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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Jim Justice , Governor  
Austin Caperton , Cabinet Secretary  
www.dep.wv.gov

Thursday, March 23, 2017  
WELL WORK PERMIT  
Vertical / Plugging

ICG TYGART VALLEY, LLC (A)  
100 TYGART DR

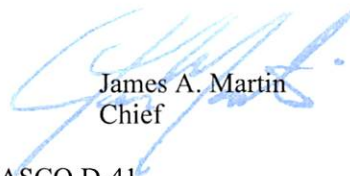
GRAFTON, WV 26354

Re: Permit approval for MORASCO D-41  
47-091-00638-00-00

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: MORASCO D-41  
Farm Name: MARASCO, SAMUEL A.  
U.S. WELL NUMBER: 47-091-00638-00-00  
Vertical / Plugging  
Date Issued: 3/23/2017

Promoting a healthy environment.

03/24/2017

## 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. Failure to adhere to the specified permit conditions may result in enforcement action.

### CONDITIONS

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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.

1) Date January 19, 2017  
2) Operator's  
Well No. D-41  
3) API Well No. 47-91 - 00638

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil \_\_\_\_/ Gas \_\_\_\_/ Liquid injection \_\_\_\_/ Waste disposal \_\_\_\_/  
(If "Gas, Production \_\_\_\_ or Underground storage \_\_\_\_ ) Deep \_\_\_\_/ Shallow X

5) Location: Elevation 1409 Watershed Flag Run  
District Knottsville County Taylor Quadrangle Grafton (378)

6) Well Operator ICG Tygart Valley, LLC 7) Designated Agent Charles E. Duckworth  
Address 100 Tygart Drive Address 100 Tygart Drive  
Grafton, WV 26354 Grafton, WV 26354

8) Oil and Gas Inspector to be notified Name Kenneth Greynolds  
Address 613 Broad Run Road  
Jane Lew, WV 26378  
9) Plugging Contractor Name Coastal Drilling East, LLC  
Address 130 Meadows Ridge Road  
Mt. Morris, PA 15349

10) Work Order: The work order for the manner of plugging this well is as follows:

See Exhibit Nos. 1 and 2 MSHA 101 C

ICG Tygart Valley, LLC 47-091-00638  
Leer Mine (MSHA ID# 46-09192)  
MSHA 101-C Docket No. M-2012-065-C

Approximate coal seam top ~ 859  
Approximate coal seam bottom ~ 864

CUD  
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Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector *Kenneth Greynolds* Date 2-17-17

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EXHIBIT NO. 1

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From the experience and technology developed since 1970 in plugging oil and gas wells for mining through, ICG Tygart Valley, LLC will utilize the following method to plug all future wells.

**SOLID PLUG METHOD**

- ✓ a) If active well: clean out to total depth and plug back according to state regulations to a minimum of 200 feet below lowest minable coal seam.
- b) If abandoned well: clean out to first plug 200 feet below lowest minable coal seam.
- c) Circulate through tubing or drill steel an expanding cement plug from a minimum of 200 feet below minable coal seam to a point 100 feet above minable coal.

Circulate through tubing or drill steel from 100 feet above coal seam to surface.

A monument will be installed with API No. and stating "solid plug".

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EXHIBIT No. 2

Coastal Drilling East LLC • 130 Meadow Ridge Road, Mt. Morris, PA 15349  
Phone 304-296-1120 Fax 304-413-0061

"A Shaft Drillers International Company"

05/26/2016

Mr. Chuck Duckworth  
Gas Well & Property Manager  
Arch Coal, Inc. – Leer Mine Complex  
100 Tygart Drive  
Grafton, WV 26354

Mr. Duckworth,

Below is the proposed plugging plan we discussed that can be used on wells similar to the wells we have been plugging for the last few years.

Plugging Plan

- Move to site, rig up, mix mud, drill rathole
- Clean out well to original total depth (TD).
- Run cement bond log on 4 1/2" casing to determine top of cement
- Set bottom hole cement plug as required by the WV DEP from TD to top of cement determined by the bond log. *≈ 3900'*
- Tag top of bottom hole plug to insure plug is at correct depth. Re-cement if necessary.
- Cut and pull 4 1/2" casing from the free point determined by the bond log.
- Clean out wellbore to top of remaining 4 1/2" casing
- Run suite of logs to determine casing size, bottom of casing, depth of coal seams, deviation of wellbore and cement bond to casing.
- Cement hole from top of bottom hole plug to a depth within 25' of the bottom of the 8 5/8" casing. *(≈ 1090') 8 5/8" CTS.*
- If necessary cut and pull any free casing.
- Perforate, cut, rip or mill any remaining casing at depths determined by MSHA's 101C Petition.

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- Cement hole from top of intermediate plug to surface using cement required by MSHA's 101C Petition. **USE CLASS A CEMENT FROM 100' ABOVE THE HIGHEST MINERABLE COAL TO SURFACE.**
- Rig down and set monument as required by WV DEP.

*JMM*

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face area will be available. The fire hose will be located near the working face.

(5) Sufficient supplies of roof support and ventilation materials will be available and located near the working face. In addition, an emergency plug and/or plugs will be available within the immediate area of the well intersection.

(6) Equipment involved in mining through the well will be checked for permissibility and serviced on the maintenance shift prior to mining through the well. The methane monitor on the continuous mining machine involved in mining through the well will also be calibrated on the maintenance shift prior to mining through the well.

(7) When mining is in progress, tests for methane will be made with a hand-held methane detector at least every 10 minutes, from the time that mining with the continuous mining machine is within 30 feet of the well until the well is intersected, and immediately prior to mining through. During the actual cutting-through process, no individual will be allowed on the return side until mining-through has been completed and the area has been examined and declared safe.

(8) The working area will be free from accumulations of coal dust and coal spillages, and rock dust will be placed on the roof, rib, and floor to within 20 feet of the face when mining through the well.

(9) When the well is intersected, all equipment will be deenergized and the place thoroughly examined and determined safe before mining is resumed.

(10) Any casing will be removed and no open flame will be permitted in the area until adequate ventilation has been established around the well.

(11) After a well has been intersected and the working place determined safe, mining will continue in by the well at a distance sufficient to permit adequate ventilation around the area of the well.

(12) No person will be permitted in the area of the mining-through operation except those actually engaged in the operation, company personnel, personnel from MSHA, and personnel from the Kentucky OMSL.

(13) The mining-through operation will be under the direct supervision of a certified individual. Instructions concerning the mining-through operation will be issued only by the certified individual in charge. MSHA personnel may interrupt or halt the mining through operation when necessary for the safety of the miners.

(14) Within 30 days after this Order becomes final, the petitioner will submit

proposed revisions for its approved mine emergency evacuation and firefighting plan required by 30 CFR 75.1501. The petitioner will revise the plans to include the hazards and evacuation procedures to be used for well intersections.

The petitioner further states that this petition will apply to all types of mining (conventional, continuous, and longwall) and asserts that the proposed alternative method will at all times provide a measure of protection no less than that of the existing standard.

*Docket Number:* M-2012-064-C.

*Petitioner:* Lone Mountain Processing, Inc., Drawer C, St. Charles, Virginia 24282.

*Mine:* Mine No. 1, MSHA I.D. No. 15-18734, Route 636 Benedict Road, St. Charles, Virginia 24282, located in Harlan County, Kentucky.

*Regulation Affected:* 30 CFR 75.208 (Warning devices).

*Modification Request:* The petitioner requests a modification of the existing standard to permit a readily visible warning to be posted at the second row of permanent roof support outby unsupported roof or a physical barrier to be installed to impede travel beyond permanent support, except during the installation of roof supports. The petitioner states that:

(1) The Kentucky Office of Mine Safety and Licensing requires "a warning device to be installed on the second row of permanent roof support outby unsupported roof."

(2) MSHA's approved Precautions for Remote Control Operation of Continuous Mining Machines states that "While using remote controls, the continuous mining machine operator and all other persons will position themselves no closer than the second 'full row' of installed roof bolts outby the face."

(3) This petition is necessary to improve safety and to attain commonality between State and Federal regulations.

(4) Safety increases when the distance an employee keeps from unsupported roof increases.

The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure of protection afforded by the existing standard.

*Docket Number:* M-2012-065-C.

*Petitioner:* ICG Tygart Valley, LLC, 1200 Tygart Drive, Grafton, West Virginia 26354.

*Mine:* Tygart #1 Mine, MSHA I.D. No. 46-09192, located in Taylor County, West Virginia.

*Regulation Affected:* 30 CFR 75.1700 (Oil and gas wells).

*Modification Request:* The petitioner requests a modification of the existing standard requiring that barriers be established and maintained around oil and gas wells penetrating coalbeds or underground areas of coal mines to permit an alternative method of compliance. The petitioner states that:

(1) The mine is projected to encounter vertical in-seam boreholes, typical to oil and natural gas wells, as mine development progresses.

(2) The active development section is approaching these boreholes, and is projected to encounter additional boreholes in the future as mining operations continue.

(3) The procedure presented in this petition will be used to ensure that mining through these boreholes is accomplished safely and, as an alternative to compliance with 30 CFR 75.1700, will provide no less than the same measure of protection to the miners, as required by the MSHA standard.

The petitioner proposes to use the following procedures when plugging oil or gas wells:

(1) Prior to plugging an oil or gas well, a diligent effort will be made to clean the borehole to the original total depth. If this depth cannot be reached, the borehole will be cleaned out to a depth that would permit the placement of at least 200 feet of expanding cement below the base of the lowest minable coal bed.

(2) When cleaning the borehole, a diligent effort will be made to remove all of the casing in the borehole. If it is not possible to remove all of the casing, the casing that remains will be perforated or ripped at intervals spaced close enough to permit expanding cement slurry to infiltrate the annulus between the casing and the borehole wall for a distance of at least 200 feet below the base of the lowest minable coal bed.

(3) If the cleaned-out borehole produces gas, a mechanical bridge plug will be placed in the borehole in a competent stratum at least 200 feet below the base of the lowest minable coal bed, but above the top of the uppermost hydrocarbon-producing stratum. If it is not possible to set a mechanical bridge plug, a substantial brush plug may be used in its place.

The District Manager may allow the use of other effective methods of stopping any and all gas flow emitting from the wellbore before placement of cement through the minable coal seam(s). Such approval will be documented in a written response to the operators' submittal of a detailed explanation of the method to be used



and an engineering evaluation of the relative effectiveness of the alternative.

(4) A suite of logs will be made, consisting of a caliper survey, directional deviation survey, and log(s) suitable for determining the top and bottom of the lowest minable coal bed and potential hydrocarbon-producing strata and the location for the bridge plug.

(5) If the uppermost hydrocarbon-producing stratum is within 200 feet of the base of the lowest minable coal bed, properly placed mechanical bridge plugs or a suitable brush plug described in paragraph (3) above will be used to isolate the hydrocarbon-producing stratum from the expanding cement plug. Nevertheless, a minimum of 200 feet of expanding cement will be placed below the lowest minable coal bed.

(6) The wellbore will be completely filled and circulated with a gel that inhibits any flow of gas, supports the walls of the borehole, and increases the density of the expanding cement. This gel will be pumped through open-end tubing run to a point approximately 20 feet above the bottom of the cleaned out area of the borehole or bridge plug.

The petitioner proposes to use the following procedures when plugging gas and oil wells to the surface:

(1) A cement plug will be set in the wellbore by pumping expanding cement slurry down the tubing to displace the gel and fill the borehole to the surface. As an alternative, the cement slurry may be pumped down the tubing so that the borehole is filled. There will be at least 200 feet of expanding cement below the base of the lowest minable coal bed.

(2) A marker conforming to the requirements of the state regulatory authority will be installed at the borehole, or a small quantity of steel turnings or other small magnetic particles will be embedded in the top of the cement near the surface. The method used will be suitable to serve as a permanent magnetic monument of the borehole.

The following procedures will be used for the vent pipe method for plugging oil and gas wells:

(1) A 4½-inch or larger pipe will be run into the wellbore to a depth of 100 feet below the lowest minable coal bed and wedged to a smaller diameter pipe that, if desired, will extend to a point approximately 20 feet above the bottom of the cleaned-out area of the borehole or bridge plug.

(2) A cement plug will be set in the wellbore by pumping expanding cement slurry, Portland cement, or a Portland cement-fly ash mixture down the tubing to displace the gel so that the borehole is filled with cement. The borehole and

the vent pipe will be filled with expanding cement for a minimum of 200 feet below the base of the lowest minable coal bed. The top of the expanding cement will extend upward to a point approximately 100 feet above the top of the lowest minable coal bed.

(3) All fluid will be evacuated from the vent pipe to facilitate testing for gases. During the evacuation of fluid, the expanding cement will not be disturbed.

(4) The top of the vent pipe will be protected to prevent liquids or solids from entering the wellbore, but permit ready access to the full internal diameter of the vent pipe when necessary.

The petitioner proposes to use the following procedures when plugging oil or gas wells for subsequent use as degasification boreholes:

(1) A cement plug will be set in the wellbore by pumping expanding cement slurry down the tubing to displace the gel and provide at least 200 feet of expanding cement below the lowest minable coal bed. The top of the expanding cement will extend upward to a point above the top of the coal bed being mined. This distance will be based on the average height of the roof strata breakage for the mine.

(2) To facilitate methane drainage, degasification casing of suitable diameter, slotted or perforated throughout its lower 150 to 200 feet, will be set in the borehole to a point 10 to 30 feet above the top of the expanding cement.

(3) The annulus between the degasification casing and the borehole wall will be cemented from a point immediately above the slots or perforations to the surface.

(4) The degasification casing will be cleaned out for its total length.

(5) The top of the degasification casing will be fitted with a wellhead equipped as required by the District Manager. Such equipment may include check valves, shut-in valves, sampling port, flame arrester equipment, and security fencing.

The following alternative procedures for preparing and plugging oil and gas wells will apply to wells that the petitioner and the District Manager agree cannot be completely cleaned out due to damage to the well caused by subsidence, caving, or other factors; as determined by the petitioner and agreed to by the District Manager. These provisions will apply unless alternative measures are agreed upon and based upon a plan submitted to the District Manager:

(1) The petitioner will drill a hole adjacent and parallel to the well to a

depth of at least 200 feet below the lowest minable coal seam.

(2) The petitioner will use a geophysical sensing device to locate any casing that may remain in the well.

(3) If the well contains casing(s), the petitioner will drill into the well from the parallel hole. From 10 feet below the coal seam to 10 feet above the coal seam, the petitioner will perforate or rip all casings at intervals of at least 5 feet. Beyond this distance, the petitioner will perforate or rip at least every 50 feet from at least 200 feet below the base of the lowest minable coal seam up to 100 feet above the seam being mined. The petitioner will fill the annulus between the casing, and between the casings and the well wall with expanding cement (minimum 0.5 percent expansion upon setting), and will ensure that these areas contain no voids. If the petitioner, using a casing bond log, can demonstrate to the satisfaction of the District Manager that the annulus of the well is adequately sealed with cement, then the petitioner will not be required to perforate or rip the casing for that particular well or fill these areas with cement. When multiple casing and tubing strings are present in the coal horizon(s), any casing that remains will be ripped or perforated and filled with expanding cement as indicated above. An acceptable casing bond log for each casing and tubing string is needed if used in lieu of ripping or perforating multiple strings.

(4) Where the petitioner determines and the District Manager agrees that there is insufficient casing in the well to allow the method outlined in paragraph (3) above to be used, then the petitioner will use a horizontal hydraulic fracturing technique to intercept the original well. From at least 200 feet below the base of the lowest minable coal seam to a point at least 50 feet above the seam being mined, the petitioner will fracture at least six places at intervals to be agreed upon by the petitioner and the District Manager after considering the geological strata and the pressure within the well. The petitioner will then pump expanding cement into the fractured well in sufficient quantities and in a manner that fills all intercepted voids.

(5) The petitioner will prepare down-hole logs for each well. The logs will consist of a caliper survey and log(s) suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for the bridge plug. The petitioner may obtain the logs from the adjacent hole rather than the well if the condition of the well makes it impractical to insert the equipment



necessary to obtain the log. The District Manager may approve the use of a down-hole camera survey in lieu of down-hole logs if, in his or her judgment, such logs would not be suitable for obtaining the data or are impractical to obtain due to the condition of the drill hole. A journal will be maintained describing the length and type material used to plug the well; the length of casing(s) removed, perforated, or ripped or left in place; and other pertinent information concerning sealing the well.

(6) After the petitioner has plugged the well, the petitioner will plug the open portions of both holes from the bottom to the surface with Portland cement or a lightweight cement mixture. The petitioner will embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, a 4½-inch or larger casing set in cement will extend at least 36 inches above the ground level. A combination of the methods outlined in paragraph (3) and (4) above may have to be used in a single well, depending upon the conditions of the hole and the presence of casings. The petitioner and the District Manager may discuss the nature of each hole and the District Manager may require the use of more than one method.

The petitioner proposes to use the following cut-through procedures whenever the safety barrier diameter is reduced to a distance less than the District Manager would approve pursuant to § 75.1700 or the petitioner proceeds with an intent to cut through a plugged well:

(1) Prior to reducing the safety barrier to a distance less than the District Manager would approve or proceeding with intent to cut through a plugged well, the petitioner will notify the District Manager.

(2) Mining in close proximity to or through a plugged well will be done on a shift approved by the District Manager.

(3) The District Manager, a representative of the miners, and the appropriate States agency will be notified by the operator in sufficient time prior to the mining-through operation to provide an opportunity for them to have a representative present.

(4) When using continuous mining equipment, drivage sights will be installed at the last open crosscut near the place to be mined to ensure intersection of the well. The drivage sights will not be more than 50 feet from the well. When using longwall mining methods, drivage sights will be installed

on 10-foot centers for a distance of 50 feet in advance of the well bore. The drivage sights will be installed in the headgate and tailgate.

(5) Firefighting equipment, including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the mining-through will be available when either the conventional or continuous mining method is used. The fire hose will be located in the last open crosscut of the entry or room. All fire hoses will be ready for operation during the mining-through.

(6) Sufficient supplies of roof support and ventilation materials will be available and located at the last open crosscut. In addition, an emergency plug and/or plugs will be available in the immediate area of the cut-through.

(7) The quantity of air required by the approved mine ventilation plan, but not less than 6,000 cubic feet per minute (cfm) of air for scrubber-equipped continuous miners or not less than 9,000 cfm for continuous miner sections using auxiliary fans or line brattice only, will be used to ventilate the working face during the mining-through operation. The quantity of air required by the ventilation plan, but not less than 30,000 cfm, will reach the working face of each longwall during the mining-through operation.

(8) Equipment will be checked for permissibility and serviced on the shift prior to mining-through the well. The methane monitors on the continuous mining machine or the longwall shear and face will be calibrated on the shift prior to mining through the well.

(9) When mining is in progress, tests for methane will be made with a hand-held methane detector at least every 10 minutes from the time that mining with the continuous mining machine is within 30 feet of the well until the well is intersected and immediately prior to mining through. When mining with longwall mining equipment, tests for methane will be made at least every 10 minutes when the longwall face is within 10 feet of the well. During the actual cutting-through process, no individual will be allowed on the return side until mining through has been completed and the area has been examined and declared safe.

(10) When using continuous mining methods, the working area will be free from accumulations of coal dust and coal spillages, and rock dust will be placed on the roof, rib, and floor to within 20 feet of the face when mining through or near the well on the shift or shifts during which the cut-through will occur. On longwall sections, rock-dusting will be conducted and placed

on the roof, rib, and floor up to both headgate and tailgate gob.

(11) When the wellbore is intersected, all equipment will be deenergized and the area thoroughly examined and determined safe before mining is resumed. Any well casing will be removed and no open flame will be permitted in the area until adequate ventilation has been established around the wellbore.

(12) After a well has been intersected and the working area determined safe, mining will continue in by the well at a distance sufficient to permit adequate ventilation around the area of the wellbore.

(13) No person will be permitted in the area of the mining-through operation except those actually engaged in the operation, company personnel, representatives of the miners, personnel from MSHA, and personnel from the appropriate State agency.

(14) The mining-through operation will be under the direct supervision of a certified official. Instructions concerning the mining-through operation will be issued only by the certified official in charge. MSHA personnel may interrupt or halt the mining-through operation when necessary for the safety of the miners.

(15) The petitioner will file a plugging affidavit setting forth the persons who participated in the work, a description of the plugging work, and a certification by the petitioner that the well has been plugged as described.

(16) Within 60 days after the Proposed Decision and Order (PDO) becomes final, the petitioner will submit proposed revisions for its approved 30 CFR Part 48 training plan to the District Manager. The provisions will include initial and refresher training regarding compliance with the terms and conditions stated in the PDO.

The petitioner asserts that the proposed alternative method will at all times guarantee miners no less than the same measure of protection as afforded by the existing standard.

*Docket Number:* M-2012-002-M.

*Petitioner:* Hecla Greens Creek Mining Company, P.O. Box 32199, Juneau, Alaska 99803.

*Mine:* Greens Creek Mine, MSHA I.D. No. 50-01267, located in Juneau County, Alaska.

*Regulation Affected:* 30 CFR 57.14130 (Roll-over protective structures (ROPS) and seat belts for surface equipment).

*Modification Request:* The petitioner requests a modification of the existing standard to permit employees to be transported 1,600 feet to and from the surface dry facility to work sites underground using underground mine



1702/4/30

JUN 0 4 90

Permitting  
Oil and Gas Section

State of West Virginia  
DEPARTMENT OF ENERGY  
Division of Oil and Gas

10-May-90  
API # 47-91-00638

Farm name: MARASCO, SAMUEL A.  
Operator Well No.: MORASCO D-41

LOCATION: Elevation: 1409.00  
Quadrangle: GRAFTON

District: KNOTTSVILLE

Latitude: 200 Feet South of 39 Deg. 17 Min. 30 Sec.  
Longitude: 1100 Feet West of 80 Deg. 0 Min. 0 Sec.  
County: TAYLOR

Company: SHELDON & ASSOCIATES, INC  
1400 JOHNSON AVE, SUITE E  
BRIDGEPORT, WV 26330-0000

Agent: DAVID J. SHELDON

Inspector: DONALD ELLIS

Permit Issued: 05/10/90

Well work commenced: 05-13-90

Well work completed: 05-20-90

Permit granted on: 05-13-90

Rotary x Cable Rig

Total Depth (feet) 6084

Fresh water depths (ft) 997 - 1021

Salt water depths (ft) None

Is coal being mined in area (Y/N)? N

Coal depths (ft): 11-12

OPEN FLOW DATA

Producing formation Elks, Benson/Riley

Gas: Initial open flow 21 MCF/d Oil: Initial open flow -0-

Final open flow 787 MCF/d Final open flow -0-

Time of open flow between initial and final tests

Static rock pressure 1700 psig (surface pressure) after 72 Hours

Second producing formation

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

Static rock pressure psig (surface pressure) after \_\_\_\_\_ Hours

NOTE: ON BACK OF THIS FORM 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 ALL FORMATIONS,

INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: SHELDON & ASSOCIATES, INC.

By: David J. Sheldon, Its President

Date: June 1, 1990

TAY 0638

Size	Casing & Tubing	Used in	Left	Cement	Fill up
4 1/2	5364'	5364'	453 SKS		
8 5/8	1064'	1064'	301 SKS		CTS

9100638P



DETAILS OF FRACTURING, STIMULATING, ECT.

9100638P

1st Zone Elk perf. 5049 - 5310 13 holes  
 treated using 165 bbls water; 500 gallons acid; 24,000# sand; 200,000 scf N<sub>2</sub>

2nd Zone Elks perf. 4742 - 4878 13 holes  
 treated using 161 bbls water; 750 gallons acid; 27,000# sand; 190,000 scf N<sub>2</sub>

3rd Zone Benson/Riley perf. 4010 - 4241 15 holes  
 treated using 130 bbls water; 750 gallons acid; 23,000# sand; 230,000 scf N<sub>2</sub>

WELL LOG

FORMATION	COLOR	DENSITY	TOP FEET	BOTTOM FEET	REMARKS
Sd & Sh	Brown	Soft	0	11	
Coal	Black	Soft	11	12	
Sd & Sh	Gray	Medium	12	98	
Sd	Gray	Hard	98	209	
Sd	White	Hard	209	351	H <sub>2</sub> O 226 1/4"
Sd & Sh	Gray/White	Medium	351	500	
Sh	Gray	Medium	500	540	
Sd	Gray	Medium	540	580	
Sd & Sh	Gray	Medium	580	605	
Sd	White	Hard	605	970	
RR	Red	Soft	970	982	
RR & Sh	R.G.	Medium	982	997	
RR	Red	Soft	997	1021	
RR & Sh	RG	Medium	1021	1035	
RR & Sh	RG	Medium	1035	1045	
RR & Sh	RG	Medium	1045	1330	
L.Lime	RG		1330	1405	
L.Lime	RG	Medium	1405	1470	
B.Lime	RG	Medium	1470	1508	
Sd & Sh	G	Medium	1508	1580	
Sd	G-W	Medium	1580	1616	
Sd & Sh	G	Medium	1616	2237	gas 1620 no show
Sd	G	Medium	2237	2586	
Sd & Sh	G	Medium	2586	2908	
Sd	G	Medium	2908	3056	2930 gas no show
Sd & Sh	G	Medium	3056	4002	3524 gas no show
Riley		Medium	4002	4016	
Sd & Sh	G	Medium	4016	4202	Gas no show 4147
Benson		Medium	4202	4212	
Sd & Sh	G	Medium	4212	4870	4585 - 2/10 - 1/2 ww /4867 10/10 - 1/2 ww
Elk-4th		Medium	4870	4880	
Elk-5th		Medium	4880	4895	
Sd	G	Medium	4895	4907	
Sd & Sh	G	Medium	4907	4950	
Sh	G	Soft	4950	4991	
Sd	G	Med/Soft	4991	4997	10/10 - 1/2 ww - 4993
Sd & Sh	G	Medium	4997	5062	
Sd	G	Medium	5062	5068	
Sd & Sh	G	Medium	5068	5080	
Sand	G	Medium	5080	5090	
Shale	G	Soft	5090	5170	

Note: Regulation 2.02(i) provides as follows:  
 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."

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 FEB 21 2017  
 WV Department of  
 Environmental Protection

03/24/2017

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Division of Energy

9100638P

JUN 04 90  
Permitting  
Oil and Gas Section

W E L L L O G

FORMATION	COLOR	DENSITY	TOP FEET	BOTTOM FEET	REMARKS
Sd & Sh	Grey	Medium	5170	5368	20/10 - 1/2 ww -5212
Sh	Grey	Soft	5368	5459	
Sd & Sh	Grey	Medium	5459	5617	
Sd	Grey	Medium	5617	5677	20/10 - 1/2 ww -5647
Sd & Sh	Grey	Medium	5677	5708	
Sd	Grey	Medium	5708	5720	
Sd	Grey	Medium	5720	5750	
Sd	Grey	Medium	5750	5790	
Sd	Grey	Medium	5790	6000	12/10 - 1/2 ww -5866 / 4/10 - 1/2 ww -5923
Sd	Grey	Medium	6000	6084	
					6084' TD

TAY 0638

Note: Regulation 2.02(i) provides as follows:  
 10585 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."

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WV Department of  
Environmental Protection

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WW-4A  
Revised 6-07

1) Date: January 19, 2017  
2) Operator's Well Number  
D-41  
3) API Well No.: 47 - 91 - 00638

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

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Charles and Sara Nedorolik</u> <i>Waiver</i>	Name <u>CoalQuest Development, LLC</u> <i>Waiver</i>
Address <u>7805 Gregory Court</u>	Address <u>100 Tygart Drive</u>
<u>Manassas, Virginia 20109</u>	<u>Grafton, West Virginia 26354</u>
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name _____
	Address _____
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>Kenneth Greynolds</u>	(c) Coal Lessee with Declaration
Address <u>613 Broad Run Road</u>	Name _____
<u>Jane Lew, WV 26378</u>	Address _____
Telephone <u>(304) 206-6613</u>	

**TO THE PERSONS NAMED ABOVE:** You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

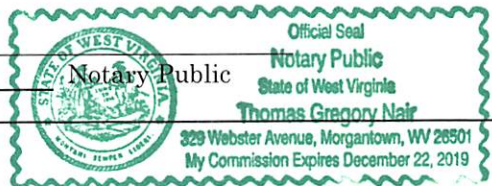
The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

Well Operator ICG Tygart Valley, LLC  
 By: Charles E. Duckworth *[Signature]*  
 Its: Designated Agent  
 Address 100 Tygart Drive  
Grafton, West Virginia 26354  
 Telephone (304) 265-9704

Subscribed and sworn before me this 19 day of January 2017

My Commission Expires December 22, 2019



**Oil and Gas Privacy Notice**

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 [depprivacyoffier@wv.gov](mailto:depprivacyoffier@wv.gov).

My Commission Expires December 22, 2018  
220 Webster Avenue, Martinsburg, WV 26001  
Thomas Gregory Nais  
State of West Virginia  
Notary Public  
Charles Coal





9100638P



# ICG TYGART VALLEY, LLC

100 Tygart Drive, Grafton, West Virginia 26354

January 25, 2017

Charles and Sara Nedorolik  
7805 Gregory Court  
Manassas, Virginia 20109

Re: Plugging Permit – API # 47-91-00638 – D-41

Dear Mr. & Mrs. Nedorolik:

As required by the permit process of the WV Department of Environmental Protection – Office of Oil and Gas enclosed please find a copy of the plugging permit application for the above referenced well that ICG Tygart Valley, LLC plans to submit to the WV Department of Environmental Protection, Office of Oil and Gas.

If you have no objection to the plugging permit application, please sign the page titled Surface Owner Waiver and return in the enclosed self-addressed stamped envelope.

If you should have any questions concerning this application please feel free to contact Charles Duckworth at (304) 265-9704 or me at (304) 265-9778 or via email at [gnair@archcoal.com](mailto:gnair@archcoal.com).

Sincerely,

Greg Nair  
Manager Surface Mine Planning

Enclosures

RECEIVED  
Office of Oil and Gas  
FEB 21 2017  
WV Department of  
Environmental Protection

CERTIFIED MAIL NO. 7015 3010 0001 7053 2348  
RETURN RECEIPT REQUESTED

03/24/2017

03/24/2017

Faint, illegible text on the left side of the page, possibly bleed-through from the reverse side.

Main body of faint, illegible text on the right side of the page, possibly bleed-through from the reverse side.

Handwritten notes or stamps in the bottom left corner, including the word "DOWN" and other illegible markings.

9100638P

**POWER OF ATTORNEY**  
**ICG TYGART VALLEY, LLC**  
**TO**  
**GREG NAIR**

**Dated: January 1, 2017**

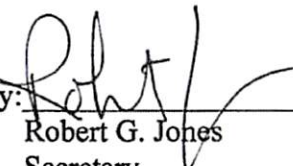
**Expires: December 31, 2017**

KNOW ALL MEN BY THESE PRESENTS: That ICG Tygart Valley, LLC, a limited liability company formed under the laws of the State of Delaware (the "Company"), acting by and through Robert G. Jones, its duly authorized Secretary, has and does hereby appoint Greg Nair its true and lawful Attorney-in-Fact with power and authority, for and on behalf, and in the name of the Company, during the period specified above, and subject to the restrictions and limitations set forth in this Power of Attorney to execute and deliver in the ordinary and regular course of the Company's business, applications for mining, environmental, safety and health permits, permit transfers, or permit bond releases or bond adjustments, amendments, supplements or modifications to such permits, certificates or other instruments directly related to such amendments, supplements or modifications, monthly production reports, air quality, water quality or other environmental reports, quarterly discharge monitoring reports and any other like or similar reports required to be filed with any local, state or federal governmental agency.

The Attorney herein appointed shall be authorized to act pursuant to this Power from the date hereof only so long as such Attorney shall remain an employee of Arch Coal, Inc. or any subsidiary thereof, or until December 31, 2017, or until such earlier time as this instrument has been revoked, annulled, rescinded or set aside by an instrument of revocation filed with the Secretary of the Company, whichever first occurs.

IN WITNESS WHEREOF, the Company has caused this Power of Attorney to be executed on its behalf, and its seal to be hereunto affixed as of the day and year first above written, by the undersigned, Robert G. Jones, duly authorized Secretary of the Company.

ICG TYGART VALLEY, LLC

By:   
Robert G. Jones  
Secretary

RECEIVED  
Office of Oil and Gas  
FEB 21 2017  
Department of  
Environmental Protection  
03/24/2017



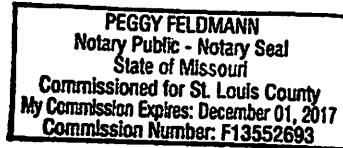
STATE OF MISSOURI     )  
  ) ss  
COUNTY OF ST. LOUIS    )

On this 2d day of January, 2017, before me, the undersigned notary public, personally appeared Robert G. Jones, known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Peggy Feldmann  
Notary Public

My Commission Expires: December 1, 2017



### SURFACE OWNER WAIVER

Operator's Well  
Number

D-41

#### INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW4-A

The well operator named on page WW-4A is applying for a permit from the State to plug and abandon a well. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

**NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

#### WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

**Time Limits and methods for filing comments.** The law requires these materials to be served on or before the date the operator files his Application. You have **FIVE (5) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

**Comments must be in writing.** Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation..."

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

#### VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application For A Permit To Plug And Abandon on Forms WW-4A and WW-4B, and a survey plan.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON  
ETC.

FOR EXECUTION BY A CORPORATION,

Sara N. ... Date 2/6/17 Name \_\_\_\_\_  
Signature By \_\_\_\_\_

Its \_\_\_\_\_ Date \_\_\_\_\_

Signature

Date 2/24/2017

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Office of Oil and Gas  
FEB 21 2017  
WV Department of  
Environmental Protection





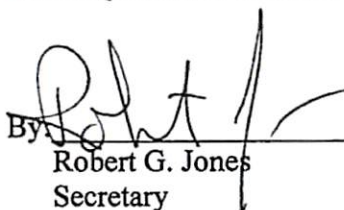
**POWER OF ATTORNEY****COALQUEST DEVELOPMENT LLC  
TO  
GREG NAIR****Dated: January 1, 2017****Expires: December 31, 2017**

KNOW ALL MEN BY THESE PRESENTS: That CoalQuest Development LLC, a limited liability company formed under the laws of the State of Delaware (the "Company"), acting by and through Robert G. Jones, its duly authorized Secretary, has and does hereby appoint Greg Nair its true and lawful Attorney-in-Fact with power and authority, for and on behalf, and in the name of the Company, during the period herein specified, and subject to the restrictions and limitations set forth in this Power, to execute, acknowledge and deliver in the ordinary and regular course of the Company's business, applications for mining, environmental, safety, and health permits, permit transfers, or permit bond releases or bond adjustments, amendments, supplements or modifications to such permits, certificates, gas well plugging applications, shallow well drilling permit applications, or other instruments directly related to such amendments, supplements or modifications, monthly production reports, air quality, water quality or other environmental reports, quarterly discharge monitoring reports and any other like or similar reports required to be filed with any local, state or federal governmental agency.

The Attorney herein appointed shall be authorized to act pursuant to this Power from the date hereof only so long as such Attorney shall remain an employee of Arch Coal, Inc. or any subsidiary thereof, or until December 31, 2017, or until such earlier time as this instrument has been revoked, annulled, rescinded or set aside by an instrument of revocation filed with the Secretary of the Company, whichever first occurs.

IN WITNESS WHEREOF, the Company has caused this Power of Attorney to be executed on its behalf, and its seal to be hereunto affixed as of the day and year first above written, by the undersigned, Robert G. Jones, duly authorized Secretary of the Company.


COALQUEST DEVELOPMENT LLC

By  \_\_\_\_\_  
Robert G. Jones  
Secretary

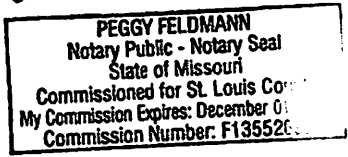
STATE OF MISSOURI     )  
  ) ss  
COUNTY OF ST. LOUIS    )

On this 2d day of January, 2017, before me, the undersigned notary public, personally appeared Robert G. Jones, known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

  
\_\_\_\_\_  
Notary Public

My Commission Expires: December 1, 2017



WW-4B

API No.	<u>47-91-00638</u>
Farm Name	<u>Marasco, Samuel A.</u>
Well No.	<u>D-41</u>

**INSTRUCTIONS TO COAL OPERATORS  
OWNERS AND LESSEE**

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less than five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

This notice and application is given to you in order that your respective representatives may be present at the plugging and filling of said well. You are further notified that whether you are represented or not the operator will proceed to plug and fill said well in the manner required by Section 24, Article 6, Chapter 22 of the Code and given in detail on obverse side of this application.

NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

**WAIVER**


The undersigned coal operator X / owner \_\_\_\_\_ / lessee \_\_\_\_\_ / of the coal under this well location has examined this proposed plugging work order. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: 1/19/17

CoalQuest Development, LLC  
 By: Greg Nair  
 Its Power of Attorney

  
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 WV Department of  
 Environmental Protection



9100638P 

WW-9  
Rev. 5/08

Page \_\_\_\_\_ of \_\_\_\_\_  
API Number 47 - 91 - 00638  
Operator's Well No. D-41

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

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM  
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name ICG Tygart Valley, LLC OP Code \_\_\_\_\_

Watershed Flag Run Quadrangle Grafton (378)

Elevation 1409 County Taylor District Knottsville

Description of anticipated Pit Waste: N/A

Will a synthetic liner be used in the pit? N/A NO PIT

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number \_\_\_\_\_ )
- Reuse (at API Number \_\_\_\_\_ )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Tanks - See attached letter)

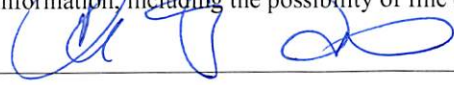
Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain \_\_\_\_\_)
- Swabbing
- Plugging

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Office of Oil and Gas  
FEB 21 2017

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto 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. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature 

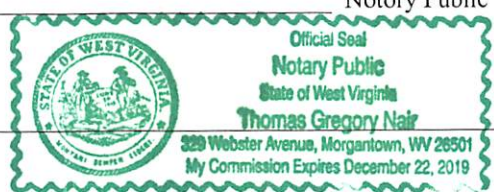
Company Official (Typed Name) Charles E. Duckworth

Company Official Title Designated Agent

Subscribed and sworn before me this 19 day of January, 2017

 Notary Public

My commission expires December 22, 2019



03/24/2017



03/24/2017

91 00638P



## ICG TYGART VALLEY, LLC

100 Tygart Drive, Grafton, West Virginia 26354

January 19, 2017

WV Department of Environmental Protection  
Office of Oil and Gas  
601 – 57<sup>th</sup> Street, S.E.  
Charleston, West Virginia 25304

To Whom It May Concern:

As per the WV Department of Environmental Protection, Office of Oil and Gas request, ICG Tygart Valley, LLC, submits the following procedures utilizing pit waste.

Upon submitting a well work application (without a general permit for Oil and Gas Pit Waste Discharge Application), ICG Tygart Valley, LLC, will construct no pits, but instead will use mud tanks to contain all drilling muds.

Once the well is completed, that material (minus the cave material) will be trucked to the next well to be plugged or to DEP impoundment facilities O-2017-06 or to an approved facility that can handle the material.

Sincerely,



Charles E. Duckworth  
Designated Agent

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WV Department of  
Environmental Protection

03/24/2017



LEGEND

- Property Boundary
- Road
- Existing Fence
- Planned Fence
- Stream
- Open Ditch
- Rock
- North
- Buildings
- Water wells
- Drill site

- Diversion
- Spring
- Wet Spot
- Drain Pipe with size in inches
- Waterway
- Cross Drain
- Artificial Filter Strip
- Pit: cut walls
- Pit: compacted fill walls
- Area for Land Application of Pit Waste

Proposed Revegetation Treatment: Acres Disturbed 1.50/2.0 Prevegetation pH           
 Lime 3 Tons/acre or to correct to pH 6.5  
 Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)  
 Mulch Hay Bales Tons/acre

Seed Mixtures

Seed Type	Area I	lbs/acre
Orchard Grass		12
Landino Clover		3
Timothy		10

Seed Type	Area II	lbs/acre
Orchard Grass		12
Landino Clover		3
Timothy		10

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Office of Oil and Gas  
FEB 21 2017

WV Department of Environmental Protection

Attach: Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

See attached

Plan Approved by: *Samuel Reynolds*

Comments: RECLAIM, RESEED + MULCH 15AP

Title: OK + GIS INSPECTOR Date: 2-17-17

Field Reviewed?  Yes  No

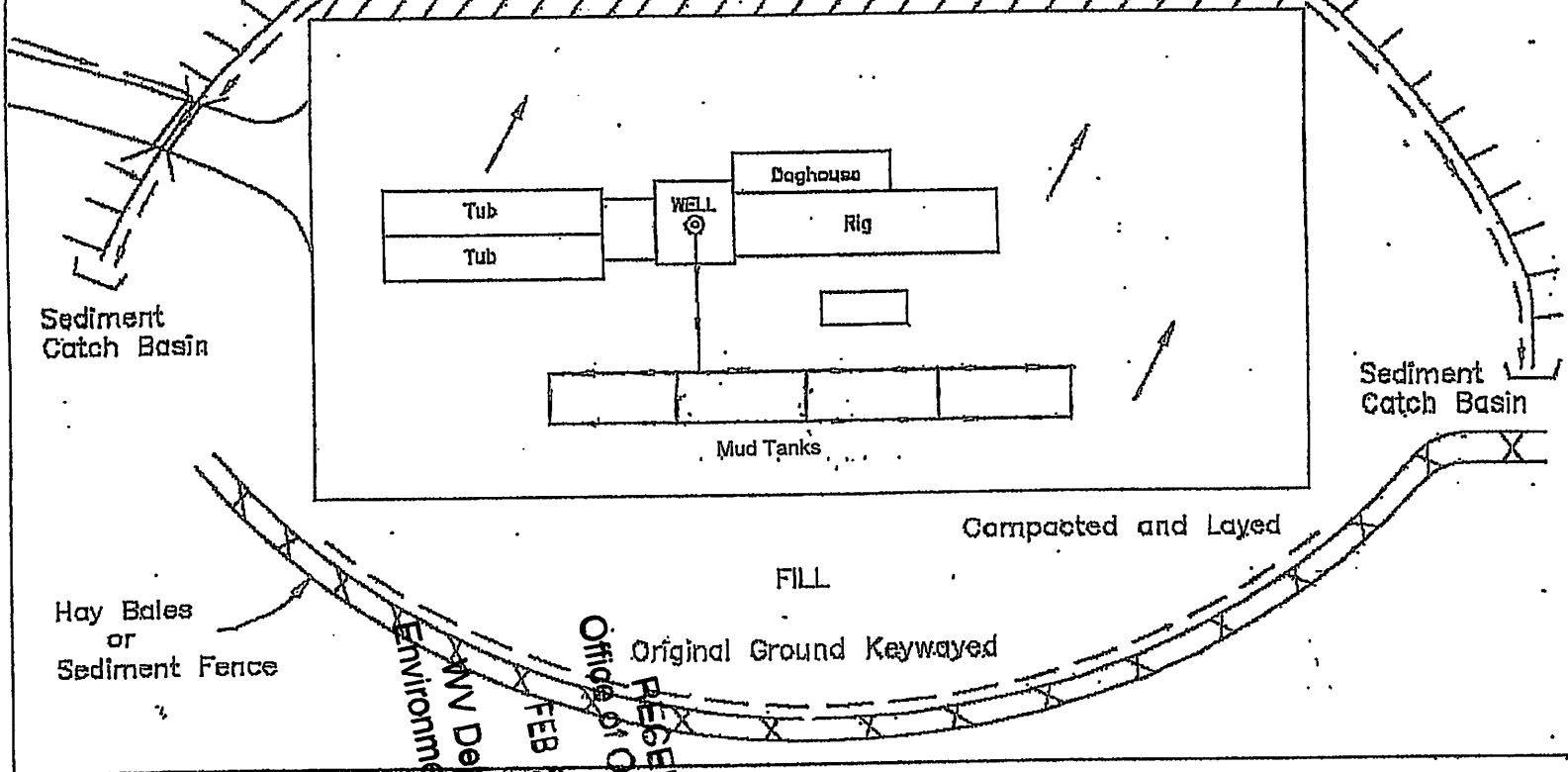
ICG TYGART VALLEY, LLC

Diversion Ditch (as Needed)

Typical Drawing  
Of Well Plugging Site  
Plan

CUT

Cut Mulched if Slope  
Less than 1 to 1



Sediment  
Catch Basin

Sediment  
Catch Basin

Mud Tanks

Compacted and Layed

FILL

Hay Bales  
or  
Sediment Fence

Original Ground Keywayed

RECEIVED  
FEB 21 2017  
Office of Oil and Gas  
Environmental Protection  
NV Department of

9100638P





LATITUDE: 39° 17' 30"  
 LONGITUDE: 80° 00' 00"  
 NEAREST WATERCOURSE: Flag Run  
 NEAREST TOWN: Knottsville

OPERATOR'S WELL NO. \_\_\_\_\_  
 API WELL NO. D-41  
47 - 091 - 00638  
 STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_\_\_ GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
 (IF "GAS") PRODUCTION  STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW   
 LOCATION: ELEVATION 1409 WATERSHED Flag Run  
 DISTRICT Knottsville COUNTY Taylor

QUADRANGLE Grafton 7 1/2'  
 SURFACE OWNER: Charles & Sara Nedorolik ACREAGE 24.25  
 OIL & GAS ROYALTY OWNER: Charles & Sara Nedorolik LEASE ACREAGE 24.25  
 LEASE NO. DV-15344

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 Haverly ESTIMATED DEPTH 5900'  
 WELL OPERATOR ICG Tygart Valley, LLC DESIGNATED AGENT Charles E. Duckworth  
 ADDRESS 100 Tygart Drive, Grafton, WV 26354 ADDRESS 100 Tygart Drive, Grafton, WV 26354

REVISED BY:	DATE:	<b>API WELL NO. 47-091-00638 D-41</b>	
		<b>ICG TYGART VALLEY, LLC</b>	
		DRAWN BY: <u>Tim A. Van</u>	SCALE: 1" = 2000'
		DIRECTORY: <u>DVG-TYG-TVG #1</u>	DATE ORIGINATED: <u>January, 2017</u>
		DRAWING NO.: <u>47-091-00638 D-41.001</u>	PLOTTING <u>02/27/17</u>



PREPARED BY:  
**Eastern Operations**  
 100 Tygart Drive, Grafton, WV 26354  
 Phone: 304-265-9700 Fax: 304-265-2564

**03/24/2017**



WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas  
**WELL LOCATION FORM: GPS**

API: 47-091-000638 WELL NO.: D-41

FARM NAME: Marasco, Samuel A.

RESPONSIBLE PARTY NAME: ICG Tygart Valley, LLC

COUNTY: Taylor DISTRICT: Knottsville

QUADRANGLE: Grafton

SURFACE OWNER: Charles and Sara Nedorolik

ROYALTY OWNER: Charles and Sara Nedorolik

UTM GPS NORTHING: 4349542.343

UTM GPS EASTING: 585928.983 GPS ELEVATION: 1397.31

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

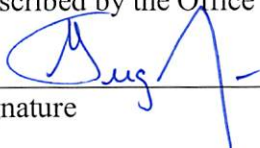
- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- Accuracy to Datum – 3.05 meters
- Data Collection Method:

Survey grade GPS  : Post Processed Differential \_\_\_\_\_  
Real-Time Differential

Mapping Grade GPS \_\_\_\_\_ : Post Processed Differential \_\_\_\_\_  
Real-Time Differential \_\_\_\_\_

- Letter size copy of the topography map showing the well location.**

I the undersigned, hereby certify this data 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 Office of Oil and Gas.

  
Signature

Power of Attorney  
\_\_\_\_\_  
Title

January 19, 2017  
\_\_\_\_\_  
Date

9100638P

U.S. Postal Service™  
**CERTIFIED MAIL® RECEIPT**  
Domestic Mail Only

For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

**OFFICIAL USE**

8462 6502 7000 0706 5702

Certified Mail Fee \$ 3.35  
Extra Services & Fees (check box, add fees if appropriate)  
 Return Receipt (hardcopy) \$ 2.75  
 Return Receipt (electronic) \$ \_\_\_\_\_  
 Certified Mail Restricted Delivery \$ \_\_\_\_\_  
 Adult Signature Required \$ \_\_\_\_\_  
 Adult Signature Restricted Delivery \$ \_\_\_\_\_  
Postage \$ 1.82

Total Postage at \$ 7.92  
Sent To \_\_\_\_\_  
Street and Apt. # \_\_\_\_\_  
City, State, ZIP+4 \_\_\_\_\_

Charles and Sara Nedorolik  
7805 Gregory Court  
Manassas, Virginia 20109

PS Form 3800, 11/15



**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Charles and Sara Nedorolik  
7805 Gregory Court  
Manassas, Virginia 20109



9590 9402 1319 5285 3861 08

2. Article Number (Transfer from service label)

7015 3010 0001 7053 2348

PS Form 3811, July 2015 PSN 7530-02-000-9053

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee

B. Received by (Printed Name) \_\_\_\_\_ C. Date of Delivery \_\_\_\_\_

D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type

Adult Signature  
 Adult Signature Restricted Delivery  
 Certified Mail®  
 Certified Mail Restricted Delivery  
 Collect on Delivery  
 Collect on Delivery Restricted Delivery  
 Mail  
 Mail Restricted Delivery

Priority Mail Express®  
 Registered Mail™  
 Registered Mail Restricted Delivery  
 Return Receipt for Merchandise  
 Signature Confirmation™  
 Signature Confirmation Restricted Delivery

Domestic Return Receipt

RECEIVED  
THURNTON WV 25440  
JAN 25 2017  
USPS  
Department of Mental Protection