

**GENERAL SERVICES  
ADMINISTRATION**

**CONTRACT NO.  
GS-00B-2219 (NEG)**

**INDUSTRIAL HYGIENE  
SURVEY OF  
SELECTED FSS  
NATIONAL STOCKPILE SITES**

**FINAL REPORT**

**JUNE 1979**

**GANNETT FLEMING CORDDRY AND CARPENTER, INC.**

**ENGINEERS AND PLANNERS**

**HARRISBURG**

**PENNSYLVANIA**

GANNETT FLEMING CORDDRY AND CARPENTER, INC.  
ENGINEERS AND PLANNERS

W. HOWARD CORDDRY  
JOHN R. DIETZ  
CHARLES H. KRESSLER  
JAMES A. ROMANO  
MAURICE A. WADSWORTH  
H. BRUCE GERBER  
WALTER K. MORRIS  
J. DOUGLASS BERRY  
HAROLD T. WADDINGTON  
JAMES R. MADARA

ALBERT C. HOOKE  
CHARLES W. PICKERING  
WILLIAM H. ALLEN  
JOSEPH W. LIPSCOMB  
MARCELLO H. SOTO  
FRANK J. DONATELLI  
HERMAN R. STARTZENBACH  
JOHN E. WATERS  
JAMES L. LONG



P. O. BOX 1963  
HARRISBURG, PENNSYLVANIA 17105

PHONE 717 763-7211

CABLE ADDRESS: GANFLEC

TELEX 84-2375

ANTON F. MIORIN  
RAY F. STAUFFER  
F. JAMES KNIGHT  
C. KENNETH MYERS  
PAUL E. PAUL  
GEORGE H. SMITH  
ROBERT J. DIETZ  
RONALD J. DRNEVICH  
RUSSELL S. KLINGENSMITH  
EDWARD W. MONROE  
DAVID ANTENUCCI  
PAUL W. BRICKER  
WILLIAM K. CORLISS, JR.  
ROBERT A. STARK  
JOHN J. YURICK  
THOMAS R. BENYO  
WILLIAM C. EHRESMAN  
FREDERICK FUTCHKO  
JAMES G. HANEY  
GERALD P. VOEGLER  
GERALD B. SPECK

June 29, 1979

Mr. Roy Ashley  
Industrial Hygienist, PBAB  
General Services Administration  
18th and F Streets, N. W.  
Washington, D. C. 20405

Dear Mr. Ashley:

Final Report  
Industrial Hygiene Survey  
Selected Stockpile Sites  
Contract No. GS-00B-2219 (Neg.)

In accordance with the above referenced contract, Gannett Fleming Corddry and Carpenter, Inc., conducted an industrial hygiene/environmental survey at fifteen selected FSS National stockpile sites. We are pleased to submit this final report of findings, conclusions, and recommendations in fulfillment of this contract.

Very truly yours,

GANNETT FLEMING CORDDRY AND CARPENTER, INC.

A. F. MIORIN, P. E.  
Partner-In-Charge

JOHN E. WATERS, P. E.  
Vice President

## I. INTRODUCTION

In accordance with Contract Number GS-00B-2219 (Neg.), Gannett Fleming Corddry and Carpenter, Inc. (GFCC), was contracted by the General Services Administration (GSA) to conduct an industrial hygiene/environmental survey at fifteen selected FSS National stockpile sites. This report is submitted in fulfillment of that contract.

This survey resulted from concern by GSA for the effects which stockpiled strategic materials might have in the following two areas:

1. Impacts on the environment if these stockpiled materials should be affected by flooding conditions; and
2. Industrial hygiene effects on personnel exposed to these materials during a long-term storage basis.

To determine these effects, GFCC was contracted to visit the following 15 selected stockpile sites:

New Cumberland, Pennsylvania  
Warren, Ohio  
Large, Pennsylvania  
Point Pleasant, West Virginia  
Alloy, West Virginia  
Charleston, South Carolina  
Gramercy, Louisiana  
Point Comfort, Texas  
Nye, Montana  
Port Clinton (Erie), Ohio  
New Haven (Casad), Indiana  
Granite City, Illinois  
Stockton, California  
Hammond, Indiana  
Curtis Bay, Maryland

Commodities identified by GSA personnel at these 15 sites were inspected for proper containerization, storage adequacy, and security. The survey findings were documented on standardized forms to simplify evaluations and present a uniform package. Results of these surveys and subsequent

evaluations by GFCC were prepared and are presented in four parts:

1. A site survey summary with specific recommendations;
2. A site identification sheet;
3. Commodity identification and air environment sheets, and
4. A water environment sheet.

Separate sheets were prepared for each of the commodities inspected. Abbreviations used on these sheets are explained in the Appendix following the site visitation forms.

### Summary

On the basis of 1-in-100 year flooding events determined for the 15 sites inspected by this contract, flooding effects do not appear to be a significant concern. Proper site selection techniques appear to have been employed and in most cases have been successful.

The results of the survey also indicate that industrial hygiene concerns are minimal, for the current GSA stockpile program is well managed. Most personnel exposures to these materials have been minimized through packaging, storage, and handling techniques. In addition, the industrial hygiene program is ongoing and constantly being improved.

## II. FLOODING EFFECTS

On the basis of our investigations, severe flooding (1-in-100 year floods) or torrential rainfall events would cause significant impacts at 3 of the 15 sites: Port Clinton (Erie), Ohio; Large, Pennsylvania; and Nye, Montana.

The Port Clinton (Erie), Ohio, site would experience water depths of 1 to 2½ feet at various locations on the site as a result of a 1-in-100 year flood of Lake Erie. No adverse environmental impacts would be anticipated by the flooding of the outside storage piles. However, materials stored in Building 552 could be damaged by high water conditions. A flood protection plan (sandbagging, wet vacuuming, etc.) should be developed to adequately protect this building.

The Large, Pennsylvania, site is secure from the 1-in-100 year flooding effects, but is subject to effects from heavy rainfall. The

existing surface water collection and conveyance system allows an acid mine drainage stream to pass between two storage piles. Erosion and loss from these piles is likely under severe rainfall effects. In addition, groundwater is extremely high on this site. Groundwater fluctuations will cause a flushing action to "leach out" soluble compounds from the stockpiled materials. The effects of this flushing action and the surface water conveyance system on the water quality of Peter's Creek should be determined and a water management plan developed to prevent water from contacting the storage piles.

While the Nye, Montana, site is secure from the effects of a 1-in-100 year flood, torrential rainfall will wash stockpiled material from the site into the nearby Stillwater River. Failure of the stabilization cover resulting from outloading activities has allowed windblown and eroded material to be deposited in a small stream adjacent to the site. Corrective action along the lines of the recommended plan in the site survey should be undertaken immediately to minimize material loss and solids accumulation in the streambed.

### III. INDUSTRIAL HYGIENE EFFECTS

Of the fifteen sites visited, five have industrial hygiene problems of sufficient concern to merit remedial action: Warren, Ohio; Nye, Montana; Port Clinton (Erie), Ohio; New Haven (Casad), Indiana; and Curtis Bay, Maryland. Many of the concerns are applicable at more than one site; for example, access caution signs on building exteriors, DDT tagging requirements, and radiation testing.

Problem areas and recommendations for the Warren, Ohio, site are as follows:

1. Manganese dioxide is a powerful oxidizer. Access caution signs should be posted on the building exteriors.
2. Mica boxes have been sprayed with DDT to control pests. Caution tags should be placed on the stored material.
3. Vegetable tannin is a suspected carcinogen. Caution signs should be posted on all stored material.
4. Radiation levels for vanadium oxide are above the 0.50 mr/hr value for personnel exposure. Designated "restricted" areas should be roped, signed, or otherwise posted to alert personnel.

The Nye, Montana, site has an industrial hygiene problem of exposures to nuisance dust caused by blowing material. This problem has been caused by the removal of the permanent type protective cover and an inadequate replacement. Engineering controls in the form of nuisance dust masks and goggles will adequately protect personnel, but the blowing material is being deposited in an adjacent stream. The temporary sprayed cover does not appear to be as thick as required to prevent material loss.

Industrial hygiene concerns and recommendations for the Port Clinton (Erie), Ohio, site are as follows:

1. Access caution signs need to be posted on the building exterior for hazards associated with cadmium, cobalt, and tungsten carbide.
2. Caution signs should also be posted on the palletized asbestos material identifying a carcinogenic substance.
3. Vanadium oxide is stored at this site. It has been found to be radioactive at other locations. A radiation survey should be undertaken at the Erie Depot and appropriate action taken.

The following industrial hygiene concerns and recommendations are presented for the New Haven (Casad), Indiana, site.

1. Mercury is stored at this site, but no mercury vapor monitoring equipment is available to personnel. Mercury being a highly toxic substance, monitoring equipment should be secured.
2. A large fan has been used to control humidity in a warehouse containing asbestos. Airborne asbestos testing should be conducted to determine contaminant levels resulting from this air-moving activity and appropriate action taken.
3. Vegetable tannin has been placed on the suspected carcinogen list. In addition to the controls already being employed, employee exposure should be carefully monitored through entry log books. These books should be maintained in a secure location.
4. Zirconium, zirconium metal powder, and yttrium oxide should be checked for radiation levels and appropriate personnel protection action taken.

5. Caution entry signs should be placed on access doors of buildings containing cadmium requiring air-supplied respirators in case of fire.
6. Although no plans for iodine repacking are currently planned, air levels should be monitored constantly by on-site instrumentation if repacking should be undertaken.

Industrial hygiene concerns and recommendations for the Curtis Bay, Maryland, site are as follows:

1. Electrolytic manganese is currently stored outside. It could be a potential explosion source if exposed to water.
2. Thorium nitrate storage is extremely poor but should be corrected in the immediate future through a proposed overpacking and restorage program. "Leakers" and decontamination materials should be carefully handled. Disposal techniques should be in accordance with all applicable federal and state regulations.

#### IV. MISCELLANEOUS COMMENTS

The flammable, explosive nature of materials stored at the sites creates a potential hazardous situation. Since there appears to be an overall lack of adequate fire protection plans beyond the basic sprinkler systems at most sites, we are recommending the following:

1. Fire protection plans should be established at all of the stockpile sites. These plans should be critically reviewed yearly, and updated on the basis of new information or stockpiled materials movement.
  - a. All sprinkler systems should be functionally operative and adequate to control localized and general fires.
  - b. Local fire companies should be aware of all commodities which could require special fire fighting procedures.
  - c. Access caution signs should be posted on all building exterior walls that contain combustible materials which require self-contained breathing apparatus.

2. Building maintenance was generally good at the sites inspected by GFCC. However, one site had a leaking roof and another site had a building with severe problems of side wall corrosion. Building maintenance is a critical factor in protecting the stockpiled materials and should receive proper attention.
3. Most of the sites visited had little or no monitoring equipment at the site itself. Suspected problems with the stockpiled materials are generally handled by contacting the GSA industrial hygienist. The possibility of potential problems developing at each site should be evaluated and proper equipment and training should be made available to local personnel. It is encouraging to report this type of program is already underway. It is strongly recommended that the program be continued, and encouraged at the highest level of management.

The following pages include the site survey reports for all sites visited.

SUMMARY  
SITE SURVEY  
CASAD DEPOT

Site Survey

A survey was conducted of the GSA Casad Depot stockpile site near New Haven, Indiana on April 26, 1979 by the contractor. The purpose of this survey was to investigate the flooding potential of the site and industrial hygiene concerns.

The following site personnel also participated in this survey:

Gail J. Roe - Depot Manager  
Ray Hardcastle - GSA Inspector

During the survey, the GSA stockpiled material was inspected and determined to be secure from flooding effects, up to and including a 1-in-100 year storm occurrence. Outside bulk storage piles have become stabilized due to long-term storage. No water pollution incidents have been reported. No flooding problems are anticipated at this site.

The industrial hygiene survey has resulted in concern for the storage, handling, or monitoring of the following materials:

- (1) Mercury - No monitoring equipment is at this site. Equipment should be secured, personnel trained in its use, and a periodic testing program instituted.
- (2) Mica - If DDT contamination of the wooden pallets exists, the material should be tagged with caution signs.
- (3) Asbestos - A large fan is being used to control humidity in one warehouse. This air movement will entrain asbestos fibers into the breathing environment. Personnel protection should be required during excursions into this building when the fan is operating. Airborne testing should be considered to qualitatively establish the hazard level.
- (4) Tannin - An entry log should be maintained to monitor personnel exposure to this carcinogen.

- (5) Zirconium - Radiation testing indicates high contact levels. These levels should be confirmed and if necessary, personnel access should be restricted in this area.
- (6) Zirconium metal powder - This material should be checked for radioactivity.
- (7) Yttrium oxide - This material should be checked for radioactivity.
- (8) Cadmium - Caution entry signs should be placed at access doors to warn of respiratory protection requirements (Self contained breathing apparatus) in case of fire.
- (9) Iodine - Should repacking operations be undertaken, air levels should be monitored constantly by on-site instrumentation. Field personnel should be instructed in the instruments' use.
- (10) Tin - Several stacks of tin pigs are leaning precariously. Personnel injury might result if care is not taken.

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## 1. SITE IDENTIFICATION

1. Region: 5 Site Name: Casad Depot

## 2. Location:

The GSA Casad Depot is located approximately 6 miles east of New Haven, Indiana on State Route 14. New Haven is located 4 miles east of Ft. Wayne, Indiana.

## 3. General area description:

This site is located on extremely flat farmland. The site has an elevation of approximately 580 feet above sea level. Surface water drainage is east to the Lamont Ditch then north to the Maumee River.

## 4. Susceptibility of site to major accidents and/or natural catastrophes:

No major accidents or natural catastrophes are contemplated which could affect the site.

## 5. Catastrophe plans:

None, except for normal fire fighting procedures.

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Aluminum Oxide Fused Crude

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight to moderate toxicity

## 3. Type of cover or containment:

Outside, bulk storage on bituminous slab; no cover

## 4. Site location:

Piles 2, 78

## 5. Worker protection:

Moving - gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 5 mg/M<sup>3</sup> (respirable); 15 mg/M<sup>3</sup> (total)

b. Existing controls Nuisance dust None

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence 1000 feet south

b. Applicable statutes N/A

c. Existing controls None

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Antimony

## 2. Environmental considerations of the commodity:

When heated or on contact with acid, emits toxic fumes/moderately dangerous toxicity. Surface-borne dust/can be ingested/high toxicity.

## 3. Type of cover or containment:

Ingots and slabs stacked in outside storage

## 4. Site location:

5. Areas 17, 216  
Worker protection:

Moving - gloves

## 6. Emergency considerations:

Fire - Hydrogen will react to form stibine gas ( $\text{SbH}_3$ ), extremely toxic.

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA -  $0.5 \text{ mg/M}^3$  (as Sb) TWA

b. Existing controls None

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence 1000 feet south

b. Applicable statutes N/A

c. Existing controls None

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Asbestos

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity/known carcinogen  
 Surface-borne dust/can be ingested/high toxicity

## 3. Type of cover or containment:

Burlap bags in boxed pallets

## 4. Site location:

T-214, 213, 212

## 5. Worker protection:

Moving or repacking - nuisance dust mask, goggles, gloves, protective  
 clothing, daily laundry, showers

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - less than 2 fibers/cc TWA

b. Existing controls Access limited, caution signs on doors

c. Probable exposure None during normal storage (see observations)

d. Existing monitoring Upon request

e. Test data (see reverse side)

f. Observations Storage adequate; except large fan being used to modify  
 humidity conditions. Personnel should be protected during fan usage.

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Material stored in warehouses

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Beryllium Metal

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity

Surface-borne dust/can be ingested/high toxicity

## 3. Type of cover or containment:

Billits in wooden boxes

## 4. Site location:

T-213 Security Vault #1

## 5. Worker protection:

Moving - gloves

Repacking - gloves, air supplied hoods, protective clothing, daily

## 6. Emergency considerations:

showers

Flooding - soluble in water, protection required

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

- a. Applicable statutes OSHA - 2  $\mu\text{g}/\text{M}^3$  TWA; 25  $\mu\text{g}/\text{M}^3$  Peak - 30 minutes;  
5  $\mu\text{g}/\text{M}^3$  Ceiling
- b. Existing controls Controlled access, containerized
- c. Probable exposure None, except during repacking
- d. Existing monitoring None
- e. Test data None
- f. Observations Storage adequate

## 2. Community:

- a. Nearest sensitive receptor Residence 1500 feet south
- b. Applicable statutes N/A
- c. Existing controls Stored in vault within warehouse
- d. Probable exposure None
- e. Existing monitoring None
- f. Test data None
- g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Cadmium

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity/causes pulmonary edema  
 Surface-borne dust/can be ingested/causes gastro-enteritis

## 3. Type of cover or containment:

Sticks &amp; balls in wooden boxes

## 4. Site location:

T-213

## 5. Worker protection:

Repacking - nuisance dust mask, gloves

## 6. Emergency considerations:

Fire - When cadmium is exposed to heat, a potential fire hazard exists.  
 Caution signs should be placed on doors: use (see reverse side)

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

- a. Applicable statutes OSHA -  $0.2 \text{ mg/M}^3$  TWA ;  $0.6 \text{ mg/M}^3$  Ceiling
- b. Existing controls Access limited
- c. Probable exposure None
- d. Existing monitoring None
- e. Test data None
- f. Observations Storage adequate

## 2. Community:

- a. Nearest sensitive receptor Residence - 1500 feet south
- b. Applicable statutes N/A
- c. Existing controls Inside storage
- d. Probable exposure None
- e. Existing monitoring None
- f. Test data None
- g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Chromite Metal (Chroma)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity

Surface-borne dust/can be ingested/high toxicity

## 3. Type of cover or containment:

Bulk-outside storage

## 4. Site location:

Area 600

## 5. Worker protection:

Payloader operator - nuisance dust mask, gloves

## 6. Emergency considerations:

Fire - When exposed to excessive heat, a potential fire hazard exists.

Flooding - Insoluble in water

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 1 mg/M<sup>3</sup> TWA

b. Existing controls None

c. Probable exposure None, except during moving

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence 2000 feet south

b. Applicable statutes N/A

c. Existing controls None

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate, free of vegetation, good housekeeping

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

II. COMMODITY IDENTIFICATION

1. Commodity specification:  
 Ferrochromium High Carbon (Chromium)
2. Environmental considerations of the commodity:  
 Airborne dust/can be inhaled/high toxicity  
 Surface-borne dust/can be ingested/high toxicity
3. Type of cover or containment:  
 Bulk, outside storage on bituminous slab on 10" limestone base
4. Site location:  
 Pile Nos. 3,4,11,12,13,16,17,52,53,54,55,56,57,58,59,60,61, (see reverse side)
5. Worker protection:  
 Payloader operator - nuisance dust mask, gloves
6. Emergency considerations:  
 None

III. AIR ENVIRONMENT

1. Worker exposure and storage area considerations:
  - a. Applicable statutes OSHA - 0.5 mg/M<sup>3</sup> TWA
  - b. Existing controls None
  - c. Probable exposure None
  - d. Existing monitoring None
  - e. Test data None
  - f. Observations Storage adequate, excellent housekeeping
2. Community:
  - a. Nearest sensitive receptor Residence - 1000 feet south
  - b. Applicable statutes N/A
  - c. Existing controls None
  - d. Probable exposure None
  - e. Existing monitoring None
  - f. Test data None
  - g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Ferrochromium Low Carbon

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity

Surface-borne dust/can be ingested/high toxicity

## 3. Type of cover or containment:

Bulk outside storage on bituminous slab; Inside storage (see reverse side)

## 4. Site location:

Pile 112; T-215, 213, 214, 212

## 5. Worker protection:

Repacking or Moving - nuisance dust mask, gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA -  $0.5 \text{ mg/M}^3$  TWA

b. Existing controls Access limited

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate; housekeeping excellent

## 2. Community:

a. Nearest sensitive receptor Residence - 1000 feet south

b. Applicable statutes N/A

c. Existing controls None

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Ferrochromium, Silicon (Chromium, Silicon)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity

Surface-borne dust/can be ingested/high toxicity

## 3. Type of cover or containment:

55 gal. drums

## 4. Site location:

T-215

## 5. Worker protection:

Moving - nuisance dust mask, gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 0.5 mg/M<sup>3</sup> TWA

b. Existing controls Access limited

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence 1500 feet south

b. Applicable statutes N/A

c. Existing controls None

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Chromium Metal Exothermic (Chromium)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity

Surface-borne dust/can be ingested/high toxicity

## 3. Type of cover or containment:

15, 20, &amp; 30 gal. drums

## 4. Site location:

T-215

## 5. Worker protection:

Moving - nuisance dust mask, gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA 0.5 mg/M<sup>3</sup> TWA

b. Existing controls Access limited

c. Probable exposure None during storage, considerable during repacking

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls None

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Cobalt

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity

Surface-borne dust/can be ingested/slight toxicity/has been shown to cause contact dermatitis

## 3. Type of cover or containment:

Granules and rondelles in 55 gal. drums &amp; wooden kegs

## 4. Site location:

T-215, 214, 213

## 5. Worker protection:

Repacking - nuisance dust masks, gloves

## 6. Emergency considerations:

Fire - When cobalt is exposed to excessive heat, a potential fire hazard exists.

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA -  $0.1 \text{ mg/M}^3$  TWA

b. Existing controls Access limited

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Wooden kegs broken from storage weight. Reported that repacking will be to metal drums in immediate future.

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet to south

b. Applicable statutes N/A

c. Existing controls Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Ferrocolumnium (Collumbium)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/toxicity unknown

Surface-borne dust/can be ingested/toxicity unknown

## 3. Type of cover or containment:

30 gal. drums

## 4. Site location:

T-213

## 5. Worker protection:

Repacking - nuisance dust mask, gloves, protective clothing, daily showers

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> (total dust) TWA ; 5 mg/M<sup>3</sup> (respirable)

b. Existing controls Access limited

c. Probable exposure None during storage

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Columbium Tantalum Source Material

## 2. Environmental considerations of the commodity:

Radioactive material - low level radiation

Airborne dust/can be inhaled/toxicity unknown

Surface-borne dust/can be ingested/toxicity unknown

## 3. Type of cover or containment:

Bags, drums, and wooden boxes

## 4. Site location:

T-214, 213

## 5. Worker protection:

Repacking - nuisance dust mask, gloves, goggles, protective clothing,  
daily showers, launder clothes daily, place on (see reverse side)

## 6. Emergency considerations:

Flooding and fire - low level radiation material may be dispersed

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup>·TWA (total dust); 5 mg/M<sup>3</sup> (respirable)

b. Existing controls Access controlled

c. Probable exposure None during storage, possible during repacking

d. Existing monitoring As requested

e. Test data 3/16/78 contact 0.15-0.4 mr/hr B .03 mr/hr  
3/15/78 contact 0.6-1.5 mr/hr B .03 mr/hr

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage adequate

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Columbium Carbide Powder (Columbium)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/toxicity unknown

Surface-borne dust/can be ingested/toxicity unknown

## 3. Type of cover or containment:

Wooden boxes

## 4. Site location:

T-213, Security Room #1

## 5. Worker protection:

Repacking - nuisance dust mask, gloves, protective clothing, daily showers, ventilation

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> (total dust); 5 mg/M<sup>3</sup> (respirable dust)

b. Existing controls Access restricted

c. Probable exposure None, during storage

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage with restricted access

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Columbium Metal Powder (Columbium)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/toxicity unknown

Surface-borne dust/can be ingested/toxicity unknown

## 3. Type of cover or containment:

18 gal. metal drums

## 4. Site location:

T-213, Security Room #1

## 5. Worker protection:

Repacking - nuisance dust mask, gloves, protective clothing, daily showers, ventilation

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> TWA (total dust); 5 mg/M<sup>3</sup> (respirable)

b. Existing controls Access restricted

c. Probable exposure None, during storage

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence, 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Fluorspar Acid

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity

Surface-borne dust/can be ingested/high toxicity

## 3. Type of cover or containment:

Bins 2, 3, 4 and 8, Inside storage

## 4. Site location:

T-215

## 5. Worker protection:

Moving and Repacking - nuisance dust mask, goggles, protective clothing, showers

## 6. Emergency considerations:

Fire - emits highly toxic fumes when heated to decomposition

Flooding - Insoluble in water

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 2.5 mg/M<sup>3</sup> TWA (Fluoride, as F)

b. Existing controls Access limited

c. Probable exposure None during storage, significant during moving operations

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate, but extremely dusty during moving operations

## 2. Community:

a. Nearest sensitive receptor Residence, 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Fluorspar Metallurgical Grade

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity

Surface-borne dust/can be ingested/high toxicity

## 3. Type of cover or containment:

Bulk storage; some piles have Granite and asphalt sprayed covers aluminum painted on a concrete base. All others on bituminous pads

## 4. Site location:

## 5. Worker protection:

Payloader operator - nuisance dust mask, gloves

## 6. Emergency considerations:

Fire - emits highly toxic fumes when heated to decomposition

Flooding - insoluble in water

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 2.5 mg/M<sup>3</sup> TWA (as Fluoride, F)

b. Existing controls None

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence, 1500 feet south

b. Applicable statutes N/A

c. Existing controls N/A

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Graphite Natural Ceylon and Amorphous Lump

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity

## 3. Type of cover or containment:

Burlap bags and box pallets

## 4. Site location:

T-213

## 5. Worker protection:

Repacking - nuisance dust mask, gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mppcf TWA

b. Existing controls Access limited

c. Probable exposure None during storage

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Iodine

## 2. Environmental considerations of the commodity:

Airborne particles/can be inhaled/high toxicity

Surface-borne particles/can be ingested/high toxicity

## 3. Type of cover or containment:

Glass jars in cardboard boxes in wooden boxes

## 4. Site location:

T-214

## 5. Worker protection:

Repacking - air-supplied respirator, rubber gloves, protective clothing, daily showers.

## 6. Emergency considerations:

Fire - Can emit highly toxic fumes when heated to decomposition

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 0.1 ppm Ceiling

b. Existing controls Respirator required when Temp.  $> 50^{\circ}$  F, gloves, protective clothing, washing

c. Probable exposure None, during storage; probable during repacking

d. Existing monitoring Periodic

e. Test data 11/11-12/76 9 samples, all below 0.025 ppm

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Kyanite (Alumina, Silica)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight to moderate toxicity

## 3. Type of cover or containment:

Bulk storage

## 4. Site location:

Pile 18

## 5. Worker protection:

Moving - gloves, nuisance dust mask

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> TWA (total dust); 5 mg/M<sup>3</sup> (respirable)  
or less dependent on SiO<sub>2</sub> content

b. Existing controls None

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls None

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Lead

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity

Surface-borne dust/can be ingested/high toxicity

## 3. Type of cover or containment:

Open storage - 100 lb. pigs

## 4. Site location:

Areas 225, 219, 216

## 5. Worker protection:

Moving - gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 0.05 mg/M<sup>3</sup> TWA

b. Existing controls None

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls None

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Lithium Hydroxide Monohydrate

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight to moderate toxicity

Surface-borne dust/can be ingested/slight to moderate toxicity

## 3. Type of cover or containment:

Fiber drums

## 4. Site location:

Building T-213 Security Room #1

## 5. Worker protection:

Repacking - nuisance dust masks, gloves

## 6. Emergency considerations:

Flooding - Soluble in water. Will form a highly caustic solution

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> TWA (total dust); 5 mg/M<sup>3</sup> (respirable dust)

b. Existing controls Limited access

c. Probable exposure None, during storage

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979

Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Manganese Electrolytic

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/high toxicity

Surface-borne dust/can be ingested/high toxicity

## 3. Type of cover or containment:

55 gal. drums

## 4. Site location:

T-215

## 5. Worker protection:

Moving - gloves

## 6. Emergency considerations:

Flooding - Will react with water or steam to produce hydrogen.

Moderately dangerous

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 5 mg/M<sup>3</sup> TWA

b. Existing controls Limited access

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Limited access

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Manganese Dioxide

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/moderate to high toxicity

Surface-borne dust/can be ingested/moderate to high toxicity

## 3. Type of cover or containment:

Fiber drums in box pallets

## 4. Site location:

T-213, 215

## 5. Worker protection:

None

## 6. Emergency considerations:

Fire - moderate hazard; powerful oxidizer when exposed to excessive heat

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 5 mg/M<sup>3</sup> (as Mn) TWA

b. Existing controls Limited access

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Ferromanganese High Carbon

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/moderate to high toxicity

Surface-borne dust/can be ingested/moderate to high toxicity

## 3. Type of cover or containment:

Bulk storage on bituminous slab

## 4. Site location:

P-83,22,23,24,25,29,32,27,38,39,41,42,40,28,45,46, (see reverse side)

## 5. Worker protection:

Moving - nuisance dust mask, gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 5 mg/M<sup>3</sup> (as Mn) TWA

b. Existing controls Not to be stored within 500 feet of rubber products

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Ferromanganese Medium Carbon (Manganese)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/moderate to high toxicity

Surface-borne dust/can be ingested/moderate to high toxicity

## 3. Type of cover or containment:

Bulk storage on bituminous slab

## 4. Site location:

P-109

## 5. Worker protection:

Moving - nuisance dust mask, gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 5 mg/M<sup>3</sup> (as Mn) TWA

b. Existing controls None

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Silicomanganese (Manganese)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/moderate to high toxicity

Surface-borne dust/can be ingested/moderate to high toxicity

## 3. Type of cover or containment:

Bulk storage on bituminous slab

## 4. Site location:

## 5. Worker protection:

Working - nuisance dust mask, gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA -  $5 \text{ mg/M}^3$  (as Mn) TWA

b. Existing controls None

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Mercury

## 2. Environmental considerations of the commodity:

Mercury vapor/can be inhaled/high toxicity

Surface-borne liquid/can be ingested or absorbed through the skin/high toxicity

## 3. Type of cover or containment:

Iron flasks in boxed pallets

## 4. Site location:

T-214, Mercury cage

## 5. Worker protection:

If leakers present; air-supplied respirator, gloves, protective clothing, goggles, ventilation, daily showers, and laundry.

## 6. Emergency considerations:

Fire - Emits highly toxic fumes when heated

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 1 mg/10M<sup>3</sup> TWA ; ACGIH - 0.05 mg/M<sup>3</sup> TWA ,  
0.15 mg/M<sup>3</sup> (STEL)b. Existing controls Access limited, caution signs on doors for required  
breathing apparatus in case of fire or spills

c. Probable exposure None, except for "leakers" cleanup

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate, but monitoring equipment should be on  
hand.

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Mica

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/moderate toxicity.

Wooden boxes may be contaminated with DDT for insect control

## 3. Type of cover or containment:

Wooden cases

## 4. Site location:

T-213, 214

## 5. Worker protection:

Repacking or moving - nuisance dust mask, gloves

## 6. Emergency considerations:

Flooding - Boxes may be contaminated with DDT.

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 20 mppcf TWA

b. Existing controls "DDT contamination" CAUTION signs are to be attached to the wooden box exteriors before being shipped

c. Probable exposure None from mica exposure; minimal DDT exposure if gloves are worn

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate. Make sure DDT tags are attached to all shipments if they are required.

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Nickel

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight to moderate toxicity

Surface-borne dust/can be ingested/slight to moderate toxicity

## 3. Type of cover or containment:

Briquettes in 55 gal. drums

## 4. Site location:

T-215

## 5. Worker protection:

Repacking - nuisance dust mask, gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 1 mg/M<sup>3</sup> TWA

b. Existing controls None

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage, access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Nickel Oxide

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight to moderate toxicity

Surface-borne dust/can be ingested/slight to moderate toxicity

## 3. Type of cover or containment:

55 gal. drums

## 4. Site location:

T-214

## 5. Worker protection:

Repacking - nuisance dust masks, gloves, protective clothing

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA -  $1 \text{ mg/M}^3$  (as Ni) TWA

b. Existing controls Access limited

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls None

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Quinine

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled or get into eyes/moderate toxicity  
Surface-borne dust/can be ingested/moderate toxicity

## 3. Type of cover or containment:

#10 cans in wooden cases

## 4. Site location:

T-213, Security Room #1

## 5. Worker protection:

Repacking and moving - nuisance dust mask, gloves, goggles

## 6. Emergency considerations:

Fire - Slight hazard when heated to decomposition, creating NO<sub>x</sub> fumes.

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

- a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> TWA (total dust); 5 mg/M<sup>3</sup> (respirable dust)
- b. Existing controls Access limited
- c. Probable exposure None
- d. Existing monitoring None
- e. Test data None
- f. Observations Storage adequate

## 2. Community:

- a. Nearest sensitive receptor Residence - 1500 feet south
- b. Applicable statutes N/A
- c. Existing controls Inside storage
- d. Probable exposure None
- e. Existing monitoring None
- f. Test data None
- g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Rare Earths (Bastnasite,  $\text{RfCO}_3$  fluorocarbonate of (see reverse side)

## 2. Environmental considerations of the commodity:

Radioactive materials - low level sources

Airborne dust/can be inhaled/toxicity unknown

Surface-borne dust/can be ingested/toxicity unknown

## 3. Type of cover or containment:

20 gal. and 55 gal. drums

## 4. Site location:

T-215

## 5. Worker protection:

For fluoride, protection during repacking - gloves, nuisance dust mask, protective clothing, showers, and laundry. For thorium repacking -

## 6. Emergency considerations:

nuisance dust masks, gloves, protective clothing, daily showers, laundry

These materials are radioactive. Flooding could cause unfavorable impacts

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA -  $15 \text{ mg/M}^3$  (total dust);  $5 \text{ mg/M}^3$  (respirable);

thorium  $1 \times 10^{-6} \mu \text{ Ci/ml}$  (air)

b. Existing controls Inside storage; limited access

c. Probable exposure None, during normal storage

d. Existing monitoring Only conducted when material is shipped or as requested

e. Test data (over)

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage, limited access

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

1. Commodity specification:  
Rubber
2. Environmental considerations of the commodity:  
None - no toxicity
3. Type of cover or containment:  
Bales
4. Site location:  
T-214
5. Worker protection:  
None
6. Emergency considerations:  
Fire - will support combustion if ignited

## III. AIR ENVIRONMENT

1. Worker exposure and storage area considerations:
  - a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> TWA (total dust); 5 mg/M<sup>3</sup> (respirable)
  - b. Existing controls Inside storage
  - c. Probable exposure None
  - d. Existing monitoring None
  - e. Test data None
  - f. Observations Storage adequate
2. Community:
  - a. Nearest sensitive receptor Residence, 1500 feet south
  - b. Applicable statutes N/A
  - c. Existing controls Inside storage, limited access
  - d. Probable exposure None
  - e. Existing monitoring None
  - f. Test data None
  - g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Tantalum Oxide

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity

## 3. Type of cover or containment:

Wooden kegs

## 4. Site location:

T-214

## 5. Worker protection:

Repacking - Nuisance dust mask, gloves, protective clothing

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 5 mg/M<sup>3</sup> TWA; ACGIH - 10 mg/M<sup>3</sup> STEL

b. Existing controls Inside storage

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited, inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Tantalum Carbide Powder

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity

## 3. Type of cover or containment:

Wooden boxes

## 4. Site location:

T-213, Security Room #1

## 5. Worker protection:

Repacking - nuisance dust mask, gloves, protective clothing

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 5 mg/M<sup>3</sup> TWA; ACGIH - 10 mg/M<sup>3</sup> STEL

b. Existing controls Inside storage, access strictly limited

c. Probable exposure None, during storage

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Tantalum Metal Powder

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity

## 3. Type of cover or containment:

Wooden boxes (Powder, ingats, metal slabs)

## 4. Site location:

## 5. Worker protection:

T-213, Security Room No. 1  
Repacking - nuisance dust mask, gloves, protective clothing

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 5 mg/M<sup>3</sup> TWA; ACGIH - 10 mg/M<sup>3</sup> STEL

b. Existing controls Inside storage, access strictly limited

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited, inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Tin

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/non-toxic

## 3. Type of cover or containment:

Pigs - outside storage

## 4. Site location:

Area 222

## 5. Worker protection:

Gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA -  $15 \text{ mg/M}^3$  (total dust) TWA ;  $5 \text{ mg/M}^3$  (respirable)

b. Existing controls Gloves for moving pigs

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate, except for precariously braced stacks on end of pile; should be carefully handled during moving

## 2. Community:

a. Nearest sensitive receptor Residences - 1000 feet south

b. Applicable statutes N/A

c. Existing controls Access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Titanium

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity for short-term exposure/  
unknown toxicity for long-term exposure

## 3. Type of cover or containment:

55 gal gal. drums

## 4. Site location:

Area 14

## 5. Worker protection:

Gloves

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> (total dust) TWA ; 5 mg/M<sup>3</sup> (respirable)

b. Existing controls None

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residences - 1000 feet south

b. Applicable statutes N/A

c. Existing controls Access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979

Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Tungsten Ore (Concentrates)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity  
Low level radiation

## 3. Type of cover or containment:

55 gal. drums, 18 gal gal. drums

## 4. Site location:

T-214, 213

## 5. Worker protection:

Repacking - nuisance dust masks, gloves, goggles, and protective clothing

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> (total dust) TWA ; 5 mg/M<sup>3</sup> (respirable)

b. Existing controls Inside storage

c. Probable exposure None

d. Existing monitoring None

e. Test data (see reverse side)

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited, inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Tungsten Carbide Powder

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity

## 3. Type of cover or containment:

55 gal drums

## 4. Site location:

T-214

## 5. Worker protection:

Repacking - nuisance dust mask, gloves, goggles, and protective clothing

## 6. Emergency considerations:

Fire - No sparks allowed in the area

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> (total dust) TWA ; 5 mg/M<sup>3</sup> (respirable)

b. Existing controls Inside storage, access limited

c. Probable exposure None, during storage

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Tungsten Metal Powder Hydro

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity

## 3. Type of cover or containment:

Drums

## 4. Site location:

T-213

## 5. Worker protection:

Repacking - nuisance dust mask, gloves, goggles, and protective clothing

## 6. Emergency considerations:

Fire - No sparks allowed in the area

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> (total dust) TWA ; 5 mg/M<sup>3</sup> (respirable)

b. Existing controls Access limited, inside storage

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residences - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage, access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Ferrotungsten

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity

## 3. Type of cover or containment:

Wooden boxes and 55 gal drums

## 4. Site location:

T-214

## 5. Worker protection:

Repacking - nuisance dust mask, gloves, goggles, and protective clothing

## 6. Emergency considerations:

Fire - No sparks allowed in the area

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> (total dust) TWA ; 5 mg/M<sup>3</sup> (respirable)

b. Existing controls Inside storage, access limited

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Inside storage, access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Tungsten Metal Powder Carbon

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight toxicity

## 3. Type of cover or containment:

Drums and kegs

## 4. Site location:

T-213

## 5. Worker protection:

Repacking - nuisance dust masks, gloves, goggles, and protective clothing

## 6. Emergency considerations:

Fire - No sparks allowed in the area

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> (total dust) TWA ; 5 mg/M<sup>3</sup> (respirable)

b. Existing controls Inside storage, limited access

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residences - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Vanadium Pentoxide

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/slight to moderate toxicity

## 3. Type of cover or containment:

55 gal drums

## 4. Site location:

T-214, 213

## 5. Worker protection:

Repacking - nuisance dust masks, gloves, goggles, and protective clothing

## 6. Emergency considerations:

None

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA -  $0.5 \text{ mg/M}^3$  ( $\text{V}_2\text{O}_5$  dust) TWA

b. Existing controls Access limited, inside storage

c. Probable exposure None

d. Existing monitoring None

e. Test data (see reverse side)

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residence - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited, inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Vegetable Tannin (Quebracho) (Powdered Chestnut) (Solid Chestnut) (Waddle)

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/moderate toxicity

Surface-borne dust/can be ingested/moderate toxicity

Suspected carcinogen

## 3. Type of cover or containment:

Burlap bags in boxed pallets

## 4. Site location:

T-212, 213, 214

## 5. Worker protection:

Repacking and moving - Air-supplied respirator, gloves, protective clothing, showers, ventilation, and daily laundry. Signs should (see reverse side)

## 6. Emergency considerations:

Flooding - Soluble in water

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> (total dust) TWA ; 5 mg/M<sup>3</sup> (respirable)

b. Existing controls Labeled carcinogen; access limited and monitored by entry log

c. Probable exposure None during storage; high during (see reverse side)

d. Existing monitoring None, except during overpack

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residences - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited, inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Yttrium Oxide

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/toxicity unknown/may have an anticoagulant effect on the blood

## 3. Type of cover or containment:

Fiber drums

## 4. Site location:

## 5. Worker protection:

Repacking - nuisance dust mask, gloves

## 6. Emergency considerations:

Fire - Possible hazard when dust is exposed to heat or flame

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA - 15 mg/M<sup>3</sup> (total dust) TWA ; (see reverse side)

b. Existing controls Inside storage, access strictly limited

c. Probable exposure None during storage

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residences - 1500 feet south

b. Applicable statutes N/A

c. Existing controls None

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979

Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Zinc

## 2. Environmental considerations of the commodity:

None

## 3. Type of cover or containment:

Slabs - Open storage

## 4. Site location:

Area 220, 227, 217

## 5. Worker protection:

Gloves

## 6. Emergency considerations:

Fire - When heated, gives off zinc oxide fumes. Should use forced air respirators for entry.

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes OSHA -  $15 \text{ mg/M}^3$  (total dust) TWA ;  $5 \text{ mg/M}^3$  (respirable)

b. Existing controls None

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residences - 1000 feet south

b. Applicable statutes N/A

c. Existing controls Access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Zirconium (Baddeleyite)

## 2. Environmental considerations of the commodity:

Radioactive material

Airborne dust/can be inhaled/low toxicity

## 3. Type of cover or containment:

Bulk storage on bituminous slab

## 4. Site location:

P-111

## 5. Worker protection:

Moving - nuisance dust mask, gloves

## 6. Emergency considerations:

Fire - Dangerous hazard if dust is exposed to heat or flame or chemically reacted with oxidizers

Flooding - Insoluble in water

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes ACGIH -  $5 \text{ mg/M}^3$  for Zr TWA ;  $10 \text{ mg/M}^3$  (STEL)

b. Existing controls Restricted access, radioactive signs placed

c. Probable exposure None during storage

d. Existing monitoring None

e. Test data (see reverse side)

f. Observations Storage adequate; radioactive signs placed

## 2. Community:

a. Nearest sensitive receptor Residence - 1000 feet south

b. Applicable statutes N/A

c. Existing controls Access limited

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## II. COMMODITY IDENTIFICATION

## 1. Commodity specification:

Zirconium Metal Powder

## 2. Environmental considerations of the commodity:

Airborne dust/can be inhaled/low toxicity

## 3. Type of cover or containment:

#10 cans in wooden boxes

## 4. Site location:

T-213 Security Room 1

## 5. Worker protection:

Repacking or moving - nuisance dust mask, gloves

## 6. Emergency considerations:

Fire - Flammable solid, dangerous hazard if dust is exposed to heat or flame, or chemically reacted with oxidizers.

Flooding - Insoluble in water

## III. AIR ENVIRONMENT

## 1. Worker exposure and storage area considerations:

a. Applicable statutes ACGIH - 5 mg/M<sup>3</sup> for Zr TWA ; 10 mg/M<sup>3</sup> (STEL)

b. Existing controls Inside storage, access strictly limited

c. Probable exposure None

d. Existing monitoring None

e. Test data None

f. Observations Storage adequate

## 2. Community:

a. Nearest sensitive receptor Residences - 1500 feet south

b. Applicable statutes N/A

c. Existing controls Access limited, Inside storage

d. Probable exposure None

e. Existing monitoring None

f. Test data None

g. Observations Storage adequate

Date of Survey: April 26, 1979 Observer: Richard E. Heizer

## GENERAL SERVICES ADMINISTRATION STOCKPILE SITE SURVEY

## IV. WATER ENVIRONMENT

## 1. Surface water considerations:

- a. Receiving stream Lamont Ditch to Maumee River
- b. Discharge point Four point discharges into conveying ditch to the Lamont Ditch immediately downstream of Lake Askley
- c. Tributary area Approximately 268 acres from the GSA site.
- d. Surface water wash Collected in extensive ditch system
- e. Flooding None reported
- f. Flooding history None reported
- g. Existing controls Extensive surface drainage ditch system
- h. Spill control No spill control plan/ existing procedures appear to be adequate
- i. History No reported history of pollution
- j. Observations
  - (1) Flooding problems No existing or potential flooding problems around the stored commodities
- k. General No floor drains in the buildings

## 2. Groundwater considerations:

- a. Soil profile 12" of topsoil underlaid by a blue loam clay (Group D)
- b. Depth to groundwater Reported to be 20-30 feet, depending on the season
- c. Groundwater movement Northwest to the Lamont Ditch and the Maumee River
- d. Existing well data One well on site near the office. No quality data available. Depth of well reported to be 80 feet.
- e. Pollution incidents No pollution incidents have been reported.
- f. Leachate None observed or expected due to age of piles.
- g. Observations Very low probability of groundwater contamination.
- h. General Underlying clay formation will prevent groundwater contamination.

Date of Survey: April 26, 1979 Observer: Richard E. Heizer