



west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Tuesday, March 13, 2018

WELL WORK PERMIT
Coal Bed Methane Well / Plugging

ARP MOUNTAINEER PRODUCTION, LLC
425 HOUSTON, STE 300

FORT WORTH, TX 76102

Re: Permit approval for HILLMAN 208
47-091-01097-00-00

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.

Please be advised that form WR-35, Well Operators Report of Well Work 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: HILLMAN 208
Farm Name: CABLE SYSTEMS USA ASSOCIATES
U.S. WELL NUMBER: 47-091-01097-00-00
Coal Bed Methane Well Plugging
Date Issued: 3/13/2018

Promoting a healthy environment.

03/16/2018

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.
4. This well is under a consent order and must be plugged under the terms of that agreement.

WW-4B
Rev. 2/01

1) Date January 15th, 2018
2) Operator's
Well No. Hillman 208
3) API Well No. 47-001 - 01007

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 ___

5) Location: Elevation 1,395 Watershed Tributary of Simpson Creek
District Flemington County Taylor Quadrangle Rosemont

6) Well Operator ARP MOUNTAINEER PRODUCTION, LLC 7) Designated Agent CT CORPORATION SYSTEM
Address 425 Houston, STE 300 Address 5400 D BIG TYLER ROAD
Fort Worth, TX 76102 CHARLESTON, WV 25313

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Kenneth Greynolds Name TBD
Address 613 Broad Run Road Address _____
Jane Lew, WV 26378

10) Work Order: The work order for the manner of plugging this well is as follows:
Move in Rig up work-over rig, Lower tubing and tag bottom, TD @ 884'
If fill is encountered, clean to as deep as reasonably achievable below lowermost coal
RIH with 2-7/8" tubing set off of bottom + or - two feet. Circulate through the 2-7/8 with an expanding cement using 50% in excess
Pump 84 cu.ft of cement, TOO H w/tubing to be above cement plug, WOC for 4hrs minimum
RIH w/tubing, tag cement at or near 582', Finish circulating cement to the surface
Install permanent marker and reclaim location to WVDEP specifications

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

Work order approved by inspector *Kenneth Greynolds* Date 3-2-18

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Hillman 208 Plugging Procedure

MIRU service rig

Test tubing to 300 psi

POOH w pump and rods

RIH w 2 7/8" tubing to tag bottom @ ~884'

If fill is encountered, POOH w tubing and sand bail below lowest coal seam (849') as deep as reasonably achievable

RIH w 2 7/8" tubing to bottom

Set 400' cement plug using (135 cf) of expanding cement (50/50 PozMix w 10% NaCl and 2% gel)

POOH w 2 7/8" tubing

WOC 4 hrs and RIH w 2 7/8" tubing to tag TOC @ est ~500'

Set cement plug to surface using (117 cf) of expanding cement (50/50 PozMix w 10% NaCl and 2% gel)

POOH w 2 7/8" tubing

Top off casing with cement

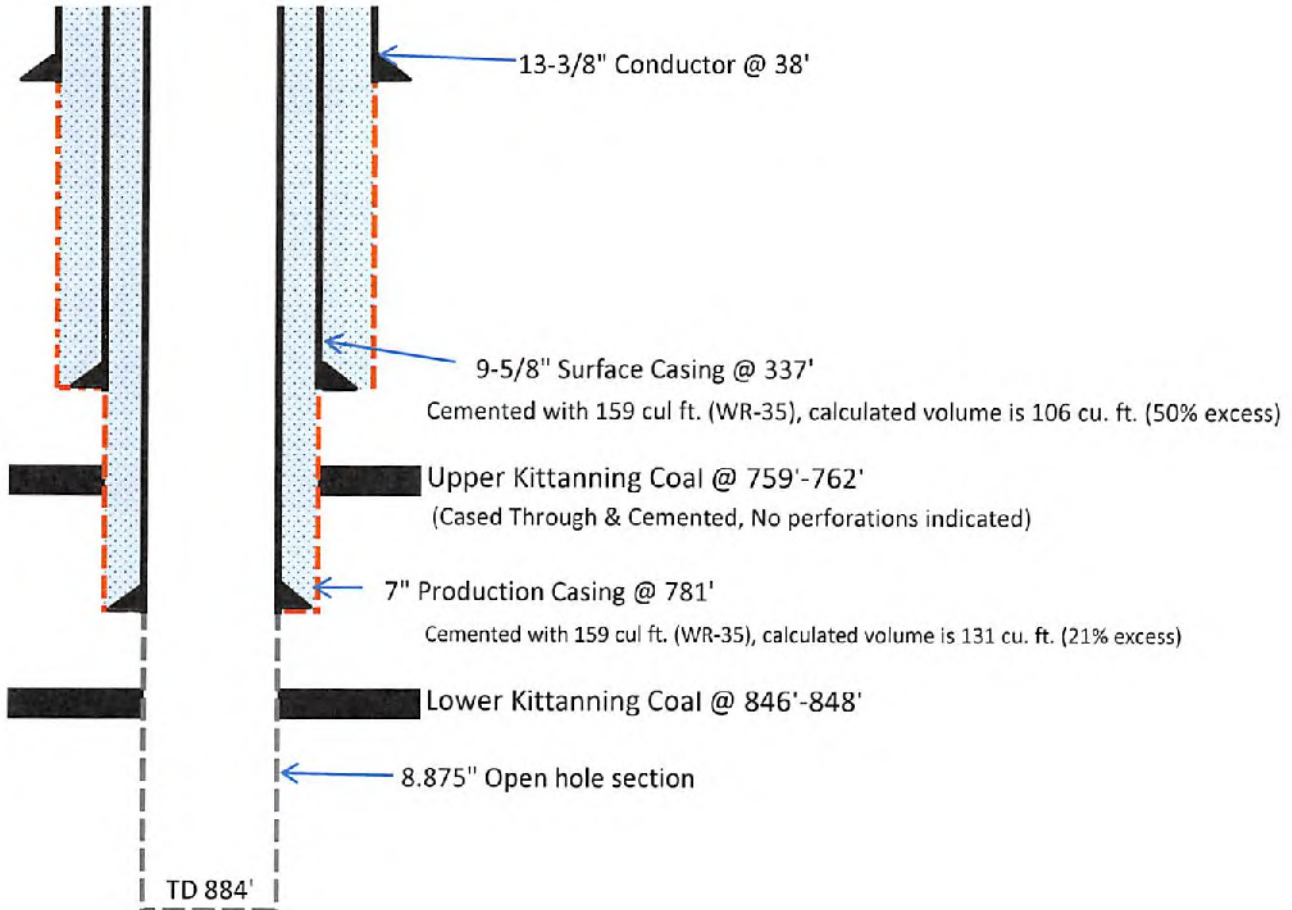
Set permanent marker and reclaim location as required by DEP

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Hillman 208

Plug and Abandon Schematic

API # 47-091-01097



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WR-35
Rev (8-10)

DATE: 03/31/2011
API#: 47-091-01097

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

Well Operator's Report of Well Work

Farm name: Cable Systems USA Assoc

Operator Well No: Hillman 208

LOCATION: Elevation: 1,395'

Quadrangle: Rosemont

District: Flemington

County: Taylor

Latitude: 5932 Feet South of 39 Deg. 17 Min. 30 Sec.

Longitude: 5668 Feet West of 80 Deg. 10 Min. 00 Sec.

Company: Vitruvian Exploration, LLC

Address: 4 Waterway Square, Ste. 400 The Woodlands, TX, 77380	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cn. Ft.
	13-3/8"	38'	38'	N/A
	9-5/8"	337'	337'	159
Agent:	7"	781'	781'	159
Inspector:	2-7/8"		824'	
Date Permit Issued: 02/05/2008				
Date Well Work Commenced: 03/31/2008				
Date Well Work Completed: 04/07/2008				
Verbal Plugging:				
Date Permission granted on:				
Rotary X Cable Rig				
Total Vertical Depth (ft): 884'				
Total Measured Depth (ft): 884'				
Fresh Water Depth (ft.): 94', 204'				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y)? Y				
Coal Depths (ft.): 385', 479', 579', 690', 759', 825', 846'				
Void(s) encountered (N/Y) Depth(s) N				

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APR 05 2011
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OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Upper Kittanning Pay zone depth (ft) 759' - 762'

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

Final open flow MCF/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests 4 Hours

Static rock Pressure psig (surface pressure) after 48 Hours

Second producing formation Lower Kittanning Pay zone depth (ft) 846' - 848'

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

Final open flow MCF/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests Hours

Static rock Pressure psig (surface pressure) after Hours

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I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments 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.

Shannon B. Smith
Signature

3/31/2011
Date

03/16/2018
4/08/2011

Were core samples taken? Yes ___ No ___ Unknown X Were cuttings caught during drilling? Yes ___ No ___ Unknown X

Were Y Electrical, ___ Mechanical, ___ or Geophysical logs recorded on this well?
Y/N Y/N Y/N

NOTE: IN THE AREA BELOW 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 THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

Blank lines for recording perforated intervals, fracturing, or stimulating details.

<u>Formation Encountered</u>	<u>Top Depth</u>	<u>Bottom Depth</u>	<u>Remarks</u>
Sandstone, Sandy-Shale, Shale	0'	385'	
Harlem Coal	385'	387'	
Sandstone, Shale	387'	479'	
Bakerstown Coal	479'	481'	
Sandstone, Shale	481'	579'	
Brush Creek Coal	579'	581'	
Sandstone, Shale	581'	690'	
Lower Freeport Coal	690'	692'	
Sandstone, Shale	692'	759'	
Upper Kittanning Coal	759'	762'	
Sandstone, Sandy-Shale, Shale	762'	825'	
Middle Kittanning Coal	825'	831'	
Sandstone, shale	831'	846'	
Lower Kittanning Coal	846'	848'	
Sandstone, shale	848'	884'	

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WW-4A
Revised 6-07

1) Date: 1-15-2018
2) Operator's Well Number
Hillman 208

3) API Well No.: 47 - 91 - 01097

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 Cequel III Communications, LLC
Address ~~4244 Powers Court Drive Suite 450~~
ST. Louis, MO 63131

(b) Name SEE Attachment
Address _____

(c) Name SEE Attachment
Address _____

6) Inspector Kenneth Greynolds
Address 613 Broad Run Road
Jane Lew, WV 26378
Telephone 304-206-6613

5) (a) Coal Operator

Name Coalquest Development, LLC
Address 100 Tygart Drive
Grafton WV 263547

(b) Coal Owner(s) with Declaration

Name Coalquest Development, LLC
Address 100 Tygart Drive
Grafton WV 263547

(c) Coal Lessee with Declaration

Name Coalquest Development, LLC
Address 100 Tygart Drive
Grafton WV 263547

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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.

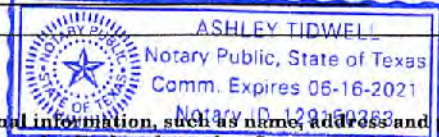
The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverse side. However, you are not required to take any action at all.

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 ARP MOUNTAINEER PRODUCTION, LLC
By: Julie Harris
Its: HSE Director
Address 425 Houston, STE 300
Fort Worth, TX 76102
Telephone 817-665-8832

Subscribed and sworn before me this 6 day of February 2018
Ashley Tidwell Notary Public

My Commission Expires _____
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 denprivacyoffier@wv.gov.

Surface Owners Hillman 208

1. Cequel III Communications , LLC ✓
520 Maryville Center Drive
Saint Louis, MO 63141 (Well Location)
2. Joyce Emerson ✓
228 Parkway Drive
Clarksburg, WV 26301 (Road access only)
3. Shirley Frum ✓
269 Frum Road
Rosemont, WV 26424 (Road access only)
4. Shirley Ann Skaggs ✓
Po Box 18
Rosemont, WV 26424 (Road access only)

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WW-9
(5/16)

API Number 47 - 091 - 01097
Operator's Well No. _____

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

Operator Name ARP Mountaineer Production, LLC OP Code 494509804
Watershed (HUC 10) Tributary of Simpson Creek Quadrangle Rosemont

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: Cement and water

Will a synthetic liner be used in the pit? Yes No If so, what ml? 20mil

Proposed Disposal Method For Treated Pit Wastes:

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

PIT WILL BE LESS THAN 1000 BK VOLUME. gmm

Will closed loop system be used? If so, describe: _____

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. _____

-If oil based, what type? Synthetic, petroleum, etc. _____

Additives to be used in drilling medium? _____

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. _____

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) _____

-Landfill or offsite name/permit number? _____

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]

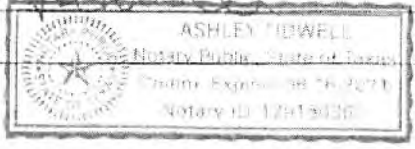
Company Official (Typed Name) [Typed Name]

Company Official Title Director, USE

Subscribed and sworn before me this 10 day of February, 20 18

[Signature] Notary Public

My commission expires _____



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Form WW-9

Operator's Well No. _____

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

Lime 2 Tons/acre or to correct to pH 6

Fertilizer type 10-20-20 or equivalent

Fertilizer amount 500 lbs/acre

Mulch Hay/Straw Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue or Orchard Grass	40		
Annual Rye Grass	5		

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.

Plan Approved by: [Signature]

Comments: RECLAIM, RESEED AND MULCH ASAP

Title: OIL & GAS INSPECTION Date: 3-2-18

Field Reviewed? () Yes () No

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

Operator Name: ARP MOUNTAINEER PRODUCTION, LLC

Watershed (HUC 10): Simpson Creek 0502000204 Quad: Rosemont

Farm Name: _____

1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

Waste Water will be collected in a pit and will be treated and ground disbursed using a 2" portable gasoline powered trash pump

2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

While in operation the portable 2" gasoline powered trash pump will be placed inside containment eliminating chances for potential spillage of gasoline onto the surface.

3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

Closest Water Body - Simpson Creek
Distance to Closest Water Body - 2,250' +/-
Distance from Closest WHPA to Discharge Area - N/A

4. Summarize all activities at your facility that are already regulated for groundwater protection.

Not applicable

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5. Discuss any existing groundwater quality data for your facility or an adjacent property.

Not applicable

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

No waste will be used for deicing, ice control, structural fill, road base or other uses.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

All employees will be trained on their responsibility to ensure groundwater protection. Current job procedures provide direction on how to prevent ground water contamination through proper work procedures.

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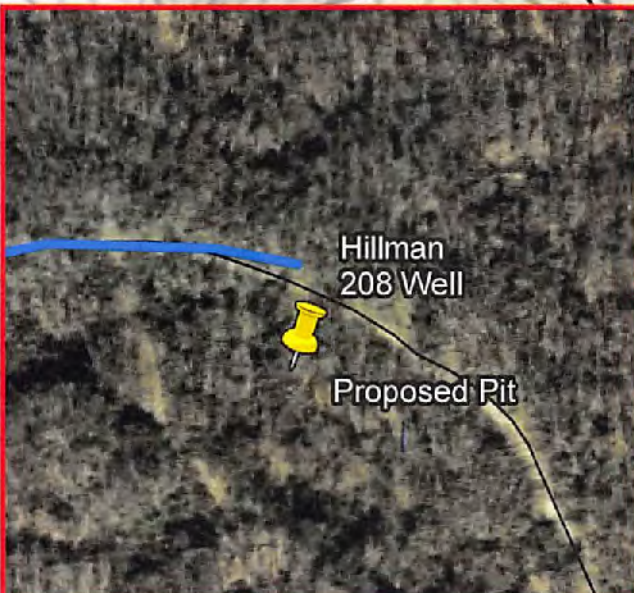
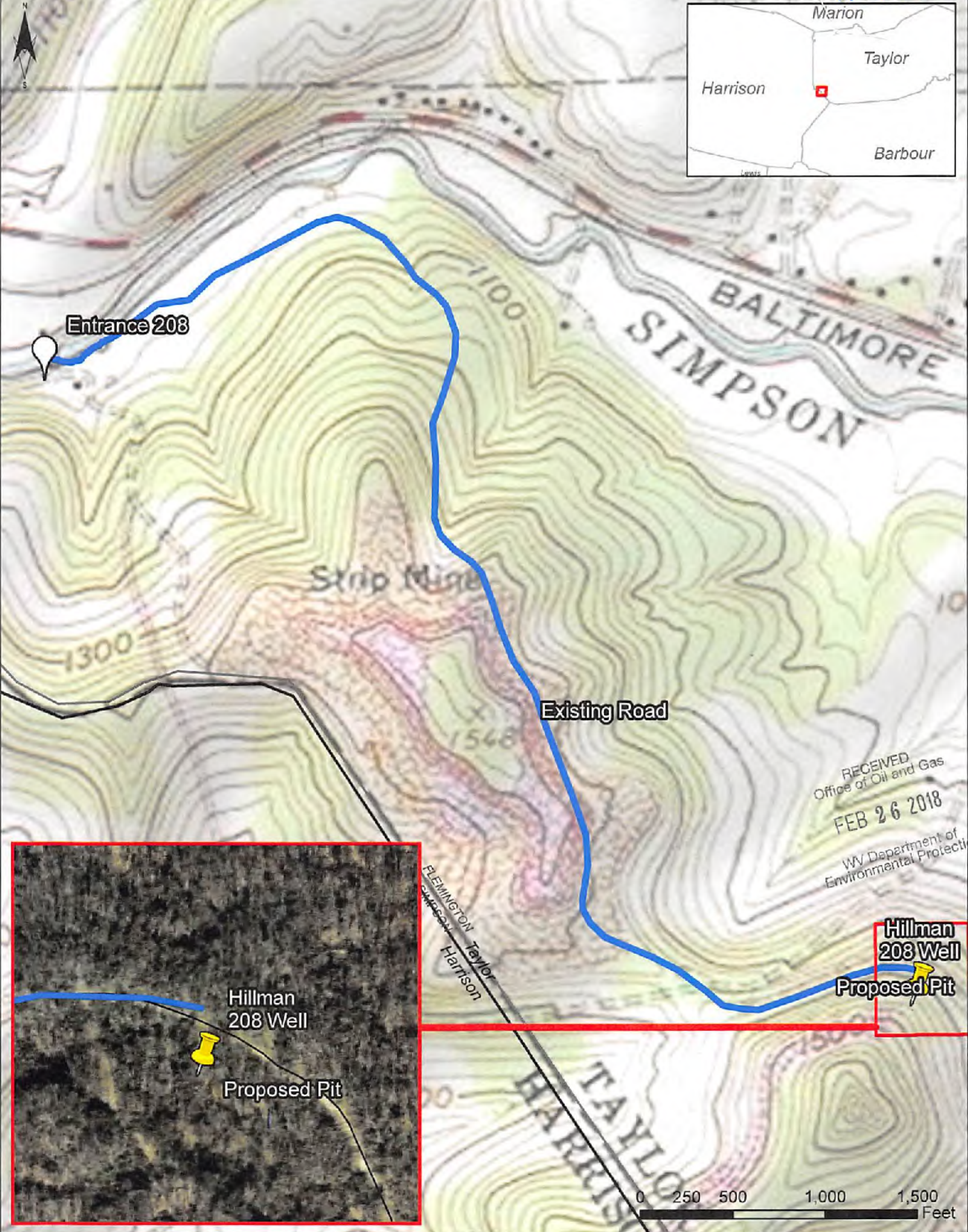
8. Provide provisions and frequency for inspections of all GPP elements and equipment.

During the plugging and abandonment activities, the site will be inspected to ensure that all elements and equipment of the sites ground water protection program are in place, properly functioning and appropriately managed.

Signature: Ricky Sted

Date: 2-16-18

91-01097CP



91-010970P



03/16/2018

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 91-01097 WELL NO.: Hillman 208

FARM NAME: CABLE SYSTEMS USA ASSOC

RESPONSIBLE PARTY NAME: ARP MOUNTAINEER PRODUCTION, LLC

COUNTY: Taylor DISTRICT: Flemington

QUADRANGLE: Rosemont

SURFACE OWNER: Cequel III Communications, LLS

ROYALTY OWNER: Refer to application

UTM GPS NORTHING: 4,346,274.0

UTM GPS EASTING: 571,102.3 GPS ELEVATION: 1,395

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:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- Accuracy to Datum – 3.05 meters
- Data Collection Method:

Survey grade GPS : Post Processed Differential _____
Real-Time Differential

Mapping Grade GPS _____ : Post Processed Differential _____
Real-Time Differential _____

- 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.

Rocky Stilwell
Signature

HSE
Title

2-16-18
Date

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