

west virginia department of environmental protection

Office of Oil and Gas 601 57th Street, S.E. Charleston, WV 25304 (304) 926-0450 fax: (304) 926-0452 Jim Justice , Governor Austin Caperton , Cabinet Secretary www.dep.wv.gov

Monday, August 07, 2017 WELL WORK PERMIT Coal Bed Methane Well / Plugging

CNX GAS COMPANY LLC POST OFFICE BOX 1248

JANE LEW, WV 263786506

Re: Permit approval for L-70 47-061-01471-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0450.

James A. Martin

Chief

Operator's Well Number: L-70

Farm Name: GREIG, TIMOTHY, ETAL U.S. WELL NUMBER: 47-061-01471-00-00

Coal Bed Methane Well / Plugging

Date Issued: 8/7/2017

Promoting a healthy environment.



PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. <u>Failure to adhere to the specified permit conditions may result in enforcement action.</u>

CONDITIONS

- 1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
- 2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
- 3. Well work activities shall not constitute a hazard to the safety of persons.
- 4. This well is under a consent order and must be plugged under the terms of that agreement.

WW-4B Rev. 2/01

| 1)Date | , 2017 |
|--------------------|-------------|
| 2) Operator's | |
| Well No. L70 | |
| 3) APT Well No AZ- | 061 - 01471 |

STATE OF WEST VIRGINIA

| 1) | | Diquid injection/ Waste disposal/ or Underground storage) Deep/ Shallow |
|----|--|---|
| 5) | Location: Elevation 1262.30 | Watershed Miracle Run - |
| | District Battelle | County Monongalia Quadrangle Mannington |
| 5) | Well Operator CNX Gas Company, LLC | 7) Designated Agent Christopher Turner |
| | Address 1000 Consol Energy Drive | |
| | Canonsburg, PA 15317 | Jane Lew, WV 26378 |
|) | Oil and Gas Inspector to be notifie Name Gayne J Knitowski | ed 9) Plugging Contractor Name Coastal Drilling East LLC |
| | Address P.O. Box 108 | Address 70 Gums Springs Road |
| | Gormania WV 26720 | Morgantown, WV 26508 |
| | | |

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JUL 1 3 2017

WV Department of Environmental Protection

| Notification must be given work can commence. | to the district (| oil and gas inspector | 24 hours before permitted |
|---|-------------------|-----------------------|---------------------------|
| Work order approved by insp | ector Hayn | J Knows | Date 7/6/2017 |

Plugging Work Order for Greig L-70

API Number 47-061-01471

Elevation .1262'

Original Permit Issued- 3/28/2003

TD 1100'

- 1. Verify TD and casing volume (~1085')
- 2. Set CIBP at lowest attainable depth (Stay above slotted liner if present)
- 3. Grout from surface surface (~215sks)
- 4. Install 6" x 14' monument (10' below grade, 4' above grade) API 47-061-01471

Work Order approved by Inspector

Haymed Kintur

Date: 7/6/2017

Note: All cement will be Class A. All spacers will be 6% gel.

3. TIH WITH WORK STRING OF TUBING AND PUMP CLASS A CEMENT WITH NO MORE THAN 3% Ca Cl2 FROM TOP OF CIBP TO SURFACE.

A REMOVE FREE CASING.

y Wm

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Office of Oil and Gas

JUL 1 3 2017

WV Department of Environmental Protection

08/11/2017

WR-35

DATE: September 2, 2004
API#: 47-610471

State of West Virginia Department of Environmental Protection Office of Oil and Gas

Well Operator's Report of Well Work

| Farm Name: Greig, Timothy, Etal | | Operato | r Well | No.: <u>L</u> - | 70 | |
|--|-----------------|---------------------------------------|--------|-----------------|---------------|---|
| LOCATION: Elevation: 1531 | | Quadrar | ngle: | Manning | ton | |
| District: Battelle | | County: | Mo | onongalia | | |
| Latitude: 3850.00 Feet South of | 39 | Deg. 37 | | Min. | 30 | Sec. |
| Longitude: 10001.00 Feet West of | | Deg. $\frac{37}{17}$ | | Min. | 30 | Sec. |
| Longitude. 10001.00 1 cet west of | | Dog | | . 141111. | | 500. |
| Company: CNX Gas Company LLC (North) | | • | | | | |
| | Casing & Tubing | Used I Drillin | | Left In W | ell | Cement Fill Up Cu. Ft. |
| Address: 1800 Washington Road | | | | | | |
| Pittsburgh, PA 15241 | | | | | | |
| Agent: Edwin Merrifield | - | | | | | |
| Inspector: Steve Mossor | | | | | | |
| Date Permit Issued: 3/27/2003 | | | | | | |
| Date Well Work Commenced: Existing Borehole | | | | | | |
| Date Well Work Completed: Converted to well | | | | | | |
| Verbal Plugging: | | | | | | |
| Date Permission granted on: | | | | | | |
| Rotary Cable Rig | | | | | | |
| Total Depth (feet): 1100 | | | | | | |
| Fresh Water Depth (ft.): | | | | | | |
| | | | | | | |
| Salt Water Depth (ft.): | | | | | \Box | |
| | | | | | | |
| Is coal being mined in area (N/Y)? No | | | | | | |
| Coal Depths (ft.): 1085 | | | | | | |
| | | · · · · · · · · · · · · · · · · · · · | | | | |
| OPEN FLOW DATA | | | | | | |
| OI DIVI DO W DITIIT | | | | | | |
| Producing formation Pittsburgh Coal Seam | Pay zon | e depth (ft) | 10 | 85 | | |
| Gas: Initial open flow 38 MCF/d | Oil: Initial o | | 0 | | 3b1/d | |
| Final open flow 38 MCF/d | Final open f | | 0 | | 3b1/d | |
| Time of open flow between initial and final tests | 0 | | Hour | 'S | | |
| Static rock pressure 1 psig (surface press | | • | Hour | s | | |
| | <i>'</i> – | | • | | | |
| Second producing formation None | Pay zo | ne depth (ft) |) | | | |
| Gas: Initial open flow MCF/d | Oil: Initial o | | | E | 3b1/d | |
| Final open flow MCF/d | Final open f | low | | E | 3P1/q | |
| Time of open flow between initial and final tests | | | Hour | S | | |
| Static rock pressure psig (surface press | sure) after _ | | Hour | rs . | | |
| NOTE: ON BACK OF THIS FORM PUT THE F | OLLOWING | : 1). DETA | als o | F PERFO | RATE | D TEIVED OR |
| INTERVALS, FRACTURING OR STIMULATIN | G, PHYSIC | AL CHANG | E, ET | C. 2). THI | Ei | BECCOII & ON |
| LOG WHICH IS A SYSTEMATIC DETAILED | GEOLOGIC/ | AL RECORI | D OF | ALL FOR | DIAM | Signal Of China |
| INCLUDING COAL ENCOUNTERED BY THE V | WELLBORE. | | | | \ | 2004 |
| NOTE: ON BACK OF THIS FORM PUT THE FINTERVALS, FRACTURING OR STIMULATIN LOG WHICH IS A SYSTEMATIC DETAILED INCLUDING COAL ENCOUNTERED BY THE VALUE OF THE VALUE O | | | | | 1 | SEP 0.7 2004 |
| Signed: | | | | | $\overline{}$ | orment or don't |
| By: Joseph P. Aman | | | | | | W Deportal Provi |
| Date: September 2, 2004 | | | | | | SEP Department of NO Department of Environmental Protection |
| | | | | | | |

CONSOLIDATION COAL COMPANY 1800 WASHINGTON ROAD PITTSBURGH PA

| WELL NUMBER L-70 | MINE Loveridge |
|---|--|
| DATE STARTED June 1988 | DATE COMPLETED June 1988 |
| CONTRACTOR Unknown | |
| TOTAL DEPTH OF HOLE | (APPROX) |
| CASING IN HOLE: SLOTTED 300 [In Feet] 5-1/4-INCH 1,08 7-INCH Non PACKER SIZE 3' 6 | 5 FEB 1 8 2003 |
| CEMENT 270 [SKS | A CONTRACTOR OF THE PARTY OF TH |
| OK | S.M. |

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS COALBED METHANE PERMIT APPLICATION

| 1) Well | Operator: CNX Gas Company, LLC (North) 2) Well Name St. Leo Gob Well No. L-70 |
|----------|--|
| 3) Opera | ator's Well Number <u>L-70</u> 4) Elevation <u>1,531</u> |
| 5) Well | Type: (a) Oil / or Gas / (b) If Gas: ProductionX / Underground Storage / CBM / Deep / ShallowX / |
| 6) Propo | osed Target Formation(s): Pittsburgh Coal Seam Mine Methane |
| 7) Propo | osed Total Depth: 1,100 feet |
| 8) Appr | oximate Fresh Water Strata Depths: Not known |
| 9) Appr | oximate Salt Water Depths: Not known |
| 10) | Approximate Coal Seam Depths: Pitttburgh @ 1,085' |
| 11) | Does Land Contain Coal Seams Tributary to Active Mines? Yes X / No/ |
| 12) | (a) Proposed Well Work: <u>Convert an existing ventilation borehole (Well No. L-70) to a producing CBM gob well.</u> |
| (b) | If Stimulation Proposed, Describe Means to be Used to Stimulate Well: N/A |
| 13) | (a) Does the proposed operation plan to convert an existing well (as defined in W. Va. Code § 22-6-1) or a vertical ventilation hole to a coalbed methane well? Yes X / No / |
| (b) | If yes, please attach to this Application a list of all formations from which production is anticipated and a description of any plans to plug any portion of the well. <u>Pittsburgh Coal Only Via Existing Casing.</u> |
| 14) | (a) Will the proposed coalbed methane well be completed in some but not all coal seams for production (except for a gob well or vent hole proposed to be converted to a well)? Yes/ No/ N/A |
| (b) | If yes, please attach to this Application a plan and design for the well which will protect all workable coal seams which will be penetrated by the well. |
| 15) | (a) Does the proposed operation include horizontal drilling of a well commenced on the surface? Yes/ No _X/ |
| (b) | If yes, please attach to this Application a description of such operations, including both the vertical |

| Page 2 of 3 | 10 P |
|-------------|------------|
| 316313113 | 61-01471CP |
| | 61-01711 |

CASING AND TUBING PROGRAM

| TYPE | SPECIFICATIONS | | FOO' | CEMENT | | |
|--------------|----------------|-------|----------------|--------------|--------------|----------------------|
| | Size | Grade | Weight per ft. | For Drilling | Left in Well | Fill-up (cu. ft.) |
| Conductor | | | | | | |
| Fresh Water | | | | | | |
| Coal | | | | | | |
| Intermediate | | | | | | |
| Production | | + | | | | |
| Tubing | <u> </u> | | | | | |
| Liners | | | | | | |

PACKERS:

PLEASE SEE ATTACHED WELL REPORT

| *************************************** | | | | |
|---|------|------------|-------------------------|-------|
| | | For Office | of Oil and Gas Use Only | |
| | | | Reclamation Fund | WPCP |
| Plat V | VW-9 | WW-5B | Bond(Type) | Agent |

WW-4A Revised 6-07

| Date: Operator's Well Number | | | | | |
|----------------------------------|-----|--|-------|--|--|
| L70 | | | | | |
| 3) API Well No.: 47 - | 061 | | 01471 | | |

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

| 4) Surface Ow | mer(s) to be served: | 5) (| a) Coal Operator | | |
|---------------------------|---|--|--|---------------------------------|--|
| (a) Name | DOGWOOD VALLEY LLC | | Name | See Attached | |
| Address | 16989 AIRPORT RD | | Address | | |
| | LINESVILLE PA 16424-76 | 517 | | | |
| (b) Name | | | (b) Coal Ow | ner(s) with Declaration | 1 |
| Address | - | | Name | See Attached | RECEIVED |
| | | | Address | | Office of Oil and Gas |
| | U Comment | | | | JUL 1 3 2017 |
| (c) Name | | | Name | | 202 2 0 2017 |
| Address | | | Address | | WV Department of |
| | | | - | | Environmental Protection |
| 6) Inspector | Gayne J Knitowski | | (c) Coal Les | see with Declaration | |
| Address | P.O. Box 108 | | Name | N/A | |
| radicos | Gormania WV 26720 | | Address | 3.77.5 | |
| Telephone | 304-546-8171 | | | | |
| reteptione | 311111111111111111111111111111111111111 | | _ | | |
| Protection, the Applic | ying documents for a permit to , with respect to the well at the | plug and abandon a ve e location described or mailed by registered | vell with the Chief of the the attached Application or certified mail or del | on and depicted on the attached | iled this Notice and Application and irginia Department of Environmental Form WW-6. Copies of this Notice, named above (or by publication in |
| | | Well Operator | CNX Gas Company, L | I.C. | |
| 100 | | By: | Erika Whetstone | - HIMLE OF G | - |
| and the same | -0.1 S.LE | Its: | Permitting Supervisor | CANCO MILAULA | |
| £ 2 | 12.1 A E | Address | 1000 Consol Energy D | rive | |
| | 5 3 -3 | 71441055 | Canonsburg, PA 1537 | | |
| 5.35 | And E | Telephone | (724) 485-4035 | | |
| My Commission | | s <u>9th</u> da | ay of June | 2017 Notary Public | NOTARIAL SEAL Lori L. Walker, Notary Public Richhill Twp., Greene County My Commission Expires Feb. 23, 2019 MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIE |
| Oil and Gas Priv | acy Notice | | | | MEMBER. PENNSYLVANIA ASSOCIATION OF NOTAR |

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at deprivacyoffier@wv.gov.

WW-4A Attachment

Coal Owner(s):

Consolidation Coal Company 1000 CONSOL Energy Drive Canonsburg, PA 15317

Dogwood Valley, LLC 16989 Airport Rd Linesville, PA 16424-7617

Coal Operator:

The Marion County Coal Company 46226 National Rd W St. Clairsville, OH 43950

> RECEIVED Office of Oil and Gas

> > JUL 1 3 2017

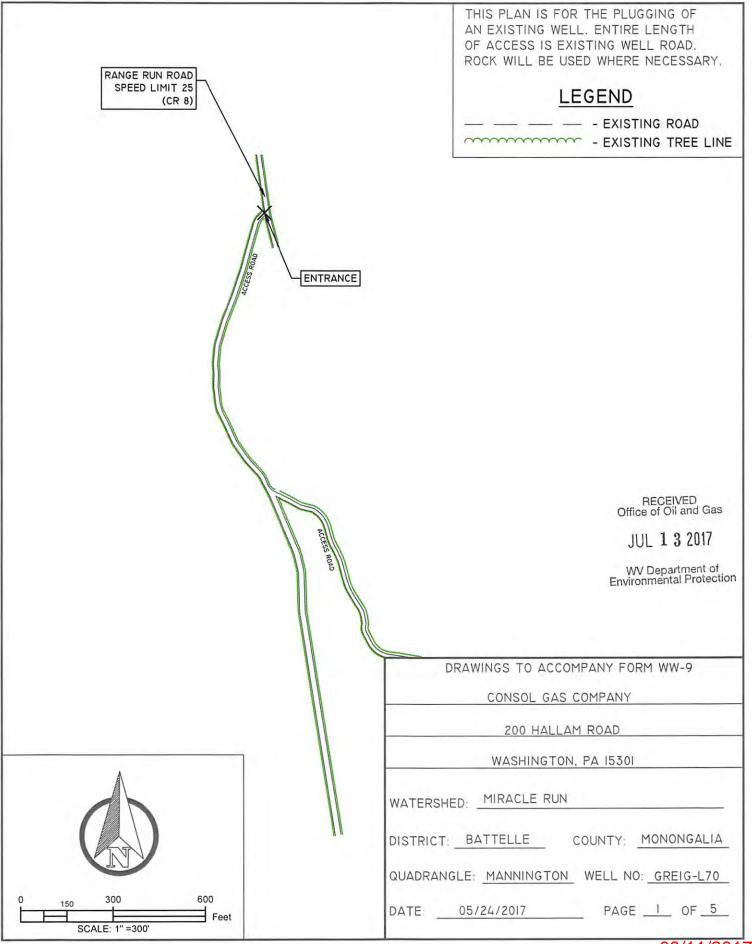
WV Department of Environmental Protection WW-9 (5/16)

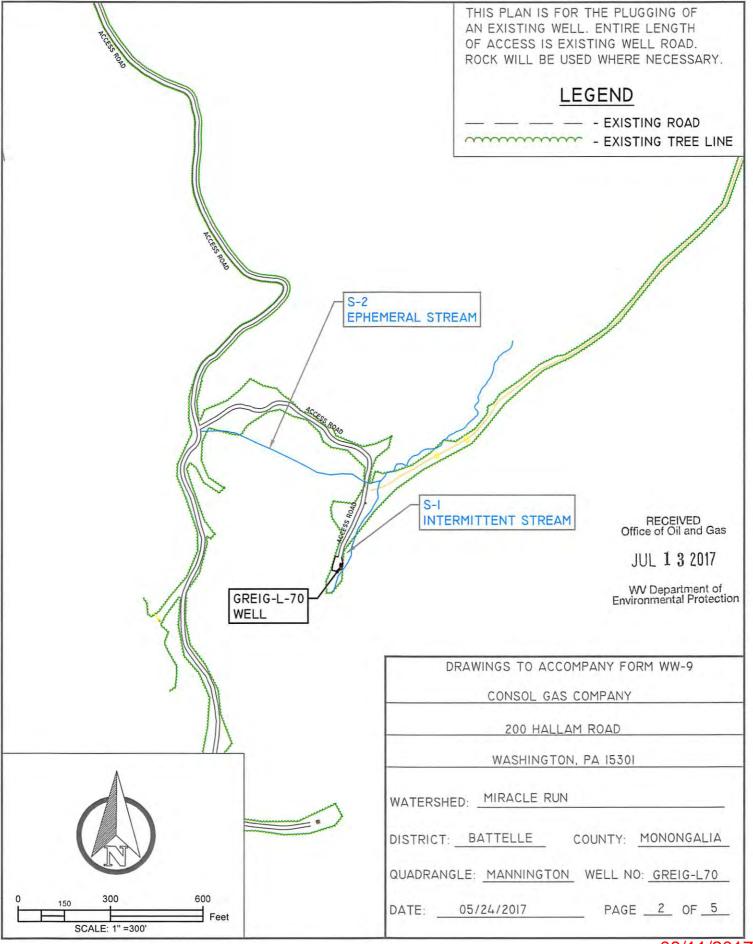
| API Number 47 - 061 | _ 01471 |
|---------------------|---------|
| Operator's Well No. | |

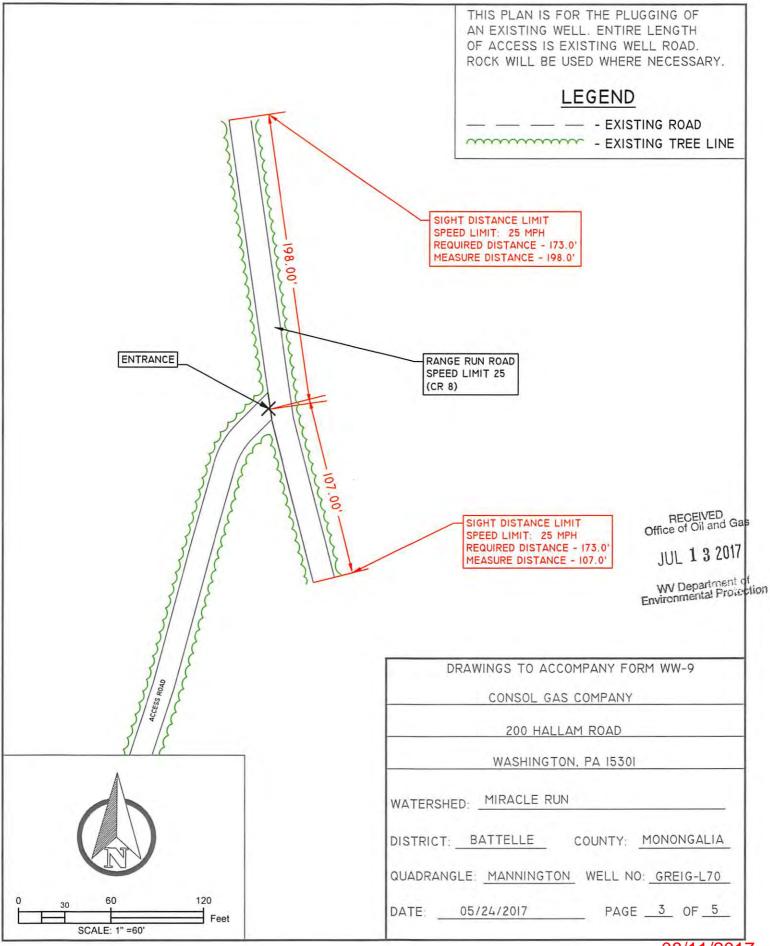
STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

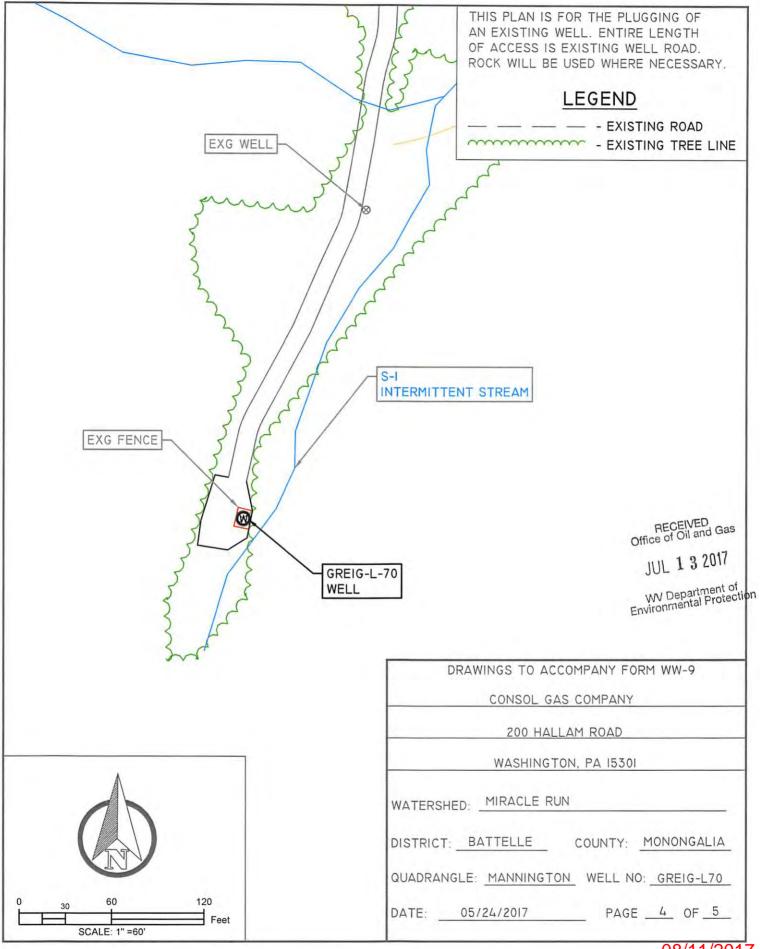
| FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN | |
|---|--|
| Operator Name_CNX Gas Company, LLC OP Code 4944580 | 046 |
| Watershed (HUC 10) Miracle Run Quadrangle Mannington | |
| Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes | No _✓ |
| Will a pit be used? Yes No _✓ | |
| If so, please describe anticipated pit waste: Will a synthetic liner be used in the pit? Yes No If so, what ml.? | |
| Will a synthetic liner be used in the pit? Yes No If so, what ml.? | |
| Proposed Disposal Method For Treated Pit Wastes: | |
| Land Application (if selected provide a completed form WW-9-GPP) | |
| Underground Injection (UIC Permit Number |) |
| Off Site Disposal (Supply form WW-9 for disposal location) | |
| Other (Explain Waste Management or Ryan Environmental will use vacuum trucks, and properly dis | pose of any fluid or waste returns |
| | RECEIVED |
| Will closed loop systembe used? If so, describe: no | Office of Oil and Gas |
| Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. na | |
| -If oil based, what type? Synthetic, petroleum, etc. | WV Department of |
| Additives to be used in drilling medium? na | Environmental Protection |
| Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. na | |
| -If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) | |
| -Landfill or offsite name/permit number? | |
| Permittee shall provide written notice to the Office of Oil and Cas of any load of drill cuttings or asso West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the powhere it was properly disposed. | ermittee shall also disclose |
| I certify that I understand and agree to the terms and conditions of the GENERAL WATER on April 1, 2016, by the Office of Oil and Cas of the West Virginia Department of Environmental Provisions of the permit are enforceable by law. Violations of any term or condition of the general per or regulation can lead to enforcement action. I certify under penalty of law that I have personally examined and am familiar with the application form and all attachments thereto and that, based on my inquiry of those individuals immedithe information, I believe that the information is true, accurate, and complete. I am aware that the submitting false information, including the possibility of fine or imprisonment. | otection. I understand that the mit and/or other applicable law information submitted on this ately responsible for o btaining |
| Company Official Signature Culture Company Official Signature | |
| Company Official (Typed Name) Erika Whetstone | |
| Company Official Title Permitting Supervisor | |
| | |
| Subscribed and swom before me this A day of, 20_17 | COMMONWEALTH |
| Notary Pub | IC COMMONWEALTH OF PENNSYLVANIA |
| My commission expires Folkwan 23 2019 | Lori L. Walker, Notary Public Richhill Twp., Greene County My Commission Evaluation Explanation |
| | My Commission Expires Feb. 23, 2019 MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES |

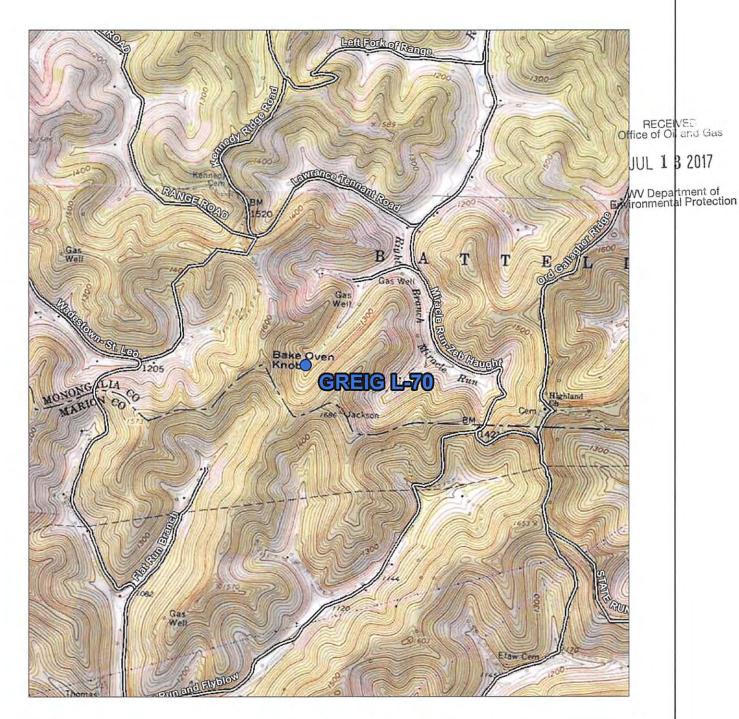
| Proposed Revegetation Treatme | ent: Acres Disturbed les | es than 1 acre | |
|---|---|---|--------------------------------|
| Lime 2-3 | | Prevegetation p | Н |
| | Tons/acre or to correct | to pH | |
| Fertilizer type 10-20- | -20 or equivalent | | |
| Fertilizer amount 500 |) | lbs/acre | |
| Mulch_ hay or straw | v 2 | _Tons/acre | |
| | | Seed Mixtures | |
| Тетр | porary | Perma | ment |
| Seed Type | lbs/acre | Seed Type | lbs/acre |
| Tall Fescue | 40 | Tall Fescue | 40 |
| Landino Clover | 5 | Landino Clover | 5 |
| provided). If water from the pit L, W), and area in acres, of the | will be land applied, pro- e land application area. | application (unless engineered plans incluvide water volume, include dimensions (L, | |
| Maps(s) of road, location, pit ar provided). If water from the pit L, W), and area in acres, of the Photocopied section of involved | will be land applied, pro- e land application area. d 7.5' topographic sheet. | vide water volume, include dimensions (L, | W, D) of the pit, and dimensio |
| Maps(s) of road, location, pit ar provided). If water from the pit L, W), and area in acres, of the Photocopied section of involved Plan Approved by: | will be land applied, pro- e land application area. | vide water volume, include dimensions (L, | |
| Maps(s) of road, location, pit ar provided). If water from the pit L, W), and area in acres, of the Photocopied section of involved | will be land applied, prove land application area. d 7.5' topographic sheet. | vide water volume, include dimensions (L, | W, D) of the pit, and dimensio |











LOCATION MAP
MANNINGTON, WV 7.5M USGS QUADRANGLE
SCALE: I"=2000'





Engineers and Land Surveyors Woman Owned Small Business

11023 Mason Dixon Hwy, Burton, WV 26562-9656 (304) 662-6486

LOCATION MAP

GAS WELL PLUGGING GREIG-L-70 GAS WELL BATTELLE DISTRICT MONONGALIA COUNTY, WV CONSOL GAS COMPANY

CONSOL GAS COMPANY 200 HALLAM ROAD WASHINGTON, PA 15301

| DRAWN BY: LLF | |
|------------------|--|
| CHECKED BY: WPF | |
| DATE: 05/24/2017 | |
| Scale: I"=2000' | |
| WATERSHED: | |
| MIRACLE RUN | |
| PAGE _ 5 OF _ 5 | |

WW-7 8-30-06



West Virginia Department of Environmental Protection Office of Oil and Gas

| | OCATION FORM: GPS | |
|--|--|---------------|
| _{API:} 47-061-01471 | WELL NO.: L70 | |
| FARM NAME: Greig | | |
| RESPONSIBLE PARTY NAME: | Erika Whetstone | |
| | DISTRICT: Battelle | |
| Manningt | on | |
| SURFACE OWNER: DOGW | OOD VALLEY LLC | |
| | | |
| LITM CPS NORTHING: 4,385, | 218.411 METERS | |
| UTM GPS EASTING: 557,779. | 832 METERS GPS ELEVATION: 384,749 MI | ETERS (1262') |
| preparing a new well location plat f above well. The Office of Oil and O the following requirements: | 05 meters | the neet |
| | Γime Differential | |
| Mapping Grade GPS: Pos | st Processed Differential | |
| Re | al-Time Differential | |
| I the undersigned, hereby certify this | topography map showing the well location. is data is correct to the best of my knowledge and required by law and the regulations issued and Gas. | i |
| Eiker & White | Permitting Supervisor 6917 | |
| Signature | Title Date | |