

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

API 47-095-02339 County Tyler District Ellsworth  
Quad \_\_\_\_\_ Pad Name \_\_\_\_\_ Field/Pool Name \_\_\_\_\_  
Farm name Blake, Debra Lynn & Chris Well Number Cottonwood 1V-1  
Operator (as registered with the OOG) Alliance Petroleum Corporation  
Address 4150 Belden Village Ave. NW Suite 410 City Canton State Ohio Zip 44718-2553

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing \_\_\_\_\_ Easting \_\_\_\_\_

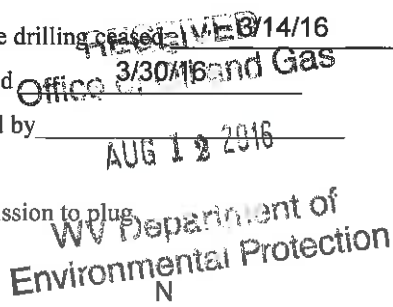
Elevation (ft) 853 GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

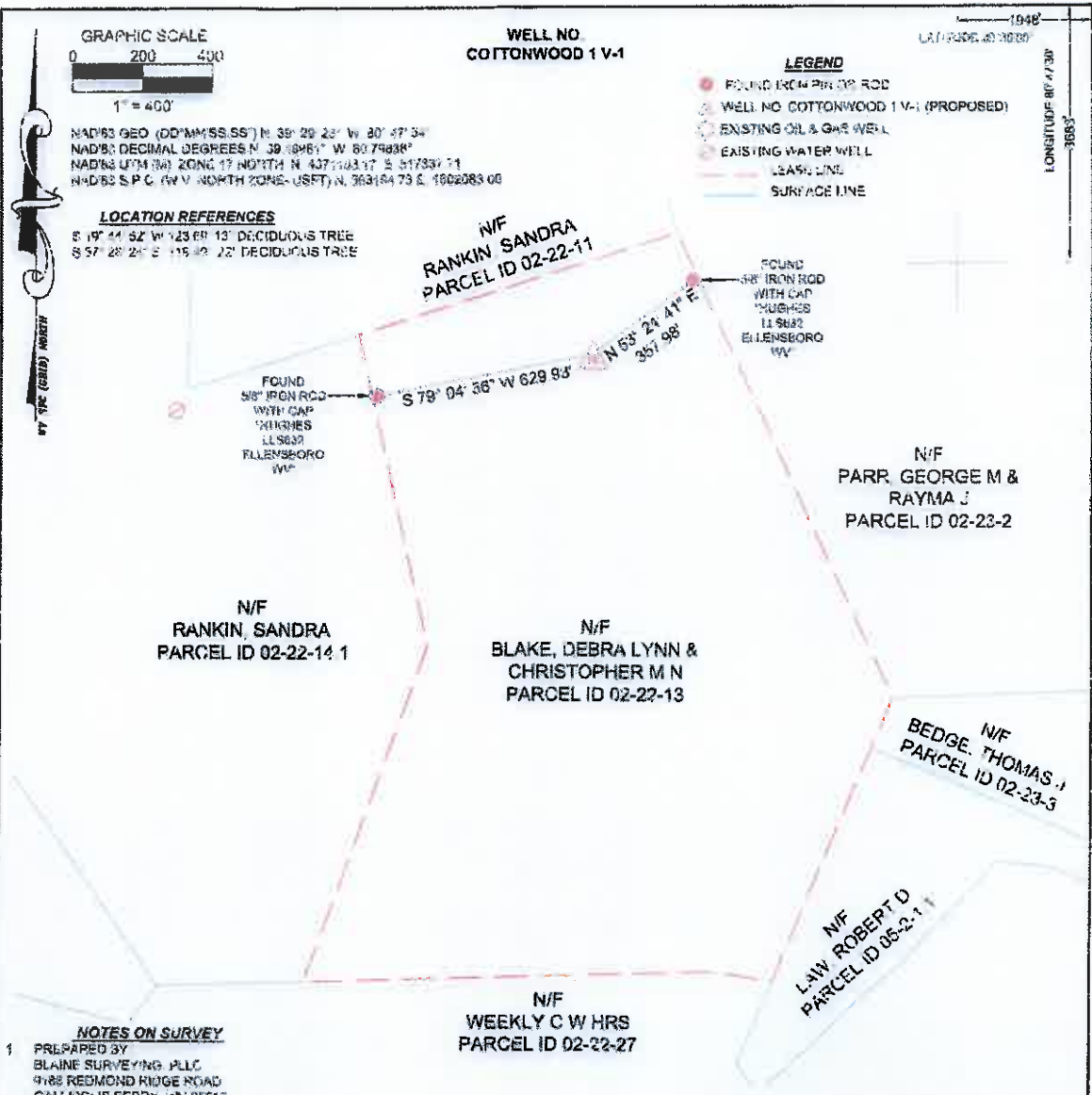
Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine  
Mud Type(s) and Additive(s)  
N/A Air Drilled - Soap

Date permit issued 1/29/16 Date drilling commenced 3/09/16 Date drilling ceased 11/14/16  
Date completion activities began 3/23/16 Date completion activities ceased 3/30/16  
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.  
Freshwater depth(s) ft 0-300 minotal Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1358' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft None Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

**APPROVED** reviewed by:  
NAME: \_\_\_\_\_  
DATE: 9/8/16 **10/28/2016**





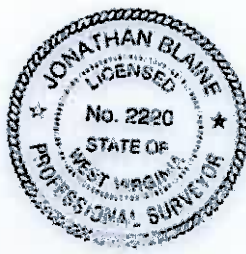
**NOTES ON SURVEY**

1. PREPARED BY BLAINE SURVEYING PLLC, 9188 REDMOND RIDGE ROAD, GALLUPOLIS FERRY, WV 26036
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 362 PAGE 805
3. THIS IS NOT A BOUNDARY SURVEY. SURFACE OWNER AND ADJACENT INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF TYLER COUNTY IN NOVEMBER 2015.

OPERATORS WELL NO. COTTONWOOD 1 V-1  
 SCALE: 1" = 400'  
 MINIMUM DEGREE OF ACCURACY: SUB-METER  
 PROVEN SOURCE OF ELEVATION: CORS NETWORK & Wv VRS

(\*) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

47 095 00397  
 API WELL NO. STATE COUNTY PERMIT



I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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: *Jonathan Blaine*  
 L.L.S. # 2220 DATE 12/21/15

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS  
 601 57TH ST.  
 CHARLESTON, WV 25304

WELL TYPE:  OIL  WASTE DISPOSAL  PRODUCTION  DEEP  
 GAS  LIQUID INJECTION  STORAGE  SHALLOW

WATERSHED: OUTLET MIDDLE ISLAND CREEK

DISTRICT: ELLSWORTH COUNTY: TYLER QUADRANGLE: SHIRLEY 7 S

SURFACE OWNER: BLAKE, DEBRA LYNN & CHRISTOPHER M N ACREAGE: 44.80 +/-

OIL & GAS ROYALTY OWNER: CAROL JEAN KNAPP, ET AL ACREAGE: 44.80 +/-

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
 PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON   
 CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY) \_\_\_\_\_

TARGET FORMATION: RHINESTREET ESTIMATED DEPTH: 170-570'

WELL OPERATOR: ALLIANCE PETROLEUM CORPORATION DESIGNATED AGENT: JEFFREY SAYGER  
 ADDRESS: 4150 BELDEN VILLAGE AVE NW SUITE 410 ADDRESS: 16 FOX HILL TERRACE  
CANTON, OH 44718-2553 PARKERSBURG, WV 26101

10/28/2016

API 47-095 - 02339 Farm name Blake, Debra Lynn & Chris Well number Cottonwood 1V -1

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	15	13-3/8"	32.40	New	H-40 36#	N/A	Driven
Surface	12-3/4"	9-5/8"	420'	New	H-40 26#		Yes 13bbl. returns
Coal							
Intermediate 1	8-3/4"	7"	2117'	New	J-55 17#		Yes 16bbbls.returns
Intermediate 2							
Intermediate 3							
Production	6-1/2"	4-1/2"	3018'	New	10.5# J-55	6	No
Tubing			None				
Packer type and depth set							

Comment Details 4-1/2" Casing Swab Well

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	N/A						
Surface	Class A	157				CTS	8 hrs.
Coal							
Intermediate 1	Class A	299				CTS	8 hrs.
Intermediate 2							
Intermediate 3							
Production	50/50 poz	84				1430' GL	
Tubing							

Drillers TD (ft) 4426' Loggers TD (ft) 4430'

Deepest formation penetrated Bradford Plug back to (ft) 3018'

Plug back procedure Fill With Gel - Establish Circulation - Cement

4-1/2 \*Good Pressure/ Good Bond/ Fill Up

Kick off depth (ft)

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

4-1/2 - 6 total run every 100' off bottom:

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

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**PERFORATION RECORD**

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	3/23/16	2359	2806	17	Bayard- Gordon Stray-Gantz

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	3/23/16	25.8	2476	2650	2623	30,000	500	307 mscf -N2 500 gal. 15HC+

Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Gantz</u>	<u>2354</u>	<u>TVD</u>	<u>MD</u>
<u>Gordon Stray</u>	<u>2539</u>		
<u>Bayard</u>	<u>2796</u>		

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 150 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs


OPEN FLOW Gas 23.0 mcfpd Oil 0.0 bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd GAS MEASURED BY  Estimated  Orifice  Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP DEPTH IN FT NAME TVD</u>	<u>BOTTOM DEPTH IN FT TVD</u>	<u>TOP DEPTH IN FT MD</u>	<u>BOTTOM DEPTH IN FT MD</u>	<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H<sub>2</sub>S, ETC)</u>
	<u>0</u>		<u>0</u>		***SEE ATTACHED - GEOLOGIST REPORT

Please insert additional pages as applicable.

Drilling Contractor Nexus Drilling  
Address P.O. Box 903 City Jane Lew State WV Zip 26378  
Logging Company Appalachian Well Surveys  
Address 10291 Ohio Avenue City Cambridge State OH Zip 43725  
Cementing Company Universal Well Services  
Address P.O. Box 2437 City Buckhannon State WV Zip 26201  
Stimulating Company C&J Services  
Address 8300 Rt. 119 North City Black Lick State PA Zip 15716

Please insert additional pages as applicable.

Completed by Martin L. Miller Telephone (740) 373-8771  
Signature  Title Sr. V.P. Of Operations Date August 9, 2016

Submittal of Hydraulic Fracturing Chemical Disclosure Information

Attach copy of FRACFOCUS Registry  
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12956 Claylick Road  
Newark, Ohio 43056-9146  
Office 740-763-2758  
Home 740-763-2758  
Mobile 330-763-0479

# National Minerals Corporation

**ALLIANCE PETROLEUM CORPORATION**

**COTTONWOOD 1 V-1**

**ELLSWORTH DISTRICT**

**TYLER COUNTY, WEST VIRGINIA**

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*Oil, Gas & Mineral  
Exploration*

WELL: Alliance Petroleum Corporation 1 V-1 Cottonwood

LOCATION: Ellsworth District, Tyler County, West Virginia.

PERMIT NUMBER: 47-095-02339.

ELEVATION: 853' Ground, 861' KB

STATUS: Preparing to complete as a gas & oil producer.

CASING: 7" @ 2128'.

TOTAL DEPTH: 4426' Driller 4430' Logger.

CONTRACTOR: Nexus Drilling Co.

TOOLS: Rotary.

COMPLETED DRILLING: 3/14/2016.

FORMATION AT TOTAL DEPTH: Devonian shale.

ELECTRICAL SURVEYS: Gamma Ray- Compensated Density- Neutron- Caliper- Temperature- Induction by Appalachian Well Surveys. Mud log by Stratagraph NE, Inc.

SHOWS: Occasional oil fluorescence and excellent oil cut were noted in the Big Injun samples at 1,895'. Several good to excellent shows of gas were recorded in the Big Injun Sandstone. A good show of gas was recorded in the Gordon, while fair shows of gas were noted in the Gordon Stray, Gantz and Maxon.

FORMATION TOPS:	1 <sup>st</sup> Salt Sand	1356'	- 495
	2 <sup>nd</sup> Salt Sand	1440'	- 579
	3 <sup>rd</sup> Salt Sand	1562'	- 701
	Maxon Sandstone	1616'	- 755
	Big Lime	1715'	- 854
	Keener Sandstone	1772'	- 911
	Big Injun Sandstone	1810'	- 949
	Weir Sandstone	2139'	-1278
	Gantz Sandstone	2354'	-1493
	Gordon Stray Sandstone	2539'	-1678
	Gordon Sandstone	2592'	-1731
	4 <sup>th</sup> Sand	2716'	-1855
	5 <sup>th</sup> Sand	2752'	-1891
	Bayard Sandstone	2796'	-1935
	Warren Sandstone	3288'	

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Balltown Sandstone	3808'	-2947
Bradford Sandstone	4174'	-3313

## STRUCTURAL COMPARISON:

	Alliance Petroleum Cottonwood 1 V-1	Alliance Petroleum Yurigan 1V
Big Lime	- 854	- 839
Gordon Sandstone	-1731	-1719
Warren Sandstone	-2427	-2421

## GEOLOGY

No significant sandstone development was noted below the Bayard. Fair to good shows of gas were noted on the mud log in the Bayard, 5<sup>th</sup> and 4<sup>th</sup> Sands. However, the electric logs indicate that these zones are poorly developed and the gas was probably coming from the Gordon. The fact that the gas shows continued to rise for several hundred feet below the Gordon is probably due to severe pressure depletion in that zone.

I would first recommend completion of the Bayard, 4<sup>th</sup>, Gordon Stray and Gantz Sandstones. The Bayard (2,797-2,808') shows good thickness (11') but only fair porosity (6%). The 4<sup>th</sup> (2,724-2,726') and Gordon Stray (2,542-2,545') were fairly thin with low porosity. The mud log did record a small show of gas (background of 30 units to a maximum of 87 units) in the Gordon Stray. The Gantz was thin but had good porosity (12%), with a small show of gas (background of 12 units to a maximum of 117 units) recorded on the mud log.

Some additional gas flow may be possible by perforating the Gordon. It had excellent porosity, with a fair show of gas (background of 27 units to a maximum of 380 units) noted on the mud log. As mentioned above, this gas show continued to build for several hundred feet below the Gordon and maintained 1,000 units to TD.

Future potential also exists in the Big Injun and Maxon. Occasional fluorescence and excellent oil cut were noted in the Big Injun from 1,895 to 1,910'. An excellent show of gas (background of 440 to a maximum of 1,764 units) was also recorded in this zone. Additional shows of gas noted in the Big Injun were at 1,820' (background of 200 units to a maximum of 496 units), 1,887' (background of 500 units to a maximum of 1,690 units) and 1,913' (background of 700 units to a maximum of 1,253 units). A fair show of gas (background of 30 units to a maximum of 378 units) was noted in the Maxon at 1,644'.

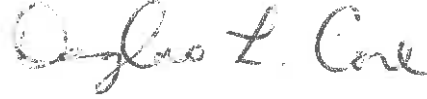
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Respectfully submitted,

A handwritten signature in cursive script that reads "Douglas L. Core".

NATIONAL MINERALS CORPORATION  
By: Douglas L. Core, President

March 15, 2016