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 18, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-6100370, issued to US DEPT OF ENERGY, 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.

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. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalities being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: MERC-1
Farm Name: U.S. DEPT OF ENERGY
API Well Number: 47-6100370
Permit Type: Plugging
Date Issued: 05/18/2016

Promoting a healthy environment.

6100370P

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.

WW-4B
Rev. 2/01

1) Date April 12, 2016
2) Operator's Well No. MERC-1
3) API Well No. 47-061-00370 P

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 959.51 Watershed ____
District Morgan County Monongalia Quadrangle Morgantown Nortl

6) Well Operator US Dept Of Energy
Address PO Box 880
Morgantown, WV 26501

7) Designated Agent ____
Address ____

8) Oil and Gas Inspector to be notified
Name Gayne Knitowski
Address PO box 108
Gormainia, WV 26720

9) Plugging Contractor
Name Hydrocarbon Well Services, Inc.
Address PO Box 995
Buckhannon, WV 26201

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

See attachment for details and procedures.

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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 [signature] Date 4/25/2016

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Plugging Prognosis - Morgantown, WV

MERC-1

API # 047-061-0370

Mon. Co. WV

By: Kevin Metz

Date: 3/2/16

Current Status:

13' csg. 112' (cemented to surface)

9 5/8'' csg. @ 1203' (cemented to surface)

4 1/2'' csg. @ 2416' (cemented to surface)

2 3/8'' tbg. @2400' w/seat nipple

T.D. 2502'

Peforations @ Gantz Sand 1852'-1846', 1826' - 1835', 1808' - 1794' (4 shots per ft.)

Perforations @ Gordon Stray Sand 1962' - 1958' (4 shots per ft.)

Perforations @ Fourth Sand 2243' - 2237', 2228' - 2222' (4 shots per ft.)

Perforations @ Bayard Sand 2351' - 2341' (4 shots per ft.)

Coal @ 443'-448' 619' - 621' 694' - 696'

FW @ 724'

Elevation: 959.51

1. Notify State Inspector, Gayne Knitowski 304-546-8171, 24 hrs. prior to commencing operations.
2. Remove fencing, bollards and posts, remove all above ground production equipment and haul off location site.
3. Move rig and plugging equipment on site, spot plugging equipment, ~~install duck pond~~ and rig up. MUST USE TANK FOR ANY WELL EFFLUENT.
4. Pull estimated 2400' of 2 3/8'' tubing, T.I.H. with tbg and set cement plug from (2502' to 1662'), T.O.H with tbg. Wait on cement.
5. Check TOC, top off as needed. Trip in workstring to 1662' and gel hole back up to 1253' and set 100' plug at bottom of 9 5/8'' casing (1253'to 1153'), pull tbg. to 1153' and gel back to 1010', set 110' cement plug @ elevation (1014' to 904'), trip tbg above cement, gel back up to 774' and set 200' cement plug (774' to 574') @ freshwater, & COAL. Trip out tbg.
6. Check TOC, TIH with tbg to 574' and gel back up to 500', set 120' cement plug (508' to 388') @ coal, gel back up to 200' and set a 200' surface plug. Trip out.
7. Set Monument to WV-DEP specificatins, RDMO
9. Backfill location with #57 stone and compact.

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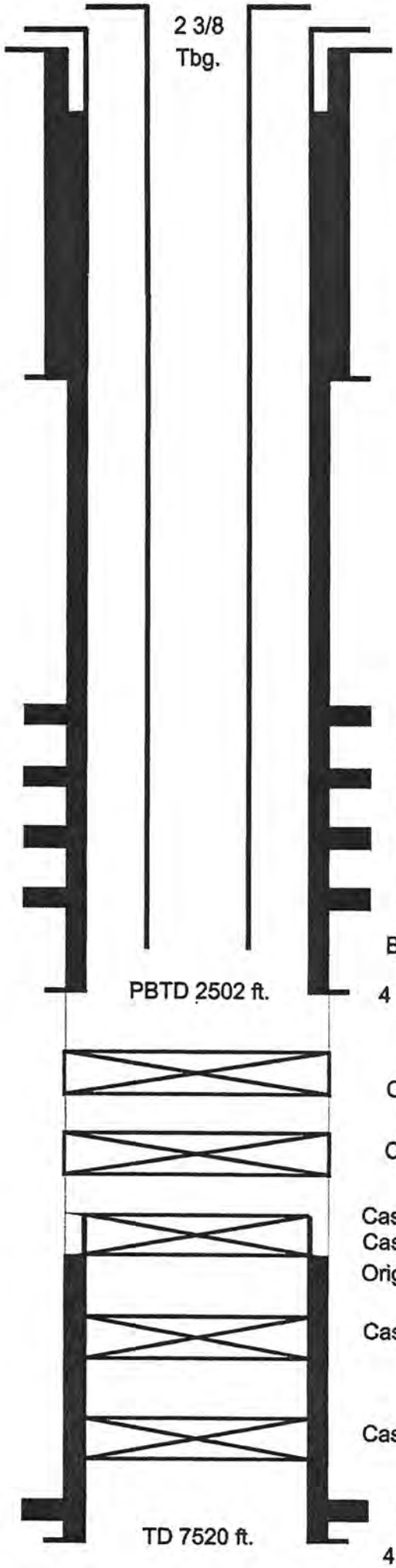
MERC-1 WELL DIAGRAM
as of April 1997



Top of cement 300 ft. between 4 1/2 and 9 5/8 casing

9 5/8 Casing set at 1193 ft.

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Perf. Gantz Sand 1852 - 1846, 1836 - 1826, 1808 - 1794, 4 shots per ft.

Perf. Gordon Stray Sand 1962 - 1956 ft., 4 shots per ft.

Perf. Fourth Sand 2243 - 2237, 2228 - 2222, 4 shots per ft.

Perf. Bayard Sand 2351 - 2341, 4 shots per ft,

Bottom of 2 3/8 in. tubing at 2400 ft. with seating nipple

4 1/2 Casing set at 2502 ft.

Open hole bridge plug at 4000 ft., with 200 ft. cement on top

Cement plug (open hole) 5450 - 5250 ft.

Casing cut at 5480 ft. 12/92
Casing bridge plug at 5480 ft.
Original top of cement 5674 ft.

Casing bridge plug set at 6800 with 100 ft. cement on top

Casing plug topped with calcseal at 7220 ft.

Perf Devonian Shale 7320 - 7490 (17 shots)

4 1/2 Casing set at 7514 ft.

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WR-35

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State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Date January 14, 1994
Operator's
Well No. MERC #1
Farm Morgantown Energy Tec. Ctr.
API No. 47 - 061 - 0370

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil ___ / Gas X / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas," Production ___ / Underground Storage ___ / Deep ___ / Shallow X /)

LOCATION: Elevation: 959.51 Watershed Monongahela River - West Run
District: Morgan County Monongalia Quadrangle Morgantown North

COMPANY US DEPT OF ENERGY
ADDRESS Box 880 Morgantown WV
DESIGNATED AGENT
ADDRESS
SURFACE OWNER US DOE
ADDRESS Box 880 Morgantown WV
MINERAL RIGHTS OWNER same
ADDRESS same
OIL AND GAS INSPECTOR FOR THIS WORK
Randal Mick ADDRESS ~~111 Blackshore Dr~~ Mannington WV 26582
PERMIT ISSUED 10/29/93
~~DRILLING~~ WORK COMMENCED 11/29/94
~~DRILLING~~ WORK COMPLETED 12/14/94
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	112	112	surface
9 5/8	1203	1203	surface
8 5/8			
7			
5 1/2			
4 1/2	2416	2416	820
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Bayard Depth 2330 feet
Depth of completed well 2416 feet Rotary X / Cable Tools
Water strata depth: Fresh 724 feet; Salt --- feet
Coal seam depths: 443 - 448 Is coal being mined in the area? no

OPEN FLOW DATA
Producing formation Bayard & Fourth Sand Pay zone depth 2226, 2240, 2330, feet
Gas: Initial open flow 30 Mcf/d Oil: Initial open flow ___ Bbl/d
Final open flow ___ Mcf/d Final open flow ___ Bbl/d
Time of open flow between initial and final tests ___ hours
Static rock pressure ___ psig (surface measurement) after ___ hours shut in
(If applicable due to multiple completion--)
Second producing formation Gordon Stray, Gantz Pay zone depth 1831, 1849, 1959, 1801, feet
Gas: Initial open flow 30 Mcf/d Oil: Initial open flow ___ Bbl/d
Final open flow 267 Mcf/d Oil: Final open flow ___ Bbl/d
Time of open flow between initial and final tests ___ hours
Static rock pressure 810 psig (surface measurement) after 72 hours shut in

(Continue on reverse side)

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DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Bayard	2341 - 2351	40 shots	308 bbls 75% Quality Foam	21,000# sand
Fourth	2222 - 2228	24 shots		
	2237 - 2243	24 shots	382 bbls 75% Quality Foam	30,000# sand
Gordon Stray				
	1956 - 1962	24 shots	382 bbls 75% Quality Foam	32,500# sand
Gantz	1794 - 1808	56 shots		
	1826 - 1836	40 shots		
	1847 1852	24 shots	30,000 scf foamed acid	

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
FROM ORIGINAL WELL RECORD 02/07/80					

Formation	Color	Hard or Soft	Top G.L.	Bottom	Oil, Gas or Water	Depth	Remarks
U FREEPORT	(AIR DRILLED, MARKER BEDS NOTED)		443	448	COAL		
SALT SAND			724	922	FRESH WTR		V. LOW FLOW
BIG LIME			1136	1298			
BIG INJUN			1238	1328			GAS SHOW
SQAW			1418	1458			GAS SHOW
BEREA			1723	1734			
GANTZ			1788	1728			
GORDON			1988	2028			
4 TH SAND			2288	2298			
5TH SAND			2308	2328			GAS SHOW
BAYARD			SHALED	OUT			
WARREN			2688	2798			
SPEECHLEY			3038	3043			
RILEY			4333	4341			GAS SHOW
BENSON			4633	4645			

(Attach separate sheets as necessary)

U.S. Department of Energy
Well Operator

By: M. Brent Clendenin

Date: 4/4/94

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

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MAY 24 94
WV Division of
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API # 061-0370 P

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
DIVSION OF OIL AND GAS

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE IN TRIPLICATE, one copy mailed to the Division, one copy to be retained by the Well Operator and the third copy (and extra copies if required) should be mailed to each coal operator at their respective addresses.

Farm name: Morgantown En. Tec. Ctr. Operator Well No.: MERC-1

LOCATION: Elevation: 959.51' Quadrangle: Morgantown
District: County:
Latitude: 14,600 Feet South of 79 Deg. 57 Min. 30 Sec.
Longitude 4,500 Feet West of 39 Deg. 42 Min. 30 Sec.

Well type: OIL _____ GAS x

Company: U.S. Dept of Energy
Box 880
Morgantown WV

Coal Operator or Owner _____

Agent: _____
Inspector: Randall Mick
Permit Issued:

Coal Operator or Owner _____

AFFIDAVIT

STATE OF WEST VIRGINIA,
County of Upshur ss:

Phillip Pulliam and Alvin Sorcan being first duly sworn according to law depose and say that they are experienced in the work of plugging and filling oil and gas wells and were employed by U S Dept. of Energy, well operator, and participated in the work of plugging and filling the above well, that said work was commenced on the 7 day of December, 1993, and that the well was plugged and filled in the following manner:

TYPE	FROM	TO	PIPE REMOVED	LEFT
Bridge plug	6801	6800		
Cement	6800	6700		
6% gel	6700	5480		
Cement	5480	5280	5480	2040

Description of monument: _____

and that the work of plugging and filling said well was completed on the 8 day of December, 1993.

And furthur deponents saith not.

Phillip Pulliam
Alvin Sorcan

Sworn and subscribe before me this 8 day of December, 1993
My commission expires: 8/4/03

Joyce K. Harlow
Notary Public

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
JOYCE K. HARLOW
RT. 5 BOX 660
BUCKHANNON, WV 26201
My Commission Expires AUG. 4, 2003

MAY 27 1994

Randal Mick

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061-0370-PP-Fra
Issued 11/05/93
Expires 11/05/95

FORM WW-2B

Page ___ of ___

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

1) Well Operator: U.S. Department of Energy 891 13400 (6) 484

2) Operator's Well Number: MERC-1 3) Elevation: 959.51

18195

4) Well type: (a) Oil __/ or Gas X /

(b) If Gas: Production __/ Underground Storage __/
Deep __/ Shallow X /

5) Proposed Target Formation(s): Alexander, Elk 439, Benson, Fifth, Fourth, Gordon Stray Gantz, Weir, Squaw

6) Proposed Total Depth: 4800' feet

7) Approximate fresh water strata depths: 210'

8) Approximate salt water depths: 710'

9) Approximate coal seam depths: 443', 460', 598', 619', 694'

10) Does land contain coal seams tributary to active mine? Yes ___/ No X /

11) Proposed Well Work: Partially plug well; cut and pull 4½" csq. from about 5500'. Log and evaluate proposed target formations;

12) Return 4½" csq. to about 4800' and cement to surface. Perforate/stimulate selected formations.

CASING AND TUBING PROGRAM

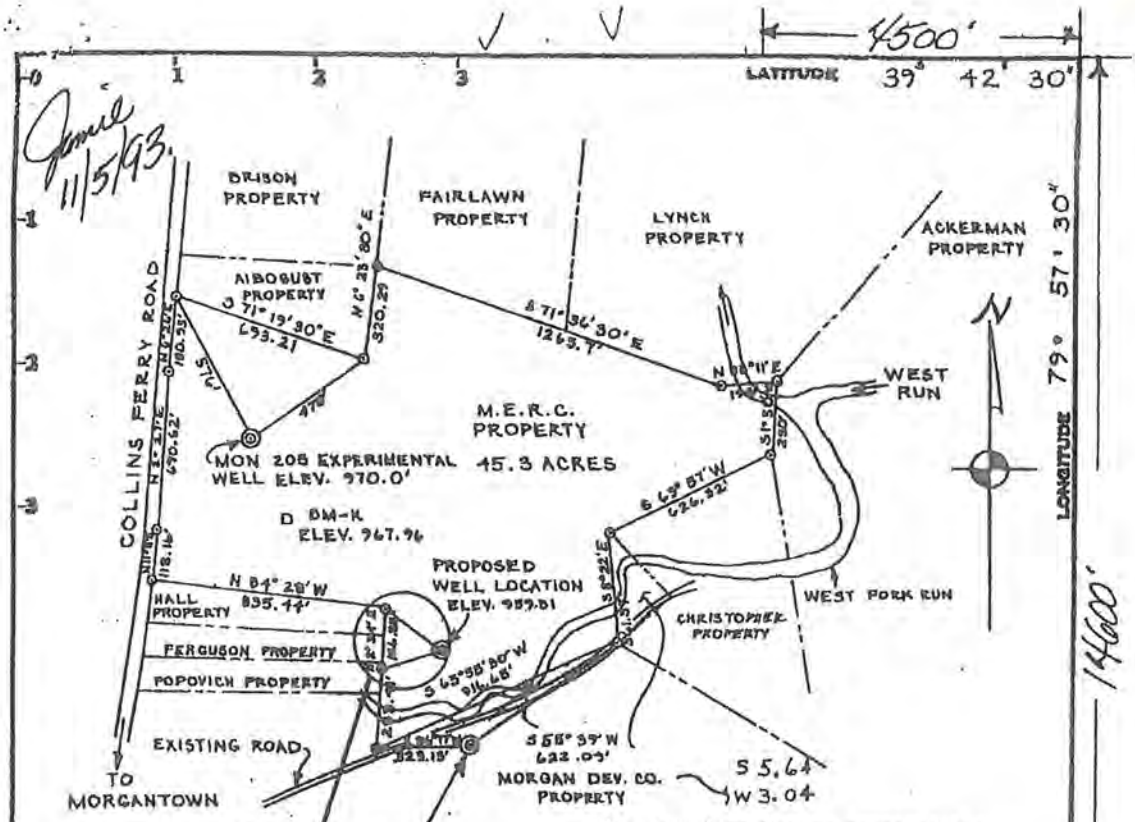
TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	13 3/8"	H-40	48#		112'	
Fresh Water						
Coal				Exposed from well head		
Intermediate	9 5/8"	K-55	36#		1203'	CTS.
Production	4 1/2"	K-55	11.6#		4800'	38 CSR 18-11.1
Tubing		Pipe to be pull & reset & cemented.				
Liners						

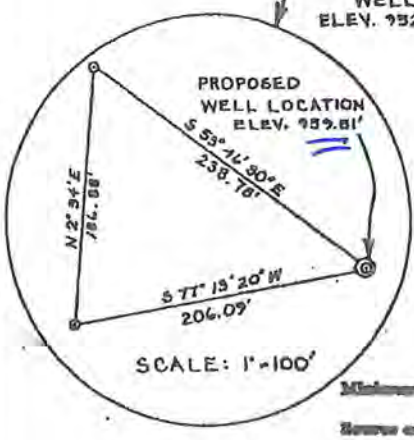
PACKERS : Kind (Presently) Bridge Plug
Sizes 4 1/2"
Depths set 7050'

For Divison of Oil and Gas Use Only

	Fee(s) paid:	Well Work Permit	Reclamation Fund	WPCP
Plat	WW-9	WW-2B	Bond No Bond Required (Type)	Agent

6100370P





Property line Survey prepared by:
Monongahela Valley Engineering Company, Inc
Morgantown, W.VA.
By Wilbur G. Strickler, Chief Draftsman
W.VA. R.P.E. 1508
Approved by Marion F. Dunbar, Chief Engineer
W.VA. R.P.E. 1669

Topo. Loc. 7½' Series

2.75 S
0.83 W

2.80
0.84

Minimum Error of Closure 1 in 77,000

Source of Elevation USBM BM-K, Elev. = 967.96 (shown on plat)

Referenced to Mgtn. city BM at SE corner of Collins Ferry Rd. & Meridian St.

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

Signed: L. Z. Shuck, P.E. 4596

Map No. Squares: N S E W

5.68
3.06

Fracture ☐
New Location ☒
Drill Deeper ☐
Abandonment ☐

Company U. S. ERDA - MERC 591
Address P. O. Box 880, Morgantown, WV 26505
Farm Morgantown Energy Research Center (MERC)
Tract N.A. Acres 45.275 Lease No. N.A.
Well (Farm) No. 1 Serial No. N.A.
Elevation (Spirit Level) 959.51 ft.
Quadrangle Morgantown North NW
County Monongalia District Morgan
Surveyor L. Zane Shuck
Surveyor's Registration No. WV R.P.E. No. 4596
File No. N.A. Drawing No. N.A.
Date 6/22/77 Scale 1" = 500'

STATE OF WEST VIRGINIA
Division of Environmental Protection
Office of Oil & Gas
Nitro

WELL LOCATION MAP

APdwell No. 47-061-00370-7
Permanent Partial Plugg Back

+ Denotes location of well on United States Topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by border lines as shown.

— Denotes one inch spaces on border line of original tracing.

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WV Department of Environmental Protection

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FORM WW-4(B) PERMIT COPY
Obverse
7/85

1) Date: /19/93, 19____
2) Operator's Well No. MERC-1
3) API Well No. 47 · 061 · 370 PP
State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, OIL AND GAS DIVISION

APPLICATION FOR A PERMIT TO PLUG AND ABANDON A WELL

4) WELL TYPE: A Oil ____ / Gas X / Liquid injection ____ / Waste disposal ____ /
B (If "Gas", Production ____ / Underground storage) ____ / Deep ____ Shallow X /)

5) LOCATION: Elevation: 959.51 Watershed: West Run
District: Morgan County: Monongalia Quadrangle: Morgantown North

6) WELL OPERATOR US Dept of Energy CODE
Address P.O. Box 880
Morgantown, WV 26507-0880

7) DESIGNATED AGENT ____
Address ____

8) OIL & GAS INSPECTOR TO BE NOTIFIED
Name Randal Mick
Address 111 Blackshere Drive
Mannington, WV 26582

9) PLUGGING CONTRACTOR
Name ____
Address ____

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

(Partial Plugging)

1. Set 1450' Cement Plug on top of bridge plug at 7050'
2. Cut; pull; and inspect 4½" casing
3. Rerun 4½" casing to about 4750' and cement to surface.

Inspector Randal Mick to be on location if possible when Plugging.

OFFICE USE ONLY

PLUGGING PERMIT

Permit number ____ ____ 19
Date

This permit covering the well operator and well location shown below is evidence of permission granted to plug in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, subject to any modifications and conditions on the reverse hereof.

Permit expires ____ unless plugging is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	WPCP	OTHER

James Stevens
Director, Division of Oil and Gas

NOTE: Keep one copy of this permit posted at the plugging location.

Permit

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

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Form OG-10

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OIL & GAS DIVISION
DEPT. OF MINES

top of cement 5250'
cut at 5200
fill to 5x
gel. 500'

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION

Rotary ☒
Spudder ☐
Cable Tools ☐
Storage ☐

Quadrangle MORGANTOWN NORTH

Permit No. API(061-0370)

WELL RECORD

Oil or Gas Well GAS TEST (KIND)

Company US DEPT OF ENERGY
Address BOX 880 MORGANTOWN WV
Farm MORGANTOWN EN. TEC. CTR Acres 45.275
Location (waters) MONONGAHELA RIVER - WEST RUN
Well No. 1 Elev. 959.51
District MORGAN County MONONGALIA
The surface of tract is owned in fee by US DOE
Address BOX 880 MORGANTOWN
Mineral rights are owned by US DOE
Address SAME
Drilling commenced 3/16/78
Drilling completed 4/22/78
Date Shot ____ From ____ To ____
With ____
Open Flow 0 /10ths Water in ____ Inch
____ /10ths Merc. in ____ Inch
Volume 0 Cu. Ft.
Rock Pressure ____ lbs. ____ hrs.
Oil ____ bbls., 1st 24 hrs.
WELL ACIDIZED (DETAILS) ____

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packer
13 3/8	CONDUCTOR	112	
10			Size of
8¾ 9 5/8	SURFACE PIPE	1203	
6⅝			Depth set
5 3/16			HARREL 6910
4½	PRODUCTION PIPE	7520	SHALE 6990
3			Perf. top 7108
2 3/8	TUBING	7100	Perf. bottom 7157
Liners Used			Perf. top 7320
			Perf. bottom 7490

Attach copy of cementing record.
CASING CEMENTED 4½ SIZE 7520 No. Ft. 4/23/78 Date
Amount of cement used (bags) 379 SX
Name of Service Co. DOWELL
COAL WAS ENCOUNTERED AT 443 FEET 60 INCHES
460 FEET ≃12 INCHES 598 FEET ≃12 INCHES
619 FEET ≃24 INCHES 694 FEET ≃24 INCHES
WELL FRACTURED (DETAILS) MARCELLUS TEST (115,000 GAL. CO_2/GEL FRAC) 7320-7490 FT
BURKETT TEST (51,800 GAL. CO_2/GEL FRAC) 7108-7157 FT, HARREL (ACID BREAK - NO TEST
RESULT AFTER TREATMENT (Initial open Flow or bbls.) MARCELLUS (DRY), BURKETT (13 MCFD)
ROCK PRESSURE AFTER TREATMENT NOT MEASURABLE HOURS NA
6910-6990 F
Fresh Water SALT SANDS Feet 724-922 Salt Water NA Feet
Producing Sand NA Depth NA

Formation	Color	Hard or Soft	Top G.L.	Bottom	Oil, Gas or Water	Depth	Remarks
U FREEPORT	(AIR DRILLED,		443	448	COAL		
SALT SAND	MARKER BEDS		724	922	FRESH WTR		V. LOW FLOW
BIG LIME	NOTED)		1136	1238			
BIG INJUN			1238	1328			GAS SHOW
SQAW			1418	1458			GAS SHOW
BEREA			1723	1734			
GANTZ			1788	1728 (13?)			
GORDON			1988	2028			
4 TH SAND			2288	2298			
5TH SAND			2308	2328			GAS SHOW
BAYARD			SHALED	OUT			
WARREN			2688	2798			
SPEECHLEY			3038	3043			
RILEY			4333	4341			GAS SHOW
BENSON			4633	4645			

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(over)

(4-5-82)

6100370P

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
TULLY LIME			7110	—		
ONONDAGA LIME			7502	—		
						TD - 7520'?
7502 1318 6174 EXPL			FT.			

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WV Department of
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Date _____, 19____

APPROVED _____, Owner

By _____
(Title)

6100370P

U.S. DEPARTMENT OF ENERGY

NATIONAL ENERGY TECHNOLOGY LABORATORY

Albany, OR • Morgantown, WV • Pittsburgh, PA

NETL

March 1, 2016

MEMORANDUM TO DEAN STOBBE
FACILITY CUSTODIAN - MGN GAS WELL

FROM: DAWN DEEL
ENVIRONMENTAL PROGRAM MANAGER - MGN SITE

SUBJECT: MGN Gas Well - Request for Review

The MGN Gas Well is scheduled for plug and abandon activities due to low production and other technical issues the well has experienced.

I have completed review of hard copy site historical information and have discovered documents I deem pertinent to this effort. Based on this recent discovery, I am requesting the Plug and Abandon Contractor review the information below and attached for any necessary revisions to the proposed plug and abandon activities.

A review of the following documents is requested:

- Well Operators Report (1994) (Attachment 1)– This is a report from the "partial" plugging performed on the well in 1993-1994 indicating that 820 cubic feet of cement was used for the 4 ½ in. casing at that time. I believe the initial proposed work statement from the contractor assumed 820 linear feet resulting in discrepancies regarding pulling the 4 ½ in casing.
- Cement Bond Log (1994) (Attachment 2) – This is the cover page for the Cement Bond Log that was performed in 1994. This log states that the 4 ½ in casing was cemented from total depth to surface. I believe this alleviates the need for cutting the casing as it cannot be pulled; therefore, no cutting related materials will be needed onsite. I believe it also affects plans to run a bond log on the 4 ½ in. casing.

Please let me know if you have any questions or need any additional information. I plan to provide a hardcopy of the full Cement Bond Log to you upon request.

Thank you.

Cc: Michael Kay, ESS&H Lead

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Attachment 1: Well Operators Report (1994)

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Attachment 2: Cement Bond Log Cover Page (1994)

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ALLEGHENY WIRELINE SERVICES, INC.

GAMMA RAY
CEMENT BOND
CCL

COMPANY U. S. DEPT. OF ENERGY
WELL MERC- # 1
FIELD MORGAN DISTRICT
COUNTY MONONGALIA STATE WV.

LOCATION
MORGANTOWN NORTH
PERMIT # 47-061-0370
Sec Twp Rge

Other Services
PERFORATE

Permanent datum GROUND LEVEL Elev 959'
Log Measured From GROUND LEVEL Above Perm Datum
Drilling Measured From KELLY BUSHING

Elev K B 959'
D F 959'
G L 959'

Date	1-3-94		
Run No.	ONE		
Depth-Driller	5250		
Depth-Logger	2422'		
Btm Log Interval	2422'		
Top Log Interval	0		
Type Log	G/R-CBL-CCL		
Type Fluid in Hole	ACID/WATER		
Salinity PPM CL			
Density			
Level	FULL		
Max Rec Temp			
Operating Rig Time			
Recorded By	E. BUTCHER		
Witnessed By	P BULLIAM		
Job Tkt No	# 7090		

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CASING RECORD

Size	Wgt	From	To
9 5/8"	23LBS.	SURFACE	1193'
4 1/2"	SURFACE	T. D.	

TUBING RECORD

Size	Wgt	From	To

REFERENCE LITERATURE
BAFFLE -1878

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WW-4A
Revised 6-07

1) Date: April 12, 2016
2) Operator's Well Number MERC-1

3) API Well No.: 47 - 061 . 0370

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 US Dept of Energy Waiver
Address PO box 880
Morgantown, WV 26501

(b) Name
Address

(c) Name
Address

6) Inspector Gain Knitowski
Address PO Box 108
Gormania, WV 26720
Telephone 3045468171

5) (a) Coal Operator
Name N/A
Address

(b) Coal Owner(s) with Declaration
Name
Address

Name
Address

(c) Coal Lessee with Declaration
Name
Address

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 US Dept of Energy
By: [signature]
Its: Environmental Program Manager - MGN Site
Address 3610 Collins Ferry Rd.
Morgantown, WV 26505
Telephone 304-285-4133

Subscribed and sworn before me this 20th day of April, 2016
Barry W. Slusser Notary Public
My Commission Expires 8/06/2017

OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Barry W. Slusser
PO Box 880
Morgantown, WV 26507-0880
My Commission Expires Aug. 6, 2017

Oil and Gas Privacy Notice

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

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SURFACE OWNER WAIVER

Operator's Well Number MERC-1

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW4-A

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

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

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

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

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

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

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

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

VOLUNTARY STATEMENT OF NO OBJECTION

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

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

FOR EXECUTION BY A NATURAL PERSON ETC.

Signature Date 4-20-16

FOR EXECUTION BY A CORPORATION,

Name U.S. Dept. of Energy
By Dawn M. Deel
Its Environmental Program Manager Date 4-20-16

Signature Date

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WW-9
Rev. 5/08

API Number 47 - 061 - 0370
Operator's Well No. MERC-1

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

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

Operator Name US Department of Energy OP Code _____

Watershed Monongalia River West Run Quadrangle Morgantown North

Elevation 959.51 County Monongalia District Morgan

Description of anticipated Pit Waste: Plugging

Will a synthetic liner be used in the pit? No

ANY WELL EFFLUENT MUST BE CONTAINED IN TANKS & DISPOSED OF PROPERLY. gwm

Proposed Disposal Method For Treated Pit Wastes:

- ____ Land Application
- ____ Underground Injection (UIC Permit Number _____)
- ____ Reuse (at API Number _____)
- X Off Site Dispposal (Supply form WW-9 for disposal location)
- ____ Other (Explain _____

Proposed Work For Which Pit Will Be Used:

- ____ Drilling
- ____ Workover
- ____ Other (Explain _____
- X Swabbing
- X Plugging

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

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

Company Official Signature _____

Company Official (Typed Name) Dawn M. Deel

Company Official Title Environmental Program Manager - MGN Site

Subscribed and sworn before me this 20th day of April, 2016

Barry W. Slusser Notory Public

My commission expires 8/06/2017

OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Barry W. Slusser
US Dept. of Energy - Nat. Energy Tech. Lab.
PO Box 880
Morgantown, WV 26507-0880
My Commission Expires Aug. 5, 2017

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Form WW-9

Operator's Well No. MERC-1

LEGEND

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

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

Proposed Revegetation Treatment: Acres Disturbed N/A Prevegetation pH N/A

Lime N/A Tons/acre or to correct to pH N/A

Fertilizer (10-20-20 or equivalent) N/A lbs/acre (500 lbs minimum)

Mulch N/A Tons/acre

Seed Mixtures

Area I Seed Type	lbs/acre	Area II Seed Type	lbs/acre
N/A		N/A	

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by:

Comments: MERC-1 is a gas well located at NETL in Morgantown, WV. The well is not producing well enough to continue servicing. DOE requested plug.

Title: Inspector Date: 04/25/2016

Field Reviewed? (X) Yes ( ) No

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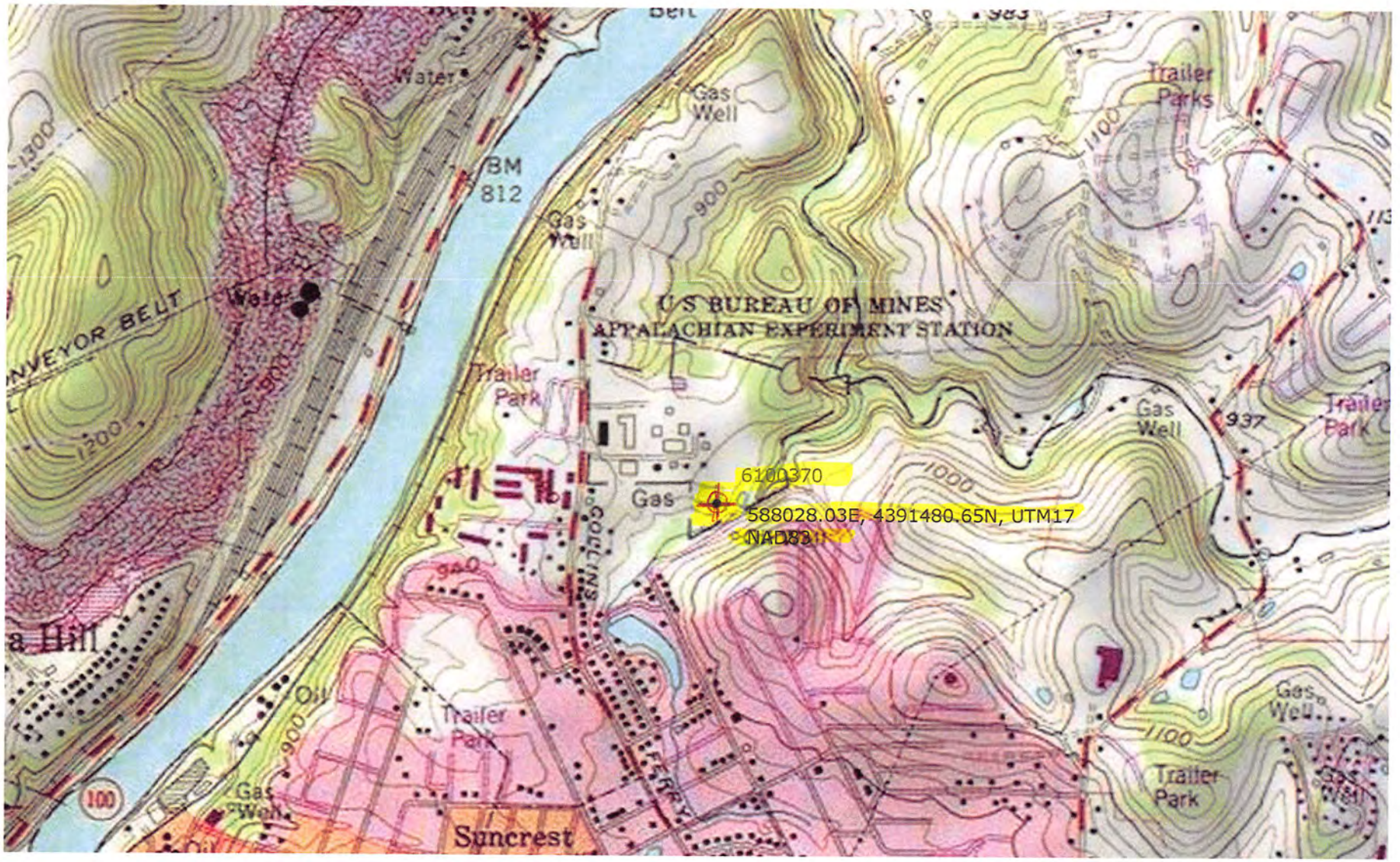
Water
Gas Well
BM 812
Gas Well
Trailer Parks
U S BUREAU OF MINES
APPALACHIAN EXPERIMENT STATION
Trailer Park
Gas
6100370
588028.03E, 4391480.65N, UTM17
NAD83
Gas Well
937
Trailer Park
Oil
Trailer Park
Gas Well
Trailer Park
Gas Well
Suncrest

6100370P

WW-7
8-30-06

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

API:_47-061-00370_____ WELL NO.:_____MERC-1____

FARM NAME: __U.S. Department of Energy_____

RESPONSIBLE PARTY NAME: _____U.S. Department of Energy_____

COUNTY: _____Monongalia_____ DISTRICT: _____Morgan_____

QUADRANGLE: _____Morgantown North_____

SURFACE OWNER: _____U.S. Department of Energy_____

ROYALTY OWNER: _____U.S. Department of Energy_____

UTM GPS NORTHING:_4391480.65_____

UTM GPS EASTING:___588028.03 _____
GPS ELEVATION:__959.51____

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 _____ President
Title

5/17/2016
Date