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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, February 16, 2021  
WELL WORK PLUGGING PERMIT  
Vertical Plugging

NYTIS EXPLORATION COMPANY LLC  
PO BOX 8

RAVENSWOOD, WV 26164

Re: Permit approval for KEM-298  
47-035-01827-00-00

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: KEM-298  
Farm Name: PURSLEY, DENA  
U.S. WELL NUMBER: 47-035-01827-00-00  
Vertical Plugging  
Date Issued: 2/16/2021

Promoting a healthy environment.

## 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.

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### CONDITIONS

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

**PLUGGING PROGNOSIS**

API# 47-035-01827  
 West Virginia, Jackson County  
 38.9010748419186, -81.5706650795753  
 Nearest ER: Jackson General Hospital 122 Pinnell St. Ripley, WV 25271

**Casing Schedule**

10 3/4" csg @ 249' CTS w/ 175 sks  
 7" csg @ 2485' CTS w/ 275 sks.  
 2 3/8" tbg est @ 2450' w rods  
 TD 2528'

9 1/2" BIT  
 7" TOC ≈ 1000' FROM SURFACE.

50-50 Pozmix A w/ 10% SALT  
 HAS A SLURRY VOLUME OF 1.29 CU.FT./SK

$275 \text{ SKS} \times 1.29 \frac{\text{CU.FT.}}{\text{SK}} = 354.75 \text{ CU.FT.}$

**Completion:** Frac (2406' - 2410')

**Fresh Water:** None Recorded  
**Salt Water:** None Recorded  
**Gas Shows:** Berea 2406'-2410'  
**Oil Show:** Berea 2406'-2410'  
**Coal:** None Recorded  
**Elevation:** 751'

7" CASING IN 9 1/2" HOLE YIELDS  
 4.448 LINEAR FT PER CU. FT. THEREFORE,  
 $4.448 \frac{\text{LINEAR FT.}}{\text{CU.FT.}} \times 354.75 \text{ CU.FT.} = 1577 \text{ FT}$

*All Free pipe will be pulled.*

1. Notify Inspector Joe Taylor @ 304-380-7469, 48 hours prior to commencing operations.
2. Check and record pressures on csg/tbg.
3. TOOH LD tbg and rods. Inspect tbg.
4. Check TD w/ wireline.
5. TIH w/ tbg to 2410'. Kill well as needed with 6% bentonite gel. Pump 104' C1A cement plug from 2410'-2306' (Berea show). Tag TOC. Top off as needed.
6. TOOH w/ tbg to 2306'. Pump 6% bentonite gel from 2306'-751'.
7. TIH w/ tbg to 751'. Pump 100' C1A cement plug from 751'-651' (Elevation).
8. TOOH w/ tbg to 651'. Pump 6% bentonite gel from 651'-100'.
9. TOOH w/ tbg to 100'. Pump 100' C1A cement plug from 100'-0' (Surface). TOOH LD tbg.
10. Erect monument with API#, date plugged, and company name.
11. Reclaim location and road to WV-DEP specifications.



6.9. CUT & PULL 7" CASING AT ≈ 1000'.  
 SET 100' CLASS A CEMENT PLUG ACROSS CUT.  
 gwh

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IV-35  
(Rev 8-01)

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OIL & GAS DIVISION  
**DEPT. OF MINES**

State of West Virginia  
Department of Mines  
Oil and Gas Division

Date June 27, 1983  
Operator's Well No. Kem 298  
Farm Batten  
API No. 47 - 035 - 1827

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

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

LOCATION: Elevation: 751 Watershed Trap Run  
District: Ravenswood County Jackson Quadrangle Liverpool

COMPANY Kaiser Exploration and Mining Company

ADDRESS P. O. Box 8, Ravenswood, WV. 26164

DESIGNATED AGENT Robert A. Pryce

ADDRESS P. O. Box 8, Ravenswood, WV 26164

SURFACE OWNER Dena E. Pursley

ADDRESS Rt. 1, Liverpool, WV

MINERAL RIGHTS OWNER F. S. Batten

ADDRESS Rt. 1, Liverpool, WV

OIL AND GAS INSPECTOR FOR THIS WORK Homer

Daugherty ADDRESS Linden Rt, Box 3-A

PERMIT ISSUED April 6, 1983 Looneyville, WV

DRILLING COMMENCED 5/17/83

DRILLING COMPLETED

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.			
18-10 3/4		249	175 Class A 3% CaCl 1/4 #/sk
9 5/8			Flocele
8 5/8			
7		2485	275 50/50 10% Salt 1/4 #/sk Flocele
5 1/2			
4 1/2			
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Brown Shale Depth 5020 feet

Depth of completed well 2528 feet Rotary  / Cable Tools

Water strata depth: Fresh        feet; Salt        feet

Coal seam depths: N/A Is coal being mined in the area? No  
Drilled on fluid - not known

OPEN FLOW DATA

Producing formation Berea Pay zone depth 2406 - 2410 feet

Gas: Initial open flow N/A Mcf/d Oil: Initial open flow        Bbl/d

Final open flow 35 Mcf/d Final open flow 40 Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 350 psig (surface measurement) after 48 hours shut in  
(If applicable due to multiple completion--)

Second producing formation        Pay zone depth        feet

Gas: Initial open flow        Mcf/d Oil: Initial open flow        Bbl/d

Final open flow        Mcf/d Oil: 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

(Continue on reverse side)

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

5/25/83 Berea Perforated w/16 shots (.41" dia) 2406 - 2410  
 5/27/83 Berea x-link gel frac: 100 bbl gel 50 bbl x-link Sand: 70,000 #20/40  
Total Nitrogen 285 mscf Total Fluid 781,661 ISIP: 1400 psig 5-minute SIP= 1140

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Shale and Sandstone			0	550	
Sandstone			550	628	
Shale and Siltstone			628	1130	
Sandstone and Shale			1130	1600	
Shale			1600	1727	
Sandstone			1727	1880	
Greenbrier Limestone			1880	1960	
Shale			1960	1982	
Pocono Injun			1982	2040	
Shale and Siltstone			2040	2391	
Coffee Shale			2391	2406	
Berea Sandstone			2406	2413	S/O
Shale			2413	2528 TD	

(Attach separate sheets as necessary)

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Kaiser Exploration and Mining Company  
Well Operator

By: Ed A. P.

Date: July 19, 1983

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."



1) Date December 18th, 2020  
2) Operator's  
Well No. PURSLEY DENA KEM-298  
3) API Well No. 47-035 - 01827

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 746' Watershed Left Fork Sandy Creek  
District Ravenswood County Jackson Quadrangle Liverpool

6) Well Operator Nytis Exploration Company 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 Name Joe Taylor  
Address 1478 Claylick Road  
Ripley, WV 25271  
9) Plugging Contractor Name Diversified Production LLC (In-house Rig)  
Address 1951 Pleasantview Ridge Road  
Ravenswood, WV 26164

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

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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  Date 12-28-20

WW-4A  
Revised 6-07

1) Date: 12/18/2020  
2) Operator's Well Number  
PURSLEY DENA KEM-298

3) API Well No.: 47 - 035 - 01827

**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 David G & Gladys J Wade  
Address 5620 Liverpool Road  
Leroy, WV 25252  
(b) Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
6) Inspector Joe Taylor  
Address 1478 Claylick Road  
Ripley WV 25271  
Telephone 304-380-7469

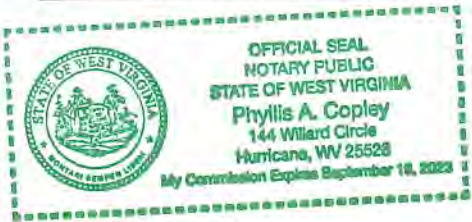
5) (a) Coal Operator  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration  
Name No Declaration  
Address \_\_\_\_\_  
(c) Coal Lessee with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_

**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 Nytis Exploration Company LLC  
By: Jeff Mast  
Its: Director Production  
Address P.O. Box 6070  
Charleston, WV 25362  
Telephone 304-543-6988

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Subscribed and sworn before me this 21st day of December 2020  
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](mailto:depprivacyofficer@wv.gov).



Well Number: KEM-298  
API: 47-035-01827P

7017 1450 0002 3854 0801  
1090 459E 2000 054T 2T02

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only	
For delivery information, visit our website at <a href="http://www.usps.com">www.usps.com</a> ®.	
Le Roy, WV 25252	
<b>OFFICIAL USE</b>	
Certified Mail Fee	\$3.55
\$	\$2.85
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<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
\$	
Total Postage and Fees	\$7.80
\$	
Sent To	David + Gladys Wade
Street and Apt. No., or PO Box No.	5620 Liverpool Road
City, State, ZIP+4®	Le Roy WV 25252
PS Form 3800, April 2015 PSN 7530-02-000-9047	See Reverse for Instructions

0523  
03  
Postmark  
Here  
12/21/2020  
KEM 298

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

Operator Name Nytis Exploration Company LLC OP Code 494473563

Watershed (HUC 10) Left Fork Sandy Creek Quadrangle Liverpool

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.? 20

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection ( UIC Permit Number 2D0190460 )
- 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

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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 21st day of December, 2020

Phyllis A. Copley Notary Public

My commission expires September 16, 2023

[Signature]

Form WW-9

Operator's Well No. Pursley Dena  
KEM-298

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.

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Plan Approved by: \_\_\_\_\_

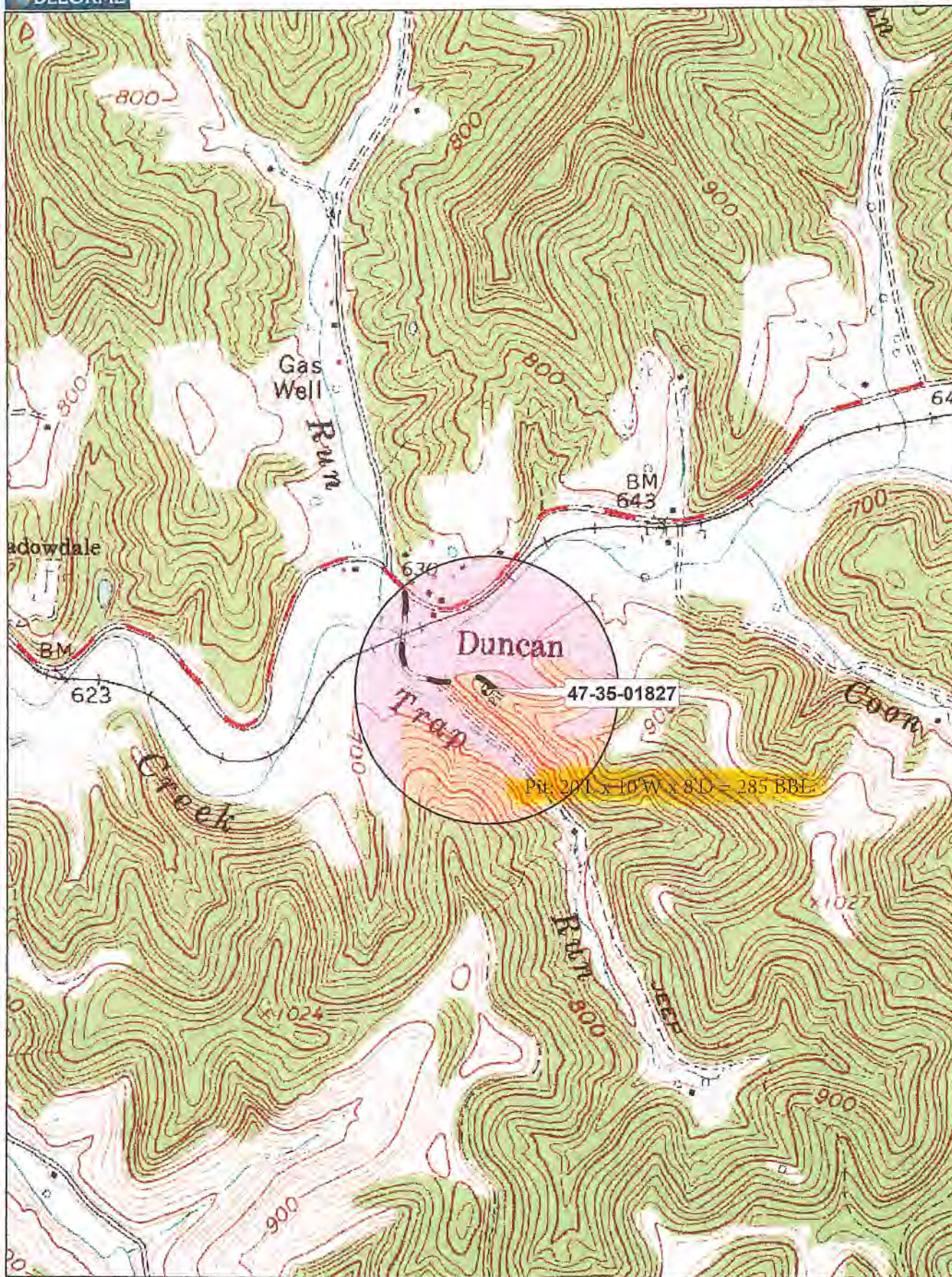
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Comments: Sediment control in place at all time.

Title: 006 Inspectr Date: 12-28-20

Field Reviewed? ( ) Yes ( X ) No

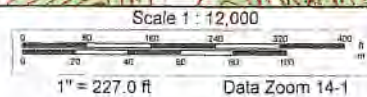




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### input coordinates

enter comma delimited coordinates. examples:  
 38 15 30.1, -81 25 15.2 (lat, lon as degrees minutes seconds)  
 38.123456, -81.123456 (lat, lon as decimal degrees)  
 500000, 4100000 (UTM as easting, northing)  
 1987654.32, 364123.45 (WV state plane as easting, northing)

38.901006464,-81.571221241

Lat/Lon WGS 1984

Convert

### output coordinates

450468.24,4305945.46

UTM NAD83 Zone 17N

view on Google Maps

### options

- display output as degrees/minutes/seconds
- zoom to point

### history (copy/paste)

1,38.9010065,-81.5712212,LL  
 WGS84(G1674),450468.24,4305945.46,UTM17N  
 NAD83(2011)

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### notes about datum conversions

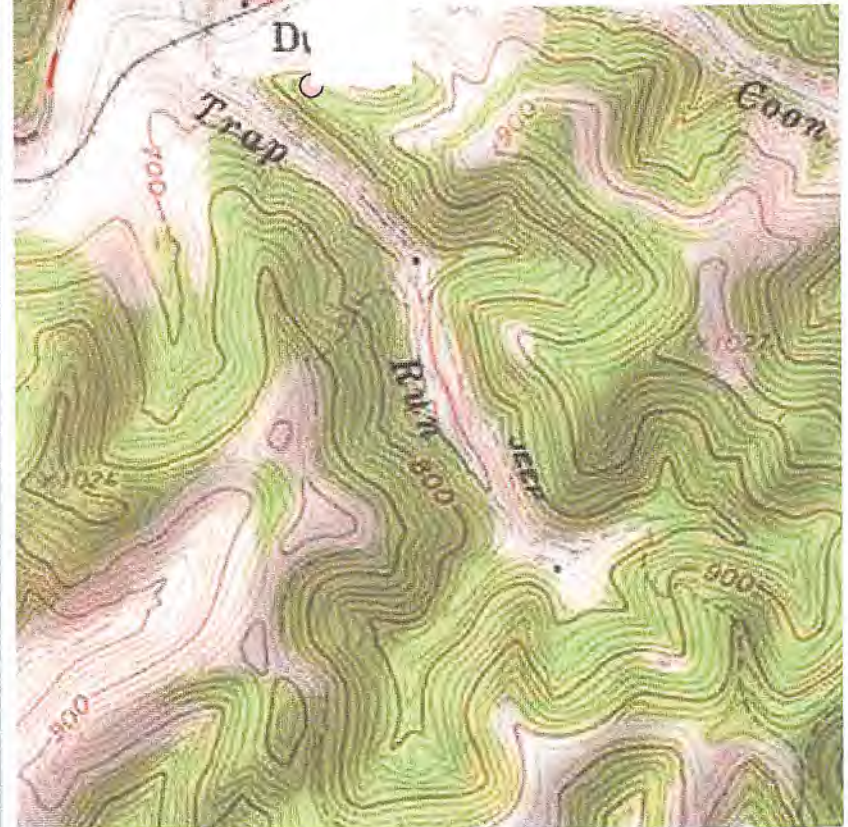
1. *Conversions between NAD27 and NAD83.* This converts between NAD27 and NAD83(1986) using the NADCON transformation. Newer realizations of NAD83, such as NAD83(CORS96) and NAD83(2011) can differ from NAD83(1986) by a meter or so. This conversion uses the Esri transformation NAD\_1927\_To\_NAD\_1983\_NADCON.

2. *Conversions between NAD27 and WGS84.* Basically this just applies the NADCON transformation from NAD27 to NAD83(1986). NAD83(1986) is the original realization of NAD83, which is practically identical to the original WGS84. The difference between the



#### Point #1

County:Jackson  
 huc-10:Left Fork Sandy Creek-Sandy Creek  
 huc-12:Right Fork Sandy Creek (050302020502)  
 Zip:25252 (LE ROY)  
 Quadrangle:Liverpool  
 Near:Duncan (Populated Place)  
 elevation: 742.58 (226.34m) *227.5840 = 746.47'*  
 wxbrief: 385403.6N/813416.4W



clear markers

- street map
- image
- topo





Well Number: Pursley Dena  
KEM-298  
API: 47-035-01827P

11/10/2016

PLUGGING PERMIT CHECKLIST

Plugging Permit

- WW-4B
- WW-4B signed by inspector
- WW-4A
- SURFACE OWNER WAIVER or PROOF THAT APPLICATION WAS SENT BY REGISTERED OR CERTIFIED MAIL
- COAL OWNER/COAL OPERATOR/COAL LESSEE WAIVERS or PROOF THAT APPLICATION WAS SENT BY REGISTERED OR CERTIFIED MAIL
- WW-9 PAGE 1 (NOTARIZED)
- WW-9 PAGE 2 with attached drawing of road, location, pit and proposed area for land application
- WW-9 GPP PAGE 1 and 2 if well effluent will be land applied
- RECENT MYLAR PLAT OR WW-7
- WELL RECORDS/COMPLETION REPORT
- TOPOGRAPHIC MAP OF WELL, SHOWING PIT IF PIT IS USED
- MUST HAVE VALID BOND IN OPERATOR'S NAME
- CHECK FOR \$100 IF PIT IS USED

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