EXHIBIT A

Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building
P.O. Box 8461
Harrisburg, PA 17105-8461
August 22, 2003

Bureau of Mining and Reclamation

717-787-5103

CERTIFIED MAIL NO. 7002 3150 0003 4040 0012

K & J Coal Company, Inc.
P.O. Box 189
Westover, PA 16692

RE: BOND FORFEITURE
Permit No. 11693000
Forfeiture Case No. 40-03-023
Chest Township, Cambria County

Gentlemen:

On September 24, 2002, the Cambria District Mining Office notified you by letter of the Department's intent to declare forfeit the bonds posted at the above-referenced mining operation. This action is necessary because of numerous violations of the law. These violations include:

- Failure to maintain treatment facilities.
- Failure to submit water monitoring reports.
- Failure to comply with an order of the Department.
- Failure to maintain liability insurance as required by the regulations.
- Failure to show a willingness or intention to comply with the applicable laws and regulations.
- Failure to pay outstanding civil penalties.
- Other violations identified in the numerous Inspection Reports, letters, and Notices of Violation which have been sent to you.

Because you have continued to fail to correct the violations and to reclaim the area affected by your mining operations at the above-referenced site, the Department hereby declares forfeit, in the full amount, the bond posted for the above-referenced surface mining operation. This action is in accordance with Section 4(h) of the Surface Mining Conservation and

Reclamation Act and Chapter 86, Subchapter F, Section 86.180-86.190 of the Department's regulations.

The bonds hereby declared forfeit are described as follows:

Type of Bond	Amount	Bond Number	Surety Company
Surety	$3,921,790.00	996617	Seaboard Surety Company
Cash	$450.00	80264	

Seaboard Surety Company is hereby notified of this forfeiture action by copy of this declaration sent certified mail.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717-787-3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in Braille or on audiotape from the Secretary to the Board at 717-787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

If you want to challenge this action, your appeal must reach the board within 30 days. You do not need a lawyer to file an appeal with the board.

Important legal rights are at stake, however, so you should show this document to a lawyer at once. If you cannot afford a lawyer, you may qualify for free pro bono representation. Call the secretary to the Board at 717-787-3483 for more information.

FOR THE DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Joseph G. Pizarchik, Esq.
Director
Bureau of Mining and Reclamation

cc: K & J Coal Company, Inc. (First Class Mail)
James R. Walsh, P.O. Box 280, Johnstown, PA 15907
Seaboard Surety Company
Joseph Rienhart, Esq., Babst, Calland, Clements & Zomnir, Two Gateway Center, Pittsburgh, PA 15222
Canterra Coal, Inc., Three Parkway Center, Pittsburgh, PA 15220
Joseph F. & Anna T. Gaber, 2834 NE 214 Terrace, N Miami Beach, FL 33160
Richard and Shirley Kutruff, Patton RD, Patton, PA 16668
Penn Central Properties, Inc., One E. 4th St Cincinnati, OH 45202

EXHIBIT B

Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building
P.O. Box 8461
Harrisburg, PA 17105-8461

August 22, 2003

Bureau of Mining and Reclamation 717-787-5103

CERTIFIED MAIL NO. 7002 3150 0003 4040 0029

Seaboard Surety Company
199 Water St
New York, NY 10038

RE: BOND FORFEITURE
K & J Coal Company, Inc.
Permit No. 11693000
Forfeiture Case No. 40-03-023
Chest Township, Cambria County

Dear Sir or Madam:

The Department of Environmental Protection has declared forfeit bonds posted by K & J Coal Company, Inc. This action has been taken due to failure to comply with the requirements of the Pennsylvania Surface Mining Laws. A copy of the Order of Forfeiture is enclosed for your reference.

Section 4(h) of the Surface Mining Conservation and Reclamation Act states that the full amount of the forfeited surety bond shall be paid over to the Department within 30 days of your receipt of this notice. The filing of an appeal from the forfeiture with the Environmental Hearing Board does not stay the requirement to pay. The bond amount will be held in an interest bearing escrow account until any appeals are resolved.

Payment shall be made by a corporate check or a like instrument, payable to the "Commonwealth of Pennsylvania" and should be mailed to:

Department of Environmental Protection
Bureau of Office Systems and Services
Bonding Division
P.O. Box 8766
Harrisburg, PA 17105-8766

If you do not pay the bond amount within 30 days of your receipt of this notice, the Department will take appropriate action to collect the bond monies to which it is entitled. Please note in this regard that the Department is entitled to the bond amount and any interest generated by the bond amount from the date on which payment is due until the date on which it is

collected. This letter does not waive any right that the Department may have to impose other sanctions if the bond monies are not paid.

Payment of the bond monies to the Department does not impair your right to file an appeal with the Environmental Hearing Board or affect any other rights that you may have, nor does it in and of itself create any right beyond that permitted by applicable statutes and decisional law. Where a court determines the Commonwealth was not entitled to the forfeited bond and all appeals are exhausted, the forfeited amount with accrued interest will be returned to the surety.

If you have any questions, please contact this office at 717-787-5103.

Sincerely,

William S. Allen, Jr.
Chief
Compliance Section
Division of Monitoring and Compliance

Enclosure

EXHIBIT C

BCZ

BABST | CALLAND | CLEMENTS | ZOMNIR

A PROFESSIONAL CORPORATION

JOSEPH K. REINHART
Attorney at Law
T 412.394.5452
jreinhart@bccz.com

September 12, 2003

Michael Sokolow
Office of Chief Counsel
Pennsylvania Department of Environmental Protection
909 Elmerton Avenue
Harrisburg, PA 17110-8200

RE: Seaboard Surety Company, Bond Forfeiture Case No. 40-03-023, Permit No. 11693000, Chest Township, Cambria County (Former K&J Mine)

Dear Mike:

Please accept this letter as formal notification that Seaboard Surety Company ("Seaboard") intends to reclaim the forfeited site described above. Section 86.182(e) of the Pennsylvania Code provides that:

> (e) In lieu of paying the amount of the forfeited bond within 30 days after notice, a surety may reclaim the forfeited site upon the consent and approval of the Department. The surety shall notify the Department of its intent to reclaim the site within 30 days after the notice of forfeiture. The notification shall include a time frame within which the surety will submit a proposal which describes both the reclamation work to be done and a schedule for completion of the reclamation. Subject to the Department's approval of the time frame and the subsequent reclamation proposal, the Department and the surety will enter into a consent order and agreement specifying the terms of the reclamation work to be done.

In a letter dated August 22, 2003, the Department of Environmental Protection ("Department") notified Seaboard of the bond forfeiture for this site and instructed Seaboard to make payment of the forfeited bond amount within 30 days. As you know, Seaboard has been engaged in ongoing negotiations with the Department for several

months with regard to the reclamation of this site. Seaboard intends to continue to work toward an agreement with the Department on a proposal for the reclamation work. Toward that end, Seaboard has contracted with an environmental consulting firm, Hedin Environmental, to begin preparing a summary of the proposed reclamation work for the site that captures the understandings that we have reached over the last few months. I hope to send you a draft of the reclamation proposal in the next several weeks. Seaboard expects that its negotiations with the Department will result in the execution of a Consent Order and Agreement with the Department sometime later this fall.

As stated in the regulatory language quoted above, surety reclamation of a forfeited site is allowed in lieu of payment of a forfeited bond. As such, Seaboard does not intend to pay the forfeited bond amount to the Department. If this action is deemed to be unacceptable by the Department, please contact me as soon as possible so that we may discuss other options.

If you have any questions regarding this matter, please contact me.

Very truly yours,

Joseph K. Reinhart

JKR/mas
cc: Don Barnes, District Mining Manager
Paul Linnan

EXHIBIT D

Westover Mine
Reclamation Plan: Exhibit D

Prepared by Hedin Environmental and Minetech Engineers, Inc.

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I. Introduction and Background

The Westover Mine is located in Chest Township in northeast Cambria County. The Westover Mine has been mined for coal reserves during the last 50 years. K&J Coal Company ("K&J") conducted coal mining operations and held active mining permits issued by the Pennsylvania Department of Environmental Protection ("DEP"). K&J ceased mining operations and filed for bankruptcy in 2002. Prior to bankruptcy, discharges of mine drainage at the Westover Mine were treated using chemical treatment systems. After filing for bankruptcy, K&J discontinued treatment of the mine drainage, resulting in flows of acidic, water with elevated levels of metals to Rock Run and Chest Creek.

As a result of K&J's failure to treat the discharges, the DEP forfeited reclamation bonds posted by K&J for the Westover Mine. Negotiations between DEP and K&J's surety, Seaboard Surety Co. ("Seaboard") resulted in a plan to install passive treatment systems at four locations on the Westover Mine where mine drainage discharges are occurring. These treatment systems will be constructed in lieu of payment of the bond. This document provides the technical details for the four passive treatment systems that will be constructed by Seaboard as part of an overall settlement with the DEP and K&J.

II. Summary of Water Quality

Prior to filing for bankruptcy, K&J treated 5 acid mine drainage ("AMD") discharges at the Westover Mine site: Gaber Brown 4 (GB4), Gaber Brown 6 (GB6), Pond 4, Pond P, and Pond 23. The flow and chemical characteristics, as determined from K&J files and follow-up monitoring by Seaboard, are presented in Table 1. The discharges are generally characterized by acidic conditions and elevated concentrations of aluminum (Al) and manganese (Mn). Iron (Fe) concentrations are low at all the discharges. Gaber Brown 2 (GB2) is a separate alkaline discharge that did not require treatment by K&J, but will be incorporated into the GB treatment system.

Table 1: Average Flow and Chemistry at Discharge Locations, 1995-2003

Discharge	Receiving stream	Flow (gpm)	pH	Net Acidity (mg/L)	Fe (mg/L)	Mn (mg/L)	Al (mg/L)	SO4 (mg/L)
Pond 23	Chest Crk	15	4.6	28	0.1	7	3	656
Pond P	Chest Crk	79	4.2	112	0.2	31	9	2,031
Pond 4	Rock Run	74	4.2	173	0.6	49	12	1,866
GB2	Rock Run	59	7.3	-284	2.0	6	< 1	832
GB4	Rock Run	2	4.1	282	0.6	48	32	1,613
GB6	Rock Run	61	3.5	534	1.4	90	55	3,209

After K&J filed for bankruptcy, no treatment of any of the discharges at the Westover Mine was occurring. Although sampling of inflows to Chest Creek of the untreated discharges from Pond P and Pond 23 have shown no current degradation to Chest Creek, nevertheless, the parties

desire to ensure that these discharges do not degrade Chest Creek in the future. Inflows to Rock Run from untreated discharges including (but not limited to) GB4, GB6 and Pond 4 have the potential to cause degradation to Rock Run, a tributary of Chest Creek. Based on these water quality considerations, Seaboard developed a plan to construct passive treatment systems that would treat AMD at four locations on the Westover Mine. A limestone-based vertical flow pond (VFP) technology is proposed for all four treatment systems. This technology is expected to neutralize acidity, decrease the aluminum concentration, and generate additional alkalinity. The treatment systems built for the Gaber Brown discharges and Pond 4 will also include oxic limestone beds that are intended to decrease the manganese concentrations in the discharges.

III. Proposed Treatment/Remediation Plan

Four passive treatment systems will be constructed. The locations of the systems are shown on Figure 1. The following sections discuss treatment system parameters and each treatment system in detail.

A. Overview of the Proposed Treatment Systems

All of the treatment systems will contain vertical flow ponds (VFPs). This technology is commonly used in Pennsylvania to treat acid mine drainage containing aluminum. A typical VFP contains a layer of limestone aggregate covered with a layer of organic substrate covered with water. Pipes placed in the bottom of the limestone collect and discharge water from the pond. Water flows into the pond on the surface, down through the organic substrate and limestone, into the pipes, and out of the pond.

An organic substrate layer is commonly included in VFPs to lessen potential problems with iron caused by its precipitation in the limestone aggregate. The organic substrate reduces ferric iron to ferrous iron and removes dissolved oxygen. These changes cause the iron to pass through the limestone in a dissolved condition. However, the discharges at the Westover Mine site contain little iron. Consequently, Seaboard proposed, and the DEP accepted, that, in this case, the organic substrate provided more risk than value and that the VFPs should not contain an organic layer.

As acidic water flows through the limestone in a VFP, the pH rises causing dissolved aluminum to form a solid. The precipitation of aluminum solids within limestone aggregate decreases porosity and eventually can cause permeability problems. To counter this problem, nearly all VFPs are constructed with features that allow the pond to be flushed. Many systems have used the underdrain pipes for flushing. The observation that aluminum solids generally accumulate in the top of the limestone bed has resulted in the placement of a separate set of pipes that are intended only for flushing solids in some VFPs. The Westover Mine VFPs will contain separate flushing systems Figure 2 shows a general cross section of the VFP units that will be constructed for this project. Figure 3 shows a general plan view of the two layers of plumbing in the cells.

During normal operations, water will flow down through 3.5 – 5 feet of limestone in the VFP to a network of underdrain plumbing (Figure 2). The underdrains will consist of an 8-inch diameter header pipe with 4-inch diameter perforated laterals spaced every 12 feet on the headers. The pipe will be Schedule 40 PVC. The underdrain laterals will be connected to a flow control box via an underdrain header (Figure 3). The flow control box, which will have a locked access lid, will allow the operator to adjust the level of standing water over the limestone.

During normal operations, water will flow from the underdrain to a sediment pond, where solids that escape the VFP will be retained. Depending upon the specific system, water will then discharge to a constructed wetland, an oxic limestone bed, or to the stream.

A second series of pipes for flushing will be located near the top of the limestone (see Figure 2). This is where aluminum solids are likely to accumulate. This flushing pipe network will consist of 4" to 6" headers spaced every 5 feet along a 10" to 12" header pipe. Each VFP will have at least two independent flush zones (see Figure 3). These zones will be flushed using independent valves. The flushing system will be designed by the orifice controlled method as described in Lagnese (2001) with a calculated orifice flow velocity of 0.0005 ft/sec. See Appendix I for an explanation of these calculations.

During a flush cycle, header valves will be opened causing water to rapidly drain through the limestone aggregate and into the plumbing. Aluminum solids will be dislodged and carried out of the VFP to a separate flush pond that only receives flush water. Between flushes the flush pond will dewater, leaving behind the aluminum solids.

All systems will contain at least two parallel VFPs. If major maintenance is necessary that requires draining of a VFP cell, it will be possible to direct all of the water through one VFP cell. If the maintenance occurs during a low flow period, there should be no significant decline in the quality of the final discharge.

All VFPs will be constructed with a synthetic liner. The liner is to be a 40 mil linear low density polyethylene (LLDP) Raven 4000B or equivalent. The LLDP liner is to be "sandwiched" between two layers of geotextile fabric style 250 EX as manufactured by Linq Industrial Fabrics, Inc., or equivalent. Upon excavating the VFP to the required dimensions, the area on which the liner is to be placed will be dressed by removing any rocks, roots or debris which may damage the liner material. All areas shall be brought up to grade by filling with suitable material. The synthetic liner shall be installed in a sandwich fashion between layers of geotextile by first placing a layer of geotextile, then liner, and then a second layer of geotextile on top of the liner.

Two of the four treatment systems (GB and Pond 4) contain oxic limestone beds. The beds are located after the sedimentation pond and are intended to remove Mn by natural microbial processes. The beds will be open and water will flow through the limestone 6-12 inches below the surface.

The limestone aggregate used in the VFPs and oxic limestone beds is expected to be obtained from a local quarry that mines limestone commonly used in passive treatment projects. Limestone produced by local quarries contains 82% - 92% $CaCO_3$. Analyses of limestone

delivered to the project will be required from the limestone vendor and will be forwarded to DEP. The limestone used in the passive systems will be AASHTO #1 size aggregate and shall contain a minimum of 85% CaCO3..

B. Flush Ponds

Each flush pond has been designed to contain the water volume produced when six inches of water is flushed simultaneously from each VFP. The flush ponds will retain the flushed water, allowing the aluminum solids to precipitate. The flush ponds will be equipped with an outlet structure that dampens the effects of large flows due to flushing. As shown in Figure 4, a graduated riser will be placed in the outflow pipe, which will include a flow control box. Holes of decreasing sizes will be drilled in the outlet riser. When more than 1 foot of water enters the pond, it will begin to drain out of a series of small holes in the riser pipe. If more water is entering the pond than is leaving, the water will continue to rise to the higher sets of holes. During normal flushing, these holes should drain all of the flush water. However, in the event that more water is flushed or if the holes plug, the water will begin to flow out of the open top of the outlet riser. The water storage capacity is measured between the lowest perforation in the dewatering pipe and the emergency spillway. Pond capacity below the lowest set of holes is for sludge storage, and not included in water capacity calculations.

If desired, the flow control box can be adjusted before the flush in order to retain all of the flush water. Boards can later be removed from the flow control box, which will draw water out of all of the holes. This will remove clear supernatant from the pond, leaving sludge in the bottom of the pond. Water left in the pond below the level of the riser holes will be lost due to evaporation between flushes.

C. Treatment Plan Summary

Table 2 summarizes limestone quantities and capacities for the four treatment systems.

Table 2: Approximate Treatment System Parameters

Discharges	Maximum Design Flow (gpm)	VFP Limestone (tons)	Oxic Limestone Bed (tons)	Total Limestone (tons)	Settling Pond (gals)	Polishing Wetland (sq. feet)	Flush Pond (gals)
Pond 23	70	1,200	0	1,200	101,000	N/A	28,000
Pond P	200	6,000	0	6,000	288,000	7,000	108,800
Pond 4	150	6,000	7,000	13,000	221,400	N/A	137,500
Gaber Brown	200	6,000	10,000	16,000	288,000	12,500	112,500
TOTAL		**19,200**	**17,000**	**36,200**	**898,400**	**19,500**	**386,800**

D. Treatment Cell Flow Management

Each system will consist of at least two treatment cells. A flow control device will be necessary in order to:

- Divide flow among multiple treatment cells;
- Direct flows that are over the maximum treatment flows around the VFPs; and
- Allow each treatment cell to be taken out of service during maintenance activities.

Figure 5 shows a conceptual detail of such a device. The number of outlet pipes can be increased or decreased depending upon the number of treatment cells at each location, but the general design remains the same.

The AMD sources at each discharge location will be collected into pipes through the installation of french drains. The french drains will be constructed with non-calcareous sandstone. The french drains will feed into the flow control boxes.

Water from the discharge will enter the box near the bottom. Water will build up in the box. Each treatment cell pipe will be equipped with an elbow at an elevation above the inlet elevation. When the water reaches the top of the elbow, it will begin to spill into the pipes and flow to the treatment cells. The elbow inlets will be designed to permit the maximum design flow when the water in the box reaches the bottom of the overflow orifice. Any flow in addition to the maximum design flow will exit the box through the overflow orifice. The overflow orifice will be sized to carry twice the maximum flow recorded at each station. Both the outlet pipes and the overflow orifice will be protected against intrusion by rodents.

When it becomes necessary to stop flow to one of the treatment cells, a cap can be placed on the elbow inlet. The other cell(s) will continue to treat normally.

1. Pond 23 System

The Pond 23 discharge originates on a spoil slope and flows down a steep channel to a bench above Chest Creek (See Figure 1). The Pond 23 treatment system will include as major elements:

1. Construction of two vertical flow ponds (1,200 tons limestone total); and
2. Construction of a settling pond (101,000 gallons); and
3. Construction of a flush pond (28,000 gallons capacity).

An existing chemical treatment pond at the site will be cleaned out and used to construct the vertical flow ponds. A sludge holding pond will need to be constructed near the system to contain chemical treatment sludge. See Figure 6 for a plan view of the existing site conditions and the proposed treatment system and the sludge holding pond
Please note that any sludge holding ponds that are used as part of this reclamation plan will be reclaimed. In particular, after the sludge in the disposal ponds dewaters, the disposal ponds will be reclaimed by grading excess mine spoil from the embankments and adjoining areas. The material will be graded in a manner so as to cover the top of each of the sludge pond while

providing positive drainage. Once covered, each pond will be seeded with a mixture of grasses and legumes and mulched.

The two VFPs for this system will have the same design and will each contain 600 tons of limestone. The underdrain system will consist of 4" lateral pipes that tie into a 10" header pipe. The underdrain outflow will be managed using a flow control structure.

Each of the cells will be divided into two areas for flushing, which are hereinafter referenced as "Quadrants". The flush plumbing will consist of 4" lateral pipes that tie into a 10" header pipe. The flush systems will be operated using corrosion-resistant valves.

2. Pond P System

The Pond P discharges originate near the base of spoil on a bench above Chest Creek (See Figure 1). The primary seeps originate above existing Pond 16. A secondary seep originates above existing Pond 12. All flows are current ditched to Pond P, which was previously used as a chemical treatment pond. The treatment system for Pond P will include as major elements:

1. Collection of the discharges in French drains or pipes;
2. Construction of three vertical flow ponds (6,000 tons limestone total);
3. Construction of a two settling ponds (288,000 gallons) and a wetland (7,000 square feet total) for polishing; and
4. Construction of a flush pond (108,800 gallons capacity total).

The settling pond and wetland will be constructed in an existing chemical treatment pond. See Figure 7 for a plan view of the existing site conditions and the proposed treatment system.

Three vertical flow cells will be constructed at Pond 4; two have the same design (P-1) and one will be smaller (P-2) than the other two cells. The P-1 cells will each contain 2,400 tons of limestone. The underdrain system will consist of 4" lateral pipes that tie into a 10" header pipe. The underdrain outflow will be managed using a flow control structure. Each of the P-1 cells will be divided into four Quadrants for flushing. The flush plumbing will consist of 4" lateral pipes that tie into a 10" header pipe. The flush system will be operated using a corrosion-resistant valve.

The P-2 cell will contain 1,200 tons of limestone. The underdrain system will consist of 4" lateral pipes that tie into a 10" header pipe. The underdrain outflow will be managed using a flow control structure. The cell will be divided into two Quadrants for flushing. The flush plumbing will consist of 4" lateral pipes that tie into a 10" header pipe. The flush systems will be operated using corrosion-resistant valves.

3. Pond 4 System

The Pond 4 discharges are located at the base of spoil on a bench above Rock Run (See Figure 1). The Pond 4 treatment system will include as major elements:

1. Collection of the Pond 4 discharges in a French drain or pipe;
2. Construction of two vertical flow ponds (6,000 tons limestone total);
3. Construction of a settling pond (221,400 gallons);
4. Construction a flush pond (137,500 gallon capacity); and
5. Construction of a 7,000-ton manganese removal bed.

Space available for system construction in this area is limited and the systems will be constructed in the ponds that were previously used for chemical treatment. The proposed system will discharge to Rock Run. See Figure 8 for a plan view of the existing site conditions and the proposed treatment system.

Two VFP cells will be constructed to treat this discharge (4-1 and 4-2). Each cell will contain 3,000 tons of limestone. The underdrain systems will consist of 4" lateral pipes that tie into a 10" header pipe. The underdrain outflows will be managed using a flow control structure. Each cell will be divided into four Quadrants for flushing.

The flush plumbing for cell the Pond 4 cells will consist of 6" lateral pipes that tie into a 12" header pipe. The flush systems will be operated using corrosion-resistant valves.

The oxic limestone bed will contain 7,000 tons of AASHTO #1 limestone placed 3-4 ft deep. The water elevation in the bed will be maintained 12 inches below the limestone surface by the discharge channel.

4. Gaber Brown System

The GB2, GB4 and GB6 discharges originate near each other on an unnamed tributary to Rock Run. GB6 is the primary source of AMD from the Westover Mine and the adjacent Gaber Brown mine site. GB2 is a source of alkaline spoil drainage. GB4 is a small flow of AMD that discharges below the GB2/GB6 channel. The rehabilitation of the GB2/GB6 channel will allow GB4 to be conveyed to the treatment system in this channel. The Gaber Brown treatment system will include as major elements:

1. Pre-treatment mixing of GB2 and GB6 in existing ponds;
2. Rehabilitation of the GB2/GB6 channel and collection of GB4;
3. Construction of two vertical flow ponds (6,000 tons limestone total);
4. Construction of a settling pond (288,000 gallons) and wetland (12,500 square feet) for polishing;
5. Construction a flush pond (112,500 gallon capacity); and
6. Construction of a 10,000-ton manganese removal bed.

The system will be constructed in an area of mine spoil adjacent to existing Pond 101. In particular, the GB2/GB6 channel will be reconstructed in the mine spoil directly north of Pond 101. Spoil areas that are disturbed during the channel reconstruction will be regraded, limed,

mulched and seeded to ensure vegetative success. See Figure 9 for a plan view of the existing site conditions and the proposed treatment system.

The two vertical flow cells will have the same design and will each contain approximately 3,000 tons of limestone. The underdrain system will consist of 4" lateral pipes that tie into a 10" header pipe. The underdrain outflow will be managed using a flow control structure.

Each of the cells will be divided into four Quadrants for flushing. The flush plumbing will consist of 6" lateral pipes that tie into a 12" header pipe. The flush systems will be operated using corrosion-resistant valves.

Rehabilitation of the GB2/GB6 channel is expected to eliminate GB4. If GB4 is not eliminated as a result of the construction of the GB2/GB6 channel, the DEP has agreed that a small limestone treatment system will be installed to capture GB4. Eighty tons of limestone will be placed in a bed 3-4 feet deep. An underdrain system will be connected to a Fluid Dynamics self-flushing siphon. The system will flush every time it fills up – approximately every 20 hours. The system will discharge to a small existing sedimentation pond, which will discharge to an unnamed tributary to Rock Run. Figure 9 shows the locations of the existing GB4 ponds that will be modified for use as the treatment system if needed.

IV. Project Deliverables

This document summarizes the key features of the passive treatment systems that Seaboard has proposed to construct at the Westover Mine. The DEP has reviewed the proposed design and approved of the proposed design. In addition to the treatment systems, the only other project deliverables that Seaboard must submit to the DEP are:

- As-built drawings of each of the four system(s); and
- An Operation and Maintenance (O&M Plans) Manual for each system.

The O&M plans will provide details on conducting routine site inspections, how and when to perform flushing cycles, and other important information on operation of the systems. The O&M Plans will be provided to the DEP upon the completion of the construction of each of the 4 treatment systems. The O& M Plans will also address the system constructed to address the GB4 seep if it becomes necessary to address that seep as noted above.

The O& M Plans will also include water monitoring activities. In order to provide a baseline that may be used by the Department and third parties to evaluate the long term performance of the passive treatment systems, Seaboard has agreed to undertake limited water monitoring activities as part of this reclamation plan. In particular, sampling will begin within approximately two weeks of completion of construction on each system. Sampling events will then take place on a monthly basis for three months and thereafter on a quarterly basis until Phase 2 completion has been achieved. Samples will be taken of the system influent (1 sample), VFP effluent (1 sample per VFP) and the final system discharge (1 sample)for each of the treatment systems. Flow rates

into each VFP, out of each VFP and out of the final system discharges will also be measured. Samples will be analyzed for standard mine drainage parameters, including pH, alkalinity, acidity, iron, manganese, aluminum, sulfate and Total Suspended Solids (TSS). All samples will be analyzed using standard methods. The Parties agree and understand that the water quality information set forth in this paragraph is not intended to imply that the releases of the Seaboard Bond contemplated by the Consent Order and Agreement are contingent in any way upon a demonstration that the effluent from the systems are meeting specific water quality criteria.

After each system is completed and the DEP has released Seaboard from further obligations for each system, the treatment systems will be operated and maintained by the Cambria County Conservation and Recreation Authority (CCCRA) or an agent of the CCCRA that is acceptable to the DEP.

V. References

Lagnese, Kathleen, P.E. An Engineering Evaluation of Vertical Flow Pond (VFP) Flushing Systems. Funded by the DEP Growing Greener Program. March 2002.

Figure 1: Treatment Site Location Map
(from the USGS 7.5' Hastings Quadrangle)

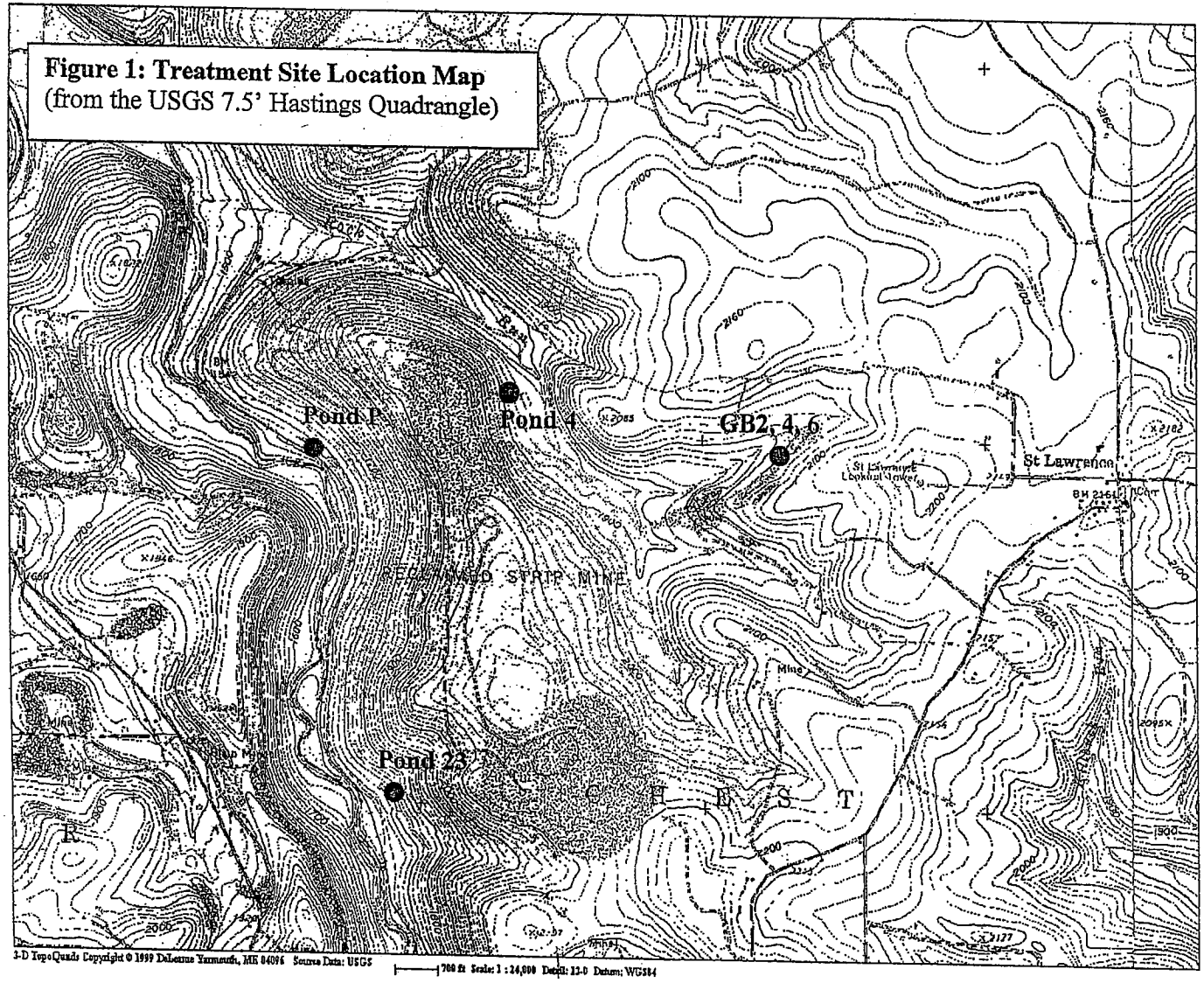
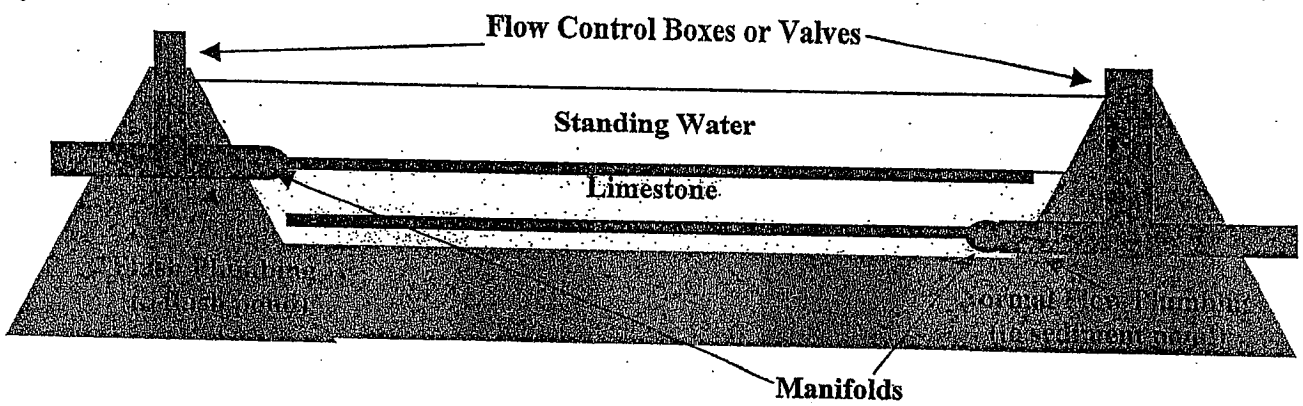


Figure 2: Typical VFP Cross Section



Typical Design: *3.5 - 5 feet of limestone, 2 – 5 feet standing water. Dual plumbing systems based on recommendations by Lagnese (2001).*

Figure 3: Typical VFP Plumbing Plan Views

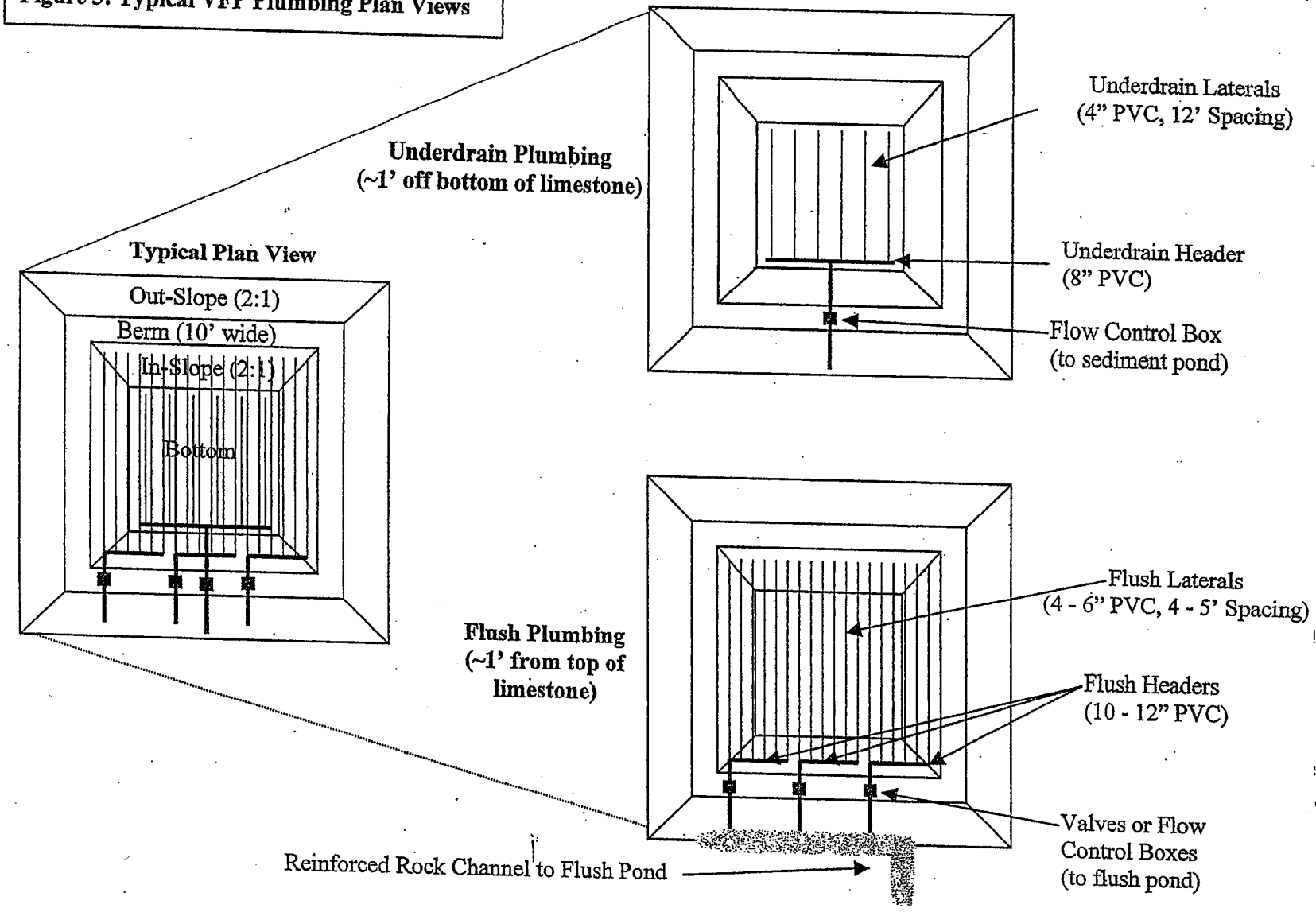


Figure 4: Flush Pond Outlet Structure

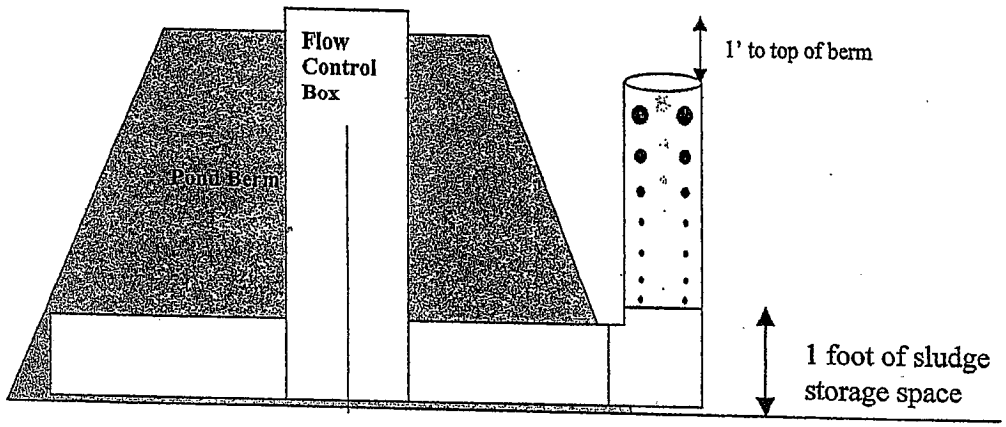
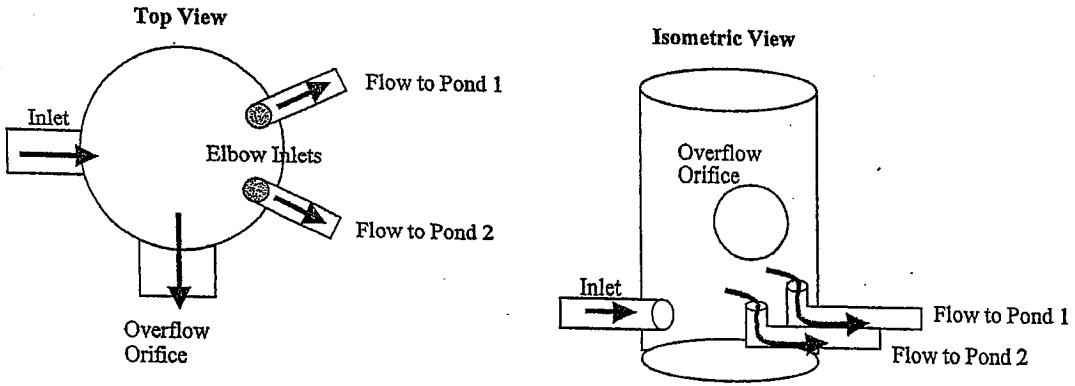


Figure 5: Flow Splitter / Diversion Box



Appendix I: Flush System Design Explanation

The flushing systems were designed using the engineering methods outlined by Lagnese (2001). The Lagnese study was conducted as part of an overview of VFP flushing procedures that occurred in 2002 with funding provided by a DEP Growing Greener grant to the Babb Creek Watershed Association. A workshop occurred where flushing practices were discussed. Kathy Lagnese, a civil engineer with experience in waste water treatment, was tasked with collating the workshop information and analyzing flushing procedures from an engineering and physical perspective. Lagnese calculated the velocities achieved by most flush system designs and concluded that they were insufficient to mobilize solids more than several inches from the flush pipes. Lagnese noted that flushing velocities were often limited by undersized pipes and valves. Lagnese recommended that flush systems should be designed with the pipes located near the zone of solids accumulation and that a quadrant approach that paid careful attention to pipe and valve size be implemented.

The method developed from the Lagnese study, called the "Orifice Controlled Method," involves sizing the flushing pipes and headers based on the capacity of the perforations in the pipes, which are evenly spaced. This results in an "orifice controlled" flow regime, meaning that flow through all of the orifices should be the same and that the combined flow of the orifices will be fully carried by the laterals and header pipes. If the laterals or headers are too small, the flow regime would be pipe controlled, not orifice controlled.

In this method, it is beneficial to design multiple flushing "zones." This approach allows less surface area (and therefore, fewer orifices) to drain to each header, thus controlling the size of the header pipe. Therefore, using this design method requires a balance between the header size (which increases as the number of zones decrease) and the complexity of maintenance and flushing (which increases as the number of zones increase).

Under this design method, a value of the velocity of the flush water is selected based on engineering experience. For these systems, the velocity is selected as at least 0.0005 feet per second. While this number is somewhat arbitrary, it should be made as large as practicable in order to remove aluminum particles from the VFP.

Once this value is set, the dimensions of the pond are used to design the optimal system. As the length of the flush laterals increase, the number of perforations in the lateral also increases. Therefore, the size of the lateral must also increase to carry the water from these additional orifices. Additionally, as the size of each flush zone increases, the number of laterals feeding each flush header also increases and the size of the header must increase to carry the additional water from the laterals. Therefore, the "best" design is one that manages the sizes of the flush laterals and flush headers while also keeping the number of flush zones as low as possible.