



west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Tuesday, May 25, 2021
WELL WORK PLUGGING PERMIT
Vertical Plugging

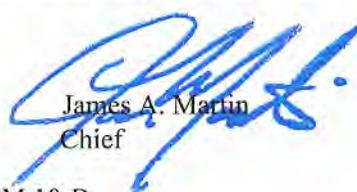
DIVERSIFIED PRODUCTION LLC
101 MCQUISTON DRIVE
JACKSON CENTER, PA 16133

Re: Permit approval for ELKEM 10-B
47-019-00701-00-00

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

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

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



James A. Martin
Chief

Operator's Well Number: ELKEM 10-B
Farm Name: ELKEM METALS CO.
U.S. WELL NUMBER: 47-019-00701-00-00
Vertical Plugging
Date Issued: 5/25/2021

Promoting a healthy environment.

05/28/2021

I

47-019-00701P

PERMIT CONDITIONS

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

CONDITIONS

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

05/28/2021

1) Date March 23, 2021
2) Operator's
Well No. 12956
3) API Well No. 47-019 - 00701

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

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

5) Location: Elevation 1000 ft Watershed Jarrett Branch
District Valley County Fayette Quadrangle Montgomery

6) Well Operator Diversified Production, LLC 7) Designated Agent Jeff Mast
Address P.O. Box 6070 Address P.O. Box 6070
Charleston, WV 25362 Charleston, WV 25362

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Gary Kennedy Name R & J Well Services, Inc.
Address 66 Old Church Lane Address P.O. Box 40
Pipestem, WV 25979 Hueysville, KY 41640-0040

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

See Attached

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WV Department of
Environmental Protection

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

Work order approved by inspector *Gary Kennedy* Date 5/10/21

PLUGGING PROGNOSIS

West Virginia, Fayette County

API # 47-019-00701

38.1406492543994, -81.2597539967323

Nearest ER: Montgomery General Hospital: 401 Sixth Ave. Montgomery, WV 25136

Casing Schedule

9 5/8" csg @ 30'

7" csg @ 1168' cemented to surface w/ 220 sks.

4 1/2" csg @ 2219' cemented w/ 100 ft. Estimated TOC at 1300'

1 1/2" tbg est @ 2100'

Completion

1st Stage: Weir (2102'- 2161')

2nd Stage: Weir/Shale (2015'- 2026')

3rd Stage: Big Injun (1950'- 1954')

Fresh Water: 56'**Saltwater:** None Reported**Coal:** 47'- 50', 797'- 800', 823'- 829'**Gas Show:** 1570'**Elevation:** 676'

1. Notify inspector, Gary Kennedy 304-382-8402, 48 hrs. prior to commencing operations. *Record Rock Pressure*
2. Tag TD w/ wireline.
3. TOOH LD 1 1/2" tbg and inspect.
4. Pull stretch on 4 1/2" csg and estimate free point.
5. TIH w/ tbg to 2161'. Kill well as needed with 6% bentonite gel.
6. Pump 691 Class A cement plug from 1470' – 2161' (Gas Show, Big Injun, and Weir Completion)
 - a. Tag TOC and top off as needed.
7. TOOH w/ tbg to 1470'. Load hole with 6% bentonite gel from: 1218'- 1470'
8. TOOH w/ tbg. Perforate 4 1/2" csg w/ 2 shots at 626', 676', 747', 798', 825', 879', 1118', 1168', 1218'
9. TIH w/ tbg to 1218'. Pickoff tbg in 4x2 wellhead. Pump 100' Class A cement plug from: 1118'- 1218' (7" csg st).
 - a. Tag TOC to confirm within reason of calculated ensuring adequate coverage on 7" annulus.
10. TOOH w/ tbg to 1118'. Load wellbore with 6% bentonite gel and attempt to establish circulation on 7" csg.
11. TOOH w/ tbg to 879'. Pack off tbg in 4x2 wellhead. Pump 303' Class A from: 576'- 879' (Elevation and 2 Coal shows). Monitor for continued circulation on 7".
12. TOOH w/ tbg.
13. Perforate 4 1/2" csg at 150'.
14. TIH w/ tbg to 150'. Pack off tbg in 4x2 wellhead. Pump 150' Class A cement plug from surface to 150' (Coal and FW shows). Monitor for continued circulation on 7".
15. Erect monument with API#, date plugged, & company name.
16. Reclaim location and road to WV-DEP specifications.



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4701900701P

WR-35

06-Apr-92

API # 47-19-00701

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

Reviewed TMG
Recorded _____

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AUG 31 1992
#10 (858) of
WV Division of
Environmental Protection

Well Operator's Report of Well Work

Farm name: ELKEM METALS CO.

Operator Well No.: ELKEM #10 (858)

LOCATION: Elevation: 992.00 Quadrangle: MONTGOMERY

District: VALLEY County: FAYETTE
Latitude: 9460 Feet South of 38 Deg. 10 Min. 0 Sec.
Longitude 2890 Feet West of 81 Deg. 15 Min. 0 Sec.

Company: BOWIE, INC.
132 WALDECK STREET
CLARKSBURG, WV

Agent: WILLIAM H. BOWIE

Inspector: STEVE CASEY
Permit Issued: 04/03/92
Well work Commenced: 04/06/92
Well work Completed: 04/13/92

Verbal Plugging
Permission granted on:
Rotary Cable _____ Rig
Total Depth (feet) 2316'
Fresh water depths (ft) _____
56
Salt water depths (ft) _____
N/A

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Cu. Ft
9.5/8"	30'	30'	--
7"	1168'	1168'	220 sks
4 1/2"	2219'	2219'	100 sks

Is coal being mined in area (Y/N)? N
Coal Depths (ft): 47-50, 797-800, 823-29

OPEN FLOW DATA

Producing formation Big Lime, Injun, Weir Pay zone depth (ft) 1950-2161
Gas: Initial open flow Show MCF/d Oil: Initial open flow N/A Bbl
Final open flow 581 MCF/d Final open flow N/A Bbl
Time of open flow between initial and final tests 4 Hou
Static rock Pressure 590 psig (surface pressure) after 48 Hou

Second producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl
Final open flow _____ MCF/d Final open flow _____ Bbl
Time of open flow between initial and final tests _____ Hou
Static rock Pressure _____ psig (surface pressure) after _____ Hou

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORMANCE INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

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Permitting
AUG 03 1992

For: BOWIE, INC.

By: W. Bowie
Date: 7/7/92

[Handwritten signature]

FAY. 0701

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STAGE I (2102-2161) 14 holes, 5000 gal 15% HCL, 2000 LBS SAND, 60 MCF N₂, 3000 GAL H₂O

STAGE II (2015-2026) 15 holes, 5000 gal 15% HCL, 4500 LBS SAND, 90 MCF N₂, 4400 GAL H₂O

STAGE III (1950-1954) 10 holes, 5000 gal 15% HCL, 2000 gal 20% HCL, 25 MCF

FILL	0 - 30	
SAND & Shale	30 - 47	
Coal	47 - 50	
SAND & Shale	50 - 444	1/2" H ₂ O @ 560'
SAND	444 - 529	
Sand & Shale	529 - 640	
SAND	640 - 797	
Coal	797 - 800	
Sand & Shale	800 - 823	
Coal	823 - 829	
Sand & Shale	829 - 914	
Sand	914 - 1036	
Shale & Sand	1036 - 1140	
Sand	1140 - 1150	
shale	1150 - 1364	
Ravenscroft	1364 - 1427	
shale	1427 - 1570	
maxton	1570 - 1630	GAS SHOW
L. Lime	1630 - 1690	
Shale	1690 - 1724	
B. Lime	1724 - 1975	
B. Iron	1975 - 2022	
Shale	2022 - 2094	
WEIR	2094 - 2151	GAS SHOW
Shale	2151 - 2316	DTD

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05/28/2021

WW-4A
Revised 6-07

1) Date: March 23, 2021
 2) Operator's Well Number 12956
 3) API Well No.: 47 - 019 - 00701

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

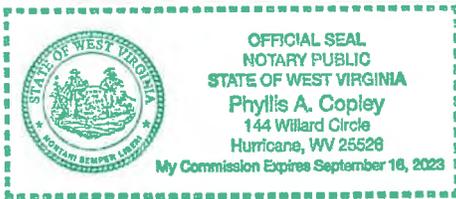
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>WV Environmental Inc.</u>	Name <u>None</u>
Address <u>P.O. Box 266</u>	Address _____
<u>Alloy, WV 25002</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>WV Manufacturing, LLC for Elkem Metals Company</u>
_____	Address <u>P.O. Box 158</u>
_____	<u>Alloy, WV 25002</u>
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Gary Kennedy</u>	(c) Coal Lessee with Declaration
Address <u>66 Old Church Lane</u>	Name <u>No Declaration</u>
<u>Pipestem, WV 25979</u>	Address _____
Telephone <u>304-382-8402</u>	_____

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

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

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

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



Well Operator Diversified Production, LLC
 By: [Signature] Jeff Mast
 Its: Director Production
 Address P.O. Box 6070
Charleston, WV 25362
 Telephone 304-543-6988

Subscribed and sworn before me this 29th day of March 2021
Phyllis A. Copley Notary Public
 My Commission Expires September 16, 2023

Oil and Gas Privacy Notice

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

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4701900701P

well 12956

47-019-00701

7019 1640 0000 1003 4930

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Alloy, WV 25002

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Certified Mail Fee	\$3.60	0523
Extra Services & Fees (check box, add fee as applicable)	\$2.85	03
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	Postmark Here
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$1.40	05/03/2021
Total Postage	\$7.85	
Sent To	12956 P&A	
Street and	WV Environmental Inc.	
City, State	P.O. Box 266	
	Alloy, WV 25002	

PS Form 3800, October 2019

7019 1640 0000 1003 4923

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Certified Mail Fee	\$3.60	0523
Extra Services & Fees (check box, add fee as applicable)	\$2.85	03
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	Postmark Here
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$1.40	05/03/2021
Total Postage	\$7.85	
Sent To	12956 P&A	
Street and	WV Manufacturing	
City, State	for Elkem Metals Company	
	P.O. Box 158	
	Alloy, WV 25002	

PS Form 3800, October 2019

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05/28/2021

4701900701f

WW-9
(5/16)

API Number 47 - 019 - 00701
Operator's Well No. 12956

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Diversified Production, LLC OP Code 494524121

Watershed (HUC 10) Jarrett Branch Quadrangle Montgomery

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: Produced fluid and cement returns

Will a synthetic liner be used in the pit? Yes No If so, what ml? _____

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection (UIC Permit Number 47-119-00724)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Will closed loop system be used? If so, describe: N/A

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

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

Additives to be used in drilling medium? N/A

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. N/A

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

-Landfill or offsite name/permit number? N/A

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature _____

Company Official (Typed Name) Jeff Mast

Company Official Title Director Production



Subscribed and sworn before me this 29th day of March, 2021

Phyllis A. Copley Notary Public

My commission expires September 16, 2023

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Proposed Revegetation Treatment: Acres Disturbed 1 +/- Prevegetation pH

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20 or equivalent

Fertilizer amount lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Red Fescue	40	Red Fescue	15
Alsike	5	Alsike Clover	5
Annual Rye	15		

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments:

Title: Inspects Date: 5/10/21

Field Reviewed? () Yes () No

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WV Department of Environmental Protection 05/28/2021



Diversified Gas & Oil Corporation
100 Diversified Way
Pikeville KY, 41051

47-019-00701

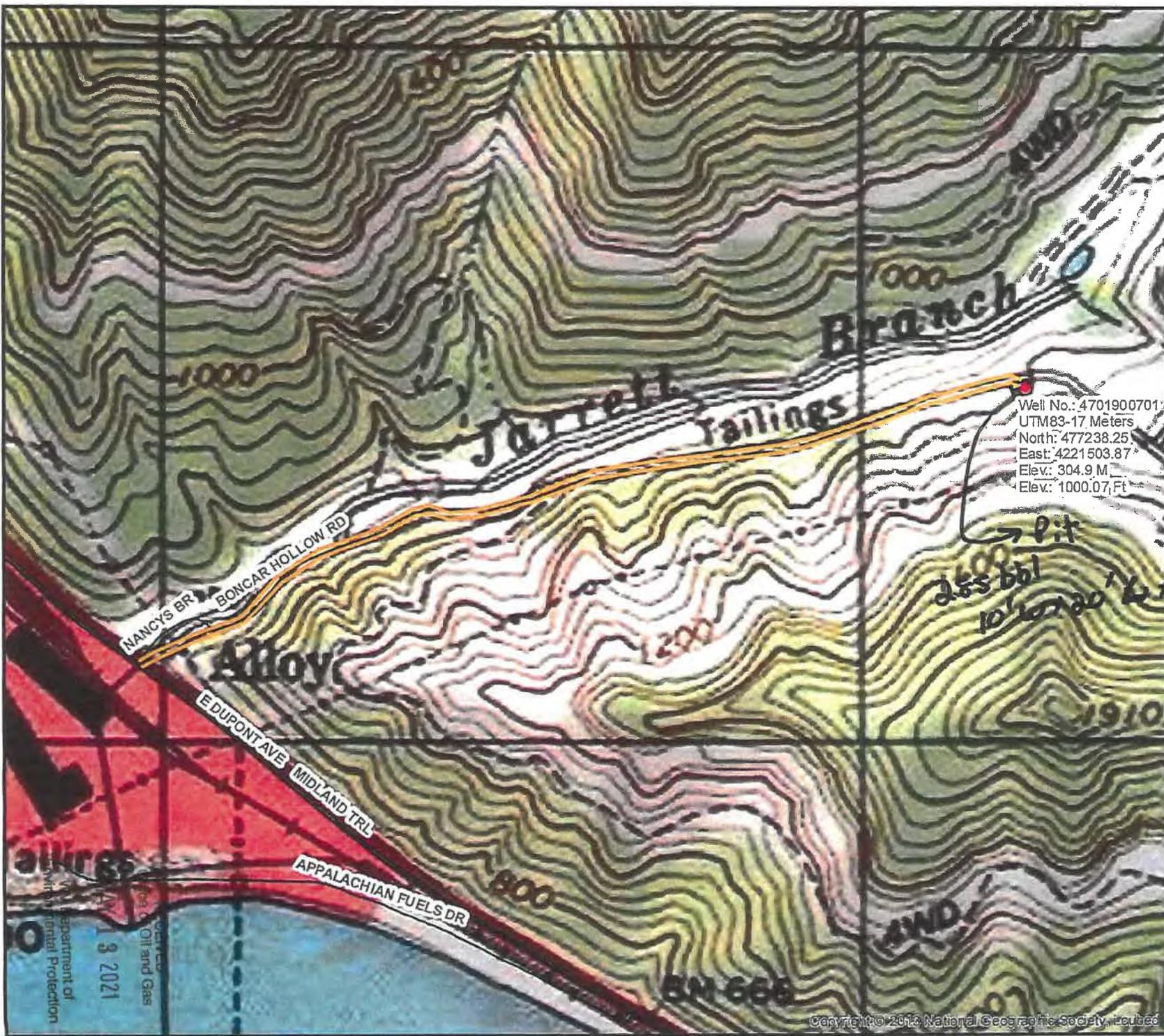
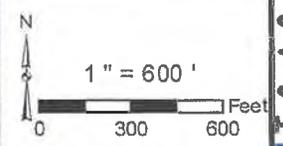
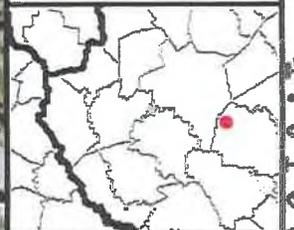
Plugging Map

Legend

- Well
- Access Road
- Pits
- Pad
- Public Roads

Handwritten notes:
Pit
255 bbl
10' to 20' dia
& Deep

Well No.: 4701900701
UTM83-17 Meters
North: 477238.25
East: 4221503.87
Elev.: 304.9 M
Elev.: 1000.07 Ft



Department of
Environmental Protection
19 2021
Oil and Gas

4701900701P

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-019-00701 WELL NO.: 12956
 FARM NAME: Elkem Metals Co.
 RESPONSIBLE PARTY NAME: Diversified Production LLC
 COUNTY: Fayette DISTRICT: Valley
 QUADRANGLE: Montgomery
 SURFACE OWNER: WV Environmental Inc
 ROYALTY OWNER: Elkem Metals Co.
 UTM GPS NORTHING: 4,221,503.87
 UTM GPS EASTING: 477,238.25 GPS ELEVATION: 1000'

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

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

Survey grade GPS : Post Processed Differential

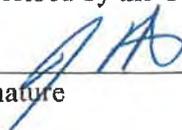
Real-Time Differential

Mapping Grade GPS : Post Processed Differential

Real-Time Differential

4. Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.


Signature

Director Production
Title

03/19/2021
Date

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