



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 EM 1
47-019-00680-00-00

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: EM 1
Farm Name: ELKEM METALS COMPANY
U.S. WELL NUMBER: 47-019-00680-00-00
Vertical Plugging
Date Issued: 5/25/2021

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.

4701900680P

- 1) Date March 23, 2021
- 2) Operator's
Well No. 12951
- 3) API Well No. 47-019 - 00680

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 639.2 ft Watershed Great Kanawha River
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
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Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

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

05/28/2021

4701900680P

PLUGGING PROGNOSIS

West Virginia, Fayette County

API # 47-019-00680

38.1406485155099, -81.2834605913114

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

Casing Schedule

13 3/8" csg @ 90'

9 5/8" csg @ 174' cemented to surface w/ 60 sks.

7" csg @ 991' cemented to surface w/ 206 sks.

4 1/2" csg @ 1936' cemented w/ 95sks. Estimated TOC at 1100'

Completion

1st Stage: Weir (1811'- 1890')

2nd Stage: Pocono (1726'- 1756')

3rd Stage: Big Lime (1492'- 1676')

Fresh Water: 40', 73', 115', 150', 228', 390', 480'

Saltwater: 1066'

Coal: None Reported

Gas Show: Completion Intervals

Elevation: 643'

1. Notify inspector, Gary Kennedy 304-382-8402, 48 hrs. prior to commencing operations. *Record Rock Pressure*
2. Tag TD w/ wireline.
3. Pull stretch on 4 1/2" csg and estimate free point.
4. TIH w/ tbg to 1890'. Kill well as needed with 6% bentonite gel.
5. Pump 498' Class A cement plug from 1392'- 1890'(Weir, Pocono, and Big Lime Completion)
 - a. Tag TOC and top off as needed.
6. TOOH w/ tbg to 1392'. Load hole with 6% bentonite gel from: 1116'- 1392'
7. TOOH w/ tbg. Perforate 4 1/2" csg w/ 2 shots at 941', 991', 1066', and 1116'. Perforations may be immitted if 4 1/2" csg free point is determined above perforation depth.
8. TIH w/ tbg to 1116'. Packoff tbg in 4x2 wellhead. Pump 175' Class A cement plug from: 941'- 1116' (7" csg st).
 - a. Tag TOC to confirm within reason of calculated ensuring adequate coverage on 4 1/2" annulus.
9. TOOH w/ tbg. Pressure test 4 1/2" csg. If test passes perforate 4 1/2" csg at 643' w/ 4 shots and establish circulation on 7" csg. Once circulation is established pump 643' Class A cement plug by bull heading 4 1/2" csg and circulating out good returns on 7" csg.
 - a. If pressure test fails perforate at 643', 593', 543', 480', 390', 228', 150', 115', and 73. Then spot plug through tbg.
10. Erect monument with API#, date plugged, & company name.
11. Reclaim location and road to WV-DEP specifications.

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SKK
WV Department of
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05/28/2021

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm name: ELKEM METALS COMPANY Operator Well No.: EM #1

LOCATION: Elevation: 643.00 Quadrangle: MONTGOMERY

District: PLATEAU County: FAYETTE
Latitude: 9550 Feet South of 38 Deg. 10Min. 0 Sec.
Longitude 9740 Feet West of 81 Deg. 15 Min. 0 Sec.

Company: BOWIE, INC.
P.O. DRAWER 1430
CLARKSBURG, WV 26302-1430

Agent: WILLIAM H. BOWIE

Inspector: RODNEY G. DILLON
Permit Issued: 01/09/92
Well work Commenced: 2-22-92
Well work Completed: 2-3-92
Verbal Plugging _____
Permission granted on: _____
Rotary Cable Rig
Total Depth (feet) 1990
Fresh water depths (ft) _____
40, 73, 115, 150, 228, 390, 480
Salt water depths (ft) _____
1066
Is coal being mined in area (Y/N)? N
Coal Depths (ft): None Reported

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			
13 3/8"	90'	90'	
9 5/8"	174'	174'	60sk
7"	991'	991'	206sk
4 1/2"	1936'	1936'	95sk

OPEN FLOW DATA

Producing formation weir, pocoro Pay zone depth (ft) 1724-1890
 Gas: Initial open flow show MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow 220 MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock Pressure 225 psig (surface pressure) after 48 Hours

Second producing formation Big Lime Pay zone depth 1626
 Gas: Initial open flow show MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow comingled MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock Pressure comingled psig (surface pressure) _____ Hours

Office REC-21626
MAY 04 20 1992
WV Department of Environmental Protection

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

For: BOWIE, INC.

By: W. Bowie
Date: _____

I (Weir 1811-1890) 13 holes, 400sks Sand, 500 gal 15% Hcl, 421 BBL H2O

019-680X

II (Pocono 1726-1756) 15 holes, 500 sks Sand, 500gal 15% Hcl, 455 BBLH2O

III (1492-1676) 11 holes, 500 gal 15% Hcl, 300gal 28%Hcl

Fill	0-48	J20@	40,73,115,150,228,390,480	(7" total H2O)
Sand	48-290			
Sand & Shale	290-385			
Sand	385-720			
Sand & Shale	720-1380	1" H2O @	1066	
L. Lime	1380-1438			
Shale	1438-1465			
B. Lime:	1465-1725	Gas Show		
Binjun	1725-1733			
Pocono	1733-1745			
Shale	1745-1811			
Weir	1811-1843	Gas Show		
Shale	1843-1882			
L. Weir	1882-1922	Gas Show		
Shale	1922-1990	DTD		

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WW-4A
Revised 6-07

1) Date: March 23, 2021
2) Operator's Well Number: 12951
3) API Well No.: 47 - 019 - 00680

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

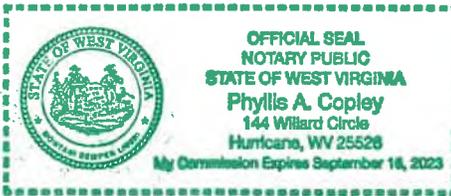
4) Surface Owner(s) to be served: (a) Name WV Manufacturing, LLC, Address P.O. Box 158 Alloy, WV 25002, (b) Name, Address, (c) Name, Address. 5) (a) Coal Operator Name None, Address, (b) Coal Owner(s) with Declaration Name WV Manufacturing, LLC for Elkem Metals Company, Address P.O. Box 158 Alloy, WV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

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: 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 by Phyllis A. Copley Notary Public
My Commission Expires September 16, 2023

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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.

4701900680P

Well 12951

47-019-00680

7019 1640 0000 1003 4947

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

For delivery information, visit our website at www.usps.com®.

Alloy, WV 25002

OFFICIAL USE

Certified Mail Fee	\$3.60	0523
Extra Services & Fees (check box, add fee if appropriate)	\$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	\$1.80	05/03/2021
Total Postage	\$12.25	
Sent To	12951 and 12950 P&A	
Street and	WV Manufacturing, LLC	
City, State,	and Elkem Metals Company	
PS Form 3800	P.O. Box 158	
	Alloy, WV 25002	

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05/28/2021

4701900680P

WW-9
(5/16)

API Number 47 - 019 - 00680
Operator's Well No. 12951

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) Great Kanawha River 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 *HJK*)
- 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

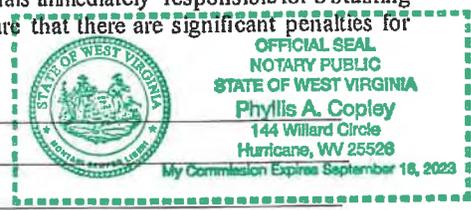
-Landfill or offsite name/permit number? N/A

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 *[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: Inspector

Date: 5/10/21

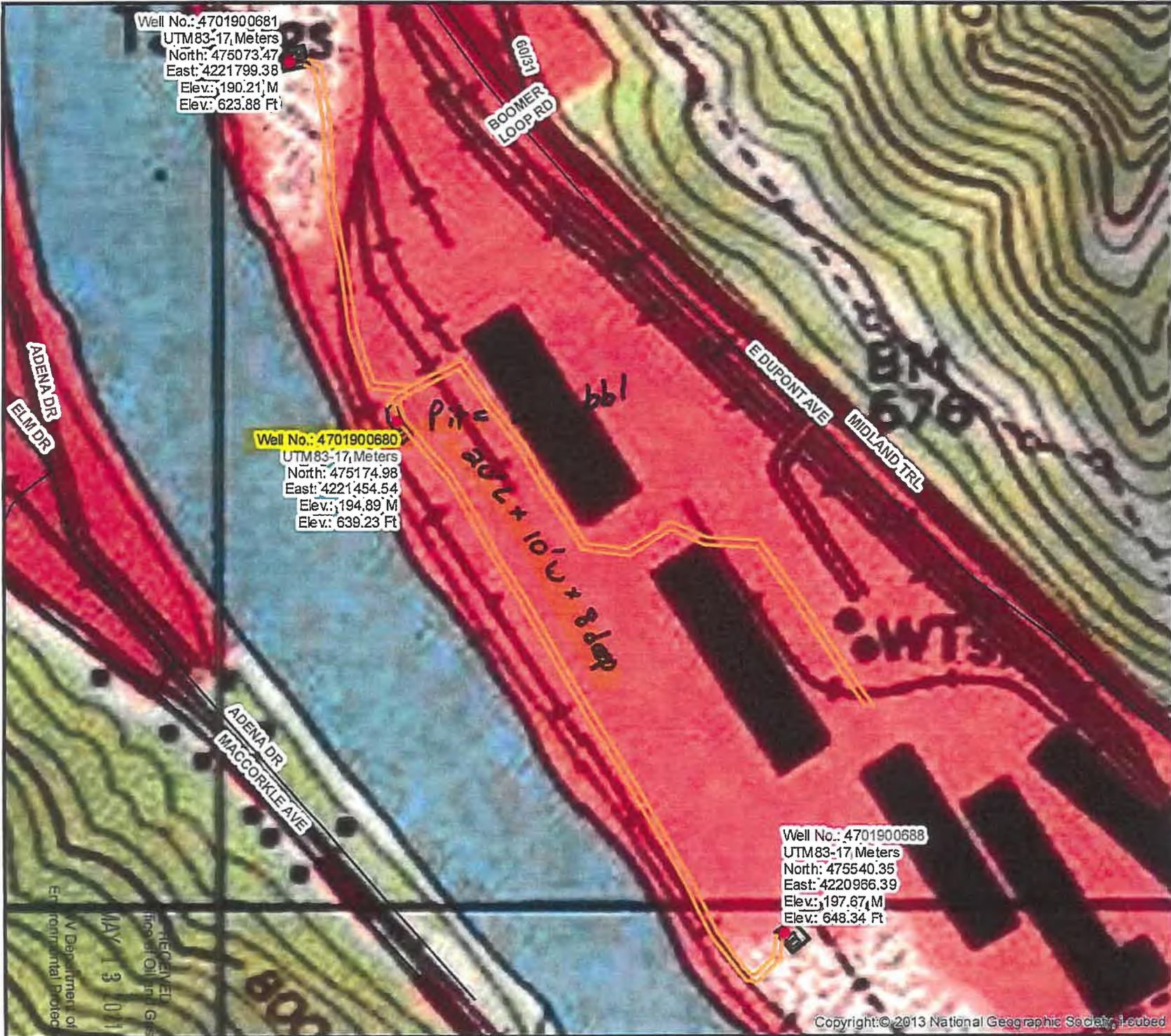
Field Reviewed? () Yes () No

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05/28/2021



Well No.: 4701900681
 UTM83-17, Meters
 North: 475073.47
 East: 4221799.38
 Elev.: 190.21 M
 Elev.: 623.88 Ft

Well No.: 4701900680
 UTM83-17, Meters
 North: 475174.98
 East: 4221454.54
 Elev.: 194.89 M
 Elev.: 639.23 Ft

Well No.: 4701900688
 UTM83-17, Meters
 North: 475540.35
 East: 4220966.39
 Elev.: 197.87 M
 Elev.: 648.34 Ft

6031
 BOOMER LOOP RD

EDUPONT AVE
 MIDLAND TRL

ADENA DR
 MACCORKLE AVE

Pit = 20' x 10' x 8' deep
 bb1

WTS



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

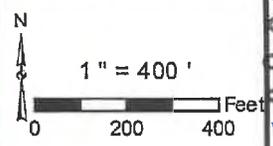
47-019-00688, 47-019-00681,
 47-019-00680

Plugging Map

Legend

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

Handwritten signature



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 MAY 13 2011
 Environmental Protection

4701900680P

WW-7
8-30-06



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

API: 47-019-00680 WELL NO.: 12951

FARM NAME: Elkem Metal Co.

RESPONSIBLE PARTY NAME: Diversified Production LLC

COUNTY: Fayette DISTRICT: Valley

QUADRANGLE: Montgomery

SURFACE OWNER: WVA Manufacturing LLC

ROYALTY OWNER: Elkem Metals Co.

UTM GPS NORTHING: 4,221,454.54

UTM GPS EASTING: 475,174.98 GPS ELEVATION: 639.2'

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 X: Post Processed Differential X
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]
Signature

Director Production
Title

03/19/2021
Date

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