

40-7102

Let's protect our earth



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

21 SEP 1990

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P 905 517 956

Mr. David R. Smith
Director of Environmental Services
Shieldalloy Metallurgical Corporation
P.O. Box 768
Newfield, NJ 08344

Dear Mr. Smith:

Re: Final Revisions of Remedial Investigation Work Plan
dated July 6 and July 20, 1990

The Department has completed a review of Shieldalloy Metallurgical Corporation's (SMC) final revisions to the Remedial Investigation Work Plan (RIWP) dated July 6, 1990 and the Field and Laboratory QA/QC Plan (QA/QC Plan) dated July 20, 1990. The QA/QC Plan is presented as Appendix B of the RIWP. The Department is pleased to grant SMC a conditional approval of the RIWP, including the QA/QC Plan. Please note that the following conditions must be addressed to the satisfaction of the Department before the remedial investigation can commence.

The following comments are organized in three sections. The first section includes comments which were previously identified in correspondence between the Department, SMC and its consultants. The numbers correspond specifically with the paragraphs in the Department's letter dated September 6, 1989.

The second section includes comments on SMC's response to the waste water spills which are referenced in the Department's letter dated May 21, 1990.

The last section describes miscellaneous issues that were not specifically identified previously.

9010020229 900921
PDR ADDCK 04007102
PDC

New Jersey is an Equal Opportunity Employer
Recycled Paper



NF11

Specific Comments

8. Page 4-3, 4-12 RIWP; 2-3, 2-4 QA/QC Plan

The revised figures are acceptable with the exception that boring Nos. SB-74, SB-75 and SB-76 were not illustrated on Figure 10-B. These borings are to be located in the unpaved area within Department 102. This shall be corrected in the final Phase I RI Report.

Also, the reason for the deletion of SB-59 in the lagoon area is unclear. The location of SB-59 was never presented to the Department, therefore, it is difficult to understand that it is "inaccessible to drilling equipment" because of its location. Other borings located in the lagoon area are accessible to drilling equipment. This information shall be presented to the Department before field activities can commence.

9. The revised Historical VOC Usage Report shall be submitted within thirty (30) calendar days of receipt of this letter.

15. Page 4-9, 4-24 RIWP; 2-3 and 2-15 QA/QC Plan

The locations of the borings around the underground storage tanks (SB-41, SB-42, SB-72 and SB-73) may be altered to insure that the samples collected are capable of detecting potential contamination. Also, the Department has modified the sampling depths. Instead of two samples from each of the four borings, one sampling shall be collected from each boring at the ground water piezometric surface. This shall be corrected in writing before field activities can commence.

In addition, Table 4-2 of the RIWP was revised to include petroleum hydrocarbons for these borings, however, the test on page 4-28 was not similarly revised. This shall be corrected in the final Phase I RI Report.

Be advised that when the underground storage tanks are removed, it must be done in accordance with the new underground storage tank regulations which became effective on September 4, 1990.

Response to this comment also satisfies comment No. 45.

22. Page 2-12 RIWP

The RIWP was revised to indicate that the NJPDES-DGW permit for operation of the lagoons was denied, however, the previous sentence was revised incorrectly to indicate that the discharges from the lagoons are also regulated by the NJPDES-DGW permit. The discharges are regulated by the NJPDES-DSW Permit as originally stated. This shall be corrected in the final RI Report.

35. Page 2-33 RIWP

Page 2-33 needed only to state that the May 1988 investigation was initiated by SMC. Also, Appendix A contains all data presented in Table 2-10, with exception of the hexavalent chromium data for the CRS samples. To be consistent with the other data presented in Appendix A, SMC shall submit the hexavalent chromium data for the CRS samples. This shall be submitted in writing before field activities can commence.

38. Page 2-35 RIWP

The text revision on page 2-35 regarding SMC's investigation of soils around Department 106 is acceptable. The documentation supporting the data presented in Table 2-11 must be presented in Appendix A, including the dates of sampling. Similar documentation has been provided in Appendix A for other data discussed in this section, therefore, this requirement is not unreasonable. This shall be submitted before field activities can commence.

42a. Page 4-36 RIWP; 3-4, 3-5 QA/QC Plan

Pages 4-36 and Table 4-5 of the RIWP have been revised to indicate that all four surface runoff samples will be analyzed for the expanded list of parameters. However, pages 3-4 and 3-5 of the QA/QC Plan were not changed. This shall be corrected in writing before field activities commence.

42b. Page 3-5, 4-56 RIWP

The Department maintains that it has jurisdiction over radiological contamination emanating from the site, therefore, the radiological characterization will be conducted as part of the RI, as well as for NRC purposes. The Department has agreed to allow the radiological characterization proceed on a separate schedule from the remainder of the RI, however, the results shall be incorporated into the Phase I RI Report.

42c. Page 4-3, 4-25 RIWP; 2-17, 2-19 QA/QC Plan

The locations of boring Nos. SB-77 through SB-81 in the NRC controlled area are acceptable. However, only two surface samples, RA-41 and RA-42, were proposed to address this area. To address this issue, SMC shall collect samples from these borings at the 0 to 6 inch interval instead of the 0 to 2 feet interval. This is the same approach that will be employed when sampling borings which are located within 50 feet of surface samples. Also, the Department requires that SB-77 be analyzed for the "expanded list" of parameters instead of SB-25. This shall be corrected in writing before field activities can commence.

42e. The Department was not clear when it required SMC to add zirconium to the list of PCOC's in Table 3-1 without specifying that it also be added to the "expanded list" of parameters. Therefore, zirconium shall

be added to the "expanded list" of parameters. This shall be corrected in writing where appropriate before field activities can commence.

49a. Page 4-17 RIWP; 2-9 QA/QC Plan

The proposed soil borings sampling depths tables are acceptable, however, as with metals analyses, for the borings to be sampled for non-metals, it should be specified that if a impermeable layer is encountered, the deeper sample will be collected at the top of the impermeable layer. Also, the tables are present in the RIWP but not in the QA/QC Plan. These issues shall be corrected in writing before field activities can commence.

49c. See comment No. 8.

49d. Page 4-5 RIWP; 2-9 QA/QC Plan

The proposal for sample collection based upon ambient temperature headspace (ATH) values is acceptable with one exception. Should no elevated headspace readings be encountered the soil sample shall be collected in the 6 to 12 inch interval, not at mid-depth as proposed. This shall be corrected in writing before field activities can commence. See also, comment No. 50.

49f. Page 4-29 RIWP

Page 4-29 of the revised text states that five (5) soil samples will be collected and analyzed for bulk densities and Cation Exchange Capacity. The document does not explain where these samples will be collected. Also, no mention of these samples is made in the QA/QC Plan. This shall be corrected in writing before field activities can commence.

50. Page 4-5 RIWP; 2-8 QA/QC Plan

The Department apologizes for the typographical error. The surface sample interval for VOC analysis in boring Nos. SB-1 through SB-6 when the entire boring shows consistently elevated ATH readings is 6 to 12 inches, not 6 to 18 inches as stated in the comments. This shall be corrected in writing before field activities can commence.

61. Page 4-18, 4-1, 4-43 RIWP; 2-25, 4-8, 4-44, 4-45, 9-3 QA/QC Plan

It is acceptable to discharge water generated during decontamination activities into tank T-12 for on-site treatment provided that DWR, Bureau of Industrial Permits is notified in writing of this procedure.

It is acceptable to discharge well development and purge water onto the ground in the vicinity of the wells from which it is taken provided that clean soil is not contaminated in the process. This is particularly of concern in off-site locations where the ground water is contaminated but the soil is not. This includes the private properties and the parcel of SMC property located south of Weymouth Road. Well development and purge water from off-site locations that exhibit

visible contamination or elevated headspace concentrations of VOCs shall, therefore, be containerized for treatment on-site or for disposal. If on-site treatment of these waters will occur, DWR, Bureau of Industrial Permits must be notified in writing. The QA/QC plan shall be corrected in writing to reflect this before field activities can commence.

Soil cuttings may be used to backfill boreholes installed to depths less than 25 feet. Note that boreholes which penetrate the water table or a confining unit, as well as those which are greater than 25 feet, may not be backfilled with soil cuttings and must be grouted back up to the ground surface using a pure bentonite slurry below the water table and a 90% cement/10% bentonite slurry above the water table.

It is acceptable to spread the drilling muds from drilling on-site deep wells where it is anticipated that the discharges of the mud will not affect soil quality.

As stated in the RIWP and QA/QC Plan, soil cuttings and drilling muds from the installation of the off-site wells shall be containerized, transported to a storage area on SMC property, and analyzed for RCRA characteristics so that disposal can be arranged.

62. Page 4-13 RIWP; 2-5 QA/QC Plan

The locations of the three proposed background soil samples (RA-58, RA-59, RA-60) are acceptable, however, the Department had required that different depth intervals be included. Therefore, two samples shall be obtained from each background soil boring at depths of 6 to 12 inches and 42 to 48 inches. Background soil samples are proposed to represent soil conditions unaffected by site activity. The second sampling depth will provide additional data to compare analytical results between shallow and deeper samples. Shallow soils could potentially be affected by storm runoff, or leaching of airborne contaminants accumulated on the soil surface. All background soil samples shall be analyzed for the "expanded list" of parameters. This shall be corrected in writing before field activities can commence.

70e. Page 4-40, 4-41 RIWP; 4-3, 4-4 QA/QC Plan

Split spoon samples are proposed to be taken at five foot intervals. They shall also be taken upon encountering changes in lithology. This shall be corrected in writing before field activities can commence.

79. Page 5-2 RIWP

The proposed schedule for the Phase I investigation is acceptable. As we discussed previously, please submit to the Department specific dates for the activities as soon as possible so that site visits can be scheduled.

Waste Water Spills

Page 4-6 RIWP; 2-2, 2-10 QA/QC Plan .

Table 4-1 (page 4-23) of the RIWP and Table 2-1 (page 2-6) of the QA/QC Plan have included soil boring Nos. SB-82 and SB-83 in the waste water spill area near above ground tank T-12. However, the texts of the RIWP and QA/QC Plan discussing the undeveloped area of the site were not revised to reflect this change. This shall be corrected in the final RI Report.

Miscellaneous Issues

1. Many of the tables in both the RIWP and the QA/QC Plan contain errors and/or are inconsistent with each other. These errors shall be corrected in writing before any field activities can commence.

- a. Table 4-1 of RIWP and Table 2-1 of QA/QC Plan

The number of locations for the undeveloped area should read 20 and the total samples should read 35 in both tables. The grand totals should read 80 locations and 100 total samples. Also, footnote (b) should read hexavalent chromium, not trivalent.

- b. Table 4-2 of RIWP and Table 2-2 of QA/QC Plan

In accordance with comment No. 15, these tables shall be corrected to reflect that only one sample per boring is required for boring Nos. SB-42, SB-43, SB-72 and SB-73. Table 4-2 of RIWP lists inaccurate totals and shall be revised to read as Table 2-2 of the QA/QC plan. Also, footnote (b) should read hexavalent chromium, not trivalent.

- c. Table 4-3 of RIWP and Table 2-3 of QA/QC Plan

Both tables shall be revised to indicate that two samples will be collected from background location RA-58, RA-59, and RA-60 and that all background samples will be analyzed for the "expanded list" of parameters. The grand totals should read 21 locations and 33 total samples. The sampling locations for expanded list of analysis for the by-product storage area should read SB-25 and SB-77 (see comment 42c), not SB-25, SB-27, SB-77 through SB-81. Also, footnote (b) should read hexavalent chromium, not trivalent.

- d. Table 4-4 of RIWP and Table 2-4 of QA/QC Plan

Footnote (b) should read hexavalent chromium, not trivalent.

- e. Table 4-5 of RIWP and Table 3-1 of QA/QC Plan

Table 3-1 of the QA/QC Plan shall be revised to read as Table 4-5 of the QA/QC Plan.

f. Table 4-8 of RIWP and Table 4-4 of QA/QC Plan

It is unclear why on-site monitoring well SC14S is the only well which will not be analyzed for sulfate. Footnote (c) should include niobium and boron. Footnote (d) should include Redox Potential (Eh).

2. Page 4-37, 4-40, 4-47 RIWP; 4-1, 4-3, 4-11 QA/QC Plan

The issue of access to private property has been raised numerous times. The Department again emphasizes that SMC shall get access to the properties in question by any legal means available.

3. Page 4-55 RIWP; 5-1, 5-2 QA/QC Plan

The air sampling procedures must be included in the QA/QC plan. Also, it is unclear if a laboratory duplicate will be performed for the analysis of the trace elements in the air samples since a laboratory duplicate is proposed for the hexavalent chromium samples but not for the trace elements. These issues must be resolved in writing before any field activities can commence.

4. Page 4-6 RIWP; 2-9 QA/QC Plan

On these pages and throughout the documents, including the tables, references are made to trivalent chromium analyses. This must be revised to read hexavalent chromium and must be understood before any field activities can commence.

5a. Page 4-50 RIWP; 4-16 QA/QC Plan

Table 4-8 of the RIWP and Table 4-4 of the QA/QC Plan were revised to reflect that monitoring well Nos. SC13D, SC20S, SC22S and SC22D will be analyzed for the "expanded list" of parameters, however, the corresponding pages in the text were not changed. This shall be corrected in the final Phase I RI report.

5b. Page 4-41, 4-43 RIWP; 4-4, 4-8 QA/QC Plan

It is recommended that steel protective locking caps be used in monitoring well construction. Often aluminum locking caps are used which have poor structural strength when compared to steel. There have been numerous reports from other CERCLA sites involving vandalism of wells resulting from aluminum locking tabs being broken off.

5c. Page 4-41 RIWP; 4-4 QA/QC Plan

Well development should be a fairly vigorous procedure to remove fines for the gravel pack and surrounding formation, and to preferentially align the grains of the gravel pack to obtain optimal ground water flow into the well. It is proposed to develop the shallow wells using a hand pump, centrifugal pump or submersible pump. The use of a hand pump is generally unacceptable as it will most likely not be capable of generating the flow necessary for proper well development.

5d. Page 4-45 RIWP; 4-8 QA/QC Plan

These pages state that one round of ground water sampling is proposed with a second round to be conducted only if deemed necessary after a review of the first round results. SMC should note that the second round of sampling will confirm the presence or absence of contaminants from the wells. Also, as discussed at our meeting of May 22, 1990 and in the Department's follow-up letter of June 12, 1990, the Department requires that two rounds of ground water samples be collected. The texts of the RIWP and the QA/QC Plan are inconsistent with the schedule on page 5-2 of the RIWP which shows that two rounds of samples will be collected. This shall be corrected in writing before field activities can commence.

5e. Page 4-40, 4-43 RIWP; 4-4, 4-6 QA/QC Plan

The RIWP and QA/QC Plan state that monitoring wells will be installed with 0.010 inch slotted screen and coarse or No. 1 (16 to 40 mesh) sand filter pack. It is not clear if the selection of the screen slot and gravel pack size were justified based upon site specific information obtained from previous investigations or sieve analysis. The justification shall be provided to the Department before the wells are installed.

5f. Page 4-47 RIWP; 4-11 QA/QC Plan

The RIWP and QA/QC Plan state that the monitoring wells will be purged using Teflon bailers, centrifugal pumps, or submersible pumps. Purging of wells using a bailer is generally not acceptable due to the agitation and aeration of the water caused or repeated dropping and retrieving of the bailer.

5g. Page 4-49 RIWP; 4-13, 6-3 QA/QC Plan

It is stated that each ground water sample collected will have pH, Eh, temperature and specific conductivity measured in the field. Again, the Department must emphasize that these parameters should be measured in-situ using a down hole probe to avoid alteration due to contact with the atmosphere.

5h. Page 4-47, 4-48, 4-51 RIWP; 4-11, 4-12, 4-17 QA/QC Plan

These pages state that off-site well IW4 will be sampled as part of the RI. However, this well is screened in both portions of the aquifer (shallow and deep), and as such will not accurately illustrate contaminant concentrations in either aquifer. Therefore, sampling of this well is not required at this time. Instead, SMC shall sample well Nos. IW1 and IW3 for VOCs, TAL, hexavalent chromium, sulfate, pH, Eh and Temperature.

6. Page 4-56 RIWP

Section 4.5.3 of the RIWP concerning air sampling states: "Samples for radionuclides are not recommended at this time since radionuclides are under the jurisdiction of the NRC". This shall be revised to state

that air sampling for radionuclides will be conducted as part of the Radiological Characterization and NRC license requirements. This shall be corrected in writing before field activities can commence.

To resolve the issues that must be corrected in writing before field activities can commence, SMC shall submit to the Department revised pages correcting any errors or changes. These revised pages must also be added to every copy of the RIWP and QA/QC Plan to ensure that all sampling and analysis is performed in accordance with the conditionally approved RIWP and QA/QC Plan.

If you have any questions regarding any of these issues please contact me at (609) 633-1455.

Sincerely,

Donna L Gaffigan

Donna L. Gaffigan, Case Manager
Bureau of Federal Case Management

DG:mcs

c: W. Fergus Porter, SMC
Laura Lombardo, USEPA/NJCB
Michael Soranno, USEPA/ NJFS
George Nicholas, DWR/BGWPA
A. Duncan White, DEQ/BER
Gary C. Comfort, Jr., USNRC
Florie Caporuscio, USEPA/AWM-Rad
Nick Sodano, DHWM/SBFO