New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2999
Phone: (716) 851-7220 • **FAX:** (716) 851-7226
Website: www.dec.state.ny.us

Denise M. Sheehan
Commissioner

September 21, 2006

Mr. Patrick T. Martin, P.E., D.E.E.
Turnkey Environmental Restoration LLC
726 Exchange Street
Suite 624
Buffalo, New York 14210

Dear Mr. Martin:

BUD # 555-9-15 and # 050-9-15 for use by Tecumseh Redevelopment, Inc.

I'm writing in response to your September 7, 2006 letter on behalf of your client Tecumseh Redevelopment, Inc. (Tecumseh). It is our understanding that Tecumseh would like to use two previously approved Beneficial Use Determinations (BUDs) for the former Bethlehem Steel property in Lackawanna, New York.

BUD # 555-9-15 was previously issued to Bethlehem Steel Corporation for the reclamation and reuse of steel/blast furnace slag as asphaltic concrete aggregate, railroad ballast, road base, anti-skid material , and portland cement amendment. BUD# 050-9-15 was previously issued to Buffalo Crushed Stone for the reuse of blast furnace slag as road base, sub-base, and chip and seal aggregate.

Tecumseh may use the above mentioned material for the uses outlined in both of these formerly approved BUDs. We have decided to keep the BUD numbers the same and add Tecumseh as an additional user of this material in the approved manners. The conditions outlined in the original BUD approvals must be adhered to.

Should you have any questions please contact Ms. Efrat Forget of my staff at 851-7220.

Sincerely,

Mr. Mark J. Hans, P.E.
Regional Solid Materials Engineer

ESF:mh
forget\martin-a2.ltr

cc: Mr. Tom Lynch, P.E., NYSDEC, Albany (Code 7253)

Site / Mtt
MTH

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John P. Cahill
Commissioner

BUD # 555-9-15
New File

July 2, 1998

Post-it® Fax Note 7671	Date 8/24	# of pages ▶ 5
To Tom Forbes	From Efrat Forget	
Co./Dept. Benchmark	Co. NYS DEC	
Phone #	Phone #	
Fax #	Fax #	

Ms. Ana Maria Caram
Senior Environmental Engineer
Bethlehem Steel Corporation
Bethlehem, PA 18016-7699

Dear Ms. Caram:

Beneficial Use Determination #555-9-15

The Division of Solid & Hazardous Materials has reviewed the Beneficial Use Determination (BUD) petition by the Bethlehem Steel Corporation (BSC), dated March 31, 1998. BSC has petitioned the Department to determine that the following uses of steel making slag (steel slag) located at their Lackawanna, New York facility, constitute beneficial uses of this material: fill, asphaltic concrete aggregate, railroad ballast, road base, chip and seal aggregates, anti-skid material, acid mine drainage treatment material, and portland cement amendment.

As identified in the BUD petition, the Lackawanna facility was involved in the production of steel since the early part of this century. BSC produced steel making slag in open hearth furnaces and later in basic oxygen furnaces. The molten steel was separated from the slag, and the slag was allowed to cool into rock-like material. Following the cooling, the slag was crushed and screened through magnetic separators to reclaim the entrained steel from the slag. The slag was either sold for off-site construction and fill material, or stockpiled onsite. The Lackawanna facility ceased its active steel making operations in 1983. BSC stockpiled their slag within the Slag Fill Area, consisting of five different stockpile areas identified as Zones 1 through 5.

BSC is in the process of reclaiming / redeveloping the Slag Fill Area at its Lackawanna facility, with the intention of making it suitable for future commercial and/or industrial development. BSC is planning to reclaim approximately 4.5 million tons of steel slag stockpiled in the northwestern portion of this facility. The steel making slag, which is the subject of this BUD petition, is located in Zones 3 and 5. Zone 3 contains approximately 2.0 million tons of slag, while Zone 5 contains approximately 2.5 million tons. BSC's objectives for the reclamation / redevelopment program is to perform onsite reclamation activities, offsite reuse of recovered materials, and onsite re-grading.

With regard to the use of slag as fill, more information is needed regarding the specific fill applications. In certain fill applications the presence of heavy metals (chromium, cadmium, selenium, etc.) may cause contravention of groundwater standards or impact the terrestrial environment. Without more specific information, the unlimited, widespread use of the slag as fill can be considered landfilling or disposal, an activity that is regulated under Part 360, Subpart 2. BSC should re-evaluate the petition to limit fill to more specific applications such as structural fill, etc.

At present, we do not have enough information regarding the proposed uses of slag in chip and seal aggregates and as acid mine drainage treatment material. Please provide us with more information specific to these two uses in order for us to determine whether they constitute beneficial uses, and what the potential environmental impacts may be.

Based on our review of the petition, and pending the receipt of additional information documenting the marketing and final destination of slag materials, the following proposed uses of reclaimed steel slag from the BSC Lackawanna facility have been determined to qualify as beneficial uses, and, therefore, are exempt from solid waste regulations: **asphaltic concrete aggregate, railroad ballast, road base, anti-skid material, and portland cement amendment.** The following conditions shall apply:

1. This determination only applies as long as the reclaimed steel slag does not significantly deviate in physical and/or chemical characteristics from that described in the petition. The Department must be immediately notified, in writing, of any changes in the quality of the reclaimed steel slag. The reclaimed steel slag shall be sampled and analyzed as per the attached Steel Slag Sampling and Analysis Plan. The analytical data shall be reported to the Department no later than 60 days following completion of each sampling as described in the plan.

2. Any material that fails to meet the characteristics of the steel slag described in this petition should be properly managed as a solid waste per 6 NYCRR Part 360 regulations.

3. The petitioner shall be responsible for ensuring that the quality of the finished product is consistent with the data submitted with the petition, and is adequate for the intended use. Where appropriate, the material must comply with the applicable specifications of the agency / entity (such as the New York State Department of Transportation) having jurisdiction over the use.

4. An annual report must be submitted to:

NYSDEC
270 Michigan Avenue
Buffalo, New York 14203-2999
Attn: Regional Solid Materials Engineer

NYSDEC
Bureau of Waste Reduction & Recycling
Division of Solid & Hazardous Materials
50 Wolf Road
Albany, New York 12233

no later than 60 days following the last day of the year for which the data is being reported. This report shall include the consolidated (tabulated) analytical data per condition 1 above, and the quantity of reclaimed steel slag which are utilized in this manner during the reporting year.

5. The Department reserves the right to modify, suspend, or revoke this determination at any time, should conditions warrant such action. Additionally, this determination does not exempt the operation from any other local, State, or Federal requirements.

Upon receipt of the appropriate additional information on the use of slag as fill, in chip and seal aggregates, and as acid mine drainage treatment materials, the Department may modify this beneficial use determination to also include these uses.

If you have any questions, please do not hesitate to contact our office at 716/851-7220.

Sincerely,

Mark J. Hans, P.E.
Regional Solid Materials Engineer

MJH/lj

Enclosure

cc: Mr. Jeff Schmitt, NYSDEC/Albany

(a:caram.mjh)

New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials
Bethlehem Steel Corporation - Lackawanna, NY
Beneficial Use Determination
Steel Slag Sampling and Analysis Plan

1. In order to ensure a consistent quality of the processed steel slag, one composite sample shall be analyzed for each 10,000 tons of processed steel slag generated for the first 100,000 tons of slag processed. Thereafter, one composite sample shall be analyzed for each 200,000 tons of slag.

2. For the initial sampling, each sample will be a composite of at least five grab samples at 2,000-ton intervals. Each grab shall consist of random aliquots taken from the lower, middle, and upper sections of the working face of an excavation area or from the stockpile. The grab samples will be homogenized by mixing equal volumes of each grab into the test sample container.

3. The samples shall be analyzed by a NYSDOH-approved (ELAP certified) analytical laboratory.

4. Each composite sample shall be analyzed for target compound list (TCL) metals (total and SPLP extraction). The analytical data shall identify the sample collector's name, date and location sample was collected, description of sample, and sample identification number.

5. Upon successful completion of Initial Sampling (first 100,000 tons of slag processed), the sampling frequency may be reduced to one composite sample per 200,000 tons of slag. Each sample will be a composite of at least five grab samples at 40,000-ton intervals. Each grab shall consist of random aliquots taken from the lower, middle, and upper sections of the working face of an excavation area or from the stockpile. The grab samples will be homogenized by mixing equal volumes of each grab into the test sample container.

6. Additional contingency sampling and analysis may be required if analytical data shows significantly different concentrations than the Initial Sampling. For Contingency Sampling, one composite sample shall be analyzed for each 10,000 tons of excavated slag. Each sample will be a composite of at least five grab samples at 2,000-ton intervals. Each grab shall consist of random aliquots taken from the lower, middle, and upper sections of the working face of an excavation area or from the stockpile. The grab samples will be homogenized by mixing equal volumes of each grab into the test sample container. This sampling shall continue until the quality of the recovered steel slag consistently meets the quality requirements of this BUD.

7. The data shall be tabulated and reported to the Department quarterly. The data package shall include copies of the lab reports as supporting documentation.

New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials
Bethlehem Steel Corporation - Lackawanna, NY
Beneficial Use Determination
Steel Slag Sampling and Analysis Plan

Sampling	*Sample Quantity and Frequency*	*Testing Methods*
Initial Sampling: First 100,000 tons	1 composite/10,000 tons of slag processed	TCL Metals (Total & SPLP)
Subsequent Sampling: After first 100,000 tons	1 composite/200,000 tons of slag processed	TCL Metals (Total & SPLP)
Contingency Sampling	1 composite/10,000 tons of slag processed	TCL Metals (Total & SPLP)

Notes:

1. Contingency sampling may be required if quarterly sampling shows significantly different concentrations than the Verification Sampling.

2. TCL metals include: aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc.

3. For Initial Sampling and Contingency Sampling, composite samples shall consist of 5 grab samples taken at 2,000-ton intervals. Each grab sample shall include random aliquots from the top, middle, and bottom of the working face of the excavation or from the stockpile.

4. For Subsequent Sampling, composite samples shall consist of 5 grab samples taken at 40,000-ton intervals. Each grab sample shall include random aliquots from the top, middle, and bottom of the working face of the excavation or from the stockpile.