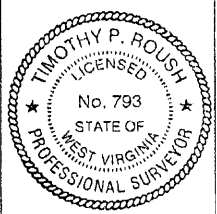


FILE NO. 115-76  
 DRAWING NO. 1  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY Sub-Meter  
 PROVEN SOURCE OF ELEVATION DGPS Survey

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 MINES.

(SIGNED) [Signature]  
 TIMOTHY P. ROUSH PS 793



WEST VIRGINIA  
 Division of Environmental Protection  
 Office of Oil and Gas  
 601 57th Street  
 Charleston, West Virginia 25304

DATE June 18, 2012  
 FARM Nottingham No. 1  
 API WELL NO. 47-105-01364

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW  HORIZONTAL   
 LOCATION: ELEVATION 1,099' WATERSHED Otter Run  
 DISTRICT Burning Springs COUNTY Wirt  
 QUADRANGLE Girta 7.5'

SURFACE OWNER Heartwood Forestland Fund IV ACREAGE 262.58 Ac.  
 OIL & GAS ROYALTY OWNER Piedmont LLC LEASE ACREAGE 200 Ac.  
 LEASE NO. \_\_\_\_\_

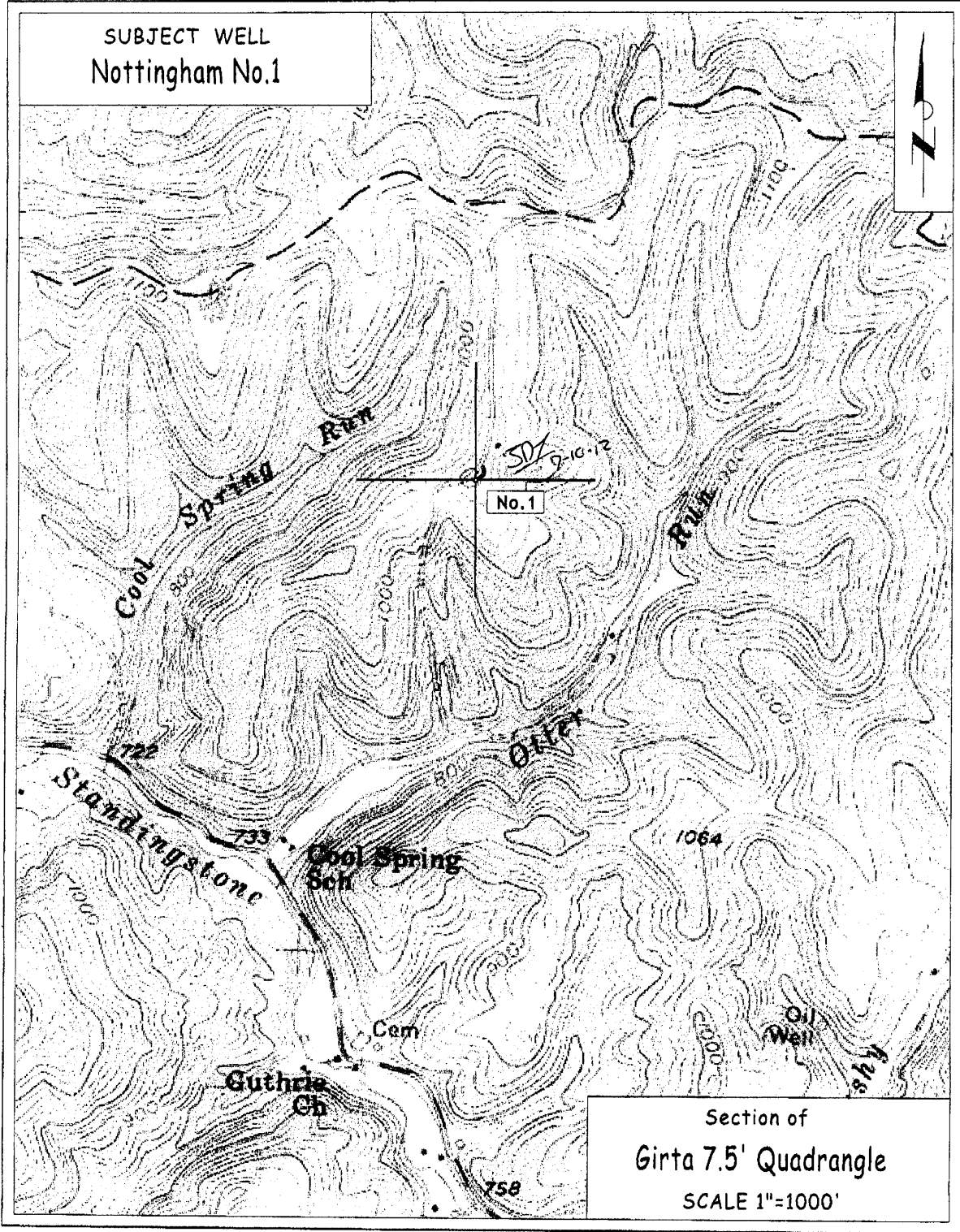
PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON  CLEAN OUT AND REPLUG   
 TARGET FORMATION Devonian Shale ESTIMATED DEPTH 5,500'  
 WELL OPERATOR Petro Holdings, Inc. DESIGNATED AGENT Keith Criffield  
 ADDRESS P.O. Box 987 ADDRESS P.O. Box 987  
Spencer, WV 25276 Spencer, WV 25276

FORM IV-6

07/27/2012

105 01364



SUBJECT WELL  
Nottingham No.1

Section of  
Girta 7.5' Quadrangle  
SCALE 1"=1000'

WR-35  
Rev (9-11)

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

DATE: JULY 22, 2013  
API #: 047-105-01364

Farm name: NOTTINGHAM Operator Well No.: 1

LOCATION: Elevation: 1099' Quadrangle: GIRTA 7.5'

District: BURNING SPRINGS County: WIRT  
Latitude: 11,110' Feet South of 39 Deg. 5 Min. 0 Sec.  
Longitude: 10,460' Feet West of 81 Deg. 15 Min. 0 Sec.

Company: PETRO HOLDINGS, INC.

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
P.O. BOX 987 SPENCER, WV 25276	9 5/8"	515'	515'	CTS
Agent: KEITH CRIHFIELD				
Inspector: JOE TAYLOR	7"	2146'	2146'	CTS
Date Permit Issued: 07/27/2012				
Date Well Work Commenced: 09/12/2012	4 1/2"	5494'	5494'	274
Date Well Work Completed: 06/28/2013				
Verbal Plugging: N/A				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input checked="" type="checkbox"/>				
Total Vertical Depth (ft): 5488'				
Total Measured Depth (ft): 5488'				
Fresh Water Depth (ft.): DAMP 130'				
Salt Water Depth (ft.): + or - 1820'				
Is coal being mined in area (N/Y)? NO				
Coal Depths (ft.): N/A				
Void(s) encountered (N/Y) Depth(s) N/A				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation DEVONIAN SHALE Pay zone depth (ft) 2450'-5473'  
Gas: Initial open flow 0 MCF/d Oil: Initial open flow 0 Bbl/d  
Final open flow 300 MCF/d Final open flow 15 Bbl/d  
Time of open flow between initial and final tests 18 Hours  
Static rock Pressure 425 psig (surface pressure) after 168 Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

Received

JUL 14 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

*Keith Crihfield*  
Signature

07/22/2013  
Date

09/13/2013

Burning Springs North ( ) 6-6

105-01364

Were core samples taken? Yes \_\_\_\_\_ No X

Were cuttings caught during drilling? Yes X No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list OPEN HOLE: GAMMA-RAY, NEUTRON, COMPENSATED DENSITY, TEMPERATURE, ACUSTIC GAS DETECTOR, INDUCTION AND CALIPER. CASED HOLE: GAMMA - RAY AND BOND LOG

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

1ST STAGE: PERFORATE 4912'-5473' (27 HOLES) AND STIMULATE WITH 500 GALLONS OF 15% HCl ACID, 791 MSCF OF N2, 125 BBLs OF WATER, AND 29,800 LBS OF 20/40 SAND

2ND STAGE: PERFORATE 3755'-4735' (27 HOLES) AND STIMULATE WITH 500 GALLONS OF 15% HCl ACID, 717 MSCF OF N2, 119 BBLs OF WATER, AND 29,800 LBS OF 20/40 SAND

3RD STAGE: PERFORATE 3097'-3510' (25 HOLES) AND STIMULATE WITH 500 GALLONS OF 15% HCl ACID, 576 MSCF OF N2, 113 BBLs OF WATER, AND 29,600 LBS OF 20/40 SAND

4TH STAGE: PERFORATE 2450'-2860' (25 HOLES) AND STIMULATE WITH 500 GALLONS OF HCl ACID, 448 MSCF OF N2, 121 BBLs OF WATER, AND 23,200 LBS OF 20/40 SAND

Plug Back Details Including Plug Type and Depth(s): N/A

Formations Encountered: Surface: Top Depth Bottom Depth

<u>Formations Encountered:</u> <u>Surface:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
REDROCK	0	50
SHALE	50	130
SAND	130	170
SHALE	170	230
SAND	230	370
REDROCK/SHALE	370	400
SAND	400	440
SHALE	440	460
SAND	460	717
SHALE	717	950
SAND	950	980
SHALE	980	1040
SAND	1040	1050
SHALE	1050	1220
SAND	1220	1250

Received

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105-01364

Formations Encountered: Surface:	Top Depth	Bottom Depth
SHALE	1250	1370
SAND	1370	1400
SHALE	1400	1550
SAND	1550	1580
SHALE	1580	1600
SAND	1600	1670
SHALE	1670	1820
SAND	1820	1850
LIME	1850	1978
SHALE	1978	1983
BIG INJUNE	1983	2023
SHALE	2023	2048
SAND	2048	2059
SHALE	2059	2075
SAND	2075	2079
SHALE	2079	2124
SAND	2124	2141
SHALE	2141	2156
SILT	2156	2159
SHALE	2159	2333
SILT	2333	2336
SHALE	2336	2350
SILT	2350	2354
SHALE	2354	2358
SILT	2358	2362
SHALE	2362	2365
SILT	2365	2370
SHALE	2370	2561
SILT	2561	2566
SHALE	2566	2569

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105-01364

Formations Encountered: Surface:	Top Depth	Bottom Depth
SILT	2569	2574
SHALE	2574	2582
SILT	2582	2585
SHALE	2585	2592
SILT	2592	2595
SHALE	2595	2604
SILT	2604	2609
SHALE	2609	2632
SILT	2632	2635
SHALE	2635	2639
SILT	2639	2644
SHALE	2644	2687
SILT	2687	2696
SHALE	2696	2702
SILT	2702	2710
SHALE	2710	2717
SILT	2717	2720
SHALE	2720	2722
SILT	2722	2740
SHALE	2740	2782
SILT	2782	2786
SHALE	2786	2790
SILT	2790	2793
SHALE	2793	2796
SILT	2796	2799
SHALE	2799	2825
SILT	2825	2828
SHALE	2828	2839
SAND	2839	2844
SHALE	2844	3787

Received

SEP 14 2013

Formations Encountered:

Top Depth

Bottom Depth

Surface:

105-0136

Formations Encountered:	Top Depth	Bottom Depth
SILT	3787	3790
SHALE	3790	3867
SILT	3867	3869
SHALE	3869	4169
SILT	4169	4174
SHALE	4174	4504
SILT	4504	4506
SHALE	4506	4645
SILT	4645	4648
SHALE	4648	4655
SILT	4655	4657
SHALE	4657	4963
SILT	4963	4967
SHALE	4967	5488

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Office of Oil and Gas  
WV Dept. of Environmental Protection  
09/19/2013

Formations Encountered:

Top Depth

Bottom Depth

Surface:

105-0136

Formations Encountered:	Top Depth	Bottom Depth
SILT	3787	3790
SHALE	3790	3867
SILT	3867	3869
SHALE	3869	4169
SILT	4169	4174
SHALE	4174	4504
SILT	4504	4506
SHALE	4506	4645
SILT	4645	4648
SHALE	4648	4655
SILT	4655	4657
SHALE	4657	4963
SILT	4963	4967
SHALE	4967	5488

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09/19/2013