

# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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December 10, 2008

TO: Internal File Task ID # 3035

THRU: James D. Smith, Permit Supervisor *DS 12/29/08*  
Daron R. Haddock, Coal Program Manager *DRH*

FROM: Peter Hess, Environmental Scientist III, Engineering / Reclamation Bond *PH by sas*

RE: Phase I Bond Release, Hiawatha Coal Company, Hiawatha Mine Complex, C/007/011, Task ID # 3035

### SUMMARY:

The Permittee submitted a Phase I bond release application on August 25, 2008 for the areas known as Pond 5, slurry pond #4 / refuse pile #2, borrow area "F", a portion of borrow area "A", a reclaimed portion of the wash plant area, and seven smaller areas which are designated as affected by the mining operations. These are designated as RA-1's on EXHIBIT II-4A.

In order to evaluate this application, the Division has added additional designation to the seven areas, (i.e., RA-1A through RA-1G).

Most, if not all of the reclamation which has been accomplished at this site was done by U. S. Fuel Company during the 1990's.

The Permittee has applied for a Phase 1 bond release amount of \$ 1, 043,000.00. This tech memo will analyze the submitted information and determine an amount to be released by the Division as a result of the accomplished reclamation work.

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## RECLAMATION PLAN

### Determination of Bond Amount

#### Analysis:

The Phase I bond release application contains seven affected areas which contain mostly undisturbed native vegetation. Each will be discussed here.

RA-1A comprises 2.1 acres of native vegetation, which appears to be in very good condition. RA-1A is adjacent to the junction of State Highway 122 with the Mohrland road ( Carbon County road # 338), but it can also be located as being the west corner of slurry pond #5. It is felt that ripping and seeding of this area would negatively affect this area, and no further reclamation work is felt to be necessary here.

An average cost / acre for backfilling and grading / Phase I was determined by dividing a total cost for backfilling and grading for Phase 1 from the September 2008 bond revision (\$ 404,633.00) by the total number of disturbed acres (290 acres). This equates to \$ 1,395.3 per acre for backfilling and grading. Since no ripping and re-seeding is felt necessary here, an amount to be released for the Phase I application for the area can be determined:

(2.1 acres) (\$ 1,395 / acre) = \$2, 930. \$2,930.00

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RA-1B is 1.83 acres in size and is the shape of a wedge, existing between the end of highway 122 and the Utah railway tracks. The point of the wedge is at the Hiawatha Town rail crossing. About fifty percent of the surface area of RA-1B has received heavy encroachment by coal material being pushed over by various operators. The remaining 50 % of the surface area contains native vegetation that is well developed. The Division does not believe any bond moneys should be released here until the Permittee removes as much coal material as possible, in cooperation with the Utah Railway.

Therefore, \$ 0 are to be released. \$ 0.00

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RA-1C consists of 4.96 acres which lies north of State Highway 122, east of slurry pond #4 / refuse pile #2, yet west of borrow area "F", (RA-6). This area has been roughened and revegetated. Minor amounts of coal waste can be seen about the surface, but these appear to have had little or no affect on revegetation of the area. This area is in

ts final surface configuration and no further work is anticipated here, The amount of Phase I backfilling and grading moneys to be released is determined at

$$(4.96 \text{ acres})( \$1395.3 \text{ Backfill / grade / acre } ) = \$ 6,921.00 \qquad \$ 6,921.00$$

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RA-1D is 3.17 acres of undisturbed outslope north of sediment pond 004, which lies immediately north of slurry pond 001 where coal fines recovery is currently happening. Adjacent to and north of RA-1D is depicted "potential" / proposed borrow area "E" (6.5 acres).

The Permittee has stated that the borrow area "E" soil volume will not be utilized for reclamation needs, as adequate volumes exist elsewhere in the permit area. These volumes are also permitted.

The Division is nervous about releasing the RA-1D area as part of the Phase I application for three reasons;

- 1) the recovery of fines from slurry pond #1 causes the length, width and depth dimensions to continue to lengthen. The Permittee does not know what the final dimensions of this pit will be when reclamation is initiated.
- 2) The Permittee has only reclaimed 101.5 acres of the 290 acres of total mine disturbance (35%).
- 3) Although the Permittee has stated that alternative borrow area "E" will not be utilized, this volume is the closest haul and push distance to the RA-10 reclamation area (slurry pond #1). It seems likely that the "E" volume would be a more economic way to topsoil the reclaimed slurry cell 001 area than to have to load, haul, and dump soil volumes from more distant areas.

Because the potential exists that disturbance of RA-1D could occur during the backfilling and grading of slurry pond 001 or the recovery of topsoil from borrow area "E", the Division will not consider the 3.17 acres associated with RA-1D affected area for Phase I bond release at this time.

Therefore the amount of dollars to be considered for Phase I release for RA-1D is zero at this time.

The amount of backfill and grading dollars and revegetation for Phase I is zero. No backfilling has occurred; the area RA-1D is undisturbed native vegetation. No revegetation has been performed in this area to date.

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RA-1E consists of 6.24 acres of undisturbed native vegetation, exposed middle fork road cut slope, and a small area (300 foot length) NE of the upper rail yard access road off-chute. RA-1E encompasses the Middle Fork topsoil pile (354 cubic yards). The stored topsoil volumes in South and Middle Forks fall way short of having adequate volume to reclaim those areas.

Much of RA-1E contains undisturbed vegetation. Part of RA-1E is an exposed cut bank through which the Middle Fork road was developed to an acceptable grade. Minor amounts of coal are present where the native vegetation has survived. It is unlikely that further reclamation activities will occur where the vegetation has survived or the road cut was made.

RA-1E is part of the Phase I bond release application. The Division believes this 6.24 acre area should be released as further reclamation work is not anticipated.

$$(6.24 \text{ acres}) (\$ 1,395.3 \text{ Backfill / Grade}) = \$ 8,707.00 \qquad \$ 8,707.00$$

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RA-1F consists of 0.98 acres which is undisturbed; the area is located in the "V" of the Middle Fork and South Fork road junction. Minor amounts of carbonaceous material are present, however, the native vegetation does not appear to having been affected. No grading or backfilling has occurred in this area. No further reclamation is seen as being necessary here.

The Division believes this area should be released for Phase I.

$$(0.98 \text{ acres}) (\$ 1,395.3 / \text{backfill acre}) = \$ 1,367.40 \qquad \$ 1,367.40$$

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RA-1G encompasses 0.55 acres. It is located at the southern tip of the slurry pond #5 reclaimed area, adjacent to the Mohrland road (Carbon County road # 338). The established vegetation is native and undisturbed. Some coal and waste material is visible on the surface of the acreage, but the affect of that material on the vegetation is negligible at best. This area should be released in this Phase I bond release application as no further reclamation activity is anticipated.

The amount to be released relative to backfilling and grading is calculated as follows:

$$(0.55 \text{ acres}) (\$ 1,395.3 / \text{acre BF \& G}) = \$ 767.42 \qquad \$ 767.42$$

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RA-4 (5.28 acres) is 30 % of Borrow Area "A" which is located south of State Highway 122 on the east end of the permit boundary. Additional soil recovery from the area will not occur; the area has been revegetated. No further backfilling or grading activities will occur. The area should be released as part of this Phase I bond release application.

The dollar amount, which should be released, equates to:

$$(5.28 \text{ acres}) (\$ 1,395.3 \text{ BF \& G } \$/\text{acre}) = \$7,367.20 \qquad \$7,367.20$$

Slurry Pond #5 (RA-2) is the largest area reclaimed to date within the Hiawatha Mine complex, constituting 40.39 acres. The pond 5A area encompasses 15.51 acres and is not being considered as part of this Phase I bond release application. The associated acreage has been backfilled with coal mine waste, graded to have 3H:1V outslopes, topsoiled, roughened and re-vegetated.

The amount of Phase I dollars to be released for this reclamation area is calculated as thus:

$$(40.39 \text{ acres}) (\$ 1,395.3 \text{ BF \& G } / \text{ acre}) = \$ 56,356.00 \qquad \$ 56,356.00$$

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Slurry pond #4 / refuse pile #2 (RA-5) encompasses 26.37 acres. This area has also been backfilled with coal waste and graded to 3H : 1V outslopes, and then topsoiled. Surface roughening and revegetation have also occurred. The Permittee has applied for Phase I bond release of this area.

RA-5 should receive a Phase I release for backfilling and grading.

$$(26.37 \text{ acres}) (\$ 1,395.3) = \$ 36,794.00 \qquad \$ 36,794.00$$

Revegetation for Phase I has been completed for RA-5. Therefore, an amount of (26.37 acres) (\$ 1,651 / acre) = \$ 43,537.00 will be released.

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The preparation plant area (RA-7) received demolition, backfilling, and grading activities on 5.51 acres.

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Demolition costs are listed at \$ 122,196.00. Since this is a Phase I application an amount of \$ 122,196.00 X (0.60) = \$73, 317 will be allowed for the demolition cost (Phase I).

A backfilling and grading cost of (5.51 acres) (\$ 1,395.3 / acre) = \$7,688.00 will be released.

A revegetation cost of 5.51 acres (\$ 1,651.00 / acre) = \$ 9,038.00 will be released.

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Topsoil borrow area "F" comprises 9.12 acres. In accordance with the requirements of the mining and reclamation plan, (See page 5-109.) this area was graded, ripped, disked, roughened, roughened, seeded, raked, fertilized and mulched by U.S. Fuel Company prior to the purchase of the Complex by Hiawatha Coal Company. This area received a Phase 1 bond release inspection on October 8, 2008. 9.12 acres are associated with reclamation area RA-6.

The Division believes that this area should receive a Phase I bond release for backfilling and grading and Phase I revegetation. No demolition costs are considered for this area. Therefore

- 1) (9.12 acres) (\$1,395.3 BF&G / acre) = \$ 12,725.14 to be released for backfilling and grading.
  - 2) (9.12 acres) (\$ 1,651 REVEGPH1) = \$ 15, 057.12 to be released for revegetation.
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A subtotal of the direct costs for the twelve listed reclamation areas is as follows:

Backfilling and Grading.....	\$ 141,622.69
Demolition Cost.....	\$ 73,317.60
Revegetation	\$ 154,689.34
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Subtotal Direct Costs.....	\$ 369,629.63

Indirect costs have been calculated as follows:

- 1) Mob / Demob = 10 % (369,629.23) = ..... \$ 36,963.00
- 2) Contingency = 5% (\$ 369,963.00) = ..... \$ 18,481.00
- 3) Engineering / Redesign = 2.5 % (\$369,629.23) = \$ 9,241.00
- 4) Main Office Expense = 6.8% (\$369,629.23) = \$ 25,135.00
- 5) Project Management Fee = 2.5% (\$369,629.23) = \$ 9,241.00

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Subtotal Indirect Costs.....\$ 99,061.00

Total Cost .....\$ 468,691 for Phase I Release

Phase I Escalated = \$ 468,691.00 (1.032) = .....\$ 483,689.00

Rounded to Nearest \$1,000 = .....\$ 484,000.00

**Findings:**

The analysis of the Phase I bond release application and the inspection of this site have determined that the Permittee needs to perform additional work in certain areas to receive Phase I for those areas. Other areas are considered as having the Phase I requirements completed. The Division believes an amount of

**\$ 484,000.00**

should be released as part of this application for Phase I, Task ID # 3035.