



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

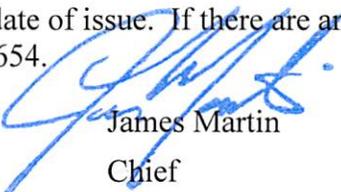
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4701579, 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 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: ALAWEST-001
Farm Name: ALAWEST, INC.
API Well Number: 47-4701579
Permit Type: Plugging
Date Issued: 01/27/2014

Promoting a healthy environment.

4701579 P

WW-4B
Rev. 2/01

1) Date December 17th, 2013
2) Operator's
Well No. Alawest 001
3) API Well No. 47-047 - 01579C

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 1165' Watershed Harman Branch
District Sandy River County McDowell Quadrangle lager 406

6) Well Operator GeoMet Operating Co. Inc 7) Designated Agent Eric Vance
Address 5336 Stadium Trace Pkwy, Suite 206 Address 149 Fire Trail Drive
Birmingham, AL 35242 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.

*yes (CEMENT FROM BOTTOM TO TOP)
(GEL SHOULD NOT BE NECESSARY)*

RECEIVED
Office of Oil and Gas

JAN 13 2014

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

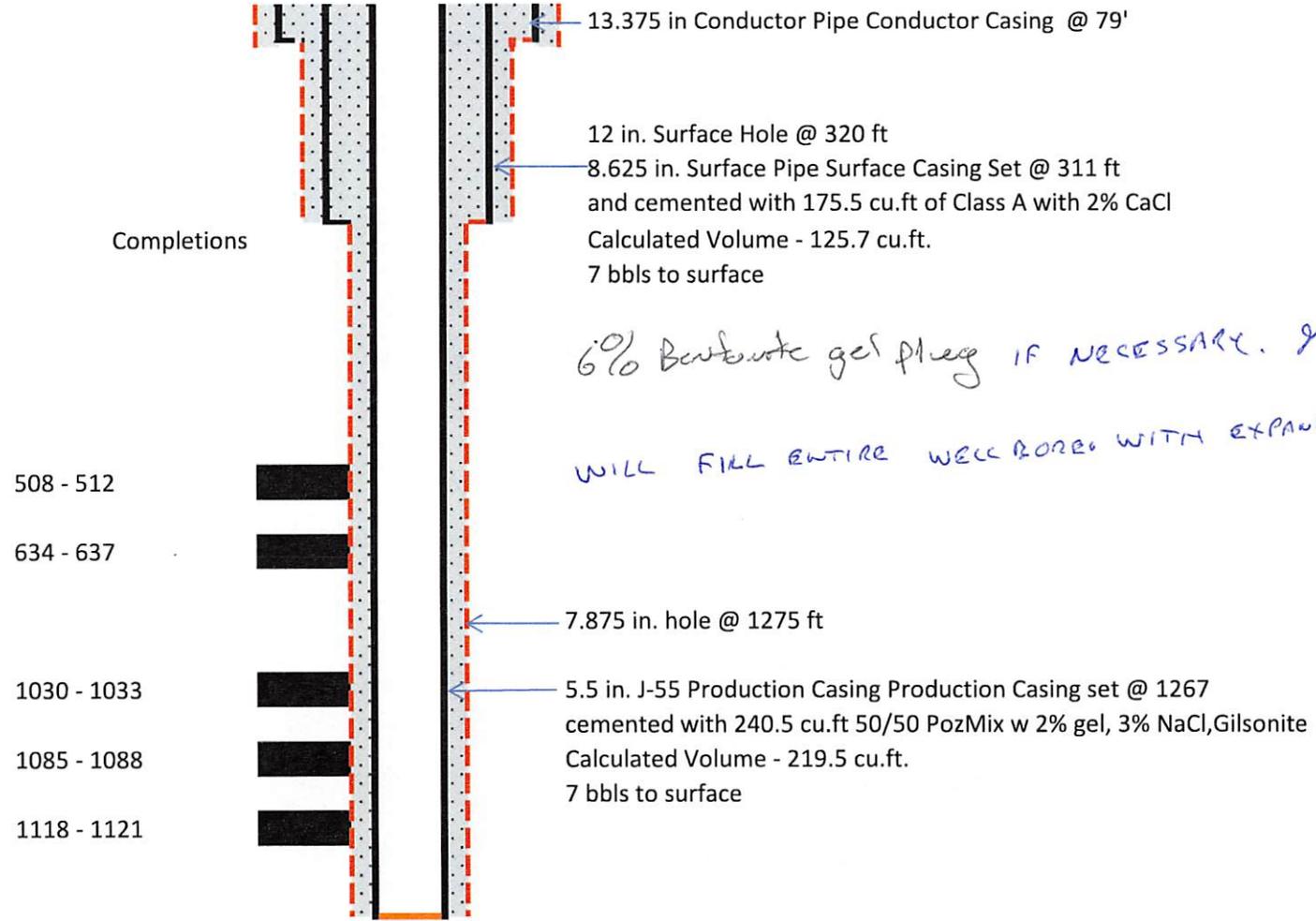
WV Department of
Environmental Protection

Work order approved by inspector *Gary Kennedy* Date 1/10/14

4701579P

Alwest No. 001 Plug and Abandon Schematic

API# 4704701579



WR-35
Rev (5-01)

E: February 26, 2002
Ar: # : 47-047-01579C

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 001
LOCATION: Elevation: 1166 Quadrangle: laegar
District: Sandy River County: McDowell
Latitude: 14475 Feet North of 37 Deg. 27 Min. 30 Sec.
Longitude: 10551 Feet West of 81 Deg. 45 Min. 30 Sec.

Company: GeoMet Operating Co., Inc

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 5336 Stadium Trc Parkway, Suite 206 Birmingham, Alabama 35244	13-3/8"	79'	79'	
Agent: Gregg Cleary	8-5/8"	311'	311'	128/Pumped 180
Inspector: Ofie Helmick				
Date Permit Issued: 11/05/01	5-1/2"	1267'	1267'	220/Pumped 234
Date Well Work Commenced: 11/21/01				
Date Well Work Completed: 12/18/01				
Verbal Plugging:				
Date Permission granted on:				
Rotary X Cable Rig				
Total Depth (feet): 1275				
Fresh Water Depth (ft.): Unknown				
Salt Water Depth (ft.): Unknown				
Is coal being mined in area (N/Y)? NO				
Coal Depths (ft.): 389/512/638/765/769/807/835/883/925/1033/1089/ 1121				

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 145 psig (surface pressure) after 936 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: [Signature] - 3-19-02
By: [Signature] 3-19-02
Date: _____

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Office of Oil and Gas
JAN 18 2004
WV Department of Environmental Protection

API #: 47-047-01579C
Operator Well #: Alawest-001
Farm Name: Alawest Inc.

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

1st Stage:
Perf Poca 1, 1118'-1121' & frac on 12/18/01 by Superior with 70Q Foam 22000# 16/30 Sand, 183000 SCF N2,
150 Total Bbls Fluid. Breakdown Pressure
3561 PSIG, Average Pressure 1900 PSI, ISIP 1520 PSI

2nd Stage:
Perf Poca 2, 1085'-1088' & frac on 12/18/01 by Superior with 70Q Foam 23000# 16/30 Sand, 228000 SCF N2,
190 Total Bbls Fluid. Breakdown Pressure 3950 PSIG, Average Pressure 2650 PSI, ISIP 1561 PSI

3rd Stage:
Perf Poca 3, 1030'-1033', Could not break down formation, skip & perf Stage 4.

4th Stage:
Perf Firecreek, 634'-637' & frac on 12/18/01 by Superior with 70Q Foam 42000# 16/30 Sand, 320000 SCF N2,
238 Total Bbls Fluid. Breakdown Pressure 2963 PSIG, Average Pressure 2800 PSI, ISIP 1050 PSI

5th Stage:
Perf Beckley, 508'-512' & frac on 12/18/01 by Superior with 70Q Foam 36000# 16/30 Sand, 137000 SCF N2, 179
Total Bbls Fluid. Breakdown Pressure 1800 PSIG, Average Pressure 1800 PSI, ISIP 500 PSI

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

0 - 303	Sandstone/Shale
303 - 350	Shale
350 - 410	Shaley Sandstone and coal bands
410 - 469	Shale
469 - 640	Shaley Sandstone and coal bands
640 - 694	Shale
694 - 730	Shaley Sandstone
730 - 796	Shaley Sandstone
796 - 912	Sandstone and thin coal
912 - 1010	Shaley Sandstone and thin coals
1010 - 1096	Sandy Shale and thin coals
1096 - 1125	Sandstone and thin coal
1125 - 1174	Shale
1174 - 1230	Sandstone
1230 - 1260	Shaley Sandstone

RECEIVED
Office of Oil and Gas
JAN 18 2004
Department of
Environmental Protection

4701579P

WW-4A
Revised 6-07

1) Date: December 17, 2013
2) Operator's Well Number
Alawest 001

3) API Well No.: 47 - 047 - 01579C

**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:	5) (a) Coal Operator
(a) Name <u>Alawest, Inc</u> ✓	Name _____
Address <u>P.O. Box 920</u>	Address _____
<u>Welch, WV 24801</u>	
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>Alawest, Inc.</u> ✓
	Address <u>P.O. Box 920</u>
	<u>Welch, WV 24801</u>
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>Gary Kennedy</u>	(c) Coal Lessee with Declaration
Address <u>Box 268</u>	Name <u>Caretta Minerals, LLC</u> ✓
<u>Nimitz WV 25978</u>	Address <u>P.O. Box 309</u>
Telephone <u>304-382-8402</u>	<u>Prosperity, WV 25909</u>

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



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.

4701579P

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Certified Fee		13.10	
Return Receipt Fee (Endorsement Required)		12.00	
Restricted Delivery Fee (Endorsement Required)		10.00	
Total Postage & Fees	\$	50.30	

Sent To Alawe st

Street, Apt. No., or PO Box No. PO Blx 920

City, State, ZIP+4 Wich W 24801

PS Form 3800, August 2006 See Reverse for instructions

7012 2210 0002 5522 4421

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CERTIFIED MAIL™ RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

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OFFICIAL USE

Postage	\$	15.20	
Certified Fee		13.10	
Return Receipt Fee (Endorsement Required)		12.00	
Restricted Delivery Fee (Endorsement Required)		10.00	
Total Postage & Fees	\$	50.30	

Sent To Carotta Minerals LLC

Street, Apt. No., or PO Box No. PO Blx 309

City, State, ZIP+4 Prosperity WV 25905

PS Form 3800, August 2006 See Reverse for instructions

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

4701579 P

WW-9
Rev. 5/08

Page 1 of 2
API Number 47 - 047 - 01579C
Operator's Well No. Alawest 001

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 Harman Branch Quadrangle lager

Elevation 1165' 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 *[Signature]*

Proposed Disposal Method For Treated Pit Wastes:

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

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain _____)
- Swabbing
- 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 *[Signature]*

Company Official (Typed Name) Jeffery S. Cooper

Company Official Title Production Manager

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Office of Oil and Gas
JAN 13 2014

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

Rocky Atchell Notary Public

My commission expires 4/30/2016



LEGEND

- Property Boundary
- Road
- Existing Fence
- Planned Fence
- Stream
- Open Ditch
- Rock
- North
- 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 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: [Signature]

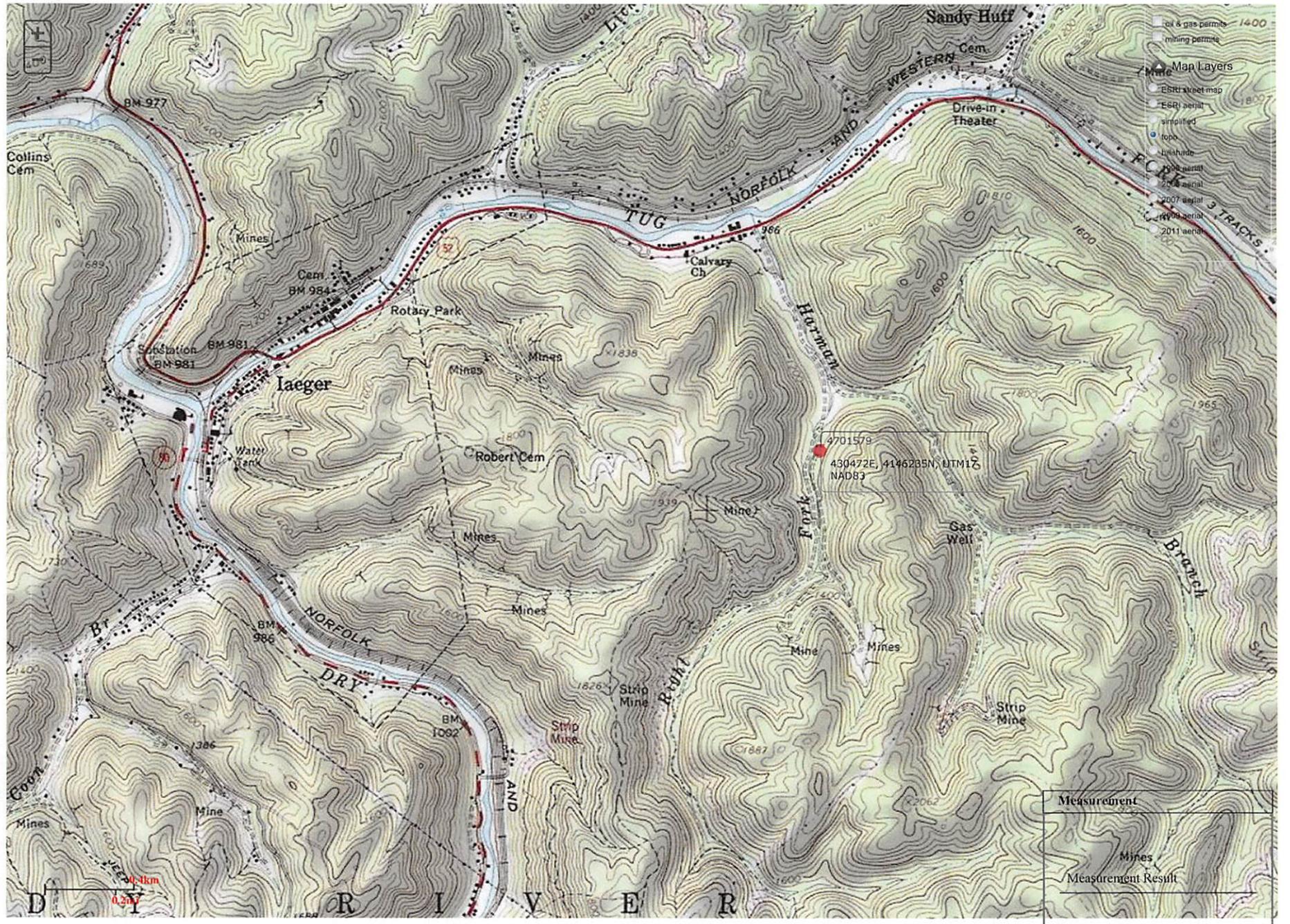
Comments: _____

Title: Inspector

Date: 1/10/14

Field Reviewed? Yes No

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



4701579 P

4701579CP

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-047-01579C WELL NO.: Alawest 001

FARM NAME: Alawest 001

RESPONSIBLE PARTY NAME: GeoMet Operating Company, Inc.

COUNTY: McDowell DISTRICT: Sandy River

QUADRANGLE: laeger

SURFACE OWNER: Alawest Inc.

ROYALTY OWNER: Alawest Inc.

UTM GPS NORTHING: 4146235.01

UTM GPS EASTING: 430472.03 GPS ELEVATION: 358.04 m 1174.70 FT

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 1.5 cm

Mapping Grade GPS _____ : Post Processed Differential _____

Real-Time Differential _____

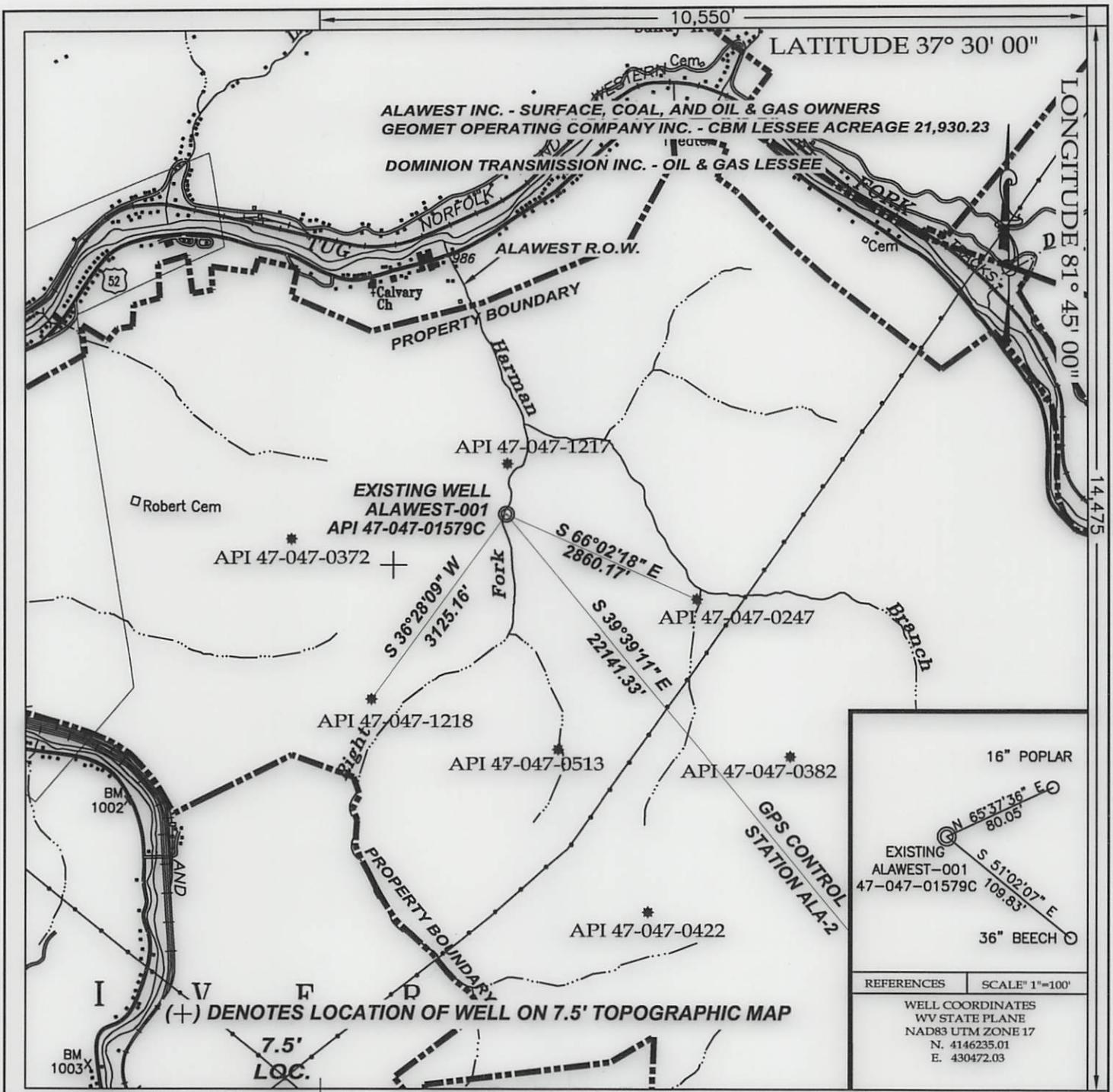
4. **Letter size copy of the topography map showing the well location.**

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.

Robt. King
Signature

Field Services Mgr
Title

1-16-14
Date



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-001

FILE NO. 1899-00
DRAWING NO. AW-001 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



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

DATE DECEMBER, 2013
OPERATOR'S WELL NO. ALAWEST 000-001

API WELL NO. 47 - 047 - 01579C
STATE COUNTY PERMIT

WELL TYPE: OIL GAS CBM LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 1,174.70' NORTHING 4146235.01 EASTING 430472.03 ZONE 17 NAD83 UTM
DISTRICT SANDY RIVER WATER SHED HARMAN BRANCH
QUADRANGLE IAEGER COUNTY McDOWELL

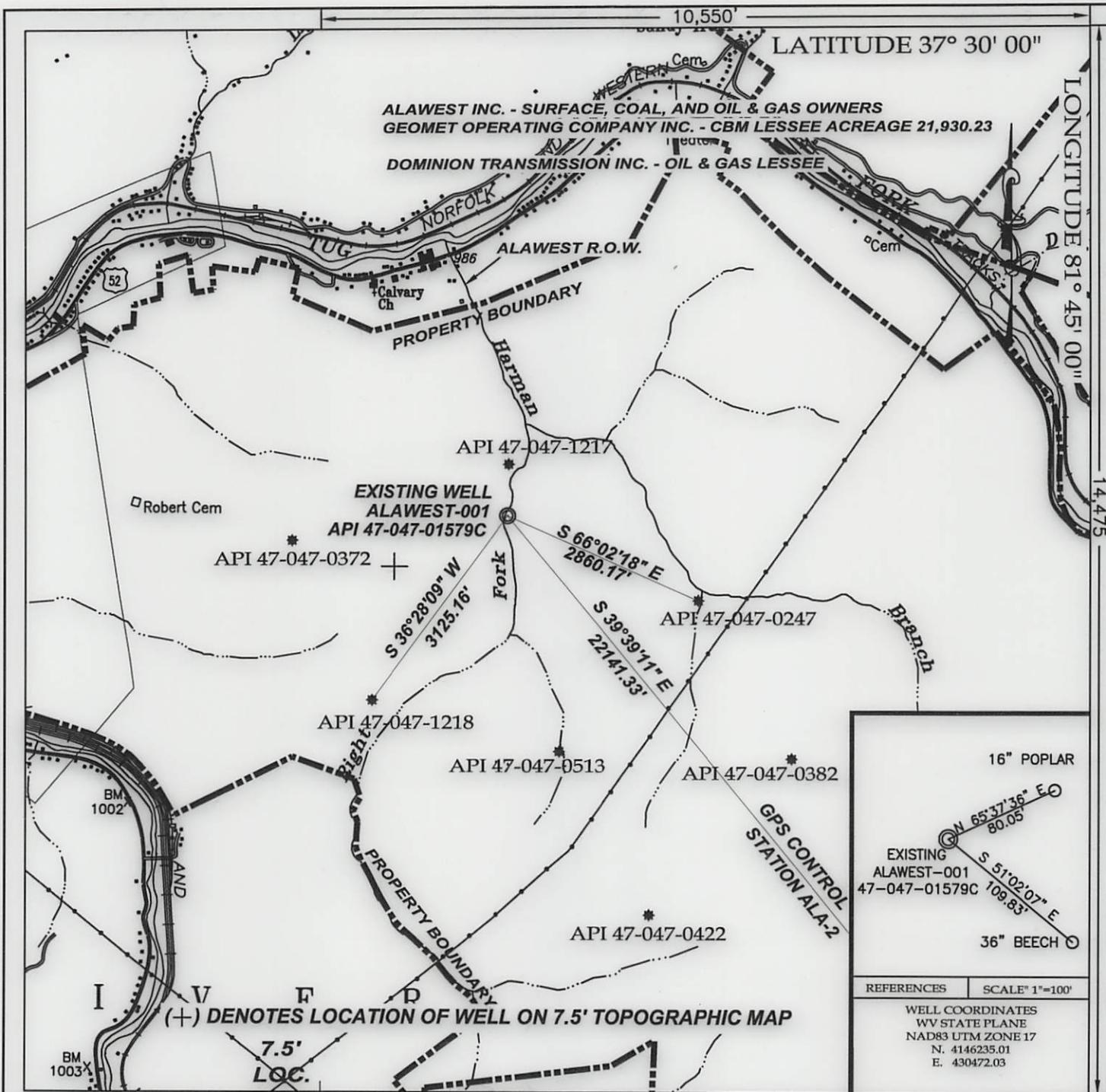
SURFACE OWNER ALAWEST INC. ACREAGE 21,930.23
CBM ROYALTY OWNER ALAWEST INC. LEASE ACREAGE 21,930.23

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 CLEAN OUT AND REPLUG

TARGET FORMATION NEW RIVER AND POCAHONTAS COALS ESTIMATED DEPTH 1,466'
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



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-001

FILE NO. 1899-00
 DRAWING NO. AW-001 PLAT
 SCALE: 1" = 2,000'
 MIN. DEGREE OF ACCURACY 1 : 2,500
 PROVEN SOURCE OF ELEVATION
GPS STATION TEC-1 (ELEV. 2406.60)

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Don F. Blackburn
 (SIGNATURE)

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



(SEAL)

STATE OF WEST VIRGINIA

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS

DATE DECEMBER, 2013

OPERATOR'S WELL NO. ALAWEST 003 001

API WELL NO. 47 - 047 - 01579C ^P
 STATE COUNTY PERMIT

WELL TYPE: OIL _____ GAS CBM _____ LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS") PRODUCTION _____ STORAGE _____ DEEP _____ SHALLOW _____
 LOCATION: ELEVATION 1,174.70' NORTHING 4146235.01 EASTING 430472.03 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 CLEAN OUT AND REPLUG _____
 TARGET FORMATION NEW RIVER AND POCAHONTAS COALS ESTIMATED DEPTH 1,466'
 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



GEOMET
4
7
1
5
7
9
[Signature]