

October 17, 2000

Mr. Ron Novak  
Hammond Department of  
Environmental Management  
Room 314  
5925 Calumet Ave.  
Hammond, IN 46320

Dear Mr. Novak:

This is in follow up to our phone conversation on October 13, 2000, regarding potential radiological hazards associated with the Federated Metals site. The former American Smelting and Refining Company possessed and used low level radioactive materials at the site under an Atomic Energy Commission (AEC) license.

As we discussed, the Nuclear Regulatory Commission (NRC) performed inspections at that location in 1999, to investigate whether the formerly licensed activities had been properly terminated and no residual radioactivity remained which could adversely impact public health and safety or the environment.

Copies of our reports which document the inspection activities and findings are enclosed for your information. In summary, we found that the property does not represent a health hazard, and NRC does not need to regulate the site. The Environmental Protection Agency has regulatory authority and is aware of our findings.

If you have any additional questions regarding this matter, please contact me.

Sincerely,

/RA by W. Snell acting for/

Bruce L. Jorgensen, Chief  
Decommissioning Branch

Enclosures: 1. Inspection Report 040-06653/99001  
2. Inspection Report 040-06653/99002

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January 27, 1999

Mr. Neil B. Berg, President  
Accurate Metal Detinning, Inc.  
2230 Indianapolis Boulevard  
Whiting, IN 46394

SUBJECT: NRC INSPECTION REPORT 040-06653/99001(DNMS)

Dear Mr. Berg:

This refers to the survey and inspection of portions of the former American Smelting and Refining Company site at 2230 Indianapolis Boulevard, Whiting, Indiana, on January 13-14, 1999, and the assessment of the results of radioanalysis of the wipe samples collected during the inspection. This refers also to the telephone conversation with you, on January 26, 1999, discussing the analytical results obtained from the analysis of the samples collected. A copy of the report of this inspection is enclosed for your information.

These facilities were licensed by the Atomic Energy Commission (AEC) for use in activities involving uranium, under AEC License No. SUB 00465 from 1961 through 1971. During a review of the files for this license, NRC determined that there were no documented closeout radiation surveys conducted to determine that residual radioactivity in these facilities was within the NRC guidelines for unrestricted release. Therefore, a scoping survey was conducted to ensure the residual radioactivity was within NRC guidelines.

Based upon the results of this scoping survey, NRC has determined that the building surveyed, which now houses Accurate Metal Detinning, Inc., Saxon Metals and Globe Roofing warehouses does not have residual radioactive material in excess of the NRC unrestricted release guidelines. NRC has no further concerns regarding these facilities.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

N. Berg

-2-

Should you have any questions regarding the inspection, please do not hesitate to contact Mr. Ed Kulzer at (630) 829-9875, Dr. Peter Lee at (630) 829-9870 or myself at (630) 829-9615.

Sincerely,

/s/ B.L. Jorgensen

Bruce L. Jorgensen, Chief  
Decommissioning Branch

Docket No. 040-06653 (Terminated)  
License No. SUB-00465 (Terminated)

Enclosure: Inspection Report 040-06653/99001(DNMS)

cc w/encl: W. Harris, Bridgeview Manor Company

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 040-06653 (Terminated)  
License No: SUB-0465 (Terminated)

Report No: 040-06653/99001(DNMS)

Licensee: American Smelting and Refining Company

Facility: Accurate Metals, Inc.

Location: 2230 Indianapolis Blvd.  
Whiting, IN 46394

Dates: January 13-14, 1999  
January 26, 1999

Inspectors: E. L. Kulzer, CIH, CSP, Radiation Specialist  
P. J. Lee, Ph.D., CHP, Radiation Specialist

Accompanied By: R. Bowser, Indiana State Department of Health

Approved By: Bruce L. Jorgensen, Chief   
Decommissioning Branch  
Division of Nuclear Materials Safety

## EXECUTIVE SUMMARY

### American Smelting and Refining Company NRC Inspection Report 040-06653/99001(DNMS)

This was a survey and inspection at the Whiting, Indiana site where the former American Smelting and Refining Company had a license to possess uranium. The site is now owned by Accurate Metal Detinning, Inc., who purchased this property from Federated Metals. There were three businesses located in the building surveyed. These were Accurate Metal and Detinning Inc., Saxon Metals, and Globe Roofing. Accurate Metals and Detinning Inc., separates and detins metals. Saxon Metals does smelting to recover zinc and tin. The slag from this process goes to refineries. Globe Roofing uses some of this area as a warehouse.

There were no former employees from American Smelting and Refining Company to interview to determine exactly where licensed activities took place. Several buildings were also reported to have been demolished. The inspectors selected the target building to survey because it appeared to be a facility where smelting took place. Surveys throughout these areas showed no detectable radioactivity. A total of 25 wipe samples were collected in these areas and were found to be below the NRC's release guidelines for unrestricted use. (See Figure 1)

The slag waste was dumped offsite onto adjoining property which is now an EPA Superfund site. This area will be surveyed when the weather permits. Weather conditions were such that the exterior ground surface and the perimeters of buildings could not be scanned.

## Report Details

### **1.0 Background**

The Atomic Energy Commission (AEC) authorized American Smelting and Refining Company to process tin alloy containing 0.84 percent uranium. The license was issued on October 5, 1961, and expired on April 6, 1971. A file review of old license files recently disclosed that this file lacked evidence of any closeout radiation surveys to ensure any residual radioactivity met acceptable levels for unrestricted release.

### **2.0 Independent Measurements**

#### **a. Inspection Scope (87104)**

The NRC survey included direct scanning of at least 30 percent of each of the areas that may have been used under the license. The NRC inspectors used Ludlum Model 2241 meters with Model 44-9 pancake probes. Wipe samples were collected to determine the extent of any removable material that may have been present.

#### **b. Observations and Findings**

The background reading using these instruments was approximately 40 counts per minute (cpm). Radiation levels in these areas were indistinguishable from background.

Twenty five wipe samples were collected in these areas. All wipes samples analyzed had activity levels which were below the NRC release guidelines for unrestricted use.

#### **c. Conclusions**

The areas surveyed; Accurate Metals and Detinning, Inc., Saxon Metals, and the Globe Roofing warehouse can be released for unrestricted use.

### **3.0 Exit Management Meeting**

At the conclusion of the onsite inspection of the facilities, the preliminary results of the inspection were discussed with the individuals identified below. A telephone conversation with Mr. Berg was also made on January 26, 1999, to discuss the results of the wipe samples.

Attachment: Figure 1

## **PARTIAL LIST OF PERSONS CONTACTED**

\*N. Berg, President, Accurate metal Detinning, Inc.

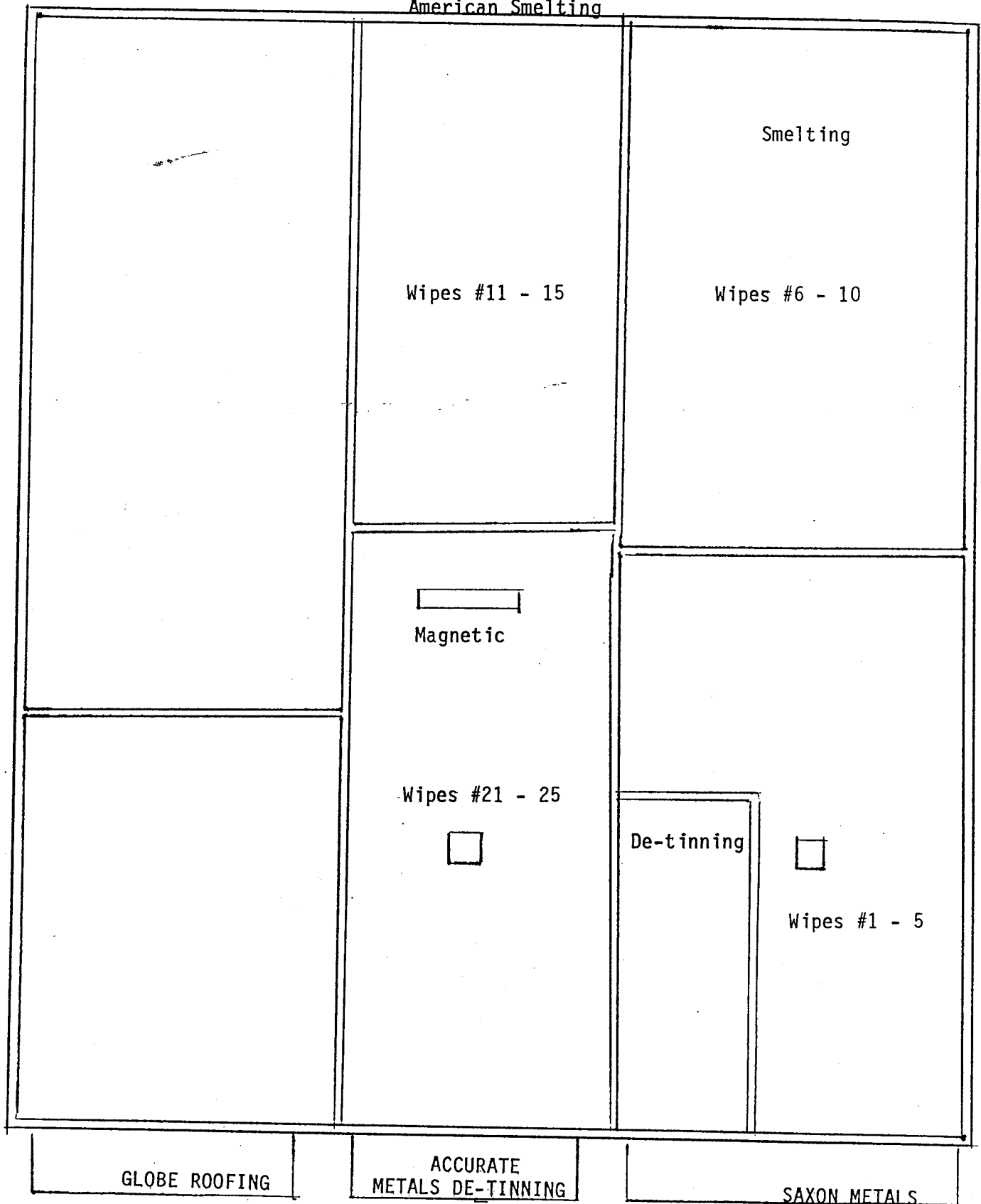
\*Attended onsite exit meeting conducted January 14, 1999. Telephone conversation of January 26, 1999, discussing the sample results.

## **INSPECTION PROCEDURE USED**

IP 87104: Decommissioning Inspection for Materials Licensees

Figure 1

American Smelting





NUCLEAR REGULATORY COMMISSION

REGION III  
801 WARRENVILLE ROAD  
LISLE, ILLINOIS 60532-4351

Attachment 2

August 10, 1999

Konrad J. Banaszak, PhD., CPG  
Vice President  
ARCADIS GERITY & MILLER  
251 East Ohio Street, Suite 800  
Indianapolis, IN 46204

SUBJECT: NRC INSPECTION REPORT 040-06653/99002(DNMS)

Dear Dr. Banaszak:

This refers to the survey and inspection of portions of the former American Smelting and Refining Company site at 2230 Indianapolis Boulevard, Whiting, Indiana, on May 5-6, 1999, and to the subsequent laboratory radio analysis of the slag samples and a bulk sample of Black Beauty Product collected during the inspection. The laboratory analyses were completed on July 27, 1999. This refers also to the telephone conversation with you and with Mr. Schmidt of your staff, on August 2, 1999, discussing the analytical results obtained from the analysis of the samples collected. A copy of our report of this inspection is enclosed for your information.

These facilities were licensed by the Atomic Energy Commission (AEC) for use in activities involving uranium, under AEC License No. SUB 00465 from 1961 through 1971. During a review of the files for this license, NRC determined that there were no documented closeout radiation surveys conducted to determine that residual radioactivity in these facilities was within the NRC guidelines for unrestricted release. Therefore, a scoping survey was conducted to ensure the residual radioactivity was within NRC guidelines.

Based upon the results of this scoping survey, NRC has determined that the areas surveyed, which are currently a US EPA Superfund site maintained by Federated Metals Company, may contain low levels of residual licensed radioactive material below 0.05 weight percent. The identified levels do not constitute an immediate health or safety issue. It does not appear necessary for NRC to regulate wastes containing source materials such as thorium and uranium, when such wastes are being regulated by another Federal Agency, and the source materials constitute less than 0.05 weight percent. However, because elevated radiation levels caused by formerly licensed materials may be present, a referral will be made to the NRC Headquarters program office for review. In addition, the US EPA will be informed of our preliminary findings.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

Should you have any questions regarding the inspection, please contact Mr. Ed Kulzer at (630) 829-9875, Dr. Peter Lee at (630) 829-9870 or myself at (630) 829-9615.

Sincerely,

/s/ B.L. Jorgensen

Bruce L. Jorgensen, Chief  
Decommissioning Branch

Docket No. 040-06653 (Terminated)  
License No. SUB-00465 (Terminated)

Enclosure: Inspection Report 040-06653/99002(DNMS)

cc w/encl: N. Berg, Accurate Metals, Inc.  
V. Wildman, Bridgeview Management Company

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| NAME   | Kulzer:dp |  | Lee     |  | Jorgensen |                                     |   |  |  |
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 040-06653 (Terminated)  
License No: SUB-0465 (Terminated)

Report No: 040-06653/99002(DNMS)

Licensee: American Smelting and Refining Company

Facility: Federated Metals Company.

Location: 2230 Indianapolis Blvd.  
Whiting, IN 46394

Dates: May 5-6, 1999  
August 2, 1999

Inspectors: E. L. Kulzer, CIH, CSP, Radiation Specialist  
P. J. Lee, Ph.D., CHP, Radiation Specialist

Accompanied By: R. Bowser, Indiana State Department of Health

Approved By: Bruce L. Jorgensen, Chief  
Decommissioning Branch  
Division of Nuclear Materials Safety

## EXECUTIVE SUMMARY

### American Smelting and Refining Company NRC Inspection Report 040-06653/99002(DNMS)

This was a survey and inspection at the Whiting, Indiana, site where the former American Smelting and Refining Company had a license to possess uranium. The site is currently owned by Federated Metals Company. This site consists of approximately fifteen acres of landfill and a baghouse which are adjacent to the former American Smelting operation. The landfill is where slag waste was dumped from the previous tin recovering process.

Nine samples of slag were collected from areas showing elevated direct radiation readings. (See Figure 1 for locations) One sample of a commercial product (bulk "Black Beauty") was also collected. Based on these biased sampling results, the slag landfill was determined to contain low residual levels (less than 0.05 weight percent) of uranium. No immediate health or safety issue exists. NRC may not need to regulate wastes containing source materials such as thorium and uranium at less than 0.05 weight percent, provided such wastes are being regulated by another Federal Agency, such as Environmental Protection Agency in this case. These results will be referred to the NRC Headquarters program office and to the EPA.

## Report Details

### 1.0 Background

The Atomic Energy Commission (AEC) authorized American Smelting and Refining Company (a subsidiary of Federated Metals Company) to process tin alloy containing 0.84 percent uranium. The license was issued on October 5, 1961, and expired on April 6, 1971. A file review of old license files recently disclosed that this file lacked evidence of any closeout radiation surveys to ensure any residual radioactivity met acceptable levels for unrestricted release.

An NRC survey of the buildings at the former site of American Smelting was conducted in January 1999. No radioactive contamination was found - see NRC Inspection Report No. 040-06653/99001(DNMS).

This inspection was made on the adjoining property where the former American Smelting Company discarded its slag waste. This is a fifteen acre site adjoining the former facility and is currently a United States Environmental Protection Agency (US EPA) Superfund site due to high concentrations of lead in the slag. The inspection also included the former American Smelting baghouse which is part of the Superfund site. The site is currently owned by Federated Metals Company and managed by Bridgeview Management Company.

### 2.0 Independent Measurements

#### 2.1 Direct Radiation Surveys

The survey included surface scans and exposure rate measurements of about 30 percent of the slag landfill and bag house. Scanning surveys were performed using G-M pancake and NaI detectors. Exposure rate measurements were performed using microR meters.

Nine areas with elevated radiation levels were identified in the slag landfill. The exposure rates in these areas ranged from 20 to 40  $\mu\text{R}/\text{hour}$ . Background radiation levels ranged from 5 to 10  $\mu\text{R}/\text{hour}$ .

No activities above background were identified from the baghouse except the area where 55-gallon drums were stored.

#### 2.2 Sample Analyses

A total of 9 samples were collected for independent analyses: 8 samples from the slag landfill, and 1 sample from the bulk material contained in the 55-gallon drums from the bag house.

All slag samples analyzed contained uranium and/or thorium at less than 0.05 weight percent, and radium-226. The sample from the 55-gallon drum contained uranium indistinguishable from background, and trace amounts of thorium and radium-226.

### 2.3 Conclusions

Based on the sampling results, it is concluded that the elevated direct radiation readings which were noted were caused primarily by Ra-226, which would constitute the dominant dose factor for the foreseeable future. The slag landfill contained less than 0.05 weight percent of formerly licensed material (uranium) and NRC has no immediate safety or regulatory concerns. However, because some elevated radiation levels were noted, primarily caused by radium present in the slag, referrals will be made to the NRC Headquarters Program Office and the US EPA.

### 3.0 Exit Management Meeting

At the conclusion of the onsite inspection of the facilities, the preliminary results of the inspection were discussed with the individuals identified below. A telephone conversation with Dr. Banaszak and Mr. Schmidt was also made on August 2, 1999, to discuss the results of the laboratory analyses of the slag samples collected.

- Attachments:
1. Figure 1 (site map)
  2. Table 1 (Sample analytical results)

## **PARTIAL LIST OF PERSONS CONTACTED**

N. Berg, President, Accurate Metal Detinning, Inc.

# K. Banaszak, Vice president, ARCADIS, GERAGHTY & MILLER

\*#R. Schmidt, ARCADIS, GERAGHTY & MILLER

\*Attended onsite exit meeting conducted May 6, 1999.

#Participated in telephone conversation of August 2, 1999, discussing the sample results.

## **INSPECTION PROCEDURES USED**

IP 87104      Decommissioning Inspection for Materials Licensees

Table 1

Sample Analytical Results  
(pCi/g)

| Sampling Location | U(234, 235, 238) | Th(228, 232) | Ra-226     |
|-------------------|------------------|--------------|------------|
| 1                 | 6.57 ± 59%       | 1.37 ± 10%   | 33.53 ± 7% |
| 2                 | 3.27 ± 61%       | 1.24 ± 5%    | 10.76 ± 6% |
| 3                 | 5.62 ± 48%       | 2.83 ± 2%    | 1.56 ± 4%  |
| 4                 | 5.46 ± 44%       | 1.53 ± 6%    | 6.86 ± 3%  |
| 5                 | 28.23 ± 21%      | 1.37 ± 18%   | 10.07 ± 6% |
| 6                 | 136.0 ± 10%      | 1.13 ± 13%   | 30.30 ± 6% |
| 7                 | 6.19 ± 44%       | 9.81 ± 6%    | 3.15 ± 7%  |
| 8&9               | 2.05 ± 23%       | 2.25 ± 17%   | 1.22 ± 10% |
| Bag House         | <3.30            | 4.94 ± 6%    | 5.32 ± 33% |

\* The slag samples contained less than 0.05 wt.% of natural uranium, 344 pCi/g.



- SMAUJ1 - THE FOUNDRY WASTE LANDFILL OUTSIDE THE FENCED AREA PRESENTLY CONTAINING VARIOUS SLAGS AND RELATED FOUNDRY WASTES.  
 SMAUJ2 - VISIBLE SLAG PRESENTLY LOCATED WITHIN THE FENCED AREA.  
 SMAUJ3 - ALL AREAS WITHIN THE FENCED-IN AREA NOT PRESENTLY CONTAINING WASTE MATERIALS BUT WHICH FORMERLY WERE USED TO STORE WASTES (AS DOCUMENTED BY FILE EVIDENCE).  
 SMAUJ4 - AN AREA FORMERLY USED TO STORE USED BAGHOUSE BAGS FROM THE MAIN BAGHOUSE CONTAINING TIN/LEAD DUST.  
 SMAUJ5 - FORMER STORAGE AREA FOR ZINC SLUDGE IN BARRELS.  
 SMAUJ6 - ZINC SLUDGE PILE STORAGE AREA.  
 SMAUJ7 - LIGHT IRON STORAGE.  
 SMAUJ8 - OLD MAIN BAGHOUSE, SMALL BARRELS OF BAGHOUSE DUST.  
 SMAUJ9 - WASTE OIL STORAGE.