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**west virginia** department of environmental protection

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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

September 03, 2013

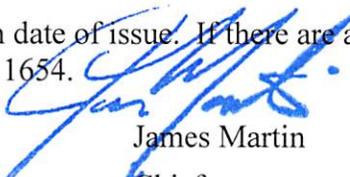
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-4303031, issued to EQT PRODUCTION COMPANY, 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 penalties 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: LIN MINERAL 74  
Farm Name: SMITH, JOHN JR. & WILMA  
**API Well Number: 47-4303031**  
**Permit Type: Plugging**  
Date Issued: 09/03/2013

**Promoting a healthy environment.**

43 03031 A

Form WW-4 (B)  
Permit Copy  
(Rev 2/01)

Date: August 13, 2013  
Operator's Well  
Well No. 214451 Lincoln Mineral # 74  
API Well No.: 47 043 - 03031

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

Check# 16364  
\$ 400.00  
(4 permits)

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) Elevation: 797.21' Watershed: Beech Branch  
Location: Washington 08 County: Lincoln 43 Quadrangle: Alum Creek 207  
District: \_\_\_\_\_

6) Well Operator EQT Production Company  
120 Professional Place  
Address: Bridgeport, WV 26330

7) Designated Agent: Rex C. Ray  
Address: 120 Professional Place  
Bridgeport, WV 26330

8) Oil & Gas Ralph Triplett  
Name: 5539 McCellan Hwy.  
Address: Branchland, WV 25506

9) Plugging Contractor:  
Name: HydroCarbon Well Service  
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.**

6K  
RDT

OFFICE USE ONLY

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

Work order approved by inspector \_\_\_\_\_ Date \_\_\_\_\_

OK gmm

Received

AUG 15 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection

## PLUGGING PROGNOSIS

**Lincoln Mineral #74 (214451)**

Lincoln County, West Virginia  
 API # 47-043-03031  
 Alum Creek Quad

BY: Craig Duckworth  
 DATE: 2/25/13

**CURRENT STATUS:**

9 5/8" csg @ 462' cts (circ.10bbbls)  
 7" csg @ 1571' cts (circ.5bbbls)  
 4 1/2" csg @ 3978' (calculated cem.top @ 569')

TD @ 4079'

Elevation @ 811'

Fresh Water @ 175'                      Salt Water @ 1010', 1080', 1290'

Salt Sand @ 963'                      Coal @ 120', 173', 380', 455', 639', 792'

Gas shows @ none reported

Oil Shows @ none reported

**Stimulation:** @ Lower Devonian (3507'-3949'), Upper Devonian (3105'-3423'), Berea (2310'-2947')

1. Notify State Inspector, Ralph Triplett 304-389-0350, and 24 hrs prior to commencing operations.
2. TIH w/ tbg @ 3949'; Set 1739' C1A Cement Plug @ 3949' to 2210' (L. Devonian @ 3949'-3507'; U. Devonian @ 3423'-3105'; Berea @ 2947'-2310')
3. TOOH w/ tbg @ 2210'; Gel hole @ 2210' to 1621'
4. TOOH w/ tbg @ 1621'; Set 100' C1A Cement Plug @ 1621' to 1561' (7" @ 1571')
5. TOOH w/ tbg @ 1561'; Gel hole @ 1561' to 963'
6. TOOH w/ tbg and attempt to pull 4 1/2"; Freepoint 4 1/2" cut at freepoint (4 1/2" csg, cut)
7. Set a 100' C1A Cement Plug 50' In/Out of cut. Perf all FW, Coal, Oil and Gas shows below 4 1/2" cut. Do not omit any plugs
8. TOOH w/ tbg @ 963'; Set 633' C1A Cement Plug @ 963' to 330' ( salt sand @ 963', coal @ 792', 639', 455', 380' & 4 1/2' cut )
9. TOOH w/ tbg @ 330'; Gel hole @ 330' to 225'
10. TOOH w/ tbg @ 225'; Set 225' C1A Cement Plug @ 225' to 0' ( FW @ 175' & coal @ 173', 120')
11. Top off if necessary
12. Set Monument to WV-DEP Specifications
13. Reclaim Location & Road to WV-DEP Specifications

Received

AUG 15 2013

Office of Oil and Gas  
 WV Dept. of Environmental Protection

4303031A

WR-35

31-Mar-99

API # 47- 043-03031

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

Received *AK*

Well Operator's Report of Well Work

Farm Name: Smith, John H. Jr.

Operator Well No.: Lincoln Mineral 74

LOCATION: Elevation: 811.00  
District: Washington  
County: Lincoln  
Quadrangle: Alum Creek

Latitude: 8400 Feet South of 38 Deg. Minutes 17 Seconds 30  
Longitude: 4900 Feet West of 81 Deg. 50 0

Company: BLAZER ENERGY CORPORATION  
P.O. Box 2347, 1710 Pennsylvania Avenue  
Charleston, WV 25328

Agent: Richard D. Smeltzer

Inspector: Dave Belcher  
Permit Issued: 4/1/99  
Well work commenced: 08/28/99  
Well work completed: 09/15/99

Verbal Plugging  
Permission granted on: \_\_\_\_\_

Rotary Rig  Cable Rig \_\_\_\_\_

Total Depth 4079' feet

Fresh water depths (ft) 175'

Salt water depths (ft) 1010', 1080', 1290'

Is coal being mined in area?  
Coal Depths (ft) 120', 173', 380', 455', 639', 792'

Casing & Tubing Size	Used In Drilling	Left In Well	Cement Fill Up Cu. Ft.
13 3/8"	32'	32'	Grouted
9 5/8"	462.5'	462.5'	177 ft <sup>3</sup>
7"	1571'	1571'	295.05 ft <sup>3</sup>
4 1/2"	3978'	3978'	409.2 ft <sup>3</sup>

OPEN FLOW DATA

Producing formation Lower Devonian, Upper Devonian, Berea

Gas: Initial open flow TSTM MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow: 1650 MCF/d Final open flow: \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests \_\_\_\_\_ Hours  
 Static rock pressure 400 psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation \_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_ 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 pressure) after \_\_\_\_\_ Hours

See Attach for details

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: BLAZER ENERGY CORPORATION

By: *Richard D. Smeltzer*  
Date: 4/23/99

Received

AUG 15 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection

Alum Creek ?

4303031P

EASTERN STATES OIL & GAS, INC.  
 WR-35 COMPLETION REPORT - Attachment  
 Well Treatment Summary

Well: Lincoln Mineral 74

API# 47-043-03031

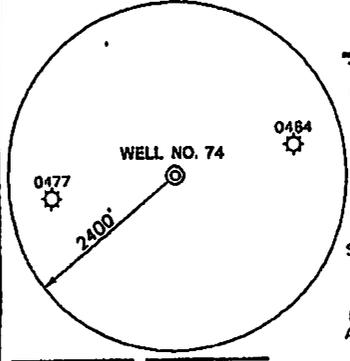
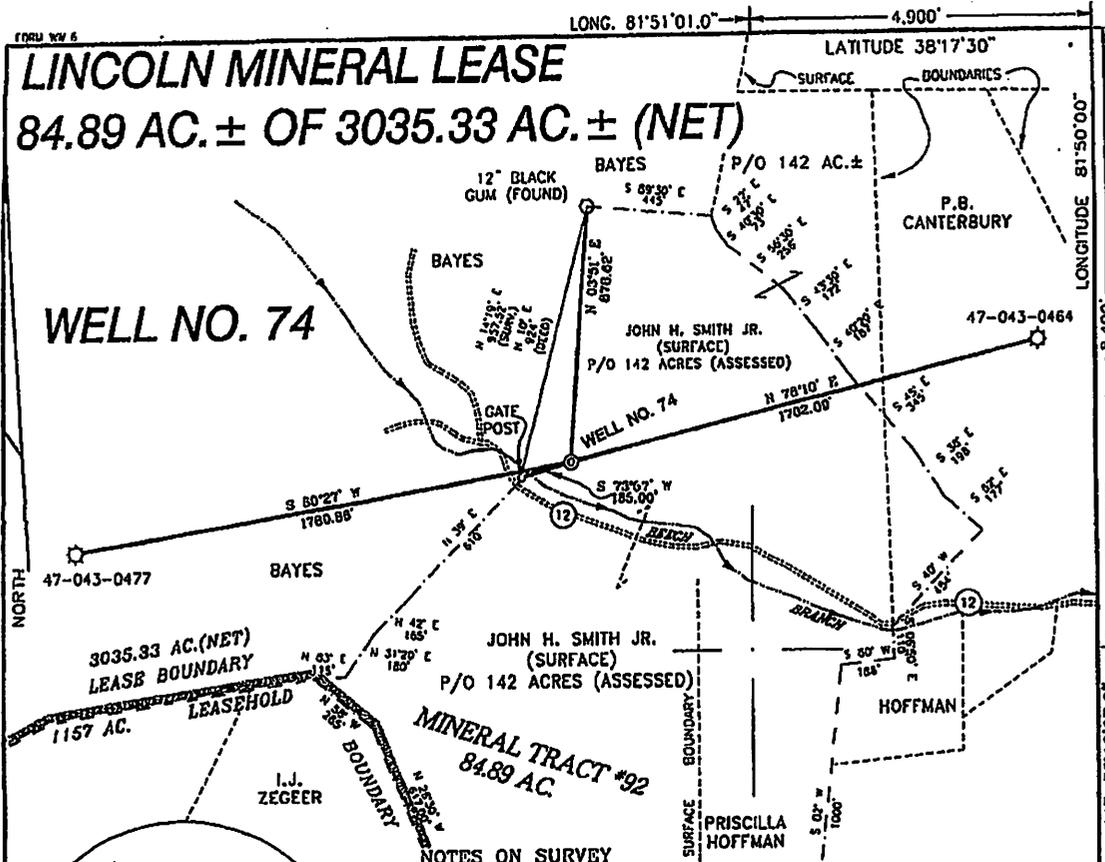
Date	09/13/99	09/13/99	09/13/99			
Type Frac. Acid, N <sub>2</sub> , Foam, Water	N <sup>2</sup>	N <sup>2</sup>	N <sup>2</sup>			
Zone Treated	L. Devonian	U. Devonian	U. Devonian 2 & Berea			
# Perfs	35	32	34			
From - To:	3949' - 3507'	3105' - 3423'	2310' - 2947'			
BD Pressure @ psi	2345	2076	2191			
ATP psi	2298	1988	1797			
Avg. Rate, B=B/M, S= SCF/M	51,444 S	53,941 S	52,020 S			
Max. Treat Press psi	2624	2134				
ISIP psi	1711	1090	1240			
Frac Gradient	.53	.38	.52			
10 min S-I Pressure	923	778	827			
Material Volume						
Sand-sks						
Water-bbl						
SCF N <sub>2</sub>	800,000	705,000	806,000			
Acid-gal	750 gal 7 1/4%	500 gal 8.2%	600 gal 8.2%			
NOTES:						

TOP	BOTTOM	FORMATION	REMARKS
0	25	Dirt & Clay	
25	30	Shale	
30	49	Sand	
49	53	Red Rock	
53	112	Shale	
112	120	Sand	
120	122	Coal	
122	168	Shale	
138	173	Sand	
173	175	Coal	
175	180	Sand	Water @ 175'
180	185	Shale	
185	200	Sand	
200	215	Shale	
215	235	Sand	
135	250	Shale	
250	370	Sand & Shale	
370	373	Coal	
373	380	Sand & Shale	
380	383	Coal	
383	430	Sand	
430	440	Sandy Shale	
440	450	Sand	
455	457	Coal	
457	515	Sandy Shale	
515	639	Shale	
639	641	Coal	
641	655	Shale	
655	705	Sand	
705	792	Shale	
792	794	Coal	
794	840	Shale	
840	852	Sand	
852	970	Shale	
963	1516	Salt Sand	Salt Water @ 1010', 1080', 1290'.
1561	1593	Lower Maxton	
1597	1634	Little Lime	
1634	1639	Pencil Cave	
1639	1826	Blg Lime	
1848	1880	Blg Injun	
1960	2024	Lower Welr	
2309	2327	Berea	GT @ 2227 = NS GT @ 2354 = odor
3504	3955	Lower Huron	GT @ 3390', 3606', 3922' = odor
3955	4035	Java	
	4035	TD	

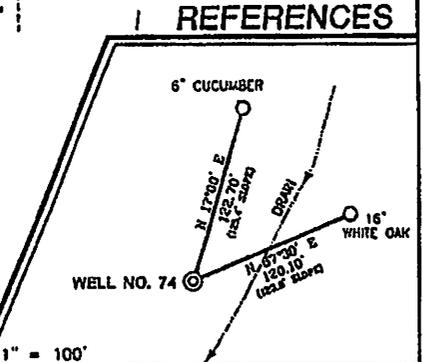
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 WV Dept. of Environmental Protection

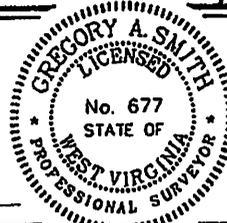


- NOTES ON SURVEY**
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
  2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 2-10-99.
  3. SURFACE DEEDS COULD NOT BE PLOTTED DUE TO VAGUE GENERAL DESCRIPTIONS IN THE DEEDS. SURFACE BOUNDARIES SHOWN DASHED HEREON ARE APPROXIMATE. SLS RECOMMENDS OBTAINING AFFIDAVIT OF OWNERSHIP FROM SURFACE OWNERS ON ALL PROPOSED AREAS OF DISTURBANCE.
  4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF LINCOLN COUNTY IN JANUARY, 1999.
  5. WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).



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

P.S. *Gregory A. Smith*  
677



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE FEBRUARY 15, 19 99  
 OPERATORS WELL NO. LINCOLN MINERAL #74  
 API WELL NO. 47-043-0303/PP  
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 4145P74 (76-1)  
 PROVEN SOURCE OF ELEVATION JUNCTION OF ROADS ELEVATION 663'  
 SCALE 1" = 500'

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

WELL TYPE: OIL  GAS  INJECTION  WASTE DISPOSAL  "GAS" PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION 811' WATERSHED BEECH BRANCH OF FUGUAY CREEK  
 DISTRICT WASHINGTON COUNTY LINCOLN QUADRANGLE ALUM CREEK 16'

SURFACE OWNER JOHN H. SMITH, JR. ACREAGE 84.89 OF 142 AC. ± ASSESSED  
 ROYALTY OWNER EASTERN STATES OIL AND GAS, INC. LEASE ACREAGE 84.89 OF 3035.33 AC. (NET)

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG AND ABANDON  CLEAN OUT AND REPLUG  OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION DEVONIAN SHALE  
 ESTIMATED DEPTH 4500'

WELL OPERATOR BLAZER ENERGY CORPORATION DESIGNATED AGENT RICHARD SMELTZER  
 ADDRESS P.O. BOX 2347 CHARLESTON, WV 25328 ADDRESS P.O. BOX 2347 CHARLESTON, WV 25328

*Received*

Oil and Gas Environmental Protection

*Alum Creek 7*

4303031A

WW-4-A  
Revised 6/07

1) Date: August 13, 2013  
2) Operator's Well Number  
214451 Lincoln Mineral # 74  
3) API Well No.: 47 043 - 03031  
State County Permit

**STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT**  
**DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL & GAS**  
**NOTICE AND APPLICATION TO PLUG AND ABANDON WELL**

Check # 16364  
\$ 400.00  
(4 perm.ds)

4) Surface Owner(s) to be served:  
(a) Name John Smith Jr. ✓  
Address 8 Vespers Way  
Bluffton, SC 29910  
  
(b) Name \_\_\_\_\_  
Address \_\_\_\_\_  
  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
  
6) Inspector Ralph Triplett ✓  
Address 5539 McCellan Hwy.  
Branchland, WV 25506  
Telephone 304-3890350

5) (a) Coal Operator:  
Name None  
Address \_\_\_\_\_  
  
(b) Coal Owner(s) with Declaration ✓  
Name Penn Virginia Resources Partners  
Attn: Gary Stover  
Address One Carbon Center  
Suite 100  
Name Chesapeake, WV 25315  
Address \_\_\_\_\_  
  
(c) Coal Lessee with Declaration  
Name None  
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 Division 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:  
By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_\_

**EQT Production Company**  
Victoria J. Roark  
Permitting Supervisor  
PO Box 280  
Bridgeport, WV 26330  
(304) 848-0076

Subscribed and sworn before me this 14 day of Aug., 2013  
Pamela Sykes Notary Public  
My Commission Expires: 8-24-22

Received

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

Office of Oil and Gas  
WV Dept. of Environmental Protection

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL & GAS**  
**CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM**  
**GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE**

Operator Name: EQT PRODUCTION COMPANY OP ID: \_\_\_\_\_  
Watershed: Beech Branch Quadrangle: Alum Creek  
Elevation: 797.21' County: Lincoln District: Washington

Description of anticipated Pit Waste: Formation Fluids

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes\_\_\_ No X  
Will synthetic liner be used in the pit? Yes Is so, what ml.? 30 ml

Proposed Disposal Method for Treated Pit Wastes:  
X Land Application  
\_\_\_\_ Underground Injection - UIC Permit Number \_\_\_\_\_  
\_\_\_\_ Reuse (at API Number) \_\_\_\_\_  
\_\_\_\_ Offsite Disposal Permit #. \_\_\_\_\_  
\_\_\_\_ Other: Explain \_\_\_\_\_

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. \_\_\_\_\_  
If oil based, what type? Synthetic, petroleum, etc. \_\_\_\_\_  
Additives to be used? \_\_\_\_\_

Will closed loop system be used? \_\_\_\_\_  
Drill Cuttings disposal method? Leave in pit, landfill, remove offsite, etc. \_\_\_\_\_  
If left in pit and plan to solidify what medium will be used? Cement, Lime, sawdust \_\_\_\_\_  
Landfill or offsite name/permit number? \_\_\_\_\_

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 Division of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any terms 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 or Printed) Victoria Roark

Company Official Title Permitting Supervisor-WV

Subscribed and sworn before me this 14 day of August, 2013

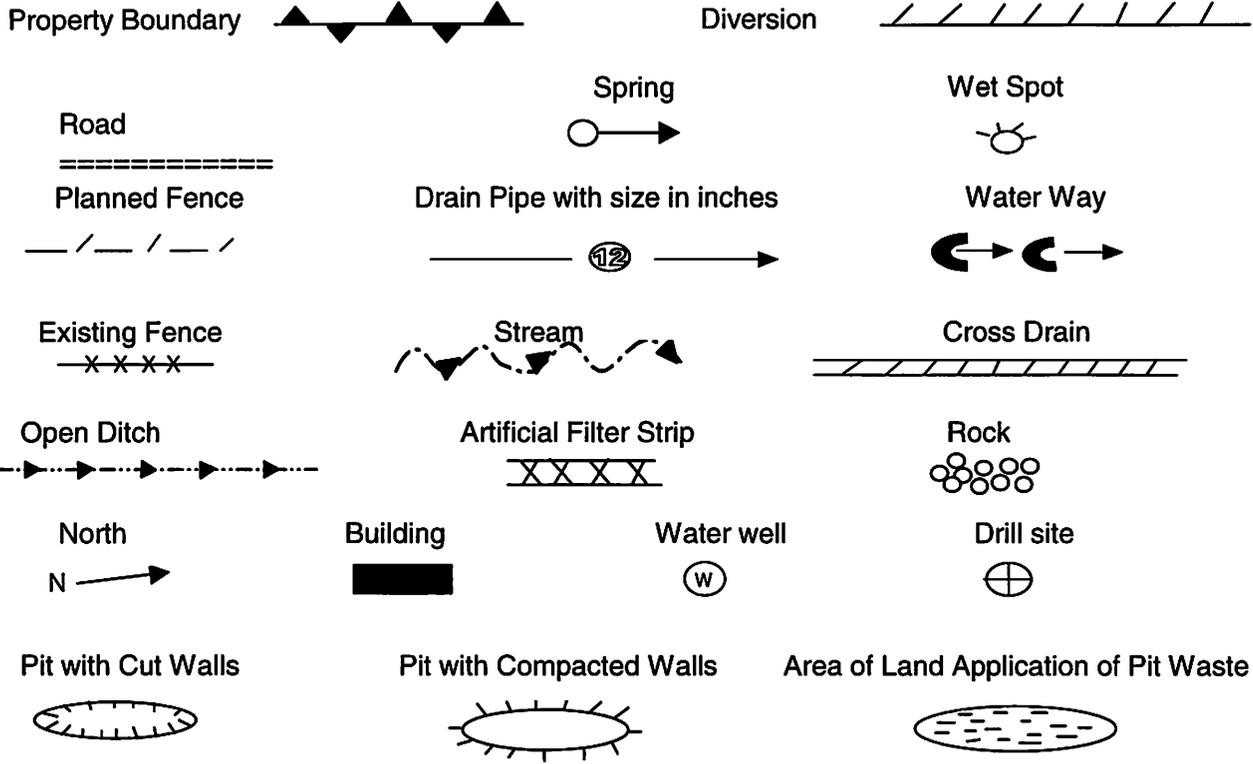
Pamela Sykes Notary Public  
My Commission Expires 8-24-22

Received  
AUG 15 2013  
Office of Oil and Gas  
Environmental Protection



**OPERATOR'S WELL NO.:**  
**214451 Lincoln Mineral # 74**

**LEGEND**



Proposed Revegetation Treatment: Acres Disturbed: 1± Prevegetation pH 5.8  
 Lime 3 Tons/acre or to correct to pH 6.5  
 Fertilizer (10-20-20) or equivalent 1/3 ton lbs/acre (500 lbs minimum)  
 Mulch 2 Tons/acre or hydroseed.

**SEED MIXTURES**

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	40	Orchard Grass	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

**ATTACH:**

Drawing(s) of road, location, pit and proposed area for land application.  
 Photocopies section of involved 7.5' topographic sheet.

Plan approved by: Raepl D. Trupia

Comments: \_\_\_\_\_

Title: Disturb. Impact Date: \_\_\_\_\_  
 Field Reviewed? Yes Yes \_\_\_\_\_ No \_\_\_\_\_

**Received**

AUG 18 2003

Office of Oil and Gas  
 WV Dept. of Environmental Protection

4303031 P

Topo Quad: Alum Creek 7.5'

Scale: 1" = 2000'

County: Lincoln

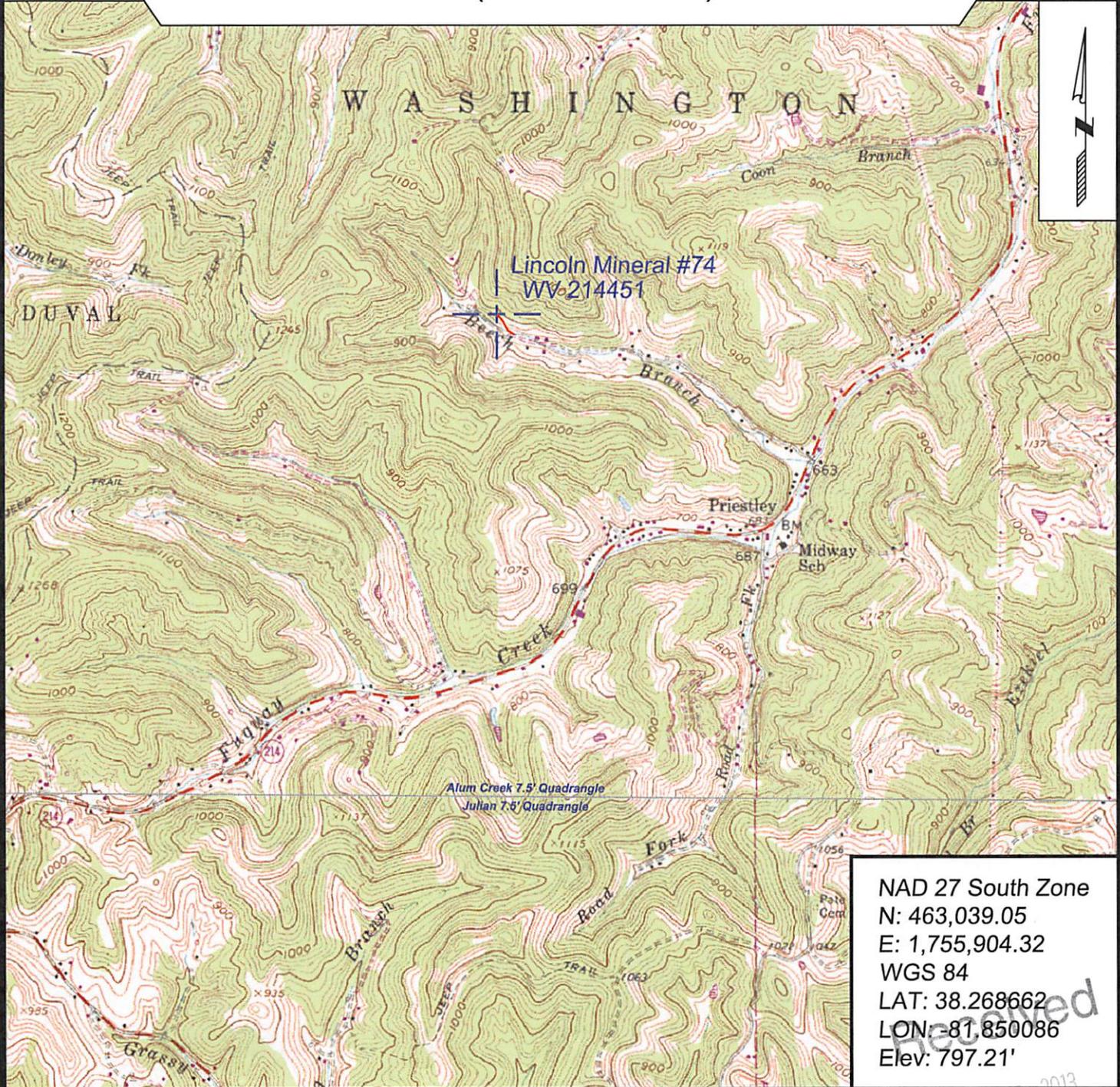
Date: August 1, 2013

District: Washington

Project No: 206-26-S-13

# Lincoln Mineral #74 (47-043-03031) WV 214451

Topo



NAD 27 South Zone  
 N: 463,039.05  
 E: 1,755,904.32  
 WGS 84  
 LAT: 38.268662  
 LON: -81.850086  
 Elev: 797.21'



SURVEYING AND MAPPING SERVICES PERFORMED BY:

## ALLEGHENY SURVEYS, INC.

1-800-482-8606  
 P.O. BOX 438  
 BIRCH RIVER, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

PREPARED FOR:

## EQT Production Company

P.O. Box 280  
 Bridgeport, WV 26330

AUG 15 2013

Office of Oil and Gas  
 Department of Environmental Protection

