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LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

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LUCKY FUSRAP SITE, WOOD COUNTY, OHIO

LUCKY FUSRAP Site
Wood County, Ohio
Historical Environmental Photographic Analysis

By
The US Army Geospatial Center (AGC)
Hydrologic and Environmental Analysis Branch
Environmental Analysis Team
7701 Telegraph Road
Alexandria, Virginia 22315-3864

September 2011 Final Report

Prepared for the U.S. Army Corps of Engineers,
Buffalo District, New York

NOTICE

The views, opinions, and conclusions in this report are those of the author and should not be construed as official Department Of Army positions or policy unless so designated by other documentation.

Photographic items contained in this hard copy report may be restricted for use other than research. It is the responsibility of the party using photographs from this study to contact the US Army Geospatial Center, Environmental Analysis Team, in order to ascertain clearance for use.

INTRODUCTION

A report of findings (which includes a GIS data package in the completed Final Report) presents the results of an environmental historical photographic analysis of the Luckey FUSRAP Site. The Hydrologic and Environmental Analysis Branch was tasked to search, collect, and analyze historical photographic records and historic map data relative to the project area.

The GIS data package contains all findings derived from the historical photographic analysis. This hard copy report displays selected findings from features identified within the project area.
The analysis presented in this report is primarily based upon interpretation of black and white aerial photography over the project area spanning 1938 to 2010. The period of the 1950s (reflecting plant operations under the direction of the U.S. Atomic Energy Commission) is emphasized in this photographic study. Stereo viewing was employed where overlapping photographs permitted its use. Significant features, derived through photo analysis, are displayed on selected photos in this study.

Building names and numbers have been derived from historical documentation provided by the U.S. Army Corps of Engineers, Buffalo District.

Images and shape files contained in the GIS package are displayed in State Plane; Northern Ohio (FIPS Zone 3401), NAD83 datum, GRS 1980 spheroid, units in feet. Geo-rectification of imagery was employed via Erdas Imagine. Shape files were compiled in ArcGIS.
LUCKEY, OHIO FUSRAP SITE

- General Location
Project Site

Aerial Photographic Coverage
- Historical Photographic Analysis


*21200 Luckey Road (about 1 mile north of Luckey town center).
# PHOTOGRAPHIC SOURCES

## LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

## HISTORICAL VERTICAL AERIAL PHOTOGRAPHS & IMAGERY – DATA COLLECTION

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DATE</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NARA</td>
<td>1950, 06 Sept</td>
<td>B&amp;W vertical aerial photos. Record Group 145. Scale = 1:20,000.</td>
</tr>
<tr>
<td>FSA</td>
<td>1957, 3 Sept</td>
<td>B&amp;W vertical aerial photos. Partial coverage of quarry. Scale = 1:20,000.</td>
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<tr>
<td>FSA</td>
<td>1957, 10 Nov</td>
<td>B&amp;W vertical aerial photos. Scale = 1:20,000.</td>
</tr>
<tr>
<td>FSA</td>
<td>1963, 02 May</td>
<td>B&amp;W vertical aerial photos. Scale = 1:20,000.</td>
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<tr>
<td>ODOT</td>
<td>1967, Sept</td>
<td>B&amp;W vertical aerial photos. Scale = 1:10,000.</td>
</tr>
<tr>
<td>ODOT</td>
<td>1969, March</td>
<td>B&amp;W vertical aerial photos. Scale = 1:10,000.</td>
</tr>
<tr>
<td>FSA</td>
<td>1969, 10 Sept</td>
<td>B&amp;W vertical aerial photos. Scale = 1:20,000.</td>
</tr>
</tbody>
</table>

* B&W = black and white  
* EDC = EROS Data Center  
* FSA = Farm Service Agency  
* NARA = National Archives and Records Administration  
* ODOT = Ohio Department of Transportation  
* USGS = U.S. Geological Survey  

* Item selected for inclusion into the historical aerial photographic analysis of this report.
# PHOTOGRAPHIC SOURCES

## HISTORICAL AERIAL VERTICAL PHOTOGRAPHS & IMAGERY – DATA COLLECTION (Continued)

<table>
<thead>
<tr>
<th>SOURCE</th>
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<th>REMARKS</th>
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<tr>
<td>* ODOT</td>
<td>1972, April</td>
<td>B&amp;W vertical aerial photos. Scale = 1:10,000.</td>
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<td>ODOT</td>
<td>1977, April</td>
<td>B&amp;W vertical aerial photos. Scale = 1:50,000.</td>
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<td>* ODOT</td>
<td>1980, May</td>
<td>B&amp;W vertical aerial photos. Scale = 1:10,000.</td>
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<td>FSA</td>
<td>1980, 19 Sept</td>
<td>B&amp;W vertical aerial photos. Scale = 1:40,000.</td>
</tr>
<tr>
<td>* EDC</td>
<td>1988, 09 Apr</td>
<td>Color Infrared aerial photos. Scale = 1:40,000.</td>
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<td>ODOT</td>
<td>1990, Oct</td>
<td>B&amp;W vertical aerial photos. Scale = 1:10,000.</td>
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<tr>
<td>USGS</td>
<td>1994, 04 Apr</td>
<td>B&amp;W Digital Orthoquad (DOQ) data. JPEG compressed image. One meter resolution.</td>
</tr>
<tr>
<td>EDC</td>
<td>2000, 12 Oct</td>
<td>B&amp;W vertical aerial photos. Scale = 1:40,000.</td>
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<tr>
<td>* USGS</td>
<td>2010, 29 May</td>
<td>NAIP imagery: 1-meter resolution; natural color image.</td>
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B&W = black and white  
EDC = EROS Data Center  
FSA = Farm Service Agency  
NAIP = National Agriculture Imagery Program  
NARA = National Archives and Records Administration  
ODOT = Ohio Department of Transportation  
USGS = U.S. Geological Survey  
WOOD = Wood County, Ohio [Auditor’s Office]  

* Item selected for inclusion into the historical aerial photographic analysis of this report.
The U.S. Army Geospatial Center (AGC) was tasked to conduct photo interpretation of historical aerial photography over the Luckey FUSRAP Site in support of the FUSRAP Program.

Historical Aerial Photographic Study

- **IDENTIFICATION OF FEATURES BY SCALE, SHAPE, TONE, PATTERN, ORIENTATION, SHADOW, AND TEXTURE**

- **CHANGE DETECTION OF MAN-MADE OR NATURALLY-OCCURRING FEATURES**

- **PLACING LOCATIONS OF HISTORICAL FEATURES ON THE CURRENT LANDSCAPE**
HISTORICAL SUMMARY

In 1942, a magnesium reduction facility was constructed at the Luckey, Ohio, site on a 40-acre section of land purchased by the Defense Plant Corporation (U.S. Government). The facility was operated for the government by National Lead (assignee, Magnesium Reduction Company) during World War II. The facility was closed in 1945.

In 1949, a beryllium production facility was constructed at the site by the Atomic Energy Commission (AEC). This plant was owned by the AEC and operated from 1949 to 1958 by Brush Beryllium Company (later changed to Brush Wellman), which was also asked to maintain the inactive magnesium facility in a stand-by status. The beryllium plant had a capacity to produce 4,000 pounds of beryllium per month from ore. The waste solutions and precipitated sludge from the beryllium operation were impounded on the plant property in lagoons approximately 1.2 meters deep. All or part of the beryllium production plant may have been in stand-by mode by 1954.

1 Aerial oblique photo derived from historical documentation provided by the U.S. Army Corps of Engineers, Buffalo District.
2 Historical data derived from U.S. Department of Energy (DOE) various reports and memorandums.
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

HISTORICAL REVIEW

HISTORICAL SUMMARY, CONT’D *

In October 1951, the General Service Administration (GSA) asked the AEC to transfer ferrous metal scrap to the GSA for use in control of chlorine fumes in producing magnesium. The ferrous metal scrap was present at the AEC’s Lake Ontario Storage Area. In December 1951, 1,000 tons of scrap steel (contaminated by fission products, yellow-salt, and concrete flooring) were allegedly sold to Diamond Magnesium for use in the processing of magnesium at the Luckey Plant. However, former employees of Brush Wellman indicate that the magnesium plant never operated. They indicated that the scrap steel was received at the plant, but was never used in magnesium or beryllium production processes.

In 1959, the Luckey plant was closed. AEC contracted with Brush Wellman to close the plant according to a closure plan.

OWNER HISTORY *

From 1942 to 1948, the facility was owned by the Reconstruction Finance Corporation (successor to the Defense Plant Corporation). The facility was transferred to the U.S. Government in 1948, and assigned to the General Services Administration in 1949. From 1949 to 1958 the plant was owned and operated by Brush Beryllium (later Brush Wellman). In 1961, the facility was transferred to Aluminum and Magnesium, Inc. by quitclaim deed. The government, however, reserved the right to re-claim any of the beryllium left on the site. In 1967, Aluminum and Magnesium (a division of Vulcan Materials Company) transferred the property to Vulcan. In 1968, the property was transferred to Goodyear Tire and Rubber Company, who in 1987 transferred the property to Motor Wheel Corporation, a former subsidiary of Goodyear. The property is currently owned by the Industrial Properties Recovery, LCC (aka Abdoo Wrecking, LLC).

* Historical data derived from U.S. Department of Energy (DOE) various reports and memorandums.
PERIOD PRIOR TO THE START-UP OF A MAGNESIUM REDUCTION PLANT

Photo Interpretation Of Aerial Photography

1939

Pre-development Aerial Coverage
OCTOBER 1939 – VERTICAL VIEW

1 White spotted patterns on the 1939 photo are the result of a damaged original negative.
PERIOD OF CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION

During 1942-1945, a magnesium reduction plant is operated by the National Lead Company at the Luckey FUSRAP site.

From 1948 to 1958, the plant at the Luckey FUSRAP site is operated by Brush Beryllium/Brush Wellman and performs work for the U.S. Atomic Energy Commission.

Source: U.S. Department of Energy

Selected findings from the aerial photographic analysis.

Locations are shown in the State Plane; FIPS Zone 3401; NAD83 datum; units in feet.
24 AUGUST 1950 – VERTICAL VIEW: NORTHEAST SECTOR

LOCATION DIAGRAM

INSET A

SEE INSET B (NEXT PAGE)

PRIVATE LAND

fence line

fence line

NY Central RR

ditch

Filter Beds

Shipping Building

Melting Ingot Building

Smelting Building

LAGOON C

2 National Lead Company, Plot Plan, 5 July 1942.
24 AUGUST 1950 – VERTICAL VIEW #2: NORTHEAST SECTOR

**Light-toned Material**
- 654,710 N, 1,697,505 E

**Guard tower**
- 654,565 N, 1,697,105 E

**Sewage Treatment Plant**
- 654,430 N, 1,697,445 E

**Filter Beds**
- 654,440 N, 1,698,090 E

**Disturbed Ground**
- [possible trench related to disposal operations]
  (ref: multiple-source reports)

**Open Storage**
- 654,490 N, 1,698,035 E

---

1 Multiple source documents.
24 AUGUST 1950 – VERTICAL VIEW: NORTHWEST SECTOR

**Ground scars or bare ground**
(light-toned mounded material observed here on an undated Dynamac Corporation oblique aerial photo – see Inset B above)

**Light-toned Mounded Material**

**Dark-toned Mounded Material**

654,735 N 1,696,985 E

1 Aerial oblique photo derived from historical documentation provided by the U.S. Army Corps of Engineers, Buffalo District.
24 AUGUST 1950 – VERTICAL VIEW: LAGOON AREA

24 AUGUST 1950 – VERTICAL VIEW #2: LAGOON AREA

INSET B

654,410 N 1,697,445 E
654,370 N 1,697,685 E
654,415 N 1,697,260 E
654,275 N 1,697,640 E
654,165 N 1,697,565 E
654,040 N 1,697,550 E

Shipping Building
Melting Ingot Building
Smelting Building
Tank Farm
Open Storage
Covered Storage (possible trailers)

LAGOON C

1 National Lead Company, Plot Plan, 5 July 1942.
24 AUGUST 1950 – VERTICAL VIEW: QUARRY AREA
From 1948 to 1958, the plant at the Luckey FUSRAP site is operated by Brush Beryllium/Brush Wellman and performs work for the U.S. Atomic Energy Commission.

Source: U.S. Department of Energy

Selected findings from the aerial photographic analysis.

Locations are shown in the State Plane; FIPS Zone 3401; NAD83 datum; units in feet.
25 AUGUST 1951 – VERTICAL VIEW: NORTHEAST SECTOR

Ground scars or bare ground (possible vegetation stress)

Light-toned Material

Linear-shaped section of disturbed ground, observed in 1950, is no longer visible.

2 National Lead Company, Plot Plan, 5 July 1942.
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

25 AUGUST 1951 – VERTICAL VIEW: NORTHWEST SECTOR

INSET A

- Open Storage
- Ground Scars
- Bare Ground
- Mounded Material
- Other Identified Feature

Water Softener

Settling Basin

(observed also on August 1950 photos)

Ground Scars or Bare Ground

Dark-toned Mounded Material

(observed also on August 1950 photos)

Open Storage

(observed also on August 1950 photos)

Private Land

Private Land

25 AUGUST 1951 – VERTICAL VIEW: LAGOON AREA

Lagoons A & B - Detail

LAGOON B
ALUM FILTRATE SILICA
SLUDGE 1
Transfer
Pump Area

LAGOON A
CLEAR FILTRATE
POND 1
Mounded Material remains from 1950

INSET A

Shipping Building 2
Melting Ingot Building 2
Smelting Building 1
Smokestack

Covered Storage (possible trailers)

2 National Lead Company, Plot Plan, 5 July 1942.
25 AUGUST 1951 – VERTICAL VIEW: QUARRY AREA

- Dark-toned Mounded Material
- QUARRY
- NY Central RR
- Access road
- Mounded Material
- Disturbed Ground
- Ground Scars
- Excavation

LOCATION DIAGRAM

SEE INSET A (LEFT)
From 1948 to 1958, the plant at the Luckey FUSRAP site is operated by Brush Beryllium/Brush Wellman and performs work for the U.S. Atomic Energy Commission.

Source: U.S. Department of Energy

Selected findings from the aerial photographic analysis.

Locations are shown in the State Plane; FIPS Zone 3401; NAD83 datum; units in feet.
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

PHOTOGRAPHIC ANALYSIS – SEPTEMBER 1957

3 SEPTEMBER 1957 – VERTICAL VIEW: NORTHEAST SECTOR

Rectangular-shaped disposal area (possible lagoon)

Irregular-shaped disposal area contains disturbed ground

INSET A

PRIVATE LAND

fence line

Material
654,740 N 1,697,660 E

Structure

Possible 150’ by 12’ scrap disposal trench
654,310 N 1,698,000 E

Private Land

Lagoon D - with enclosed berm (visually identified only on 1957 aerials)

Mounded Material centered within Lagoon D
654,305 N 1,697,670 E

Lagoon C

Depressions

Multiple source documents.

SEE INSET A (LEFT)
3 SEPTEMBER 1957 – VERTICAL VIEW: NORTHWEST SECTOR

Wide area of ground scars

Area was possibly used as an open storage area prior to September 1957.

654,825 N 1,696,690 E
654,820 N 1,697,210 E

PRIVATE LAND
PRIVATE LAND

654,655 N 1,697,010 E

fence line
ditch
fence line

Vehicle parking

Water Softener Settling Basin

Maintenance Office

Dark-toned mound or bldg

Ground Scars

Other Identified Feature

LOCATION DIAGRAM
3 Sept 1957

SEE INSET A (LEFT)

3 SEPTEMBER 1957 – VERTICAL VIEW: LAGOON AREA

LOCATION DIAGRAM

3 Sept 1957

INSET A

Shipping Building

Melting Ingot Building

Smelting Building

Smokestack

Lagoons

NEW LAGOON CONSTRUCTED

Transfer Pump Area

LAGOON C

Open Storage

LAGOON D

SOLAR EVAPORATION POND

earthen baffle

Former Lagoons A & B - Detail

Former Lagoons A & B

Former Lagoons A & B


2 National Lead Company, Plot Plan, 5 July 1942.
3 SEPTEMBER 1957 – VERTICAL VIEW: QUARRY AREA

**INSET A**

**Highly Elevated Pile of Mounded Material**

**Building or Structure**

**Dark-toned Mounded Material**

**Areas of Disturbed Ground (DG)**

These features not present in 1951. Upper area contains mounded material (MM).

**Area of Disturbed Ground**

The size of this feature has increased since it was observed on 1951 aerials. Mounded material (MM) appears to be in the center.
From 1948 to 1958, the plant at the Luckey FUSRAP site is operated by Brush Beryllium/Brush Wellman and performs work for the U.S. Atomic Energy Commission.

Source: U.S. Department of Energy

Selected findings from the aerial photographic analysis.

Locations are shown in the State Plane; FIPS Zone 3401; NAD83 datum; units in feet.
10 NOVEMBER 1957 – VERTICAL VIEW: NORTHEAST SECTOR

INSET A

Rectangular-shaped disposal area (possible lagoon)

Irregular-shaped disposal area contains mounded material and numerous ground scars

Possible lagoon

LAGOON D - with enclosed berm (visually identified only on 1957 aerials)

654,305 N  1,697,670 E

LAGOON C

PRIVATE LAND

Filter Beds

Bare Ground

Ground Scars

Mounded Material

Berm

Open Storage

Excavation

SEE INSET A (LEFT)
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

10 NOVEMBER 1957 – VERTICAL VIEW: NORTHWEST SECTOR

Mounded Material

654,810 N 1,697,015 E

654,770 N 1,697,535 E

Bare Ground

654,710 N 1,697,505 E

Filter Beds

654,520 N 1,697,565 E

Faint Ground Scars

PRIVATE LAND

PRIVATE LAND

LOCATION DIAGRAM

10 Nov 1957

LUCKEY, OH

PHOTOGRAPHIC ANALYSIS – NOVEMBER 1957

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

10 NOVEMBER 1957 – VERTICAL VIEW: LAGOON AREA

2 National Lead Company, Plot Plan, 5 July 1942.
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

PHOTOGRAPHIC ANALYSIS – NOVEMBER 1957

10 NOVEMBER 1957 – VERTICAL VIEW: QUARRY AREA

- Highly Elevated Pile of Mounded Material
- Dark-toned Mounded Material
- Areas of Disturbed Ground (DG)
  - These features not present in 1951. Upper area contains mounded material (MM).
- Area of Disturbed Ground
  - The size of this feature has increased since it was observed on 1951 aerials.
  - A structure (possible excavating equipment) appears to be situated near the center of this feature.

MM = mounded material
PHOTOGRAPHIC ANALYSIS

CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

Selected findings from the aerial photographic analysis.

Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.
02 MAY 1963 – VERTICAL VIEW: NORTHEAST SECTOR

- Bare Ground
- Cylindrical-shaped Storage Tank (possible)
- Irregular-shaped disposal area contains ground scars, structures, & mounded material
- Structures
- Structures and Mounded Material
- Open Storage Area
- Ground Scars
- Mounded Material
- Berm
- Open Storage
- Lagoon
- Other Identified Feature

LOCATION DIAGRAM

02 May 1963

SEE INSET A (LEFT)
02 MAY 1963 – VERTICAL VIEW: NORTHWEST SECTOR

- Bare Ground
  - 654,710 N
  - 1,697,500 E

- Faint Ground Scars
- Material
- Open Storage Area
  - 654,640 N
  - 1,697,070 E

- Elevated Object
- Water-filled Trench
- Open Storage Area
  - 654,450 N
  - 1,697,360 E

- Dark-toned material on pad area.

- Objects
- Object

- Open Storage
- Excavation
- Fence line

- Bare Ground

- Ground Scars
- Mounded Material
- Bem
- Open Storage
- Excavation
- Other Identified Feature

PHOTOGRAPHIC ANALYSIS – MAY 1963

LUCKY FUSRAP SITE, WOOD COUNTY, OHIO

02 MAY 1963 - VERTICAL VIEW: LAGOON AREA

- Lagoons A & B - Detail
  - earthen barrier (new)
  - Material in Lagoon

- LAGOON A (restored)
- LAGOON B (restored)

INSET A

- LAGOON D is now gone
- Open Storage
- Shipping Building
- Melting Ingot Building
- Earthen baffle
- Ditch

- SOLAR EVAPORATION POND

2 National Lead Company, Plot Plan, 5 July 1942.
02 MAY 1963 - VERTICAL VIEW: QUARRY AREA

- Elevated Pile of Mounded Material
- Disturbed Ground (center area of feature slightly elevated)
- Dark-toned Mounded Material
- New Warehouse or Long Shed
- New Area of Disturbed Ground
- New Piles of Mounded Material

MM = mounded material
QUARRY AREA

NOVEMBER 1957

Circular-shaped area of disturbed ground observed since 1950

Building

Rail Cars

MAY 1963

Slightly mounded light-toned material

Disturbed Ground

Mounded Material

Other Identified Feature

Mounded areas formerly appearing active in 1957.

New Area of Disturbed Ground

New Piles of Mounded Material

New Warehouse or Long Shed

Building Gone

New Area of Disturbed Ground

NY Central RR
CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

Selected findings from the aerial photographic analysis.

Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.
MARCH 1969 – VERTICAL VIEW: NORTHEAST SECTOR

- **Ground Scars**
- **Berm**
- **Mounded Material**
- **Disturbed Ground**
- **Other Identified Feature**

**Dredge Material from Drainage Ditch**

**Cylindrical-shaped Storage Tank**

**Ground scars (possible vegetation stress)**

**Disposal area contains disturbed ground, mounded material, and possible lagoons.**

**Water-filled area (possible lagoon)**

**Light-toned Material**

**Structure**

**Water-filled area (possible lagoon)**

**Bare Ground**

**654,710 N 1,697,500 E**

**Smelting Building**

**Cleared Area**

**Bare Ground**

**LAGOON C**

LOCATION DIAGRAM

SEE INSET A (LEFT)
MARCH 1969 – VERTICAL VIEW: NORTHWEST SECTOR

- Ground Scars
- Cleared Area
- Mounded Material
- Disturbed Ground
- Other Identified Feature

---

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

MARCH 1969 - VERTICAL VIEW: LAGOON AREA

- Lagoons A & B - Detail
- Material in Lagoon
- LAGOON A
- LAGOON B
- LAGOON C

INSET A

- Shipping Building
- Melting Ingot Building
- Smelting Building
- Piles of Mounded Material
- earthen baffle
- Mounded Material
- SOLAR EVAPORATION POND

2 National Lead Company, Plot Plan, 5 July 1942.

LOCATION DIAGRAM

SEE INSET A (LEFT)
MARCH 1969 - VERTICAL VIEW: QUARRY AREA

- **Structure or equipment**
- **Highly-elevated Mounds**
- **New perimeter road**
- **C-shaped Berm surrounds a small building**
- **Dark-toned Mounded Material**
- **Enclosed Berm (possible lagoon)**
- **Excavation (poss. quarry)**
- **Vehicles or equipment**

LOCATION DIAGRAM

SEE INSET A (LEFT)
CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

Selected findings from the aerial photographic analysis.

Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.
PHOTOGRAPHIC ANALYSIS - APRIL 1972

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

APRIL 1972 – VERTICAL VIEW: NORTHEAST SECTOR

LOCATION DIAGRAM

INSET A

PRIVATE LAND

NY Central RR

Cylindrical-shaped Storage Tank (possible)

Disposal area

Dark-toned Material

LOW AREA

Bare Ground

Filter Beds

Structure

(possible rail car)

Ground Scars

Disturbed Ground

Mounded Material

Ground

LAGOON C

is abandoned

New rail line

Other Identified Feature

1 Luckey (layout plan), URE International, no date.
APRIL 1972 - VERTICAL VIEW: NORTHWEST SECTOR

LOCATION DIAGRAM

SEE INSET A (LEFT)

1 Multiple source documents.
APRIL 1972 - VERTICAL VIEW: LAGOON AREA

Note: Lagoons A, B & C appear abandoned.
APRIL 1972 - VERTICAL VIEW: QUARRY AREA

INSET A

- Dark-toned Material
- C-shaped Berm surrounds a small building
- Enclosed Berm (possible lagoon)
- Dark-toned Mounded Material
- Mounded Material
- Berm
- Excavation

LOCATION DIAGRAM

SEE INSET A (LEFT)
CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

Selected findings from the aerial photographic analysis.

Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.
PHOTOGRAPHIC ANALYSIS – MAY 1980

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

MAY 1980 – VERTICAL VIEW: NORTHEAST SECTOR

Disposal area contains ground scars & mounded material

Cylindrical-shaped Storage Tank (possible)

Structure

New lagoon (enclosed by earthen berm)

PRIVATE LAND

Fence line

Bldg 74 Pump Room

Propane Tanks

Bldg 1 Production

Bldg 40 Warehouse

Bldg 80 Rail Dock

Wastewater Treatment Plant

Filter Beds

NY Coastal RR

ditch

1 Multiple source documents.
MAY 1980 - VERTICAL VIEW: NORTHWEST SECTOR

PRIVATE LAND

fence line

Vehicle parking

ditch

Propane Tanks

Bldg 3 Maintenance and Mold Shop

Bldg 42 Bulk Storage

1 Multiple source documents.
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

MAY 1980 - VERTICAL VIEW: LAGOON AREA

Note: Lagoons A, B & C remain abandoned.
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

PHOTOGRAPHIC ANALYSIS – MAY 1980

MAY 1980 - VERTICAL VIEW: QUARRY AREA

Location Diagram

INSET A

Excavation – possible pond/lagoon

Light-toned Material

QUARRY
(with water-filled area extended to the northwest and southwest since 1972)

Excavation

Mounded Material

Material
CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

NOTE: THE 1988 IMAGERY IS COLOR INFRARED (C-IR) AERIAL PHOTOGRAPHY.

Very intense shades of red indicate dense vegetation that is growing quite vigorously.
Shades of white, blue, or green indicate low plant density activity.

Selected findings from the aerial photographic analysis.
Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.
PHOTOGRAPHIC ANALYSIS – 9 APRIL 1988

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

9 APRIL 1988 – VERTICAL VIEW: NORTHEAST SECTOR

Disposal area contains ground scars, mounded material, and depressions.

Two circular-shaped depressions

Very moist conditions indicated by a dark tone appearance.

New lagoon observed in 1980 now appears abandoned.

1 Multiple source documents.
9 APRIL 1988 - VERTICAL VIEW: NORTHWEST SECTOR

LOCATION DIAGRAM

INSET A

PRIVATE LAND

PRIVATE LAND

Fence line

Fence line

Propane Tanks

Vehicle parking

Softball Field

Ground Scars

Cleared Area

Ditch

Ditch

Multiple source documents.

9 APRIL 1988 - VERTICAL VIEW: NORTHWEST SECTOR
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

PHOTOGRAPHIC ANALYSIS - 9 APRIL 1988

9 APRIL 1988 - VERTICAL VIEW: LAGOON AREA

Note: Lagoons A, B & C remain abandoned.

INSET A

Bldg 80 Rail Dock
Bldg 1 Production
Bldg 40 Warehouse

New lagoon observed in 1980 now appears abandoned.

Cylindrical-shaped Storage Tank (possible)

Note: Lagoons A, B & C remain abandoned.
Areas of mounded material have decreased in extent (since 1980).
CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

Photo Interpretation Of Aerial Photography

National Agriculture Imagery Program (NAIP) Data (non-stereo coverage; 1 meter resolution)

Selected findings from the aerial photographic analysis.

Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.
Linear features may relate to recent movement of farm equipment. The time period is late May (re: soil preparation for spring tilling).

Former disposal area

Shipping Building has been removed.

Bldg 40 (Warehouse) and Bldg 80 (Rail Dock) have been removed.
29 MAY 2010 - VERTICAL VIEW: NORTHWEST SECTOR

LOCATION DIAGRAM

Private Land
Former Vehicle parking

Ground Scars
Faint Ground Scars

Inset A

See Inset A (left)
29 MAY 2010 - VERTICAL VIEW: LAGOON AREA

Note: Lagoons A & B & no longer appear. Lagoon C remains abandoned.

Ground Scars

Formed Lagoons A & B - Detail

LOCATION DIAGRAM

GILBERT ROAD

Formed Lagoons A & B - Detail

Former Lagoon A

Former Lagoon B

Faint Ground Scars

Lagoons A & B & no longer appear. Lagoon C remains abandoned.

INSET A

Note: Lagoons A & B & no longer appear. Lagoon C remains abandoned.
29 MAY 2010 - VERTICAL VIEW: QUARRY AREA
3-D AERIAL IMAGES

LUCKEY FUSRAP SITE

Three-dimensional (3-D) images created from selected historical aerial photographs.

To obtain the 3-D effect, images must be viewed with red/blue lens stereo glasses.
APPENDIX A

3-D VIEWS OF AERIAL PHOTOGRAPHY DATED 6 SEPTEMBER 1950

1 = Main Production Building
APPENDIX A

3-D VIEWS OF AERIAL PHOTOGRAPHY DATED 10 NOVEMBER 1957

I = Main Production Building
APPENDIX A

3-D VIEWS OF AERIAL PHOTOGRAPHY DATED MAY 1980

1 = Main Production Building
GLOSSARY

LUCKEY FUSRAP SITE

Terms/
Definitions
Access Road - A paved or unpaved surface that leads to a specific destination.

Bare Ground - An unvegetated ground surface. Bare ground may be an area which has not revegetated at a normal rate.

Berm - A man-made ridge or embankment, constructed of natural or man-made materials. A berm is often used to prevent the movement of materials, usually liquids.

Cleared Area - A section of land from which man has removed the trees, shrubs, or natural vegetative cover.

Depression - An area sunken below its surroundings.

Disposal Area/disposal facility - Site where industrial material is treated, stored and/or disposed of.

Disturbed Ground - A rough ground surface which has been cleared, overturned, dug up, filled and/or changed from the immediate environs in some manner for an unknown purpose.

Excavation - A cavity in the earth formed by digging or scooping out materials. An area (such as a quarry) where earthen materials, such as minerals, sand, gravel, or metals have been removed for use elsewhere.

Fill Area - An area where material, either earthen and/or non-earthen, has been deposited either for disposal, to level the ground surface, or to eliminate a wet area.

Ground Scar - A surface, vegetated or unvegetated, where marks from a previous activity or feature, or from a subterranean feature, are visible. Ground scars can result from many things and therefore vary greatly in appearance.

Lagoon - A man-made containment area that appears to be used for waste and/or water storage, disposal, or treatment.

Material - A substance (usually non-liquid) placed, bulldozed, graded, mixed, or spread over an area.
Mounded Material - A substance, usually non-liquid, which has been placed in piles.

Open Storage - An open-air, outdoor area established to hold stock, supplies, equipment, salvage, or other items/material.

Quarry - An excavation or pit, usually open to the air, from which building stone, slate, or the like is obtained by cutting, blasting, etc.

Sludge - A semi-solid residue from any number of air or water treatment processes.

Standing Water - A temporary collection of liquid water on a surface.

Structure - A man-made feature which cannot be classified as a building or a shed. Something that is made up of a number of parts that are held together in a particular way.

Tank Farm - A collection of large receptacles or structures installed for the storing/handling of fuel, oil, or water.

Tones, light/dark – A general, and somewhat subjective, classification of the wide range of tones/shades visible on aerial photography/imagery.

Trench - A long narrow excavation.

Vegetation Stress – A condition wherein vegetation has been weakened and exhibits physiologic stress due to any number of changes in the environment such as exposure to toxic substances, weather extremes, lack of nourishment, inundation, parasites, or disease.
APPENDIX C

DATA COLLECTION

LUCKEY FUSRAP SITE

Sources Of Information
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

SOURCES OF INFORMATION

Library Of Congress, James Madison Building, Geography and Map Division, Room LM B01, 101 Independence Avenue, SE, District Of Columbia 20003.

National Archives and Records Administration (NARA), Cartographic Branch, 8601 Adelphi Road, College Park, Maryland 20740.

Ohio Department of Transportation (ODOT), Office of Aerial Engineering, 1602 West Broad Street, Columbus, Ohio 43223.

U.S. Army Corps of Engineers, Buffalo District, 1776 Niagara Street, Buffalo, New York 14207 – background data on Luckey FUSRAP Site.

USDA, Farm Service Agency, Aerial Photography Field Office, 2222 West 2300 South, Salt Lake City, Utah 84119.

U.S. Department of Energy (DOE); DOE Scientific and Technical Information; DOE Information Bridge – downloaded documents via website.

U.S. Geological Survey (USGS) EROS Data Center (EDC), Sioux Falls, South Dakota 57198.

USGS Map Library, John Wesley Powell Building, 950 National Center, Room 1D100, 12201 Sunrise Valley Drive, Reston, Virginia, 20192.

Wood County (Ohio), Auditor’s Office, GIS Mapping Department.