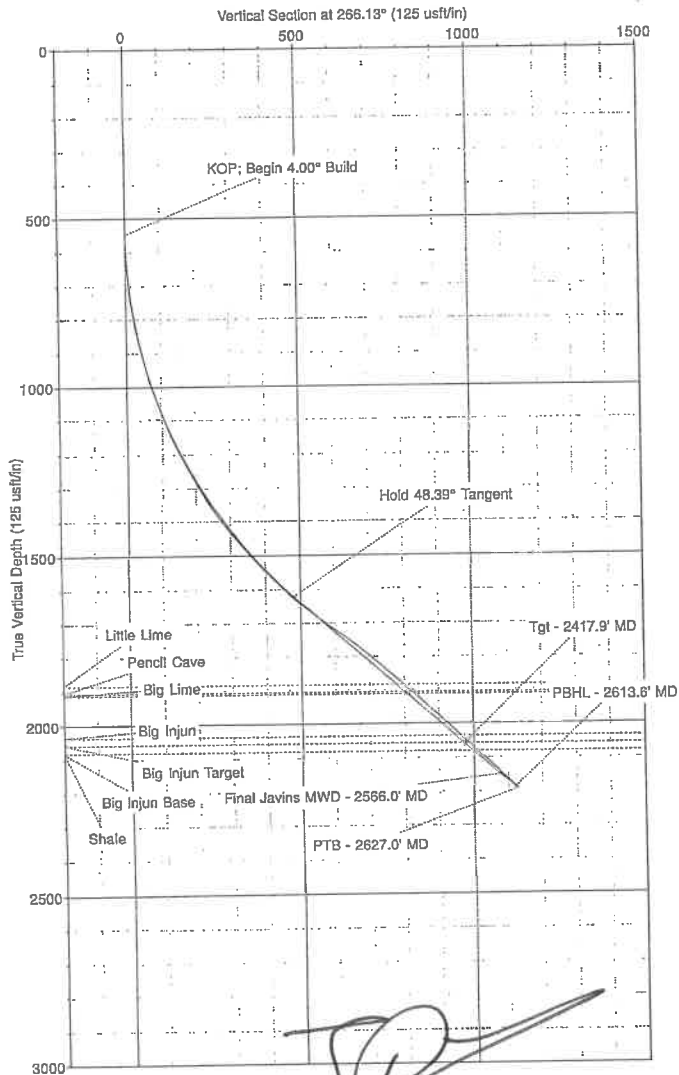


HG Energy, LLC

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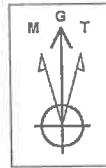
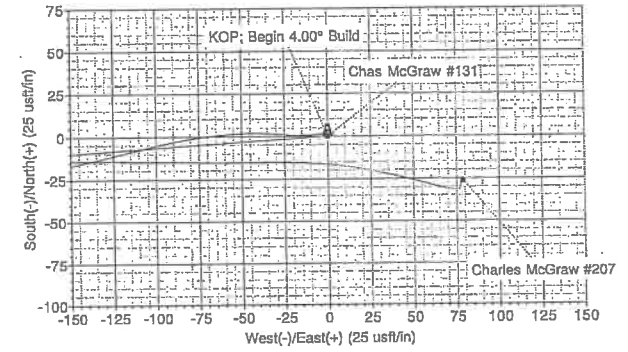
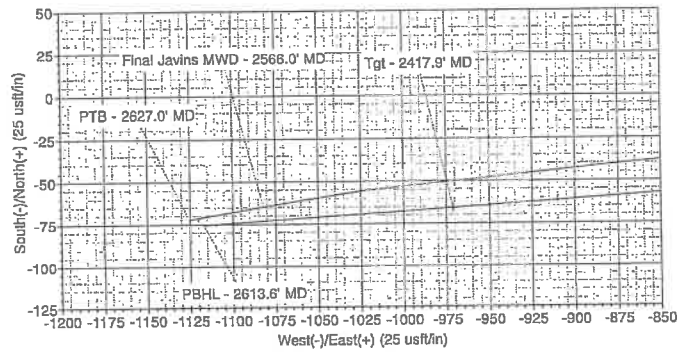
Project: Roane County, WV (UTM 17N - GR18)
 Site: Chas McGraw/Kinkead
 Well: Chas McGraw #131
 Wellbore: Wellbore #1
 Design: Design #2

Chas McGraw #131



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	550.0	0.00	0.00	550.0	0.0	0.0	0.00	0.00	0.0	KOP: Begin 4.00° Build
3	1759.9	48.39	266.13	1621.1	-32.4	-480.2	4.00	266.13	481.3	Hold 48.39° Tangent
4	2417.9	48.39	266.13	2058.0	-65.6	-971.1	0.00	0.00	973.3	Tgt - 2417.9' MD
5	2613.6	48.39	266.13	2187.9	-75.5	-1117.1	0.00	0.00	1119.6	PBHL - 2613.6' MD

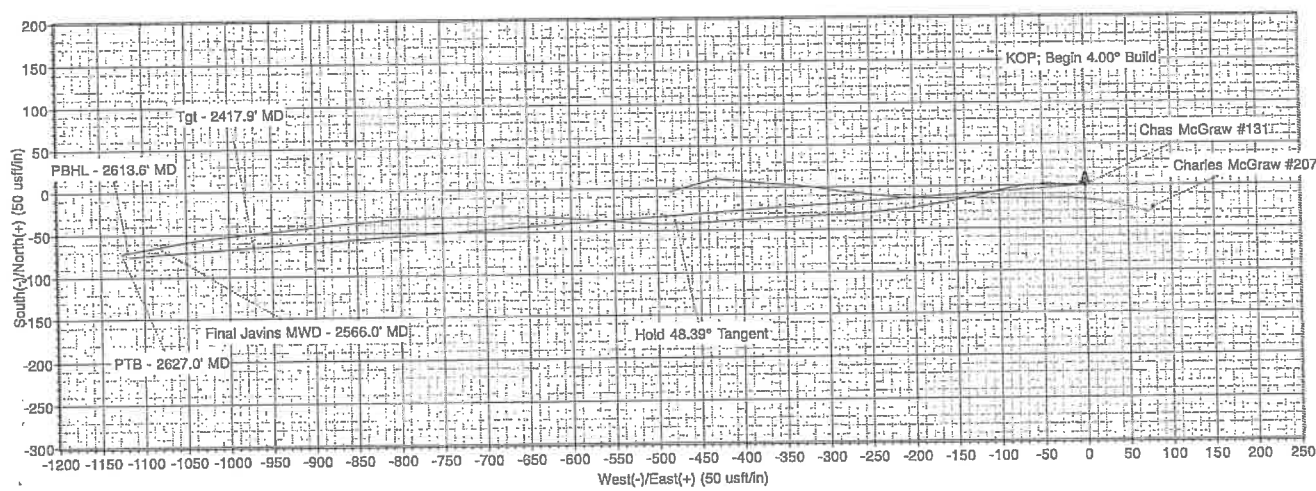
DESIGN TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
Tgt - Chas McGraw #131	2058.0	-85.6	-971.1	4285130.00	475797.00	38° 42' 52.139 N	81° 16' 42.209 W	Point		



Azimuths to Grid North
 True North: 0.17°
 Magnetic North: -8.12°
 Magnetic Field
 Strength: 51099.0snT
 Dip Angle: 65.76°
 Date: 7/7/2022
 Model: IGRF2015

FORMATION TOP DETAILS		
TVDPATH	MDPATH	FORMATION
1894.0	2155.9	Little Lime
1906.0	2189.0	Pencil Cave
1912.0	2198.0	Big Lime
2036.0	2384.8	Big Injun
2058.0	2417.9	Big Injun Target
2081.0	2452.6	Big Injun Base
2081.0	2452.6	Shale

CASING DETAILS			
TVD	MD	Name	Size
450.0	450.0	7"	7"



HG Energy, LLC

HG Energy, LLC

Roane County, WV (UTM 17N - GRID)

Chas McGraw/Kinhead

Chas McGraw #131

Wellbore #1

Design: Surveys

Survey Report - Geographic

29 August, 2022

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10/14/2022



Company: HG Energy, LLC
Project: Roane County, WV (UTM 17N - GRID)
Site: Chas McGraw/Kinkead
Well: Chas McGraw #131
Wellbore: Wellbore #1
Design: Surveys

Local Co-ordinate Reference: Well Chas McGraw #131
TVD Reference: WELL @ 1063.0usft (8' RKB)
MD Reference: WELL @ 1063.0usft (8' RKB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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Project	Roane County, WV (UTM 17N - GRID)		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD83 West Virginia - HARN		
Map Zone:	Zone 17N (84 W to 78 W)		

Site: Chas McGraw/Kinkead
Site Position: Northing: 4,285,178.00 m Latitude: 38° 42' 53.662 N
 From: Map Easting: 475,452.00 m Longitude: 81° 16' 56.501 W
Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 " Grid Convergence: -0.18 °

Well: Chas McGraw #131
Well Position: +N/-S 0.0 usft Northing: 4,285,150.00 m Latitude: 38° 42' 52.816 N
 +E/-W 0.0 usft Easting: 476,093.00 m Longitude: 81° 16' 29.955 W
Position Uncertainty: 0.0 usft Wellhead Elevation: usft Ground Level: 1,055.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/7/2022	-8.30	65.76	51,099

Design: Surveys
Audit Notes:
Version: 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.0
Vertical Section: Depth From (TVD) (usft) +N/-S (usft) +E/-W (usft) Direction (°)
 0.0 0.0 0.0 266.13

Survey Program	Date 8/5/2022	
From (usft)	To (usft)	Survey (Wellbore)
496.0	2,627.0	Javins MWD (Wellbore #1)
		Tool Name
		MWD
		Description
		OWSG MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	4,285,150.00	476,093.00	38° 42' 52.816 N	81° 16' 29.955 W
496.0	0.29	345.81	496.0	1.2	-0.3	4,285,150.37	476,092.91	38° 42' 52.828 N	81° 16' 29.959 W
526.0	0.10	2.75	526.0	1.3	-0.3	4,285,150.40	476,092.90	38° 42' 52.829 N	81° 16' 29.959 W
556.0	0.61	272.12	556.0	1.3	-0.5	4,285,150.41	476,092.85	38° 42' 52.830 N	81° 16' 29.961 W
586.0	2.04	268.24	586.0	1.3	-1.2	4,285,150.40	476,092.64	38° 42' 52.830 N	81° 16' 29.970 W
616.0	3.18	262.17	616.0	1.2	-2.5	4,285,150.36	476,092.23	38° 42' 52.828 N	81° 16' 29.987 W
646.0	4.14	264.15	645.9	1.0	-4.4	4,285,150.30	476,091.65	38° 42' 52.826 N	81° 16' 30.011 W
676.0	5.29	264.54	675.8	0.7	-6.9	4,285,150.22	476,090.90	38° 42' 52.824 N	81° 16' 30.042 W
706.0	5.96	266.47	705.6	0.5	-9.8	4,285,150.15	476,090.01	38° 42' 52.821 N	81° 16' 30.079 W
736.0	7.05	269.39	735.5	0.4	-13.2	4,285,150.12	476,088.97	38° 42' 52.820 N	81° 16' 30.121 W
766.0	8.18	272.35	765.2	0.5	-17.2	4,285,150.14	476,087.76	38° 42' 52.821 N	81° 16' 30.172 W
796.0	10.02	272.88	794.8	0.7	-21.9	4,285,150.20	476,086.32	38° 42' 52.823 N	81° 16' 30.231 W





Company: HG Energy, LLC
Project: Roane County, WV (UTM 17N - GRID)
Site: Chas McGraw/Kinhead
Well: Chas McGraw #131
Wellbore: Wellbore #1
Design: Surveys

Local Co-ordinate Reference: Well Chas McGraw #131
TVD Reference: WELL @ 1063.0usft (8' RKB)
MD Reference: WELL @ 1063.0usft (8' RKB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
826.0	11.40	275.42	824.3	1.1	-27.5	4,285,150.33	476,084.62	38° 42' 52.826 N	81° 16' 30.302 W
856.0	12.35	273.59	853.6	1.6	-33.6	4,285,150.48	476,082.75	38° 42' 52.831 N	81° 16' 30.379 W
886.0	13.14	270.75	882.9	1.8	-40.3	4,285,150.55	476,080.73	38° 42' 52.833 N	81° 16' 30.463 W
916.0	14.28	267.87	912.1	1.7	-47.4	4,285,150.52	476,078.56	38° 42' 52.832 N	81° 16' 30.552 W
946.0	15.08	266.04	941.1	1.3	-55.0	4,285,150.40	476,076.25	38° 42' 52.828 N	81° 16' 30.648 W
976.0	16.54	265.11	969.9	0.7	-63.1	4,285,150.21	476,073.77	38° 42' 52.821 N	81° 16' 30.751 W
1,006.0	17.66	262.29	998.6	-0.3	-71.9	4,285,149.91	476,071.10	38° 42' 52.811 N	81° 16' 30.862 W
1,036.0	19.21	260.85	1,027.1	-1.7	-81.2	4,285,149.48	476,068.24	38° 42' 52.797 N	81° 16' 30.980 W
1,066.0	20.42	258.01	1,055.3	-3.6	-91.2	4,285,148.91	476,065.19	38° 42' 52.779 N	81° 16' 31.106 W
1,096.0	21.08	257.04	1,083.3	-5.8	-101.6	4,285,148.21	476,062.03	38° 42' 52.756 N	81° 16' 31.237 W
1,126.0	22.95	256.55	1,111.2	-8.4	-112.6	4,285,147.43	476,058.69	38° 42' 52.730 N	81° 16' 31.375 W
1,156.0	23.85	256.70	1,138.7	-11.2	-124.2	4,285,146.59	476,055.16	38° 42' 52.702 N	81° 16' 31.521 W
1,186.0	25.17	257.08	1,166.0	-14.0	-136.3	4,285,145.73	476,051.46	38° 42' 52.674 N	81° 16' 31.674 W
1,216.0	26.02	258.40	1,193.0	-16.7	-148.9	4,285,144.89	476,047.60	38° 42' 52.646 N	81° 16' 31.834 W
1,246.0	27.54	259.65	1,219.8	-19.3	-162.2	4,285,144.11	476,043.56	38° 42' 52.621 N	81° 16' 32.001 W
1,276.0	27.86	260.48	1,246.4	-21.7	-175.9	4,285,143.38	476,039.37	38° 42' 52.596 N	81° 16' 32.174 W
1,306.0	29.62	261.50	1,272.7	-24.0	-190.2	4,285,142.69	476,035.03	38° 42' 52.574 N	81° 16' 32.354 W
1,336.0	30.78	262.74	1,298.6	-26.0	-205.1	4,285,142.06	476,030.47	38° 42' 52.553 N	81° 16' 32.543 W
1,366.0	32.55	264.07	1,324.2	-27.8	-220.8	4,285,141.51	476,025.71	38° 42' 52.534 N	81° 16' 32.740 W
1,396.0	32.64	263.67	1,349.4	-29.6	-236.9	4,285,140.98	476,020.81	38° 42' 52.517 N	81° 16' 32.943 W
1,426.0	34.59	265.93	1,374.4	-31.1	-253.4	4,285,140.53	476,015.77	38° 42' 52.502 N	81° 16' 33.152 W
1,456.0	36.18	266.53	1,398.9	-32.2	-270.7	4,285,140.18	476,010.48	38° 42' 52.490 N	81° 16' 33.370 W
1,486.0	38.71	267.93	1,422.7	-33.1	-288.9	4,285,139.91	476,004.93	38° 42' 52.481 N	81° 16' 33.600 W
1,516.0	39.46	267.89	1,446.0	-33.8	-307.8	4,285,139.70	475,999.17	38° 42' 52.473 N	81° 16' 33.839 W
1,546.0	40.40	268.08	1,469.0	-34.5	-327.1	4,285,139.50	475,993.30	38° 42' 52.466 N	81° 16' 34.082 W
1,576.0	41.35	267.66	1,491.7	-35.2	-346.7	4,285,139.27	475,987.33	38° 42' 52.458 N	81° 16' 34.329 W
1,606.0	42.11	266.85	1,514.0	-36.1	-366.6	4,285,138.98	475,981.25	38° 42' 52.448 N	81° 16' 34.581 W
1,636.0	43.67	267.02	1,536.0	-37.2	-387.0	4,285,138.65	475,975.03	38° 42' 52.437 N	81° 16' 34.838 W
1,666.0	44.79	266.34	1,557.5	-38.4	-407.9	4,285,138.28	475,968.66	38° 42' 52.424 N	81° 16' 35.102 W
1,696.0	45.00	265.80	1,578.8	-39.9	-429.1	4,285,137.84	475,962.23	38° 42' 52.409 N	81° 16' 35.368 W
1,726.0	46.10	266.89	1,599.8	-41.3	-450.4	4,285,137.42	475,955.71	38° 42' 52.395 N	81° 16' 35.638 W
1,756.0	47.43	268.63	1,620.3	-42.1	-472.3	4,285,137.16	475,949.06	38° 42' 52.386 N	81° 16' 35.914 W
1,786.0	49.63	271.15	1,640.2	-42.1	-494.7	4,285,137.15	475,942.21	38° 42' 52.385 N	81° 16' 36.197 W
1,816.0	51.79	273.62	1,659.2	-41.2	-517.9	4,285,137.45	475,935.14	38° 42' 52.394 N	81° 16' 36.490 W
1,846.0	53.43	274.70	1,677.4	-39.4	-541.7	4,285,137.98	475,927.89	38° 42' 52.410 N	81° 16' 36.790 W
1,876.0	53.46	274.72	1,695.3	-37.5	-565.7	4,285,138.58	475,920.57	38° 42' 52.429 N	81° 16' 37.093 W
1,906.0	53.99	274.45	1,713.0	-35.5	-589.8	4,285,139.17	475,913.22	38° 42' 52.448 N	81° 16' 37.398 W
1,936.0	54.26	274.12	1,730.6	-33.7	-614.1	4,285,139.72	475,905.83	38° 42' 52.465 N	81° 16' 37.704 W
1,966.0	53.39	272.65	1,748.3	-32.3	-638.2	4,285,140.16	475,898.47	38° 42' 52.478 N	81° 16' 38.009 W
1,996.0	51.35	271.27	1,766.6	-31.5	-662.0	4,285,140.41	475,891.23	38° 42' 52.486 N	81° 16' 38.308 W
2,026.0	49.40	269.04	1,785.8	-31.4	-685.1	4,285,140.43	475,884.19	38° 42' 52.486 N	81° 16' 38.600 W
2,056.0	48.58	268.90	1,805.5	-31.8	-707.7	4,285,140.30	475,877.29	38° 42' 52.481 N	81° 16' 38.886 W
2,086.0	48.68	268.26	1,825.3	-32.4	-730.2	4,285,140.13	475,870.43	38° 42' 52.475 N	81° 16' 39.170 W
2,116.0	49.04	268.86	1,845.0	-33.0	-752.8	4,285,139.95	475,863.54	38° 42' 52.468 N	81° 16' 39.455 W
2,146.0	49.15	267.89	1,864.7	-33.6	-775.5	4,285,139.74	475,856.64	38° 42' 52.461 N	81° 16' 39.741 W
2,176.0	48.38	267.02	1,884.4	-34.6	-798.0	4,285,139.44	475,849.77	38° 42' 52.450 N	81° 16' 40.025 W
2,206.0	48.70	266.75	1,904.3	-35.9	-820.5	4,285,139.06	475,842.92	38° 42' 52.437 N	81° 16' 40.308 W
2,236.0	46.73	265.00	1,924.5	-37.5	-842.6	4,285,138.58	475,836.18	38° 42' 52.421 N	81° 16' 40.588 W
2,266.0	46.57	264.63	1,945.1	-39.4	-864.3	4,285,137.98	475,829.56	38° 42' 52.401 N	81° 16' 40.862 W
2,296.0	46.64	264.08	1,965.7	-41.6	-886.0	4,285,137.32	475,822.94	38° 42' 52.379 N	81° 16' 41.136 W
2,326.0	46.75	263.97	1,986.3	-43.8	-907.7	4,285,136.63	475,816.33	38° 42' 52.356 N	81° 16' 41.410 W
2,356.0	47.15	264.41	2,006.7	-46.1	-929.5	4,285,135.95	475,809.68	38° 42' 52.333 N	81° 16' 41.685 W
2,386.0	46.92	264.30	2,027.2	-48.2	-951.4	4,285,135.30	475,803.02	38° 42' 52.311 N	81° 16' 41.960 W
2,416.0	46.89	264.18	2,047.7	-50.4	-973.2	4,285,134.63	475,796.38	38° 42' 52.289 N	81° 16' 42.235 W
2,446.0	47.32	264.27	2,068.1	-52.6	-995.0	4,285,133.95	475,789.71	38° 42' 52.266 N	81° 16' 42.511 W



Company: HG Energy, LLC
Project: Roane County, WV (UTM 17N - GRID)
Site: Chas McGraw/Kinthead
Well: Chas McGraw #131
Wellbore: Wellbore #1
Design: Surveys

Local Co-ordinate Reference: Well Chas McGraw #131
TVD Reference: WELL @ 1063.0usft (8' RKB)
MD Reference: WELL @ 1063.0usft (8' RKB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
2,476.0	47.34	263.37	2,088.4	-55.0	-1,017.0	4,285,133.23	475,783.03	38° 42' 52.242 N	81° 16' 42.788 W
2,506.0	46.97	261.84	2,108.8	-57.8	-1,038.8	4,285,132.37	475,776.38	38° 42' 52.213 N	81° 16' 43.063 W
2,536.0	46.64	260.73	2,129.4	-61.2	-1,060.4	4,285,131.36	475,769.79	38° 42' 52.180 N	81° 16' 43.336 W
2,566.0	46.29	260.22	2,150.0	-64.8	-1,081.9	4,285,130.26	475,763.25	38° 42' 52.144 N	81° 16' 43.606 W
2,627.0	46.29	260.22	2,192.2	-72.2	-1,125.3	4,285,127.98	475,750.01	38° 42' 52.068 N	81° 16' 44.155 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Comment
2,566.0	2,150.0	-64.8	-1,081.9	Final Javins MWD - 2566.0' MD
2,627.0	2,192.2	-72.2	-1,125.3	PTB - 2627.0' MD

Checked By: Chris Thompson Approved By: Chris Thompson Date: 8/30/2022

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HG Energy, LLC

Roane County, WV (UTM 17N - GRID)

Chas McGraw/Kinhead

Chas McGraw #131

Wellbore #1

Design: Surveys

Javins Survey Report

29 August, 2022





Javins Corporation
Javins Survey Report



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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	Roane County, WV (UTM 17N - GRID)		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD83 West Virginia - HARN		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Chas McGraw/Kinkead		
Site Position:		Northing:	4,285,178.00 m
From:	Map	Easting:	475,452.00 m
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	38° 42' 53.662 N
		Longitude:	81° 16' 56.501 W
		Grid Convergence:	-0.18 °

Well	Chas McGraw #131		
Well Position	+N/-S	0.0 usft	Northing: 4,285,150.00 m
	+E/-W	0.0 usft	Easting: 476,093.00 m
Position Uncertainty		0.0 usft	Wellhead Elevation: usft
			Latitude: 38° 42' 52.816 N
			Longitude: 81° 16' 29.955 W
			Ground Level: 1,055.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/7/2022	-8.30	65.76	51,099

Design	Surveys			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	
		Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	266.13

Survey Program	Date 8/5/2022			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
496.0	2,627.0	Javins MWD (Wellbore #1)	MWD	OWSG MWD - Standard



Javins Corporation
Javins Survey Report



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Site: Chas McGraw/Kinkead
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Design: Surveys

Local Co-ordinate Reference: Well Chas McGraw #131
TVD Reference: WELL @ 1063.0usft (8' RKB)
MD Reference: WELL @ 1063.0usft (8' RKB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.00
496.0	0.29	345.81	496.0	1.2	-0.3	0.2	1.3	345.81	0.06
526.0	0.10	2.75	526.0	1.3	-0.3	0.2	1.4	346.13	0.66
556.0	0.61	272.12	556.0	1.3	-0.5	0.4	1.4	340.28	2.06
586.0	2.04	268.24	586.0	1.3	-1.2	1.1	1.8	318.68	4.77
616.0	3.18	262.17	616.0	1.2	-2.5	2.4	2.8	295.49	3.90
646.0	4.14	264.15	645.9	1.0	-4.4	4.4	4.5	282.51	3.23
676.0	5.29	264.54	675.8	0.7	-6.9	6.8	6.9	276.15	3.83
706.0	5.96	266.47	705.6	0.5	-9.8	9.8	9.8	273.00	2.32
736.0	7.05	269.39	735.5	0.4	-13.2	13.2	13.2	271.73	3.80
766.0	8.18	272.35	765.2	0.5	-17.2	17.1	17.2	271.56	3.99
796.0	10.02	272.88	794.8	0.7	-21.9	21.8	21.9	271.79	6.14
826.0	11.40	275.42	824.3	1.1	-27.5	27.4	27.5	272.29	4.86
856.0	12.35	273.59	853.6	1.6	-33.6	33.5	33.7	272.69	3.41
886.0	13.14	270.75	882.9	1.8	-40.3	40.0	40.3	272.59	3.36
916.0	14.28	267.87	912.1	1.7	-47.4	47.1	47.4	272.09	4.43
946.0	15.08	266.04	941.1	1.3	-55.0	54.7	55.0	271.38	3.08
976.0	16.54	265.11	969.9	0.7	-63.1	62.9	63.1	270.63	4.94
1,006.0	17.66	262.29	998.6	-0.3	-71.9	71.7	71.9	269.77	4.64
1,036.0	19.21	260.85	1,027.1	-1.7	-81.2	81.2	81.3	268.82	5.38
1,066.0	20.42	258.01	1,055.3	-3.6	-91.2	91.3	91.3	267.77	5.15
1,096.0	21.08	257.04	1,083.3	-5.8	-101.6	101.8	101.8	266.71	2.48
1,126.0	22.95	256.55	1,111.2	-8.4	-112.6	112.9	112.9	265.72	6.26
1,156.0	23.85	256.70	1,138.7	-11.2	-124.2	124.6	124.7	264.86	3.01
1,186.0	25.17	257.08	1,166.0	-14.0	-136.3	136.9	137.0	264.14	4.43
1,216.0	26.02	258.40	1,193.0	-16.7	-148.9	149.7	149.9	263.58	3.41
1,246.0	27.54	259.65	1,219.8	-19.3	-162.2	163.1	163.4	263.21	5.40



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Javins Corporation
 Javins Survey Report



Company: HG Energy, LLC
Project: Roane County, WV (UTM 17N - GRID)
Site: Chas McGraw/Kinkead
Well: Chas McGraw #131
Wellbore: Wellbore #1
Design: Surveys

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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)
1,276.0	27.86	260.48	1,246.4	-21.7	-175.9	177.0	177.3	262.96	1.67
1,306.0	29.62	261.50	1,272.7	-24.0	-190.2	191.4	191.7	262.81	6.09
1,336.0	30.78	262.74	1,298.6	-26.0	-205.1	206.4	206.8	262.76	4.39
1,366.0	32.55	264.07	1,324.2	-27.8	-220.8	222.2	222.5	262.81	6.34
1,396.0	32.64	263.67	1,349.4	-29.6	-236.9	238.3	238.7	262.88	0.78
1,426.0	34.59	265.93	1,374.4	-31.1	-253.4	254.9	255.3	263.01	7.72
1,456.0	36.18	266.53	1,398.9	-32.2	-270.7	272.3	272.6	263.22	5.43
1,486.0	38.71	267.93	1,422.7	-33.1	-288.9	290.5	290.8	263.47	8.90
1,516.0	39.46	267.89	1,446.0	-33.8	-307.8	309.4	309.7	263.74	2.50
1,546.0	40.40	268.08	1,469.0	-34.5	-327.1	328.7	328.9	263.99	3.16
1,576.0	41.35	267.66	1,491.7	-35.2	-346.7	348.3	348.5	264.21	3.30
1,606.0	42.11	268.85	1,514.0	-36.1	-366.6	368.3	368.4	264.37	3.11
1,636.0	43.67	267.02	1,536.0	-37.2	-387.0	388.7	388.8	264.51	5.21
1,666.0	44.79	266.34	1,557.5	-38.4	-407.9	409.6	409.7	264.62	4.05
1,696.0	45.00	265.80	1,578.8	-39.9	-429.1	430.8	430.9	264.69	1.45
1,726.0	46.10	266.89	1,599.8	-41.3	-450.4	452.2	452.3	264.77	4.49
1,756.0	47.43	268.63	1,620.3	-42.1	-472.3	474.0	474.1	264.90	6.12
1,786.0	49.63	271.15	1,640.2	-42.1	-494.7	496.5	496.5	265.13	9.66
1,816.0	51.79	273.62	1,659.2	-41.2	-517.9	519.5	519.6	265.46	9.61
1,846.0	53.43	274.70	1,677.4	-39.4	-541.7	543.1	543.1	265.84	6.17
1,876.0	53.46	274.72	1,695.3	-37.5	-565.7	567.0	567.0	266.21	0.11
1,906.0	53.99	274.45	1,713.0	-35.5	-589.8	590.9	590.9	266.55	1.91
1,936.0	54.26	274.12	1,730.6	-33.7	-614.1	614.9	615.0	266.86	1.27
1,966.0	53.39	272.65	1,748.3	-32.3	-638.2	639.0	639.1	267.10	4.90
1,996.0	51.35	271.27	1,766.6	-31.5	-662.0	662.6	662.7	267.28	7.71
2,026.0	49.40	269.04	1,785.8	-31.4	-685.1	685.6	685.8	267.38	8.66
2,056.0	48.58	268.90	1,805.5	-31.8	-707.7	708.3	708.4	267.43	2.76

JDT



Javins Corporation
Javins Survey Report



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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)
2,086.0	48.68	268.26	1,825.3	-32.4	-730.2	730.7	730.9	267.46	1.64
2,116.0	49.04	268.66	1,845.0	-33.0	-752.8	753.3	753.5	267.49	1.56
2,146.0	49.15	267.89	1,864.7	-33.6	-775.5	776.0	776.2	267.52	1.97
2,176.0	48.38	267.02	1,884.4	-34.6	-798.0	798.5	798.8	267.51	3.37
2,206.0	48.70	266.75	1,904.3	-35.9	-820.5	821.0	821.2	267.50	1.26
2,236.0	46.73	265.00	1,924.5	-37.5	-842.6	843.2	843.4	267.45	7.86
2,266.0	46.57	264.63	1,945.1	-39.4	-864.3	865.0	865.2	267.39	1.04
2,296.0	46.64	264.08	1,965.7	-41.6	-886.0	886.8	887.0	267.31	1.35
2,326.0	46.75	263.97	1,986.3	-43.8	-907.7	908.6	908.8	267.23	0.45
2,356.0	47.15	264.41	2,006.7	-46.1	-929.5	930.5	930.7	267.16	1.71
2,386.0	46.92	264.30	2,027.2	-48.2	-951.4	952.5	952.6	267.10	0.81
2,416.0	46.89	264.18	2,047.7	-50.4	-973.2	974.4	974.5	267.03	0.31
2,446.0	47.32	264.27	2,068.1	-52.6	-995.0	996.3	996.4	266.97	1.45
2,476.0	47.34	263.37	2,088.4	-55.0	-1,017.0	1,018.4	1,018.5	266.90	2.21
2,506.0	46.97	261.84	2,108.8	-57.8	-1,038.8	1,040.3	1,040.4	266.81	3.94
2,536.0	46.64	260.73	2,129.4	-61.2	-1,060.4	1,062.1	1,062.2	266.70	2.91
2,566.0	46.29	260.22	2,150.0	-64.8	-1,081.9	1,083.8	1,083.8	266.57	1.70
2,627.0	46.29	260.22	2,192.2	-72.2	-1,125.3	1,127.6	1,127.6	266.33	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
2,566.0	2,150.0	-64.8	-1,081.9	Final Javins MWD - 2566.0' MD
2,627.0	2,192.2	-72.2	-1,125.3	PTB - 2627.0' MD

Checked By: Chris Thompson Approved By: Chris Thompson Date: 8/30/2022



Reliance

Well Services, LLC

15 BPM X-Link

HG Energy, LLC
Treater: Tony Lewellen
Date: 8/23/2022
Lease: C. McGraw
Well: #131
API #: 47-087-04807
Roane County, WV

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Reliance

Well Services

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Reliance
WELL SERVICES LLC

510 Clairberry Street
Suite 210
Erie, PA 16507
Phone 814.454.1614
Fax 814.454.1164
24 Hour 412.566.0982

Operator: HG Energy, LLC
Lease: C. McGraw
Well #: 131
Location: Roane County, WV
API #: 47-087-04807

Supervisor: Tony Lewellen
Pump Time: 12:58 PM
Flush Time: 1:14 PM
Date: 8/23/2022

Stage	Depth	Breakdown (psi)	Clean Vol H2O (bbls)	Slurry Discharge (bbls)	Acid 15% HCL (gals)	(In Acid) 4 AND 1 Acid Inhibitor (gals)	API 20/40 Sand (sacks)	Ave. Rate (BPM)	Ave. Treating (psi)	Isip SIP (psi)	5 min. SIP (psi)	10 min SIP (psi)	15 min SIP (psi)	Pro Gel 4.0L Guar Gel (lbs)	GB-1EB Gel Breaker (gals)	BXL-10C X-Linker (gals)	BXL-A Breaker Activator (gals)	AP-1 Breaker (lbs)	Pro CLA Firm LP Clay Control (gals)	Pro NE-1 Biocide/Surfactant (gals)
1	2584	1,293	119	122	250.00	1.25	30.00	15	533	434	0	0	0	25.00	0.50	5.00	0.50	5.00	5.00	5.00
	Total				250.00	1.25	30.00							25.00	0.50	5.00	0.50	5.00	5.00	5.00

Comments:

Stage 1 8/23/2022: Treated per design.