

REGION I  
NMSS LICENSEE EVENT REPORT

License No. SMB-743

Docket No. 040-07102

MLER-RI-90 - 044

I. ACTION CONTROL DATA

Licensee SHIELDALLOY METALLURGICAL CORPORATION

Event Description radioactivity in contaminated soil

Event Date 12/1/89

Report Date 3/13/90

II. REPORTING REQUIREMENT

10 CFR 20.402 - theft or loss

10 CFR 35.33 Therapeutic Misadministration

10 CFR 20.403(a)(b)  
overexposure/release

10 CFR 35.33 Diagnostic Misadministration

10 CFR 20.405 - 30 day report

-License Condition

Other \_\_\_\_\_

III. REGION I RESPONSE

Immediate Site Inspection

Inspector \_\_\_\_\_ Date \_\_\_\_\_

\*  Special Inspection

Inspector Costello Date \_\_\_\_\_

Telephone Inquiry

Inspector \_\_\_\_\_ Date \_\_\_\_\_

Licensee Representative and Title \_\_\_\_\_

PN  Daily Report

Information entered - Region I log and Outstanding Items List

Review at next routine inspection

IV. REPORT EVALUATION

Description of Event

Corrective Actions

Levels of R/M involved

Calculation Adequate

Cause of Event

Letter to Licensee requesting additional information

Completed by: E. Ullrich

Date 5/31/90

Reviewed by: [Signature]

Date 6/4/90

V. SPECIAL INSTRUCTIONS OR COMMENTS

Inspection 5/2-3/90 E. Ullrich, M. Robert



License No. 040-SMB-743  
 Docket No. 040-07102  
 MLER-RI - 90-44

## State of New Jersey

### DEPARTMENT OF ENVIRONMENTAL PROTECTION DIVISION OF HAZARDOUS WASTE MANAGEMENT

John J. Trela, Ph.D., Acting Director  
 20 East Clementon Road  
 Gibbsboro, NJ 08026  
 609 - 346 - 8000

March 13, 1990

David Smith  
 Shieldalloy Metallurgical Corporation  
 West Boulevard  
 P.O. Box 768  
 Newfield, NJ 08344

Re: December 4, 1989 Notice of Violation, Shieldalloy Metallurgical Corporation  
 Newfield, Gloucester County, 89-12-01-1107s

Dear Mr. Smith:

This office received a reply to the above noted Notice of Violation ("NOV") on February 5, 1990. A review of the reply has revealed the following:

- a. Page seven of the reply refers to four (4) composite samples taken from the staged soils, yet Appendix A provides data for only two;
- b. Page six of the reply refers to future excavation of soil from north of the T-12 unit but gives no schedule for same;
- c. As per Compliance Services, Inc. 12/4/89 field memo, there are possibly "oil drums" or "different materials than [unreadable] dross" in the South Gate area;
- d. The response requested in reference to the November 28, 1989 spill was not in the reply; and,
- e. The additional sampling you suggested would occur on the staged soil is not mentioned in the reply.

Therefore, within fifteen (15) calendar days of receipt of this letter, provide the missing sampling noted in "a" above, a schedule for the performance of "b", characterization of the wastes cited in "c", and the response previously requested with regard to "d". Further action with regard to "e" will be reserved until all existing data is examined by this office.

Be advised that this office has forwarded a copy of the reply to the Nuclear Regulatory Commission.

1X30

Due not hesitate to contact me should you have any questions regarding this matter.

Very truly yours,

A handwritten signature in cursive script that reads "Nick Sodano".

Nick Sodano  
Sr. Env. Specialist

NS

cc: William Dunfee, SBFO  
Donna Gaffigan, BFCM  
John Kinneman, NRC  
case file

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

**SHIELDALLOY METALLURGICAL CORPORATION**  
Newfield, New Jersey

**CHROMIUM WASTEWATER SPILL INCIDENT  
OF 1 DECEMBER 1989 AT  
SHIELDALLOY METALLURGICAL CORPORATION  
Newfield, New Jersey**

On December 1, 1989, at approximately 9:30 a.m., a spill of chrome laden wastewater was discovered coming from T-12. (T-12 is an above-ground equalization unit which is part of the Corporation's wastewater treatment facility.) The discharge of wastewater was immediately valved off and Shieldalloy Metallurgical Corporation (SMC) then initiated steps to evaluate and contain, as well as recover, the waste water. The spill, after investigation resulted from a closing of a remote valve in the New Ion-Exchange Groundwater Remediation Facility which had been receiving wastewater from T-12 at the time. It is estimated that this occurred shortly after 9:00 a.m.. In trying to estimate the volume of the spill, it is assumed that the pipe rupture at T-12 occurred almost immediately. The volume of wastewater is estimated based upon the approximate time of discovery and of closing the valve in Department 216. Therefore, at approximately 600 gpm, the volume spilled would be 18,000 gallons.

SMC, after making initial cleanup and recovery of the spilled material, contracted with Compliance Services to assist in the spill response. Compliance Services also was requested to sample the material stockpiled as part of the spill cleanup. The attached Compliance Services draft report provides further information regarding the spill, cleanup and recovery.

### 3.0 REMEDIATION ACTIVITIES

Andre Dopwell of CSI was performing previously contracted work on-site in an adjacent area and coincidentally observed the spill in progress. He reported the incident to CSI. Robert Fitch, CSI and Pamela Harker, CSI reported onsite at 1200 hours Friday, December 1, 1989.

An assessment was subsequently made of the site conditions while Shieldalloy employees were performing emergency response activities. This initial remedial work included efforts to contain the spill and pump the spilled free liquid from the ground of the South Gate area back into Building T12. Dave Smith of Shieldalloy was contacted to discuss site conditions.

Compliance Services was contracted to manage spill containment measures and remediate the area of contaminated soil. Remediation procedures were discussed with Mr. Smith prior to initiating action. Michael Morgenstern, Shieldalloy was designated as the onsite Representative and Coordinator. Ms. Harker, CSI was appointed onsite Project Manager.

#### 3.1 SPILL CONTAINMENT: INITIAL RESPONSE

Spill containment activities initiated by CSI were directed to minimize contaminant migration. Pools of liquids were located on the west and south sides of Building T12. A bulldozer was used to construct an earthen berm to prevent surface spreading. A trough was formed in the center of the berm to contain free liquids (reference photograph documentation: Building T12, South Gate Quadrant). The berm was approximately three feet high and contained one to eighteen inches of liquid within the trough. Pumpable free liquids were removed from the trough. The surrounding soil in the earthen berm was subsequently used to stabilize remaining free liquids.

Mr. Morgenstern, Shieldalloy monitored the "South Gate" surface soil area for radioactivity using a geiger counter. Low radioactive levels were discovered in a portion of the berm material inside the South Gate Quadrant. Plans were immediately implemented to segregate all detectable radioactive material.

The spill area was cordoned off with caution tape to prevent vehicle and personell access. Pipe lines were marked off with surveyors tape and silver duct tape.

Plans to hand excavate areas close to utility pipe lines and around the walls of Building T12 were agreed upon by CSI and the Shieldalloy onsite Coordinator.

### **3.2 REMEDIATION EXCAVATION: STABILIZATION ACTIVITIES**

Remediation activities continued on Saturday, December 2, 1989. The objective of the days activity was to stabilize any remaining free liquids and remove all visibly contaminated soil.

Remedial equipment included a Blade Dozer, Wheel Loader, Dump Trailers, and labor. Material was scraped together, stabilized, and staged into two separate staging areas. The designation of staging areas was performed by Shieldalloy based on continuous scanning for radioactivity.

The two staging areas are identified as Central Staging Area (CSA), and the Drum Pile Staging Area (DPSA). The DPSA contains material with suspected low level radioactivity. All remaining free liquids within the trenched area of the earth berm were mixed with surrounding soil. This mixing effectively absorbed the liquids to provide better containment and facilitate movement of the material to one of the two staging areas.

All staging areas were properly lined with plastic. The bottom liner consisted of two layers of six mil polyethylene. All staged materials were subsequently covered with six mil polyethylene. Additional activities were required to maintain the covering on the staged soil piles. On December 4, 1989 CSI personnel secured the polyethylene with steel metal stakes to prevent wind from blowing off the covering.

### **3.3 REMEDIATION ACTIVITIES: PROJECTED**

Excavation of the north side of the Building T12 is required by NJDEP due to the presence of chrome contaminated liquid on the soil surface. The surface liquid encompasses an area approximately 15 feet long and 1.5 feet wide. At the time of the NJDEP inspection the liquid was frozen. Excavation of the area is scheduled to be performed by CSI. Documentation of this activity will be performed.

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Figure 1

