west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

May 29, 2015

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-3305855, issued to CNX GAS COMPANY LLC , 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 all 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 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.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-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) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: KST1EHS
Farm Name: MIKE ROSS, INC.
API Well Number: 47-3305855
Permit Type: Horizontal 6A Well
Date Issued: 05/29/2015

Promoting a healthy environment.

API Number: 33-05855

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) 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

1. This proposed activity will require permit coverage from the United States Army Corps of Engineers (USACE) and WV DEP Department of Water and Waste Management (DWWM). No activity authorized under this permit shall be commenced until all necessary permits from USACE and DWWM are obtained.

2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.

3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.

4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.

5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations,* 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.

6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.

7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.

8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

9. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

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Charleston, WV 25304
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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

ORDER
ISSUED UNDER
WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 6A

TO: CNX Gas Company, LLC
P.O. Box 1248
Jane Lew, WV 26378

DATE: May 29, 2015
ORDER NO.: 2015-W-4

INTRODUCTION

This Order (hereinafter "Order") is issued by the Office of Oil and Gas (hereinafter "OOG"), by and through its Chief, pursuant to the authority of W. Va. Code §§ 22-1-1, 22-6-1 and 22-6A-1 *et seq.* to CNX Gas Company, LLC. (hereinafter "CNX Gas Company" or "Operator"), collectively the "Parties."

FINDINGS OF THE CHIEF

In support of this Order, the Chief hereby finds the following:

1. OOG, an office within the West Virginia Department of Environmental Protection, is the agency with the duty and authority to execute and enforce W. Va. Code §22-6-1 and §22-6A-1 *et seq.*, and the rules and regulations promulgated thereunder.

2. CNX Gas Company is a "person" as defined by W. Va. Code §22-6-1(n), with a corporate address as Post Office Box 1248 Jane Lew, WV 26378.

3. On November 6, 2014, CNX Gas Company submitted a well work permit application identified as API# 47-033-05855, located on the KST1HS Pad in Union District of Harrison County, West Virginia.

4. On March 25, 2015, CNX Gas Company requested a waiver for Wetlands #5, #7, #8, #9, #10, and #11 outlined in Exhibit 1, from well location restriction requirements in W. Va. Code §22-6A-12(b) for a gas well permit application identified as 47-033-05855, located on the KST1HS Pad in Union District of Harrison County, West Virginia.

CONCLUSIONS OF LAW

1. West Virginia Code §22-1-6(d) requires, in part, that "[i]n addition to other powers, duties and responsibilities granted and assigned to the secretary by this chapter, the secretary is authorized and empowered to...(3) Enter private lands to make surveys and inspections for environmental protection purposes; to investigate for violations of statutes or rules which the Office of Oil and Gas is charged with enforcing; to serve and execute warrants and processes; to make arrests; issue orders, which for the purposes of this chapter include consent agreements; and to otherwise enforce the statutes or rules which the Office of Oil and Gas is charged with enforcing."

2. West Virginia Code §22-6A-2(a)(6) requires, in part, that "Concomitant with the broad powers to condition the issuance of well work permits, the secretary should also have broad authority to waive certain minimum requirements of this article when, in his or her discretion, such waiver is appropriate: *Provided*, That the secretary shall submit a written report of the number of waivers granted to the Legislature commencing January 1, 2013, and each year thereafter."

3. West Virginia Code §22-6A-12(b) requires, in part, that "[n]o well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the Office of Oil and Gas shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The Office of Oil and Gas may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary."

ORDER

Therefore, the Office of Oil and Gas grants CNX Gas Company a waiver for Wetlands #5, #7, #8, #9, #10 and #11 from well location restriction requirements in W. Va. Code §22-6A-12(b) for a gas well permit application identified as API# 47-033-05855, located on the KST1HS Pad in Union District of Harrison County, West Virginia. The Office of Oil and Gas hereby **ORDERS** that CNX Gas Company shall meet the following site construction and operational requirements for the KST1HS well pad:

a. A berm shall be constructed around the perimeter of the pad to contain any potential spills and storm water runoff. Berm is to be at least two feet (2') in height;
b. Filter/silt socks and erosion control blankets shall be installed on all slopes and down gradient locations of the pad and topsoil pile areas as erosion and sediment controlling BMPs;
c. Wetlands #5, #7, #8, #10 and #11 shall have a double compost filter sock stack installed adjacent to the wetlands; wetland #9 is upslope of disturbance and will not have additional controls added;
d. Disturbed areas not used for operations shall be seeded and mulched per the seeding tables in the WVDEP-OOG Erosion and Sediment Control Manual;
e. Drill cuttings and associated drilling mud shall be disposed of in a permitted landfill;
f. Waste generated by the flowback treatment systems shall be sent to offsite disposal at a permitted landfill;
g. Weekly site inspections shall be conducted to monitor and maintain the integrity of the BMP storm water controls;
h. Weekly storm water and spill prevention inspections shall be conducted focusing on storm water and spill prevention BMPs and maintenance of these BMPs;
i. Inspections of the storm water and spill prevention measures shall be conducted after any major storm event defined as a half inch (½") rain within any twenty-four (24) hour period;
j. Pad inspections shall be conducted no less than once a week to identify and mitigate potential deficiencies;
k. All records from inspections shall be maintained on site for the life of the project and be available upon request.

Thus ORDERED, the 29th day of May, 2015.

IN THE NAME OF THE STATE OF WEST VIRGINIA:

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

By: _____
JAMES A. MARTIN, CHIEF

Wetland Waiver Request

API Number 33-05855 Well Number KSTIEHS

Operator CNX Gas Company LLC Pad Name KST-1

Submit a conclusive demonstration to justify the proposed activity by addressing the following:

1. **Demonstrate that there is not a practical alternative to impact the Waters of the U.S. by including other alternatives that were considered but eliminated.**
   a. Include a No-Action Alternative as to show "the future without the project"
   If the pad is unable to be built there would be no chance to provide the natural gas to market for the citizens of the United States.

   b. Location Alternatives must be shown
   No alternatives exist without adding significant wetland impacts to Wetlands 5, 7, 8, 9, 10 and 11. This location has wetlands on all sides of the pad. The proposed location is the only practical, environmentally friendly option.

   c. Must demonstrate why a 100' buffer cannot be maintained
   Theses wetlands are located off of Kincheloe Road as well as the access road and provides filtration to Kincheloe Creek. Wetland 9 is upslope of disturbance will not have additional E and S controls but Wetlands 5, 7, 8, 10 and 11 will have the additional E&S controls to enable the wetlands to continue to function in their natural way while being protected.

2. **Show that treatment facilities (Erosion and Sediment Control Features) will be located as close as practical to the source(s) with which it is associated.**
   The proposed E&S BMPs are located as close as possible to the proposed earthwork area. No additional wetland impacts will result from the additional grading required to construct the pad location.

3. **Demonstrate that all proposed activity will not impact Waters of the U.S. more than is necessary to accommodate the proper construction and operation of the facility.**

   a. Specify and identify wetlands using unique identification and/or perennial streams located within 100' of the pad's limit of disturbance (including erosion and sediment controls).

Wetland-5, Wetland 5 is a PEM located on a hill slope and terrace along an existing pipeline. Hydrology is related to spring seeps, a perched water table as well as a drainage culvert from the existing access road. This wetland has geomorphic position to be hydrologically connected to S-5. The trees in the wetland mainly provide cover however the upland trees within the wetland show signs of stunting and stressing. Soils were saturated at the time of the delineation. The tree stratum contains *Robinia pseudoacacia* (black locust), *Liriodendron tulipifera* (tulip tree), *Acer saccharum* (sugar maple) and *Ulmus americana* (American elm). The scrub/shrub stratum contains *Rubus allegheniensis* (Allegheny blackberry) and the invasive *Rosa multiflora* (multiflora rose). The herbaceous layer is comprised of *Microstegium viminuem* (Nepalese browntop), *Carex lurida*

(shallow sedge), *Polygonum hydropiper* (marshpepper knotweed), *Dicanthelium clandestinum* (deer tongue), *Impatiens capensis* (jewelweed), *Carex vulpinoidea* (fox sedge), *Trifolium repens* (white clover), *Trifolium pratense* (red clover), *Juncus effusus* (common rush), *Cirsium vulgare* (bull thistle) and *Daucus carota* (Queen Anne's lace). The woody vine stratum contains *Vitis labrusca* (fox grape). The soil sample is comprised of two distinct layers. The first layer consisted of a silt loam clay with a matrix color of 10YR 4/2 at 70% and redox feature color of 10YR 6/6 for the first 3 inches. The second layer, from 3-20 inches, is a clay texture, with a matrix of 10YR 7/2 at 65% and a redox of 10YR 6/8 at 35%. Wetland data forms W-5 and UPL-5 describe this wetland and adjacent upland.

Wetland-7, Wetland 7 is a spring seep fed PEM and PFO wetland. This wetland adds hydrology to stream S-11. The hydrology is derived from geomorphic position and the emergent spring. The tree stratum contains *Ulmus americana* (American elm) and *Liriodendron tulipifera* (tulip tree). The herbaceous stratum is comprised of *Microstegium viminuem* (Nepalese browntop), *Impatiens capensis* (jewelweed), *Boehmeria cylindrica* (smallspike false nettle), *Dicanthelium clandestinum* (deer tongue), *Polygonum hydropiper* (marshpepper knotweed), *Urtica dioica* (stinging nettle), *Onoclea sensibilis* (sensitive fern) and *Carex lurida* (shallow sedge). The woody vine stratum is comprised of *Vitis labrusca* (fox grape). The soils are comprised of one distinct layer consisting of clay silt loam. From 0-20 inches, which had a matrix of 10YR 4/2 at 80% and a redox color feature of 5YR 5/6 at 20%. Wetland data forms W-7 and UPL-7 describe this wetland and adjacent upland.

Wetland-8, Wetland 8 is a spring seep fed PEM and PFO wetland. This wetland adds hydrology to stream S-12. The hydrology is derived from geomorphic position and the emergent spring. Some trees showed buttressing of roots. The tree stratum contains *Ulmus americana* (American elm), *Liriodendron tulipifera* (tulip tree) and *Gleditsia triacanthos* (honey locust). The herbaceous stratum is comprised of *Microstegium viminuem* (Nepalese browntop), *Impatiens capensis* (jewelweed), *Boehmeria cylindrica* (smallspike false nettle), *Dicanthelium clandestinum* (deer tongue), *Polygonum hydropiper* (marshpepper knotweed), *Urtica dioica* (stinging nettle), *Onoclea sensibilis* (sensitive fern) and *Carex lurida* (shallow sedge). The woody vine stratum is comprised of *Vitis labrusca* (fox grape). The soils are comprised of one distinct layer consisting of clay silt loam. From 0-20 inches, which had a matrix of 10YR 4/2 at 80% and a redox color feature of 5YR 5/6 at 20%. Wetland data forms W-8 and UPL-8 describe this wetland and adjacent upland.

Wetland-9, Wetland 9 is a PEM located on a hill slope and terrace on the northern most border of the AOI. This wetland is currently around an active shallow oil and gas well. Hydrology is related to a system of strong spring seeps and a perched water table. This wetland supplies hydrology to a stream which is outside of the AOI. Soils were saturated at the time of the delineation. Wetland 1 contains primarily emergent herbaceous vegetation. The tree stratum contains *Salix nigra* (black willow). The scrub/shrub stratum contains *Smilax rotundifolia* (roundleaf greenbrier), *Salix nigra* (black willow), *Rubus allegheniensis* (Allegheny blackberry), *Platanus occidentalis* (American sycamore) and the invasive *Elaeagnus umbellata* (autumn olive). The herbaceous layer is comprised of *Microstegium viminuem* (Nepalese browntop), *Juncus effusus* (common rush), *Juncus marginatus* (grasslead rush), *Juncus marginatus* (grasslead rush), *Carex vulpinoidea* (fox sedge), *Agrostis gigantea* (red top), *Verbisina alternifolia* (wingstem), *Polygonum hydropiper* (marshpepper knotweed), *Rumex crispus* (curly dock), *Clinopodium vulgare* (wild basil) and *Trifolium repens* (white clover). The soil sample is comprised of one distinct layer. The first layer consisted of a clay loam a with matrix color of 10YR 5/1 at 70% and redox color feature of 10YR 6/6 at 30% for the first 6 inches. At 6 inches an impenetrable layer of rock was encountered. Wetland data forms W-9 and UPL-9 describe this wetland and adjacent upland.

Wetland-10, Wetland 10 is a PEM wetland strongly fed by spring seeps. The wetland is located on an existing logging road. The hydrology is a derived from multiple spring seep flows from the hillside. This wetland continues down gradient outside of the AOI. The tree stratum is comprised of *Cercis canadensis* (eastern red bud), *Acer rubrum* (red maple) and *Carya glabra* (pignut hickory). The scrub/shrub stratum is comprised only of *Platanus occidentalis* (American sycamore). The herbaceous stratum is comprised of *Microstegium viminuem* (Nepalese browntop), *Scirpus atrovirens* (green bulrush), *Juncus effusus* (common rush), *Juncus marginatus* (grasslead rush), *Carex lurida* (shallow sedge), *Carex vulpinoidea* (fox sedge), *Agrostis gigantea* (red top), *Verbisina alternifolia* (wingstem), *Polygonum hydropiper* (marshpepper knotweed), *Rumex crispus* (curly dock) and *Typha latifolia* (broadleaf cattail). The soils are comprised of one distinct layer consisting of silt loam clay. Layer one, 0-8 inches, had a matrix of 2.5YR 6/3 at 80% and a redox feature of 7.5YR 5/4 at 20%. An impenetrable layer of rock was encountered at 8 inches. Wetland data forms W-10 and UPL-10 describe this wetland and adjacent upland.

Wetland-11, Wetland 11 is a PEM wetland strongly fed by spring seeps. The wetland is located on an existing logging road. The hydrology is a derived from multiple spring seep flows from the hillside. This wetland continues down gradient outside of the AOI. The tree stratum is comprised of *Cercis canadensis* (eastern red bud), *Acer rubrum* (red maple) and *Carya glabra* (pignut hickory). The scrub/shrub stratum is comprised only of *Platanus occidentalis* (American sycamore). The herbaceous stratum is comprised of *Microstegium viminuem* (Nepalese browntop), *Scirpus atrovirens* (green bulrush), *Juncus effusus* (common rush), *Juncus marginatus* (grasslead rush), *Carex lurida* (shallow sedge), *Carex vulpinoidea* (fox sedge), *Agrostis gigantea* (red top), *Verbisina alternifolia* (wingstem), *Polygonum hydropiper* (marshpepper knotweed), *Rumex crispus* (curly dock) and *Typha latifolia* (broadleaf cattail). The soils are comprised of one distinct layer consisting of silt loam clay. Layer one, 0-8 inches, had a matrix of 2.5YR 6/3 at 80% and a redox feature of 7.5YR 5/4 at 20%. An impenetrable layer of rock was encountered at 8 inches. Wetland data forms W-11 and UPL-11 describe this wetland and adjacent upland.

b. **Is the proposed project the least environmentally damaging practicable alternative to the waters of the United States, so long as the alternative does not have other environmental consequences.**
   The proposed pad location is located within 100' of and Wetlands 5, 7, 8, 9, 10 and 11. However, the proposed pad location will not be environmentally damaging and is the only practical location.

4. **Provide mapping, plans, specifications and design analysis for the preferred alternative to the project.**
   a. **Specify in writing what additional controls, measures, devices, monitoring, etc will be utilized to protect these wetlands and/or perennial streams.**

Below are a list of BMPs that may be utilized to protect adjacent wetlands.

ROCK CONSTRUCTION ENTRANCE

A rock construction entrance will be provided at the location shown on the plans and in accordance with the standard detail provided in the Erosion and Sediment Control Plan. This measure proves effective removing sediment from vehicles before entering onto State, and county roads. The rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained onsite for this purpose. At the end of each construction day, all sediment deposited on paved

roadways shall be removed and returned to the construction site. If the crushed stone does not adequately remove sediment from vehicle tires, the tires should be hosed off before the vehicle enters a public street. The washings should be done on an area covered with crushed stone, and the water wash should drain to a sediment control device.

DIVERSION DITCHES

A channel will be used to convey storm water runoff in a stable manner from the pad site construction area. The channel will be lined with erosion control matting to help keep seed in place once final grades are established. Channels shall be inspected twice a month until a uniform 70% perennial vegetative cover is established. Any damage to the channel or erosion control blanket shall be fixed immediately. The contractor is to place seed on all bare spots and areas not establishing ground cover.

ROCK CHECK DAMS

Rock check dams are to be installed in each channel to reduce the velocity of storm water flows, thereby reducing erosion of the channel and trapping sediment. Rock check dams are to be installed every 100 linear feet in any channel conveying sediment laden runoff. Inspect each check dam at a minimum once every seven (7) calendar days and within 24 hours after and storm event greater than 0.5 inches of rain per 24 hour period. Check to see if water has flowed around the edges of the structure. Replace stone and repair dams as necessary to maintain the correct height and configuration.

RIP RAP OUTLET PROTECTION

Rock Aprons will be used at storm sewer outfalls to dissipate the velocity coming from storm pipes, helping prevent erosion/scour of existing drainage ways and features.

The rock aprons shall be inspected weekly until a uniform 70% perennial vegetation has established. Any visible damage shall be fixed by the end of the working day by placing additional riprap in the damaged area with a layer of geotextile. Place additional stone as necessary to prevent further erosion.

COMPOST FILTER SOCK

Silt sock shall be installed in the locations shown on the plans and in accordance with the standard detail provided in the ESCP. Accumulated sediments shall be removed in all cases where accumulations have reached half the above ground height of the sock. If the sock has been damaged, it shall be repaired or replaced if beyond repair. The filter media will be dispersed on site once the disturbed area has been permanently stabilized. Adhere to manufacturer's recommendations.

EROSION CONTROL MATTING

The specified products or approved equivalent erosion control matting will be installed within all permanent channels and on all slopes 3:1 or greater. The erosion control matting shall be inspected weekly and after every rainfall event to look for scour/washout areas. Any scoured areas shall be fixed immediately by compacting soil in the washout area and placing seed. Any damaged erosion control matting shall be replaced immediately. Matting shall be maintained until a uniform 70% perennial vegetation has been established.

TEMPORARY VEGETATIVE STABALIZATION

Fertilizing, seeding, and mulching will be used as a temporary E&S control measure on all disturbed areas as needed. Exposed soils not subject to construction traffic shall not remain unseeded or covered by mulch for more than twenty-one (21) days, including stockpiled soil materials. Refer to the seeding mixtures provided on the erosion and sedimentation control general notes drawing of the Erosion and Sediment Control Plan for temporary seed mixtures.

The contractor shall vegetate all disturbed areas at the earliest appropriate times for establishment of temporary or permanent seed mixtures, respectively. When site development staging or season will not

permit timely sowing of the permanent seed mixture(s), prepare soils as for permanent seeding, seed with temporary seed mixture and mulch, and then over-sow the perennial seed mixture into the stubble of temporary vegetation at the next appropriate seeding season.

PERMANENT VEGETATIVE STABALIZATION

Fertilizing, seeding, and mulching will be used as a permanent E&S control measure on all disturbed areas. Refer to the permanent seed mixture provided on the erosion and sediment control plan's general notes drawing. The contractor shall inspect the site twice a week until a 70% perennial vegetative cover is established. The contractor is to place seed on all bare spots and disturbed areas not establishing ground cover.

WW-6B
(10/14)

4703305855
API NO. 47-
OPERATOR WELL NO. KST1EHS
Well Pad Name: KST1EHS

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: CNX Gas Company LLC

Operator ID	County	District	Quadrangle
494458046	Harrison	Union	Big Isaac

2) Operator's Well Number: KST1EHS Well Pad Name: KST1EHS

3) Farm Name/Surface Owner: Mike Ross INC. Public Road Access: Kaffindaffer Rd

4) Elevation, current ground: 1394 Elevation, proposed post-construction: 1390

5) Well Type (a) Gas X Oil _____ Underground Storage _____
Other _____
(b)If Gas Shallow X Deep _____
Horizontal X

6) Existing Pad: Yes or No NO

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Target - Marcellus, Depth - 7304' (top), Thickness - 56', Pressure - 4000#

8) Proposed Total Vertical Depth: 7460'

9) Formation at Total Vertical Depth: Onondaga

10) Proposed Total Measured Depth: 12740'

11) Proposed Horizontal Leg Length: 3723'

12) Approximate Fresh Water Strata Depths: 273', 587'

13) Method to Determine Fresh Water Depths: Offset Well Information

14) Approximate Saltwater Depths: 1417', 2120', 2921'

15) Approximate Coal Seam Depths: 273', 587'

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No X

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

WW-6B
(9/13)

4703305855

18) **CASING AND TUBING PROGRAM**

TYPE	Size	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu. Ft.)
Conductor	20"	N	J-55	94#	80'	80'	Grout to surface w/ Class A type cement
Fresh Water	13 3/8"	N	J-55	54.5#	650'	650'	CTS w/ Class A Type Cement
Coal							
Intermediate	9 5/8"	N	J-55	36#	3000'	3000'	CTS w/ Class A Type Cement
Production	5 1/2"	N	P-110	20#	12740'	12740'	2200 cu. ft. w/ 50/50 POZ Lead & Class A
Tubing	2 3/8"	N	J-55	4.7#	7000'	7000'	
Liners							

10/8/2014
SDW

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	26"	0.438	2110	Class A Type	1.18
Fresh Water	13 3/8"	17 1/2"	0.380	2730	Class A Type	1.39
Coal						
Intermediate	9 5/8"	12 3/8"	0.352	3520	Class A Type	1.18
Production	5 1/2"	8 3/4" & 8 1/2"	0.361	14360	Class A Type	1.26
Tubing	2 3/8"	5 1/2" Csg	0.190	7700	.....	.....
Liners						

PACKERS

Kind:	None			
Sizes:	None			
Depths Set:	None			

RECEIVED
Office of Oil and Gas
NOV 06 2014
WV Department of
Environmental Protection

WW-6B
(10/14)

API NO. 47-033-05855
OPERATOR WELL NO. KST1EHS
Well Pad Name: KST1EHS

18) **CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20	N	J-55	94	80	80	90.3/ CTS
Fresh Water	13.375	N	J-55	54.5	700	650	401.2/ CTS
Coal							
Intermediate	9.675	N	J-55	36	3050	3000	735.2/ CTS
Production	5.5	N	P-110	20	12740	12690	1888.9
Tubing	2.375	N	J-55	4.7	7000	7000	
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Max. Associated Surface Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20	26	0.438	2110	0	Class A	1.18
Fresh Water	13.375	17.5	0.380	2730	0	Class A	1.39
Coal							
Intermediate	9.675	12.25	0.352	3520	771.6	Class A	1.18
Production	5.5	8.75	0.361	14360	6336.2	Class A	1.26
Tubing	2.375	5.5 csg	0.190	7700			
Liners							

PACKERS

Kind:	None			
Sizes:	None			
Depths Set:	None			

4703305855

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and stimulate new horizontal Marcellus well. Well to be drilled to a TMD of 12740'. Well to be drilled to a TVD of 7460', formation at TVD - Oriskany Sand. Well will be plugged back to an approximate depth of 6000' (approximate due to exact kick off point being unknown). Plugging back will be done using the displacement method and Class A Type cement. A solid cement plug will be set from TD to KOP. If an unexpected void is encountered, plan will be to set casing at a minimum of 30' past void and cement to surface with approved Class A type cement. There will not be any production, perforation, or stimulation of any formations below the target formation.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

The stimulation will be multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals. Max Pressure - 9500 psi. Max Rate - 100 bbl/min.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 38.3

22) Area to be disturbed for well pad only, less access road (acres): 8.9

23) Describe centralizer placement for each casing string:

Conductor - No centralizers used. Fresh Water & Coal - Bow spring centralizers on first joint then every fourth joint to 100 feet from surface. Intermediate - Bow spring centralizers one on the first two joints and every forth joint until inside surface casing. Production - Rigid bow spring centralizer on first joint then every 2 casing joints (free floating) through the lateral and the curve. (Note: cementing the 5 1/2" casing completely in open hole lateral and curve.)

24) Describe all cement additives associated with each cement type:

Conductor - 2% CaCl2. Fresh Water/Coal - 2% CaCl2. Intermediate - 2% CaCl2. Production - 2.6% Cement extender, 0.7% Fluid loss additive, 0.5% High Temperature Retarder, 0.2% Friction Reducer

25) Proposed borehole conditioning procedures:

Conductor - The hole is drilled w/ air and casing ran in air. Apart from insuring the hole is clean via air circulation at TD there are no other conditioning procedures. Fresh Water/Coal - The hole is drilled w/ air and casing is ran in air. Once casing is on bottom, the casing shoe will be cleared with fresh water and gel prior to cementing. Intermediate - The hole is drilled w/ air and casing is ran in air. Once casing is on bottom, the casing shoe will be cleared with fresh water and gel prior to cementing. (Note: Drilling soap may be utilized if the hole gets wet/damp during the drilling of all air holes with the exception of the conductor). Production - The hole will be drilled with synthetic oil base mud and once at TD the hole is circulated at a drilling pump rate until the hole is clean. Once casing is ran the hole is circulated for a minimum of one hole volume prior to pumping cement.

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*Note: Attach additional sheets as needed.

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Cement Additives

- Conductor – 2% $CaCl_2$
- Freshwater/Coal – 2% $CaCl_2$
- Intermediate - 2% $CaCl_2$
- Production -
  - 2.6% Cement extender
  - 0.7% Fluid Loss Additive
  - 0.5% High Temperature Retarder
  - 0.2% Friction Reducer

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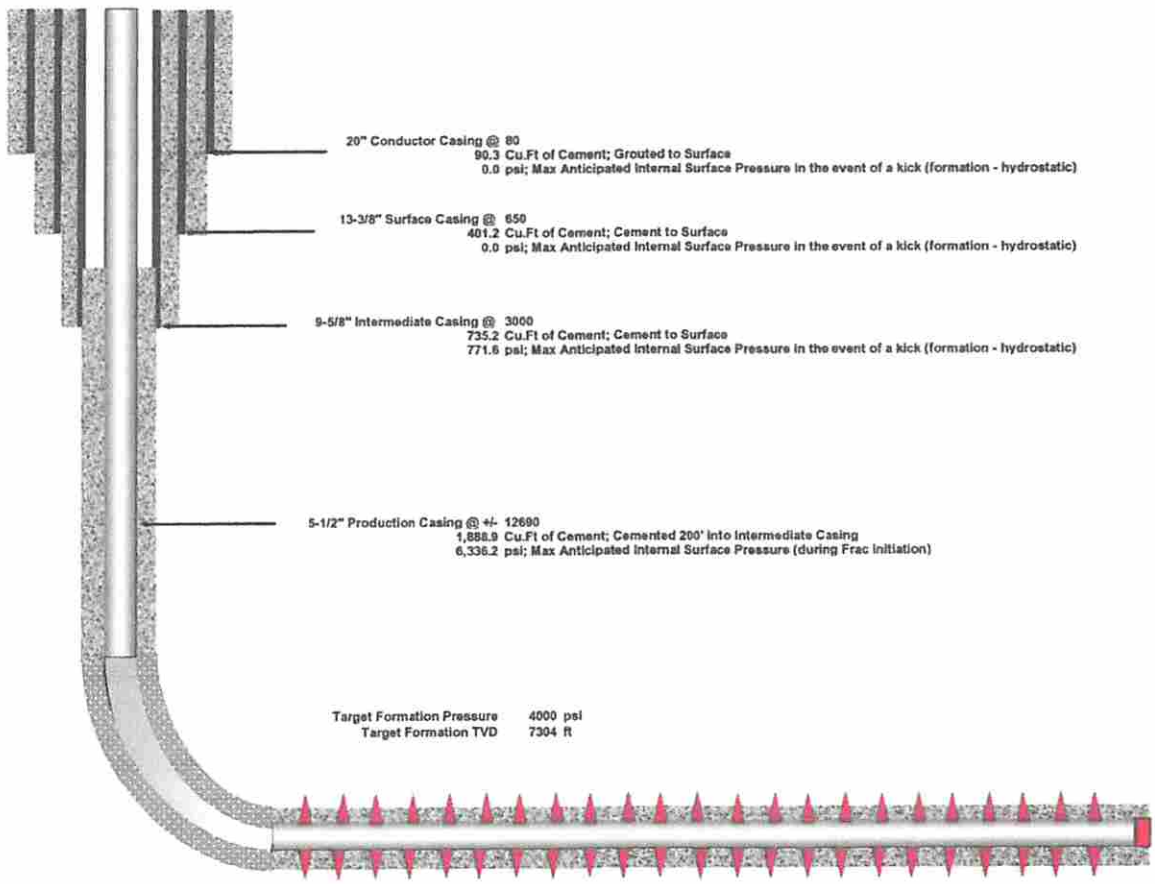
CONSOL ENERGY

KST1EHS

Casing Schematic

SCHEMATIC NOT TO SCALE



20" Conductor Casing @ 80
90.3 Cu.Ft of Cement; Grouted to Surface
0.0 psi; Max Anticipated Internal Surface Pressure in the event of a kick (formation - hydrostatic)

13-3/8" Surface Casing @ 650
401.2 Cu.Ft of Cement; Cement to Surface
0.0 psi; Max Anticipated Internal Surface Pressure in the event of a kick (formation - hydrostatic)

9-5/8" Intermediate Casing @ 3000
735.2 Cu.Ft of Cement; Cement to Surface
771.6 psi; Max Anticipated Internal Surface Pressure in the event of a kick (formation - hydrostatic)

5-1/2" Production Casing @ +/- 12690
1,888.9 Cu.Ft of Cement; Cemented 200' into Intermediate Casing
6,336.2 psi; Max Anticipated Internal Surface Pressure (during Frac initiation)

Target Formation Pressure 4000 psi
Target Formation TVD 7304 ft

WW-9
(9/13)

API Number 47 - 4703305855
Operator's Well No. KSTIEHS

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 494458046

Watershed (HUC 10) Middle West Fork Creek Quadrangle Big Isaac

Elevation 1394 County Harrison District Union

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.? N/A

Proposed Disposal Method For Treated Pit Wastes:

SDW
10/8/2014

_____ Land Application
_____ Underground Injection (UIC Permit Number _____)
_____ Reuse (at API Number _____)
■ Off Site Disposal (Supply form WW-9 for disposal location)
■ Other (Explain Recycle on other well on same pad or adjacent pads

Will closed loop system be used? If so, describe: Yes, Cuttings/fluids separated with the use of a centrifuge/shaker, liquids recycled and solids disposed of at an approved landfill

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Synthetic

-If oil based, what type? Synthetic, petroleum, etc. Synthetic

Additives to be used in drilling medium? Bacteridice, Polymers, and Weighting Agents

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) N/A

-Landfill or offsite name/permit number? Meadowfill, Northwestern Landfill, Max Environmental Yukon Landfill and Bulger Landfill

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.

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Company Official Signature Kelly Eddy

Company Official (Typed Name) Matthew Imrich

Company Official Title Designated Agent - District Operations Superintendent, WV Gas Operations

Subscribed and sworn before me this 8th day of October, 20 14

Elizabeth Blankenship Notary Public

My commission expires 6/23/2024

Official Seal
Notary Public, State Of West Virginia
Elizabeth Blankenship
941 Simpson Run Road
Weston WV 26452
My commission expires June 23, 2024

Form WW-9

4703305855

Operator's Well No. KST1EHS

CNX Gas Company LLC

Proposed Revegetation Treatment: Acres Disturbed 38.3 Prevegetation pH 6.5

Lime according to pH test Tons/acre or to correct to pH 7.0

Fertilizer type 10-20-20 or equivalent

Fertilizer amount 500 lbs/acre

Mulch hay or straw @ 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	25	Orchard Grass	25
Birdsfoot Trefoil	15	Birdsfoot Trefoil	15
Ladino Clover	10	Ladino Clover	10

Attach:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [signature] DWarnell II

Comments: Pre-seed/mulch all disturbed areas as soon as reasonably possible per regulation. Upgrade E&S as needed per WV DEP E&S manual.

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Title: Oil + Gas Inspector Date: 10/8/2014

Field Reviewed? (X) Yes ( ) No

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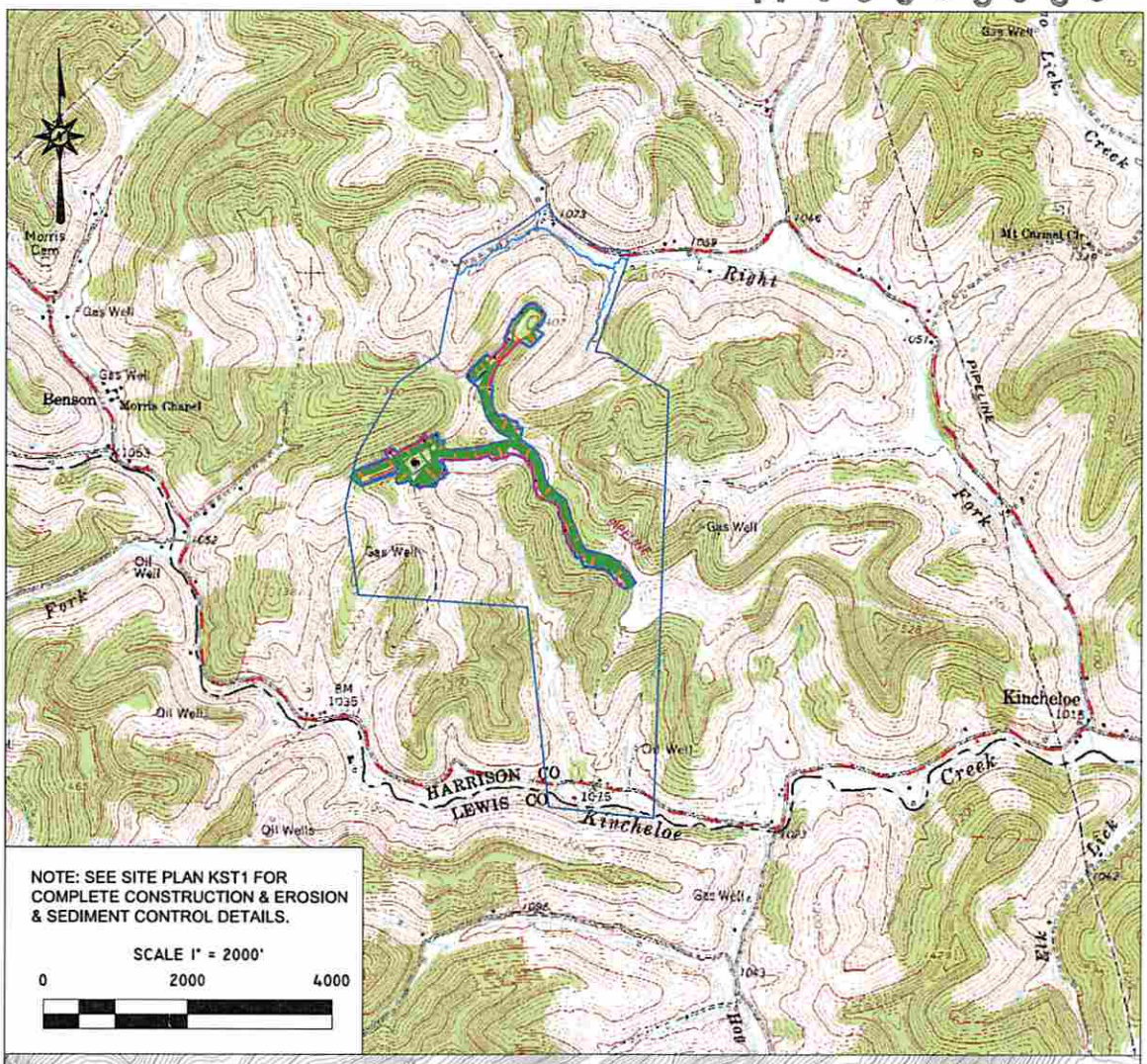
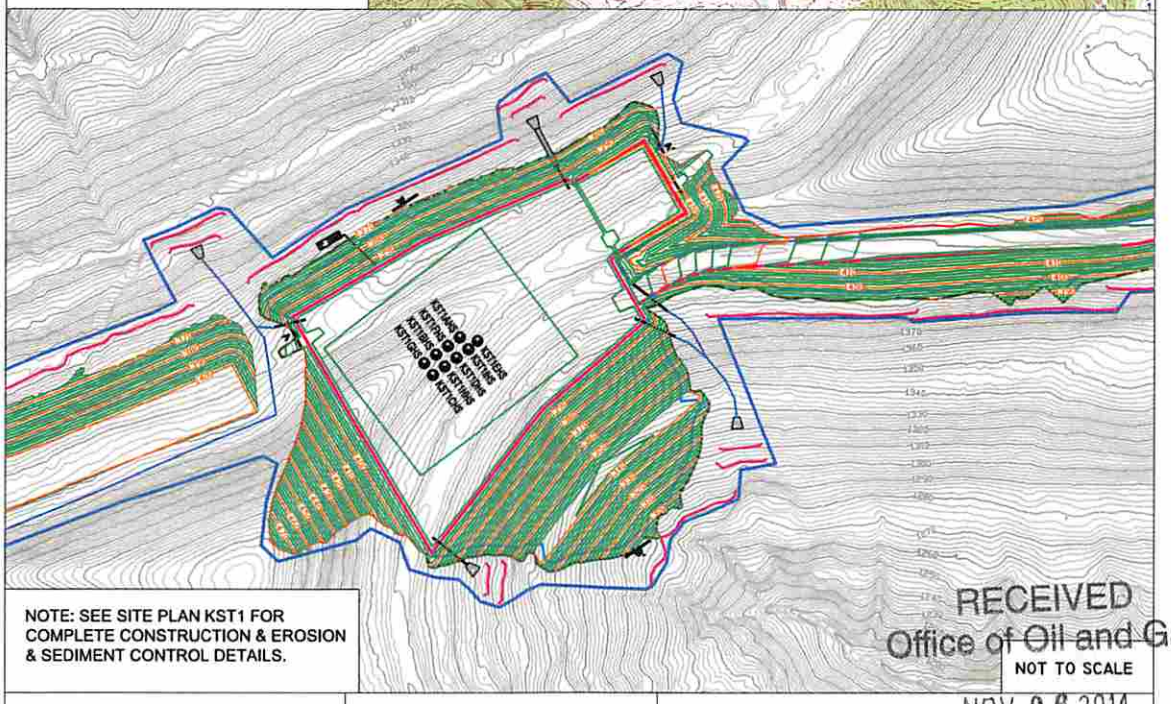


NOTE: SEE SITE PLAN KST1 FOR COMPLETE CONSTRUCTION & EROSION & SEDIMENT CONTROL DETAILS.

SCALE 1" = 2000'

0 2000 4000



NOTE: SEE SITE PLAN KST1 FOR COMPLETE CONSTRUCTION & EROSION & SEDIMENT CONTROL DETAILS.

NOT TO SCALE

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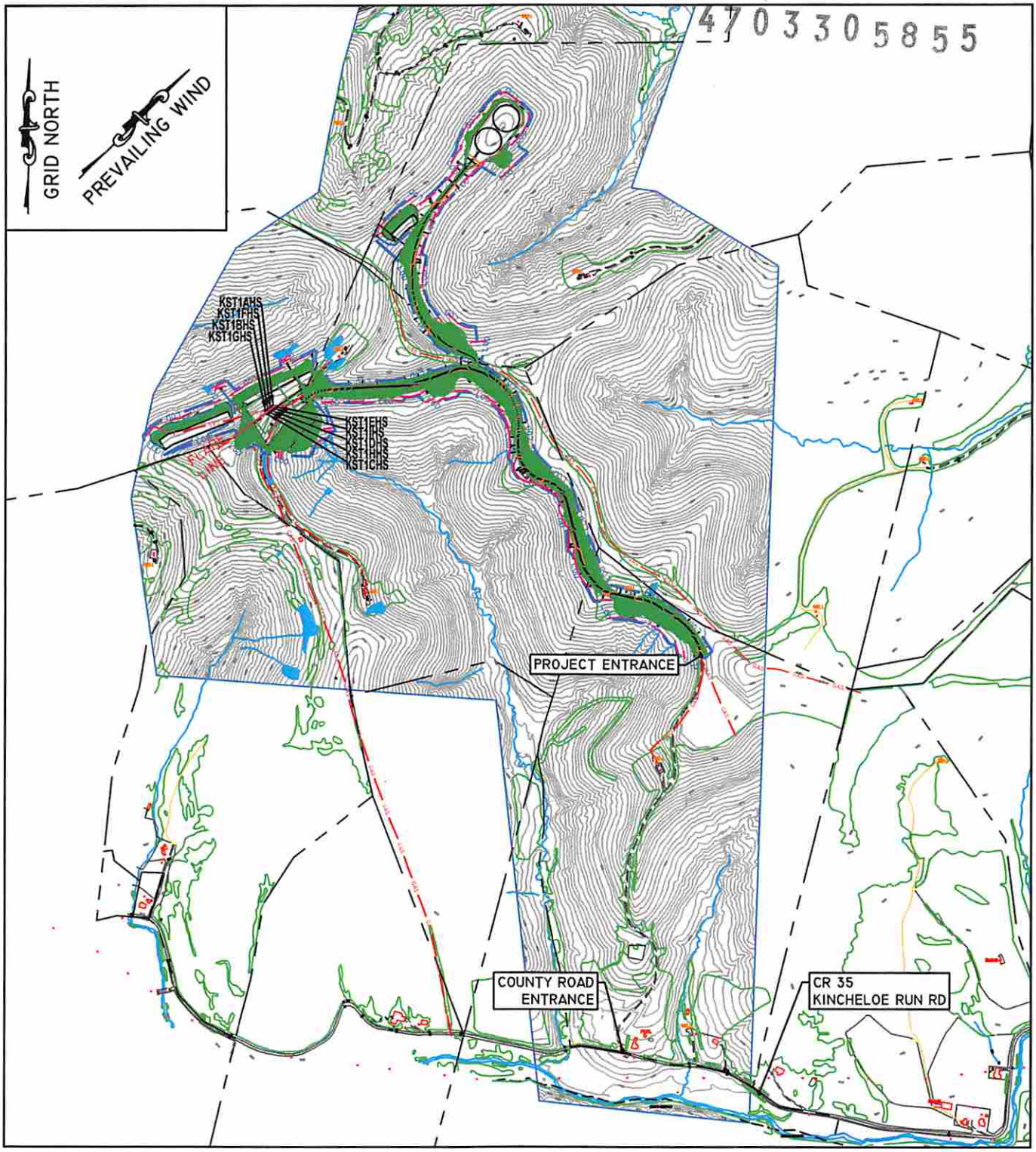
Blue Mountain Inc. 11023 MASON DIXON HIGHWAY BURTON, WV 26562 PHONE: (304) 662-6486	PREPARED FOR: CNX GAS COMPANY LLC P.O. BOX 1248 JANE LEW, WV 26378	KST1 WELL TOPO SECTION OF BIG ISAAC 7.5' USGS TOPO QUADRANGLE
	FORM WW9	OCTOBER 6, 2014



PLAN VIEW MAP
SCALE: 1"=1000'

Blue Mountain Inc.

Engineers and Land Surveyors

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

KSTIHS PLAN VIEW MAP

KSTIHS WELL SITE

UNION DISTRICT
HARRISON COUNTY, WV

CNX GAS COMPANY LLC
ONE ENERGY DRIVE
JANE LEW, WV 26378

DRAWN BY:	NSH
CHECKED BY:	WPF
DATE:	10/1/2014
SCALE:	1"=1000'
JOB NO.	
DWG NAME	KSTIHS PLAN VIEW MAP.DWG

4703305855

Blue Mountain Inc.
11023 Mason Dixon Hwy | Burton, WV 26562
Ph: (304) 662-6486 | Fax: (304) 662-6501

September 23, 2014

CNX GAS COMPANY
P.O. BOX 1248
JANE LEW, WV 26378

WATER WELL REPORT

PROJECT: KST1
DISTRICT: BIG ISAAC
COUNTY: Harrison
STATE: West Virginia

The following surface owners may have water supplies within 2,000 feet of the above location:

NAME	ADDRESS	CITY, STATE, ZIP
None		

The following surface owners may have water supplies within 2,500 feet of the above location:

NAME	ADDRESS	CITY, STATE, ZIP
1) Robert Richards	RR 2 Box 133	Jane Lew, WV 26378
2) Dewain Titus Jr.	1856 Sams Creek Road	Mineral Wells, WV 26150
3) Mary Jo Short & Lou Ann Baker	8549 Good Hope Pike	Lost Creek, WV 26385

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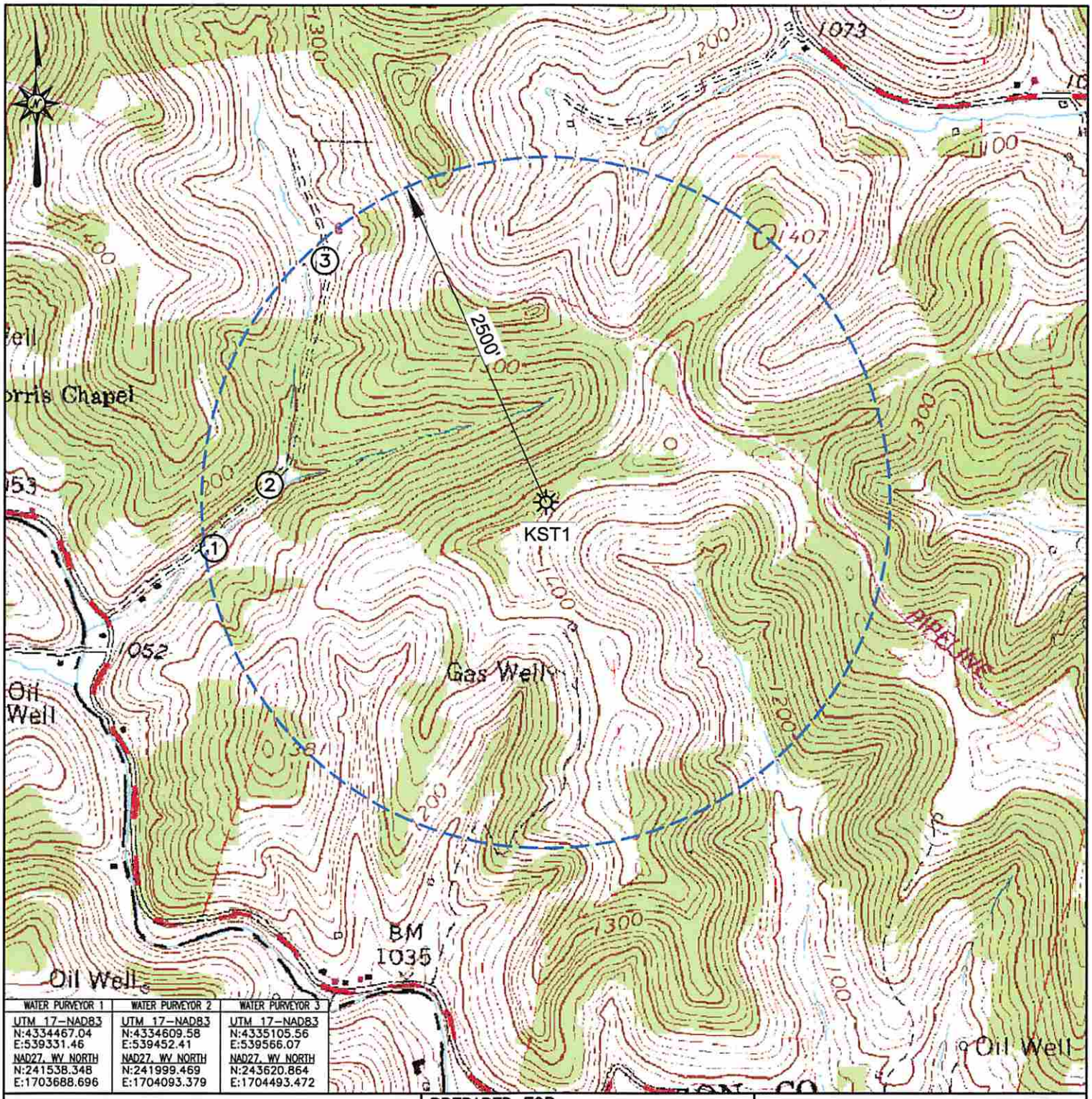


WATER PURVEYOR 1	WATER PURVEYOR 2	WATER PURVEYOR 3
UTM 17-NAD83	UTM 17-NAD83	UTM 17-NAD83
N:4334467.04	N:4334609.58	N:4335105.56
E:539331.46	E:539452.41	E:539566.07
NAD27, WV NORTH	NAD27, WV NORTH	NAD27, WV NORTH
N:241538.348	N:241999.469	N:243620.864
E:1703688.696	E:1704093.379	E:1704493.472

Blue Mountain Inc.
11023 MASON DIXON HIGHWAY
BURTON, WV 26562
PHONE: (304) 662-6486

PREPARED FOR:
CNX GAS COMPANY LLC
P.O. BOX 1248
JANE LEW, WV 26378

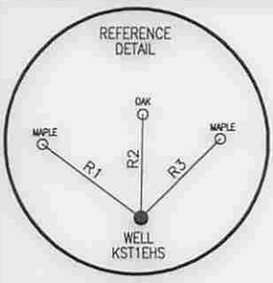
LEGEND
(1) – POSSIBLE WATER PURVEYOR

KST1
WATER PURVEYOR MAP
HARRISON COUNTY
UNION DISTRICT
WEST VIRGINIA

TOPO QUAD: BIG ISAAC, WV
SCALE: 1" = 1000'
DATE: SEPTEMBER 23, 2014

Well is located on topo map 2,585 feet south of Latitude: 39°10'00"

Well is located on topo map 10,246 feet west of Longitude: 80°30'00"



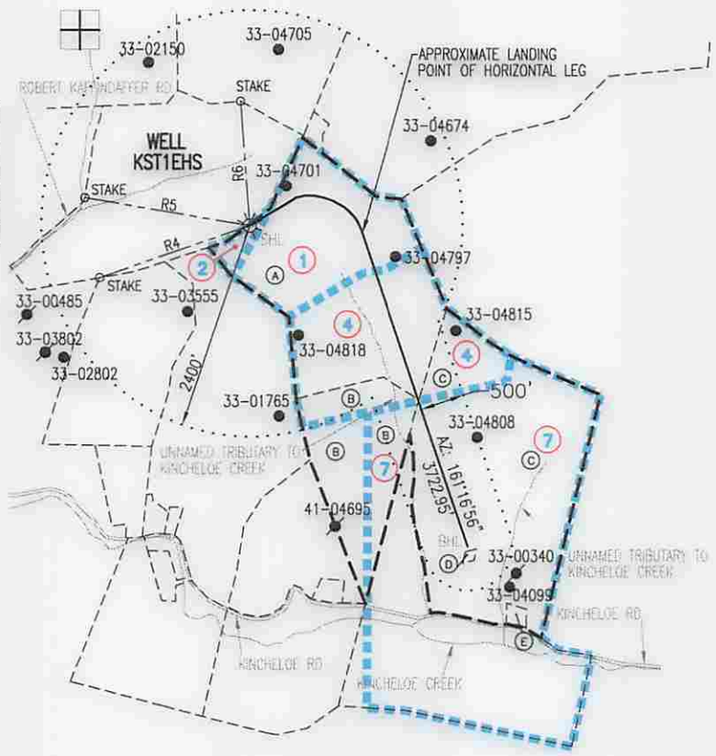
LINE	BEARING	DISTANCE
R1	N 53°19'28" W	175.23'
R2	N 01°05'20" E	147.19'
R3	N 45°16'18" E	159.59'
R4	S 71°02'57" W	1806.12'
R5	N 80°31'40" W	1903.32'
R6	N 04°13'51" W	1405.09'

PARCEL	LESSOR
1	OMA G. HALL, ET AL
2	OMA G. HALL, ET AL
4	OMA G. HALL, ET AL
7	OMA G. HALL, ET AL

SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83
N:4334587.01
E:540076.81
NAD27, WV NORTH
N:241891.266
E:1706141.125
LAT/LON DATUM-NAD83
LAT:39.159572
LON:-80.536133

APPROX. LANDING POINT
UTM 17-NAD83
N:4334564.92
E:540468.97
NAD27, WV NORTH
N:241797.302
E:1707426.767
LAT/LON DATUM-NAD83
LAT:39.159353
LON:-80.531594

BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83
N:4333496.77
E:540850.84
NAD27, WV NORTH
N:238271.258
E:1708621.481
LAT/LON DATUM-NAD83
LAT:39.149711
LON:-80.527239



LEGEND

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED.
- WATER SOURCE
- LESSORS
- SURFACE OWNERS
- MINERAL TRACT BOUNDARY
- LEASE BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- PROPOSED HORIZONTAL WELL
- ROAD
- STREAM CENTER LINE

GAS WELLS
- EXISTING WELLS
- PLUGGED WELLS

	SURFACE OWNER	DIST-TM/PAR
A	MIKE ROSS INC.	20-422/32
B	BETTY A. COFFINDAFFER	20-442/7
C	MARK J. COFFINDAFFER & DIANA COFFINDAFFER ESTEVE C/O MARK J. COFFINDAFFER	20-442/8
D	PLEASANT HILL ME CHURCH TRUSTEES	20-442/8.2
E	BARBARA DAWSON & MISHA LEA MCDONNIE	20-442/8.1

NOTES:
1. There are no water wells or developed springs within 250' of proposed well.
2. There are no existing buildings within 625' of proposed well.
3. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
4. There are no native trout streams within 300' of proposed well.
5. Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
6. It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.

Blue Mountain Inc.
11023 MASON DIXON HIGHWAY
BURTON, WV 26562
PHONE: (304) 662-6486

FILE #: KST1EHS REV. 3
DRAWING #: KST1EHS REV. 3
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/2500
PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: [signature]

R.P.E.: _____ L.L.S.: P.S. No. 2000

GEORGE D. SIX LICENSED No. 2000 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

DATE: OCTOBER 3, 2014
OPERATOR'S WELL #: KST1EHS
API WELL #: 47 (STATE) 33 (COUNTY) 05855 HGA (PERMIT)

Well Type: ☐ Oil ☐ Waste Disposal ☒ Production ☐ Deep
☒ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow

WATERSHED: MIDDLE WEST FORK CREEK ELEVATION: 1394.00'±
COUNTY/DISTRICT: HARRISON / UNION QUADRANGLE: BIG ISAAC, WV 7.5'
SURFACE OWNER: MIKE ROSS INC. ACREAGE: 101.00±
OIL & GAS ROYALTY OWNER: OMA G. HALL, ET AL ACREAGE: 268.338±

DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☐
PLUG OFF OLD FORMATION ☐ PERFORATE NEW FORMATION ☐ PLUG & ABANDON ☐
CLEAN OUT & REPLUG ☐ OTHER CHANGE ☐ (SPECIFY): _____

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 7,460'± TMD: 12,740±

WELL OPERATOR: CNX GAS COMPANY LLC
Address: P.O. BOX 1248
City: JANE LEW State: WV Zip Code: 26378

DESIGNATED AGENT: MATTHEW IMRICH
Address: P.O. BOX 1248
City: JANE LEW State: WV Zip Code: 26378

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WW-6A1
(5/13)

Operator's Well No. KST1EHS

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;

(2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page

See Attached

Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: CNX Gas Company LLC Kelly Eddy
By: Matthew Imrich
Its: Designated Agent - District Operations Superintendent, WV Gas Operations

Attachment - Form WW-6A-1 for KSTEHS:

Tract #	Lease	Grantor, Lessor, etc	Grantee, Lessee, etc	Royalty	Book/Page
1, 2, 4, 7	FK097991	Oma G. Hall, et al	Consolidated Gas Supply Corporation	1/8	1032/683
		Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment	1136/250
		Consolidated Gas Transmission Corporation	CNG Development Company	Assignment	1143/921
		CNG Development Company	Consolidated Gas Transmission Corporation	Assignment	1169/820
		Consolidated Gas Transmission Corporation	CNG Transmission Corporation	Merger/Name Change	Sec. State
		CNG Transmission Corporation	Dominion Transmission	Merger/Name Change	AOI 58/362
		Dominion Transmission	CNX Gas Company	Farmout	1522/33

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WW-6AC
(1/12)

4703305855

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION

Date of Notice Certification: 10/10/14

API No. 47- _____ - _____
Operator's Well No. KST1EHS
Well Pad Name: KST1HS

Notice has been given:
Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State:	WV	UTM NAD 83	Easting:	4,334,587.01m
County:	Harrison		Northing:	540,076.81m
District:	Union	Public Road Access:		CR 35, Kincheloe Road
Quadrangle:	Big Isaac	Generally used farm name:		Mike Ross Inc
Watershed:	Middle West Fork Creek			

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY	OOG OFFICE USE ONLY
☐ 1. NOTICE OF SEISMIC ACTIVITY or ☒ NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	☐ RECEIVED/ NOT REQUIRED
☒ 2. NOTICE OF ENTRY FOR PLAT SURVEY or ☐ NO PLAT SURVEY WAS CONDUCTED	☐ RECEIVED
☐ 3. NOTICE OF INTENT TO DRILL or ☒ NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or ☐ WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	☐ RECEIVED/ NOT REQUIRED
☒ 4. NOTICE OF PLANNED OPERATION	☐ RECEIVED
☒ 5. PUBLIC NOTICE	☐ RECEIVED
☒ 6. NOTICE OF APPLICATION	☐ RECEIVED

Required Attachments:
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

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WW-6AC
(1/12)

4703305855

Certification of Notice is hereby given:

THEREFORE, I Kelly Eddy, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator:	CNX Gas Company LLC	Address:	P O Box 1248
By:	Matthew Imrich for Kelly Eddy		Jane Lew, WV 26378
Its:	Designated Agent - District Operations Superintendent, WV Gas Operations	Facsimile:	304.884.2245
Telephone:	304-884-2131	Email:	kellyeddy@consolenergy.com

NOTARY SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
CAROLINDA FLANAGAN
PO Box 603
Lumberport WV 26386
My Commission Expires September 15, 2021

Subscribed and sworn before me this 10TH day of OCT 2014.

Carolinda Flanagan Notary Public

My Commission Expires 09/15/2021

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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WV Department of
Environmental Protection

WW-6A
(9-13)

API NO. 47- 4 0 3 5 0 5 5 5
OPERATOR WELL NO. KST1EHS
Well Pad Name: KST1HS

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 10/6/14 **Date Permit Application Filed:** _____

Notice of:

☑ PERMIT FOR ANY WELL WORK ☐ CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

☐ PERSONAL SERVICE ☐ REGISTERED MAIL ☑ METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

☑ Application Notice ☑ WSSP Notice ☑ E&S Plan Notice ☑ Well Plat Notice is hereby provided to:

☑ SURFACE OWNER(s)
Name: Mike Ross Inc. ✓
Address: P O Box 219
Coalton, WV 26257
Name: Dewain Titus Jr. ✓
Address: 1856 Sams Creek Road
Mineral Wells, WV 26150

☑ SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: Mark Coffindaffer ✓
Address: 77 President Drive
Lost Creek, WV 26385
Name: Betty Coffindaffer ✓
Address: 1909 Mineral Road
Jane Lew, WV 26378

☐ SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

☑ COAL OWNER OR LESSEE
Name: See attached
Address: _____

☐ COAL OPERATOR
Name: N/A
Address: _____

☑ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: See attached
Address: _____

☑ OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: Dominion Transmission, Inc
Address: 445 West Main Street
Clarksburg, WV 26301 ✓

*Please attach additional forms if necessary

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WW-6A
(8-13)

API NO: 47- 0 3 - 5 0 5 5 5
OPERATOR WELL NO: KST1EHS
Well Pad Name: KST1HS

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:
Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Location Restrictions
Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2013, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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API NO. 47-0 3 3 0 5 8 5 5
OPERATOR WELL NO. KST1EHS
Well Pad Name: KST1HS

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:
Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:
Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:
Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

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

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Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

API NO. 47- 0 3 5 0 5 0 5 5
OPERATOR WELL NO. KST1EHS
Well Pad Name: KST1HS

Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) 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.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and 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.

Disclaimer: All comments received will be placed on our web site http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

(1) The proposed well work will constitute a hazard to the safety of persons;
(2) The plan for soil erosion and sediment control is not adequate or effective;
(3) Damage would occur to publicly owned lands or resources; or
(4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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WW-6A
(8-13)

API NO. 47- 1 7 0 5 3 0 5 6 5 0
OPERATOR WELL NO. KST1EHS
Well Pad Name: KST1HS

Notice is hereby given by:

Well Operator: CNX Gas Company LLC
Telephone: 304.884.2131
Email: kellyeddy@consolenergy.com

Kelly Eddy

Address: P O Box 1248
Jane Lew, WV 26378
Facsimile: 304.884.2245

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
CAROLINDA FLANAGAN
PO Box 603
Lumberport WV 26386
My Commission Expires September 15, 2021

Subscribed and sworn before me this _____ day of _____, _____.

Carolinda Flanagan Notary Public

My Commission Expires 09/15/2021

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Surface Owner of Water Well and/or Water Purveyors:

4703305855

Robert Richards
RR2 Box 133
Jane Lew, WV 26378

Dewain Titus Jr.
1856 Sams Creek Road
Mineral Wells, WV 26150

Mary Jo Short & Lou Ann Baker
8549 Good Hope Pike
Lost Creek, WV 26385

Coal Owner(s) only:

Eastern Associated Coal, LLC
500 Lee Street, Suite 900
Charleston WV, 25301

Coal and Mineral Owner(s):

James E. Patterson Trust
c/o DLA Piper LLP
The Marbury Building
6225 Smith Avenue
Baltimore MD 21209-3600

Richard G. Hall
1701 Quarry Lane
McKinney, TX 75070

Pamela Ann Shanklin
1100 Threadgrass Rd NE
Rio Ranco, NM 87144-5759

Gertude Beall
410 E. Main Street
Harrisville, WV 26362

Bertha Miller
c/o Larry D. Miller
1515 Adair Blvd
Cummings, GA 30040-4531

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Coal and Mineral Owner(s) continued:

4703305855

Jeffery J. Yost
3689 Wembly Lane
Lexington, KY 40515

Brenda L. Yost
151 Gone Fishin Lane
Berkeley Springs, WV 25411

Helen Jean Currence
249-A RR4
Elkins, WV 26241

Pamela K. Shrader
PO Box 582
Petersburg, WV 26847

Beverly Ann Wilson Dunham
36869 3 Bridges Rd
Willards, MD 21874

Ira O. Harris
29818 Deer Harbour Dr
Salisbury, MD 21804

Gary Eugene Harris
67650 Green Timbers Rd
Homer, AK 99603

Grover D. Mullenax
29 Laurel Apts.
Belington, WV 26250

J. Beverly Johnson Young
19 Debbie Drive
Gallipolis, OH 45631

Theresa Hall Uthe
21 N 122nd Ave
Avondale, AZ 85323

Steve Hall
48625 Coldwater Creek Road
Caldwell, OH 43724

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Coal and Mineral Owner(s) continued:

4703305855

Martha Ann Hall Montgomery
672 Lucille Drive
Elyria OH 44035

James Patrick Hall
478 Grass Run Road
Smithville, WV

Doris Jean Hall Farriah
2512 27th Street
Parkersburg, WV 26101

Julie Hall Christensen
44 Wellington Rd
Indianapolis, IN 46260

Brenda Hall
Box 182
Macca, IN 47860

Valarie Hall Reed
1322 Barsville Ave
Leesburg VA 20176

Medeta Treadwell
163 Moticello Circle
Elyria, OH 44035

David A. Hall
4509 Young Road
Glen Rock, PA 17327

Dana L. Hall
435 Spring Ave
Clarksburg, WV 26301

Carola S. Hall Stephens
180 Van Clevesville Road
Martinsburg, WV 25405

Alex Taylor
1826 Avenue B
Billings MT 595503-9599

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Coal and Mineral Owner(s) continued:

Nancy Y. Coleman
205 Echols Lane
Lewisburg, WV 24901

Charles Ray Schola
118 Tygart Drive
Phillipi, WV 26416

Linda Carol Hall Grams
80 North Wood Street
Shinnston, WV 26431

Carolyn Lipscomb Hall
13002 Covered Bridge Rd
Sellersburg, IN 47172-8604

John N. Hall
6370 Dockser Ter,
Falls Church, VA 22041

Joann Marie Shifflet Hall
7160 Bensville Rd
White Plains, MD 20695

Georgetta June Hall
1215 Fern Cir
Saint Leonard, MD 20685

Donald R. Henderson
1348 Whispering Pines Dr.
Clearwater, FL 33764

Kathryn Henderson
PO Box 722
Hot Springs, VA 24445

Alice Jean Donell
408 Harwich Drive
Morgantown, WV 26508

Benjamin McCoy
732 Elmwood Drive
Davis, CA 95616-3517

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Coal and Mineral Owner(s) continued:

Anna Belle Pilra
1317 Buttonwood
Drive Fort Collins, CO 80525-1913

Donna Post Nash
112 Deer Brook Lane
Mt. Airy, NC 27030

Larry Harwood Hall
2465 Edgewood Ave
Burlington, NC 27215

Betty Sue Hartford
9404 West Kerry Lane
Peoria, AZ 83582-3680

Harry James McCoy
1504 South Louddoun Street
Winchester, VA 22601-4422

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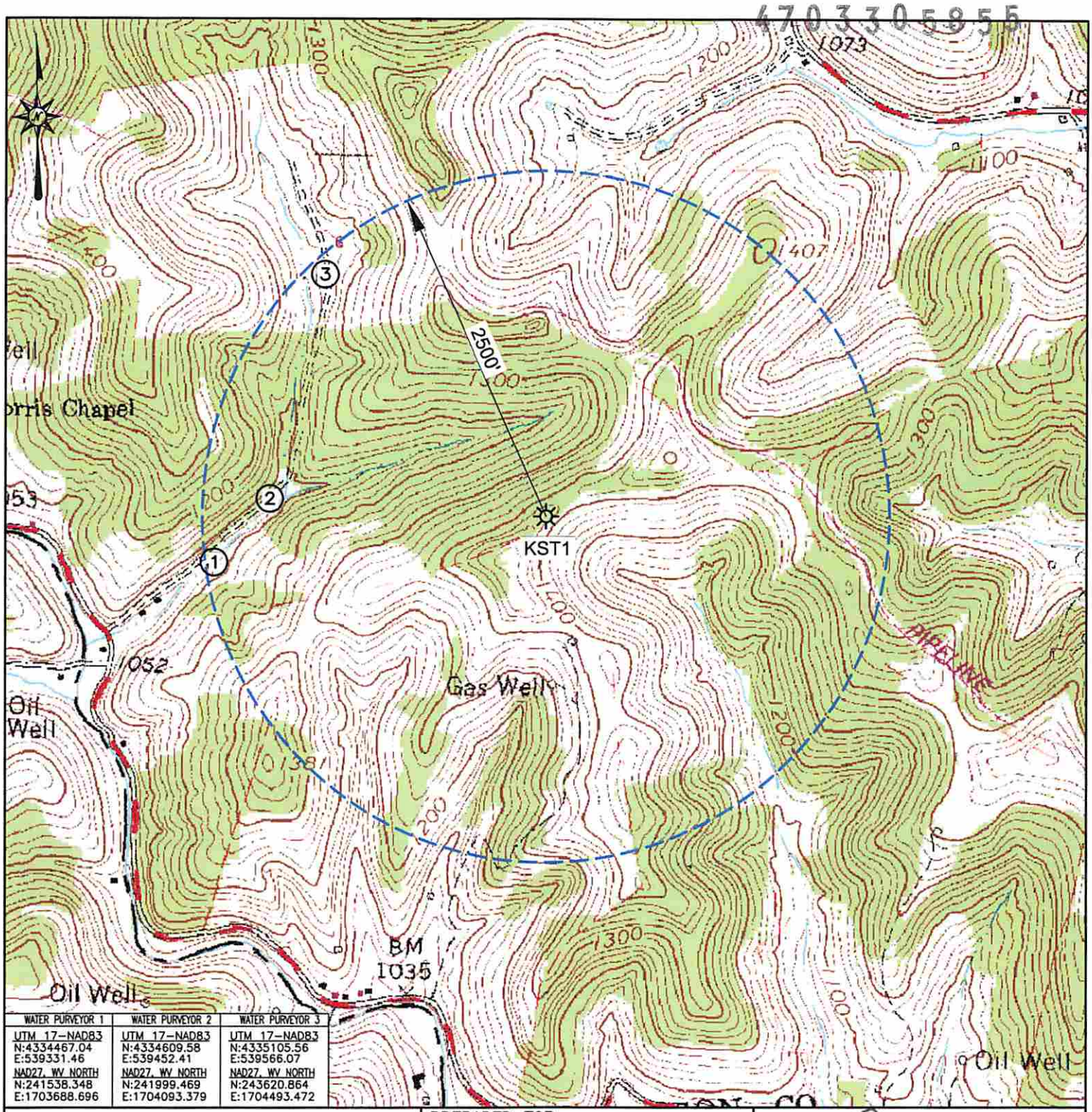

WATER PURVEYOR 1	WATER PURVEYOR 2	WATER PURVEYOR 3
UTM 17-NAD83	UTM 17-NAD83	UTM 17-NAD83
N:4334467.04	N:4334609.58	N:4335105.56
E:539331.46	E:539452.41	E:539566.07
NAD27, WV NORTH	NAD27, WV NORTH	NAD27, WV NORTH
N:241538.348	N:241999.469	N:243620.864
E:1703688.696	E:1704093.379	E:1704493.472

Blue Mountain Inc.
11023 MASON DIXON HIGHWAY
BURTON, WV 26562
PHONE: (304) 662-6486

PREPARED FOR:
CNX GAS COMPANY LLC
P.O. BOX 1248
JANE LEW, WV 26378

LEGEND
(1) – POSSIBLE WATER PURVEYOR

KST1
WATER PURVEYOR MAP
HARRISON COUNTY
UNION DISTRICT
WEST VIRGINIA

TOPO QUAD: BIG ISAAC, WV
SCALE: 1" = 1000'
DATE: SEPTEMBER 23, 2014

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WV Department of Environmental Protection

4703305855

Blue Mountain Inc.
11023 Mason Dixon Hwy | Burton, WV 26562
Ph: (304) 662-6486 | Fax: (304) 662-6501

September 23, 2014

CNX GAS COMPANY
P.O. BOX 1248
JANE LEW, WV 26378

WATER WELL REPORT

PROJECT: KST1
DISTRICT: BIG ISAAC
COUNTY: Harrison
STATE: West Virginia

The following surface owners may have water supplies within 2,000 feet of the above location:

NAME	ADDRESS	CITY, STATE, ZIP
None		

The following surface owners may have water supplies within 2,500 feet of the above location:

NAME	ADDRESS	CITY, STATE, ZIP
1) Robert Richards	RR 2 Box 133	Jane Lew, WV 26378
2) Dewain Titus Jr.	1856 Sams Creek Road	Mineral Wells, WV 26150
3) Mary Jo Short & Lou Ann Baker	8549 Good Hope Pike	Lost Creek, WV 26385

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WW-6A3
(1/12)

Operator Well No. KST1EHS

4703305855

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF ENTRY FOR PLAT SURVEY

Notice Time Requirement: Notice shall be provided at least **SEVEN (7)** days but no more than **FORTY-FIVE (45)** days prior to entry

Date of Notice: 09/19/2014 and 10/2/2014 **Date of Planned Entry:** 9/26/2014

Delivery method pursuant to West Virginia Code § 22-6A-10a

☐ PERSONAL SERVICE ☐ REGISTERED MAIL ☒ METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

Notice is hereby provided to:

☒ SURFACE OWNER(s)
Name: Mike Ross Inc
Address: P O Box 219
Coalton, WV 26257
Name: Dwain Titus, Jr.
Address: 1856 Sams Creek Road
Mineral Wells, WV 26150
Name:
Address:

☒ COAL OWNER OR LESSEE
Name: See Attached
Address:

☒ MINERAL OWNER(s)
Name: See Attached
Address:

*please attach additional forms if necessary

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State:	WV	Approx. Latitude & Longitude:	39.159679353 / 80.536142066
County:	Harrison	Public Road Access:	CR 35, Kincheloe Road
District:	Union	Watershed:	Middle West Fork Creek
Quadrangle:	Big Isaac	Generally used farm name:	Mike Ross Inc

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator:	CNX Gas Company LLC	Address:	P O Box 1248
Telephone:	304-884-2131		Jane Lew, WV 26378
Email:	kellyeddy@consolenergy.com	Facsimile:	304.884.2245

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WV Department of
Environmental Protection

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

Surface Owner(s):

Mike Ross Inc
P O Box 219
Coalton, WV 26257

Dwain Titus Jr
1856 Sams Creek Road
Mineral Wells, WV 26150

Coal Owner(s) only:

Eastern Associated Coal, LLC
500 Lee Street, Suite 900
Charleston WV, 25301

Coal and Mineral Owner(s):

James E. Peterson Trust
c/o DLA Piper LLP
The Marbury Building
6225 Smith Avenue
Baltimore MD 21209-3600

Richard G. Hall
1701 Quarry Lane
McKinney, TX 75070

Pamela Ann Shanklin
1100 Threadgrass Rd NE
Rio Ranco, NM 87144-5759

Gertude Beall
410 E. Main Street
Harrisville, WV 26362

Bertha Miller
c/o Larry D. Miller
1515 Adair Blvd
Cummings, GA 30040-4531

Jeffery J. Yost
3689 Wembly Lane
Lexington, KY 40515

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Coal and Mineral Owner(s) continued:

Brenda L. Yost
151 Gone Fishin Lane
Berkeley Springs, WV 25411

Helen Jean Currence
249-A RR4
Elkins, WV 26241

Pamela K. Shrader
PO Box 582
Petersburg, WV 26847

Beverly Ann Wilson Dunham
36869 3 Bridges Rd
Willards, MD 21874

Ira O. Harris
29818 Deer Harbour Dr
Salisbury, MD 21804

Gary Eugene Harris
67650 Green Timbers Rd
Homer, AK 99603

Grover D. Mullenax
29 Laurel Apts.
Belington, WV 26250

J. Beverly Johnson Young
19 Debbie Drive
Gallipolis, OH 45631

Theresa Hall Uthe
21 N 122nd Ave
Avondale, AZ 85323

Steve Hall
48625 Coldwater Creek Road
Caldwell, OH 43724

Martha Ann Hall Montgomery
672 Lucille Drive
Elyria OH 44035

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Coal and Mineral Owner(s) continued:

James Patrick Hall
478 Grass Run Road
Smithville, WV

Doris Jean Hall Farriah
2512 27th Street
Parkersburg, WV 26101

Julie Hall Christensen
44 Wellington Rd
Indianapolis, IN 46260

Brenda Hall
Box 182
Macca, IN 47860

Valarie Hall Reed
1322 Barsville Ave
Leesburg VA 20176

Medeta Treadwell
163 Moticello Circle
Elyria, OH 44035

David A. Hall
4509 Young Road
Glen Rock, PA 17327

Dana L. Hall
435 Spring Ave
Clarksburg, WV 26301

Carola S. Hall Stephens
180 Van Clevesville Road
Martinsburg, WV 25405

Alex Taylor
1826 Avenue B
Billings MT 595503-9599

Nancy Y. Coleman
205 Echols Lane
Lewisburg, WV 24901

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Coal and Mineral Owner(s) continued:

Charles Ray Schola
118 Tygart Drive
Phillipi, WV 26416

Linda Carol Hall Grams
80 North Wood Street
Shinnston, WV 26431

Carolyn Lipscomb Hall
13002 Covered Bridge Rd
Sellersburg, IN 47172-8604

John N. Hall
6370 Dockser Ter,
Falls Church, VA 22041

Joann Marie Shifflet Hall
7160 Bensville Rd
White Plains, MD 20695

Georgetta June Hall
1215 Fern Cir
Saint Leonard, MD 20685

Donald R. Henderson
1348 Whispering Pines Dr.
Clearwater, FL 33764

Kathryn Henderson
PO Box 722
Hot Springs, VA 24445

Alice Jean Benbowl
408 Harwich Drive
Morgantown, WV 26508

Benjamin McCoy
732 Elmwood Drive
Davis, CA 95616-3517

Anna Belle Pilra
1317 Buttonwood
Drive Fort Collins, CO 80525-1913

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Coal and Mineral Owner(s) continued:

Donna Post Nash
112 Deer Brook Lane
Mt. Airy, NC 27030

Larry Harwood Hall
2465 Edgewood Ave
Burlington, NC 27215

Betty Sue Hartford
9404 West Kerry Lane
Peoria, AZ 83582-3680

Harry James McCoy
1504 South Louddoun Street
Winchester, VA 22601-4422

Mineral Owner(s) only:

Allyson J. Swensson
98 Pepperbush Ln.
Fairmont, WV 26554-8200

Mike Ross & Waco Oil & Gas
PO Box 219
Coalton, WV 26527-0219

Gregory Hall
1298 Freshwater RD
Eureka, CA 95503

Bertha Miller
c/o Larry D. Miller
1515 Adair Blvd.
Cummings, GA 30040-4531

Harry James McCoy
1504 South Louddoun
Street Winchester, VA 22601-4422

Richard Cronin
9649 Norfolk Street
Manassas, VA 20109

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Mineral Owner(s) continued:

James B. Beall
107 Pullman Road
Harrisville, WV 26362-9602

Milo H. Beall
695 Cooper St.
Harrisville, WV 26362-9602

Paul D. Beall
811 East Main Street
Harrisville, WV 26362-9602

John William Wildesen
3457 Uniontown Road
Westminster, MD 21158

Charles Thomas Wildsen
P O Box 19
Gormania, WV 26720

Patrick Corrigan
601 North Walnut
Freeport, IL 61032

Jessica Taylor Fox
1020 Picador Way
Billings, MT 59105-5438

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Environmental Protection

WW-6A5
(1/12)

Operator Well No. KST1EHS

4703305855

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**
Date of Notice: 10/06/2014 **Date Permit Application Filed:** _____

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

☒ CERTIFIED MAIL RETURN RECEIPT REQUESTED ☐ HAND DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):

Name: Mike Ross Inc
Address: P O Box 219
Coalton, WV 26257

Name: Dewain Titus Jr
Address: 1856 Sams Creek Road
Mineral Wells, WV 26150

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: WV
County: Harrison
District: Union
Quadrangle: Big Isaac
Watershed: Middle West Fork Creek

UTM NAD 83 Easting: 4,334,587.01m
Northing: 540,076.81m
Public Road Access: CR 35, Kincheloe Road
Generally used farm name: Mike Ross Inc

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1)A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator: CNX Gas Company LLC
Telephone: 304-884-2131
Email: kellyeddy@consolenergy.com

Address: P O Box 1248
Jane Lew, WV 26378
Facsimile: 304.884.2245

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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4703305855

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin
Governor

Paul A. Mattox, Jr., P. E.
Secretary of Transportation/
Commissioner of Highways

November 5, 2014

James A. Martin, Chief
Office of Oil and Gas
Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

Subject: DOH Permit for the KST1HS Well Pad, Harrison County

Dear Mr. Martin,

This well site will be accessed from Permit #04-2014-0927 applied for by CNX Gas Company LLC for access to the State Road for a well site located off of Harrison County 35 SLS.

The operator has signed a DISTRICT WIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton

Gary K. Clayton, P.E.
Regional Maintenance Engineer
Central Office O&G Coordinator

Cc: Kelly Eddy
CONSOL Energy
CH, OM, D-4
File

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Section V - Planned Additives to be used in Fracturing or Stimulations

Type: Friction Reducer (DWP-612)
Chemical Component as listed on MSDS: Long Chain Polyacrylamide
CAS: N/A

Type: Biocide (DWP-944)
1st Chemical Component as listed on MSDS: 2,2-Dibromo-3-nitrilopropionamide
CAS: 10222-01-2
2nd Chemical Component as listed on MSDS: Polyethylene Glycol Mixture
CAS: 25322-68-3

Type: Scale Inhibitor (DAF-901)
1st Chemical Component as listed on MSDS: Methanol
CAS: 67-56-1
2nd Chemical Component as listed on MSDS: Phosphoric Acid Ammonium Salt
CAS: Trade Secret
3rd Chemical Component as listed on MSDS: Ammonium Chloride
CAS: 12125-02-9
4th Chemical Component as listed on MSDS: Organic Phosphonate
CAS: Trade Secret
5th Chemical Component as listed on MSDS: Amine Salt
CAS: Trade Secret
6th Chemical Component as listed on MSDS: Oxyalkylated Polyamine
CAS: Trade Secret

Type: Surfactant (DWP-938)
Chemical Component as listed on MSDS: Soap
CAS: N/A

Type: Hydrochloric Acid
Chemical Component as listed on MSDS: Hydrochloric Acid
CAS: 7647-01-0

Type: PA Breaker (DWP-690)
Chemical Component as listed on MSDS: Hydrogen Peroxide
CAS: Trade Secret

Type: Gel Slurry (DWP-111)
Chemical Component as listed on MSDS: Viscosifier
CAS: N/A

Type: Oxidizer Breaker (DWP-901)
Chemical Component as listed on MSDS: Ammonium Persulfate
CAS: 7727-54-0

Type: Buffer (DWP-204)
Chemical Component as listed on MSDS: Formic Acid
CAS: 64-18-6

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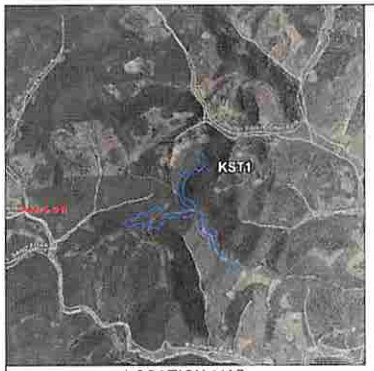
NOV 06 2014

WV Department of
Environmental Protection



LOCATION MAP

SCALE: 1"=2000'

APPROVED
WVDEP OOG
5-29-2015

CNX GAS

CNX GAS COMPANY LLC
ONE ENERGY DRIVE
JANE LEW, WV 26378

KST1HS WELL SITE

MODIFICATION

PAD SITE LOCATION

NAD 83 - LAT: N 39° 09' 34.85"; LONG: W 80° 32' 10.11"
NAD 27 - LAT: N 39° 09' 34.52"; LONG: W 80° 32' 10.77"
UTM (NAD83) - N: 4334599.059; E: 540075.925

TANK PAD SITE LOCATION

NAD 83 - LAT: N 39° 09' 54.07"; LONG: W 80° 31' 50.54"
NAD 27 - LAT: N 39° 09' 53.74"; LONG: W 80° 31' 51.20"
UTM (NAD83) - N: 4335193.955; E: 540542.537

ENTRANCE LOCATION

NAD 83 - LAT: N 39° 08' 51.33"; LONG: W 80° 31' 39.42"
NAD 27 - LAT: N 39° 08' 51.00"; LONG: W 80° 31' 40.08"
UTM (NAD83) - N: 4333261.431; E: 540819.480

UNION DISTRICT,

HARRISON COUNTY, WEST VIRGINIA

DATE: OCTOBER 1, 2014

REVISED: MARCH 11, 2015

LOCATION MAP

BIG ISAAC 7.5M USGS QUADRANGLE

SCALE: 1"=2000'

PROJECT INFORMATION

SURFACE OWNER:

MARK J. COFFINDAFER
TAX MAP/PARCEL 20-442-8
TOTAL PROPERTY AREA: 119.78 AC.

BETTY A. COFFINDAFER
TAX MAP/PARCEL 20-422-15
TOTAL PROPERTY AREA: 188.98 AC.

DEWAIN TITUS, JR.
TAX MAP/PARCEL 20-442-30
TOTAL PROPERTY AREA: 89.47 AC.

MIKE ROSS
TAX MAP/PARCEL 20-422-32
TOTAL PROPERTY AREA: 101.0 AC.

MIKE ROSS
TAX MAP/PARCEL 20-422-31
TOTAL PROPERTY AREA: 1.56 AC.

SITE LOCATION:

THE KST1HS SITE IS LOCATED NORTH OF KINCHELOE ROAD (CR 35), APPROXIMATELY 0.5 MILES WEST OF THE INTERSECTION OF COUNTY ROAD 10/10 & KINCHELOE ROAD (CR 35).

ENTRANCE PERMIT

CNX GAS COMPANY WILL OBTAIN AN ENCROACHMENT PERMIT (FORM MM-109) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

MISS UTILITY

MISS UTILITY OF WEST VIRGINIA WAS NOTIFIED FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN (TICKET NO. 1426169338). IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO THE START OF THE PROJECT.

FLOODPLAIN NOTE

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT ARE NOT LOCATED IN A FLOOD ZONE, PER THE FLOOD INSURANCE RATE MAP (FIRM) NUMBERS 54033C0220D.

SHEET INDEX

DRAWING NUMBER	DRAWING NAME
1	COVER SHEET
2	GENERAL NOTES (1 OF 2)
3	GENERAL NOTES (2 OF 2)
4	1/2 MILE BOUNDARY OVERVIEW
5	EXISTING CONDITIONS
6	OVERALL SITE PLAN
7	OVERALL SITE PLAN W/ ORTHO
8	DETAILED SITE PLAN (1 OF 6)
9	DETAILED SITE PLAN (2 OF 6)
10	DETAILED SITE PLAN (3 OF 6)
11	DETAILED SITE PLAN (4 OF 6)
12	DETAILED SITE PLAN (5 OF 6)
13	DETAILED SITE PLAN (6 OF 6)
14	ROAD PROFILES & PAD SECTIONS
15	ROAD SECTIONS

SHEET INDEX

DRAWING NUMBER	DRAWING NAME
16	TANK PAD SECTIONS
17	ACCESS ROAD CROSS SECTIONS 1 OF 2
18	ACCESS ROAD CROSS SECTIONS 2 OF 2
19	TANK ACCESS ROAD CROSS SECTIONS
20	RECLAMATION PLAN (1 OF 6)
21	RECLAMATION PLAN (2 OF 6)
22	RECLAMATION PLAN (3 OF 6)
23	RECLAMATION PLAN (4 OF 6)
24	RECLAMATION PLAN (5 OF 6)
25	RECLAMATION PLAN (6 OF 6)
26	CONSTRUCTION DETAIL (1 OF 3)
27	CONSTRUCTION DETAIL (2 OF 3)
28	CONSTRUCTION DETAIL (3 OF 3)
29	MATERIALS QUANTITY
ATTACHMENT 1	KST2HS PLAN VIEW
ATTACHMENT 2	KST2HS ROAD PROFILE

Know what's **below.**
Call before you dig.

Blue Mountain Inc.
Engineers and Land Surveyors
11023 Mason Dixon Hwy.
Burton, WV 26562-9656
(304) 662-6486

NOTE: DRAWING WAS CREATED ON 22X34 PAPER. 11X17 DRAWINGS ARE HALF SCALE. REFER TO SCALE BAR FOR PROPER SCALING.

ENVIRONMENTAL NOTES

A WETLAND DELINEATION WAS PERFORMED ON APRIL 9-10 2014, JULY 21-22 2014, & SEPTEMBER 5TH, 2014 BY BLUE MOUNTAIN INC. TO REVIEW THE SITE FOR WATERS AND WETLANDS THAT ARE MOST LIKELY WITHIN THE REGULATORY PURVIEW OF THE U.S. ARMY CORPS OF ENGINEERS AND/OR THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION. THE SEPTEMBER 10TH, 2014 REPORT FOR KST1HS, WHICH WAS PREPARED BY BLUE MOUNTAIN INC. SUMMARIZES THE RESULTS OF THE FIELD DELINEATION. THE REPORT DOES NOT, IN ANY WAY, REPRESENT A JURISDICTIONAL DETERMINATION OF THE LANDWARD LIMITS OF WATERS AND WETLANDS WHICH MAY BE REGULATED BY THE USACE OR WVDEP. IT IS STRONGLY RECOMMENDED THAT THE AFOREMENTIONED AGENCIES BE CONSULTED IN AN EFFORT TO GAIN CONFIRMATION OF THE DELINEATION DESCRIBED BY THE REPORT PRIOR TO ENGAGING CONSTRUCTION ON THE PROPERTY DESCRIBED HEREIN. THE DEVELOPER SHALL OBTAIN THE APPROPRIATE PERMITS FROM THE FEDERAL AND/OR STATE REGULATORY AGENCIES PRIOR TO ANY PROPOSED IMPACTS TO WATERS OF THE U.S., INCLUDING WETLAND FILLS AND STREAM CROSSINGS.

GEOTECHNICAL NOTES

A SUBSURFACE INVESTIGATION OF THE PROPOSED SITE WAS PERFORMED IN THE FIELD BY RETTEW ASSOCIATES, INC. BETWEEN SEPTEMBER 9 - SEPTEMBER 25, 2014. THE REPORTS PREPARED BY RETTEW ASSOCIATES, INC. DATED OCTOBER 16, 2014, REFLECTS THE RESULTS OF THE SUBSURFACE INVESTIGATION. PLEASE REFER TO THE SUBSURFACE INVESTIGATION REPORT FOR ADDITIONAL INFORMATION AS NEEDED.

RESTRICTIONS

1. THERE ARE NO NATURALLY PRODUCING TROUT STREAMS WITHIN 300' OF THE PAD & LOD.
2. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000' OF THE PAD AND LOD.
3. THERE ARE NO EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' OF THE WELLS BEING DRILLED.
4. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 625' OF THE CENTER OF THE PAD.
5. THERE ARE NO AGRICULTURAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 625' OF THE CENTER OF THE PAD.

CERTIFICATION:

I DO HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE EROSION AND SEDIMENT CONTROL PLAN AND SITE RESTORATION PLAN AND POST CONSTRUCTION BMPS ARE TRUE AND CORRECT, REPRESENT ACTUAL FIELD CONDITIONS AND ARE IN ACCORDANCE WITH THE WEST VIRGINIA CODE AND THE DEPARTMENT'S RULES AND REGULATIONS. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

SIGNATURE: William P. Foley DATE: 03/11/2015

Blue Mountain Inc.
Engineers and Land Surveyors
11023 Mason Dixon Hwy.
Burton, WV 26562-9656
(304) 662-6486

CNX GAS COMPANY LLC
ONE ENERGY DRIVE
JANE LEW, WV 26378

CNXGAS

KST1HS WELL SITE
COVER

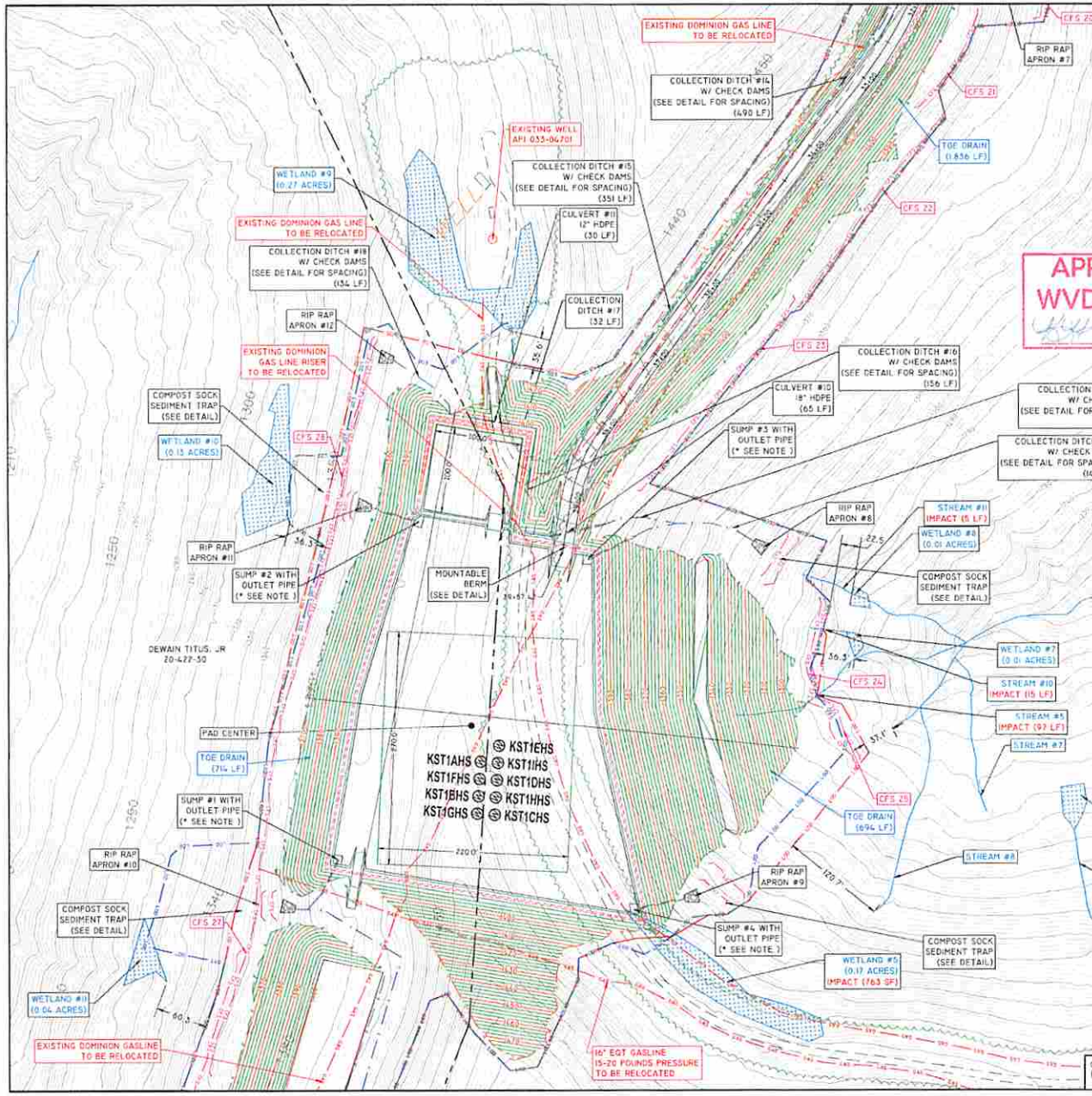
REVISIONS

DATE	TYPE
02/02/15	DEP COMMENTS
03/11/15	DEP COMMENTS - WAIVER

WILLIAM P. FOLEY LICENSED No. 1445 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

DRAWN BY: WSH
CHECKED BY: WPF
DATE: 10/01/14
SCALE: AS SHOWN
JOB NO:
DRAWING NAME:

SHEET NO 1



APPROVED
WVDEP OOG
5-29-2015

LIMITS OF DISTURBANCE BY OWNER	TM/PAR	AREA	UNITS
MIKE ROSS	20-422-52	16.0	ACRES
BETTY A. COFFINDAFFER	20-442-15	10.4	ACRES
MIKE ROSS	20-442-31	5	ACRES
DEWAIN TITUS, JR	20-422-50	6.8	ACRES
COFFINDAFFER MARK J	20-442-8	4.4	ACRES

AREA		
DESCRIPTION	QUANTITY	UNITS
CLEARING AND GRUBBING		
TREE CLEARING	28.6	ACRES
MOWING	9.3	ACRES
LIMITS OF DISTURBANCE		
AREA	38.1	ACRES

DISTURBANCE BY AREA		
DESCRIPTION	QUANTITY	UNITS
WELL PAD	8.7	ACRES
ROAD	14.2	ACRES
TOPSOIL PILE #1	3.2	ACRES
TOPSOIL PILE #2	1.8	ACRES
TANK ACCESS ROAD	5.3	ACRES
TANK PAD	4.9	ACRES

LEGEND

- PROPERTY BOUNDARY
- FENCE LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- COMPOST FILTER SOCK
- LIMIT OF DISTURBANCE
- LIMIT OF DISTURBANCE
- DITCH LINE
- EXISTING TREE LINE
- TOE DRAIN
- CUT
- FILL
- 2' BERM
- EXISTING ELECTRIC

NOTE: THERE SHALL BE NO DISCHARGE FROM PAD SUMPS DURING DRILLING OPERATIONS.

ENVIRONMENTAL IMPACTS		
# OF IMPACTS	TOTAL LENGTH	TOTAL AREA
STREAMS		
4	187 LF	-
WETLANDS		
3	-	2,364 SQ. FT. 0.05 ACRES

EARTHWORK QUANTITIES		
DESCRIPTION	QUANTITY	UNITS
PAD		
TOPSOIL (12" DEPTH)	10,165	CY
CUT	64,787	CY
EXCESS (10% SWELL)	26,779	CY
ACCESS ROAD		
TOPSOIL (12" DEPTH)	14,891	CY
CUT	13,529	CY
EXCESS (10% SWELL)	-26,619	CY
TANK PAD		
TOPSOIL (12" DEPTH)	4,134	CY
CUT	13,571	CY
EXCESS (10% SWELL)	9,866	CY
TANK ACCESS ROAD		
TOPSOIL (12" DEPTH)	5,896	CY
CUT	3,895	CY
EXCESS (10% SWELL)	-7,048	CY
PROJECT TOTALS		
TOPSOIL (12" DEPTH)	34,886	CY
CUT	95,542	CY
EXCESS	-22	CY

COORDINATES			
DESCRIPTION	NAD 83	NAD 27	UTM NAD 83
ACCESS ROAD			
ENTRANCE (SAME AS KST2HS)	LAT - 39°09'51.55" LONG - 80°51'39.68"	LAT - 39°09'51.00" LONG - 80°51'40.08"	N 4,335,261.431 E 540819.488
PAD			
DESCRIPTION	NAD 83	NAD 27	UTM NAD 83
PAD CENTER	LAT - 39°09'34.85" LONG - 80°52'10.11"	LAT - 39°09'34.32" LONG - 80°52'10.77"	N 4,334,999.059 E 540075.925
KST1AHS	LAT - 39°09'34.50" LONG - 80°52'10.43"	LAT - 39°09'34.17" LONG - 80°52'11.09"	N 4,334,988.231 E 540064.300
KST1BHS	LAT - 39°09'34.26" LONG - 80°52'10.84"	LAT - 39°09'33.93" LONG - 80°52'11.50"	N 4,334,980.782 E 540056.498
KST1CHS	LAT - 39°09'33.99" LONG - 80°52'10.89"	LAT - 39°09'33.66" LONG - 80°52'11.55"	N 4,334,972.453 E 540057.540
KST1DHS	LAT - 39°09'34.22" LONG - 80°52'10.49"	LAT - 39°09'33.89" LONG - 80°52'11.16"	N 4,334,979.593 E 540067.144
KST1EHS	LAT - 39°09'34.40" LONG - 80°52'10.08"	LAT - 39°09'34.13" LONG - 80°52'10.74"	N 4,334,987.061 E 540076.706
KST1FHS	LAT - 39°09'34.58" LONG - 80°52'11.29"	LAT - 39°09'34.05" LONG - 80°52'11.29"	N 4,334,984.507 E 540065.519
KST1GHS	LAT - 39°09'34.14" LONG - 80°52'11.04"	LAT - 39°09'33.81" LONG - 80°52'11.70"	N 4,334,977.058 E 540063.217
KST1HHS	LAT - 39°09'34.10" LONG - 80°52'10.69"	LAT - 39°09'33.77" LONG - 80°52'11.35"	N 4,334,975.858 E 540062.123
KST1IHS	LAT - 39°09'34.34" LONG - 80°52'10.28"	LAT - 39°09'34.01" LONG - 80°52'10.94"	N 4,334,983.317 E 540071.925
TANK			
TANK #1	LAT - 39°09'54.49" LONG - 80°51'50.02"	LAT - 39°09'54.16" LONG - 80°51'50.68"	N 4,335,906.987 E 540564.949
TANK #2	LAT - 39°09'52.98" LONG - 80°51'51.58"	LAT - 39°09'52.65" LONG - 80°51'52.24"	N 4,335,860.225 E 540517.752

0 30 60 120 FEET
SCALE 1"=60'

NOTE: DRAWING WAS CREATED ON 22X34 PAPER. 11X17 DRAWINGS ARE HALF SCALE. REFER TO SCALE BAR FOR PROPER SCALING.

Blue Mountain Inc.
Engineers and Land Surveyors
11103 Main Street Hwy
Ripley, WV 25542 USA
(304) 372-9400

CNX GAS COMPANY, LLC
ONE ENERGY DRIVE
JANE LEW, WV 26378

CNX GAS

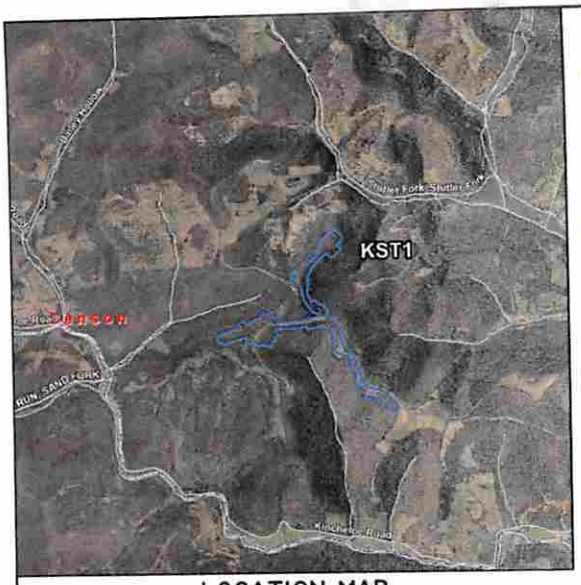
KST1HS WELL SITE
DETAILED SITE PLAN (3 OF 6)

REVISIONS	
DATE	TYPE
02/12/15	DEP COMMENTS
03/11/15	DEP COMMENTS - WAIVER

WILLIAM P. FOLEY
LICENSED
No. 4449
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER

DRAWN BY: WDH
CHECKED BY: WPF
DATE: 11/18/14
SCALE: 1"=60'
JOB NO:
DRAWING NAME: KST1 WELL SITE

SHEET NO 10



SDW
10/8/2014
Additional permits may be required from other agencies.

LOCATION MAP

SCALE: 1"=2000'

PROJECT INFORMATION

SURFACE OWNER:

MARK J. COFFINDAFER
TAX MAP/PARCEL 20-442-8
TOTAL PROPERTY AREA: 119.78 AC.

BETTY A. COFFINDAFER
TAX MAP/PARCEL 20-422-15
TOTAL PROPERTY AREA: 188.98 AC.

DEWAIN TITUS, JR.
TAX MAP/PARCEL 20-442-30
TOTAL PROPERTY AREA: 89.47 AC.

MIKE ROSS
TAX MAP/PARCEL 20-422-32
TOTAL PROPERTY AREA: 101.0 AC.

MIKE ROSS
TAX MAP/PARCEL 20-422-31
TOTAL PROPERTY AREA: 1.56 AC.

SITE LOCATION:

THE KSTIHS SITE IS LOCATED NORTH OF KINCHELOE ROAD (CR 35), APPROXIMATELY 0.5 MILES WEST OF THE INTERSECTION OF COUNTY ROAD 10/10 & KINCHELOE ROAD (CR 35).

ENTRANCE PERMIT

CNX GAS COMPANY WILL OBTAIN AN ENCROACHMENT PERMIT (FORM MM-109) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

MISS UTILITY

MISS UTILITY OF WEST VIRGINIA WAS NOTIFIED FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN (TICKET NO. 1426169338). IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO THE START OF THE PROJECT.

FLOODPLAIN NOTE

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT ARE NOT LOCATED IN A FLOOD ZONE, PER THE FLOOD INSURANCE RATE MAP (FIRM) NUMBERS 54033C0220D.

SHEET INDEX	
DRAWING NUMBER	DRAWING NAME
1	COVER SHEET
2	GENERAL NOTES (1 OF 2)
3	GENERAL NOTES (2 OF 2)
4	1/2 MILE BOUNDARY OVERVIEW
5	EXISTING CONDITIONS
6	OVERALL SITE PLAN
7	OVERALL SITE PLAN W/ ORTHO
8	DETAILED SITE PLAN (1 OF 6)
9	DETAILED SITE PLAN (2 OF 6)
10	DETAILED SITE PLAN (3 OF 6)
11	DETAILED SITE PLAN (4 OF 6)
12	DETAILED SITE PLAN (5 OF 6)
13	DETAILED SITE PLAN (6 OF 6)

SHEET INDEX	
DRAWING NUMBER	DRAWING NAME
14	ROAD PROFILES & PAD SECTIONS
15	ROAD SECTIONS
16	TANK PAD SECTIONS
17	RECLAMATION PLAN (1 OF 6)
18	RECLAMATION PLAN (2 OF 6)
19	RECLAMATION PLAN (3 OF 6)
20	RECLAMATION PLAN (4 OF 6)
21	RECLAMATION PLAN (5 OF 6)
22	RECLAMATION PLAN (6 OF 6)
23	CONSTRUCTION DETAIL (1 OF 3)
24	CONSTRUCTION DETAIL (2 OF 3)
25	CONSTRUCTION DETAIL (3 OF 3)
26	MATERIALS QUANTITY

CNX

CNX GAS COMP
ONE ENERGY
JANE LEW, W

KST1HS W

PAD SITE LO
NAD 83 - LAT: N 39° 09' 34.85
NAD 27 - LAT: N 39° 09' 34.52"
UTM (NAD83) - N: 4334599

TANK PAD SIT
NAD 83 - LAT: N 39° 09' 54.0
NAD 27 - LAT: N 39° 09' 53.7
UTM (NAD83) - N: 433519

ENTRANCE
NAD 83 - LAT: N 39° 08' 51.3
NAD 27 - LAT: N 39° 08' 51.0
UTM (NAD83) - N: 43332

UNION DIS

HARRISON COUNTY,

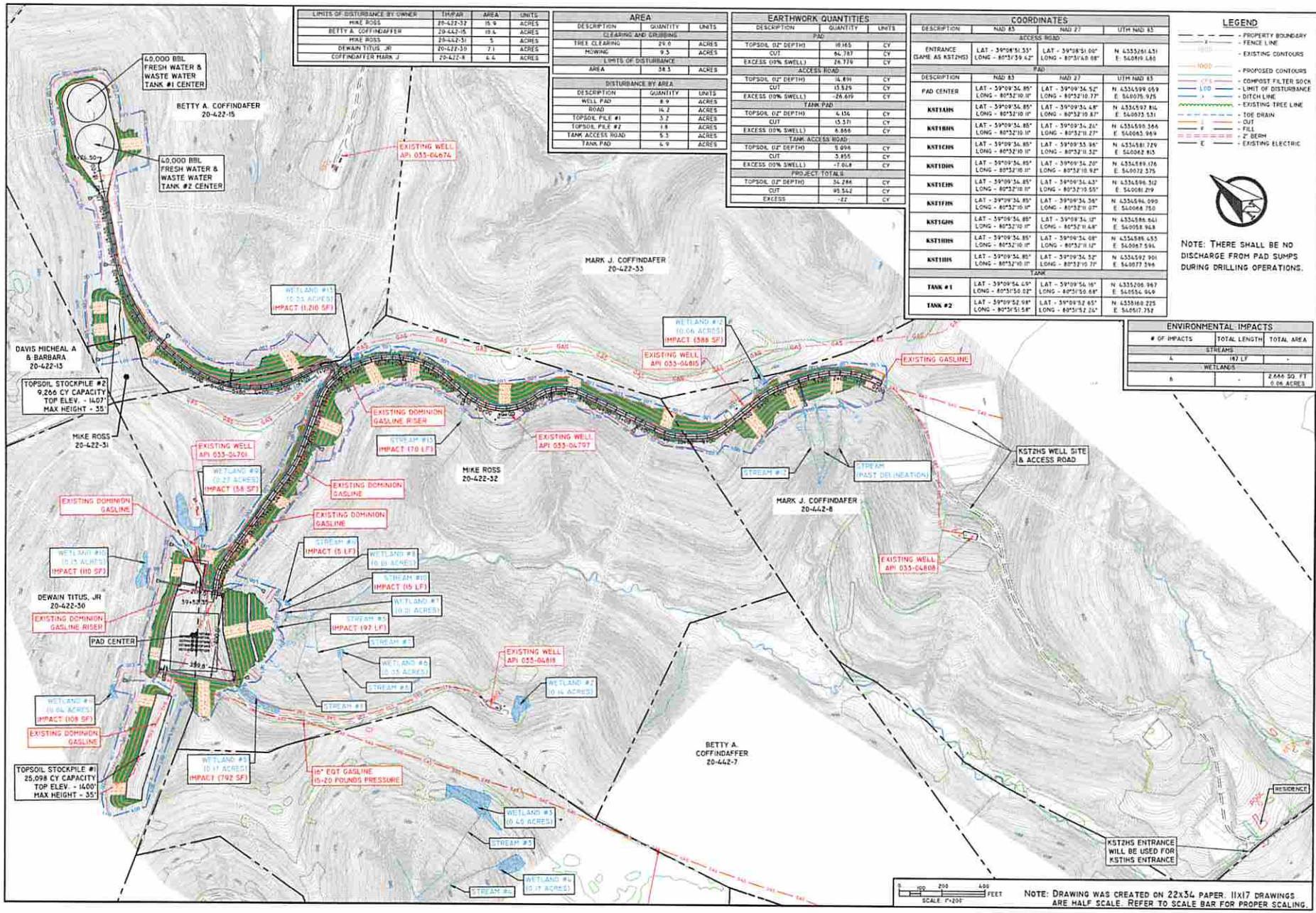
DATE: OCTOB

Blue Mou

Engineers and La

11023 Mason D
Burton, WV 26
(304) 662-

NOTE: DRAWING WAS CREATED ON 2
ARE HALF SCALE. REFER TO



LIMITS OF DISTURBANCE BY OWNER	TMPAR	AREA	UNITS
MIKE ROSS	20-422-32	15.9	ACRES
BETTY A. COFFINDAFER	20-442-15	19.4	ACRES
MIKE ROSS	20-442-31	5	ACRES
DEWAIN TITUS, JR	20-422-30	7.1	ACRES
COFFINDAFFER MARK J	20-422-8	4.4	ACRES

AREA		
DESCRIPTION	QUANTITY	UNITS
CLEARING AND GRUBBING		
TREE CLEARING	29.0	ACRES
MOWING	9.5	ACRES
LIMITS OF DISTURBANCE		
AREA	38.5	ACRES

DISTURBANCE BY AREA		
DESCRIPTION	QUANTITY	UNITS
WELL PAD	8.9	ACRES
ROAD	14.2	ACRES
TOPSOIL PILE #1	5.2	ACRES
TOPSOIL PILE #2	1.8	ACRES
TANK ACCESS ROAD	5.3	ACRES
TANK PAD	6.9	ACRES

EARTHWORK QUANTITIES		
DESCRIPTION	QUANTITY	UNITS
PAD		
TOPSOIL (12" DEPTH)	10,163	CY
CUT	94,787	CY
EXCESS (10% SWELL)	26,779	CY
ACCESS ROAD		
TOPSOIL (12" DEPTH)	14,891	CY
CUT	13,529	CY
EXCESS (10% SWELL)	-26,619	CY
TANK PAD		
TOPSOIL (12" DEPTH)	6,134	CY
CUT	13,371	CY
EXCESS (10% SWELL)	6,866	CY
TANK ACCESS ROAD		
TOPSOIL (12" DEPTH)	9,096	CY
CUT	3,855	CY
EXCESS (10% SWELL)	-7,068	CY
PROJECT TOTALS		
TOPSOIL (12" DEPTH)	34,284	CY
CUT	95,542	CY
EXCESS	-22	CY

COORDINATES			
DESCRIPTION	NAD 83	NAD 27	UTM NAD 83
ACCESS ROAD			
ENTRANCE (SAME AS KST2HS)	LAT - 39°08'51.33" LONG - 80°51'39.42"	LAT - 39°08'51.00" LONG - 80°51'40.08"	N 4335261.631 E: 540819.180
PAD			
DESCRIPTION	NAD 83	NAD 27	UTM NAD 83
PAD CENTER	LAT - 39°09'36.85" LONG - 80°52'10.11"	LAT - 39°09'36.52" LONG - 80°52'10.77"	N 4336599.059 E: 540075.975
KST1AHS	LAT - 39°09'36.85" LONG - 80°52'10.11"	LAT - 39°09'36.48" LONG - 80°52'10.87"	N 4336597.816 E: 540073.531
KST1BHS	LAT - 39°09'36.85" LONG - 80°52'10.11"	LAT - 39°09'36.26" LONG - 80°52'11.27"	N 4336595.366 E: 540063.969
KST1CHS	LAT - 39°09'36.85" LONG - 80°52'10.11"	LAT - 39°09'35.96" LONG - 80°52'11.52"	N 4336581.729 E: 540042.813
KST1DHS	LAT - 39°09'36.85" LONG - 80°52'10.11"	LAT - 39°09'36.20" LONG - 80°52'10.92"	N 4336589.176 E: 540072.575
KST1EHS	LAT - 39°09'36.85" LONG - 80°52'10.11"	LAT - 39°09'36.43" LONG - 80°52'10.55"	N 4336596.312 E: 540081.219
KST1FHS	LAT - 39°09'36.85" LONG - 80°52'10.11"	LAT - 39°09'36.38" LONG - 80°52'10.07"	N 4336594.090 E: 540068.750
KST1GHS	LAT - 39°09'36.85" LONG - 80°52'10.11"	LAT - 39°09'36.12" LONG - 80°52'10.68"	N 4336586.641 E: 540058.968
KST1HHS	LAT - 39°09'36.85" LONG - 80°52'10.11"	LAT - 39°09'36.08" LONG - 80°52'10.12"	N 4336585.633 E: 540067.596
KST1IHS	LAT - 39°09'36.85" LONG - 80°52'10.11"	LAT - 39°09'36.32" LONG - 80°52'10.72"	N 4336592.901 E: 540077.396
TANK			
TANK #1	LAT - 39°09'54.09" LONG - 80°51'50.02"	LAT - 39°09'54.16" LONG - 80°51'50.68"	N 4335206.967 E: 540556.969
TANK #2	LAT - 39°09'52.98" LONG - 80°51'51.58"	LAT - 39°09'52.85" LONG - 80°51'52.26"	N 4335168.225 E: 540517.752

LEGEND

- PROPERTY BOUNDARY
- FENCE LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- COMPOST FILTER SOCK
- LIMIT OF DISTURBANCE
- DITCH LINE
- EXISTING TREE LINE
- TOE DRAIN
- CUT
- FILL
- 2' BERM
- EXISTING ELECTRIC

NOTE: THERE SHALL BE NO DISCHARGE FROM PAD SUMPS DURING DRILLING OPERATIONS.

ENVIRONMENTAL IMPACTS		
# OF IMPACTS	TOTAL LENGTH	TOTAL AREA
STREAMS		
4	167 LF	-
WETLANDS		
8	-	2,666 SQ. FT. 0.06 ACRES

NOTE: DRAWING WAS CREATED ON 22x34 PAPER. 11x17 DRAWINGS ARE HALF SCALE. REFER TO SCALE BAR FOR PROPER SCALING.

Blue Mountain Inc.
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CNX GAS COMPANY, LLC
ONE ENERGY DRIVE
JANE LEW, WV 26378

CNX GAS

KST1HS WELL SITE OVERALL SITE PLAN

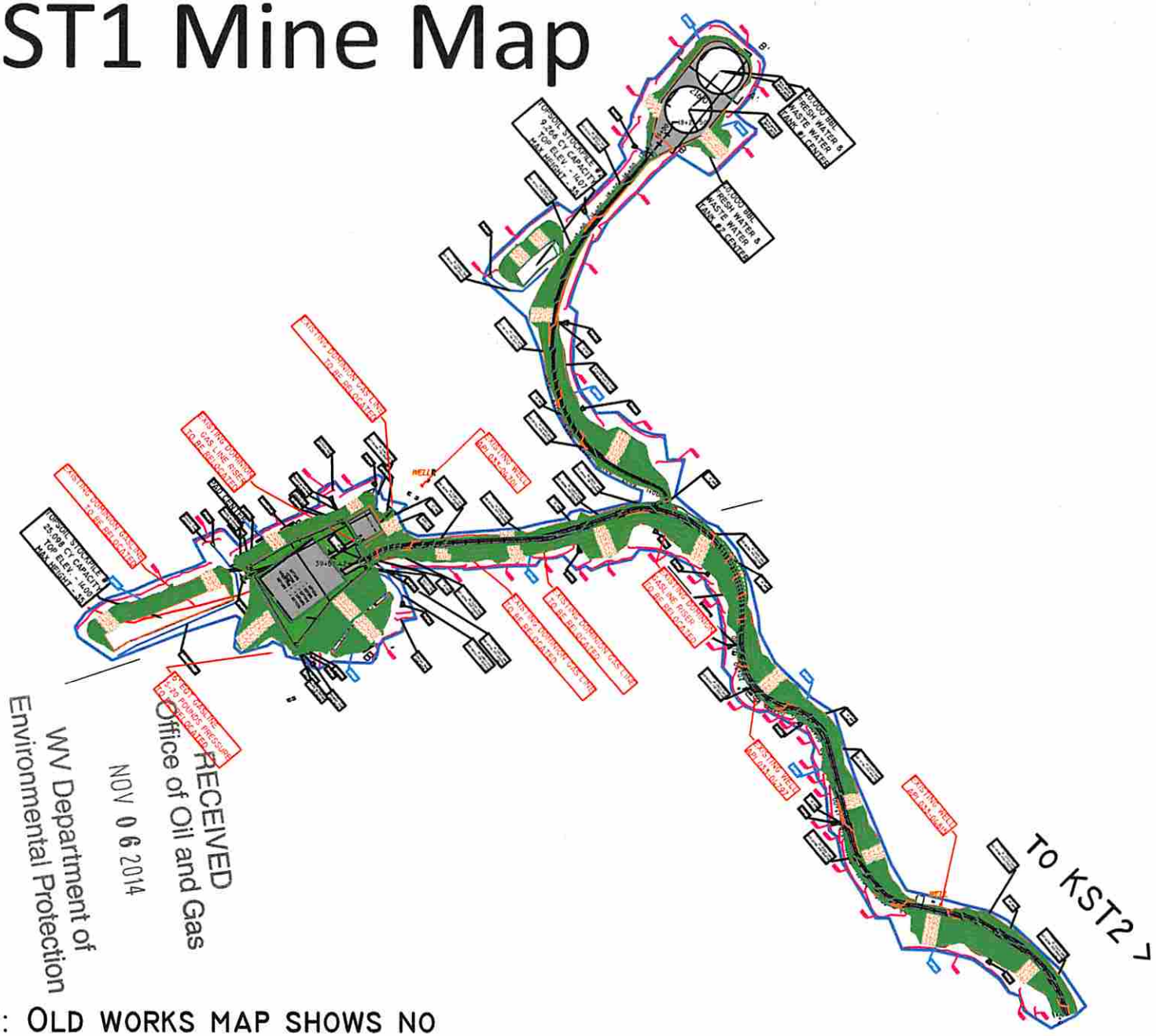
REVISIONS

DATE	TYPE

DRAWN BY: WSH
CHECKED BY:
DATE: 09/04/14
SCALE: 1"=200'
JOB NO.:
DRAWING NAME: KST1 WELL SITE
SHEET NO. 2

4703058559

KST1 Mine Map



NOTE: OLD WORKS MAP SHOWS NO PREVIOUS MINING ACTIVITY IN THE AREA

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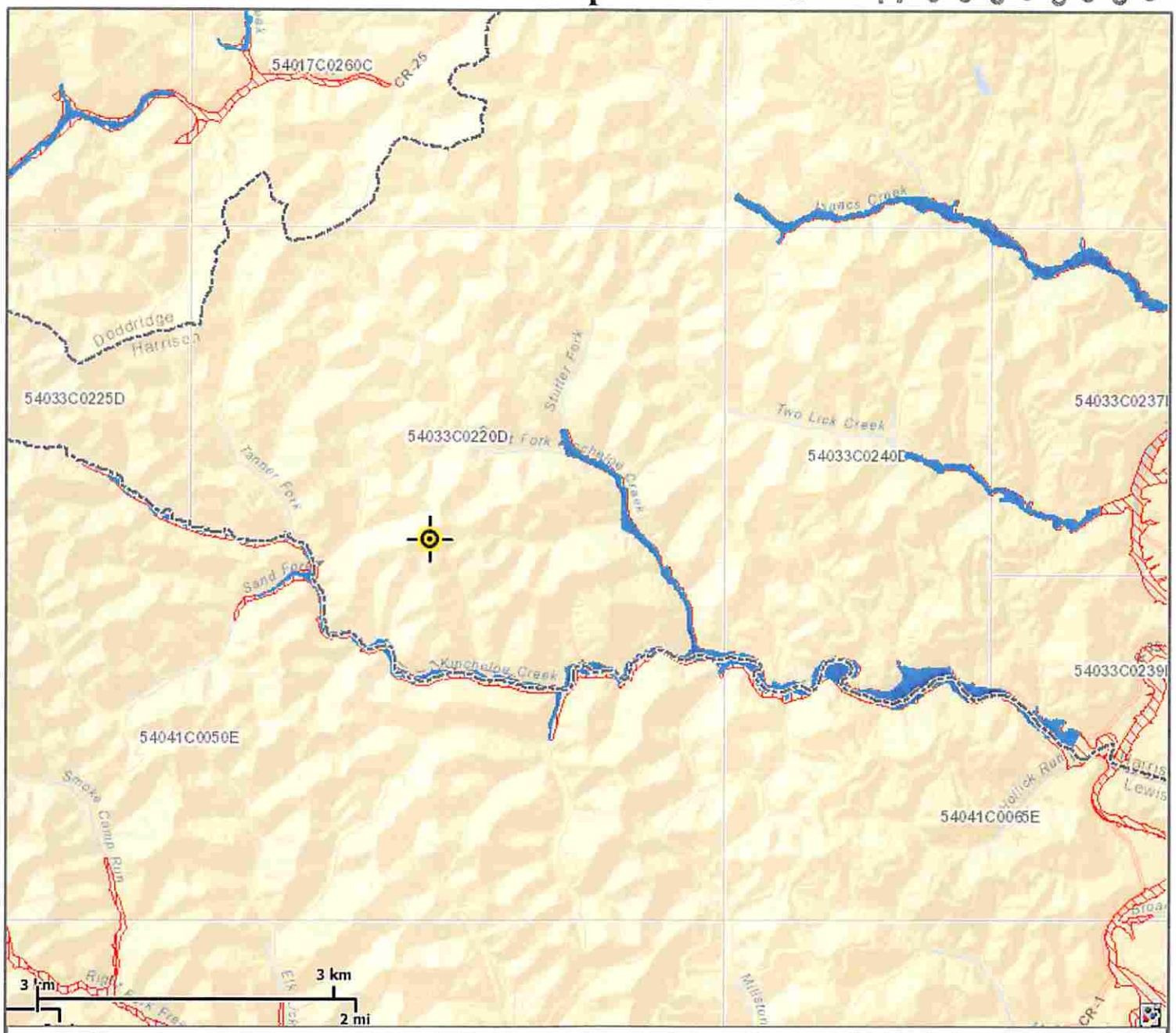
Office of Oil and Gas
NOV 06 2014
WV Department of
Environmental Protection

4703305855

WV Flood Map for KST1HS

4703305855



This map is not the official regulatory FIRM or DFIRM. Its purpose is to assist with determining potential flood risk for the selected location.

Map Created on 10/10/2014

Location of the mouse click

Approximate Study (Zone A)

Detailed Study (Zone AE, AH, AO)

Floodway

Flood Water Depth (HEC-RAS)

K—K Cross Section Line

810 Base Flood Elevation Line

DFIRM Panel (Map) Index

User Notes:

Disclaimer:

The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. To obtain more detailed information in areas where Base Flood Elevations have been determined, users are encouraged to consult the latest Flood Profile data contained in the official flood insurance study. These studies are available online at www.msc.fema.gov.

WV Flood Tool is supported by FEMA, WV NFIP Office, and WV GIS Technical Center (http://www.MapWV.gov/flood)

Flood Hazard Area: Selected site is **WITHIN** the FEMA 100-year floodplain.

Advisory Flood Height: N/A

Water Depth: N/A

Elevation: About 1324 feet

Location (long,lat): 80.534249 W, 39.159359 N

Location (UTM 17N): (540240, 4334564)

FEMA Issued Flood Map: 54033C0220D

Contacts: Harrison County

CRS Information: N/A

Flood Profile: No Profile

HEC-RAS Model: No Model

Parcel Number:

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NOV 03 2014
WV Department of
Environmental Protection