29-6 Unit Com 601 A 1H - Slot A01
Project:	Rio Arriba, NM NAD27	TVD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Site:	San Juan 29-6 Pad	MD Reference:	GL 6782' & RKB 16.5' @ 6798.50usft
Well:	San Juan 29-6 Unit Com 601 A 1H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)	
13,908.00	89.80	89.440	7,303.27	189.80	7,105.38	7,107.88	0.42	-0.39	-0.16	
13,953.00	89.90	90.020	7,303.39	190.01	7,150.38	7,152.87	1.31	0.22	1.29	
13,997.00	89.93	89.660	7,303.46	190.13	7,194.38	7,196.86	0.82	0.07	-0.82	
14,042.00	89.93	89.450	7,303.51	190.48	7,239.38	7,241.86	0.47	0.00	-0.47	
14,087.00	90.13	89.600	7,303.49	190.86	7,284.38	7,286.85	0.56	0.44	0.33	
14,132.00	90.10	90.160	7,303.40	190.95	7,329.38	7,331.84	1.25	-0.07	1.24	
14,176.00	90.17	89.770	7,303.29	190.98	7,373.38	7,375.83	0.90	0.16	-0.89	
14,221.00	89.83	89.860	7,303.29	191.12	7,418.38	7,420.82	0.78	-0.76	0.20	
14,266.00	90.23	89.430	7,303.27	191.40	7,463.38	7,465.81	1.31	0.89	-0.96	
14,311.00	89.93	89.720	7,303.21	191.73	7,508.38	7,510.81	0.93	-0.67	0.64	
14,355.00	90.07	90.120	7,303.21	191.80	7,552.38	7,554.80	0.96	0.32	0.91	
14,400.00	90.07	89.610	7,303.15	191.90	7,597.38	7,599.79	1.13	0.00	-1.13	
14,445.00	90.03	89.640	7,303.11	192.20	7,642.37	7,644.78	0.11	-0.09	0.07	
14,489.00	89.90	89.370	7,303.14	192.58	7,686.37	7,688.77	0.68	-0.30	-0.61	
14,534.00	89.90	89.800	7,303.22	192.90	7,731.37	7,733.77	0.96	0.00	0.96	
14,579.00	90.03	89.900	7,303.25	193.02	7,776.37	7,778.76	0.36	0.29	0.22	
14,623.00	90.13	89.870	7,303.18	193.11	7,820.37	7,822.75	0.24	0.23	-0.07	
14,668.00	89.97	89.430	7,303.15	193.38	7,865.37	7,867.74	1.04	-0.36	-0.98	
14,713.00	90.10	89.930	7,303.12	193.64	7,910.37	7,912.73	1.15	0.29	1.11	
14,757.00	90.10	90.310	7,303.04	193.54	7,954.37	7,956.72	0.86	0.00	0.86	
14,802.00	90.03	90.090	7,302.99	193.39	7,999.37	8,001.70	0.51	-0.16	-0.49	
14,847.00	89.83	89.660	7,303.04	193.48	8,044.37	8,046.69	1.05	-0.44	-0.96	
14,892.00	89.70	89.980	7,303.23	193.63	8,089.37	8,091.68	0.77	-0.29	0.71	
15,081.00	89.70	89.980	7,304.22	193.69	8,278.37	8,280.63	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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