United States Department of the Interior

OFFICE OF SURFACE MINING
Reclamation and Enforcement
1027 Virginia Street, East
Charleston, West Virginia 25301

APR 22 2011

Thomas L. Clarke, Director
Division of Mining and Reclamation
West Virginia Department of
Environmental Protection
601 57th Street
Charleston, West Virginia 25304

Dear Mr. Clarke:

Enclosed is the completed technical report on Coal Valley, Permit # O-2005-10. We initiated this project to resolve questions related to the injection of site drainage into an existing borehole to an underground mine. Because it was considered an assistance project, I instructed my staff not to issue any Ten Day Notices during the review. However, we did not anticipate the numerous site specific and permitting problems that appear to still remain largely unresolved. Therefore, I am ordering my staff to schedule a follow-up inspection as soon as possible and to issue Ten Day Notices or Imminent Harm Cessation Orders in the course of normal business. We are also asking that you now respond to TDN # X10-112-041-004 related to Consolidated Coal Company by May 6, 2011.

I have also advised my staff that operating on this permit without a workable surface water control plan would constitute an imminent harm. There were other conditions on site that would also have been considered an imminent harm during our last site visit but at the time the State enforcement actions had the operation effectively ceased. We did not necessarily concur that the remedial measures for the State violations addressed all the issues. I have instructed my staff to consider both the remedial measures and the timeliness of corrective action in determining whether further Federal action is warranted.

We understand your staff is still waiting results on water quality tests related to discharges from the M&J deep mine underneath the Coal Valley permit. I am instructing my staff to continue following State efforts to determine the impacts of that mine's surface discharge.

If you wish to discuss any of these issues with me or my staff please let me know.

Sincerely,

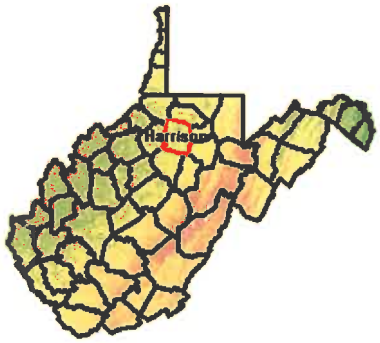
Roger W. Calhoun, Director
Charleston Field Office

Enclosure

OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

Evaluation for Targe Energy dba Coal Valley, LLC
SMA Permit No. O-2005-10, NPDES WV1023721, and UIC 0284-00-033

April 21, 2011



Harrison County, West Virginia

Clairene Bailey, Hydrologist, B.S., M.S.
Rodney A. Moore, Reclamation Specialist
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Office of Surface Mining Reclamation and Enforcement
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Evaluation for Targe Energy dba Coal Valley, LLC Permit No. O-2005-10, NPDES WV1023721, and UIC 0284-00-033

Purpose

The purpose of this project is to help resolve the questions about site conditions and facts related to the Office of Surface Mining Reclamation and Enforcement's (OSM) Ten Day Notice # X10-112-041-004 alleging violations created by Consolidated Coal Company from previous activities and any changes caused by the issuance and activities of a new permit in the same area. OSM considers this as providing technical assistance to the West Virginia Department of Environmental Protection (WVDEP) for an issued permit pertaining to re-mining of coal fines within a post SMCRA Consolidation Coal Company refuse\slurry disposal area in Harrison County, West Virginia. The technical assistance included the evaluation of all aspects (including hydrological analysis) of the recently approved permit to Targe Energy dba Coal Valley, LLC, Permit Number O-2005-10 issued to engage in surface mining on August 26, 2010. The Article 3 permit was for the surface disturbance of approximately 47 acres in order to reprocess and reclaim the Williams No. 2 coal refuse slurry impoundments. The proposed operation is discharging into Bingamon Creek of West Fork/Monongahela River and is located one mile west of Enterprise in Clay District of Harrison County.

The site condition findings as well as permit deficiencies are presented in three individual sections of the report which consists of a hydrological field assessment, operations and maintenance field assessment, and administrative and technical permit deficiencies. The findings were based on review of all available historical and current permit documentation, information shared by WVDEP, and several field visits.

Background/Previous Mining

The project area was originally part of Consolidation Coal's Williams #98 deep mine complex located near Enterprise, West Virginia. The Williams #98 deep mine was closed in 1979. The impoundment was created in 1951 and was used to dispose of fine coal refuse slurry from the Williams #98 cleaning plant (Figures 1 and 2). Consol held NPDES permits 3577 and 5914 for this facility for which no data was available. The area is a reclaimed slurry pond which generates polluted water.

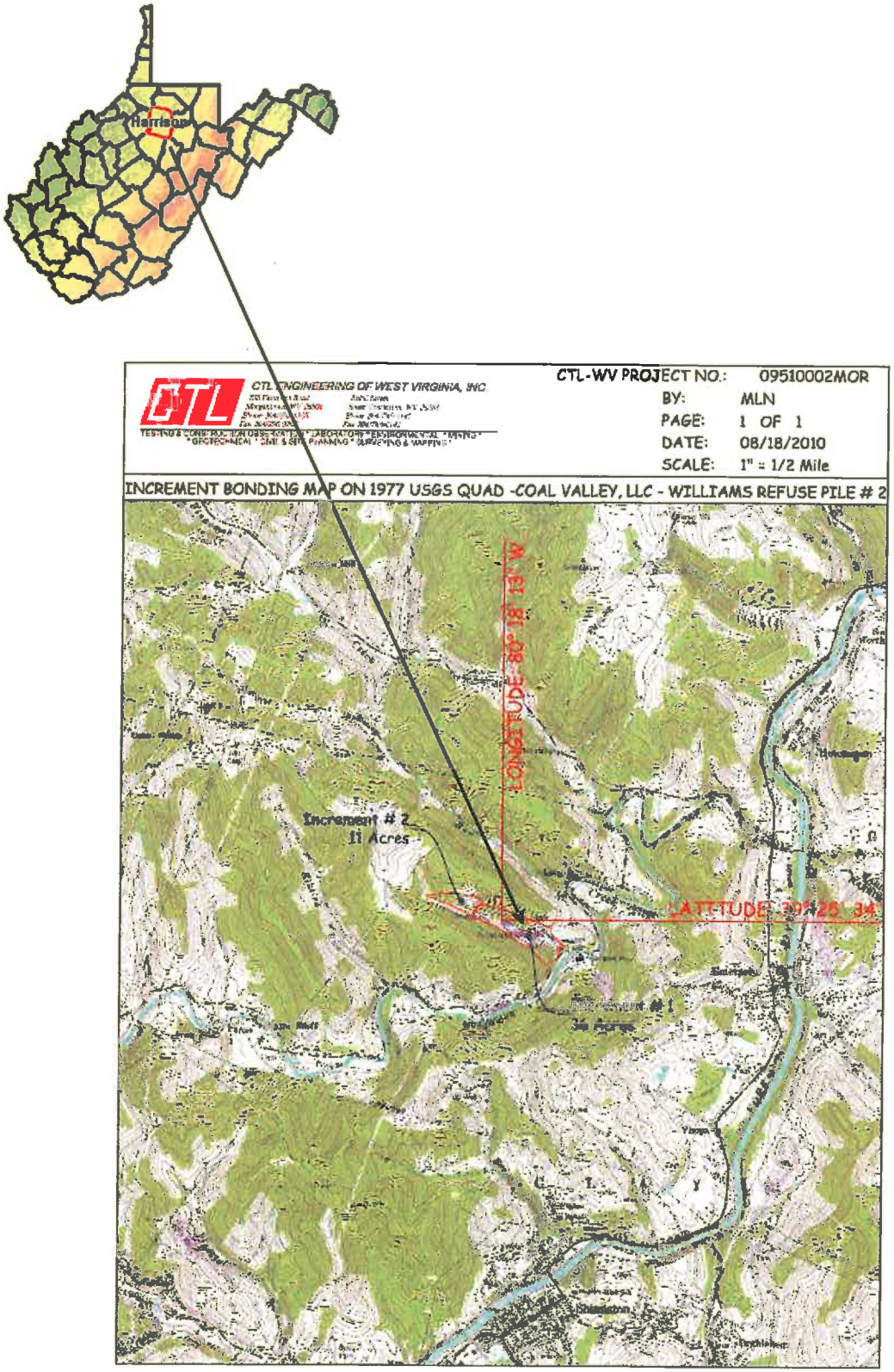

Figure 1. Location of project area--Williams #98 Slurry Impoundment and Coal Valley, LLC.

Figure 2. Historical Consolidation Coal's Williams #98 slurry and deep mine complex.

SECTION ONE

Hydrological Review of Permits and Site Assessments

NPDES/UIC PERMITS

In July of 1982, the property was sold to Peora Coal Company. On October 17, 1983, Peora Coal Company was granted a National Pollution Discharge Elimination System (NPDES) Permit Number WV0060321. This permit covered the slurry pond discharge only and superseded the old NPDES permits originally associated with the Williams #98 site that Consol held. With Consol's approval, the discharge from the slurry impoundment was routed down a borehole (occurred prior to West Virginia requirement for an Underground Injection Control (UIC) permit) and was located within the impoundment area, into the old Williams #98 Mine. This NPDES permit WV0060321 expired and Peora was required to obtain a new permit in 1989. Permit number WV0095168 was issued on September 22, 1989, with one discharge Point 001 for the borehole injection.

On June 25, 1992, a modification to NPDES permit WV0095168 was approved to drill another borehole at the base of the face of the slurry impoundment dam near the edge of County Route 8, to route the discharges from seeps and runoff from the old slurry impoundment (Figures 3 and 4). On October 07, 1994, the NPDES permit was re-issued for the same borehole Point 001 but was now designated Point 003. At the five year NPDES permit renewal an extension (NPE #1) was approved on September 23, 1999, due to a request from the public related to concerns of polluted water entering Bingamon Creek.

Figure 3. Injection borehole UIC 201 prior to redesign by Coal Valley, LLC.

[1] On July 07, 2002, Bell Shareholders, LLC (formerly Peora Coal) received a Class V Type X13 underground injection permit. Consequently, the WVNPDES permit number WV0095168\Point 003 was replaced by UIC Permit Number 0248-00-033, injection point 201. The NPDES permit WV0095168 was released shortly after issuance of the UIC permit 0284-00-033 on August 06, 2002. The only purpose for the NPDES Permit Number WV0095168 was to allow the discharge of AMD from the reclaimed slurry pond down the borehole identified as Point 003 into the Williams #98 abandoned mine workings. The UIC Permit Number 0284-00-033 was assigned to Targe Energy dba Coal Valley, LLC on April 29, 2010. This agreement was entered into with Bell Shareholders, LLC and Coal Valley, LLC for all rights for the use of an existing UIC 0284-00-033 Injection point 201 located at the Williams No. 2 refuse slurry. The assignment was made to allow assignee to conduct mining operations involving the coal slurry recovery under the approved Permit Number O-2005-10, and discharge AMD treatment sludge into the injection site.

Figure 4. Injection hole UIC 201 redesigned in 2011 to avert surface runoff entering the borehole by Coal Valley, LLC.

FINDINGS/ISSUES:

The UIC-0248-00-033 permit/201 was not inspected by WVDEP personnel prior to the issuance of the Coal Valley, LLC Permit Number O-2005-10. The UIC permits are only inspected by WVDEP Inspection and Enforcement as part of SMCRA and NPDES oversight. Since this site had no current associated SMCRA permit and the NPDES permit was released after the UIC permit was approved, no enforcement personnel was inspecting the UIC borehole.

[1] In passing the Safe Drinking Water Act (SDWA) in 1974, Congress gave USEPA authority to control, for the protection of underground sources of drinking water, all types of subsurface injection (SDWA, Part C, Sections 1421-1426); EPA granted West Virginia primacy for the state's Underground Injection Control Program in 1983. Prior to 1999 the underground injection activities were under the control of State of West Virginia Department of Natural Resources, NPDES system. Since January 2000, the UIC/Groundwater Protection Unit has maintained a separate program for underground injection activities at coal mining operations, which includes mining-specific requirements for permit application, issuance, monitoring, maintenance, and transfer, while regulating mining UIC with a single, overarching goal: to protect present and future underground sources of drinking water — and, in West Virginia, all groundwater is considered to be existing or potential drinking water (WVDEP).

The Division of Water and Waste Management's Groundwater/UIC Program coordinates the groundwater protection efforts of the Bureau for Public Health, the Department of Agriculture, and various DEP programs under the authority of the 1991 Groundwater Protection Act and the U.S. Environmental Protection Agency.

West Virginia's program is regulated by Title 47 CSR 13, *Underground Injection Control*, under the authority of Chapter 22, Article 11, *Water Pollution Control Act*. The classification of subsurface disposal wells involved in the emplacement of coal-related wastes into abandoned underground mine voids is the Class 5, Type X13 (5X13) underground injection well.

The Underground Injection Control (UIC) program is designed to ensure that fluids injected underground will not endanger drinking water sources. The Division of Water and Waste Management regulates Class 5 wells. These wells include agriculture drainage wells, improved sinkholes, industrial disposal wells, stormwater wells and septic systems that have the capacity to serve 20 or more people. The following state codes address UIC regulations; 47CSR9, 47CSR13 and 47CSR55. The Division of Mining and Reclamation oversees all mining UIC permits (WVDEP).

MINE POOL INFLUENCE RELATIVE TO UIC 201

A post SMCRA underground mine (M & J Coal Company, Inc. Permit Number U-1037-86 is located adjacent to the Consol Williams #98 mine. Additionally, the M & J permit is located directly below the Williams No.2 Slurry Impoundment. The M & J permit allowed room and pillar and included second mining. The permit was final released on July 21, 1998. According to the UIC 201 permit it was drilled to a depth of approximately 40 feet and presumably isolated from the Williams #98 Consol deep mine. According to conditions in the UIC permit, the mine pool elevation for UIC 201 was to be maintained at a maximum elevation of 888 feet. This level is to be monitored at least monthly and maintained or reduced through pumping or by cessation of injection activity throughout the period of underground injection activity (Figure 5).

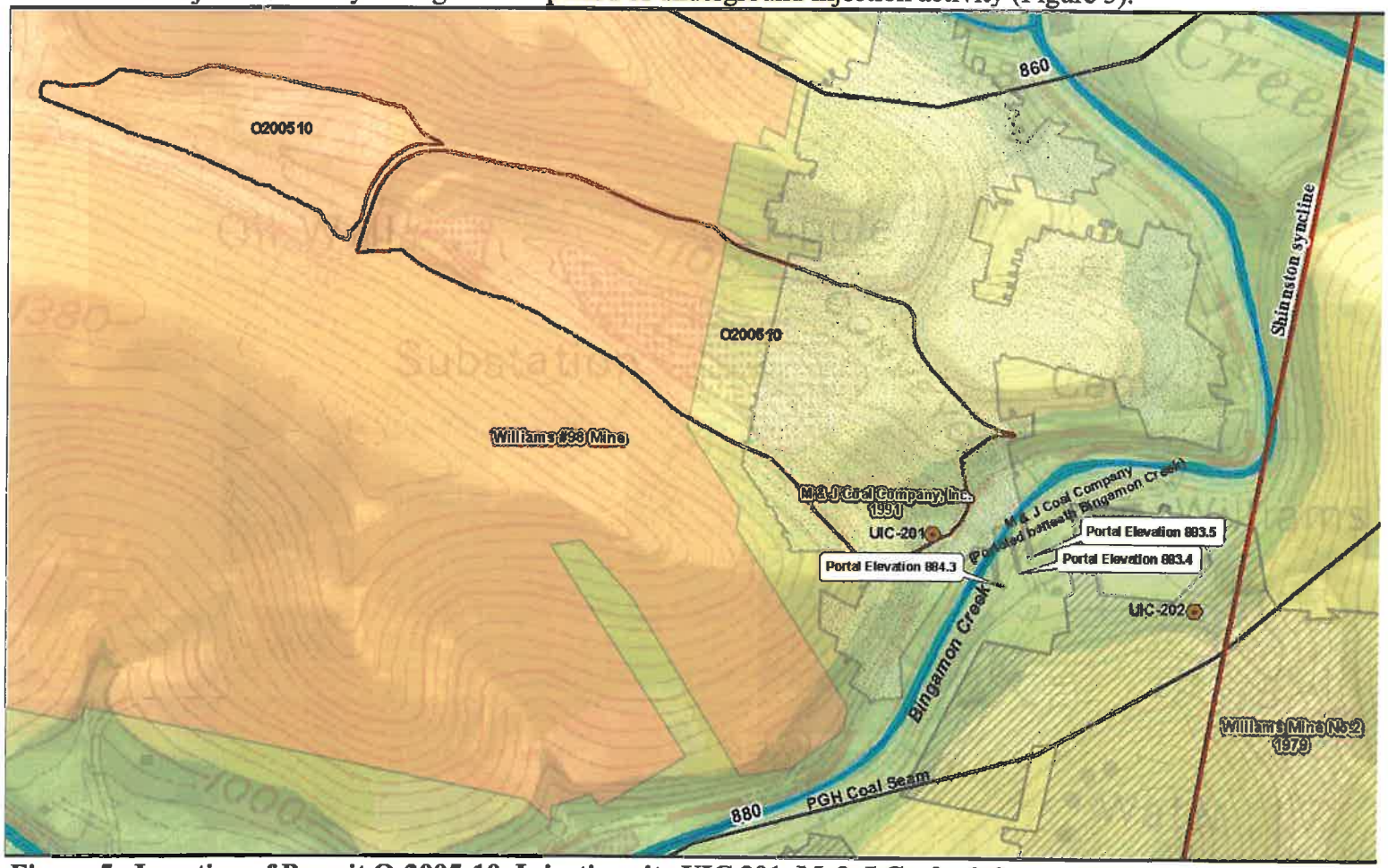

Figure 5. Location of Permit O-2005-10, Injection site UIC 201, M & J Coal mining and portal area with portal elevations.

These mines (both Williams #98 and M & J mine) have geological features that generally cause water entering the mines to be restricted causing upwelling and discharge as overflow at distinct locations. Mine pools that develop after mining ceases are capable of containing water. Mine entries "below grade" (grade being defined by geologists as the surface elevation over which water flows - such as the local stream bottom) are kept dry during mining by pumping out the accumulating water. Once pumping ceases, the lower elevations fill up with water until reaching a point where they overflow to the surface. Such conditions exist at the M & J mine. The extent of the mine pools can be determined when the discharge point is unrestricted and if the elevations within the mine were surveyed during mining and drawn on the maps (as is the case for the M & J underground mine maps). By measuring the water level in the UIC 201 borehole the mine pool's extent could be established. The mine inflow can also be established, by measuring the outflow; however, due to influence from hydraulic connections between adjacent mining and Bingamon Creek this is not realistic. Pool levels do not fluctuate substantially unless the discharge point (or points) is/are restricted.

In addition to the M & J mine being inundated the adjacent historical Williams 98 Mine complex that contained a UIC borehole that originally received pumped discharge from the refuse impoundment is flooded as well. The flooded mine entries are recorded on historical underground mine maps obtained from WVGES (Figure 6). All water levels that were measured within the sampled boreholes had significant levels of water that was well above the targeted 888 ft. elevation in the UIC 201 borehole, the borehole that was drilled into the adjacent Williams #98 mine that was west of M & J, and the borehole that was sampled in Long Run. The adjacent M & J shafts were flooded to surface level as well. Coal Valley, LLC had proposed using the original borehole that was utilized by the slurry impoundment; however, the borehole that Coal Valley, LLC had re-drilled without a proper permit was inundated as well. It is not recommended that Coal Valley, LLC be allowed to use any additional UIC boreholes within the impoundment area since the underlying works are flooded and allowing impounded water within the refuse area. If Coal Valley, LLC were to be allowed to use an injection location within the refuse area the company would be required to obtain a valid UIC permit and report that the mine pool has void area that could receive the injected fluids as well as, permission from Consolidation Coal Company to inject within the Williams #98 mine pool. This mine pool is potentially being treated by Consol and may require co-cost for treatment.

However, even if the slurry were to be injected underground within the impoundment area the runoff and seepage from the toe at the base of the impoundment would not be captured and would continue to discharge to a high quality stream. Additional work is being done to create an elevation map to determine all of the potential upwelling locations and discharges to Bingamon Creek of West Fork base on the final water levels discussed within NPDES permit WV1002490.

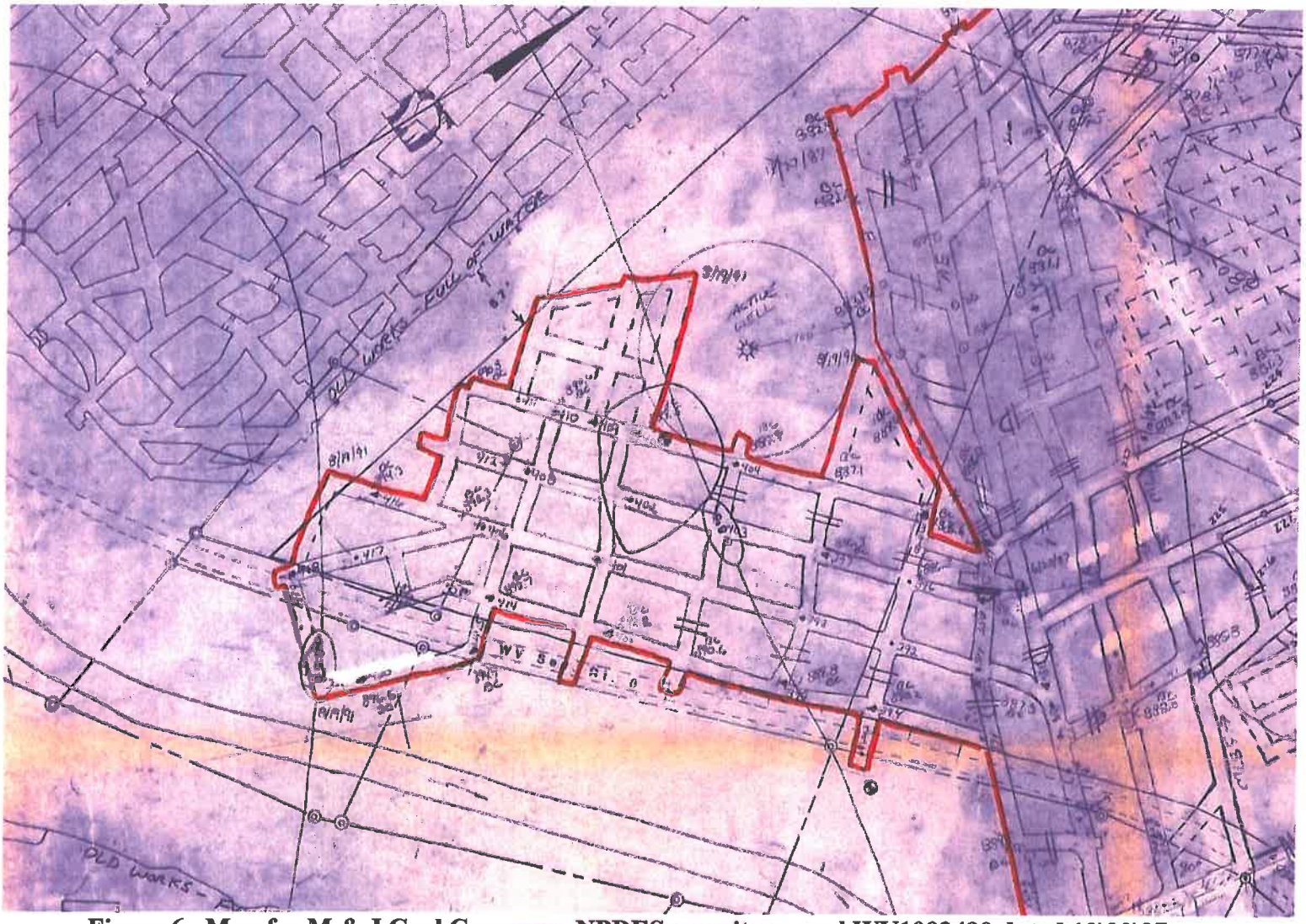

Figure 6. Map for M & J Coal Company, NPDES permit renewal WV1002490 dated 10\20\97, indicating the Williams #98 old mining complex is flooded.

ISSUES:

At present, reporting or any documents related to maintaining the 888 feet targeted mine pool level have not been submitted to WVDEP. Based on several field assessments the pool level is in constant exceedance of the permit requirements for the pool elevation. This was evident from the measurements of water levels in the UIC 201 borehole and standing pooled surface water adjacent to the UIC 201 borehole that the M & J mine is flooded and upwelling to the surface with little fluctuation. T his would not allow the M & J mine voids to be used as a method to dispose of waste water from the Coal Valley site. The mine pool rises and falls in response to precipitation and snow melt events.

It was determined in the field review that the M & J mine is in fact not restricted and upwells to the surface as well as discharges into Bingamon Creek by entering an inverted drop inlet, (elevation 913.46) that crosses under County Route 8 and discharges through an existing inverted

concrete "Bell Pipe" at an elevation of 909.10 ft. This condition is causing the stream to be stained as a result of precipitates. Water samples were collected by WVDEP from the discharge to Bingamon Creek on March 8, 2011, and results are pending (Figure 7, 8, and 9).

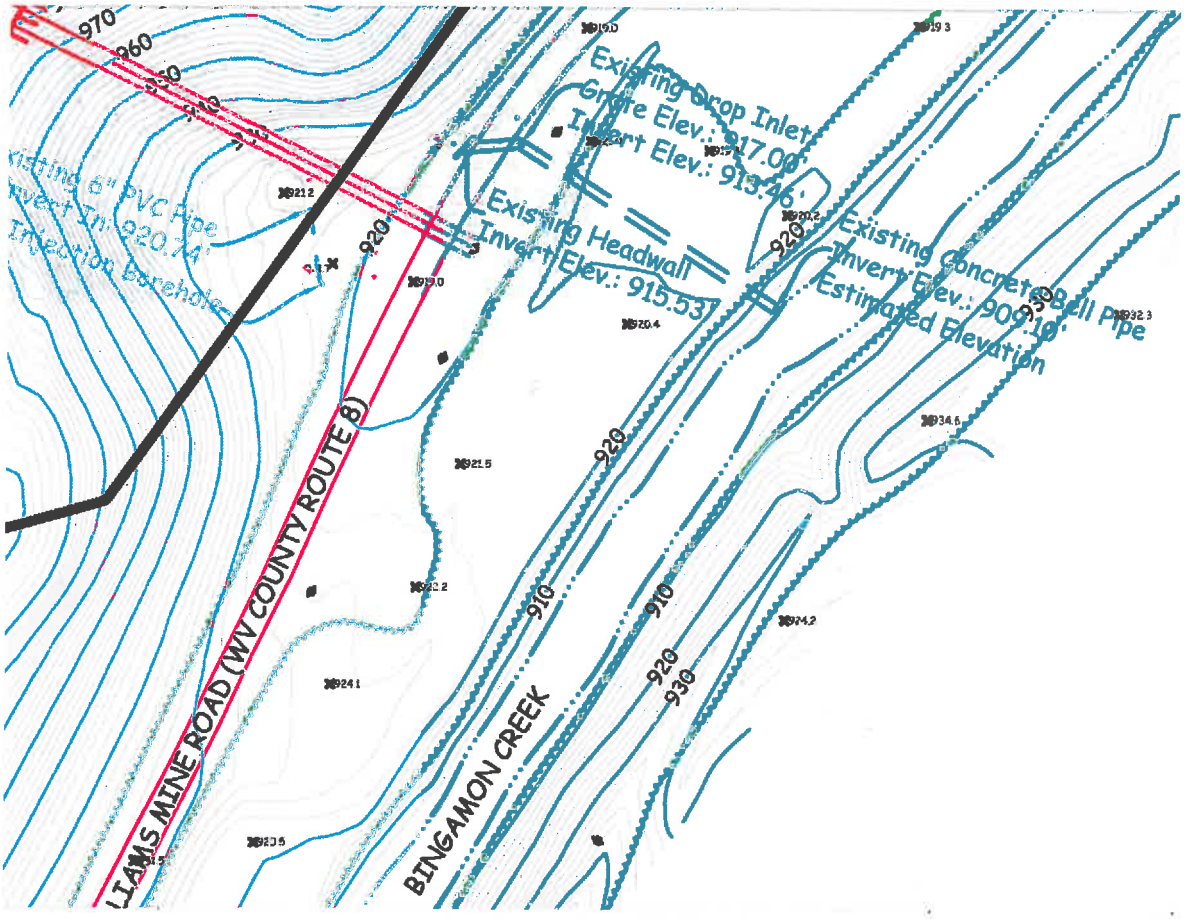

Figure 7. Design from Coal Valley, LLC permit.

Figure 8. Existing headwall of culvert that drains to Bingamon Creek.

Figure 9. Existing concrete bell pipe discharging into Bingamon Creek.

It is unclear if the pipe that is shown in the stream and placed within the culvert that is adjacent to UIC 201 injection point that discharges to Bingamon Creek is part of the Coal Valley, LLC discharge design since the pipe was not present during the May 2010 field assessment (Figures 10 and 11).

Figure 10. Pipe in stream adjacent to UIC 201 injection point.

Figure 11. Pipe within culvert discharging to Bingamon Creek.

The UIC permit was reissued on December 28, 2007, for injection Point 201. UIC Permit Number 0284-00-033 was again modified on June 10, 2008, to add an additional injection site UIC 202 which was drilled and constructed into the Williams No.2 Mine which is across County Route 8, and parallel to the M & J mine containing UIC 201, which is also identified as M & J Coal Company U-1037-86.

ISSUES:

UIC Permit: The hydrologic control for WVSMCRA Permit No. O-2005-10 is the UIC Permit 0284-00-033. The UIC permit is fatally flawed and the operator has failed to report any difficulties with compliance nor provided alternative measures. Therefore, the operational plan and activities for the WVSMCRA permit do not provide adequate hydrologic protection.

Specific problems include:

- The UIC permit states that the maximum pool elevation will be maintained at a maximum elevation of 888 feet but gives no details on how this will be accomplished, the location of any necessary pumped discharge, what treatment methods will be employed, etc. The permittee failed to maintain UIC 201 by maintaining a maximum pool elevation of 888 feet. The pumped, surface runoff and seepage discharge leaving the site was not contained within the mine pool and was allowed to surface and discharge into the high quality receiving stream of Bingamon Creek.

- WVDEP issued an order on 12/3/10, followed by a Notice of Violation (NOV) #4 on March 7, 2011, to cease discharging into UIC 201 injection point. No back up auxiliary plan was in place. No revisions to the WVSMCRA permit have been proposed to protect the hydrologic balance. The order was ineffective the remedial measures of the NOV are insufficient in that it did not specify that mining should cease until hydrologic protection measures are approved and in place.

- The UIC permit requires that if the permittee becomes aware of any incomplete or incorrect information in the permit application or subsequent reports, the permittee shall promptly submit information addressing these deficiencies. The permittee has not properly operated, maintained or reported on the UIC permit. It is obvious the permittee has not reported on any of these discharge difficulties or made any changes in its operational plans as required by the UIC and WVSMCRA permits. The mine voids are inundated and have been since before the permit was issued. The borehole cannot receive additional pumped discharge, surface runoff, or seepage from the toe of the impoundment. Discharges are illegally going into a high quality stream.

- The excavation pit to collect water was designed to be pumped to Pond No.2, which has no outlet, and pooled fluid was being pumped to the UIC borehole. The company is no longer pumping to the UIC borehole and it has not been determined how the collected pool in Pond No. 2 is being discharged or treated.

- The permittee failed to submit water quality monitoring results and no lab results were available to review (Figure 12). However, based on several field assessments the permittee has violated the Clean Water Act standards for Total Fe of 6.0 mg/l for the raw discharges from the sludge pond at the base of the slurry impoundment. The reported values for total Iron were an average of 50-59.3 mg/l and were sampled by Steve Ball, WVDEP. The Calcium was reported as 702 mg/l and total Magnesium 164 mg/l. Additional sampling was completed on a subsequent field review and analysis are pending from lab.

- The permittee also failed to report the monitoring of the mine pool level, which is to be monitored at least monthly and maintained or reduced through pumping or by cessation of injection activity throughout the period of underground injection activity.

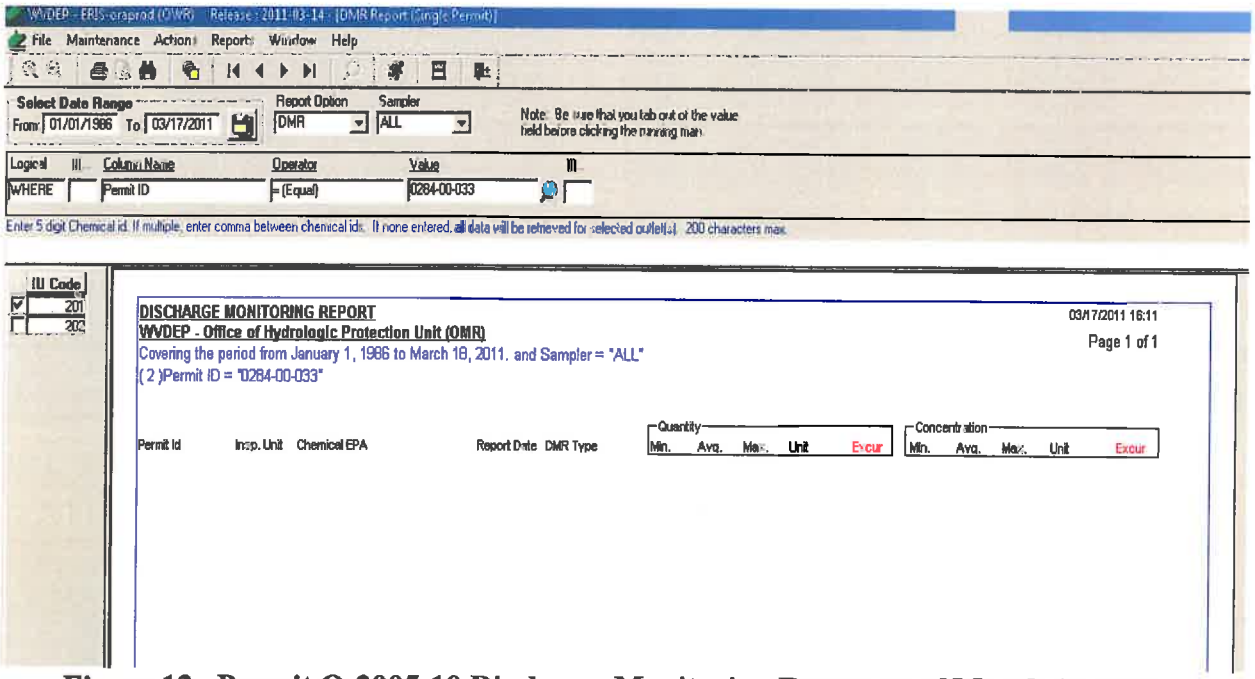

Figure 12. Permit O-2005-10 Discharge Monitoring Report as of March 17, 2011.

State 401 Certification:

Permit O-2005-10 requires that a State 401 certification must be completed for the project. To date the company has not received their 401 Certification. The unnamed tributary flowing through the site into Bingamon Creek demonstrates ephemeral and intermittent flow and requires a State 401 Certification. The company should not be allowed to operate without this certification.

NPDES Permit ID WV1023721:

WCSMCRA permit #O-2005-10 also requires an NPDES permit which is also flawed in that it assumes a valid operating UIC permit. Specific issues:

- The permittee's NPDES permit was issued for storm water discharge only with no reporting limits. As noted, all water cannot go into the borehole and no consideration appears to have been given to the receiving stream.

- The permit stated, "The area is underlain by the Williams mine and the deep aquifers drain into the mine and are treated by Consol. Shallow aquifers drain to Bingamon Creek. The aquifers within a thousand feet of the site are not utilized." This is not a true finding. The discharges from the slurry impoundment site are not being treated by Consolidation Coal Company as stated in the Coal Valley, LLC NPDES permit. The UIC 201 is drilled into the M & J mine and is upwelling and discharging into Bingamon Creek untreated.

- Module 10 Part V: Effects of Disposal of the issued NPDES permit states that the mine is not discharging into surface waters of the state. This is a false statement. The pumped discharge that was entering the UIC 201 borehole that is drilled into the M & J mine voids was commingling with the completely inundated M & J mine's Pittsburgh coal seam mine pool. This mine pool subsequently rises and falls with direct precipitation and snow melt which allows it to surface with no infiltration into the mine voids. The discharge from the slurry impoundment and mine water from the M & J mine, commingle and exit through an existing drop inlet that is perpendicular to Bingamon Creek where it directly discharges. Upwelling from the flooded mine as well as surface runoff and infiltration from the toe of the refuse runs down a ditch along County Route 8 that is evident with the iron sludge that is deposited within the steam.

- Module 10 also states: "Water is directed into the borehole per UIC 0284-00-033 and subsequently treated by Consolidation Coal Company. This should have no detrimental effect on neighboring areas. Again this is a false statement. The borehole is not contained within Consol's Williams #98 mine and is not being treated.

Historical mining for M & J Coal Company, Inc.:

The historical mining by M & J Coal Company, Inc., Permit U-1037-86 where the injection site was installed has a history of seeps, upwelling, and subsidence. Photos from a site visit made on March 19, 2004, by WVDEP in response from a citizen complaint reveal the post mining damage to County Road 8. The subsidence fractures allowed for additional surface infiltration from storm events to infiltrate into an already flooded mine (Figures 13, 14 and 15).

Figure 13. Photo of Subsidence of County Route 8 underlain by M & J Mining Company permit U-1037-86 from WVDEP March 19, 2004, site visit.

Figure 14. Photo of Subsidence of County Route 8 underlain by M & J Mining Company Permit U-1037-86 from WVDEP March 19, 2004, site visit.

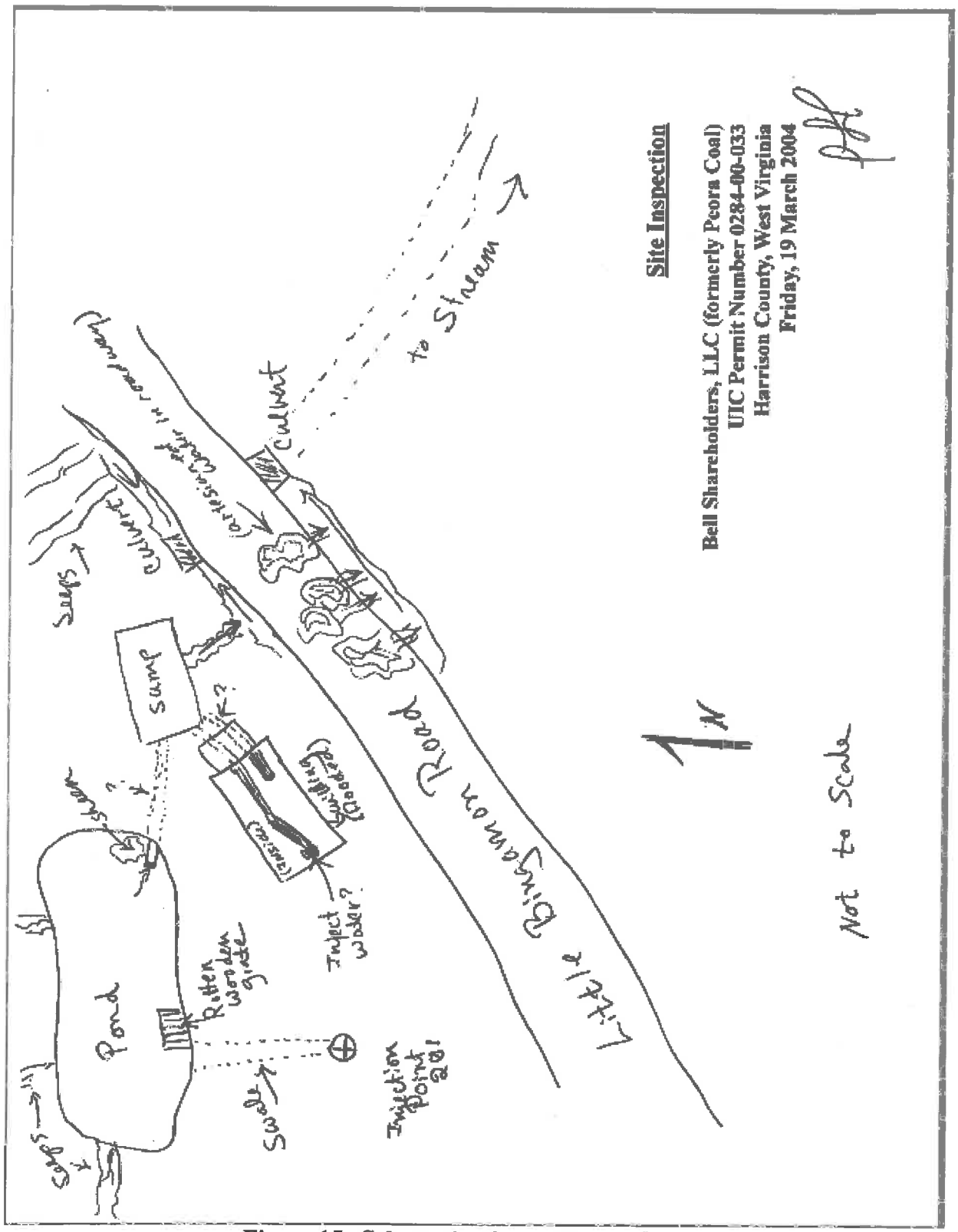

Figure 15. Schematic of upwelling and seeps.

This is an excerpt of conclusions from the March 19, 2004, site visit (Figure 15).

Conclusions:

The problems on this site are possibly attributable to water in the abandoned deep mines coming to the surface and/or to precipitation percolating through an old slurry impoundment and coming into contact with acid-forming materials. In any scenario, the seepage is, at present, uncontrolled. Underground injection that may have occurred since the issuance of the permit less than two years ago, if any, is contraindicated as either causing or abating these problems.

Abatement would probably include a system of ditches to capture the many seeps and convey the water into ponds where it can be treated for surface release, unless more sophisticated methods are feasible. It is unlikely that the deep mine has the capacity to contain the volume of all this water combined, if injected.

21 March 2004

Pavanne K. Pettigrew, Geologist

Figure 16. Conclusions from March 19, 2004 field assessment.

Findings Conclusion Section One

Administrative and Technical deficiencies were found with the SMCRA Permit O-2005-10, UIC Permit 0248-00-033, and NPDES Permit WV1023721. The permitting, operation and maintenance, crucial hydrological data, geochemical, and the engineering construction designs are inconsistent and deviate from WVDEP requirements and adequate justification is not provided. Omissions and incorrect reporting of facts within multiple sections of the issued permit were among the incomplete areas noted. Based on these inadequacies and deficiencies, all associated permits should be rescinded and re-evaluated.

The physical alteration of water bodies in West Virginia, including wetlands and streams, are regulated by federal and state statutes under Section 401 (Certification) and Section 404 (Permits) of the Federal Clean Water Act. In West Virginia, all groundwater is considered to be existing or potential drinking water (WVDEP).

Coal Valley, LLC lacks a [1]US Army Corps of Engineers 401 permit under the Clean Water Act to proceed with the mine.

[1]**Section 401** of the Clean Water Act requires that any applicant for a Section 404 permit also obtain a Water Quality Certification from the State. The purpose of the certification is to confirm that the discharge will be in compliance with the State's applicable Water Quality Standards. The West Virginia Department of Environmental Protection (WVDEP), in conjunction with the West Virginia Division of Natural Resources certifies physical alterations under section 401 of the Clean Water Act and state water quality standards [Title 46, Series 1, Legislative Rules Governing Water Quality Standards].

SECTION TWO

Operations and Maintenance Site Review

Technical Assistance Report/Surface
Coal Valley, LLC, O-2005-10
Enterprise, Harrison County, West Virginia
OSM Personnel - Rod Moore and Mike Superfesky
WVDEP Personnel - Mike Nunan
March 8, 2011

The technical assistance team met at the lower borehole at the toe of the slurry impoundment. The other team members examining underground conditions are Clairene Bailey, OSM, and Steve Ball and Amarise Zirkle, WVDEP. Steve Ball reported that the mine pool in the lower borehole is located at elevation 920, which is 32 feet above the maximum allowable elevation of 888 feet. On March 7, 2011, the WVDEP issue a notice of violation prohibiting injection into this borehole. Since this is the only approved legal method of treating all water from the disturbed area, there is no legal means for any water to leave the disturbed permit area.

We began the above ground review of the site by traveling up County Road 8/6, Nutter Run, and we immediately noted that the mine haul road to the left abutment of the impoundment was very steep, lacked proper drainage and protective surfacing, and directed drainage directly onto County Road 8/6.

Upper end of haul road that connects directly to county road.

We then viewed the active mine pit area and discovered that a backhoe was almost fully engulfed in the bottom of the saturated slurry pit.

Close up of backhoe engulfed in slurry pit.

Overall view of slurry pit with excavator removing soil and rock cap from the slurry surface.

We then noted an area of the slurry pit where part of the original impoundment embankment had been excavated to an elevation lower than the original crest. WVDEP Inspector, Mike Nunan, noted that two different sections of the permit, P-7 Narrative and N-1, require emergency spillway construction in conjunction with mining activities to limit the volume of the excavated mine pit to 15 acre feet. The same sections require certification by a registered professional engineer that the structure is constructed in accordance with the permit, the Act, and the regulations. WV CSR 38-2-5.4.b.9 requires that all sediment control or other water retention structures shall be designed to safely pass a 25 year 24 hour precipitation event. A single open channel spillway may be used only if it is of non-erodible construction and designed to carry sustained flows. WVDEP has not issued a violation requiring the permittee to construct and certify that the emergency spillway and mine pit are incompliance with both the permit and regulations. Some of the spillway construction has occurred, but it is neither complete nor certified.

Looking into partially constructed spillway-not certified.

Additional view of emergency spillway to maintain pit below 15 acre-feet.

We then proceeded to the right abutment of the upper impoundment's embankment where the stream diversion is routed across County Road 8/6. We walked down the diversion channel and noted that conditions had changed from April, 2010. The diversion channel has been disturbed and reconstructed.

Reconstructed channel showing flow at left and recent embankment construction.
The area of disturbance is not within the boundaries of the approved permit and it is not bonded.
It is considered disturbance outside the permit boundary.

At this point near the right abutment of the lower slurry impoundment, the diversion channel is directed into the channel formed by the old emergency spillway for the original lower impoundment. The flow follows the old emergency spillway channel and then junctions with the original diversion channel on the steep hillside directly above County Route 8, a heavily traveled paved road. The flow then passed thru a drop inlet into a 6 foot diameter pipe and on into Bingamon Creek. Concrete channel lining placed on the steep hillside by Consolidation Coal Company has been undermined by water, collapsed and slid down the hill (see the following 3 photos).

Photos of failed channel liner in diversion channel above County Route 8.

We then went back to the lower borehole located at the old impoundment toe seepage area. This area has been disturbed and the old seepage sump has been enlarged.

Pond enlarged and disturbed. This is not shown on the permit.

Seepage above pond through old embankment.

Looking up old embankment from AMD pond. Black 6 inch pump line is shown on right.
The approved plan authorizes the pumped flow from 3 small treatment ponds for runoff from the 36 acre disturbed area to be directed down this 6 inch diameter conduit into the 6 inch borehole that is full of water and 32 above the approved elevation of 888. Note the gray line on the left?

Looking down embankment face at pond and county road.

High water mark in final holding pond on old impoundment embankment.

Erosion on embankment of final holding pond. Appears to be pumped/breached and unauthorized discharge from pond into fresh water diversion.

Checking water level at re-drilled borehole at upper end of lower impoundment.
We then all met and discussed findings. The immediate technical assistance that we relayed to WVDEP Inspector Nunan was:

1. The construction work on the stream diversion is mining off of the permit.

2. Emergency spillway must be certified to safely pass the 25 year -24 hour precipitation event, and the operator must demonstrate that the total potential impounded volume is 15 acre feet or less.

3. Haul road must be constructed and certified in accordance with regulations.

4. No drainage can leave the site.

After further permit review we have the following additional technical assistance comments:

1. Section N-1: Mining and Reclamation Activities by Phase states: Fines removal and coarse refuse regrading will proceed concurrently during the project operations. On March 8, 2011, the coarse refuse area was not being graded down concurrently with the fine refuse as required by the approved permit.

2. In fact, the operator is digging a hole into the fines approximately 30 feet deep and the top of the coarse refuse is approximately 10 feet above the fines level. Fines are currently being stockpiled on top of the coarse refuse embankment.

Additional technical assistance may be provided based on further developments at the site and following completion of permit review.

SECTION THREE

Operations and Maintenance Permit Review

Permit Review Comments
Coal Valley LLC, Permit O-2005-10
March 15, 2011
M. J. Superfesky

The language in Section N-1 of the permit does not provide sufficient detail concerning the methods and sequence of mining. As a result, neither the company nor the WVDEP inspector have a clear picture of the methodology required to safely remove the coarse refuse embankment and the coal fines in a concurrent manner.

The permit is deficient in describing drainage and water treatment. The sediment control/water treatment for this permit is not possible to execute as designed. There is no detail of how storm water is conveyed to the sediment/treatment ponds other than pumping. In order to be pumped the water has to be conveyed/directed to a collection impoundment. The only other collection area is the pit. If the pit is utilized as a collection impoundment then it must be designed, approved, and certified by registered professional engineer in accordance with the permit and the approve coal refuse regulations.

Total storm runoff for this permit cannot be conveyed thru a 6 inch diameter conduit down a 6 inch hole. It is not reasonable or physically possible to achieve without first collecting and holding the runoff and then releasing it at a rate that will flow in a 6 inch conduit down a 6 inch hole. The volume of the certified structures approved for this permit is not sufficient to achieve this.

There is no SWROA for the permit.

The permit requirement: "Fines removal and coarse refuse regrading will proceed concurrently during the project" is inconsistent with the permit requirement: "The lower impoundment will require emergency spillway construction in conjunction with these activities to inhibit cell buildup in excess of 15 acre feet". If the fine and coarse refuse removal proceeds concurrently the cell volume should be nearly zero at the end of each work day. The requirements in the permit for the emergency spillway are vague and too general. In accordance with the regulations the spillway should be designed to safely pass the 25 year 24 hour precipitation event. This includes erosion protection and transition of flows back into the natural drainage pattern.

It appears that drainage structures are designed on 2yr-24 storm event. Sediment ponds and SWROA design regulation requirement is a 25 year 24 hour storm.

The site layout for the proposed watershed (post mining drainage plan) is vague and does not show the ditch layout or how the total 203 acres of drainage gets to Bingamon Creek.

For the final regrade, the slope of the ditch that drains the entire area is 33% and it pass into the existing road side drop inlet. How is this transition of flow going to be achieved? It appears this will result in serious flooding of the roadway.

No ditches are shown on the proposal map.

Sediment Pond 2 has a total certified storage volume of .84 acre feet. This is not enough volume for either the present disturbance or the total worst case disturbance of 36 acres. 4.5 acre feet are required for 36 acres. 0.84 acre feet will cover only 6.72 acres. Section 9-P of the approved permit states that 4.5 acre feet of storage will be provided for the lower 36 acres and 1.1 acre feet will be provided for the upper impoundment.

Sediment Pond #3 on the upper impoundment area of the permit does not have sufficient design details and hydraulic calculations to determine if it should have a Dam Certificate. County Road 8/6 will be located on the crest of the embankment. The proposed impoundment is over 25 high from the downstream toe to the crest and the total storage volume is not known should the 24-inch culvert become blocked, and there is not sufficient design detail for the fresh water diversions.

The permit states that there are no boreholes to be sealed. This needs to be updated because an existing borehole on the upper end of the lower impoundment existed and was recently re-drilled.

The stability analysis for the reclaimed slopes utilizes shear strength parameter of 40 degrees for the angle of internal friction, 75 psf for cohesion, and a unit weight of 95 pounds per cubic foot to arrive at a factor of safety of 1.33 for the reclaimed slope. These values for shear strength of coarse refuse are too high and not conservative as characterized in the permit. Standard acceptable engineering practice for coarse refuse usually considers the angle of internal friction to be 34 degrees with no cohesion and a unit weight of 110 to 120 pounds per cubic foot. Therefore, the factor of safety calculated at 1.302 and 1.330 appears to be high. If the more conservative acceptable values were utilized the minimum factor of safety of 1.3 would not be achieved.

The post mining re-grade plan is detailed; however the exact drainage plan is inconsistent concerning the routing of all surface water from the 203 acre drainage. There is no detail showing the design flows, flow routes, and how the flows will safely exit the permit boundaries without flooding the county road.

Chemical treatment of disturbed and existing AMD is neglected. How will surface water and seeps be collected and passed thru a detention structure during the 5 year bond release period? What if chemical treatment is required?

The potential effects of creating a MSHA size dam condition at the upper impoundment/county road intersection are neglected. Also, routing water along the county road is also ignored. The road ditch should be analyzed to make sure there are sufficient ditch capacity and/or culvert crossings to prevent flooding and road instability.

All drainage for this permit and drainage area should be redirected into the reconstructed channel as shown down the center of the site. The regulations require that the design flow should be based on the 100 year 24 event. The permit does not demonstrate how the peak flow from the reconstructed channel will be safely routed and conveyed under county Route 8. This obviously requires that the post mining plan be redesigned to include these requirements.

Section T of the permit Transportation Plan is quite comprehensive and includes strict safety requirements for entering onto the county road; however, the detailed plan is not being implemented in the field.

Findings of Violations and Permit Deficiencies Based On:

West Virginia Coal Surface Mining Rule (38 CSR 2)

Surface Coal Mining and Reclamation Act (WV Code § 22-3)

Based on the findings and conclusions from the individual sections contained within this report the following performance standard violations are present:

(1) VIOLATION

22-3-8
22-3-13(b)(21)

The person conducted Surface Mining Operations without first obtaining a permit, in that the person disturbed and reconstructed a fresh water diversion ditch to facilitate Surface Coal Mining operations.

(2) VIOLATION

38CSR-2-5.4.d.1

Failed to certify that the drainage system was constructed and installed in accordance with the approved pre-plan. Following a major embankment failure, repairs were conducted, but the sediment control system was not re-certified.

(3) VIOLATION

38CSR-2-3.33.b
38CSR-2-4.12

Failed to conduct operations only as described in the approved application in that the haulroad is not constructed at the approved location in the permit and properly certified.

(4) VIOLATION

38CSR-2-5.4.c.1
38CSR-2-5.4.d.1

Failed to certify the emergency spillway which is designed to drain the allowed impounding volume of 15 acre-feet or less, as specified in Section P-7 of the approved permit.

(5) VIOLATION

38CSR-2-3.33

38CSR-2-3.33.b

Failed to conduct operations only as described in the approved application in that the operator failed to obtain a 404 permit and a 401 Certification. Failed to follow permit conditions in that surface runoff, seeps, and upwelling is discharging into a high quality stream. It was determined that the pool elevation into which borehole UIC 201 discharges is and has been above the permitted elevation of 888 ft. and discharge and seeps from the toe of the refuse area is pooling and discharging into a high quality stream.

(6) VIOLATION

38CSR-2-14.5.b

Failed to minimize the disturbance to the prevailing hydrologic balance at the mine site and in associated offsite area.

The Following Permit Deficiencies are Present:

(1) VIOLATION

38CSR-2-3.1
38CSR-2-3.14.b.11.D

The language in Section N-1 of the permit does not provide sufficient detail concerning the methods and sequence of mining. As a result, neither the company nor theDEP inspector have a clear picture of the methodology required to safely remove the coarse refuse embankment and the coal fines in a concurrent manner.

(2) VIOLATION

38CSR-2-5.4.c.1
38CSR-2.5.4.d.1

The permit is deficient in describing drainage and water treatment. The sediment control/water treatment for this permit is not possible to execute as designed. There is no detail of how storm water is conveyed to the sediment/treatment ponds other than pumping. In order to be pumped the water has to be conveyed/directed to a collection impoundment. The only other collection area is the pit. If the pit is utilized as a collection impoundment then it must be designed, approved, and certified by registered professional engineer in accordance with the permit and the approve coal refuse regulations.

Total storm runoff for this permit cannot be conveyed thru a 6 inch diameter conduit down a 6 inch hole. It is not reasonable or physically possible to achieve without first collecting and holding the runoff and then releasing it at a rate that will flow in a 6 inch conduit down a 6 inch

hole. The volume of the certified structures approved for this permit is not sufficient to achieve this.

(3) VIOLATION

38CSR-2-5.6.a

There is no SWROA for the permit.

(4) VIOLATION

38CSR-2-5.4.c.1
38CSR-2-5.4.d.1

The permit requirement: "Fines removal and coarse refuse regrading will proceed concurrently during the project" is inconsistent with the permit requirement: "The lower impoundment will require emergency spillway construction in conjunction with these activities to inhibit cell buildup in excess of 15 acre feet". If the fine and coarse refuse removal proceeds concurrently the cell volume should be nearly zero at the end of each work day. The requirements in the permit for the emergency spillway are vague and too general. In accordance with the regulations the spillway should be designed to safely pass the 25 year 24 hour precipitation event. This includes erosion protection and transition of flows back into the natural drainage pattern.

(5) VIOLATION

38CSR-2-5.4.c.1
38CSR-2-5.3.d.1

It appears that drainage structures are designed on 2yr-24 storm event. Sediment ponds and SWROA design regulation requirement is a 25 year 24 hour storm.

(6) VIOLATION

38CSR-2-4.10.b
38CSR-2-14.4.a

The site layout for the proposed watershed (post mining drainage plan) is vague and does not show the ditch layout or how the total 203 acres of drainage gets to Bingamon Creek.

(7) VIOLATION

38CSR-2-5.3.b.1

For the final regrade, the slope of the ditch that drains the entire area is 33% and it pass into the existing road side drop inlet. How is this transition of flow going to be achieved? It appears this will result in serious flooding of the roadway. No ditches are shown on the proposal map.

(8) VIOLATION

38CSR-2-5.4.b.4

Sediment Pond 2 has a total certified storage volume of .84 acre feet. This is not enough volume for either the present disturbance or the total worst case disturbance of 36 acres. 4.5 acre feet are required for 36 acres. 0.84 acre feet will cover only 6.72 acres. Section 9-P of the approved permit states that 4.5 acre feet of storage will be provided for the lower 36 acres and 1.1 acre feet will be provided for the upper impoundment.

(9) VIOLATION

38CSR-2-5.4.c.5

Sediment Pond #3 on the upper impoundment area of the permit does not have sufficient design details and hydraulic calculations to determine if it should have a Dam Certificate. County Road 8/6 will be located on the crest of the embankment. The proposed impoundment is over 25 high from the downstream toe to the crest and the total storage volume is not known should the 24-inch culvert become blocked, and there is not sufficient design detail for the fresh water diversions.

(10) VIOLATION

38CSR-2-14.2.a

The permit states that there are no boreholes to be sealed. This needs to be updated because an existing borehole on the upper end of the lower impoundment existed and was recently re-drilled.

(11) VIOLATION

38CSR-2-14.8.a.4

The stability analysis for the reclaimed slopes utilizes shear strength parameter of 40 degrees for the angle of internal friction, 75 psf for cohesion, and a unit weight of 95 pounds per cubic foot to arrive at a factor of safety of 1.33 for the reclaimed slope. These values for shear strength of coarse refuse are too high and not conservative as characterized in the permit. Standard acceptable engineering practice for coarse refuse usually considers the angle of internal friction to be 34 degrees with no cohesion and a unit weight of 110 to 120 pounds per cubic foot. Therefore, the factor of safety calculated at 1.302 and 1.330 appears to be high. If the more conservative acceptable values were utilized the minimum factor of safety of 1.3 would not be achieved.

(12) VIOLATION

38CSR-2-5.3.b.1

The post mining re-grade plan is detailed; however the exact drainage plan is inconsistent concerning the routing of all surface water from the 203 acre drainage. There is no detail showing the design flows, flow routes, and how the flows will safely exit the permit boundaries without flooding the county road.

(13) VIOLATION

38CSR-2-5.4.b.2

Chemical treatment of disturbed and existing AMD is neglected. How will surface water and seeps be collected and passed thru a detention structure during the 5 year bond release period? What if chemical treatment is required?

(14) VIOLATION

38CSR-2-5.4.c.5

The potential effects of creating a MSHA size dam condition at the upper impoundment/county road intersection are neglected. Also routing water along the county road is also ignored. The road ditch should be analyzed to make sure there are sufficient ditch capacity and/or culvert crossings to prevent flooding and road instability.

(15) VIOLATION

38CSR-2-5.3.b.1

All drainage for this permit and drainage area should be redirected into the reconstructed channel as shown down the center of the site. The regulations require that the design flow should be based on the 100 year 24 event. The permit does not demonstrate how the peak flow from the reconstructed channel will be safely routed and conveyed under county Route 8. This obviously requires that the post mining plan be redesigned to include these requirements.