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

September 19, 2014

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-8100770, issued to EXCO RESOURCES (PA), LLC, 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: NEW RIVER 22-AR
Farm Name: MOUNTAIN LAUREL RESOURCE
API Well Number: 47-8100770
Permit Type: Plugging
Date Issued: 09/19/2014

Promoting a healthy environment.

8100770P

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 _____, 20_____
2) Operator's
Well No. New River AR-22
3) API Well No. 47- 081 - 0770

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 ____ or Underground storage ____) Deep ____/ Shallow X

5) Location: Elevation 2323 Watershed Cramberry Creek
District Town 6 County Raleigh 48 Quadrangle Beckley 7.5 234

6) Well Operator Exco Resources (PA), LLC
Address PO Box 8
Ravenswood, WV 26164

7) Designated Agent Diana Stampler
Address CT Corporation Systems
5400 D Big Tyler Rd, Chas, WV 25301

8) Oil and Gas Inspector to be notified
Name Gary Kennedy
Address PO BOX 268
Nimitz, WV 25978

9) Plugging Contractor
Name R&R Well Service
Address 4026 Clay Rd.
Spencer, WV 25276

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

Plugged back to+or_ 1480' RIH check TD to +or-1480'rig up tubing to TD and load hole with 6% gel.
Rig up and pump 35 sks Class A cement from 1480'to 1050', WOC for 8hrs.
RIH tag top of cement at 1050', add and additional class A cement to achieve 1050' TOC
Pull tubing. RIH and cut 4 1/2 csg at +or - 850' (bond log shows TOC at 920') and pull 4 1/2 casing
RIH with tubing to +or- 850'and pump 35 sks of class A cement 850'to 678", pull tubing to 500'
Rig up and pump 35 sks class A cement 500'to 328', pull tubing to ~~175'~~ 310' and pump ~~35~~ ? sks class A
cement 175'to surface.
OPEN MINE 215' - 219'
BOTTOM OF 9 5/8" IS 260'
Keep gel between all cement plugs. Erect monument with API #, reclaim road and location.

RECEIVED
Office of Oil and Gas
AUG 13 2014
WV Department of
Environmental Protection

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AUG 13 2014
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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 8/11/14

8100770P

R-35

State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Date September 17, 1987
Operator's
Well No. New River #22-AR
Farm
API No. 47 - 081 - 770

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 x / Underground Storage ___ / Deep ___ / Shallow x /)

LOCATION: Elevation: 2327' Watershed Cranberry Creek of Piney Creek
District: Town County Raleigh Quadrangle Beckley 7.5

COMPANY Peake Operating Company
ADDRESS 423 Charleston National Plaza, Charleston, WV 25301
DESIGNATED AGENT Timothy K. Wilcox
ADDRESS 423 Charleston National Plaza, Charleston, WV 25301
SURFACE OWNER Mt. Laurel Resources
ADDRESS Box 711, Mt. Hope, WV 25880
MINERAL RIGHTS OWNER Same
ADDRESS
OIL AND GAS INSPECTOR FOR THIS WORK
Rodney Dillon ADDRESS Box 1526, Sophia, WV
PERMIT ISSUED 6/22/87
DRILLING COMMENCED 6/22/87
DRILLING COMPLETED 7/3/87
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON NA

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.	16	16	2 sks.
13-10"			
9 5/8	260	260	110 sks.
8 5/8			
7	1020	1020	175 sks.
5 1/2			
4 1/2		1503	52 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Weir Depth 3225 feet
Depth of completed well 2898 feet Rotary X / Cable Tools
Water strata depth: Fresh None feet; Salt 2820 feet
Coal seam depths: 215 (open) Is coal being mined in the area? No.

OPEN FLOW DATA
Producing formation Ravencliff Pay zone depth 1308-1338 feet
Gas: Initial open flow 36 Mcf/d Oil: Initial open flow -- Bbl/d
Final open flow 223 Mcf/d Final open flow -- Bbl/d
Time of open flow between initial and final tests 4 hours
Static rock pressure 125 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

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(Continue on reverse side)

8100770P

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

9/8/87 - Perforated Ravencliff from 1308'-1338' (40 holes)
75 Q Foam fraced Ravencliff using 500 gal. 15% HCL, 60,000# 20/50 sand, 335,000 $SCFN_2$, 250 bbl. gelled fluid, BDP 1500#, ATP 1750#, ISIP 1450#, 15 min. SIP 1400#.

WELL LOG

FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Sand	0	300	
Shale	300	392	Salt water @ 2820 - ± 1 gpm
and	392	690	
and and Shale	690	1030	
Princeton Sand	1030	1120	
Shale	1120	1274	
Ravencliff Sand	1274	1344	
Shale	1344	1350	Gas checks:
Avis Lime	1350	1388	1290' - N/S
Sand and Shale	1388	2254	1333' - .036 1423' - .033
Little Lime	2254	2368	1875' - .041
Shale	2368	2435	2410' - .034 2620' - .033
Big Lime	2435	TD	
		DTD - 2880	
		LTD - 2899	

(Attach separate sheets as necessary)

PEAKE OPERATING COMPANY
Well Operator

By: _____

Date: _____

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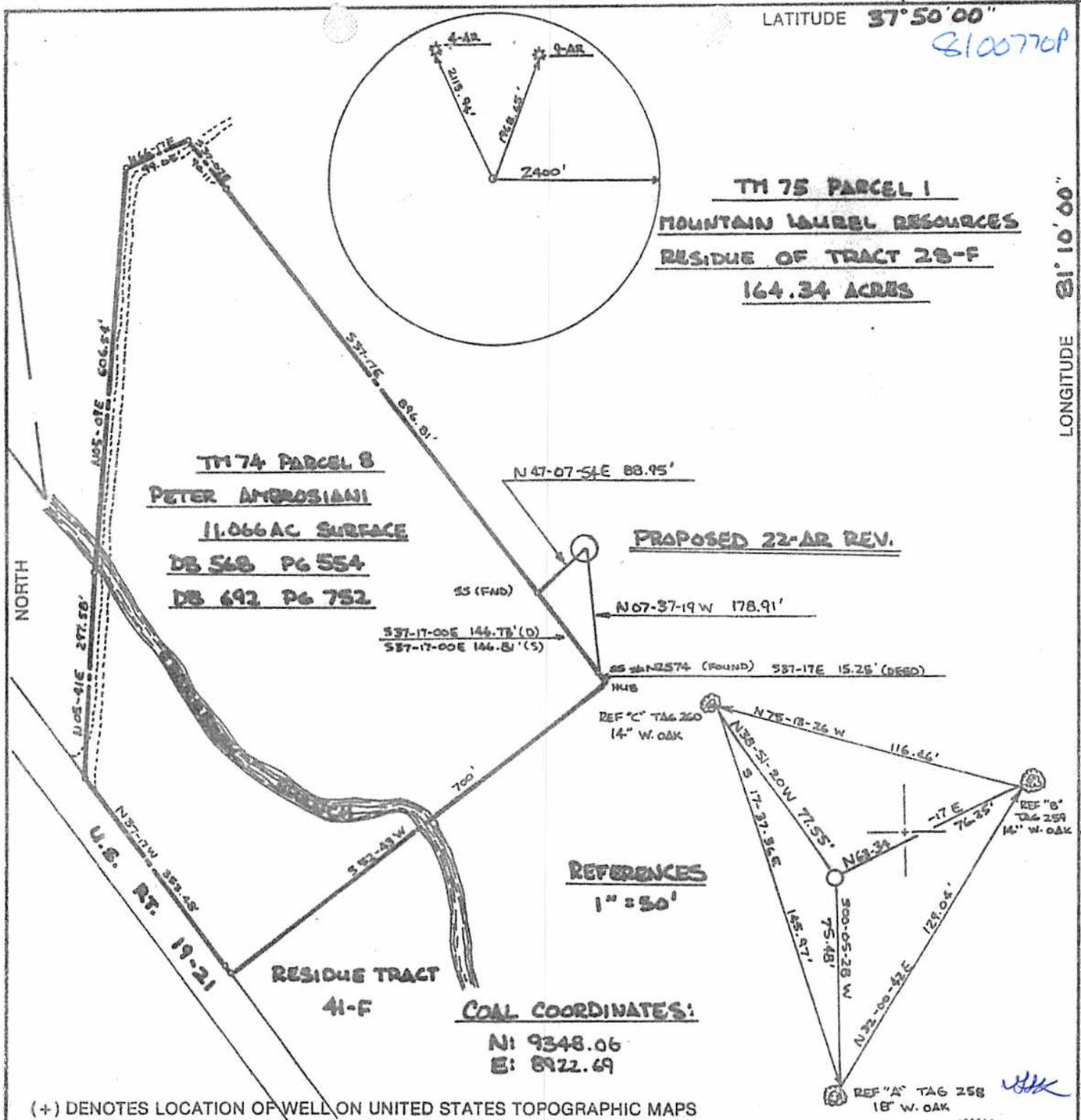
Note: Regulation 2.02(i) provides as follows:
"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."

2650

LATITUDE 37°50'00"

8100770P



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. PE-081-020
DRAWING NO.
SCALE 1" = 200'
MINIMUM DEGREE OF ACCURACY 1 IN 10000
PROVEN SOURCE OF ELEVATION EXISTING WELL 4-AR

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.

(SIGNED) Roy James Capper
R.P.E. 9456 L.L.S.

ROY JAMES CAPPER REGISTERED No. 9456 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

PLACE SEAL HERE

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

DATE 10 JUNE, 19 87
OPERATOR'S WELL NO. 22-AR REV.
API WELL NO.
47 — — —
STATE COUNTY PERMIT

WELL TYPE: OIL___ GAS ■ LIQUID INJECTION___ WASTE DISPOSAL___
(IF "GAS,") PRODUCTION ■ STORAGE___ DEEP___ SHALLOW ■
LOCATION: ELEVATION 2323' WATER SHED CRANBERRY BRANCH OF PINEY CREEK
DISTRICT TOWN COUNTY RALEIGH
QUADRANGLE BECKLEY 7.5'
SURFACE OWNER MOUNTAIN LAUREL RESOURCES, INC. ACREAGE 164.34
OIL & GAS ROYALTY OWNER CSX MINERALS, INC. LEASE ACREAGE 61,571.757
LEASE NO. 31/195
PROPOSED WORK: DRILL ■ CONVERT___ DRILL DEEPER___ REDRILL___ FRACTURE OR STIMULATE ■ PLUG OFF OLD FORMATION___ PERFORATE NEW FORMATION___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY)

PLUG AND ABANDON___ CLEAN OUT AND REPLUG___
TARGET FORMATION RAVENCLIFF ESTIMATED DEPTH 1400'
WELL OPERATOR PEAKE OPERATING COMPANY DESIGNATED AGENT TIMOTHY K. WILCOX
ADDRESS 423 CNB PLAZA ADDRESS 423 CNB PLAZA
CHARLESTON, W.VA. 25301 CHARLESTON, W.VA. 25301

COUNTY NAME
PERMIT

Received
AUG 13 2014
Office of Oil & Gas
Environmental Protection

8100770P 870

Peake Operating Company

Suite 423
Charleston National Plaza
Charleston, WV 25301
Tel: (304) 342-6970

DRILLING REPORT

New River #22-AR
Raleigh County, WV

SPUD DATE: 7:30 p.m., on June 22, 1987.

June 23 - Drilled 16' with 14-3/4" bit on 6/22/87. Set 16' of 13-3/8" conductor pipe. On 6/23/87 drilling at 150' with 12-1/4" bit.

June 24 - Drilled to 260' with 12-1/4" bit (6/23). Hit open mine at 215-219. Set 9-5/8" to 260'. Used 110 sacks of Neat cement. Used:

2 centralizers
1 basket

June 30 - Began drilling at 965'. Drilled to 1027' with 7" bit. At 1020' used 175 sacks of Neat cement. Used:

3 centralizers
1 basket
1 insert
1 guideshoe

July 1 - Drilling out of 7".

July 2 - At 7:00 a.m. drilling at 2168' with 6-1/2" bit. Samples showed Ravencliff from 1260' to 1350'. Gas checks as follows:

1290 - No Gas
1333 - 12/10 1" W = 36,000 (bit trip)
1423 - 10/10 1" W = 33,000
1875 - 15/10 1" W = 41,000

July 3 - At 8:00 a.m. drilling at 2,800' with 6-1/8" hammer bit. Bit trip at 2438'. Samples showed the top of the Big Lime at 2425'. Gas checks:

1875 - 15/10 1" W = 40,000 CFG
2410 - 11/10 1" W = 34,000 CFG
2620 - 10/10 1" W = 33,000 CFG

Drilled to 2899' by 5:00 p.m. Picked up moisture at 2820'. Went to foam to clean hole and hole condition deteriorated. Decided to cut well short due to hole condition. Allegheny Nuclear logged well. Logger got TD at 2898'. Logs showed the Big Lime to be wet. Ran 46 Jts. of 4-1/2 for total of 1,503.47' with the insert at 1470.82'. Used 4 centralizers, 1 latchdown, 1 guide shoe and 1 basket. Gelled bottom of hole with 54 bbls. 6% Gel. Used 52 sacks RFC cement.

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WV Dept. of Environmental Protection

plug back

8/11/14

8100770P

WW-4A
Revised 6-07

1) Date:
2) Operator's Well Number
NEW RIVER AR-22

3) API Well No.: 47 - 081 - 0770

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE 0F APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:
(a) Name: Cramberry Creek Partners, Inc. ✓
Address: 263 Whiteoak Drive
Beckley, WV 25801

(b) Name: attn: Doug Knoll
Address:

(c) Name:
Address:

6) Inspector: Gary Kennedy
Address: PO Box 268
Nimiyz, WV 25978
Telephone: 304 382 8402

5) (a) Coal Operator
Name:
Address:

(b) Coal Owner(s) with Declaration ✓
Name: Boone East Develolpement Co
Address: Po Box 261
Julian Wv 25529

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.

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
SHELLY WELLING
RR 1, Box 120
Given, West Virginia 25245
My Commission Expires Nov. 19, 2018

Well Operator: Exco Resources (PA), LLC
By: Randall S. Stark
Its: Production Superintendent
Address: PO. BOX 8
Ravenswood WV 26164
Telephone: 304 273 5371

Subscribed and sworn before me this 7 day of Aug 2014
Shelly Welling Notary Public
My Commission Expires 11/19/18

Received
AUG 13 2014
Office of Oil and Gas
WV Dept. of Environmental Protection

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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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 6.90

MILLWOOD, WV 25262 Postmark Here AUG - 7 2014 USPS

Sent To: Cranberry Creek Partners, Inc AR22
Street, Apt. No.; or PO Box No.: 263 Whitecoak Drive
City, State, ZIP+4: Berkley WV 25805

PS Form 3800, August 2006 — See Reverse for Instructions

7006 2760 0005 3354 4202

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 8.45

MILLWOOD, WV 25262 Postmark Here AUG - 7 2014 USPS

Sent To: Booth East Development Co AR9 AR22
Street, Apt. No.; or PO Box No.: PO Box 261
City, State, ZIP+4: Julian WV 25529

PS Form 3800, August 2006 — See Reverse for Instruction

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AUG 13 2014
Office of Oil and Gas
WV Dept. of Environmental Protection

8100770P

WW-9
Rev. 5/08

Page _____ of _____
API Number 47 - 081 - 0770
Operator's Well No. New River AR-22

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 EXCO Resources (PA), LLC OP Code 307860

Watershed Cranberry Creek Quadrangle Beckley 7 1/2

Elevation 2323' County Raleigh District Town

Description of anticipated Pit Waste: Cement, Gel, H2O

Will a synthetic liner be used in the pit? Steel Pit. SHK

Proposed Disposal Method For Treated Pit Wastes:

_____ Land Application
_____ Underground Injection (UIC Permit Number _____)
_____ Reuse (at API Number _____)
_____ Off Site Dispposal (Supply form WW-9 for disposal location)
X Other (Explain Haul by EPC to Marietta, OH Steel pit

Proposed Work For Which Pit Will Be Used:

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

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 [signature]

Company Official (Typed Name) Randall Sheets

Company Official Title Production Superintendent

Received
AUG 13 2014
Office of Oil and Gas
WV Dept. of Environmental Protection

Subscribed and sworn before me this 7 day of Aug, 20 14

Shelly Welling Notory Public

My commission expires 11/19/18

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
SHELLY WELLING
RR 1, Box 120
Given, West Virginia 25245
My Commission Expires Nov. 19, 2018

8100770P

Form WW-9

Operator's Well No. New River AR-22

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 1 Prevegetation pH _____

Lime 2 Tons/acre or to correct to pH 6.5

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

Mulch 2 Tons/acre

Seed Mixtures

Area I Seed Type	lbs/acre	Area II Seed Type	lbs/acre
KY 31 fescue	40	Same as area one	
Alsike Clover	5		
Annual Ryed	16		

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Gary Kennedy

Comments: _____

Title: Inspector Date: 8/11/14

Field Reviewed? (X) Yes ( ) No

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AUG 13 2014
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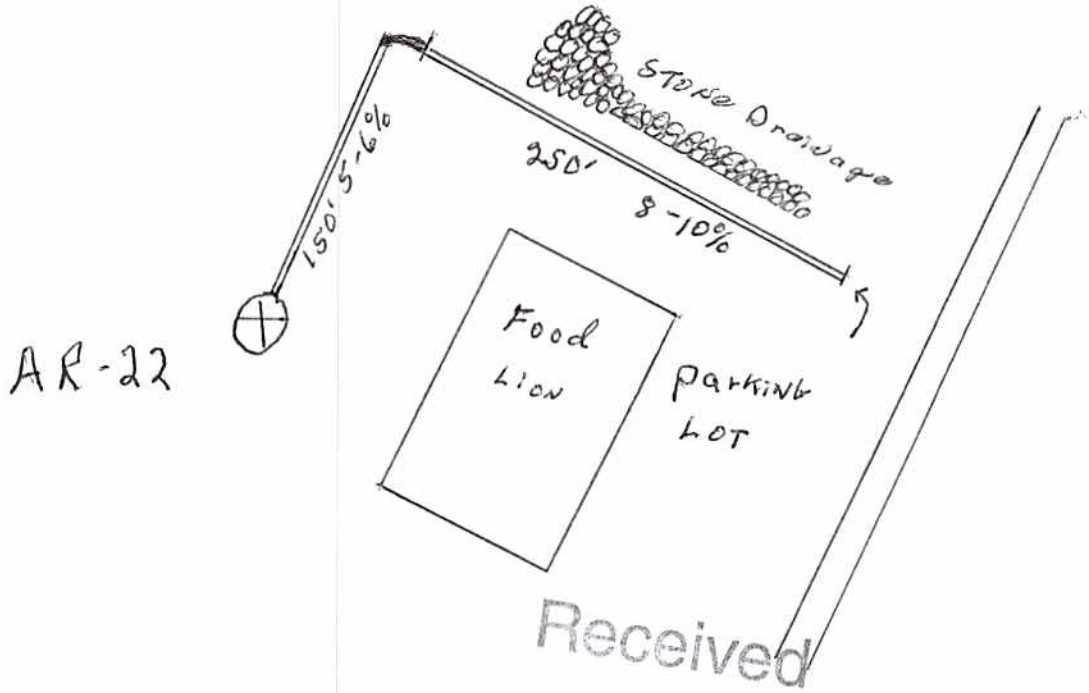
WV Dept. of Environmental Protection

8100770P

WW 9

New River AR 22

47 081 0770



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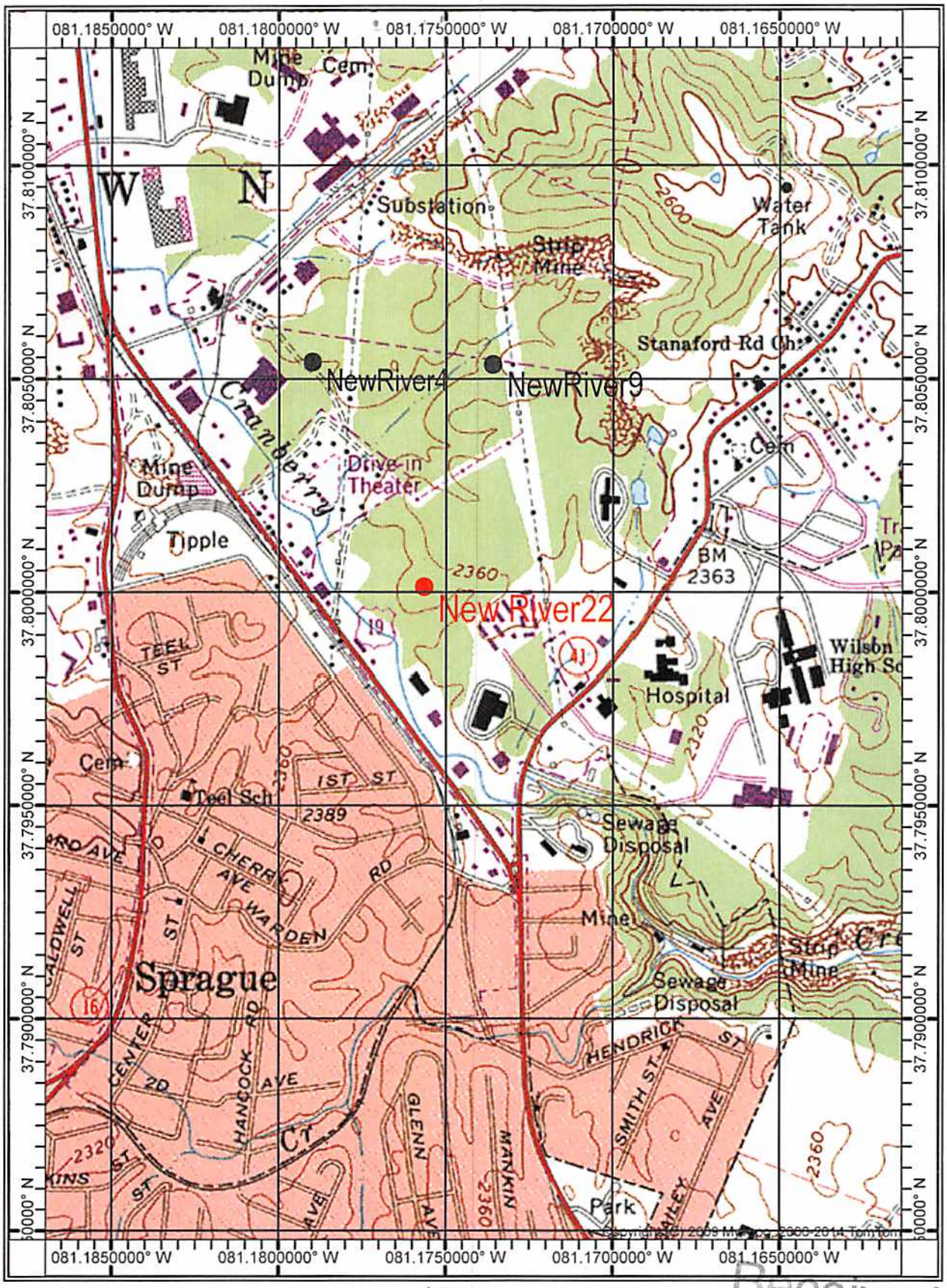

AR-12

SCALE 1:15000

0 1000 2000 3000 4000

FEET

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WV Dept. of Environmental Protection

8100770 P

WW-7
8-30-06

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

API: 47-081-0770 WELL NO.: AR-22

FARM NAME: New River

RESPONSIBLE PARTY NAME: Exco Resources

COUNTY: Raleigh DISTRICT: Town

QUADRANGLE: Beckley 7.5

SURFACE OWNER: Cranberry Creek Partners Inc

ROYALTY OWNER: _____

UTM GPS NORTHING: 4183669.4

UTM GPS EASTING: 484549.6 GPS ELEVATION: 2327'

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 X : 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.

Randall R. Slutz — Signature
Production Superintendent — Title
8/7/14 — Date

Received
SEP 18 2014
Office of Oil and Gas
WV Dept. of Environmental Protection