

JK

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47 - 033 - 5778 County HARRISON District TEN MILE
Quad SALEM 7.5' Pad Name A. STONESTREET Field/Pool Name WOLF SUMMIT
Farm name CURRY, KEITH A. & BRENDA S. Well Number 124
Operator (as registered with the OOG) H.G. ENERGY LLC
Address 5260 DuPONT ROAD City PARKERSBURG State WV Zip 26101

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,347,811 M Easting 543,894 M
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing 4,347,562 M Easting 543,863 M

Elevation (ft) 1,228' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
N/A

Date permit issued 8/29/13 Date drilling commenced 11/22/13 Date drilling ceased 12/5/13
Date completion activities began 12/11/13 Date completion activities ceased 12/19/13
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft None Open mine(s) (Y/N) depths N
Salt water depth(s) ft None Void(s) encountered (Y/N) depths N
Coal depth(s) ft 460'-467' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: _____

02/28/2014

API 47-033 - 5778 Farm name CURRY, KEITH A. & BRENDA S. Well number 124

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	12 1/4"	11 5/8"	30'	Used	LS		Sand In
Surface	8 3/4"	7"	580'	New	LS	64'	Y
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	6 1/2"	4 1/2"	3147.5'	New	J-55		Y
Tubing							
Packer type and depth set							

Comment Details Circulated Est. 1 bbls to surface on 7" surface cement job. Circulated Est. 15 bbls to surface on 4 1/2" cement job.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Reg Neat	140	15.6	1.18	165	Surface	8
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	50:50 Pozmix/ Econo	200/80	14.2/11.8	1.27/2.93	254/234	Surface	8.
Tubing							

Drillers TD (ft) 3200' Loggers TD (ft) 3182'
 Deepest formation penetrated Fifth Sand Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 900'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____
15 Centralizers every 64" from bottom on 4 1/2", Centralizer placed mid string on 7"

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 033 - 5778 Farm name CURRY, KEITH A. & BRENDA S. Well number 124

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	12/11/13	2968'	2975'	28	Fifth Sand

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	12/19/13	10	1888	1995	2186	10,000	310	

Please insert additional pages as applicable.

API 47- 033 - 5778 Farm name CURRY, KEITH A. & BRENDA S. Well number 124

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
Fifth Sand	2785'-2796'	TVD 2965'-2978' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST _____ hrs
 OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY
 Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
Sand/Shale	0	460	0	460	
Pittsburgh Coal	460	467	460	467	
Sand/Shale	467	1824	467	1846	
Big Lime	1824	1898	1846	1928	
Big Injun	1898	1964	1928	2002	
Shale	1964	2374	2002	2481	
Fifty Foot	2374	2413	2481	2528	
Shale	2413	2457	2528	2580	
Sand	2457	2639	2580	2795	
Shale	2639	2785	2795	2965	
Fifth Sand	2785	2796	2965	2978	Drilled directional S 3 degrees E a distance of 754'
Shale	2796	2990	2978	3200	
TD	2990		3200		

Please insert additional pages as applicable.

Drilling Contractor Decker Drilling
 Address 11565 State Route 676 City Vincent State OH Zip 45784

Logging Company Weatherford International
 Address 777 North River Avenue City Weston State WV Zip 26452

Cementing Company Baker Hughes
 Address 2228 Philippi Pike City Clarksburg State WV Zip 26301

Stimulating Company Producers Service Corp.
 Address 109 South Graham Street City Zanesville State OH Zip 43701

Please insert additional pages as applicable.

Completed by Roger Heldman Telephone 304-420-1107
 Signature  Title Operations Manager Date 1/24/14

Submission of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

02/28/2014

HG Energy, LLC

Harrison County, West Virginia

A Stonestreet #124

A. Stonestreet #124

Wellbore #1

Survey: MWD

DDC Survey Report

11 December, 2013



02/28/2014



I **Larry Wright**, certify that I am employed by **The Appalachian Directional Drilling Company (ADC)**. That I did on the day(s) of **12/2/13** thru **12/4/13** conduct or supervise the taking of a **MWD Survey** from a depth of **900** feet to a depth of **3200** feet, that the data is true, correct, complete and within the limitations of the tool as set forth by **The Appalachian Directional Drilling Company (ADC)**.; that I am authorized and qualified to make this report; that this survey was conducted at the request of **HG Energy** for the **A. Stonestreet #124** API No. **47-033-05778** in **Harrison, County WV**; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by **The Appalachian Directional Drilling Company (ADC)**.

Larry Wright

Digitally signed by Larry Wright
DN: cn=Larry Wright, o=The
Directional Drilling Company,
ou=GM of Guidance Services,
email=larryw@directionaldrillers.c
om, c=US
Date: 2013.12.17 16:27:34 -06'00'

• 1200 Heavy Haul Road • Morgan Town, WV 26501 •
• PH 304-777-2310 • FAX 304-777-2317 •

02/28/2014

DDC
Survey Report



Company:	HG Energy, LLC	Local Co-ordinate Reference:	Well A. Stonestreet #124
Project:	Harrison County, West Virginia	TVD Reference:	WELL @ 1236.0usft (Decker #6)
Site:	A Stonestreet #124	MD Reference:	WELL @ 1236.0usft (Decker #6)
Well:	A. Stonestreet #124	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Harrison County, West Virginia		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	NAD83 West Virginia - HARN		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	A Stonestreet #124				
Site Position:		Northing:	14,264,406.92 usft	Latitude:	39° 16' 42.400 N
From:	Lat/Long	Easting:	1,784,373.36 usft	Longitude:	80° 29' 28.600 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well	A. Stonestreet #124					
Well Position	+N/-S	0.0 usft	Northing:	14,264,406.92 usft	Latitude:	39° 16' 42.400 N
	+E/-W	0.0 usft	Easting:	1,784,373.36 usft	Longitude:	80° 29' 28.600 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,228.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/11/2013	-8.65	66.81	52,317

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	183.02	

Survey Program	Date	12/11/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
900.0	3,200.0	MWD (Wellbore #1)			

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)	
Tie In @ 900' MD / 900' TVD										
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
930.0	1.40	93.50	930.0	0.0	0.4	0.0	4.67	4.67	0.00	
960.0	1.70	135.00	960.0	-0.4	1.0	0.3	3.78	1.00	138.33	
990.0	2.90	164.00	990.0	-1.4	1.6	1.3	5.45	4.00	96.67	
1,020.0	4.40	172.80	1,019.9	-3.3	1.9	3.2	5.32	5.00	29.33	
1,050.0	5.70	176.60	1,049.8	-5.9	2.2	5.8	4.47	4.33	12.67	
1,080.0	6.80	177.90	1,079.6	-9.2	2.3	9.0	3.70	3.67	4.33	
1,110.0	7.50	178.20	1,109.4	-12.9	2.4	12.8	2.34	2.33	1.00	
1,140.0	8.20	179.40	1,139.1	-17.0	2.5	16.8	2.40	2.33	4.00	

DDC
Survey Report



Company:	HG Energy, LLC	Local Co-ordinate Reference:	Well A. Stonestreet #124
Project:	Harrison County, West Virginia	TVD Reference:	WELL @ 1236.0usft (Decker #6)
Site:	A Stonestreet #124	MD Reference:	WELL @ 1236.0usft (Decker #6)
Well:	A. Stonestreet #124	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
1,170.0	8.30	183.30	1,168.8	-21.3	2.4	21.1	1.89	0.33	13.00
1,200.0	8.20	185.10	1,198.5	-25.6	2.1	25.4	0.92	-0.33	6.00
1,230.0	8.70	185.90	1,228.1	-30.0	1.7	29.8	1.71	1.67	2.67
1,260.0	9.30	187.20	1,257.8	-34.6	1.1	34.5	2.11	2.00	4.33
1,290.0	10.10	188.30	1,287.3	-39.6	0.5	39.6	2.74	2.67	3.67
1,320.0	9.90	188.20	1,316.9	-44.8	-0.3	44.8	0.67	-0.67	-0.33
1,350.0	9.40	186.70	1,346.5	-49.8	-0.9	49.8	1.87	-1.67	-5.00
1,380.0	9.70	186.10	1,376.1	-54.7	-1.5	54.7	1.05	1.00	-2.00
1,410.0	10.70	185.20	1,405.6	-60.0	-2.0	60.0	3.38	3.33	-3.00
1,440.0	11.80	185.70	1,435.0	-65.8	-2.6	65.9	3.68	3.67	1.67
1,470.0	12.60	185.30	1,464.3	-72.2	-3.2	72.2	2.68	2.67	-1.33
1,500.0	13.50	184.00	1,493.5	-78.9	-3.7	79.0	3.16	3.00	-4.33
1,530.0	13.80	182.20	1,522.7	-86.0	-4.1	86.1	1.73	1.00	-6.00
1,560.0	13.80	179.40	1,551.8	-93.1	-4.2	93.2	2.23	0.00	-9.33
1,590.0	14.10	177.00	1,580.9	-100.4	-4.0	100.4	2.17	1.00	-8.00
1,620.0	15.00	174.40	1,610.0	-107.9	-3.4	107.9	3.71	3.00	-8.67
1,650.0	15.80	176.50	1,638.9	-115.8	-2.8	115.8	3.25	2.67	7.00
1,680.0	16.60	179.80	1,667.7	-124.2	-2.5	124.1	4.06	2.67	11.00
1,710.0	17.50	184.00	1,696.4	-133.0	-2.8	132.9	5.08	3.00	14.00
1,740.0	18.10	188.00	1,725.0	-142.1	-3.8	142.1	4.54	2.00	13.33
1,770.0	19.70	190.30	1,753.3	-151.7	-5.3	151.7	5.88	5.33	7.67
1,800.0	21.50	189.50	1,781.4	-162.1	-7.1	162.2	6.07	6.00	-2.67
1,830.0	22.70	187.70	1,809.2	-173.2	-8.8	173.4	4.59	4.00	-6.00
1,860.0	24.10	186.90	1,836.8	-185.0	-10.3	185.3	4.79	4.67	-2.67
1,890.0	24.80	187.40	1,864.1	-197.4	-11.9	197.7	2.43	2.33	1.67
1,920.0	26.20	186.60	1,891.1	-210.2	-13.5	210.6	4.81	4.67	-2.67
1,950.0	27.20	187.00	1,917.9	-223.6	-15.1	224.0	3.39	3.33	1.33
1,980.0	28.50	187.30	1,944.5	-237.5	-16.8	238.0	4.36	4.33	1.00
2,010.0	29.40	186.30	1,970.7	-251.9	-18.5	252.5	3.41	3.00	-3.33
2,040.0	29.50	184.40	1,996.8	-266.6	-19.9	267.2	3.13	0.33	-6.33
2,070.0	29.60	182.50	2,022.9	-281.3	-20.8	282.0	3.14	0.33	-6.33
2,100.0	29.90	181.30	2,049.0	-296.2	-21.3	296.9	2.22	1.00	-4.00
2,130.0	30.60	181.80	2,074.9	-311.3	-21.7	312.0	2.48	2.33	1.67
2,160.0	31.40	182.90	2,100.6	-326.8	-22.3	327.5	3.27	2.67	3.67
2,190.0	31.60	184.70	2,126.2	-342.4	-23.4	343.2	3.20	0.67	6.00
2,220.0	31.40	185.00	2,151.8	-358.0	-24.7	358.8	0.85	-0.67	1.00
2,250.0	31.20	184.80	2,177.4	-373.5	-26.0	374.4	0.75	-0.67	-0.67
2,280.0	30.80	185.00	2,203.1	-388.9	-27.3	389.8	1.38	-1.33	0.67
2,310.0	30.40	185.40	2,228.9	-404.1	-28.7	405.1	1.50	-1.33	1.33
2,340.0	30.60	185.80	2,254.8	-419.3	-30.2	420.3	0.95	0.67	1.33
2,370.0	31.40	186.40	2,280.5	-434.7	-31.8	435.7	2.86	2.67	2.00
2,400.0	32.30	186.70	2,306.0	-450.4	-33.7	451.5	3.05	3.00	1.00
2,430.0	33.10	185.90	2,331.2	-466.5	-35.4	467.7	3.03	2.67	-2.67
2,460.0	33.10	184.90	2,356.4	-482.8	-37.0	484.1	1.82	0.00	-3.33

DDC
Survey Report



Company:	HG Energy, LLC	Local Co-ordinate Reference:	Well A. Stonestreet #124
Project:	Harrison County, West Virginia	TVD Reference:	WELL @ 1236.0usft (Decker #6)
Site:	A Stonestreet #124	MD Reference:	WELL @ 1236.0usft (Decker #6)
Well:	A. Stonestreet #124	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)	
2,490.0	33.00	184.40	2,381.5	-499.1	-38.3	500.4	0.97	-0.33	-1.67	
2,520.0	33.20	184.10	2,406.6	-515.5	-39.5	516.8	0.86	0.67	-1.00	
2,550.0	32.60	182.20	2,431.8	-531.7	-40.4	533.1	3.98	-2.00	-6.33	
2,580.0	31.80	179.90	2,457.2	-547.7	-40.7	549.1	4.88	-2.67	-7.67	
2,610.0	31.70	180.60	2,482.7	-563.5	-40.8	564.9	1.27	-0.33	2.33	
2,640.0	32.20	182.70	2,508.2	-579.4	-41.2	580.7	4.06	1.67	7.00	
2,670.0	32.70	183.70	2,533.5	-595.4	-42.1	596.8	2.44	1.67	3.33	
2,700.0	33.00	185.10	2,558.7	-611.7	-43.4	613.1	2.72	1.00	4.67	
2,730.0	33.00	184.80	2,583.9	-627.9	-44.8	629.4	0.54	0.00	-1.00	
2,760.0	33.00	184.00	2,609.0	-644.2	-46.0	645.8	1.45	0.00	-2.67	
2,790.0	32.90	182.90	2,634.2	-660.5	-47.0	662.1	2.02	-0.33	-3.67	
2,820.0	32.30	181.40	2,659.5	-676.7	-47.6	678.2	3.35	-2.00	-5.00	
2,850.0	31.60	180.40	2,684.9	-692.5	-47.9	694.1	2.92	-2.33	-3.33	
2,880.0	30.80	178.70	2,710.6	-708.1	-47.8	709.6	3.97	-2.67	-5.67	
2,910.0	29.70	176.80	2,736.5	-723.2	-47.2	724.7	4.86	-3.67	-6.33	
2,940.0	29.30	176.90	2,762.6	-737.9	-46.4	739.3	1.34	-1.33	0.33	
2,970.0	28.90	176.90	2,788.8	-752.5	-45.6	753.8	1.33	-1.33	0.00	
2,980.0	28.90	177.70	2,797.6	-757.3	-45.4	758.7	3.87	0.00	8.00	
3,000.0	28.60	178.50	2,815.1	-766.9	-45.0	768.2	2.44	-1.50	4.00	
3,030.0	28.50	179.70	2,841.5	-781.3	-44.8	782.5	1.94	-0.33	4.00	
3,060.0	28.70	180.60	2,867.8	-795.6	-44.8	796.9	1.58	0.67	3.00	
3,090.0	28.90	181.00	2,894.1	-810.1	-45.0	811.3	0.93	0.67	1.33	
3,120.0	29.20	180.60	2,920.3	-824.6	-45.2	825.9	1.19	1.00	-1.33	
3,150.0	29.40	180.50	2,946.5	-839.3	-45.4	840.6	0.69	0.67	-0.33	
TD @ 3200' MD / 2990' TVD										
3,200.0	29.40	180.50	2,990.1	-863.9	-45.6	865.1	0.00	0.00	0.00	

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
900.0	900.0	0.0	0.0	Tie In @ 900' MD / 900' TVD	
3,200.0	2,990.1	-863.9	-45.6	TD @ 3200' MD / 2990' TVD	

Checked By: _____ Approved By: _____ Date: _____

HG Energy, LLC

Harrison County, West Virginia

A Stonestreet #124

A. Stonestreet #124

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

07 January, 2014



02/28/2014

DDC
Survey Report - Geographic



Company:	HG Energy, LLC	Local Co-ordinate Reference:	Well A. Stonestreet #124
Project:	Harrison County, West Virginia	TVD Reference:	WELL @ 1236.0usft (Decker #6)
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Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	NAD83 West Virginia - HARN		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	A Stonestreet #124				
Site Position:		Northing:	14,264,406.92 usft	Latitude:	39° 16' 42.400 N
From:	Lat/Long	Easting:	1,784,373.36 usft	Longitude:	80° 29' 28.600 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well	A. Stonestreet #124					
Well Position	+N/-S	0.0 usft	Northing:	14,264,406.92 usft	Latitude:	39° 16' 42.400 N
	+E/-W	0.0 usft	Easting:	1,784,373.36 usft	Longitude:	80° 29' 28.600 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,228.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/11/2013	-8.65	66.81	52,317

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.0	0.0	0.0	183.02

Survey Program	Date	12/11/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
900.0	3,200.0	MWD (Wellbore #1)			

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	14,264,406.92	1,784,373.36	39° 16' 42.400 N	80° 29' 28.600 W	
900.0	0.00	0.00	900.0	0.0	0.0	14,264,406.92	1,784,373.36	39° 16' 42.400 N	80° 29' 28.600 W	
Tie In @ 900' MD / 900' TVD										
930.0	1.40	93.50	930.0	0.0	0.4	14,264,406.90	1,784,373.73	39° 16' 42.400 N	80° 29' 28.595 W	
960.0	1.70	135.00	960.0	-0.4	1.0	14,264,406.56	1,784,374.41	39° 16' 42.396 N	80° 29' 28.587 W	
990.0	2.90	164.00	990.0	-1.4	1.6	14,264,405.52	1,784,374.93	39° 16' 42.386 N	80° 29' 28.580 W	
1,020.0	4.40	172.80	1,019.9	-3.3	1.9	14,264,403.65	1,784,375.29	39° 16' 42.368 N	80° 29' 28.576 W	
1,050.0	5.70	176.60	1,049.8	-5.9	2.2	14,264,401.02	1,784,375.52	39° 16' 42.342 N	80° 29' 28.573 W	
1,080.0	6.80	177.90	1,079.6	-9.2	2.3	14,264,397.76	1,784,375.67	39° 16' 42.309 N	80° 29' 28.571 W	
1,110.0	7.50	178.20	1,109.4	-12.9	2.4	14,264,394.03	1,784,375.80	39° 16' 42.272 N	80° 29' 28.570 W	
1,140.0	8.20	179.40	1,139.1	-17.0	2.5	14,264,389.93	1,784,375.88	39° 16' 42.232 N	80° 29' 28.569 W	
1,170.0	8.30	183.30	1,168.8	-21.3	2.4	14,264,385.63	1,784,375.78	39° 16' 42.189 N	80° 29' 28.571 W	

DDC
Survey Report - Geographic



Company:	HG Energy, LLC	Local Co-ordinate Reference:	Well A. Stonestreet #124
Project:	Harrison County, West Virginia	TVD Reference:	WELL @ 1236.0usft (Decker #6)
Site:	A Stonestreet #124	MD Reference:	WELL @ 1236.0usft (Decker #6)
Well:	A. Stonestreet #124	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,200.0	8.20	185.10	1,198.5	-25.6	2.1	14,264,381.34	1,784,375.47	39° 16' 42.147 N	80° 29' 28.575 W	
1,230.0	8.70	185.90	1,228.1	-30.0	1.7	14,264,376.95	1,784,375.04	39° 16' 42.104 N	80° 29' 28.581 W	
1,260.0	9.30	187.20	1,257.8	-34.6	1.1	14,264,372.29	1,784,374.51	39° 16' 42.057 N	80° 29' 28.588 W	
1,290.0	10.10	188.30	1,287.3	-39.6	0.5	14,264,367.28	1,784,373.82	39° 16' 42.008 N	80° 29' 28.597 W	
1,320.0	9.90	188.20	1,316.9	-44.8	-0.3	14,264,362.12	1,784,373.07	39° 16' 41.957 N	80° 29' 28.607 W	
1,350.0	9.40	186.70	1,346.5	-49.8	-0.9	14,264,357.14	1,784,372.42	39° 16' 41.908 N	80° 29' 28.616 W	
1,380.0	9.70	186.10	1,376.1	-54.7	-1.5	14,264,352.19	1,784,371.87	39° 16' 41.859 N	80° 29' 28.623 W	
1,410.0	10.70	185.20	1,405.6	-60.0	-2.0	14,264,346.90	1,784,371.35	39° 16' 41.807 N	80° 29' 28.630 W	
1,440.0	11.80	185.70	1,435.0	-65.8	-2.6	14,264,341.08	1,784,370.79	39° 16' 41.749 N	80° 29' 28.637 W	
1,470.0	12.60	185.30	1,464.3	-72.2	-3.2	14,264,334.77	1,784,370.18	39° 16' 41.687 N	80° 29' 28.646 W	
1,500.0	13.50	184.00	1,493.5	-78.9	-3.7	14,264,328.02	1,784,369.63	39° 16' 41.620 N	80° 29' 28.653 W	
1,530.0	13.80	182.20	1,522.7	-86.0	-4.1	14,264,320.95	1,784,369.25	39° 16' 41.550 N	80° 29' 28.658 W	
1,560.0	13.80	179.40	1,551.8	-93.1	-4.2	14,264,313.79	1,784,369.15	39° 16' 41.479 N	80° 29' 28.660 W	
1,590.0	14.10	177.00	1,580.9	-100.4	-4.0	14,264,306.57	1,784,369.38	39° 16' 41.408 N	80° 29' 28.658 W	
1,620.0	15.00	174.40	1,610.0	-107.9	-3.4	14,264,299.05	1,784,369.95	39° 16' 41.334 N	80° 29' 28.651 W	
1,650.0	15.80	176.50	1,638.9	-115.8	-2.8	14,264,291.11	1,784,370.58	39° 16' 41.255 N	80° 29' 28.644 W	
1,680.0	16.60	179.80	1,667.7	-124.2	-2.5	14,264,282.75	1,784,370.84	39° 16' 41.172 N	80° 29' 28.641 W	
1,710.0	17.50	184.00	1,696.4	-133.0	-2.8	14,264,273.97	1,784,370.54	39° 16' 41.086 N	80° 29' 28.645 W	
1,740.0	18.10	188.00	1,725.0	-142.1	-3.8	14,264,264.85	1,784,369.58	39° 16' 40.996 N	80° 29' 28.658 W	
1,770.0	19.70	190.30	1,753.3	-151.7	-5.3	14,264,255.26	1,784,368.03	39° 16' 40.901 N	80° 29' 28.679 W	
1,800.0	21.50	189.50	1,781.4	-162.1	-7.1	14,264,244.86	1,784,366.22	39° 16' 40.798 N	80° 29' 28.702 W	
1,830.0	22.70	187.70	1,809.2	-173.2	-8.8	14,264,233.70	1,784,364.53	39° 16' 40.688 N	80° 29' 28.725 W	
1,860.0	24.10	186.90	1,836.8	-185.0	-10.3	14,264,221.89	1,784,363.02	39° 16' 40.571 N	80° 29' 28.745 W	
1,890.0	24.80	187.40	1,864.1	-197.4	-11.9	14,264,209.57	1,784,361.48	39° 16' 40.449 N	80° 29' 28.765 W	
1,920.0	26.20	186.60	1,891.1	-210.2	-13.5	14,264,196.75	1,784,359.90	39° 16' 40.323 N	80° 29' 28.786 W	
1,950.0	27.20	187.00	1,917.9	-223.6	-15.1	14,264,183.36	1,784,358.31	39° 16' 40.190 N	80° 29' 28.808 W	
1,980.0	28.50	187.30	1,944.5	-237.5	-16.8	14,264,169.46	1,784,356.56	39° 16' 40.053 N	80° 29' 28.831 W	
2,010.0	29.40	186.30	1,970.7	-251.9	-18.5	14,264,155.04	1,784,354.85	39° 16' 39.911 N	80° 29' 28.854 W	
2,040.0	29.50	184.40	1,996.8	-266.6	-19.9	14,264,140.35	1,784,353.47	39° 16' 39.765 N	80° 29' 28.872 W	
2,070.0	29.60	182.50	2,022.9	-281.3	-20.8	14,264,125.59	1,784,352.58	39° 16' 39.620 N	80° 29' 28.884 W	
2,100.0	29.90	181.30	2,049.0	-296.2	-21.3	14,264,110.71	1,784,352.09	39° 16' 39.472 N	80° 29' 28.892 W	
2,130.0	30.60	181.80	2,074.9	-311.3	-21.7	14,264,095.60	1,784,351.68	39° 16' 39.323 N	80° 29' 28.898 W	
2,160.0	31.40	182.90	2,100.6	-326.8	-22.3	14,264,080.16	1,784,351.04	39° 16' 39.171 N	80° 29' 28.907 W	
2,190.0	31.60	184.70	2,126.2	-342.4	-23.4	14,264,064.53	1,784,350.00	39° 16' 39.016 N	80° 29' 28.922 W	
2,220.0	31.40	185.00	2,151.8	-358.0	-24.7	14,264,048.91	1,784,348.68	39° 16' 38.862 N	80° 29' 28.940 W	
2,250.0	31.20	184.80	2,177.4	-373.5	-26.0	14,264,033.38	1,784,347.35	39° 16' 38.708 N	80° 29' 28.958 W	
2,280.0	30.80	185.00	2,203.1	-388.9	-27.3	14,264,017.98	1,784,346.03	39° 16' 38.556 N	80° 29' 28.976 W	
2,310.0	30.40	185.40	2,228.9	-404.1	-28.7	14,264,002.78	1,784,344.64	39° 16' 38.406 N	80° 29' 28.994 W	
2,340.0	30.60	185.80	2,254.8	-419.3	-30.2	14,263,987.62	1,784,343.16	39° 16' 38.256 N	80° 29' 29.014 W	
2,370.0	31.40	186.40	2,280.5	-434.7	-31.8	14,263,972.26	1,784,341.52	39° 16' 38.104 N	80° 29' 29.036 W	
2,400.0	32.30	186.70	2,306.0	-450.4	-33.7	14,263,956.53	1,784,339.71	39° 16' 37.949 N	80° 29' 29.060 W	
2,430.0	33.10	185.90	2,331.2	-466.5	-35.4	14,263,940.42	1,784,337.93	39° 16' 37.790 N	80° 29' 29.084 W	
2,460.0	33.10	184.90	2,356.4	-482.8	-37.0	14,263,924.11	1,784,336.39	39° 16' 37.628 N	80° 29' 29.105 W	
2,490.0	33.00	184.40	2,381.5	-499.1	-38.3	14,263,907.81	1,784,335.06	39° 16' 37.467 N	80° 29' 29.123 W	
2,520.0	33.20	184.10	2,406.6	-515.5	-39.5	14,263,891.47	1,784,333.85	39° 16' 37.306 N	80° 29' 29.140 W	
2,550.0	32.60	182.20	2,431.8	-531.7	-40.4	14,263,875.20	1,784,332.95	39° 16' 37.145 N	80° 29' 29.152 W	
2,580.0	31.80	179.90	2,457.2	-547.7	-40.7	14,263,859.22	1,784,332.66	39° 16' 36.987 N	80° 29' 29.157 W	
2,610.0	31.70	180.60	2,482.7	-563.5	-40.8	14,263,843.43	1,784,332.59	39° 16' 36.831 N	80° 29' 29.159 W	
2,640.0	32.20	182.70	2,508.2	-579.4	-41.2	14,263,827.57	1,784,332.13	39° 16' 36.674 N	80° 29' 29.166 W	
2,670.0	32.70	183.70	2,533.5	-595.4	-42.1	14,263,811.49	1,784,331.23	39° 16' 36.515 N	80° 29' 29.179 W	
2,700.0	33.00	185.10	2,558.7	-611.7	-43.4	14,263,795.27	1,784,329.98	39° 16' 36.355 N	80° 29' 29.196 W	
2,730.0	33.00	184.80	2,583.9	-627.9	-44.8	14,263,778.99	1,784,328.57	39° 16' 36.194 N	80° 29' 29.215 W	
2,760.0	33.00	184.00	2,609.0	-644.2	-46.0	14,263,762.70	1,784,327.32	39° 16' 36.033 N	80° 29' 29.232 W	
2,790.0	32.90	182.90	2,634.2	-660.5	-47.0	14,263,746.41	1,784,326.33	39° 16' 35.872 N	80° 29' 29.245 W	
2,820.0	32.30	181.40	2,659.5	-676.7	-47.6	14,263,730.26	1,784,325.73	39° 16' 35.712 N	80° 29' 29.254 W	

DDC
Survey Report - Geographic



Company:	HG Energy, LLC	Local Co-ordinate Reference:	Well A. Stonestreet #124
Project:	Harrison County, West Virginia	TVD Reference:	WELL @ 1236.0usft (Decker #6)
Site:	A Stonestreet #124	MD Reference:	WELL @ 1236.0usft (Decker #6)
Well:	A. Stonestreet #124	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
2,850.0	31.60	180.40	2,684.9	-692.5	-47.9	14,263,714.39	1,784,325.47	39° 16' 35.555 N	80° 29' 29.259 W
2,880.0	30.80	178.70	2,710.6	-708.1	-47.8	14,263,698.85	1,784,325.59	39° 16' 35.402 N	80° 29' 29.258 W
2,910.0	29.70	176.80	2,736.5	-723.2	-47.2	14,263,683.75	1,784,326.18	39° 16' 35.253 N	80° 29' 29.252 W
2,940.0	29.30	176.90	2,762.6	-737.9	-46.4	14,263,669.00	1,784,327.00	39° 16' 35.107 N	80° 29' 29.243 W
2,970.0	28.90	176.90	2,788.8	-752.5	-45.6	14,263,654.43	1,784,327.78	39° 16' 34.963 N	80° 29' 29.234 W
2,980.0	28.90	177.70	2,797.6	-757.3	-45.4	14,263,649.61	1,784,328.01	39° 16' 34.915 N	80° 29' 29.231 W
3,000.0	28.60	178.50	2,815.1	-766.9	-45.0	14,263,639.99	1,784,328.33	39° 16' 34.820 N	80° 29' 29.228 W
3,030.0	28.50	179.70	2,841.5	-781.3	-44.8	14,263,625.66	1,784,328.56	39° 16' 34.678 N	80° 29' 29.226 W
3,060.0	28.70	180.60	2,867.8	-795.6	-44.8	14,263,611.30	1,784,328.52	39° 16' 34.536 N	80° 29' 29.227 W
3,090.0	28.90	181.00	2,894.1	-810.1	-45.0	14,263,596.84	1,784,328.32	39° 16' 34.393 N	80° 29' 29.231 W
3,120.0	29.20	180.60	2,920.3	-824.6	-45.2	14,263,582.28	1,784,328.11	39° 16' 34.249 N	80° 29' 29.235 W
3,150.0	29.40	180.50	2,946.5	-839.3	-45.4	14,263,567.60	1,784,327.97	39° 16' 34.104 N	80° 29' 29.237 W
3,200.0	29.40	180.50	2,990.1	-863.9	-45.6	14,263,543.05	1,784,327.76	39° 16' 33.861 N	80° 29' 29.242 W

TD @ 3200' MD / 2990' TVD

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
900.0	900.0	0.0	0.0	Tie In @ 900' MD / 900' TVD
3,200.0	2,990.1	-863.9	-45.6	TD @ 3200' MD / 2990' TVD

Checked By: _____ Approved By: _____ Date: _____

A. Stonestreet #124
 Harrison County, West Virginia
 Q130983 & AM-13923
 Design #1

Company Name: HG Energy, LLC
 A. Stonestreet #124
 Harrison County, West Virginia
 Rig: Decker #6
 Created By: James Dawson
 Date: 12/11/2013

PROJECT DETAILS: Harrison County, West Virginia
 Geodetic System: Universal Transverse Mercator
 Datum: NAD83 West Virginia - HARN
 Ellipsoid: GRS 1980
 Zone: Zone 17N (84 W to 78 W)
 System Datum: Mean Sea Level



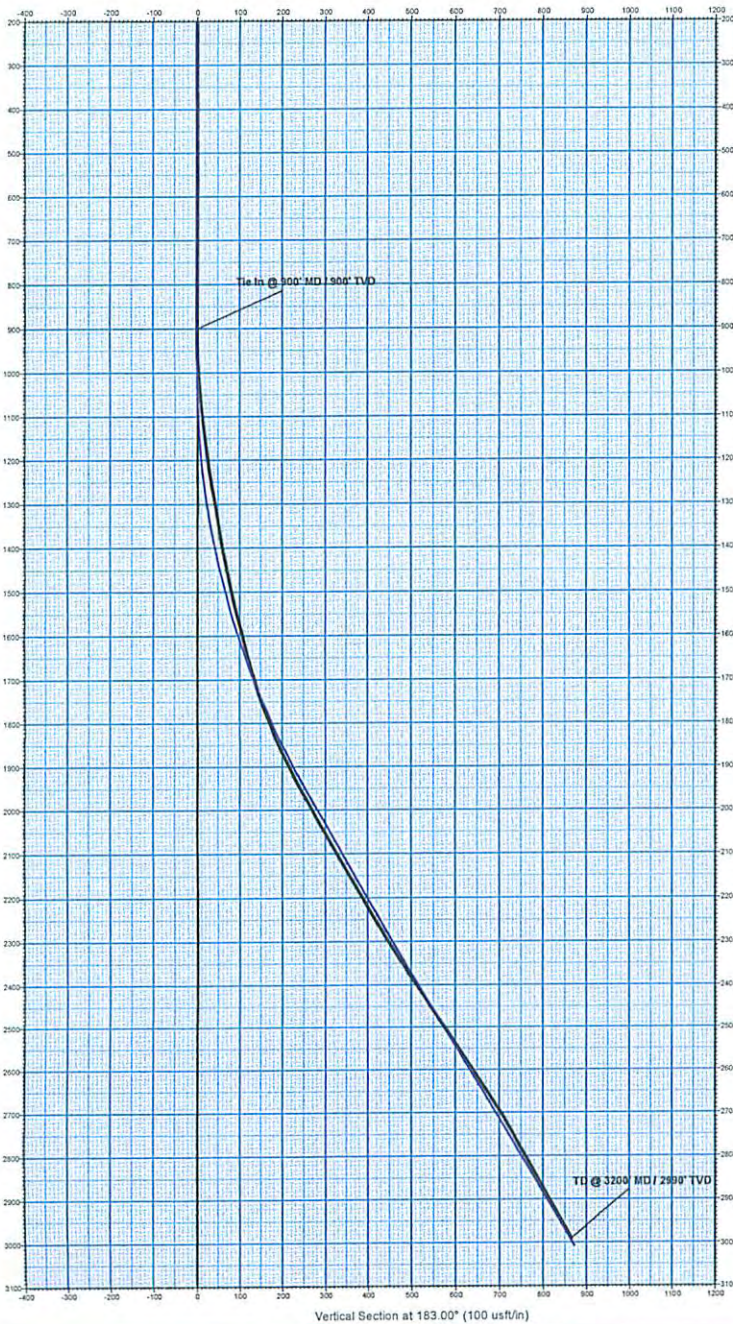
HG Energy

WELL DETAILS: A. Stonestreet #124

		Ground Level: 1228.0			
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.0	0.0	14264405.92	1784373.58	39° 16' 42.400 N	80° 29' 29.600 W

ANNOTATIONS

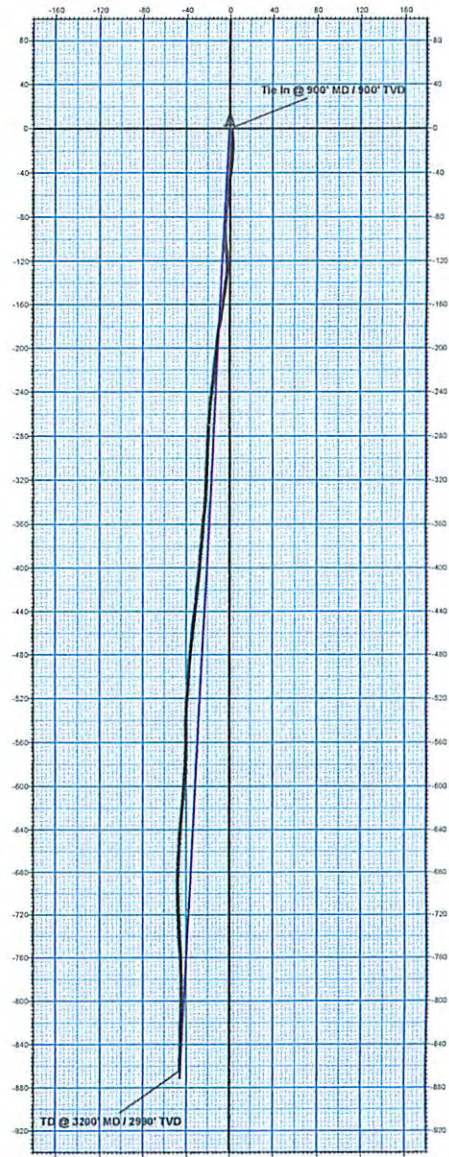
MD	Inc	Azi	TVD	+N-S	+E-W	Vsect	Departure	Annotation
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.0	Tie In @ 900' MD / 900' TVD
3200.0	29.40	180.50	2930.1	-83.9	-15.6	866.1	867.7	TD @ 3200' MD / 2990' TVD



DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
Target A. Stonestreet	2798.0	-749.0	-39.3	14263657.52	1784334.06	39° 16' 34.997 N	80° 29' 29.193 W

- plan hits target center



02/28/2014

