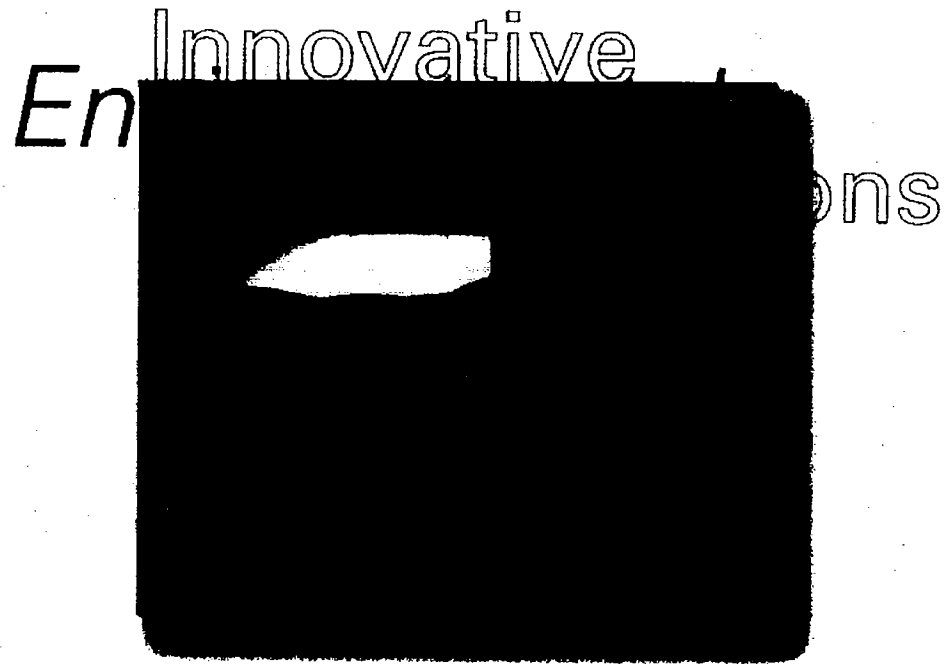
Appendix 8

Cleveland Mill Site Operation and Maintenance Plan (February 24, 2000); Removal Action Sampling and Analysis Plan (August 27, 1997); April 4, 2000 Letter from EPA to Mining Remedial Recovery Company; January 3, 2003 letter from EPA to Geochemical Soloutions



Cleveland Mill Site
Operation and Maintenance Plan

Bayard Mining Corporation
Mining Remedial Recovery Company
Viacom International, Inc.

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CLEVELAND MILL SITE
OPERATION AND MAINTENANCE PLAN

Prepared for:

Bayard Mining Corporation
Mining Remedial Recovery Company
Viacom International Inc.

February 24, 2000

Project #: 3111D

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1. INTRODUCTION

The Cleveland Mill Operation and Maintenance Plan (O&MP) describes operational and maintenance activities required pursuant to the Consent Decree for the Cleveland Mill site. The O&MP describes activities to be performed after completing the Cleveland Mill Removal Action. In summary, the Cleveland Mill Removal Action consisted of excavating tailings and mining-related material at several locations and placing the material in an onsite disposal cell. After the removal activities were completed, the onsite disposal cell was covered and the excavated areas at the Cleveland Mill site were reclaimed and revegetated per the Revised Reclamation and Revegetation Plan (RRRP), September 30, 1998.

The O&MP incorporates the September 30, 1998 RRRP. The purposes of the reclamation and revegetation activities are as follows:

- to stabilize reclaimed surface areas against water and wind erosion;
- to provide a medium for vegetative growth to enhance surface stabilization on applicable surfaces;
- to protect the on-site disposal cell cover from erosion and recreational use;
- to minimize infiltration into the on-site disposal cell; and
- where applicable, to reestablish reclamation surfaces that approximate pre-mining contours.

1.1 Scope of Work

The O&MP describes activities to be performed following completion of the response activities at the Cleveland Mill site. In summary, the O&MP describes activities for the sediment control structures and the reclaimed and revegetated surfaces. Sediment control structures were built to prevent transport of material from the site. As a result, the sediment control structures will require maintenance for a short time after completing the Removal Action and are part of the O&MP. The O&MP also describes the operation and maintenance associated with the RRRP.

For each of the tasks, the O&MP describes:

- normal operation and maintenance;
- potential operating problems;
- alternate operation and maintenance; and
- records and reporting mechanisms.

1.2 Objectives

The objectives of the O&MP for the Cleveland Mill site are to ensure that:

- routine operation and maintenance activities are performed; and

- any potential problems are overcome.

2. OPERATION & MAINTENANCE

2.1 Sediment Retention Structures

Four sediment retention structures remain in Little Walnut Creek and one sediment retention structure is located at the base of the former mine area (Figure 1). The four sediment retention structures in Little Walnut Creek (one at the base of the mill area, one below the gypsum spring, one at the access road crossing Little Walnut Creek and one upgradient of Harris Gray's road) and the sediment retention structure downgradient of the mine area will be maintained until the reclaimed surfaces no longer produce significant erosional material. The sediment retention structures will be inspected using the attached Inspection Log (Figure 2) and as described below.

2.1.1 Operation - Inspection Program

The sediment retention structures will be inspected and maintained to minimize the addition of sediment to the Little Walnut Creek channel. The five sediment retention structures will be inspected on a monthly basis and after large storm events (greater than one inch of precipitation). If several large storm events occur within a one week period, the sediment retention structures will be inspected at a maximum of once per week. The inspection program includes checking the available sediment pool to ensure that one foot of clearance remains below the top of each retention structure to provide a low velocity pool area for settling of sediment during large magnitude flow events, and that each structure has integrity. Inspection results will be reported in quarterly progress reports. Upon EPA and NMED approval that the sediment retention structures are no longer needed, the sediment basin will be allowed to fill and will no longer be maintained.

2.1.2 Maintenance of Sediment Control Structures

If and when the sediment retention structures contain sediment less than one foot from the top of the structure, the sediment will be sampled to verify that metals concentrations are below the soil cleanup levels. The participating companies will provide EPA with two weeks advance notice of the sampling. If the sediment does not meet remediation goals, the participating companies and EPA will consult regarding appropriate disposal. However, if sediment meets remediation goals, the sediment will be spread on the top of the cell and revegetated in place as needed for plant growth within a growing season.

In addition, the integrity of the retention structure will be maintained by adding rock as necessary to assure that flow over the structure is evenly distributed across the channel width.

After EPA and NMED approval, removal of a sediment control structure may occur after sediment has been removed from the basin behind the structure. Structures will be left in place if desired by the property owner; otherwise they will be removed. The rock fill material used to create the retention structure will be either hauled away for use as erosion control on appropriate areas of the site or redistributed in the stream channel to provide erosion protection in the vicinity of the basin location. The rock will be removed to the

extent that it no longer obstructs stream flow more than approximately two feet above the stream channel downstream from the structure.

2.2 Reclaimed and Revegetated Surfaces

Disturbed surfaces at the Cleveland Mill site were reclaimed per the RRRP, which consisted of:

- constructing terrace structures,
- grading the slope surfaces, and
- revegetating.

2.2.1 Operation - Inspection Program

Reclamation of the material removal areas, the disposal cell area and road construction areas was completed in November 1998. These areas will be inspected monthly and following significant runoff events (greater than one inch of precipitation) to insure that the reclamation minimizes the addition of erosional material to Little Walnut Creek. To inspect these areas, the Inspection Log, provided as Figure 2 will be used.

The inspection program includes checking erosion and vegetation in the mill area, on the disposal cell, along Little Walnut Creek, below the former mine area and along roads. The Inspection Log (Figure 2) will be completed with every inspection. The inspection areas, terrace numbers and drainage names at the former mill area are illustrated in Figure 3. Inspection results will be reported in the quarterly progress reports.

2.2.2 Erosion Control

The watershed erosion control program will assure the efficiency and effectiveness of the reclamation and revegetation activities on minimizing eroded material flowing to the stream channel.

3. NORMAL OPERATION AND MAINTENANCE

3.1 Operation Tasks

3.1.1 Task 1 - Inspection

The following components of the Cleveland Mill site will be inspected monthly:

- sediment retention structures, and
- reclaimed and revegetated areas.

The Project Manager (PM) or other qualified personnel will be responsible for inspecting the sediment control structures on a monthly basis and after large storm events (greater than one inch) to verify the integrity of the structures and to determine the remaining sediment capacity. If the sediment control

structures are filled with sediment, the sediment will be tested and if necessary, removed as discussed in Section 2.1.2 above.

A monthly visual inspection will be made of the reclaimed and revegetated areas. The frequency and scope of the inspections will be reviewed by EPA and NMED annually to determine whether a reduction in frequency and/or scope is appropriate based on the inspection results.

Inspections will consist of evaluating the reclamation surface and the vegetation. The reclamation surface will be inspected for erosion, integrity, plant cover, growth and soil/rock quality. Reclamation surfaces will also be inspected for excessive vehicular traffic. Vegetation will be qualitatively evaluated to determine if growth has developed or if reseeding is necessary. Areas of insufficient vegetation will be identified as those areas where vegetation is not inhibiting erosion. Each area is described below with appropriate inspection measurements. The proposed maintenance actions are described in Section 3.2.

- **Sediment Retention Structures.** Inspect capacity of sediment retention structures for the following:
    a) sediment: the amount of sediment in the structure (i.e. note if the sediment is less than one foot from the top of the sediment retention structure);
    b) integrity: note if the sediment retention structure is intact.
- **Former Mill Area.** Inspect the following:
    a) reclamation surface: note the presence or absence of erosion areas greater than two feet deep which do not have exposed bedrock; and
    b) vegetation: note all non-bedrock areas without and determine if the total vegetated area is greater than 90% of the total non-bedrock area.
- **Former Mine Area.** Inspect the following:
    a) reclamation surface: note the presence or absence of erosion areas greater than two feet deep which do not have exposed bedrock; and
    b) vegetation: note all non-bedrock areas without and determine if the total vegetated area is greater than 90% of the total non-bedrock area.
- **Former Haul Roads** Inspect the following:
    a) reclamation surface: note the presence or absence of erosion areas greater than two feet deep which do not have exposed bedrock; and
    b) vegetation: note areas without vegetation if the area does not have exposed bedrock and the area is greater than 50 linear feet.
- **Disposal Cell.** Inspect the following:

a) reclamation surface: note the presence or absence of erosion areas greater than two feet deep;

b) vegetation: note quality of vegetative cover, in particular note any areas for which the vegetation cover is adequate to provide protection from significant sheet erosion during rain events and determine if this area is greater than 95% of the total area;

c) animal burrows: note the presence or absence of animal burrows; and

d) vehicular traffic: note if evidence of new vehicular traffic is present, and if vehicular traffic has caused erosion or damaged vegetation.

3.1.2 Task 2 - Reporting

Inspection logs will be completed on a monthly basis and submitted to EPA and NMED as part of the quarterly progress reports.

3.2 Maintenance Tasks

The maintenance tasks associated with the Cleveland Mill site are as follows:

- sediment control structures;
- reclaimed and revegetated areas; and
- cap maintenance.

3.2.1 Task 1 - Sediment Control Structures

Upon inspection, if a sediment retention structure has less than one foot of clearance, maintenance of the sediment retention structure will be performed. If the sediment control structure is filled with sediment, the sediment will be tested and, if necessary, excavated as described in Section 2.1.2. Any weakness in the integrity of the structure will be fortified.

3.2.2 Task 2 - Reclamation and Revegetation

The reclamation surface of the former mill area, former mine area and the former haul roads will be inspected for integrity, plant cover, growth and soil/rock quality. If erosion creates a gully greater than two feet deep and the gully does not expose bedrock, water bars will be installed or the area will be lined with nominal six inch rock as needed. Vegetation will be evaluated to determine if growth has developed or if reseeding is necessary by determining the size of the area without vegetation. Each remediation area has a different potential for establishing vegetative growth, thus each area will be maintained by reseeding based on that areas criteria listed below:

- **Former Mill Area.** If vegetation has not developed on greater than 90% of the former mill area which does not have exposed bedrock, the affected area(s) will be reseeded and/or nutrient analyses will be performed.

- **Former Mine Area.** If vegetation has not developed on greater than 90% of the former mine area which does not have exposed bedrock, the affected area(s) will be reseeded and/or nutrient analyses will be performed.
- **Former Haul Road Area.** If vegetation has not developed over a 50 lineal feet of the sides of the former haul roads which do not have exposed bedrock, the affected area will be reseeded and/or nutrient analyses will be performed.

3.2.3 Task 3 - Cap Maintenance

The cap will be inspected to insure that the integrity of the cap is maintained. In the event that the cap has an area with erosion greater than two feet deep, the affected area will be lined with nominal six inch rock to prevent further erosion. If vegetation on the cell has not developed in an area greater than 5% of the total cap area, then the affected area will be reseeded and/or nutrient analyses will be performed.

It is not expected that animal burrows will be encountered at the Cleveland Mill site. However, if animal burrows are present on the disposal cell, the participating companies and EPA will jointly determine an appropriate response action.

If vehicular traffic has exacerbated erosion or damaged vegetation, EPA will be notified and additional security measures may be performed.

3.3 Task Schedule

The frequency of each task necessary for normal operation and maintenance is listed in Table 1.

Table 1. Task Schedule

Task	Schedule
Operation Task 1: Inspection Logs	Once a month and after large storm events (greater than one inch) but at a maximum of once per week.
Operation Task 2: Reporting	Quarterly
Maintenance Task 1: Sediment Control Structures	As needed, when sediment is less than one foot from the top of the sediment retention structure.
Maintenance Task 2: Reclamation and Revegetation	As needed, if vegetation has not developed greater than 90% of the total area in the former mill area and the former mine area or 50 linear feet along former haul roads.
Maintenance Task 3: Cap Maintenance	As needed, if an erosion area develops which is greater than two feet deep; if vegetation has not developed greater than 95% of the total area; if animal burrows are observed; and/or if vehicular traffic is excessive.

4. POTENTIAL OPERATING PROBLEMS

4.1 Erosion and/or Damage

Portions of the sediment control structures could become damaged with use or because of significant precipitation. If a sediment control structure deteriorates either by erosion during a storm or for whatever reason, the sediment control structure will be repaired within ten working days. The sediment control structures will be inspected by the PM or other qualified personnel to determine if repair is necessary. During normal operations, if the sediment control structures have a remaining capacity less than one foot, the sediment will be removed.

Portions of the reclamation surfaces could become damaged due to significant precipitation. If the reclamation surfaces deteriorate such that a gully develops that is more than two feet deep and the gully does not expose bedrock, rock will be used to line the gully. Water bars may be installed to prevent future erosion.

4.2 Growth

For several reasons, the vegetation may not grow initially in all excavated areas. If vegetation does not grow, nutrient analyses may be performed on the soil, and the analyses will be evaluated to determine why vegetation is not established. On the disposal cell, if vegetation does not grow in an area 5% of the total cell area, that area will be reseeded and/or nutrient analyses will be performed. For the former mill area and former mine area, if vegetation does not grow in an area greater than 10% of those areas, that area will be reseeded and/or nutrient analyses will be performed. For the former haul roads, if vegetation does not grow along the road sides for a length greater than 50 linear feet, that area will be reseeded and/or nutrient analyses will be performed.

Vegetation may be reestablished in the excavated areas by reapplying cover soil, reseeding and/or fertilizing, as necessary.

4.3 Vehicular Traffic

Excessive vehicular traffic on the disposal cell area may increase erosion of the reclamation cap and inhibit vegetative growth. If vehicular traffic is excessive such that erosion is exacerbated or vegetation is damaged, the site gate will be checked and maintained and other site security options will be explored.

5. ROUTINE MONITORING

Routine monitoring consists of:

- Sediment Control Structures. The sediment control structures will be visually inspected to verify the structures' integrity and to determine if the sediment behind the structures needs to be excavated.

- Reclamation and Revegetation Areas. A visual site check will be performed to ensure that the reclaimed and revegetated areas are not eroding and that the vegetation is growing. If bare spots exist, the area will be evaluated as described in Section 4.2.
- Cap Maintenance. A visual site check will be performed to ensure that the disposal cell cap is not eroding and that the vegetation is growing. If bare spots exist, the area will be evaluated as described in Section 4.2.

6. ALTERNATE OPERATION AND MAINTENANCE

There is no alternate O&MP for the Cleveland Mill site. The Removal Action consisted of excavating material from the Cleveland Mill site for placement in the onsite disposal cell. The O&MP at the Cleveland Mill site consists of maintaining sediment control structures and reclaimed and revegetated surfaces.

7. SAFETY PLAN

The safety plan for the Cleveland Mill site will continue as described in the Removal Action Health and Safety Plan (HSP), presented as Appendix A of the Removal Action Work Plan. In summary, the HSP consists of the following:

- application of the HSP to subcontractors;
- work assignments;
- hazards evaluation;
- workspace monitoring;
- personal protective equipment;
- site control;
- decontamination;
- hazard communications;
- emergency procedures;
- training;
- medical monitoring; and
- record keeping.

8. RECORDS AND REPORTING MECHANISMS

8.1 Inspection Logs

Monthly inspection logs of the operation and maintenance performed at the Cleveland Mill site will be prepared by the participating companies or Adrian Brown Consultants, Inc. as approved by EPA and NMED. Inspection logs will be submitted to EPA and NMED with the quarterly progress report. Copies of all inspection logs will be kept on file at the offices of Adrian Brown Consultants, Inc. All records will be available for inspection on request.

8.2 Reporting Emergencies

Emergencies will be reported to EPA within 24 hours of discovery as described in the Removal Action Work Plan, Appendix B, Removal Action Emergency Response/Contingency Plan. In summary, any emergencies will be recorded by the PM or other qualified personnel, reported to EPA and kept on file at the offices of Adrian Brown Consultants, Inc.