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

| API <u>47</u> - 043 | 03596 County I | LINCOLN | District DUVAL | |
|--|--|--|--|--|
| Quad GRIFFITHSVILLI | | e FOWLER, ROBERT | Field/Pool Name GF | RIFFITHSVILLE |
| Farm name MCCLURE, | | | Well Number 511 | |
| Operator (as registered with | h the OOG) H.G. ENER | RGY LLC | | |
| Address 5260 DuPONT | ROAD | City PARKERSBURG | State WV | _{Zip} <u>26101</u> |
| As Drilled location NA | O 83/UTM Attach are hole Northing 4.23° Curve Northing | E | and deviation survey Easting 416,891 M Easting Easting | |
| | GL Type of the definition of t | of Well New Existing | Type of Report Depth Type | □Interim ■Final □ Deep ■ Shallow |
| | | | | |
| Type of Operation □ Cor | | | edrilling Rework | □ Stimulate |
| Well Type □ Brine Dispo | osal 🗆 CBM 🗆 Gas 🗆 C | oil Secondary Recovery | □ Solution Mining □ Sto | rage Other |
| Type of Completion ■ Si | ngle □ Multiple Flu | ids Produced □ Brine □C | Gas □ NGL ■ Oil | □ Other |
| Mud Type(s) and Additiv | hole ■ Air □ Mud ■ □ Mud □ Fresh Water | | ate hole ■ Air □ Mud | RECEIVED Office of Owner Garage JUL 0 8 2019 |
| N/A | | | E | WV Department of nvironmental Protection |
| Verbal plugging (Y/N) _ | N Date permissi | Date completion on granted ing application within 5 days | activities ceased Granted by | 6/27/19 |
| Freshwater depth(s) ft Salt water depth(s) ft Coal depth(s) ft Is coal being mined in an | 1050', 1100' 230', 485' | Void(s) encounter Cavern(s) encounter N | N) depths red (Y/N) depths stered (Y/N) depths | None None Reviewed by: |
| | | John Li | Wed | |

| Size Size Size Depth Used Wt/ft Depth(s) * Provide details below Provide details below Size Sand In | CASING | 03596 | Farm n | ame MCCLUR | E, ANDY | & REBEC | CCA_Well r | number_ 511 | | |
|--|--------------------------|------------------------------|------------------------------|--|-------------------|-------------------|--|-------------|--------------------|---------------------------------------|
| Provide details below Provided | | | | | | | | | | |
| 15" 13 3/8" 11" New LS Sand In | | | - | Depth | | | | | | - |
| urface 8 7/8" 7" \$50.4' New LS 64' Y Intermediate 1 Intermediate 2 Intermediate 3 Intermediate 3 Intermediate 3 Intermediate 3 Intermediate 4 Intermediate 5 Intermediate 5 Intermediate 6 Intermediate 6 Intermediate 7 Intermediate 7 Intermediate 8 Intermediate 8 Intermediate 9 Intermediate 9 Intermediate 9 Intermediate 9 Intermediate 1 Intermediate 1 Intermediate 1 Intermediate 1 Intermediate 1 Intermediate 1 Intermediate 2 Intermediate 3 Intermediate 1 Intermediate 3 Intermediate | Conductor | | | T | | T' | | | | |
| Toduction Comment Details | urface | | | | New | L | s | 64' | | Υ |
| nemediate 2 | oal | | | | | | | | | |
| Intermediate 3 Production 6 1/4" 4 1/2" 2592.11' New U.S N N Dibling Packer type and depth set Comment Details Circulated Est. 35 siss to surface on 7" surface coment job. Did not circulate cement to surface on 4 1/2" cement job. CEMENT Class/Type DATA of Cement of Sacks wit (ppg) DATA of S | ntermediate 1 | | | | | | | | | |
| Troduction 6 1/4" 4 1/2" 2592.11' New LS N Indiana | ntermediate 2 | | | - | | | | | | |
| Tomment Details Circulated Est. 35 sks to surface on 7° surface coment job. Did not circulate coment to surface on 4 1/2° coment job. CEMENT Class/Type Number of Sacks wt (ppg) (ft. 1/3ks) (ft. 2) Top (MD) (ft. 2) Conductor Surface Reg Neat 130 15.6 1.18 153 Surface 8 Reg Neat 130 15.6 1.18 153 Surface 8 Intermediate 1 Intermediate 2 Intermediate 3 Trobuling So:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410° 8 Tubing Confliction 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410° 8 FECEIVED Office of Oil and Government of the surface of the | ntermediate 3 | | | | | | | | | |
| Tabling Production Class/Type Number of Sacks Wt (ppg) (R */sks) (R | roduction | 6 1/4" | 4 1/2" | 2592.11' | New | L | s | | | N |
| CEMENT Class/Type Number of Sacks wit (ppg) Yield Volume Cement (bits) (R2) Top (MD) (Bits) (Bits) (Bits) (R2) Top (MD) (Bits) (| ubing | | | | | | | | | |
| CEMENT Class/Type Number of Sacks wt (ppg) (R ½sks) (R²) Top (MD) (brs) DATA of Cement of Sacks wt (ppg) (R ½sks) (R²) Top (MD) (brs) Onductor Pege Neat 130 15.6 1.18 153 Surface 8 Soal the intermediate 1 | acker type and de | epth set | | | | | | | | |
| DATA of Cement of Sacks wit (ppg) (ft 7/sks) (ft 2/sks) | Comment Details | Circulated Est. 35 s | sks to surface on 7" su | urface cement job. Did r | not circulate cem | ent to surface o | on 4 1/2" cement | i job. | | |
| Surface Reg Neat 130 15.6 1.18 153 Surface 8 Coal | | | | | • | | | | | |
| Total Intermediate 1 Intermediate 2 Intermediate 3 Production 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410 8 RECEIVED Office of Oil and G Despets formation penetrated Berea Plug back to (ft) NA Plug back procedure NA WY Department of Environmental Prote Kick off depth (ft) NA Check all wireline logs run | Conductor | | | | | | | | | |
| Intermediate 1 Intermediate 2 Intermediate 3 Production 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410' 8 Intermediate 3 Production 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410' 8 Intermediate 3 Production 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410' 8 Intermediate 3 Production 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410' 8 Intermediate 2 Intermediate 2 Intermediate 3 Intermediate 410' Intermediate 4 | urface | Reg Neat | 130 | 15.6 | 3 | 1.18 | 153 | Surfac | e | 8 |
| Intermediate 2 Intermediate 3 Production 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410' 8 Intermediate 3 Production 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410' 8 Intermediate 3 Production 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410' 8 Intermediate 3 Production 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410' 8 Intermediate 3 Intermediate 4 Intermediate 3 Intermediate 4 Intermediate 3 Intermediate 4 Intermediate 3 Intermediate 4 Intermediate 5 Intermediate 5 Intermediate 5 Intermediate 5 Intermediate 5 Intermediate 6 Intermediate 6 Intermediate 7 Intermediate 7 Intermediate 7 Intermediate 8 Intermediate 7 Intermediate 8 Intermediate 7 Intermediate 8 Intermediate 9 Intermediate 8 Intermediate 8 Intermediate 8 Intermediate 8 Intermediate 9 Intermediate 8 Intermediate 8 Intermediate 9 Intermediate 8 Intermediate 9 Intermediate 8 Intermediate 8 Intermediate 9 Intermediate 8 Intermediate 9 Intermed | Coal | | | | | | | | | |
| Aroduction 50:50 Pozmix 110/125 13.2/14.2 1.64/1.27 164/186 410' 8 Fubing Controllers TD (ft) 2640' | ntermediate 1 | | | | | | | | | |
| Production 50:50 Pozmix 110/125 13:2/14:2 1.64/1.27 164/186 410' 8 Fubing | | | | | | | | | _ | |
| Fubing Fubing | ntermediate 3 | | | | | | ······································ | | | |
| Described to the control of the cont | roduction | 50:50 Pozm | ix 110/1 | 25 13.2/1 | 4.2 1. | 64/1.27 | 164/186 | 410' | | 8 |
| Describing TD (ft) 2640' Describing penetrated Berea Plug back to (ft) N/A Plug back to | Tubing | | | | | | | | | |
| Plug back procedure N/A Plug back to (ft) N/A | Drillara TD /A | i) 2640' | | | Loggers | rD (ft) 2644 | 4' | | Office of (| Jil and Gas |
| Plug back procedure MA | | | Berea | | | | | | 1111 6 | 2010 |
| Kick off depth (ft) N/A Check all wireline logs run Check all wireline l | • | | | | | (^- / | | | - 102 (| 7 0 ZUIS |
| Check all wireline logs run caliper density deviated/directional induction temperature sonic well cored Yes No Conventional Sidewall Were cuttings collected Yes No No | riug vack pro | occurre | | | | | | | \A/\/ /\~~ | Autoria a at a f |
| ■ 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 12 Centralizers every 88 from bottom on 4 1/2, Centralizer placed mid string on 7* WAS WELL COMPLETED AS SHOT HOLE □ Yes ■ No DETAILS | Kick off depth | n (ft) <u>N/A</u> | | | | | | Ε | nvironmen | tal Protecti |
| DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING 12 Centralizers every 88 from bottom on 4 1/2", Centralizer placed mid string on 7" WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS | Check all wire | eline logs run | - | • | | | | | □sonic | |
| DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING 12 Centralizers every 88 from bottom on 4 1/2", Centralizer placed mid string on 7" WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS | Well cored | □ Yes 💄 No | Conven | tional Side | ewall | W | ere cuttings | collected = | Yes 🗆 1 | No |
| WAS WELL COMPLETED AS SHOT HOLE □ Yes ■ No DETAILS | | | | | | | | | | |
| WAS WELL COMPLETED AS SHOT HOLE □ Yes ■ No DETAILS | | | | | OR EACH (| CASING S | TRING | | | |
| WAS WELL COMPLETED AS SHOT HOLE | 12 Centralizers every 88 | s from bottom on 4 1/2 , Cen | manzer placed find suring of | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| WAS WELL COMPLETED OPEN HOLE? □ Yes ■ No DETAILS | WAS WELL | COMPLETED | AS SHOT HO | LE 🗆 Yes 🖥 | No I | DETAILS | | | | |
| | WAS WELL | COMPLETED | OPEN HOLE? | □ Yes 💄 1 | No DE | TAILS _ | | | | |
| | | | | | | | | | | · · · · · · · · · · · · · · · · · · · |

WR-35 Rev. 8/23/13

API 47- 043 _ 03596

Farm name_MCCLURE, ANDY & REBECCA Well number_511

PERFORATION RECORD

| Stage No. | Perforation date | Perforated from MD ft | Perforated to MD ft. | Number of Perforations | Formation(s) |
|--------------|------------------|-----------------------|--|------------------------|--------------------------------|
| 1 | 6/25/19 | 2460' | 2470' | 40 | Berea |
| | 0/20/10 | 2100 | | | |
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| | | | | | RECEIVED Office of Oil and Gas |
| | | | | | Office of Oil and Gas |

Please insert additional pages as applicable.

JUL 08 2019

STIMULATION INFORMATION PER STAGE

WV Department of Environmental Protection

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 | 6/27/19 | 4 | 775 | 1498 | 672 | 1,000 | 147 | |
| | 0.2 | | | | · · · | | | |
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Please insert additional pages as applicable.

| API 47- <u>043</u> | 03596 | Farm r | ame MCCLUR | RE, AND | Y & REBECO | A Well nu | ımber <u>.</u> | 511 | |
|-------------------------|--|-----------------------|-----------------|-------------|---------------|-------------|----------------|--------------------|---------------------------------------|
| PRODUCING F | ORMATION(S | <u>s)</u> | <u>DEPTHS</u> | | | | | | |
| Berea | | 2 | 2454'- 2476' | TVD | | MD | | | |
| | | | | _ 1 \ D | | | | | |
| a. | | - | | _ | | | | | |
| | | | | _ | | | | | |
| Please insert add | ditional pages as | s applicable. | | | | | | | |
| GAS TEST | □ Build up □ | Drawdown | □ Open Flow | | OIL TEST 🗆 | Flow 🗆 | Pump | | |
| SHUT-IN PRES | SSURE Surfa | ace | _psi Botton | n Hole | psi | DURAT | ION O | F TEST | _ hrs |
| OPEN FLOW | Gas | Oil | | | Water | | | RED BY | |
| OF ENTROW | mcf | pd l | opd | bpd . | bpd | □ Estim | | □ Orifice □ P | ilot |
| | TOD | роттом | TOP | BOTTO | м | | | | |
| LITHOLOGY/ FORMATION | TOP DEPTH IN FT | BOTTOM DEPTH IN FT | | | | ROCK TYP | E AND F | RECORD QUANTIT | YAND |
| FORMATION | NAME TVD | TVD | MD | MD | | | | ER, BRINE, OIL, GA | |
| Sand/Shale | 0 | 485 | 0 | | | | | | |
| Pittsburgh Coal | 485 | 491 | | | | | | | |
| Sand/Shale | 491 | 1742 | | | | | | | |
| Big Lime | 1742 | 1948 | | | | | | | |
| Big Injun | 1948 | 2042 | | | | | | RECEI | /ED |
| Shale | 2042 | 2434 | | | | | | Office of Oil | and Gas |
| Coffee Shale | 2434 | 2454 | | | | | | | <u> </u> |
| Berea | 2454 | 2476 | | | | | | 332.0 | <u> </u> |
| Shale | 2476 | 2640 | | | | | | . <u></u> | |
| TD | 2640 | | | | | | | WV Depar | rtment of al-Pintection |
| | | | | | | | | Environment | 111100000 |
| | | | | | | | | | |
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| Please insert ac | Iditional pages a | as applicable | | | | | | | |
| | | | | | | | | | |
| Drilling Contra | nctor Noah Horn | Well Drilling | | | | 0 | \/Δ | Zip 24656 | |
| Address 1070 S | andy Valley Lane | | City | Vansant | . | State | <u>VA</u> | Zip <u></u> | |
| Logging Comr | any Weatherfor | d International | | | | | | | |
| Address 13211 | Old Hwy 50 | | City | Flora | | State | IL | Zip 62839 | |
| | | , | | | | | | | |
| Cementing Co | mpany Boss Se | rvices | | | _ | | | 11001 | |
| Address P.O. B | ox 1076 | | City | Wooster | | State | ОН | Zip <u>44691</u> | |
| a | Brodu | cers Service Co | urn | | | | | | |
| Stimulating Co | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | City | Olney | | State | IL | Zip 62450 | |
| Address 108 N | dditional | ac applicable | City | | | State | | | |
| riease insert a | dditional pages | as applicable. | | | | | | | |
| Completed by | y Roger Heldma | ת א n | | | Telepho | ne 304-420 | -1107 | | |
| Signature | 17/10 | Wilde | Title C | perations N | Manager . | | Date 6 | 5/28/19 | _ |
| ~.s | 0 | | | | | | | | |
| Submittal of H | Ivdraulic Fractu | ring Chemical | Disclosure Info | rmation | Attach copy | of FRAC | FOCUS | S Registry | |