

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

API 47 - 085 - 10374 County Ritchie District Murphy
Quad Smithville, WV 7.5' Pad Name Goodnight 1402 Field/Pool Name _____
Farm name Goodnight Well Number Goodnight 1402 N-2H
Operator (as registered with the OOG) HG Energy LLC
Address 5260 Dupont Rd. 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 4324570.00 Easting 492548.30
Landing Point of Curve Northing 4324726.20 Easting 492478.00
Bottom Hole Northing 4328375.10 Easting 491123.20

Elevation (ft) 739 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)
Air/ Brine/ OBM
KCL, Barite, Lime, CaCL, base oil, clay, sulfatone, petrogel, LCM

Date permit issued 11/30/18 Date drilling commenced 4/15/2019 Date drilling ceased 9/2/2019
Date completion activities began 9/9/2019 Date completion activities ceased 1/27/2020
Verbal plugging (Y/N) _____ Date permission granted _____ Granted by _____

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

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Freshwater depth(s) ft No water shows observed Open mine(s) (Y/N) depths N
Salt water depth(s) ft No water shows observed Void(s) encountered (Y/N) depths N
Coal depth(s) ft not observed Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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Reviewed by:
DMH
12-9-20

API 47-085 - 10374 Farm name Goodnight Well number Goodnight 1402 N-2H

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	20"	20"	120	New	J55 90 lbs/ft		N
Surface	17.5	13.375"	818	New	54.5 lbs/ft J55		Yes
Coal							
Intermediate 1	12.25"	9.625"	5950	New	40 lbs/ft L80		Yes
Intermediate 2							
Intermediate 3							
Production	8.5	5.5	18807	New	23 lbs/ft P110		Yes
Tubing	5.5	2.875	6048	New	5 lbs/ft J55 EL		No cement
Packer type and depth set							

Comment Details Drilled Intermediate casing to 6202', ran to 5950, once drilled out lost circulation, performed squeeze job, (6180' MD) 65 bbls @ 16.2 ppg 5297' close top rams pump at 1 bpm up to 1000 PSI, then drop to .5 bpm with a total of 10.7 bbl pumped, lost 10 PSI after 5 minutes, wait on cement

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	Class A	730	15.6		875	Surface	8
Coal							
Intermediate 1	Class A	956/940	12.0/15.6	1.89/1.19	1707/1117	Surface	24
Intermediate 2							8
Intermediate 3							
Production	Class A		14/14	1.81/1.19	1212/4997	Surface	8
Tubing	not cemented						

Drillers TD (ft) 18835 Loggers TD (ft) _____
 Deepest formation penetrated Marcellus Plug back to (ft) 5950
 Plug back procedure Whipstock set at 5679', mill window in casing at 5673' MD, formation at 5677' MD

Kick off depth (ft) 5705'

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

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Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

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DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____
 13.375" casing string: centralizers placed every other joint to surface
 9.625" casing string: Centralizers placed every other joint to surface
 5.5" casing string: centralizers placed every other joint to intermediate casing then centralizers every 3 joints to surface

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 _____

**Goodnight 1402 2H well
Perforation Record**

Stage #	Perf Date	Perf from depth	Perf to depth	Number of perfs	Formation
1	12/9/2019	18701	18653	2 sleeves	Marcellus
2	12/9/2019	18,621	18,446	48	Marcellus
3	12/9/2019	18,422	18,247	48	Marcellus
4	12/10/2019	18,223	18,048	48	Marcellus
5	12/10/2019	18,024	17,849	48	Marcellus
6	12/11/2019	17,825	17,650	48	Marcellus
7	12/11/2019	17,626	17,451	48	Marcellus
8	12/11/2019	17,427	17,252	48	Marcellus
9	12/11/2019	17,228	17,053	48	Marcellus
10	12/12/2019	17,029	16,854	48	Marcellus
11	12/12/2019	16,830	16,655	48	Marcellus
12	12/12/2019	16,631	16,456	48	Marcellus
13	12/13/2019	16,432	16,257	48	Marcellus
14	12/13/2019	16,233	16,058	48	Marcellus
15	12/13/2019	16,034	15,859	48	Marcellus
16	12/22/2019	15,835	15,660	48	Marcellus
17	12/23/2019	15,636	15,461	48	Marcellus
18	12/23/2019	15,437	15,262	48	Marcellus
19	12/24/2019	15,238	15,063	48	Marcellus
20	12/25/2019	15,039	14,864	48	Marcellus
21	12/25/2019	14,840	14,665	48	Marcellus
22	12/27/2019	14,641	14,466	48	Marcellus
23	12/27/2019	14,442	14,267	48	Marcellus
24	12/27/2019	14,243	14,068	48	Marcellus
25	12/28/2019	14,044	13,869	48	Marcellus
26	12/28/2019	13,845	13,670	48	Marcellus
27	12/28/2019	13,646	13,471	48	Marcellus
28	12/28/2019	13,447	13,272	48	Marcellus
29	12/29/2019	13,248	13,073	48	Marcellus
30	12/29/2019	13,049	12,874	48	Marcellus
31	12/30/2019	12,850	12,675	48	Marcellus
32	12/30/2019	12,651	12,476	48	Marcellus
33	12/30/2019	12,452	12,277	48	Marcellus
34	12/31/2019	12,253	12,078	48	Marcellus
35	12/31/2019	12,054	11,879	48	Marcellus
36	12/31/2019	11,855	11,680	48	Marcellus
37	1/1/2020	11,656	11,481	48	Marcellus
38	1/1/2020	11,457	11,282	48	Marcellus
39	1/2/2020	11,253	11,117	60	Marcellus
40	1/3/2020	11,036	10,883	60	Marcellus
41	1/3/2020	10,860	10,685	56	Marcellus
42	1/4/2020	10,661	10,486	56	Marcellus
43	1/4/2020	10,462	10,287	56	Marcellus
44	1/5/2020	10,263	10,088	48	Marcellus
45	1/5/2020	10,064	9,889	48	Marcellus
46	1/6/2020	9,865	9,690	56	Marcellus
47	1/6/2020	9,666	9,491	56	Marcellus
48	1/7/2020	9,467	9,292	56	Marcellus
49	1/8/2020	9,267	9,092	56	Marcellus
50	1/8/2020	9,066	8,891	56	Marcellus
51	1/9/2020	8,865	8,690	56	Marcellus
52	1/9/2020	8,664	8,489	56	Marcellus
53	1/10/2020	8,463	8,288	56	Marcellus
54	1/10/2020	8,262	8,087	56	Marcellus
55	1/11/2020	8,061	7,886	56	Marcellus
56	1/11/2020	7,860	7,685	56	Marcellus
57	1/12/2020	7,659	7,484	56	Marcellus
58	1/12/2020	7,458	7,283	70	Marcellus
59	1/13/2020	7,257	7,082	70	Marcellus
60	1/14/2020	7,056	6,881	70	Marcellus
61	1/14/2020	6,855	6,680	70	Marcellus
62	1/14/2020	6,654	6,479	70	Marcellus
63	1/15/2020	6,453	6,278	70	Marcellus
64	1/16/2020	6,252	6,077	70	Marcellus

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Goodnight 1402 3H well - Stimulation Record

Stage #	Date	Ave pump rate (BPM)	Ave Treatment Press (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Proppant (LBS)	Water (BBLs)
1	12/9/2019	88.5	8,349	9,630	4835	186700	7538
2	12/9/2019	86.5	7,748	9,817	2,465	680300	13,904
3	12/9/2019	74.2	7,867	12,282	12,044	645400	13,431
4	12/23/2019	76.0	8,588	10,388	3,383	658860	16,858
5	12/23/2019	82.4	7,832	8,522	5,368	603000	15,878
6	12/24/2019	87.0	7,546	8,230	3,055	702980	14,023
7	12/25/2019	82.0	7,665	8,520	4,436	677700	16,349
8	12/26/2019	80.8	7,775	8,070	5,122	704900	15,399
9	12/27/2019	83.0	7,886	8,165	5,659	429880	13,160
10	12/27/2019	86.6	8,273	8,983	4,087	340700	11,361
11	12/28/2019	86.4	7,588	8,543	2,634	698360	13,605
12	12/28/2019	85.0	7,537	8,590	4,607	643700	16,445
13	12/29/2019	86.7	7,952	8,358	3,178	615440	14,654
14	12/29/2019	89.1	8,042	8,733	3,089	541200	11,696
15	12/30/2019	80.7	7,540	8,708	2,902	589680	12,419
16	12/31/2019	86.5	7,338	7,962	3,656	699700	14,192
17	1/1/2020	89.3	7,669	8,820	3,115	611900	12,463
18	1/2/2020	85.5	7,394	8,012	4,132	437100	11,644
19	1/2/2020	87.7	7,808	8,550	3,097	705000	16,841
20	1/2/2020	78.6	7,786	9,248	5,009	264900	13,720
21	1/3/2020	88.8	7,205	8,120	3,231	649000	15,967
22	1/4/2020	100.0	7,895	9,217	3,180	706100	16,346
23	1/5/2020	86.6	7,230	8,566	2,858	704200	16,495
24	1/5/2020	83.1	7,757	9,327	3,690	709700	16,082
25	1/5/2020	84.8	7,868	8,471	4,812	488700	13,857
26	1/5/2020	80.0	7,410	9,442	3,504	526800	14,943
27	1/6/2020	88.4	7,055	8,387	2,978	718000	16,106
28	1/6/2020	84.4	7,674	8,481	4,644	313200	10,851
29	1/7/2020	92.5	7,124	8,142	3,333	713100	16,144
30	1/8/2020	87.8	7,613	9,033	4,724	504900	13,869
31	1/8/2020	89.7	7,460	8,273	5,385	620000	15,856
32	1/8/2020	92.0	7,680	8,894	5,257	450900	14,964
33	1/9/2020	88.8	7,425	7,990	5,159	657800	15,553
34	1/10/2020	92.9	7,864	8,715	5,532	674000	16,043
35	1/10/2020	97.3	7,660	8,509	6,558	668960	16,212
36	1/11/2020	97.3	7,759	8,648	4,939	642540	15,980
37	1/12/2020	96.4	7,820	9,110	5,587	543600	14,921
38	1/12/2020	98.2	7,417	8,493	5,448	500360	16,286
39	1/13/2020	97.1	7,544	9,373	6,332	679200	17,937
40	1/13/2020	94.2	7,292	8,038	5,840	703340	16,660
41	1/13/2020	96.7	7,284	7,884	5,608	705900	17,436
42	1/14/2020	97.0	7,383	8,027	4,759	698880	16,171
43	1/15/2020	95.6	6,869	7,328	2,912	704800	16,310
44	1/15/2020	98.9	6,528	7,311	3,038	704900	15,108

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Goodnight 1402 2H Formations

	Top		Base		
	MD	TVD	MD	TVD	
Big Lime	1767	1766	1825	1824	No water shows observed, No coal observed 1092', TOOH 1485 units trip gas, no change in background gas prior 11 units gas
Big Injun	1825	1824	1910	1909	
Weir	1952	1951	1970	1969	2553 units downtime peak
Berea	2224	2223	2234	2233	217 units connection, 46 units background 200 units background
Gordon	2594	2593	2606	2605	
Warren	3293	3292	3335	3334	93 units background gas 50 units background
Balltown	3904	3903	3924	3923	
Riley	4174	4173	4195	4194	478 unit connection peak 60 units background, 300 units connection peak
Java (Bensc	4231	4230	4246	4245	
Upper Alex	4684	4683	4757	4756	50 units background 50 units background
Lower Alex	4757	4756	4772	4771	
Rhinestreet	5027	5023	5159	5149	55 units background 50 units background
Elk	5159	5149	5166	5155	
Cashagua	5708	5634	5809	5710	50 units background 50 units background
Middlesex	5809	5710	5825	5721	
Burket	5825	5721	5923	5781	50 units background 50 units background
Tully	5923	5781	5930	5785	
Hamilton	5930	5785	6013	5822	50 units background 3300 units background
Marcellus	6013	5822	18835	5785	

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WV Department of
Environmental Protection

BHL is located on topo map 7,477 feet south of Latitude: 39°07'30"
 SHL is located on topo map 4,785 feet south of Latitude: 39°05'00"

SEE PAGE 2 FOR PLAT DUE TO LENGTH OF LATERAL

	SURFACE OWNER	DIST-TM/PAR
1	KENNETH PAUL GOODNIGHT	07-26/55
2	AYERS CEMETERY	07-26/55.1
3	HAMMETT LAND & MINERALS LLC	07-26/5.2
4	JENNINGS DARWIN CUNNINGHAM II	07-26/11
5	HAMMETT LAND & MINERALS LLC	07-26/4
6	ALFAB INCORPORATED	07-26/6
7	C. M. ELLIOTT HRS (CHAS. M.) C/O MARY CARPENTER C. W. ELLIOTT HRS C/O MARY C. OLDAKER LONNIE W. ELLIOTT HRS C/O JANET SUE ELLIOTT LUVINA J. ELLIOTT DAVID P., JR. & JANET SUE ELLIOTT RAY ELLIOTT JOHN J., II & ELLYSON MARY OLDAKER C/O MARY C. OLDAKER ELZONA PROST HRS KENNETH H. PARKS, WILLIAM TYRAN & MARY PARKS C/O BARBARA J. BARKER AND ROBERT H. PARKS LYDIA M. PARKS EST & F. EUSTACE C/O LYDIA ENOS HAUGHT FARM LLC E. CLIFFORD WOLFE WILLIAM B. ELLIOTT TIMOTHY AMOS CLAYTON & JOE L. SWEETCRAFT, CATHY ANN TRUESDELL ERNEST J. DYE, NORMA J. COTRILL & LOIS C. PORTER EDWARD LEE PORTER JR., EDWIN LEE PORTER SR., GARY MICHAEL & STEVEN TODD PORTER JUDY L. MILLER MARY LOU NATH EDDIE C. WATSON IRENA W. CONLEY EDNA HARDMAN ERNEST L. HARTSHORN MARY ELIZABETH HILTON CARPENTER SUE ELLIOTT NORRIS	07-18/30
8	A. J. SCOTT HAUGHT FAMILY TRUST	07-18/19
9	HEARTWOOD FORESTLAND FUND IV LIMITED PARTNERSHIP	07-18/18
10	HEARTWOOD FORESTLAND FUND IV LIMITED PARTNERSHIP	07-18/15
11	DANIEL R. & SAMANTHA J. BOONE	07-18/17
12	HEARTWOOD FORESTLAND FUND IV LIMITED PARTNERSHIP	07-18/7

AS-DRILLED
SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83(M)
N:4324570.00
E:492548.30
UTM 17-NAD83(FT)
N:14188193.40
E:1615968.80
LAT/LON DATUM-NAD83
LAT:39.070197
LON:-81.086141

AS-DRILLED
APPROX. LANDING POINT
UTM 17-NAD83(M)
N:4324726.20
E:492478.00
UTM 17-NAD83(FT)
N:14188705.86
E:1615738.17
LAT/LON DATUM-NAD83
LAT:39.071604
LON:-81.086955

AS-DRILLED
BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83(M)
N:4328375.10
E:491123.20
UTM 17-NAD83(FT)
N:14200677.43
E:1611293.25
LAT/LON DATUM-NAD83
LAT:39.104473
LON:-81.102665

SHL



BHL



	LESSOR	DIST-TM/PAR
A	M. A. AYERS	07-26/55
B	J. R. WESTFALL	07-26/5.2
		07-26/4
C	PARKS/ WILSON	07-26/11
D	HAUGHT/ EVANS	07-26/6
E	MARY ELLIOT HEIRS	07-18/30
F	MARY E. SCOTT	07-18/19
G	A. ELLIOTT	07-18/18
H	OP SMITH/HFT(HAUGHT)	07-18/17
J	R. JOHNSON	07-18/15
K	PARKS	07-18/7

BHL is located on topo map 5,486 feet west of Longitude: 81°05'00"
 SHL is located on topo map 797 feet west of Longitude: 81°05'00"

THRASHER

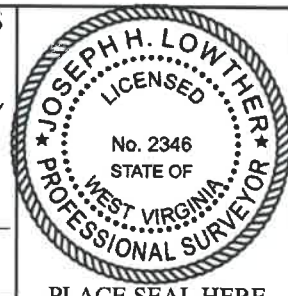
THE THRASHER GROUP INC.

CIVIL • ENVIRONMENTAL • CONSULTING • FIELD SERVICES
 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
 PHONE (304) 624-4108 • FAX (304) 624-7831

FILE #: GOODNIGHT 1402 N-2H
 DRAWING #: GOODNIGHT 1402 N-2H
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/2500
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: *Joseph H. Lowther*
 R.P.E.: _____ L.L.S.: P.S. No. 2346



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304



DATE: APRIL 7, 2020
 OPERATOR'S WELL #: GOODNIGHT 1402 N-2H
 API WELL #: 47 85 10374
 STATE COUNTY PERMIT

Well Type: Oil Waste Disposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: SOUTH FORK HUGHES RIVER ELEVATION: 739'±

COUNTY/DISTRICT: RITCHIE / MURPHY QUADRANGLE: SMITHVILLE, WV 7.5'

SURFACE OWNER: KENNETH PAUL GOODNIGHT ACREAGE: 239.924±

OIL & GAS ROYALTY OWNER: M. A. AYERS ACREAGE: 1279.302±

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): AS-DRILLED PLAT

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: AS-DRILLED TVD: 5,785'± TMD: 18,835'±

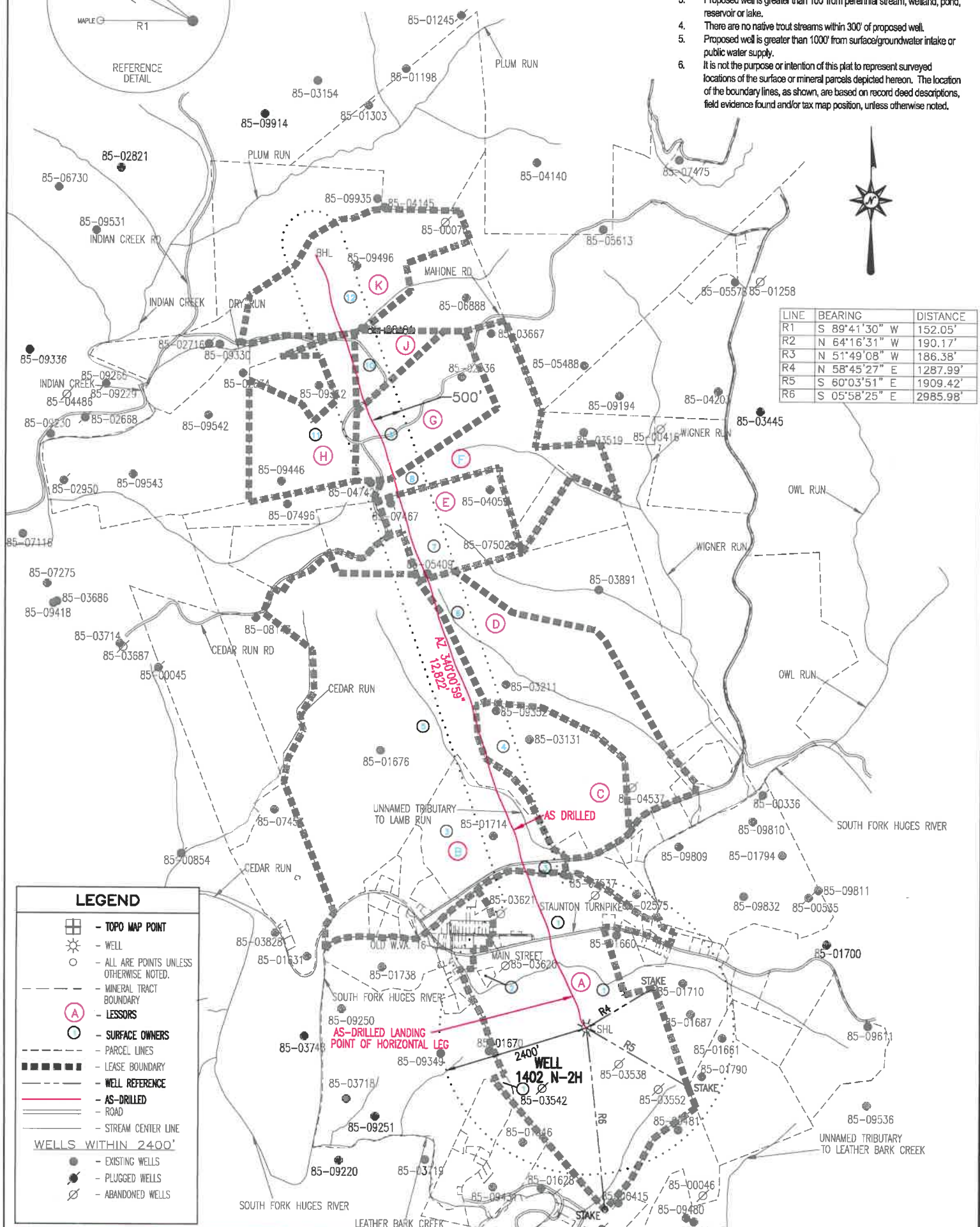
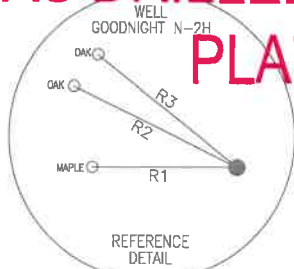
WELL OPERATOR HG ENERGY II APPALACHIA, LLC DESIGNATED AGENT DIANE C. WHITE
 Address 5260 DUPONT ROAD Address 5260 DUPONT ROAD
 City PARKERSBURG State WV Zip Code 26101 City PARKERSBURG State WV Zip Code 26101

AS DRILLED PLAT

GOODNIGHT 1402 N-2H PAGE 2 OF 2

NOTES:

1. There are no water wells or developed springs within 250' of proposed well.
2. There are no existing buildings within 625' of proposed well.
3. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
4. There are no native trout streams within 300' of proposed well.
5. Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
6. It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.



LINE	BEARING	DISTANCE
R1	S 89°41'30" W	152.05'
R2	N 64°16'31" W	190.17'
R3	N 51°49'08" W	186.38'
R4	N 58°45'27" E	1287.99'
R5	S 60°03'51" E	1909.42'
R6	S 05°58'25" E	2985.98'

LEGEND

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED.
- MINERAL TRACT BOUNDARY
- LESSORS
- SURFACE OWNERS
- PARCEL LINES
- LEASE BOUNDARY
- WELL REFERENCE
- AS-DRILLED
- ROAD
- STREAM CENTER LINE

WELLS WITHIN 2400'

- EXISTING WELLS
- PLUGGED WELLS
- ABANDONED WELLS

AS-DRILLED SURFACE HOLE LOCATION (SHL)

UTM 17-NAD83(M)
N:4324570.00
E:492548.30

UTM 17-NAD83(FT)
N:14188193.40
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LAT/LON DATUM-NAD83
LAT:39.070197
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AS-DRILLED APPROX. LANDING POINT

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N:14188705.86
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LAT:39.071604
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AS-DRILLED BOTTOM HOLE LOCATION (BHL)

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N:4328375.10
E:491123.20

UTM 17-NAD83(FT)
N:14200677.43
E:1611293.25

LAT/LON DATUM-NAD83
LAT:39.104473
LON:-81.102665

APRIL 7, 2020



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5	HAMMETT LAND & MINERALS LLC	07-26/4
6	ALFAB INCORPORATED	07-26/6
7	C. M. ELLIOTT HRS (CHAS. M.) C/O MARY CARPENTER	07-18/30
	C. W. ELLIOTT HRS C/O MARY C. OLDAKER	
	LONNIE W. ELLIOTT HRS C/O JANET SUE ELLIOTT	
	LUVINA J. ELLIOTT	
	DAVID P., JR. & JANET SUE ELLIOTT	
	RAY ELLIOTT	
	JOHN J., II & ELLYSON MARY OLDAKER C/O MARY C. OLDAKER	
	ELZONA PROST HRS	
	KENNETH H. PARKS, WILLIAM TYRAN & MARY PARKS	
	C/O BARBARA J. BARKER AND ROBERT H. PARKS	
	LYDIA M. PARKS EST & F. EUSTACE C/O LYDIA ENOS	
	HAUGHT FARM LLC	
	E. CLIFFORD WOLFE	
	WILLIAM B. ELLIOTT	
	TIMOTHY AMOS CLAYTON & JOE L. SWEETCRAFT,	
	CATHY ANN TRUESDELL	
	ERNEST J. DYE, NORMA J. COTRILL & LOIS C. PORTER	
	EDWARD LEE PORTER JR., EDWIN LEE PORTER SR.,	
	GARY MICHAEL & STEVEN TODD PORTER	
	JUDY L. MILLER	
	MARY LOU NATH	
	EDDIE C. WATSON	
	IRENA W. CONLEY	
	EDNA HARDMAN	
	ERNEST L. HARTSHORN	
	MARY ELIZABETH HILTON CARPENTER	
	SUE ELLIOTT NORRIS	
8	A. J. SCOTT	07-18/19
	HAUGHT FAMILY TRUST	
9	HEARTWOOD FORESTLAND FUND IV LIMITED PARTNERSHIP	07-18/18
10	HEARTWOOD FORESTLAND FUND IV LIMITED PARTNERSHIP	07-18/15
11	DANIEL R. & SAMANTHA J. BOONE	07-18/17
12	HEARTWOOD FORESTLAND FUND IV LIMITED PARTNERSHIP	07-18/7

AS-DRILLED
SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83(M)
N:4324570.00
E:492548.30
UTM 17-NAD83(FT)
N:14188193.40
E:1615968.80
LAT/LON DATUM-NAD83
LAT:39.070197
LON:-81.086141

AS-DRILLED
APPROX. LANDING POINT
UTM 17-NAD83(M)
N:4324726.20
E:492478.00
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BOTTOM HOLE LOCATION (BHL)
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N:14200677.43
E:1611293.25
LAT/LON DATUM-NAD83
LAT:39.104473
LON:-81.102665



	LESSOR	DIST-TM/PAR
A	M. A. AYERS	07-26/55
B	J. R. WESTFALL	07-26/5.2
		07-26/4
C	PARKS/ WILSON	07-26/11
D	HAUGHT/EVANS	07-26/6
E	MARY ELLIOT HEIRS	07-18/30
F	MARY E. SCOTT	07-18/19
G	A. ELLIOTT	07-18/18
H	OP SMITH/HFT(HAUGHT)	07-18/17
J	R. JOHNSON	07-18/15
K	PARKS	07-18/7

THRASHER

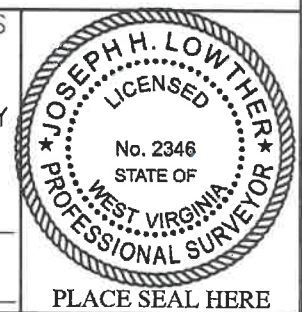
THE THRASHER GROUP INC.

CIVIL • ENVIRONMENTAL • CONSULTING • FIELD SERVICES
 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
 PHONE (304) 624-4108 • FAX (304) 624-7831

FILE #: GOODNIGHT 1402 N-2H
 DRAWING #: GOODNIGHT 1402 N-2H
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/2500
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: *Joseph H. Lowther*
 R.P.E.: _____ L.L.S.: P.S. No. 2346



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304



DATE: APRIL 7, 2020
 OPERATOR'S WELL #: GOODNIGHT 1402 N-2H
 API WELL #: 47 85 10374
 STATE COUNTY PERMIT

Well Type: Oil Waste Disposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: SOUTH FORK HUGHES RIVER ELEVATION: 739'±

COUNTY/DISTRICT: RITCHIE / MURPHY QUADRANGLE: SMITHVILLE, WV 7.5'

SURFACE OWNER: KENNETH PAUL GOODNIGHT ACREAGE: 239.924±

OIL & GAS ROYALTY OWNER: M. A. AYERS ACREAGE: 1279.302±

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): AS-DRILLED PLAT

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: AS-DRILLED TVD: 5,785'± TMD: 18,835'±

WELL OPERATOR HG ENERGY II APPALACHIA, LLC DESIGNATED AGENT DIANE C. WHITE

Address 5260 DUPONT ROAD Address 5260 DUPONT ROAD

City PARKERSBURG State WV Zip Code 26101 City PARKERSBURG State WV Zip Code 26101

BHL is located on topo map 5,486 feet west of Longitude: 81°05'00"
 SHL is located on topo map 797 feet west of Longitude: 81°05'00"

BHL is located on topo map 7,477 feet south of Latitude: 39°07'30"
 SHL is located on topo map 4,785 feet south of Latitude: 39°05'00"

SEE PAGE 2 FOR PLAT DUE TO LENGTH OF LATERAL

	SURFACE OWNER	DIST-TM/PAR
1	KENNETH PAUL GOODNIGHT	07-26/55
2	AYERS CEMETERY	07-26/55.1
3	HAMMETT LAND & MINERALS LLC	07-26/5.2
4	JENNINGS DARWIN CUNNINGHAM II	07-26/11
5	HAMMETT LAND & MINERALS LLC	07-26/4
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PLACE SEAL HERE

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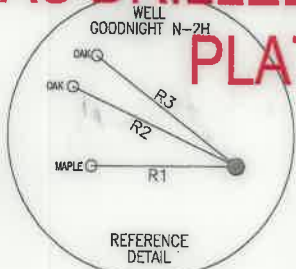
AS DRILLED PLAT

GOODNIGHT 1402 N-2H

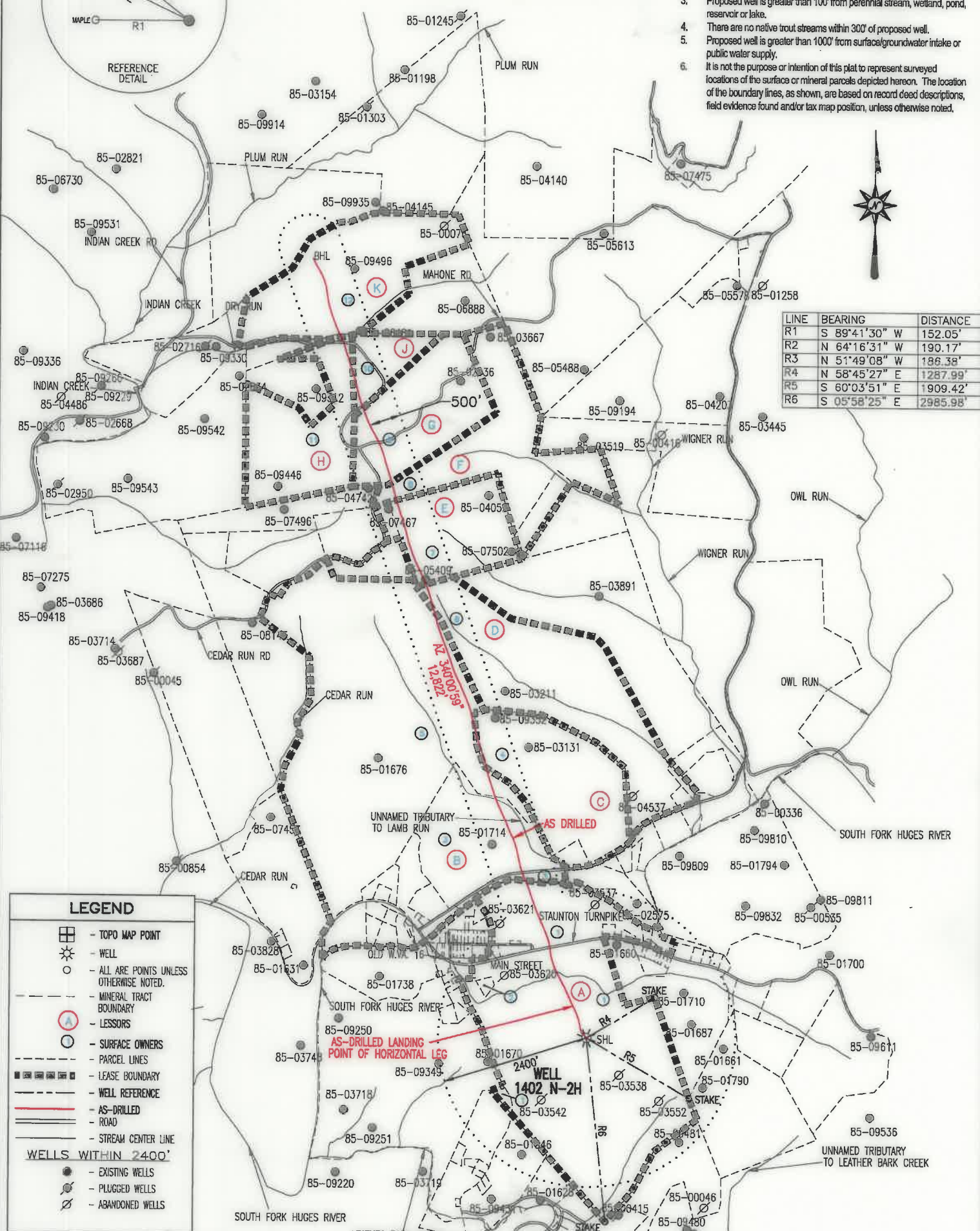
PAGE 2 OF 2

NOTES:

1. There are no water wells or developed springs within 250' of proposed well.
2. There are no existing buildings within 625' of proposed well.
3. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
4. There are no native trout streams within 300' of proposed well.
5. Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
6. It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.



LINE	BEARING	DISTANCE
R1	S 89°41'30" W	152.05'
R2	N 64°16'31" W	190.17'
R3	N 51°49'08" W	186.38'
R4	N 58°45'27" E	1287.99'
R5	S 60°03'51" E	1909.42'
R6	S 05°58'25" E	2985.98'



LEGEND

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED.
- MINERAL TRACT BOUNDARY
- LESSORS
- SURFACE OWNERS
- PARCEL LINES
- LEASE BOUNDARY
- WELL REFERENCE
- AS-DRILLED
- ROAD
- STREAM CENTER LINE

WELLS WITHIN 2400'

- EXISTING WELLS
- PLUGGED WELLS
- ABANDONED WELLS

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APRIL 7, 2020

