

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, N.M. 87505

AS DRILLED PLAT

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35634 NM /05-067-09924 CO	² Pool Code 97774 - CO	³ Pool Name Colorado FRUITLAND COAL
⁴ Property Code 318865	⁵ Property Name ALLISON UNIT COM	⁶ Well Number 138H
⁷ GRID No. 372171	⁸ Operator Name HILCORP ENERGY COMPANY	⁹ Elevation 6134

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
C	8	32 N	6 W	LOT 3	176	NORTH	2615	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
D	22	32 N	6 W		751	NORTH	887	WEST	LA PLATA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.

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

¹⁶ LEGEND:

- = SURFACE LOCATION
- ⊕ = FOUND 1961 B.L.M. BRASS CAP (CC)
- ⊙ = FOUND 1961 B.L.M. BRASS CAP
- ◇ = MILE POST (AS LABELED)

BEARINGS & DISTANCES SHOWN ARE
REFERENCED TO THE NEW MEXICO
COORDINATE SYSTEM, WEST ZONE,
NAD 83, UNLESS OTHERWISE NOTED.

BOTTOM HOLE LOCATION
COURSE 1 - N 59°32'30" W, 1177.54'
COURSE 2 - N 42°43'07" W, 3435.62'

¹⁷ OPERATOR CERTIFICATION

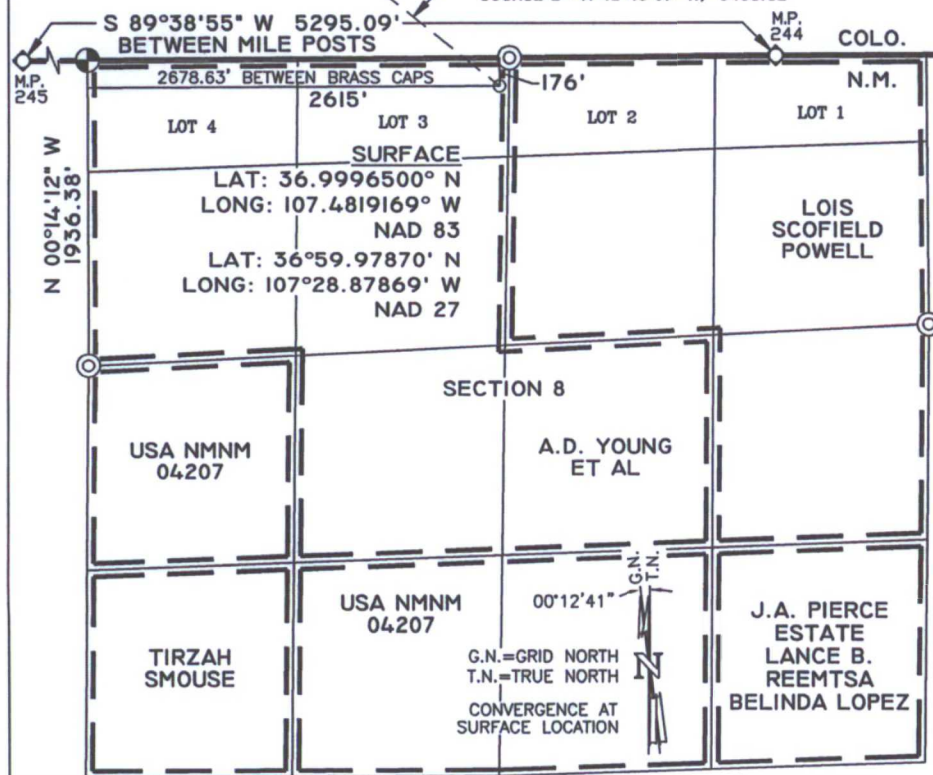
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this 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.

Amanda Walker
Signature
Date
Amanda Walker
Printed Name
mwalker@hilcorp.com
E-mail Address

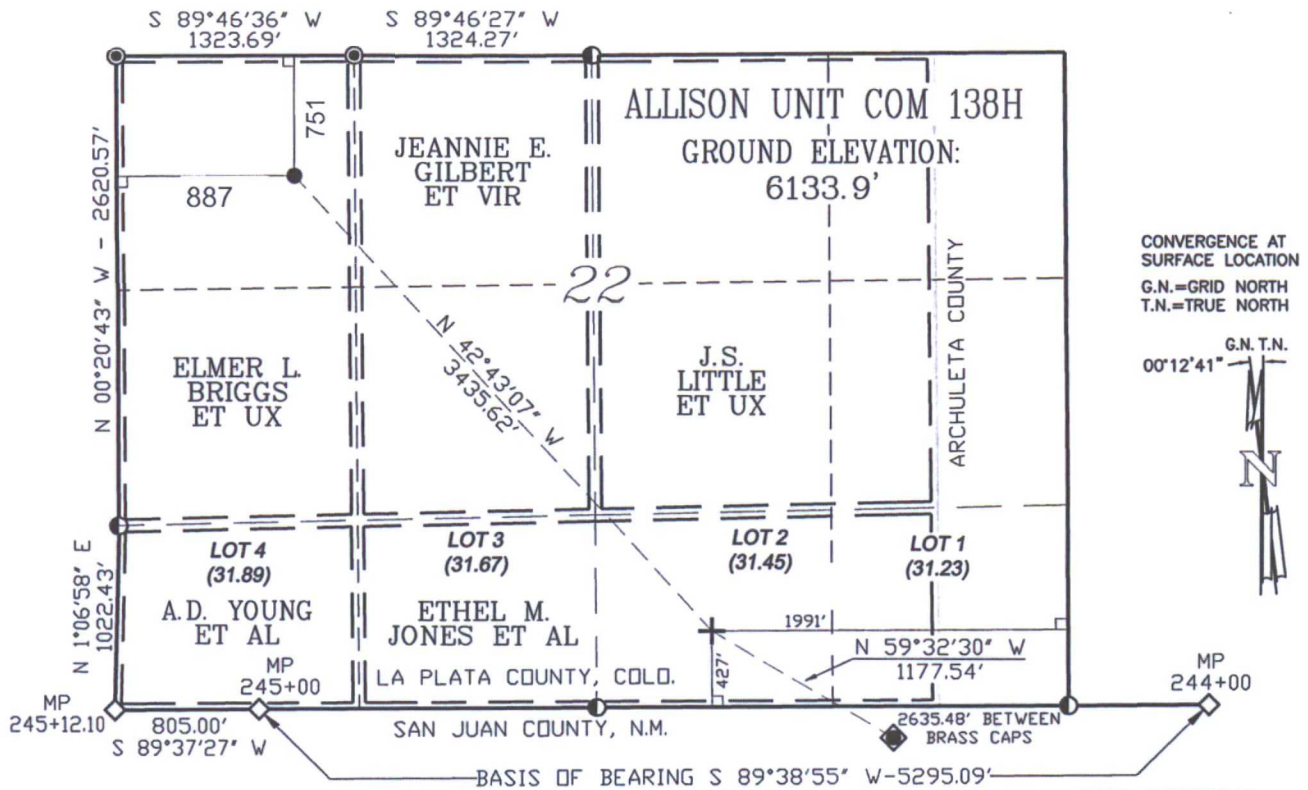
¹⁸ SURVEYOR CERTIFICATION

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.

Original C-102 Attached



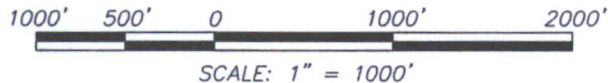
T. 32 N., R. 6 W.



BASIS OF BEARING/DATUM

NM SP WEST (1983) - NAVD 88 ELEV., GPS OBSERVATIONS:
AS MEASURED BETWEEN MP 244 & MP 245 ON THE
NEW MEXICO/COLORADO STATE LINE

BASIS OF ELEVATION: AS MEASURED AT OPUS ADJUSTED CONTROL POINT
LOCATED IN THE SW/4 OF SECTION 9, ELEVATION: 6148.68',
T-32-N, R-6-W, N.M.P.M., SAN JUAN COUNTY, NEW MEXICO



GEO. BOTTOM HOLE VALUES

(CALCULATED BOTTOM HOLE VALUES
DERIVED FROM HILCORP DESIGN FOOTAGES)

GEO. SURFACE VALUES

LATITUDE (NAD 83)
NORTH 36.9996500°
LONGITUDE (NAD 83)
WEST 107.4819169°

LATITUDE (NAD 27)
NORTH 36°59.97870'
LONGITUDE (NAD 27)
WEST 107°28.87869'

LATITUDE (NAD 83)
NORTH 37.08090°
LONGITUDE (NAD 83)
WEST 107.493790°

LATITUDE (NAD 27)
NORTH 37.08084°
LONGITUDE (NAD 27)
WEST 107.493183°

SURVEYOR'S STATEMENT:

I, Marshall W. Lindeen, of Farmington, New Mexico, hereby state: This plat was made from notes taken during an actual survey under my direct supervision on APRIL 07, 2014, and it correctly shows the location of ALLISON UNIT COM 138H.

Original Plat Attached

LEGEND

- ◆ SURFACE LOCATION
- BOTTOM HOLE LOCATION
- ⊕ PILOT
- 1965 B.L.M. BRASS CAP
- ALUMINUM CAP LS #17482
- ◇ MILE POST (244+00, 245+00, 245+12.10)
- L DENOTES 90° TIE

NOTE:

P.D.O.P. VALUE: N/A
BOTTOM HOLE IS CALCULATED POSITION. SURFACE USE IS NOT APPLICABLE.

HILCORP ENERGY COMPANY



P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

SCALE: 1" = 1000' JOB No. 10730 DATE: 05/07/14

PLAT OF DRILLING LOCATION FOR HILCORP ENERGY COMPANY ALLISON UNIT COM 138H

SURFACE: 176' F/NL & 2615' F/WL, SEC. 8,
T. 32 N, R. 6 W, N.M.P.M., SAN JUAN COUNTY, N.M.
BOTTOM HOLE: 751' F/NL & 887' F/WL, SEC. 22,
T. 32 N, R. 6 W, N.M.P.M., LA PLATA COUNTY, COLO.

MAY 22 2018

DISTRICT III

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District OfficeDISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720DISTRICT II
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Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, N.M. 87505☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35634 / 05-067-09924		² Pool Code 97774		³ Pool Name FRUITLAND COAL /Colorado	
⁴ Property Code 6785		⁵ Property Name ALLISON UNIT COM			⁶ Well Number 138H
⁷ GRID No. 372171		⁸ Operator Name HILCORP ENERGY COMPANY			⁹ Elevation 6134

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
C	8	32 N	6 W	LOT 3	176	NORTH	2615	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

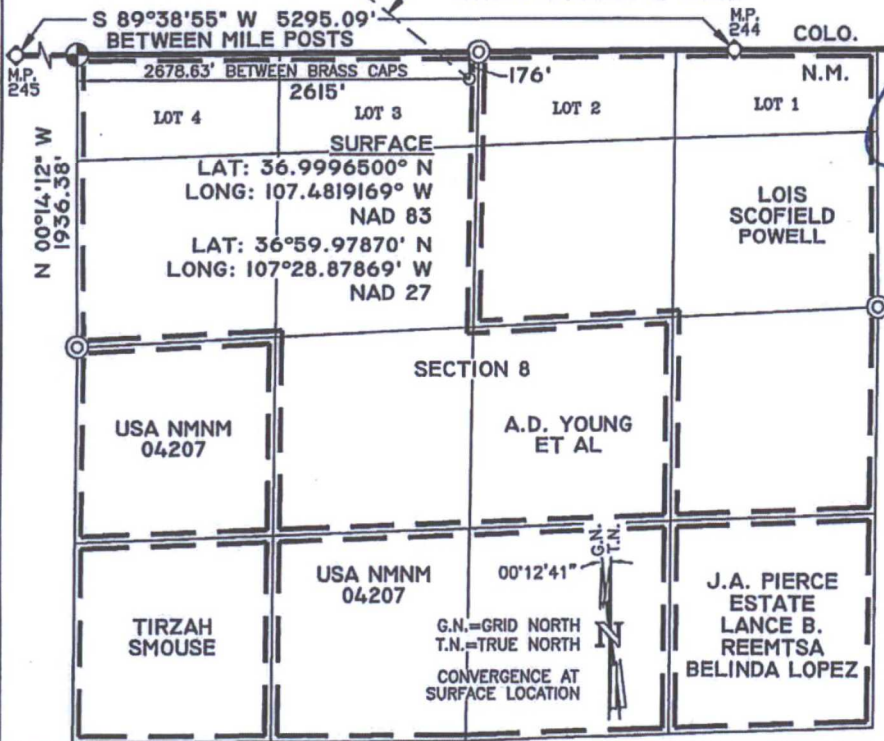
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	22	32 N	6 W		675	NORTH	990	WEST	LA PLATA

¹² Dedicated Acres Production will be in Colorado only	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

16 LEGEND:

- = SURFACE LOCATION
- ⊙ = FOUND 1961 B.L.M. BRASS CAP (CC)
- ⊙ = FOUND 1961 B.L.M. BRASS CAP
- ◇ = MILE POST (AS LABELED)

BEARINGS & DISTANCES SHOWN ARE
REFERENCED TO THE NEW MEXICO
COORDINATE SYSTEM, WEST ZONE,
NAD 83, UNLESS OTHERWISE NOTED.BOTTOM HOLE LOCATION
COURSE 1 - N 59°32'30" W, 1177.54'
COURSE 2 - N 42°43'07" W, 3435.62'

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: *Amanda Ray* Date: 5/1/18

Printed Name: Amanda Ray

E-mail Address: mray@hilcorp.com

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.

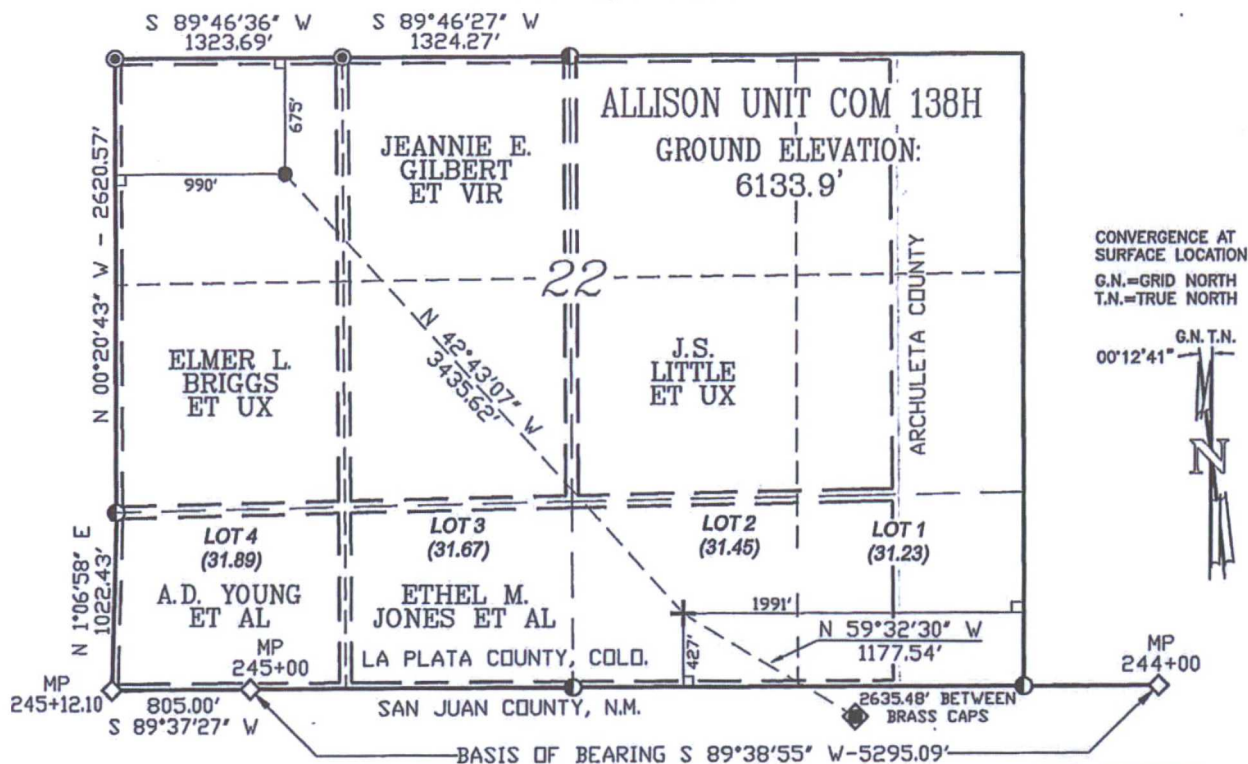
04/07/14

Date of Survey

Signature and Seal of Professional Surveyor

17078
Certificate Number

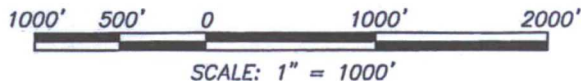
T. 32 N., R. 6 W.



BASIS OF BEARING/DATUM

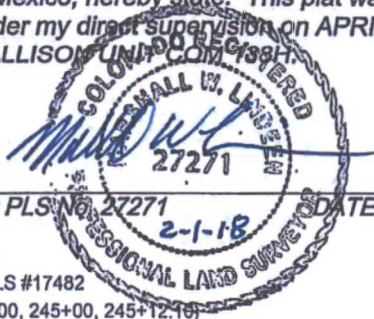
NM SP WEST (1983) - NAVD 88 ELEV., GPS OBSERVATIONS:
AS MEASURED BETWEEN MP 244 & MP 245 ON THE
NEW MEXICO/COLORADO STATE LINE

BASIS OF ELEVATION: AS MEASURED AT OPUS ADJUSTED CONTROL POINT
LOCATED IN THE SW/4 OF SECTION 9, ELEVATION: 6148.68',
T-32-N, R-6-W, N.M.P.M., SAN JUAN COUNTY, NEW MEXICO



SURVEYOR'S STATEMENT:

I, Marshall W. Lindeen, of Farmington, New Mexico, hereby state: This plat was made from notes taken during an actual survey under my direct supervision on APRIL 07, 2014, and it correctly shows the location of ALLISON UNIT COM 138H



LEGEND

- ◆ SURFACE LOCATION
- BOTTOM HOLE LOCATION
- + PILOT
- 1965 B.L.M. BRASS CAP
- ALUMINUM CAP LS #17482
- ◇ MILE POST (244+00, 245+00, 245+12.16)
- L DENOTES 90° TIE

GEO. SURFACE VALUES

LATITUDE (NAD 83)
NORTH 36.9996500°
LONGITUDE (NAD 83)
WEST 107.4819169°

LATITUDE (NAD 27)
NORTH 36°59.97870'
LONGITUDE (NAD 27)
WEST 107°28.87869'

GEO. BOTTOM HOLE VALUES

(CALCULATED BOTTOM HOLE VALUES
DERIVED FROM HILCORP DESIGN FOOTAGES)

LATITUDE (NAD 83)
NORTH 37.0082561°
LONGITUDE (NAD 83)
WEST 107.4933364°

LATITUDE (NAD 27)
NORTH 37°00.49507'
LONGITUDE (NAD 27)
WEST 107°29.56383'

PILOT

(CALCULATED VALUES)
LATITUDE (NAD 83)
NORTH 37.0013000°
LONGITUDE (NAD 83)
WEST 107.4853856°
LATITUDE (NAD 27)
NORTH 37°00.07770'
LONGITUDE (NAD 27)
WEST 107°29.08680'

NOTE:

P.D.O.P. VALUE: N/A
BOTTOM HOLE IS CALCULATED
POSITION. SURFACE USE IS
NOT APPLICABLE.

HILCORP ENERGY COMPANY



P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

SCALE: 1" = 1000'

JOB No. 10730

DATE: 05/07/14

**PLAT OF DRILLING LOCATION FOR
HILCORP ENERGY COMPANY
ALLISON UNIT COM 138H**

**SURFACE: 176' F/NL & 2615' FWL, SEC. 8,
T. 32 N, R. 6 W, N.M.P.M., SAN JUAN COUNTY, N.M.
BOTTOM HOLE: 675' F/NL & 990' FWL, SEC. 22,
T. 32 N, R. 6 W, N.M.P.M., LA PLATA COUNTY, COLO.**

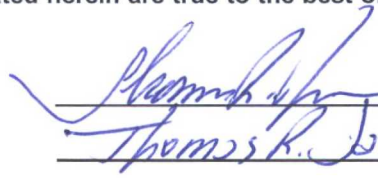
Well Name: ALLISON UNIT COM #138H

Operator HILCORP SAN JUAN, L.P.	Legal WellName ALLISON UNIT COM #138H	API / UWI 3004535634	County San Juan	State/Province New Mexico
Surface Legal Location 008-032N-006W-C	North/South Distance (ft) 176.0	N/S Ref FNL	East/West Distance (ft) 2,615.0	E/W Ref FWL

Date 5/21/2018	Description DIRECTIONAL SURVEY
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Survey Data					
Date	MD (ftKB)	Incl (°)	Azm (°)	Method	Survey Company
5/21/2018	0.00	0.00	0.00	IncAzi-MWD	Scientific Drilling
5/21/2018	575.00	1.18	43.17	IncAzi-MWD	Scientific Drilling
5/21/2018	606.00	0.71	44.86	IncAzi-MWD	Scientific Drilling
5/21/2018	667.00	0.74	344.10	IncAzi-MWD	Scientific Drilling
5/21/2018	730.00	1.66	338.52	IncAzi-MWD	Scientific Drilling
5/21/2018	793.00	3.04	311.05	IncAzi-MWD	Scientific Drilling
5/21/2018	856.00	4.82	314.15	IncAzi-MWD	Scientific Drilling
5/21/2018	919.00	6.18	307.81	IncAzi-MWD	Scientific Drilling
5/21/2018	981.00	7.90	303.97	IncAzi-MWD	Scientific Drilling
5/21/2018	1,044.00	9.35	300.88	IncAzi-MWD	Scientific Drilling
5/21/2018	1,107.00	11.24	300.37	IncAzi-MWD	Scientific Drilling
5/21/2018	1,170.00	12.72	298.23	IncAzi-MWD	Scientific Drilling
5/21/2018	1,233.00	14.16	296.25	IncAzi-MWD	Scientific Drilling
5/21/2018	1,296.00	15.26	295.43	IncAzi-MWD	Scientific Drilling
5/21/2018	1,358.00	17.10	298.77	IncAzi-MWD	Scientific Drilling
5/21/2018	1,421.00	18.26	298.08	IncAzi-MWD	Scientific Drilling
5/21/2018	1,484.00	20.18	299.59	IncAzi-MWD	Scientific Drilling
5/21/2018	1,547.00	21.52	298.30	IncAzi-MWD	Scientific Drilling
5/21/2018	1,610.00	23.06	298.50	IncAzi-MWD	Scientific Drilling
5/21/2018	1,672.00	24.69	298.64	IncAzi-MWD	Scientific Drilling
5/21/2018	1,735.00	26.55	299.71	IncAzi-MWD	Scientific Drilling
5/21/2018	1,798.00	28.74	301.67	IncAzi-MWD	Scientific Drilling
5/21/2018	1,861.00	30.18	302.51	IncAzi-MWD	Scientific Drilling
5/21/2018	1,924.00	32.09	303.32	IncAzi-MWD	Scientific Drilling
5/21/2018	1,987.00	33.47	303.56	IncAzi-MWD	Scientific Drilling
5/21/2018	2,049.00	34.52	301.69	IncAzi-MWD	Scientific Drilling
5/21/2018	2,112.00	36.67	301.50	IncAzi-MWD	Scientific Drilling
5/21/2018	2,173.00	38.62	300.79	IncAzi-MWD	Scientific Drilling
5/21/2018	2,235.00	40.95	301.01	IncAzi-MWD	Scientific Drilling
5/21/2018	2,296.00	43.74	300.47	IncAzi-MWD	Scientific Drilling
5/21/2018	2,357.00	45.72	298.74	IncAzi-MWD	Scientific Drilling
5/21/2018	2,418.00	47.71	299.40	IncAzi-MWD	Scientific Drilling
5/21/2018	2,480.00	50.15	299.74	IncAzi-MWD	Scientific Drilling

I, the undersigned, certify that I acting in my capacity as Operator 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.

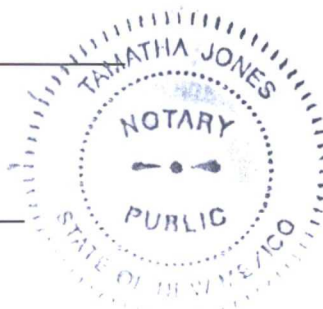

Thomas R. DeGru

Subscribed and sworn to me this 5/21/2018


Tamatha Jones

Notary Public in and for San Juan County, New Mexico

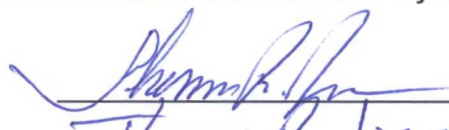
My Commission expires 3/12/2022



Well Name: ALLISON UNIT COM #138H

Survey Data					
Date	MD (ftKB)	Incl (°)	Azm (°)	Method	Survey Company
5/21/2018	2,541.00	52.46	300.33	IncAzi-MWD	Scientific Drilling
5/21/2018	2,602.00	54.15	300.95	IncAzi-MWD	Scientific Drilling
5/21/2018	2,664.00	55.59	301.75	IncAzi-MWD	Scientific Drilling
5/21/2018	2,725.00	57.88	302.58	IncAzi-MWD	Scientific Drilling
5/21/2018	2,786.00	61.50	302.47	IncAzi-MWD	Scientific Drilling
5/21/2018	2,847.00	65.04	303.78	IncAzi-MWD	Scientific Drilling
5/21/2018	2,909.00	65.88	303.47	IncAzi-MWD	Scientific Drilling
5/21/2018	2,970.00	66.89	304.23	IncAzi-MWD	Scientific Drilling
5/21/2018	3,031.00	69.80	304.99	IncAzi-MWD	Scientific Drilling
5/21/2018	3,098.00	77.59	304.62	IncAzi-MWD	Scientific Drilling
5/21/2018	3,130.00	82.13	306.53	IncAzi-MWD	Scientific Drilling
5/21/2018	3,161.00	86.28	307.57	IncAzi-MWD	Scientific Drilling
5/21/2018	3,192.00	86.67	307.28	IncAzi-MWD	Scientific Drilling
5/21/2018	3,224.00	86.34	306.38	IncAzi-MWD	Scientific Drilling
5/21/2018	3,255.00	87.05	307.14	IncAzi-MWD	Scientific Drilling
5/21/2018	3,318.00	87.68	307.71	IncAzi-MWD	Scientific Drilling
5/21/2018	3,381.00	87.48	306.30	IncAzi-MWD	Scientific Drilling
5/21/2018	3,444.00	88.09	306.56	IncAzi-MWD	Scientific Drilling
5/21/2018	3,507.00	89.25	307.07	IncAzi-MWD	Scientific Drilling
5/21/2018	3,569.00	89.09	308.44	IncAzi-MWD	Scientific Drilling
5/21/2018	3,632.00	89.60	311.41	IncAzi-MWD	Scientific Drilling
5/21/2018	3,695.00	89.80	314.09	IncAzi-MWD	Scientific Drilling
5/21/2018	3,758.00	89.13	317.55	IncAzi-MWD	Scientific Drilling
5/21/2018	3,821.00	87.18	319.44	IncAzi-MWD	Scientific Drilling
5/21/2018	3,883.00	85.80	319.39	IncAzi-MWD	Scientific Drilling
5/21/2018	3,946.00	85.91	320.76	IncAzi-MWD	Scientific Drilling
5/21/2018	4,009.00	89.16	321.41	IncAzi-MWD	Scientific Drilling
5/21/2018	4,072.00	91.27	321.19	IncAzi-MWD	Scientific Drilling
5/21/2018	4,135.00	91.68	320.16	IncAzi-MWD	Scientific Drilling
5/21/2018	4,197.00	92.18	317.86	IncAzi-MWD	Scientific Drilling
5/21/2018	4,260.00	92.72	318.46	IncAzi-MWD	Scientific Drilling
5/21/2018	4,322.00	93.56	319.73	IncAzi-MWD	Scientific Drilling
5/21/2018	4,383.00	94.00	320.02	IncAzi-MWD	Scientific Drilling
5/21/2018	4,444.00	93.08	317.52	IncAzi-MWD	Scientific Drilling
5/21/2018	4,505.00	95.78	316.66	IncAzi-MWD	Scientific Drilling
5/21/2018	4,567.00	94.53	315.10	IncAzi-MWD	Scientific Drilling
5/21/2018	4,628.00	94.81	315.79	IncAzi-MWD	Scientific Drilling
5/21/2018	4,689.00	95.01	319.06	IncAzi-MWD	Scientific Drilling

I, the undersigned, certify that I acting in my capacity as Operations Manager 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.

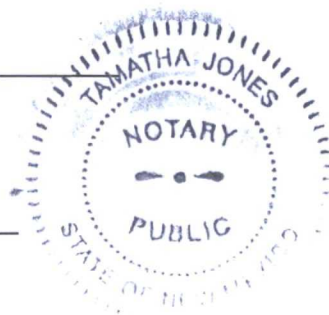

Thomas R. Jacques

Subscribed and sworn to me this 5/21/2018

Tamatha Jones

Notary Public in and for San Juan County, New Mexico

My Commission expires 3/12/2022



Well Name: ALLISON UNIT COM #138H

Survey Data					
Date	MD (ftKB)	Incl (°)	Azm (°)	Method	Survey Company
5/21/2018	4,751.00	95.61	319.40	IncAzi-MWD	Scientific Drilling
5/21/2018	4,812.00	96.33	320.39	IncAzi-MWD	Scientific Drilling
5/21/2018	4,873.00	94.87	319.60	IncAzi-MWD	Scientific Drilling
5/21/2018	4,935.00	92.65	320.28	IncAzi-MWD	Scientific Drilling
5/21/2018	4,996.00	92.85	320.60	IncAzi-MWD	Scientific Drilling
5/21/2018	5,057.00	89.46	318.91	IncAzi-MWD	Scientific Drilling
5/21/2018	5,118.00	88.32	318.55	IncAzi-MWD	Scientific Drilling
5/21/2018	5,180.00	88.26	319.96	IncAzi-MWD	Scientific Drilling
5/21/2018	5,241.00	88.02	319.11	IncAzi-MWD	Scientific Drilling
5/21/2018	5,302.00	89.36	320.21	IncAzi-MWD	Scientific Drilling
5/21/2018	5,363.00	90.40	320.81	IncAzi-MWD	Scientific Drilling
5/21/2018	5,420.00	91.51	321.09	IncAzi-MWD	Scientific Drilling
5/21/2018	5,486.00	89.73	320.13	IncAzi-MWD	Scientific Drilling
5/21/2018	5,547.00	91.58	321.29	IncAzi-MWD	Scientific Drilling
5/21/2018	5,608.00	92.21	322.17	IncAzi-MWD	Scientific Drilling
5/21/2018	5,670.00	93.40	322.86	IncAzi-MWD	Scientific Drilling
5/21/2018	5,731.00	93.16	321.63	IncAzi-MWD	Scientific Drilling
5/21/2018	5,792.00	93.73	321.57	IncAzi-MWD	Scientific Drilling
5/21/2018	5,855.00	94.39	318.59	IncAzi-MWD	Scientific Drilling
5/21/2018	5,917.00	90.60	316.10	IncAzi-MWD	Scientific Drilling
5/21/2018	5,979.00	89.26	315.11	IncAzi-MWD	Scientific Drilling
5/21/2018	6,042.00	89.33	314.87	IncAzi-MWD	Scientific Drilling
5/21/2018	6,104.00	89.53	314.17	IncAzi-MWD	Scientific Drilling
5/21/2018	6,166.00	89.03	313.88	IncAzi-MWD	Scientific Drilling
5/21/2018	6,229.00	89.66	314.46	IncAzi-MWD	Scientific Drilling
5/21/2018	6,291.00	89.93	315.07	IncAzi-MWD	Scientific Drilling
5/21/2018	6,353.00	88.52	317.25	IncAzi-MWD	Scientific Drilling
5/21/2018	6,416.00	89.16	318.13	IncAzi-MWD	Scientific Drilling
5/21/2018	6,447.00	88.96	317.96	IncAzi-MWD	Scientific Drilling
5/21/2018	6,514.00	88.96	317.96	IncAzi-MWD	Scientific Drilling

I, the undersigned, certify that I acting in my capacity as Operations Manager 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.

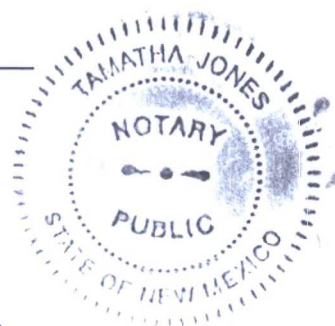
Thomas R. Jacques
Thomas R. Jacques

Subscribed and sworn to me this 5/21/2018

Tamatha Jones

Notary Public in and for San Juan County, New Mexico

My Commission expires 3/12/2022





Scientific Drilling

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 Com 138H Lateral
County & State	La Plata, CO
SDI Job No.	OP.010166
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 3,098 feet to a
measured depth of 6,514 feet is true and correct as determined from all available records.


Signature

21-May-18
Date

Janie Collins

Colorado District Well Planner
Scientific Drilling International



Scientific Drilling, Intl Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Allison Unit Com 138H
Project:	La Plata, CO NAD83	TVD Reference:	GL 6134 & RKB 15' @ 6149.00usft
Site:	Allison Unit	MD Reference:	GL 6134 & RKB 15' @ 6149.00usft
Well:	Allison Unit Com 138H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	Grand Junction District

Project	La Plata, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Southern Zone		

Site	Allison Unit				
Site Position:		Northing:	1,127,387.72 usft	Latitude:	36.9996501
From:	Map	Easting:	2,421,227.38 usft	Longitude:	-107.4819170
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.22 °

Well	Allison Unit Com 138H					
Well Position	+N/-S	0.00 usft	Northing:	1,127,387.72 usft	Latitude:	36.9996501
	+E/-W	0.00 usft	Easting:	2,421,227.38 usft	Longitude:	-107.4819170
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,134.00 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/14/2018	9.03	63.53	49,975

Design	Lateral				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	3,031.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	302.23	

Survey Program	Date	5/21/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
575.00	3,031.00	Survey #1 - MWD Survey (Pilot)	MWD+HDGM	OWSG MWD + HDGM	
3,098.00	6,514.00	Survey #1 - MWD Survey (Lateral)	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
575.00	1.18	43.17	574.96	4.32	4.05	-1.12	0.21	0.21	0.00	
606.00	0.71	44.86	605.96	4.69	4.40	-1.23	1.52	-1.52	5.45	
667.00	0.74	344.10	666.95	5.33	4.56	-1.02	1.20	0.05	-99.61	
730.00	1.66	338.52	729.94	6.57	4.12	0.02	1.47	1.46	-8.86	
793.00	3.04	311.05	792.88	8.52	2.52	2.41	2.77	2.19	-43.60	
856.00	4.82	314.15	855.73	11.46	-0.64	6.65	2.84	2.83	4.92	
919.00	6.18	307.81	918.44	15.38	-5.21	12.62	2.36	2.16	-10.06	
981.00	7.90	303.97	979.97	19.81	-11.38	20.20	2.87	2.77	-6.19	
1,044.00	9.35	300.88	1,042.26	24.86	-19.37	29.64	2.42	2.30	-4.90	



Scientific Drilling, Intl Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Allison Unit Com 138H
Project:	La Plata, CO NAD83	TVD Reference:	GL 6134 & RKB 15' @ 6149.00usft
Site:	Allison Unit	MD Reference:	GL 6134 & RKB 15' @ 6149.00usft
Well:	Allison Unit Com 138H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	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)
1,107.00	11.24	300.37	1,104.24	30.59	-29.06	40.89	3.00	3.00	-0.81
1,170.00	12.72	298.23	1,165.87	36.97	-40.47	53.95	2.45	2.35	-3.40
1,233.00	14.16	296.25	1,227.14	43.66	-53.49	68.54	2.40	2.29	-3.14
1,296.00	15.26	295.43	1,288.08	50.63	-67.89	84.43	1.78	1.75	-1.30
1,358.00	17.10	298.77	1,347.62	58.52	-83.25	101.63	3.32	2.97	5.39
1,421.00	18.26	298.08	1,407.64	67.63	-100.08	120.72	1.87	1.84	-1.10
1,484.00	20.18	299.59	1,467.13	77.64	-118.24	141.43	3.15	3.05	2.40
1,547.00	21.52	298.30	1,526.00	88.48	-137.86	163.81	2.25	2.13	-2.05
1,610.00	23.06	298.50	1,584.29	99.85	-158.88	187.65	2.45	2.44	0.32
1,672.00	24.69	298.64	1,640.99	111.85	-180.92	212.69	2.63	2.63	0.23
1,735.00	26.55	299.71	1,697.79	125.14	-204.70	239.89	3.04	2.95	1.70
1,798.00	28.74	301.67	1,753.59	140.07	-229.82	269.11	3.76	3.48	3.11
1,861.00	30.18	302.51	1,808.45	156.53	-256.07	300.09	2.38	2.29	1.33
1,924.00	32.09	303.32	1,862.37	174.24	-283.41	332.66	3.10	3.03	1.29
1,987.00	33.47	303.56	1,915.34	193.04	-311.87	366.76	2.20	2.19	0.38
2,049.00	34.52	301.69	1,966.74	211.72	-341.06	401.42	2.39	1.69	-3.02
2,112.00	36.67	301.50	2,017.97	230.93	-372.30	438.09	3.42	3.41	-0.30
2,173.00	38.62	300.79	2,066.26	250.19	-404.18	475.34	3.27	3.20	-1.16
2,235.00	40.95	301.01	2,113.91	270.56	-438.22	515.00	3.76	3.76	0.35
2,296.00	43.74	300.47	2,158.99	291.56	-473.54	556.07	4.61	4.57	-0.89
2,357.00	45.72	298.74	2,202.32	312.76	-510.86	598.95	3.81	3.25	-2.84
2,418.00	47.71	299.40	2,244.14	334.33	-549.67	643.28	3.36	3.26	1.08
2,480.00	50.15	299.74	2,284.87	357.40	-590.32	689.97	3.96	3.94	0.55
2,541.00	52.46	300.33	2,323.01	381.23	-631.53	737.54	3.86	3.79	0.97
2,602.00	54.15	300.95	2,359.46	406.16	-673.61	786.43	2.89	2.77	1.02
2,664.00	55.59	301.75	2,395.13	432.54	-716.91	837.13	2.55	2.32	1.29
2,725.00	57.88	302.58	2,428.59	459.70	-760.08	888.13	3.92	3.75	1.36
2,786.00	61.50	302.47	2,459.37	488.01	-804.48	940.78	5.94	5.93	-0.18
2,847.00	65.04	303.78	2,486.80	517.78	-850.09	995.25	6.11	5.80	2.15
2,909.00	65.88	303.47	2,512.55	549.01	-897.05	1,051.63	1.43	1.35	-0.50
2,970.00	66.89	304.23	2,536.99	580.15	-943.47	1,107.50	2.01	1.66	1.25
3,031.00	69.80	304.99	2,559.50	612.35	-990.12	1,164.14	4.91	4.77	1.25
3,098.00	77.59	304.62	2,578.29	649.02	-1,042.89	1,228.33	11.64	11.63	-0.55
3,130.00	82.13	306.53	2,583.93	667.34	-1,068.50	1,259.76	15.36	14.19	5.97
3,161.00	86.28	307.57	2,587.06	685.92	-1,093.11	1,290.49	13.80	13.39	3.35
3,192.00	86.67	307.28	2,588.96	704.73	-1,117.68	1,321.30	1.57	1.26	-0.94
3,224.00	86.34	306.38	2,590.91	723.87	-1,143.24	1,353.14	2.99	-1.03	-2.81
3,255.00	87.05	307.14	2,592.70	742.39	-1,168.04	1,383.99	3.35	2.29	2.45
3,318.00	87.68	307.71	2,595.60	780.64	-1,218.02	1,446.67	1.35	1.00	0.90
3,381.00	87.48	306.30	2,598.26	818.52	-1,268.28	1,509.39	2.26	-0.32	-2.24
3,444.00	88.09	306.56	2,600.69	855.91	-1,318.93	1,572.17	1.05	0.97	0.41
3,507.00	89.25	307.07	2,602.15	893.65	-1,369.35	1,634.96	2.01	1.84	0.81
3,569.00	89.09	308.44	2,603.05	931.60	-1,418.37	1,696.66	2.22	-0.26	2.21



Scientific Drilling, Intl Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Allison Unit Com 138H
Project:	La Plata, CO NAD83	TVD Reference:	GL 6134 & RKB 15' @ 6149.00usft
Site:	Allison Unit	MD Reference:	GL 6134 & RKB 15' @ 6149.00usft
Well:	Allison Unit Com 138H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	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)
3,632.00	89.60	311.41	2,603.77	972.03	-1,466.67	1,759.08	4.78	0.81	4.71
3,695.00	89.80	314.09	2,604.10	1,014.79	-1,512.93	1,821.02	4.27	0.32	4.25
3,758.00	89.13	317.55	2,604.69	1,059.96	-1,556.82	1,882.24	5.59	-1.06	5.49
3,821.00	87.18	319.44	2,606.72	1,107.11	-1,598.55	1,942.68	4.31	-3.10	3.00
3,883.00	85.80	319.39	2,610.51	1,154.11	-1,638.81	2,001.80	2.23	-2.23	-0.08
3,946.00	85.91	320.76	2,615.07	1,202.29	-1,679.13	2,061.61	2.18	0.17	2.17
4,009.00	89.16	321.41	2,617.78	1,251.26	-1,718.67	2,121.17	5.26	5.16	1.03
4,072.00	91.27	321.19	2,617.54	1,300.43	-1,758.05	2,180.71	3.37	3.35	-0.35
4,135.00	91.68	320.16	2,615.92	1,349.14	-1,797.96	2,240.45	1.76	0.65	-1.63
4,197.00	92.18	317.86	2,613.83	1,395.91	-1,838.61	2,299.78	3.79	0.81	-3.71
4,260.00	92.72	318.46	2,611.14	1,442.81	-1,880.59	2,360.30	1.28	0.86	0.95
4,322.00	93.56	319.73	2,607.74	1,489.59	-1,921.13	2,419.55	2.45	1.35	2.05
4,383.00	94.00	320.02	2,603.72	1,536.13	-1,960.35	2,477.55	0.86	0.72	0.48
4,444.00	93.08	317.52	2,599.95	1,581.92	-2,000.48	2,535.91	4.36	-1.51	-4.10
4,505.00	95.78	316.66	2,595.24	1,626.46	-2,041.88	2,594.69	4.64	4.43	-1.41
4,567.00	94.53	315.10	2,589.67	1,670.78	-2,084.87	2,654.69	3.22	-2.02	-2.52
4,628.00	94.81	315.79	2,584.70	1,714.11	-2,127.52	2,713.88	1.22	0.46	1.13
4,689.00	95.01	319.06	2,579.48	1,758.86	-2,168.63	2,772.52	5.35	0.33	5.36
4,751.00	95.61	319.40	2,573.74	1,805.61	-2,208.95	2,831.56	1.11	0.97	0.55
4,812.00	96.33	320.39	2,567.40	1,852.01	-2,248.03	2,889.37	2.00	1.18	1.62
4,873.00	94.87	319.60	2,561.45	1,898.51	-2,287.06	2,947.18	2.72	-2.39	-1.30
4,935.00	92.65	320.28	2,557.38	1,945.86	-2,326.87	3,006.11	3.74	-3.58	1.10
4,996.00	92.85	320.60	2,554.46	1,992.83	-2,365.67	3,063.99	0.62	0.33	0.52
5,057.00	89.46	318.91	2,553.23	2,039.38	-2,405.07	3,122.14	6.21	-5.56	-2.77
5,118.00	88.32	318.55	2,554.41	2,085.22	-2,445.30	3,180.62	1.96	-1.87	-0.59
5,180.00	88.26	319.96	2,556.26	2,132.17	-2,485.74	3,239.87	2.28	-0.10	2.27
5,241.00	88.02	319.11	2,558.24	2,178.55	-2,525.31	3,298.08	1.45	-0.39	-1.39
5,302.00	89.36	320.21	2,559.63	2,225.03	-2,564.79	3,356.26	2.84	2.20	1.80
5,363.00	90.40	320.81	2,559.76	2,272.11	-2,603.58	3,414.18	1.97	1.70	0.98
5,420.00	91.51	321.09	2,558.81	2,316.36	-2,639.48	3,468.16	2.01	1.95	0.49
5,486.00	89.73	320.13	2,558.10	2,367.37	-2,681.36	3,530.79	3.06	-2.70	-1.45
5,547.00	91.58	321.29	2,557.40	2,414.57	-2,719.98	3,588.64	3.58	3.03	1.90
5,608.00	92.21	322.17	2,555.38	2,462.44	-2,757.74	3,646.11	1.77	1.03	1.44
5,670.00	93.40	322.86	2,552.35	2,511.57	-2,795.43	3,704.19	2.22	1.92	1.11
5,731.00	93.16	321.63	2,548.86	2,559.72	-2,832.72	3,761.41	2.05	-0.39	-2.02
5,792.00	93.73	321.57	2,545.19	2,607.44	-2,870.54	3,818.86	0.94	0.93	-0.10
5,855.00	94.39	318.59	2,540.73	2,655.63	-2,910.86	3,878.67	4.83	1.05	-4.73
5,917.00	90.60	316.10	2,538.03	2,701.17	-2,952.82	3,938.45	7.31	-6.11	-4.02
5,979.00	89.26	315.11	2,538.11	2,745.47	-2,996.19	3,998.77	2.69	-2.16	-1.60
6,042.00	89.33	314.87	2,538.88	2,790.01	-3,040.75	4,060.21	0.40	0.11	-0.38
6,104.00	89.53	314.17	2,539.50	2,833.48	-3,084.95	4,120.78	1.17	0.32	-1.13
6,166.00	89.03	313.88	2,540.28	2,876.56	-3,129.53	4,181.47	0.93	-0.81	-0.47
6,229.00	89.66	314.46	2,541.00	2,920.46	-3,174.71	4,243.10	1.36	1.00	0.92



Scientific Drilling, Intl
Survey Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Allison Unit Com 138H
Project:	La Plata, CO NAD83	TVD Reference:	GL 6134 & RKB 15' @ 6149.00usft
Site:	Allison Unit	MD Reference:	GL 6134 & RKB 15' @ 6149.00usft
Well:	Allison Unit Com 138H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	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)
6,291.00	89.93	315.07	2,541.22	2,964.12	-3,218.73	4,303.63	1.08	0.44	0.98
6,353.00	88.52	317.25	2,542.06	3,008.83	-3,261.67	4,363.79	4.19	-2.27	3.52
6,416.00	89.16	318.13	2,543.33	3,055.41	-3,304.07	4,424.50	1.73	1.02	1.40
6,447.00	88.96	317.96	2,543.84	3,078.46	-3,324.79	4,454.32	0.85	-0.65	-0.55
6,514.00	88.96	317.96	2,545.06	3,128.21	-3,369.65	4,518.80	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____