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

January 27, 2014

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4701583, issued to GEOMET OPERATING COMPANY INC, 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: ALAWEST-005
Farm Name: ALAWEST, INCORPORATED
API Well Number: 47-4701583
Permit Type: Plugging
Date Issued: 01/27/2014

Promoting a healthy environment.

4701583P

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.

4701583P

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4701583P

WW-4B
Rev. 2/01

1) Date December 17th, 2013
2) Operator's Well No. Alawest 005
3) API Well No. 47- 047 - 01583C

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____

5) Location: Elevation 1268' Watershed Mile Branch
District Sandy River to County McDowell Quadrangle lager 406

6) Well Operator GeoMet Operating Co. Inc
Address 5336 Stadium Trace Pkwy, Suite 206
Birmingham, AL 35242

7) Designated Agent Eric Vance
Address 149 Fire Trail Drive
Daniels, WV 25832

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

9) Plugging Contractor
Name Universal Well Services
Address 5252 RT 1428
Allen, KY 41601

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

RIH W/ 2-7/8" Tubing at or near the bottom of the casing and below all Coal Seams
An expanding cement will then be used to fill the well that consists of
50/50 PozMix with 10% salt, 2% Gel. 6% Bentonite Gel plug Between Cement Plugs.
A permanent marker will be installed after the well is filled, then the site will be reclaimed.
Note: All casings in well are cemented to surface, see attached well drawings.
A current picture of the well location is also attached.

1/10/14

IF CASING IS FILLED WITH EXPANDING CEMENT TO SURFACE, NO GEL SPACER WILL BE NEEDED GWM

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 1/10/14

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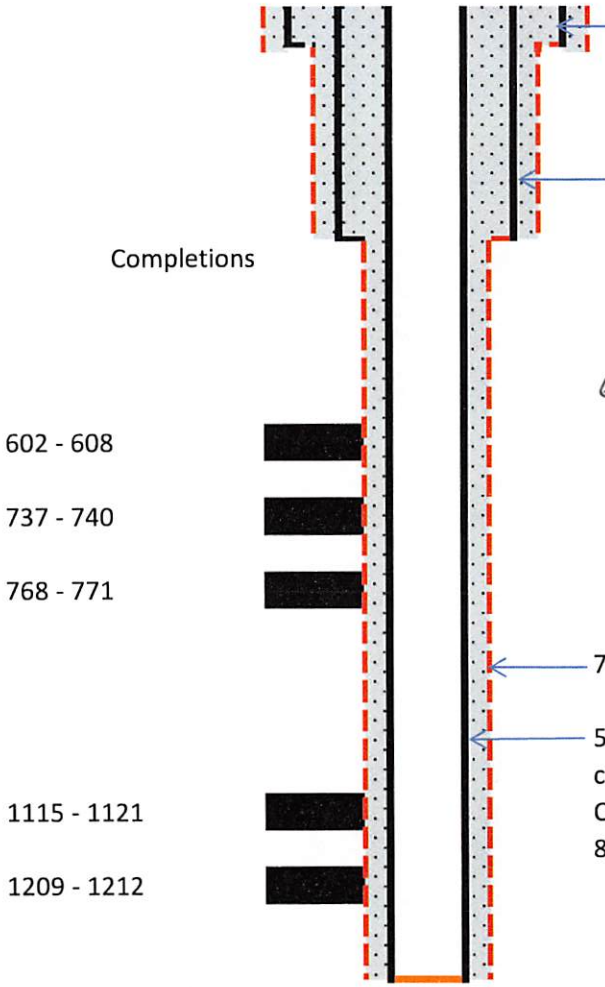
Office of Oil and Gas
JAN 13 2014
WV Department of
Environmental Protection

Alawest 005
Plug and Abandon Schematic

API# 4704701583



13.375 in Conductor Pipe Conductor Casing @ 44'

12 in. Surface Hole @ 320 ft
8.625 in. Surface Pipe Surface Casing Set @ 311 ft
and cemented with 206.5 cu.ft of Class A with 2% CaCl
Calculated Volume - 122.3 cu.ft.
6 bbls to surface

6% Bentonite gel plug Between cement plugs.

IF CASING IS FILLED WITH EXPANDING CEMENT TO SURFACE, THEN GEL SPACER WILL NOT BE NEEDED.
JMW 1/9

7.875 in. hole @ 1550 ft

5.5 in. J-55 Production Casing Production Casing set @ 1530
cemented with 357.5 cu.ft 50/50 PozMix w 2% gel, 3% NaCl,Gilsonite
Calculated Volume - 265.1 cu.ft.
8 bbls to surface

4701583P

WR-35
Rev (5-01)

DATE: February 26, 2002
API #: 47-047-01583C

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

Well Operator's Report of Well Work

Farm name: Alawest Inc. Operator Well No.: Alawest 005

LOCATION: Elevation: 1268 Quadrangle: Iaegar

District: Sandy River County: McDowell
Latitude: 917 Feet South of 37 Deg. 27 Min. 30 Sec.
Longitude: 10356 Feet West of 81 Deg. 47 Min. 30 Sec.

Company: GeoMet Operating Company, Inc.

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 5336 Stadium Trc Parkway, Suite 206	13-3/8"	44'	44'	
Birmingham, Alabama 35244				
Agent: Gregg Cleary	8-5/8"	311'	311'	128/Pumped 210
Inspector: Ofie Helmick				
Date Permit Issued: 11/05/01	5-1/2"	1530'	1530'	265/Pumped 358
Date Well Work Commenced: 11/17/01				
Date Well Work Completed: 12/01/01				
Verbal Plugging:				
Date Permission granted on:				
Rotary X Cable Rig				
Total Depth (feet): 1545				
Fresh Water Depth (ft.): Unknown				
Salt Water Depth (ft.): Unknown				
Is coal being mined in area (N/Y)? NO				
Coal Depths (ft.): 348/388/458/505/602/737/768/1116/1166/1209				

OPEN FLOW DATA

Producing formation All Zones Commingled Pay zone depth (ft)_____
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 155 psig (surface pressure) after 1080 Hours

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.

Signed: 3-19-02
By: Gary Baynell
Date:

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Office of Oil and Gas
JAN 17 2014
WV Department of
Environmental Protection

4701583P

API #: 47-047-01583C
Operator Well #: Alawest-005
Farm Name: Alawest Inc.

1.) Details of perforated intervals, fracturing or stimulating, physical change, etc.

1st Stage:
Perf Poca 1, 1209'-1212', Poca 2, 1166' -1169' & frac on 11/27/01 by Superior with 70Q Foam 40000# 16/30 Sand, 218000 SCF N2 Breakdown Pressure 3600 PSIG, Average Pressure 2228 PSI, ISIP 1341 PSI

2nd Stage:
Perf Poca 3, 1116'-1120 Pressured out before breakdown.Re- Perf Poca 3, 1115' -1121', Pressured out second time. Move to stage 3.

3rd Stage:
Perf Firecreek, 768'-771', 737' -740' & frac on 11/27/01 by Superior with 70Q Foam 36800# 16/30 Sand, 227000 SCF N2, 200 Total Bbls Fluid. Breakdown Pressure 3425 PSIG, Average Pressure 1695 PSI, ISIP 1058 PSI

4th Stage:
Perf Beckley, 602'-608' & frac on 11/27/01 by Superior with 70Q Foam 46000# 16/30 Sand, 202000 SCF N2, 240 Total Bbls Fluid. Breakdown Pressure 1188 PSIG, Average Pressure 1353 PSI, ISIP 870 PSI

2.) The well log which is a systematic detailed geological record of all formations, including coal encountered by the wellbore.

0 – 311	Sandstone/Shale
311 – 884	Sandstone/Shale with coal bands
884 – 944	Sandstone
944 – 1178	Sandstone/Shale with coal bands
1178 – 1210	Sandstone
1210 – TD	Sandstone/Shale

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

4701583P

WW-4A
Revised 6-07

1) Date: December 17,2013
2) Operator's Well Number
Alawest 005

3) API Well No.: 47 - 047 - 01583C

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: Alawest,Inc
Address: P.O. Box 920
Welch, WV 24801

(b) Name:
Address:

(c) Name:
Address:

6) Inspector: Gary Kennedy
Address: Box 268
Nimitz WV 25978
Telephone: 304-382-8402

5) (a) Coal Operator
Name:
Address:

(b) Coal Owner(s) with Declaration
Name: Alawest, Inc.
Address: P.O. Box 920
Welch, WV 24801

Name:
Address:

(c) Coal Lessee with Declaration
Name: Caretta Minerals, LLC
Address: P.O. Box 309
Prosperity, WV 25909

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: GeoMet Operating Company, Inc.
By: Dallas Nestel Dallas Nestel
Its: Project Manager
Address: 5336 Stadium Trace Pkwy, Suite 206
Birmingham, AL 35242
Telephone: 205-425-3855

Subscribed and sworn before me this 9th day of January 2014
Rocky Stilwell Notary Public
My Commission Expires 4/30/2016

ROCKY STILWELL NOTARY PUBLIC REG. #7188636 MY COMMISSION EXPIRES 4/30/2016 COMMONWEALTH OF VIRGINIA

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	$

POUNDING MILL VA 24637
JAN - 6
Postmark Here
USPS

Sent To: Alawest
Street, Apt. No.; or PO Box No.: PO Box 920
City, State, ZIP+4: Welch WV 24801

PS Form 3800, August 2006 — See Reverse for Instructions

7012 2210 0002 5522 4421

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

POUNDING MILL VA 24637
JAN - 6
Postmark Here
USPS

Sent To: Carolla Minerals LLC
Street, Apt. No.; or PO Box No.: PO Box 309
City, State, ZIP+4: Prosperity WV 25909

PS Form 3800, August 2006 — See Reverse for Instructions

4701583P

WW-9
Rev. 5/08

Page 1 of 2
API Number 47 - 047 - 01583C
Operator's Well No. Alawest 005

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 GeoMet Operating Company, Inc. OP Code _____

Watershed Mile Branch Quadrangle lager

Elevation 1268' County McDowell District Sandy River

Description of anticipated Pit Waste: Fresh Water, Cement

Will a synthetic liner be used in the pit? 85bbl Flowback tank.

Proposed Disposal Method For Treated Pit Wastes:

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

Proposed Work For Which Pit Will Be Used:

- _____ Drilling
- _____ Workover
- _____ Other (Explain _____)
- _____ 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 Jeffery S. Cooper

Company Official (Typed Name) Jeffery S. Cooper

Company Official Title Production Manager

Subscribed and sworn before me this 9th day of January, 2014

Rocky Stilwell Notory Public

My commission expires 4/30/2016

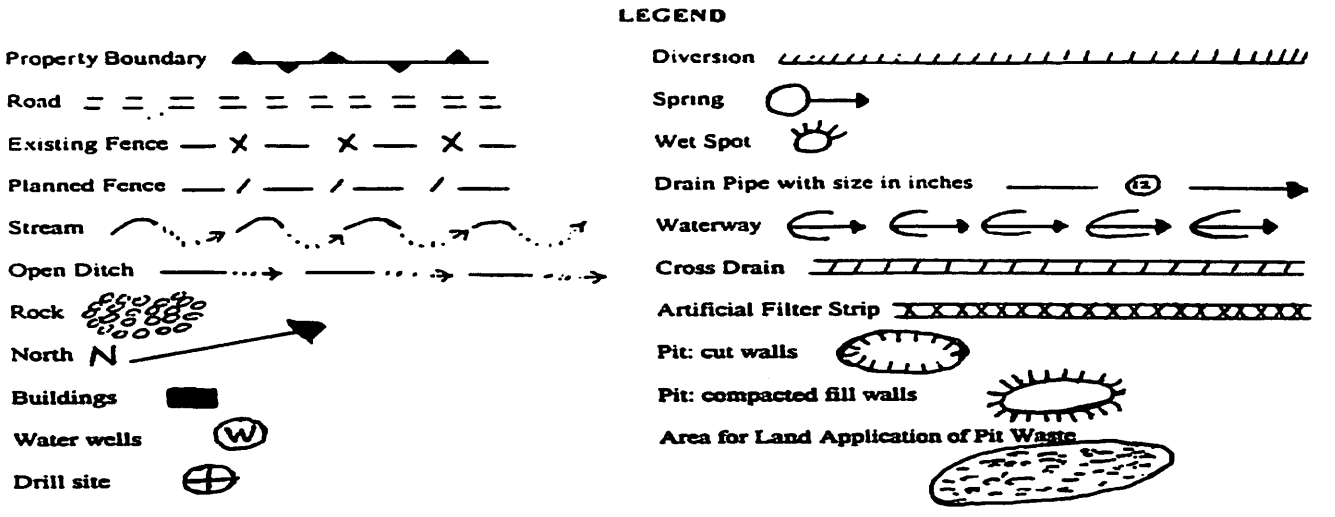
ROCKY STILWELL
NOTARY PUBLIC
REG. #7188636
MY COMMISSION EXPIRES 4/30/2016
COMMONWEALTH OF VIRGINIA

4701583P

Form WW-9

Operator's Well No. Alawest 005

LEGEND



Proposed Revegetation Treatment: Acres Disturbed 0.5 Prevegetation pH 5-6.5

Lime 2 Tons/acre or to correct to pH 6

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

Mulch Hay/Straw Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40		
Alsike or White Dutch Clover	5		
Tonga Perennial Ryegrass	24		

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

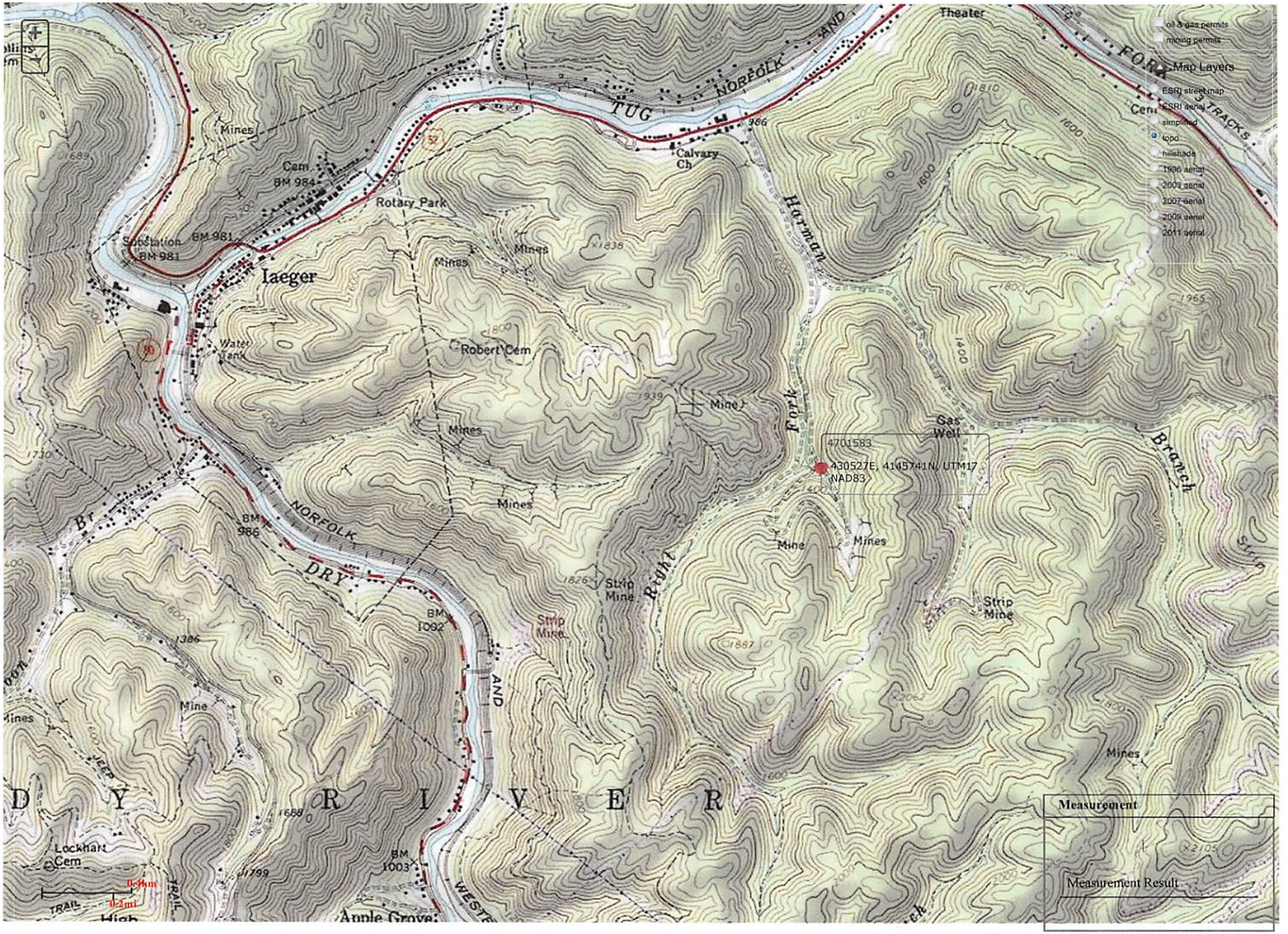
Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Jimmy Kennedy

Comments:

Title: Inspector Date: 1/10/14

Field Reviewed? (X) Yes ( ) No


oil & gas permits
mining permits
Map Layers
ESRI street map
ESRI aerial
simplified
topo
hillshade
1996 aerial
2003 aerial
2007 aerial
2009 aerial
2011 aerial
Theater
TUG
NORFOLK
AND
FORK
3 TRACKS
Calvary Ch
Harman
Fork
Right
Branch
Mines
Cem
BM 984
Rotary Park
Substation
BM 981
Iaeger
Water Tank
Robert Cem
Mine
Gas Well
4701583
430527E, 4145741N, UTM17
NAD83
NORFOLK
DRY
BM 986
BM 1002
BM 1003
Strip Mine
Lockhart Cem
D Y R I V E R
Apple Grove
Measurement
Measurement Result

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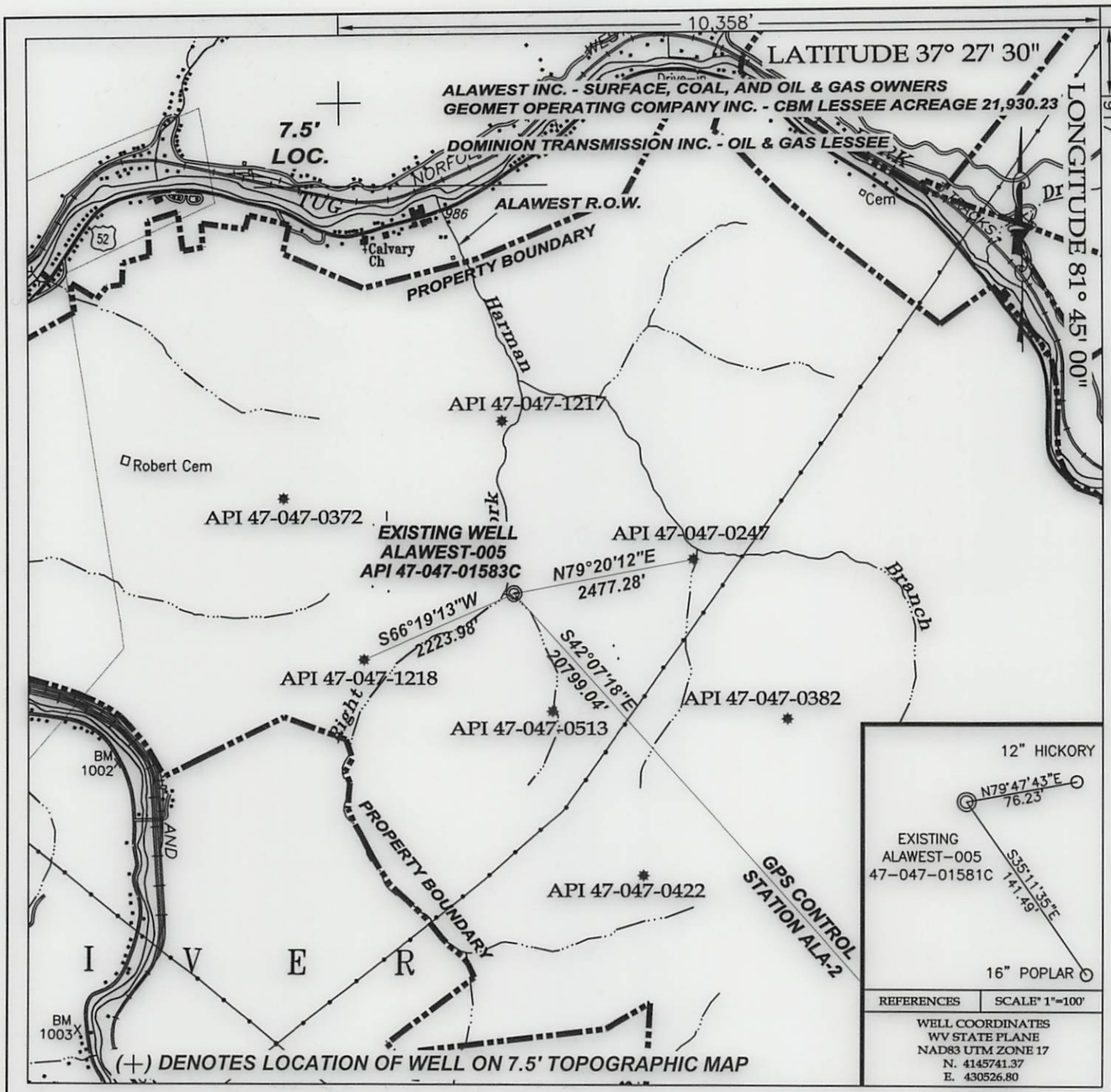


TEE Engineering Company, Inc.

320 Cutters Hill Court
Lexington, KY 40509
(859) 263-5350
Fax (859) 263-5345

P.O. Box 219
Stanville, KY 41659
(606) 478-9024
Fax (606) 478-9019

GeoMet Operating Company, Inc.
Well No. ALAWEST-005

FILE NO. 1899-00
DRAWING NO. AW-005 PLAT
SCALE: 1" = 2,000'
MIN. DEGREE OF ACCURACY 1 : 2,500
PROVEN SOURCE OF ELEVATION
GPS STATION TEC-1 (ELEV. 2406.60)

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 MINES.

Don F. Blackburn
(SIGNATURE)

R.P.E. _____ R.P.S. 1008

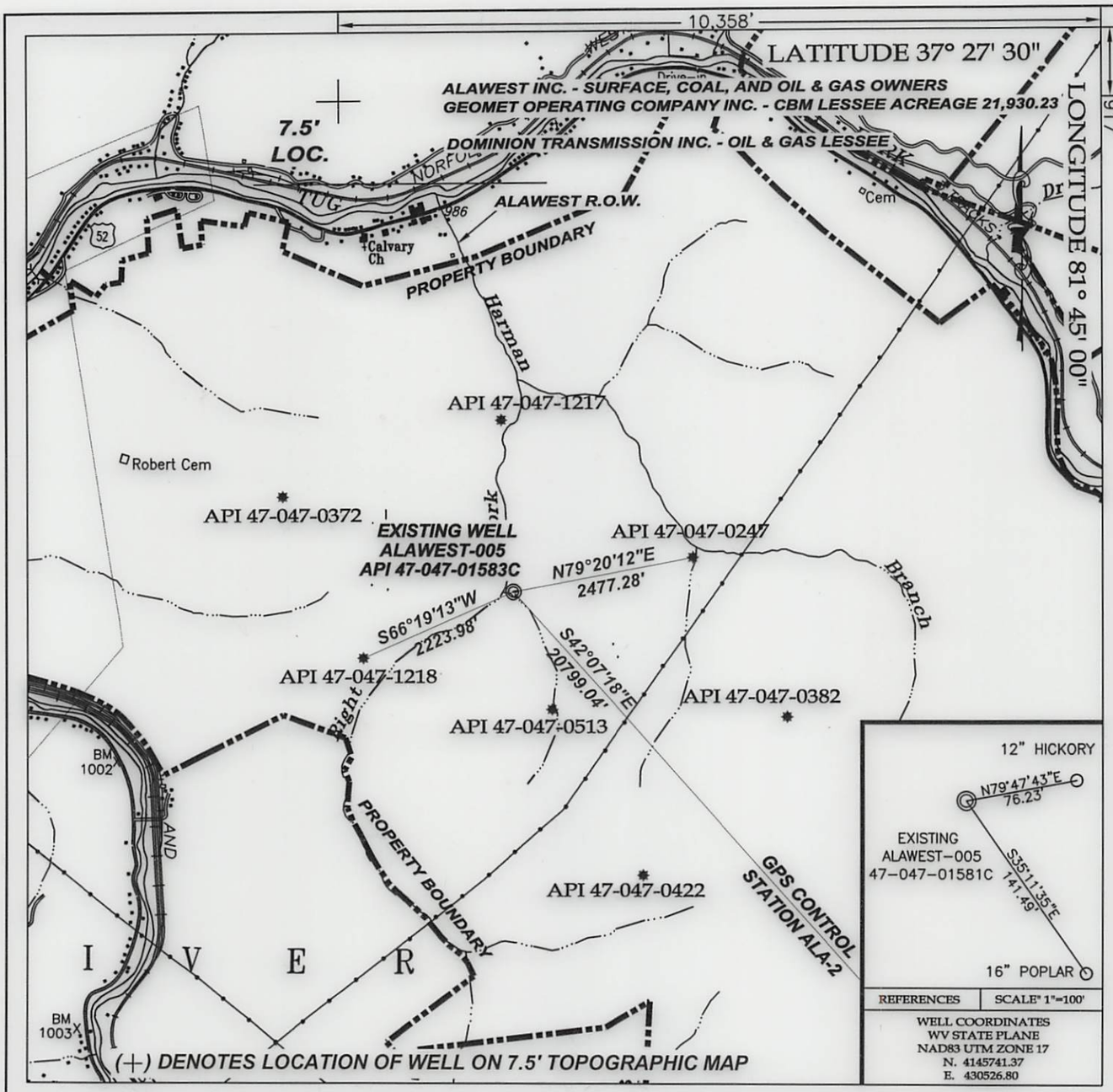
DON F. BLACKBURN
LICENSED
No. 1008
STATE OF
WEST VIRGINIA
PROFESSIONAL SURVEYOR

(SEAL)

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

DATE DECEMBER 26, 2013
OPERATOR'S WELL NO. ALAWEST 005
API WELL NO. 47 – 047 – 01583C P
STATE – COUNTY – PERMIT

WELL TYPE: OIL _____ GAS X CBM LIQUID INJECTION _____ WASTE DISPOSAL _____
(IF "GAS") PRODUCTION ____ STORAGE ____ DEEP ____ SHALLOW ____
LOCATION: ELEVATION 1,267.61' NORTHING 4145741.37 EASTING 430526.80 ZONE 17 NAD83 UTM
DISTRICT SANDY RIVER WATER SHED HARMAN BRANCH
QUADRANGLE IAEGER COUNTY McDOWELL
SURFACE OWNER ALAWEST INC. ACREAGE 21,930.23
CBM ROYALTY OWNER ALAWEST INC. LEASE ACREAGE 21,930.23
LEASE NO. WV-103-0001-00
PROPOSED WORK: DRILL _____ CONVERT ____ DRILL DEEPER ____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUG OFF OLD FORMATION _____ PEFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
PLUG AND ABANDON X CLEAN OUT AND REPLUG _____
TARGET FORMATION NEW RIVER AND POCAHONTAS COALS ESTIMATED DEPTH 1,568'
WELL OPERATOR GEOMET OPERATING COMPANY, INC. DESIGNATED AGENT CT CORPORATION SYSTEM
ADDRESS 5336 STADIUM TRACE PARKWAY SUITE 206 ADDRESS 707 VA. STREET EAST
BIRMINGHAM, ALABAMA 35244 CHARLESTON, WV 25301



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Well No. ALAWEST-005

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DRAWING NO. AW-005 PLAT
SCALE: 1" = 2,000'
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Don F. Blackburn
(SIGNATURE)

R.P.E. _____ R.P.S. 1008

DON F. BLACKBURN LICENSED No. 1008 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR
(SEAL)

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

DATE DECEMBER 26, 2013
OPERATOR'S WELL NO. ALAWEST 005
API WELL NO. 47 (STATE) - 047 (COUNTY) - 01583C P (PERMIT)

WELL TYPE: OIL _____ GAS X CBM LIQUID INJECTION _____ WASTE DISPOSAL _____
(IF "GAS") PRODUCTION ____ STORAGE ____ DEEP ____ SHALLOW ____
LOCATION: ELEVATION 1,267.61' NORTHING 4145741.37 EASTING 430526.80 ZONE 17 NAD83 UTM
DISTRICT SANDY RIVER WATER SHED HARMAN BRANCH
QUADRANGLE IAEGER COUNTY McDOWELL
SURFACE OWNER ALAWEST INC. ACREAGE 21,930.23
CBM ROYALTY OWNER ALAWEST INC. LEASE ACREAGE 21,930.23
LEASE NO. WV-103-0001-00
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WELL OPERATOR GEOMET OPERATING COMPANY, INC. DESIGNATED AGENT CT CORPORATION SYSTEM
ADDRESS 5336 STADIUM TRACE PARKWAY SUITE 206 ADDRESS 707 VA. STREET EAST
BIRMINGHAM, ALABAMA 35244 CHARLESTON, WV 25301