



LUCKEY FUSRAP SITE – WOOD COUNTY, OHIO



EXAMINATION OF HISTORICAL PHOTOGRAPHY



US Army Geospatial Center (AGC)
Hydrologic & Environmental Analysis Branch
Environmental Analysis Team
7701 Telegraph Road
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FINAL REPORT **SEPTEMBER 2011**

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

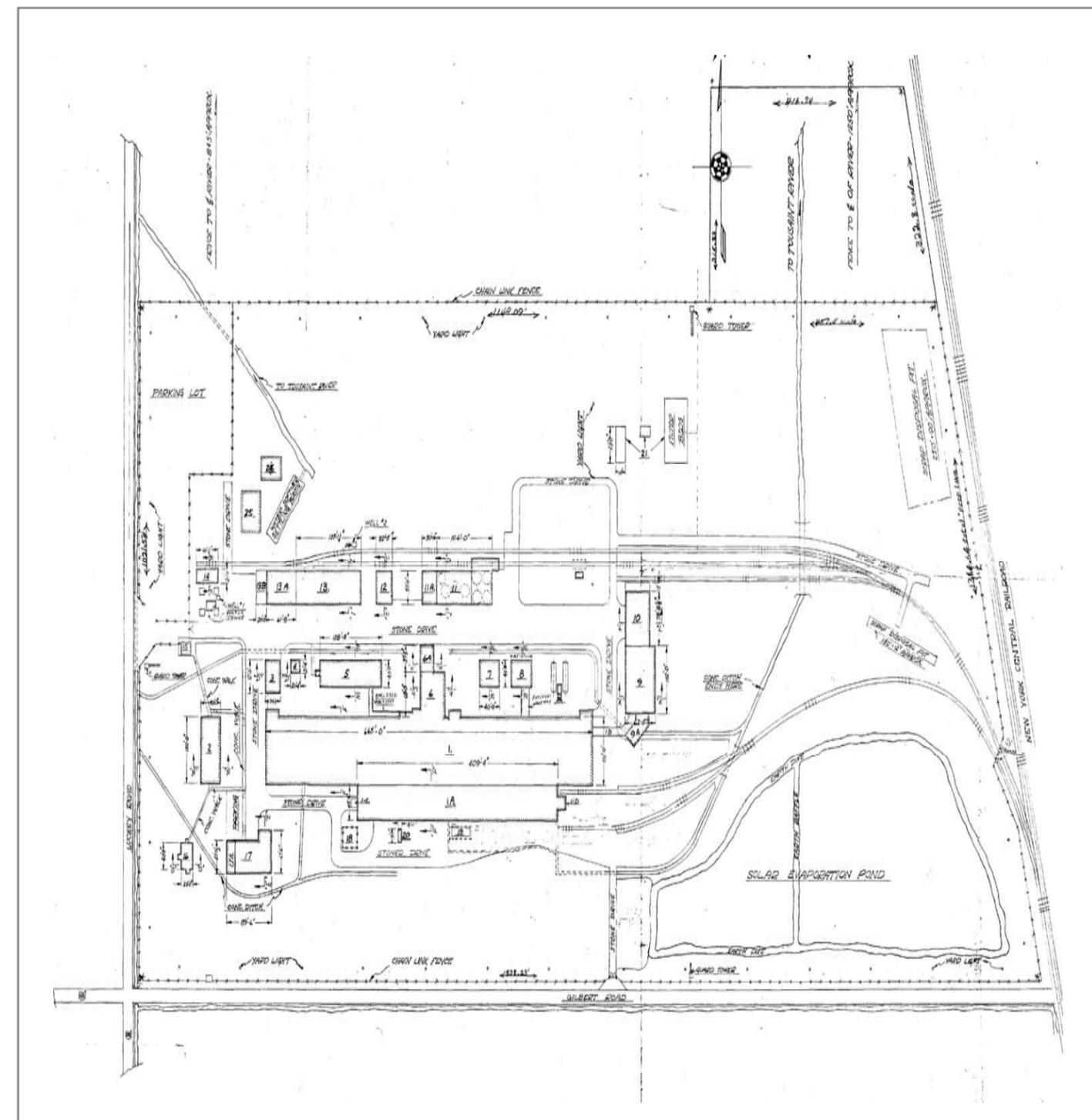


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Plot Plan – Luckey Industries, Inc., The Brush Beryllium Co., Ohio, 1963 (revised).



**Luckey 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.

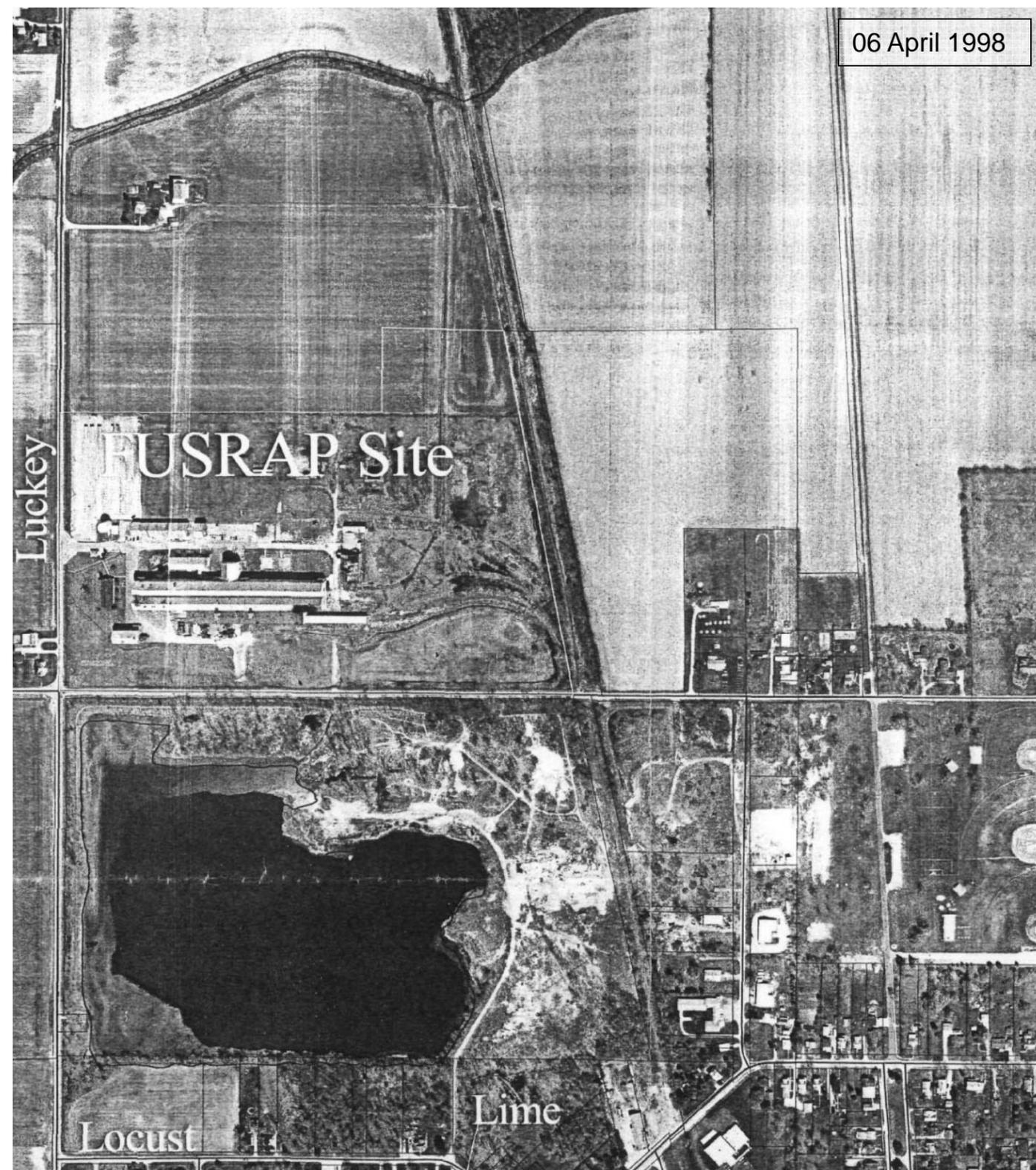
INTRODUCTION

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.



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO



Source: Wood County, Ohio Auditor's Office, GIS Mapping Department.

METHODOLOGY

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.

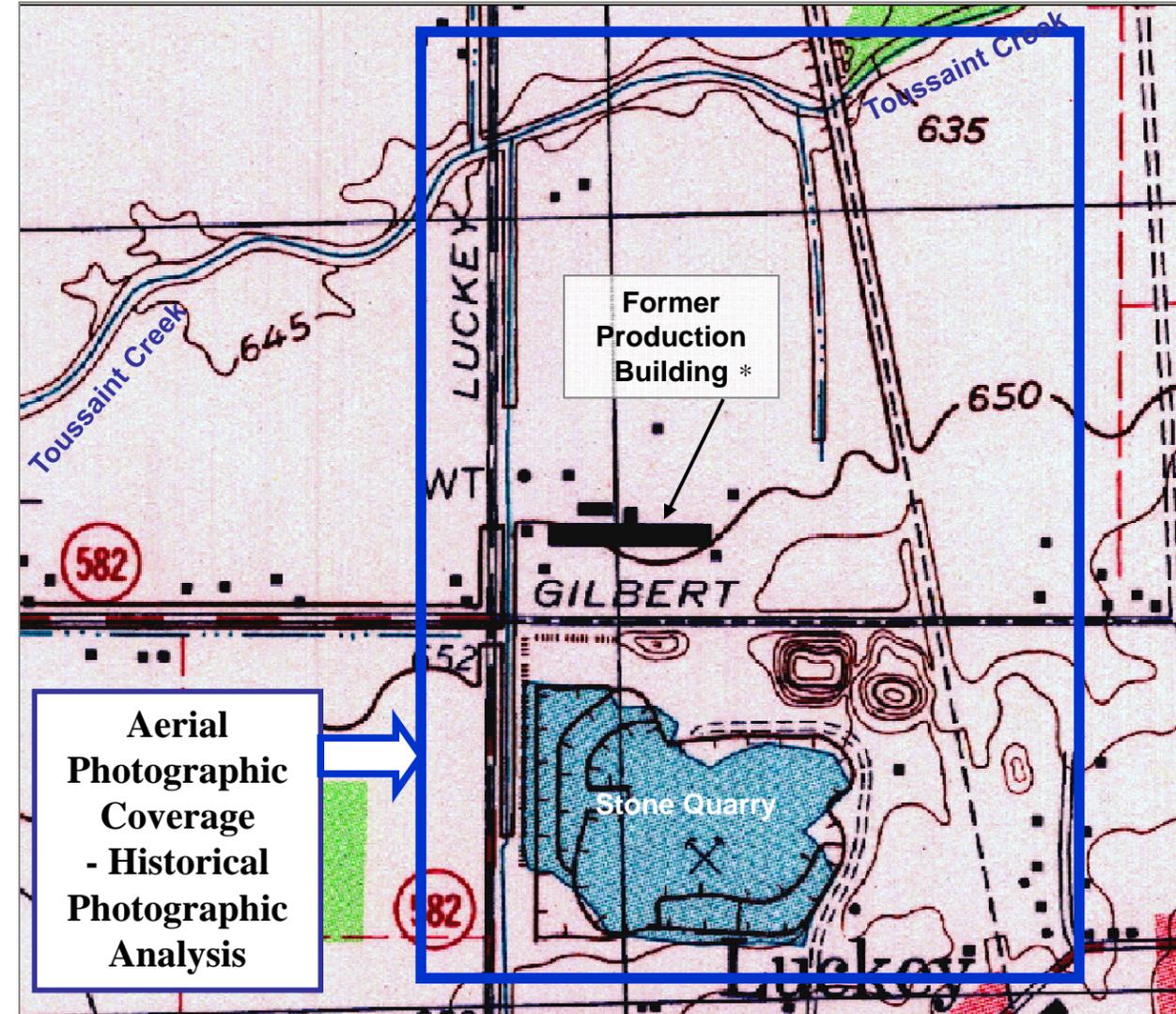
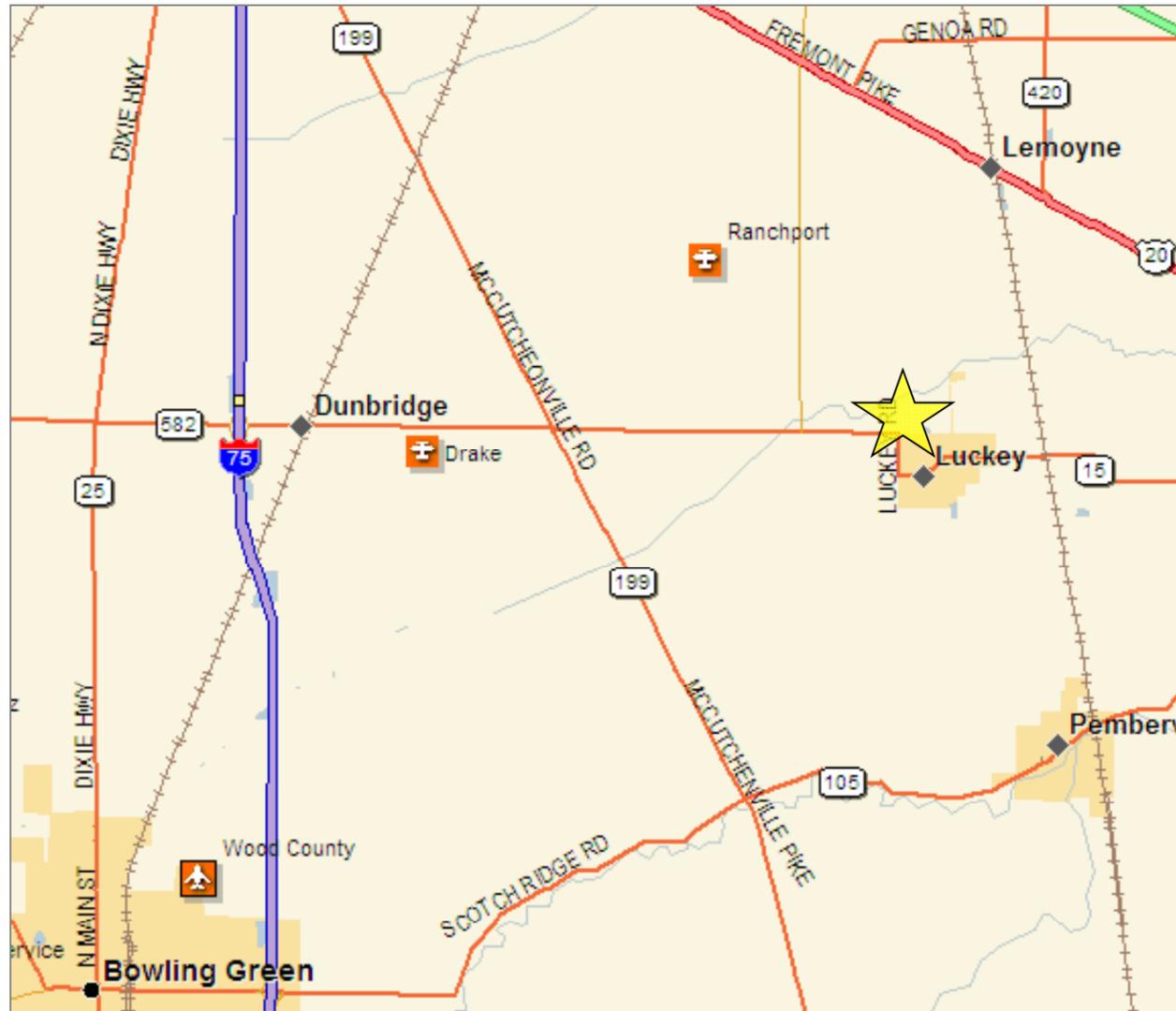
Images and shape files contained in the GIS package are displayed in State Plane; Northern Ohio (FIPS Zone 3401), NAD83 datum, GRS 1980 spheroid, units in feet. Geo-rectification of imagery was employed via Erdas Imagine. Shape files were compiled in ArcGIS.



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO



LUCKEY, OHIO FUSRAP SITE



Aerial
Photographic
Coverage
- Historical
Photographic
Analysis



- General Location
Project Site

Map source: U.S. Geological Survey (USGS Map Library), Reston, Virginia. 7 1/2'
Quadrangle - Pemberbrook, Ohio, 1994 edition.

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



HISTORICAL VERTICAL AERIAL PHOTOGRAPHS & IMAGERY – DATA COLLECTION



SOURCE	DATE	REMARKS
* NARA	1939, 17 Oct	B&W vertical aerial photos. Record Group 145. Scale = 1:20,000. Predevelopment of industrial plant.
* NARA	1950, 24 Aug	B&W vertical aerial photos. Record Group 145. Scale = 1:20,000.
NARA	1950, 06 Sept	B&W vertical aerial photos. Record Group 145. Scale = 1:20,000.
* EDC	1951, 25 Aug	B&W vertical aerial photos. Scale = 1:20,000.
* FSA	1957, 3 Sept	B&W vertical aerial photos. Partial coverage of quarry. Scale = 1:20,000.
* FSA	1957, 10 Nov	B&W vertical aerial photos. Scale = 1:20,000.
* FSA	1963, 02 May	B&W vertical aerial photos. Scale = 1:20,000.
ODOT	1967, Sept	B&W vertical aerial photos. Scale = 1:10,000.
* ODOT	1969, March	B&W vertical aerial photos. Scale = 1:10,000.
FSA	1969, 10 Sept	B&W vertical aerial photos. Scale = 1:20,000.

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



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



SOURCE	DATE	REMARKS
* ODOT	1972, April	B&W vertical aerial photos. Scale = 1:10,000.
ODOT	1977, April	B&W vertical aerial photos. Scale = 1:50,000.
* ODOT	1980, May	B&W vertical aerial photos. Scale = 1:10,000.
FSA	1980, 19 Sept	B&W vertical aerial photos. Scale = 1: 40,000.
* EDC	1988, 09 Apr	Color Infrared aerial photos. Scale = 1:40,000.
ODOT	1990, Oct	B&W vertical aerial photos. Scale = 1:10,000.
USGS	1994, 04 Apr	B&W Digital Orthoquad (DOQ) data. JPEG compressed image. One meter resolution.
WOOD	1998, 06 Apr	B&W vertical aerial photo. Electronic photo copy. Scale = unknown.
EDC	2000, 12 Oct	B&W vertical aerial photos. Scale = 1: 40,000.
* USGS	2010, 29 May	NAIP imagery: 1-meter resolution; natural color image.

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



INTERPRETATION OF HISTORICAL AERIAL PHOTOGRAPHY

Final Report

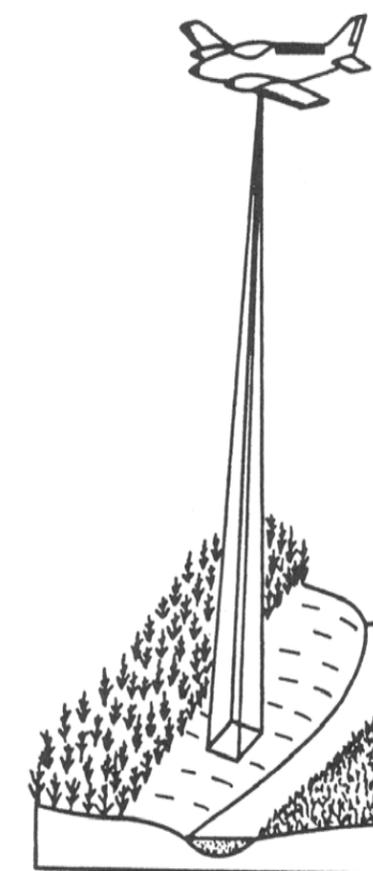
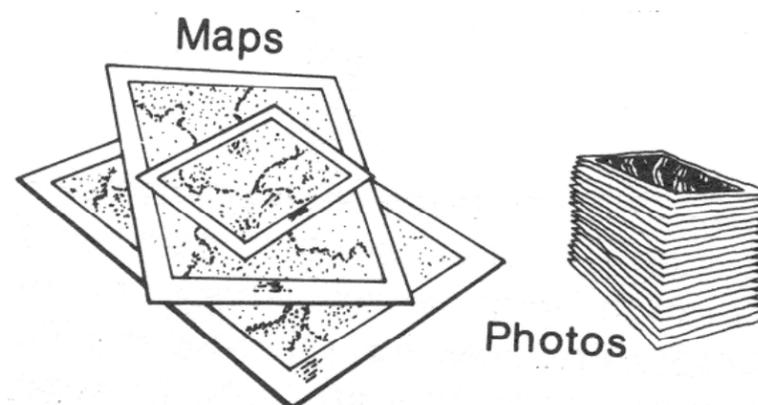
The U.S. Army Geospatial Center (AGC) was tasked to conduct photo interpretation of historical aerial photography over the Luckey FUSRAP Site in support of the FUSRAP Program.

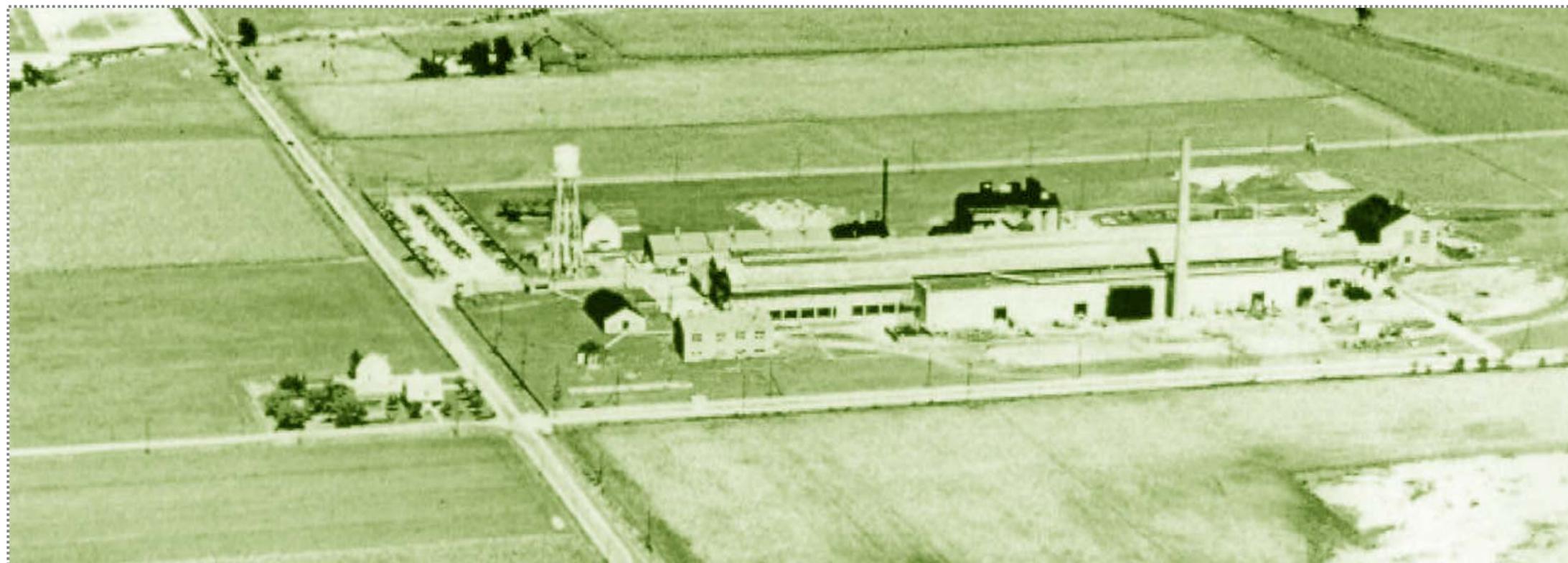
Historical Aerial Photographic Study

- - 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



Overlap between adjacent photographs





Oblique aerial photograph of the Luckey FUSRAP Site (no date).¹

HISTORICAL SUMMARY²

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.



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 Abdo Wrecking, LLC).

* Historical data derived from U.S. Department of Energy (DOE) various reports and memorandums.



PHOTOGRAPHIC ANALYSIS

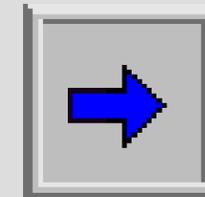
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

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PERIOD PRIOR TO THE START-UP OF A MAGNESIUM REDUCTION PLANT

Photo
Interpretation
Of Aerial
Photography

1939



Pre-development
Aerial Coverage

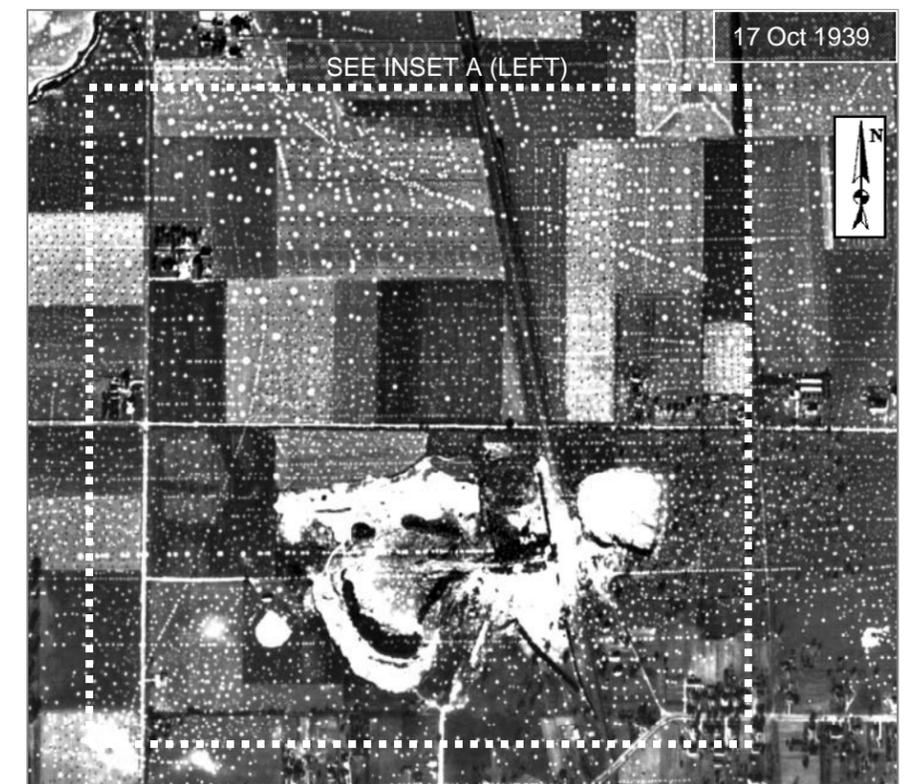
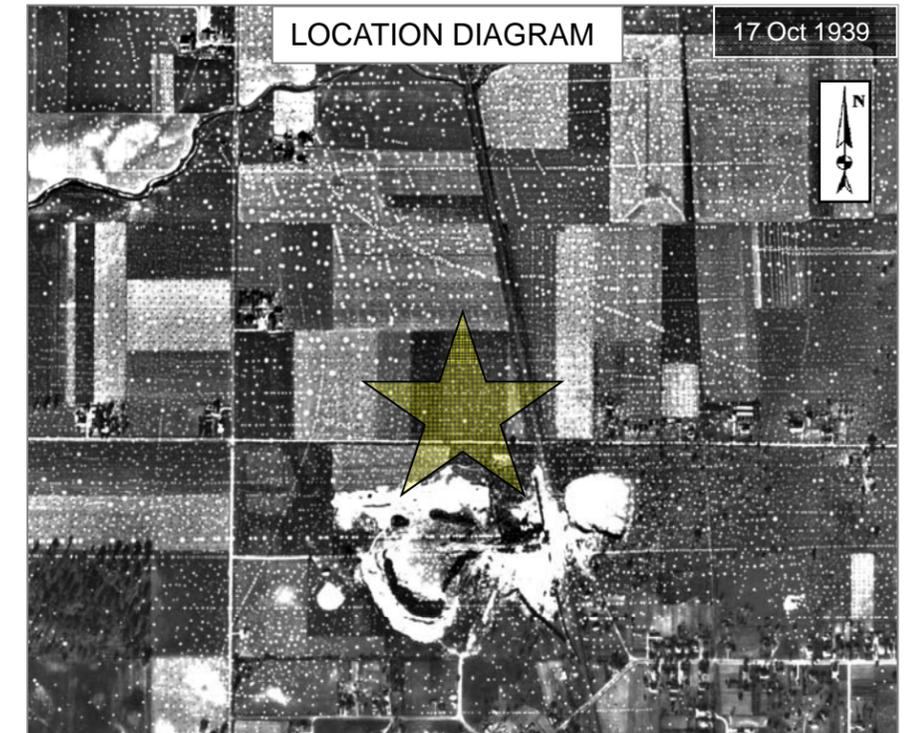
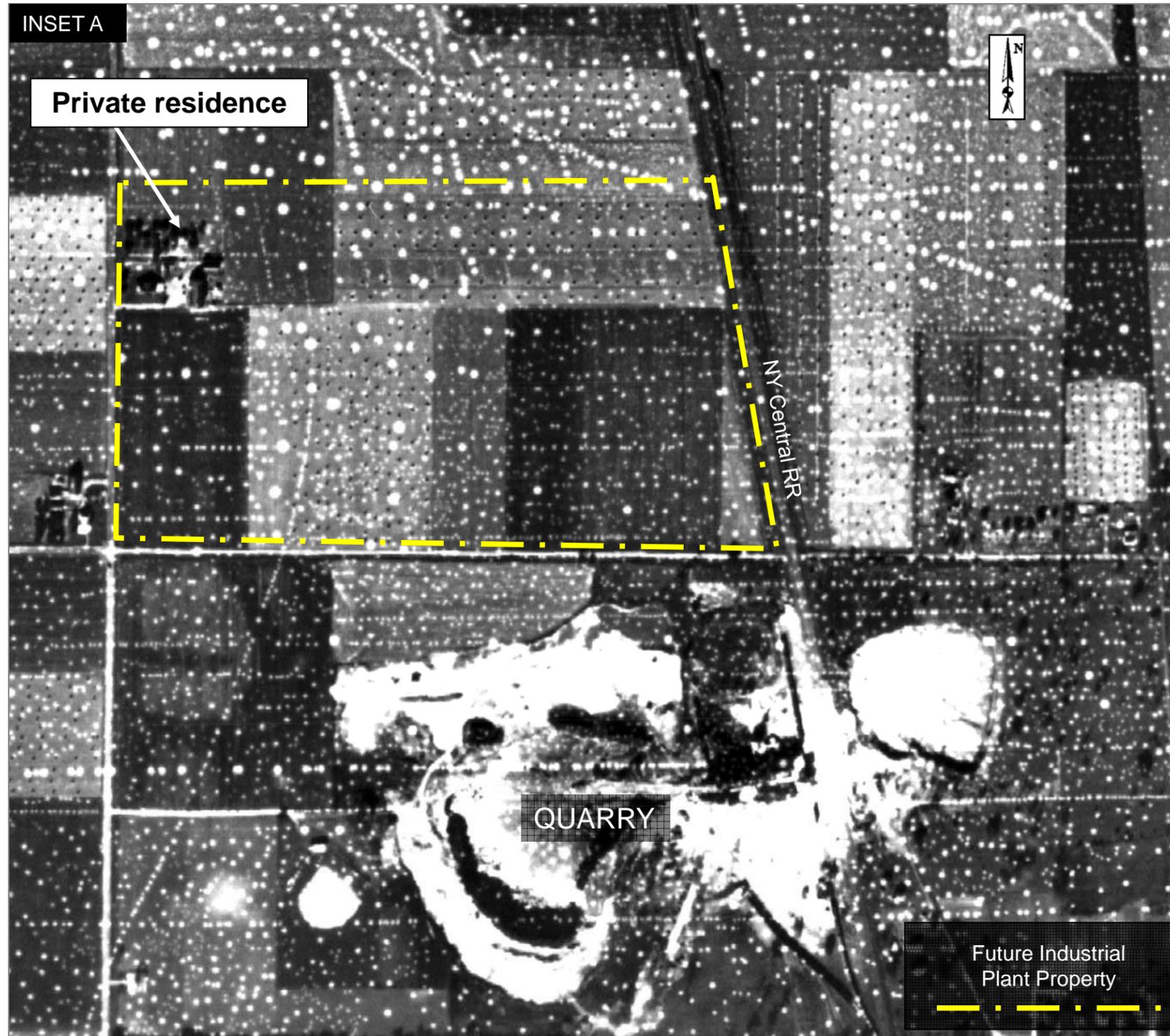


PHOTOGRAPHIC ANALYSIS – 1939

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

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OCTOBER 1939 – VERTICAL VIEW ¹



¹ White spotted patterns on the 1939 photo are the result of a damaged original negative.



PHOTOGRAPHIC ANALYSIS

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PERIOD OF CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION

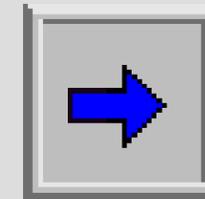
During 1942-1945, a magnesium reduction plant is operated by the National Lead Company at the Luckey FUSRAP site.

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

Photo Interpretation Of Aerial Photography

1950



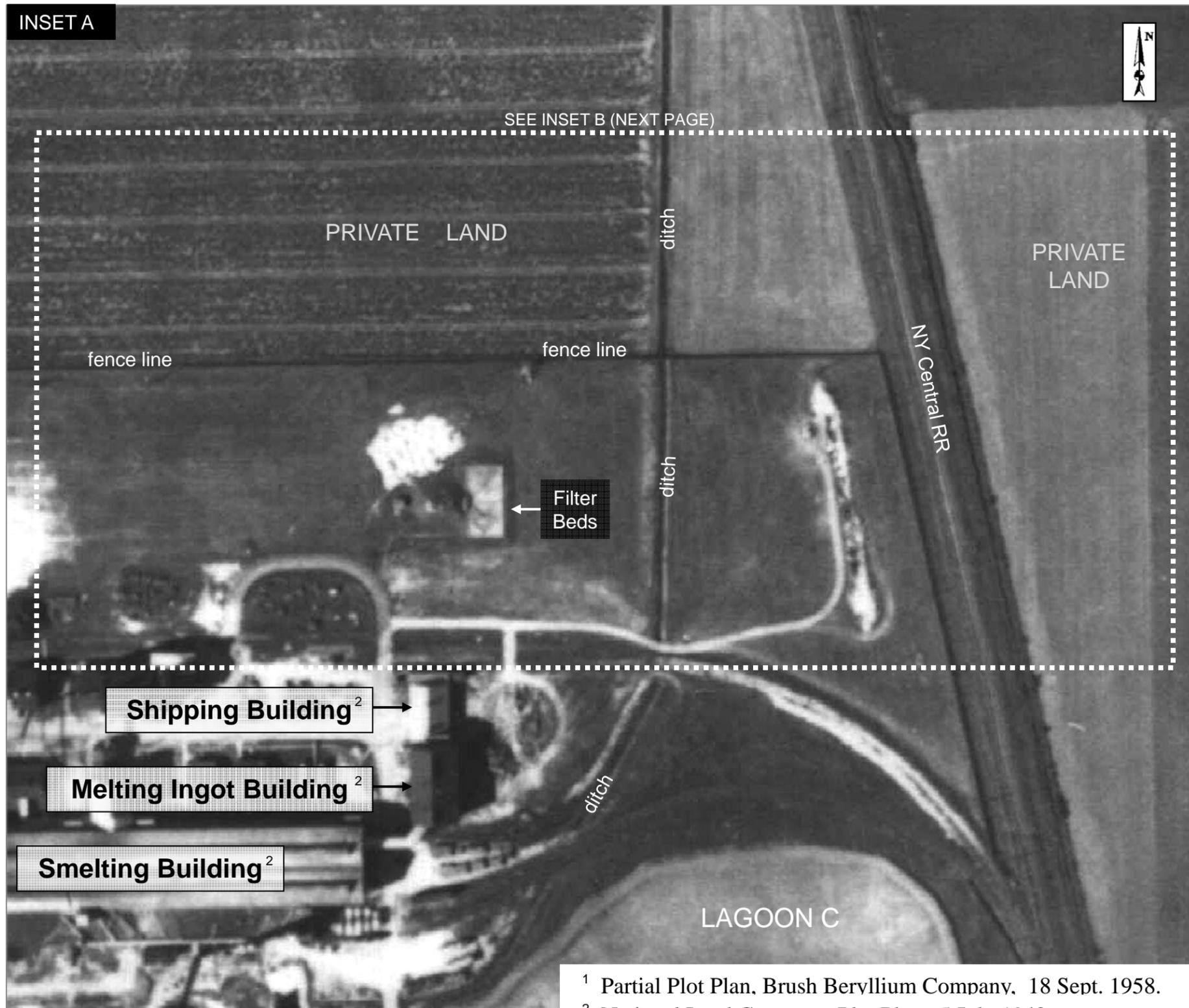
Brush Beryllium Company
(later Brush Wellman)

 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



¹ Partial Plot Plan, Brush Beryllium Company, 18 Sept. 1958.

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

PHOTOGRAPHIC ANALYSIS – AUGUST 1950



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

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24 AUGUST 1950 – VERTICAL VIEW #2: NORTHEAST SECTOR



¹ Multiple source documents.

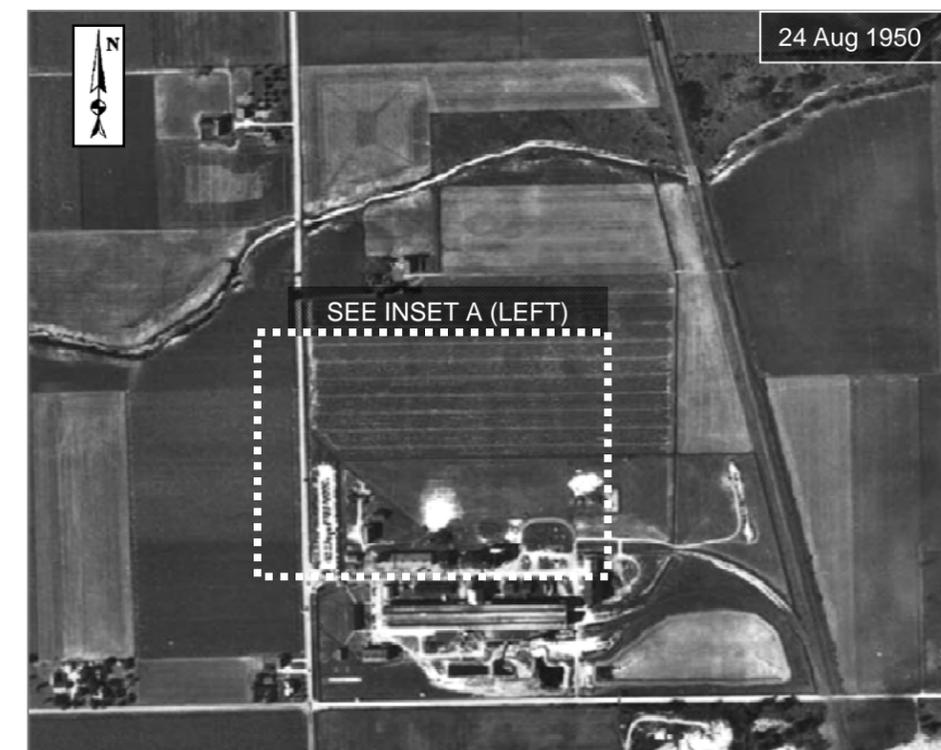
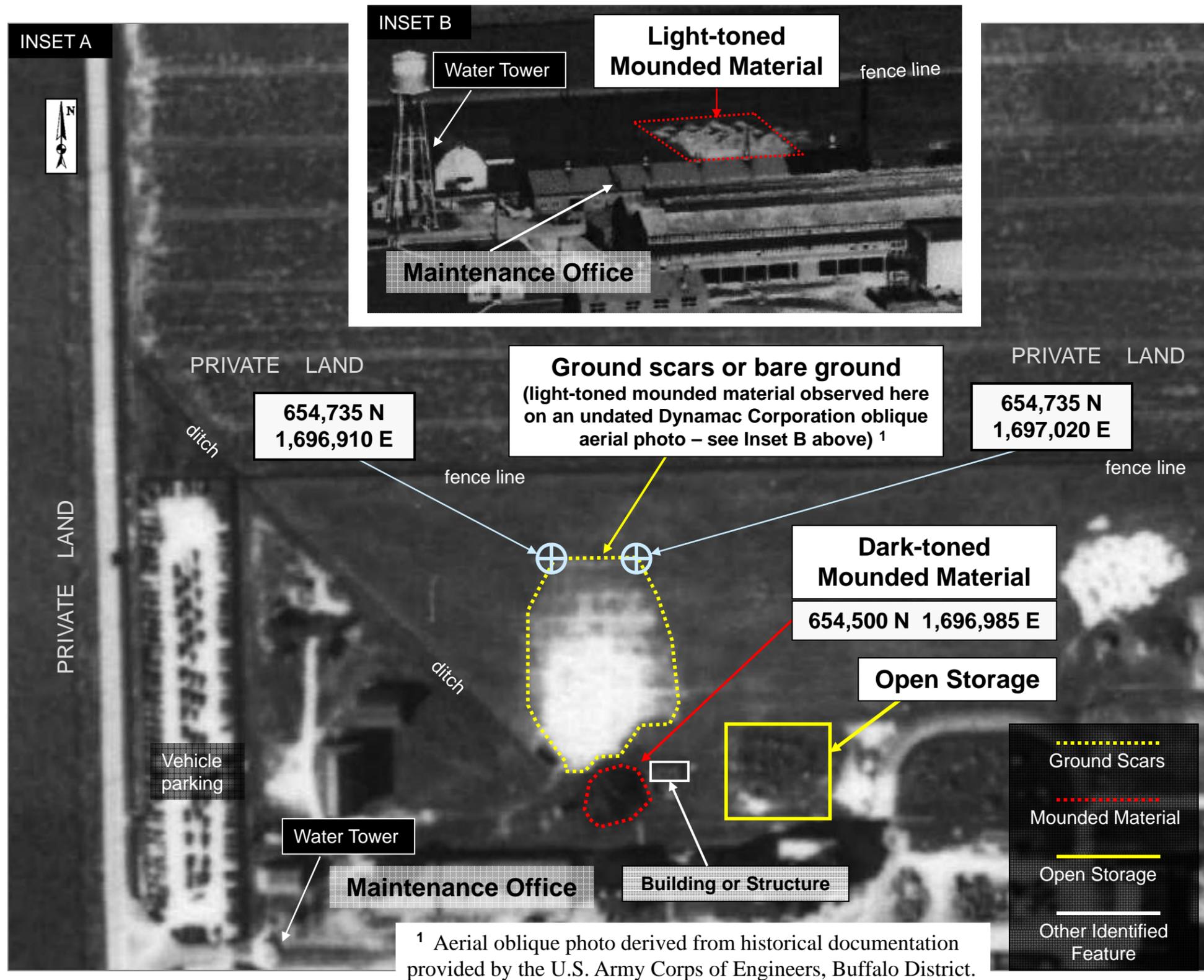
PHOTOGRAPHIC ANALYSIS – AUGUST 1950



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

24 AUGUST 1950 – VERTICAL VIEW: NORTHWEST SECTOR



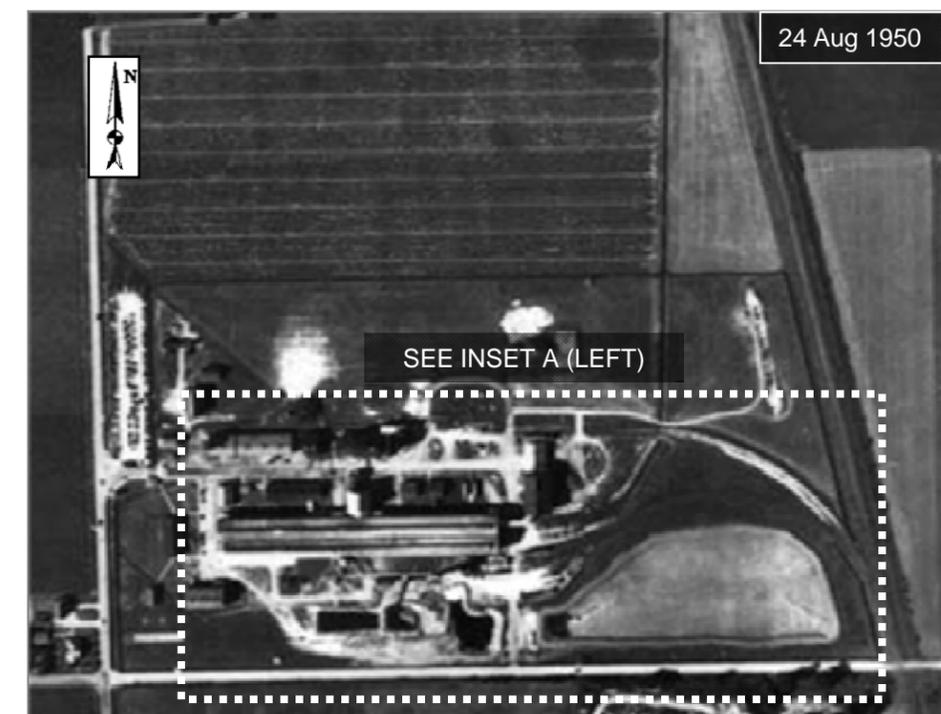
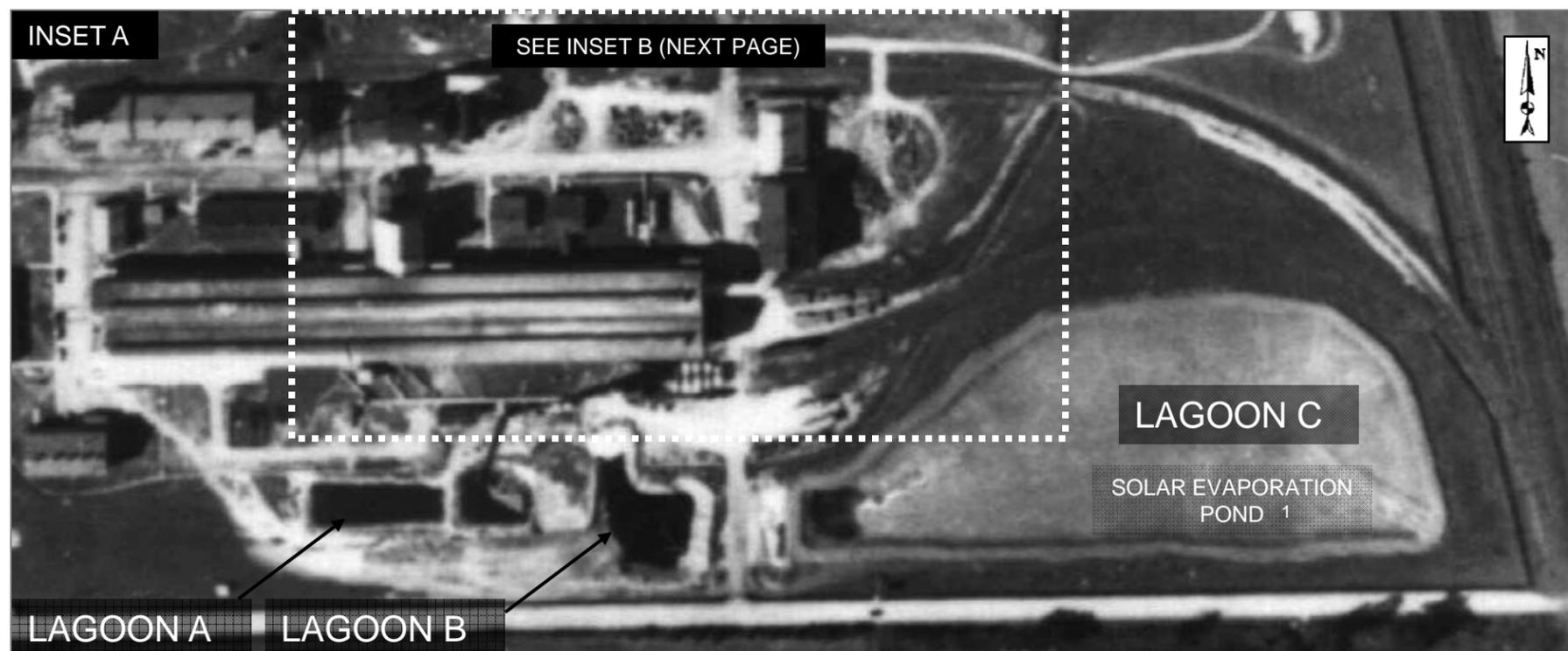
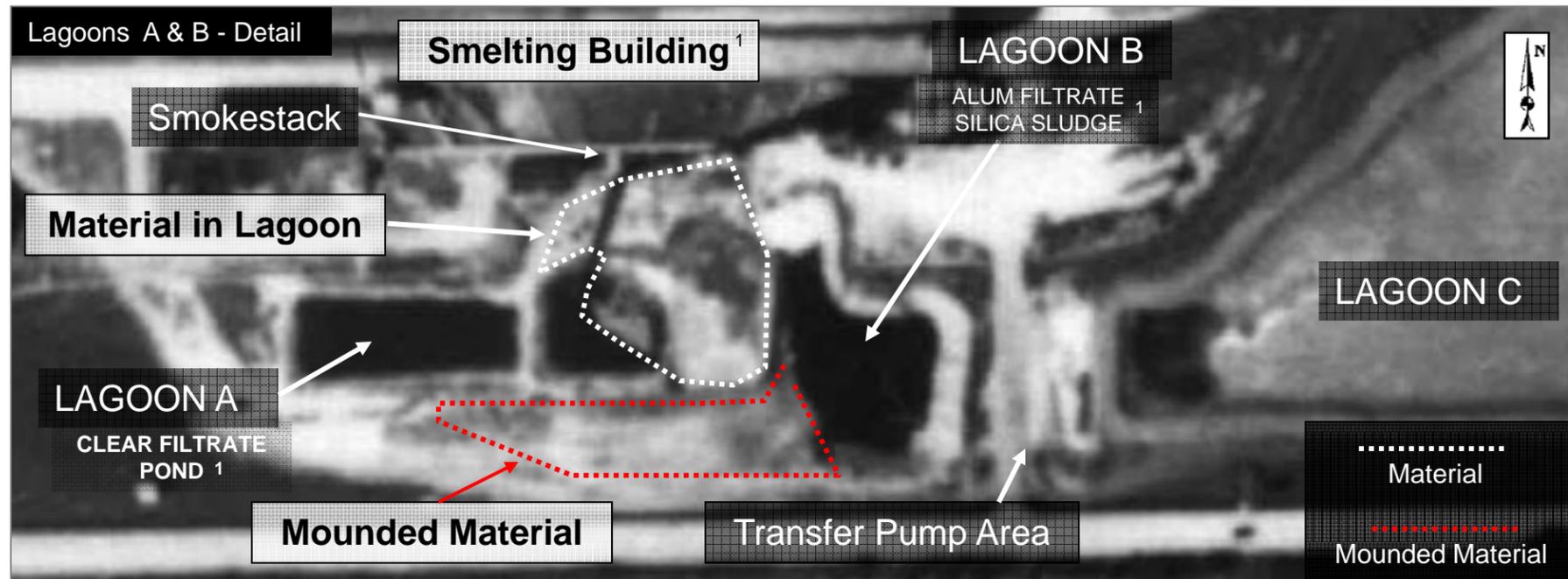


PHOTOGRAPHIC ANALYSIS – AUGUST 1950

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24 AUGUST 1950 – VERTICAL VIEW: LAGOON AREA



¹ Partial Plot Plan, Brush Beryllium Company, 18 Sept. 1958.



PHOTOGRAPHIC ANALYSIS – AUGUST 1950

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

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24 AUGUST 1950 – VERTICAL VIEW #2: LAGOON AREA



¹ National Lead Company, Plot Plan, 5 July 1942.

² Partial Plot Plan, Brush Beryllium Company, 18 Sept. 1958.

PHOTOGRAPHIC ANALYSIS – AUGUST 1950



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

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24 AUGUST 1950 – VERTICAL VIEW: QUARRY AREA





PHOTOGRAPHIC ANALYSIS

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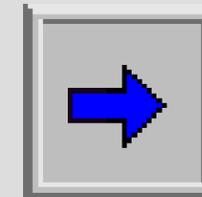
PERIOD OF CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION

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

Photo Interpretation Of Aerial Photography

1951



Brush Beryllium Company
(later Brush Wellman)

 Selected findings from the aerial photographic analysis.

 Locations are shown in the State Plane; FIPS Zone 3401; NAD83 datum; units in feet.

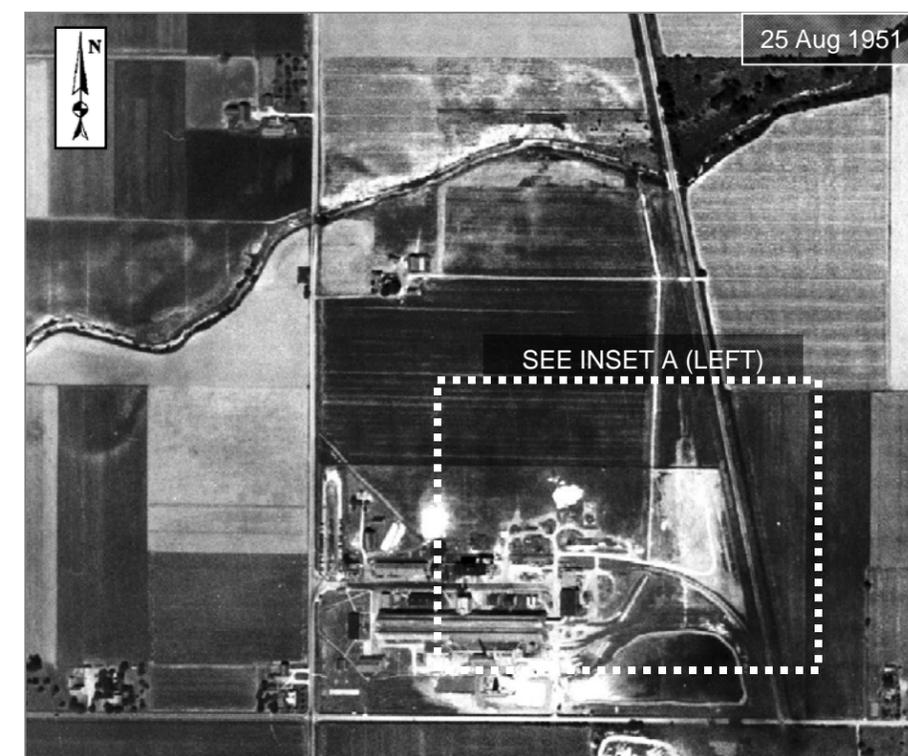
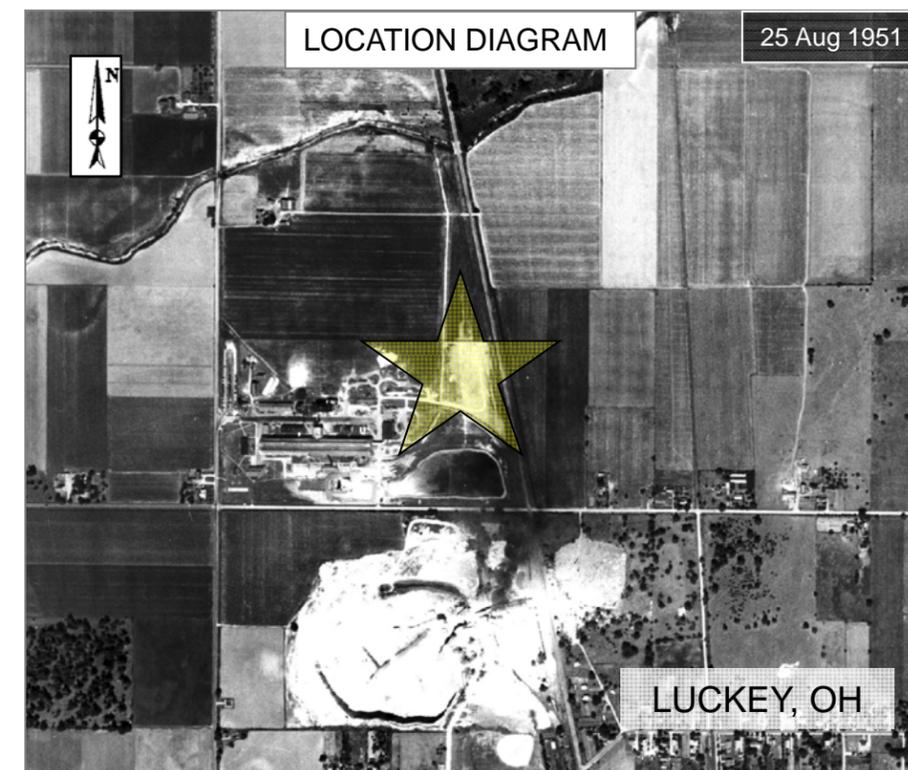
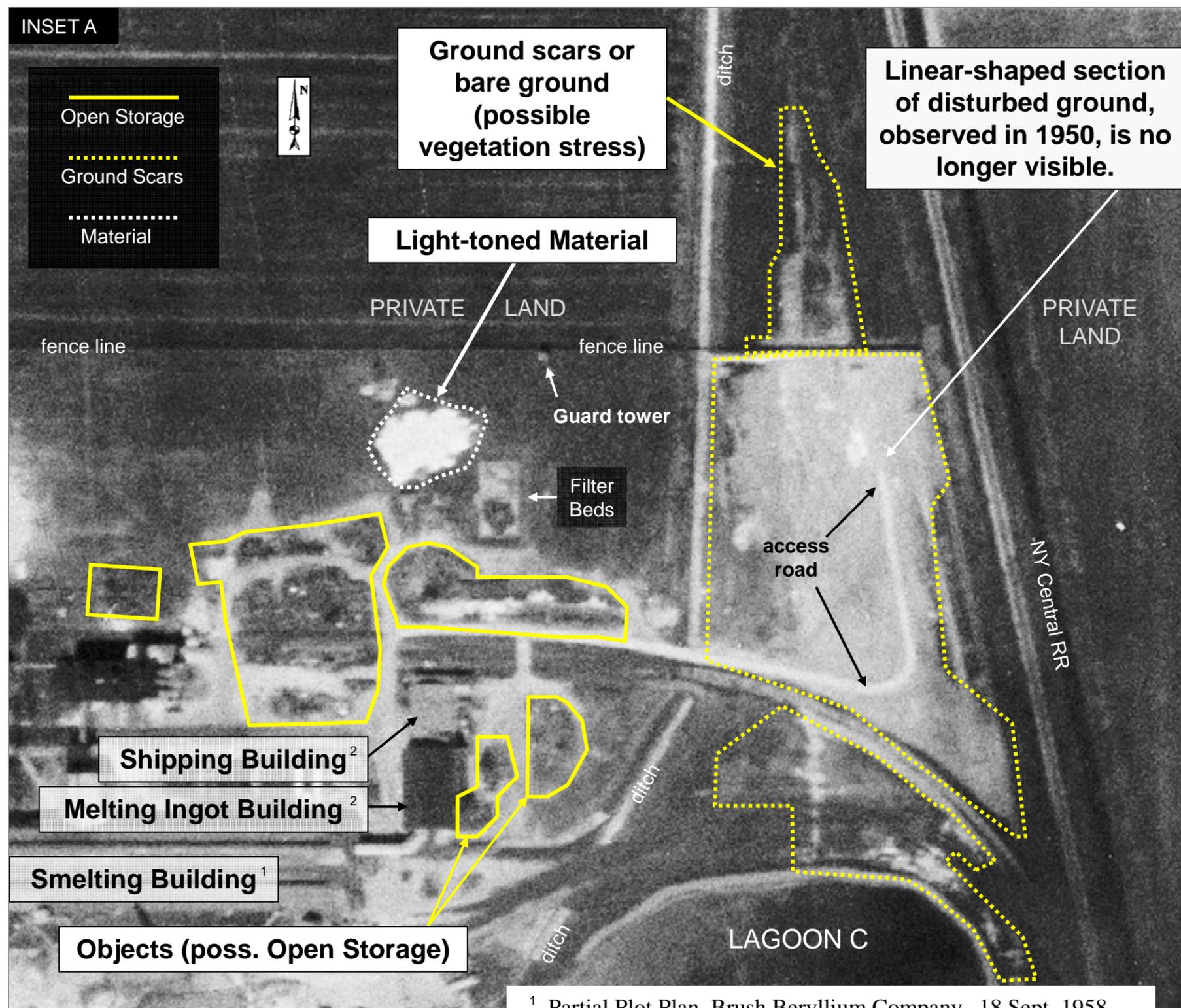


PHOTOGRAPHIC ANALYSIS – AUGUST 1951

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

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25 AUGUST 1951 – VERTICAL VIEW: NORTHEAST SECTOR



¹ Partial Plot Plan, Brush Beryllium Company, 18 Sept. 1958.

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

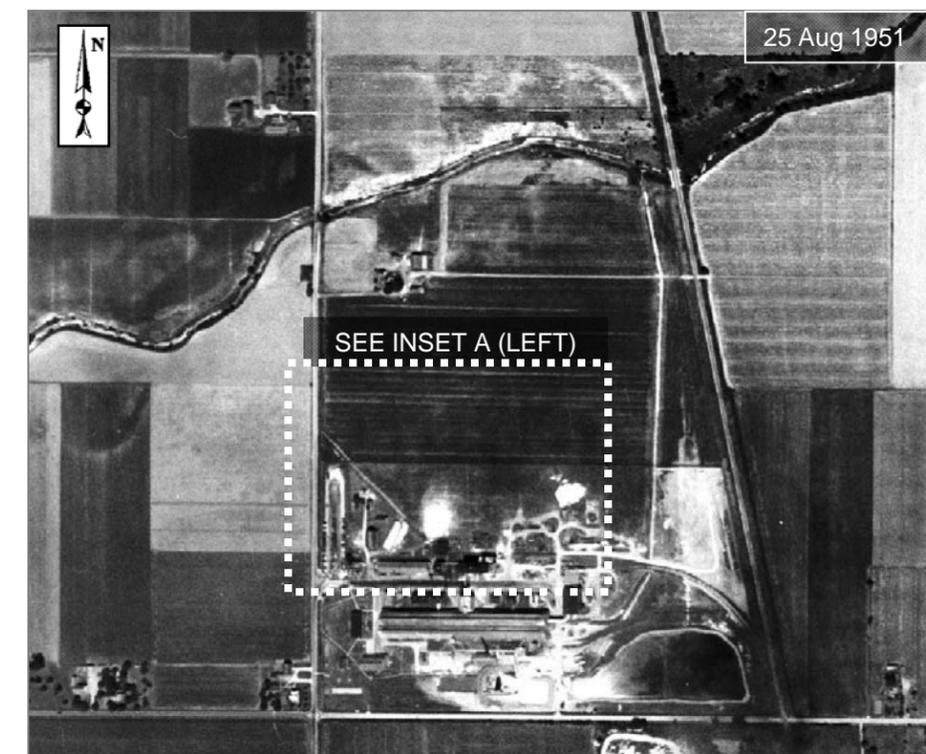
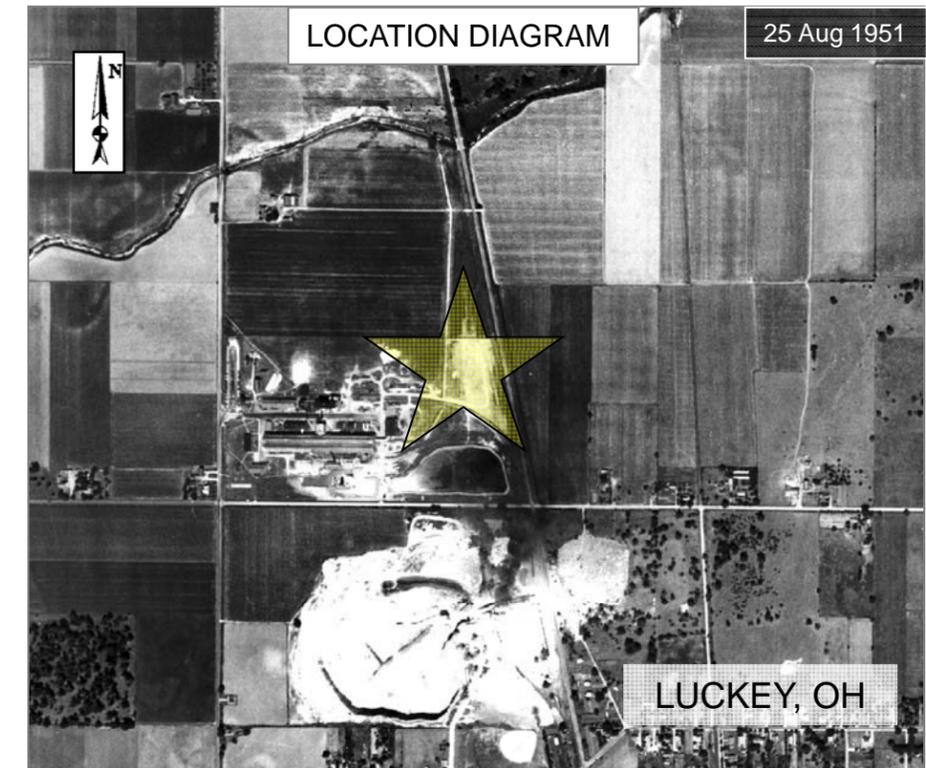
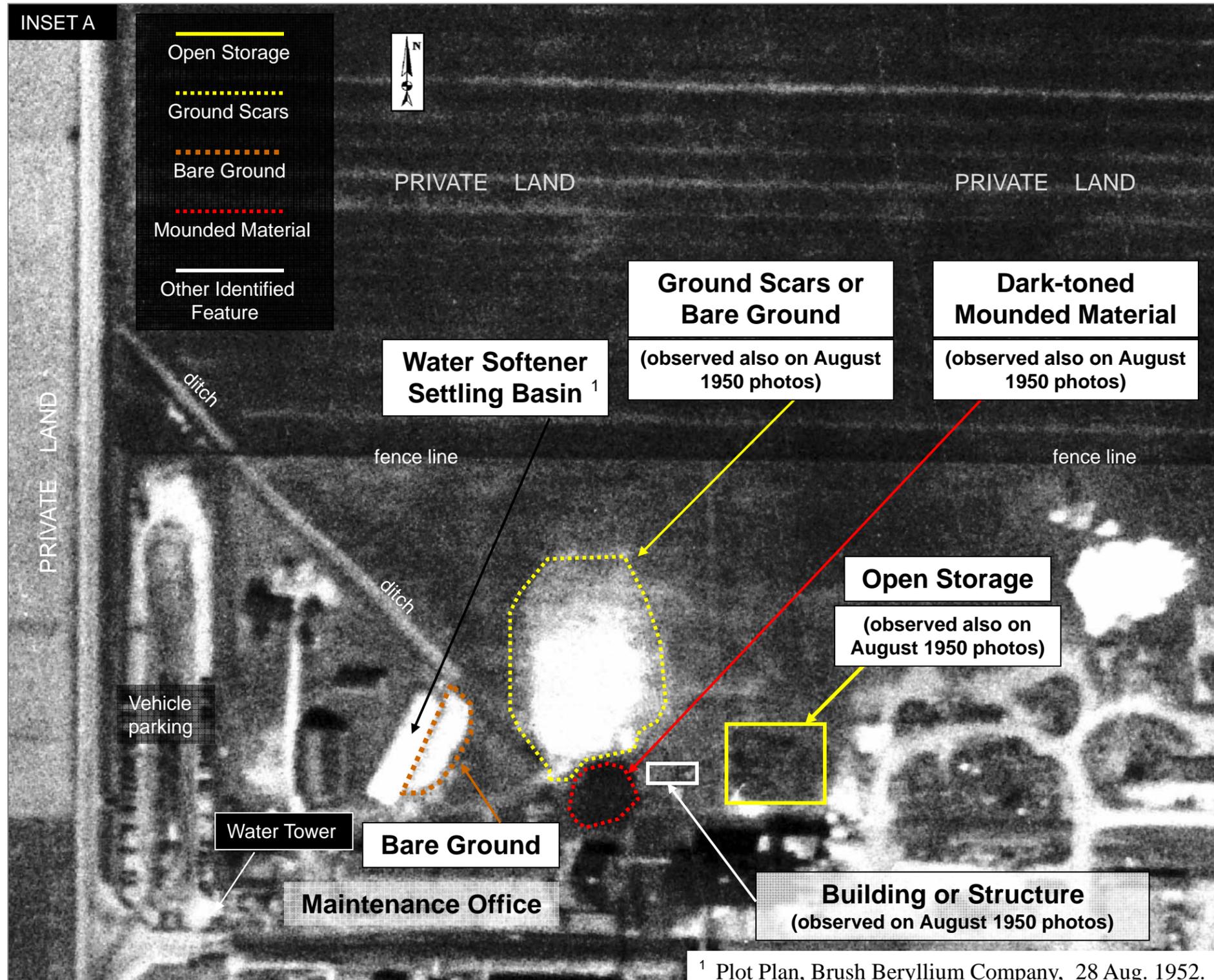


PHOTOGRAPHIC ANALYSIS – AUGUST 1951

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

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25 AUGUST 1951 – VERTICAL VIEW: NORTHWEST SECTOR



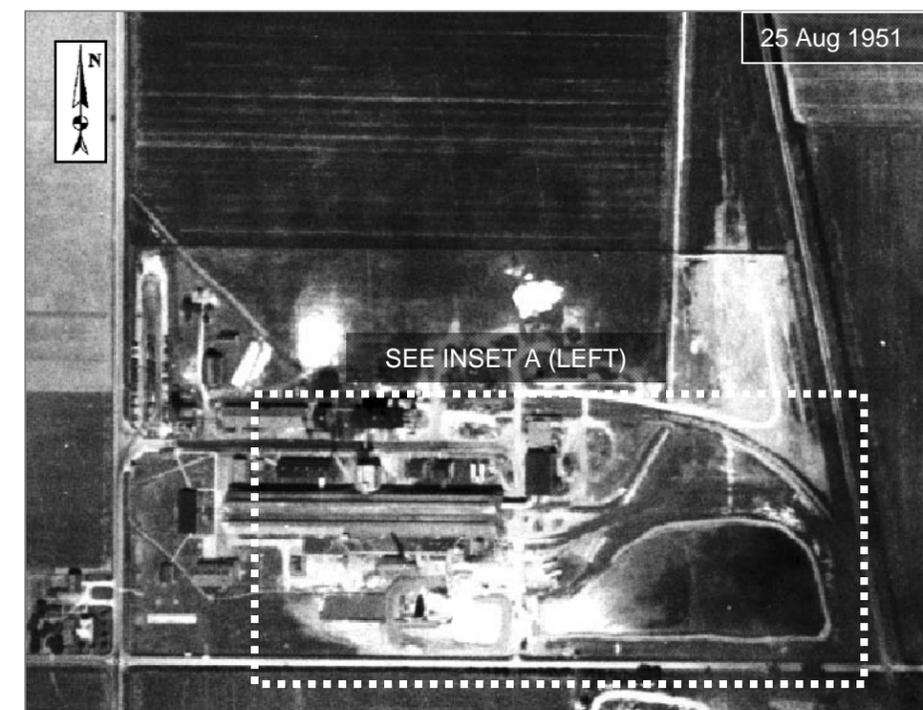
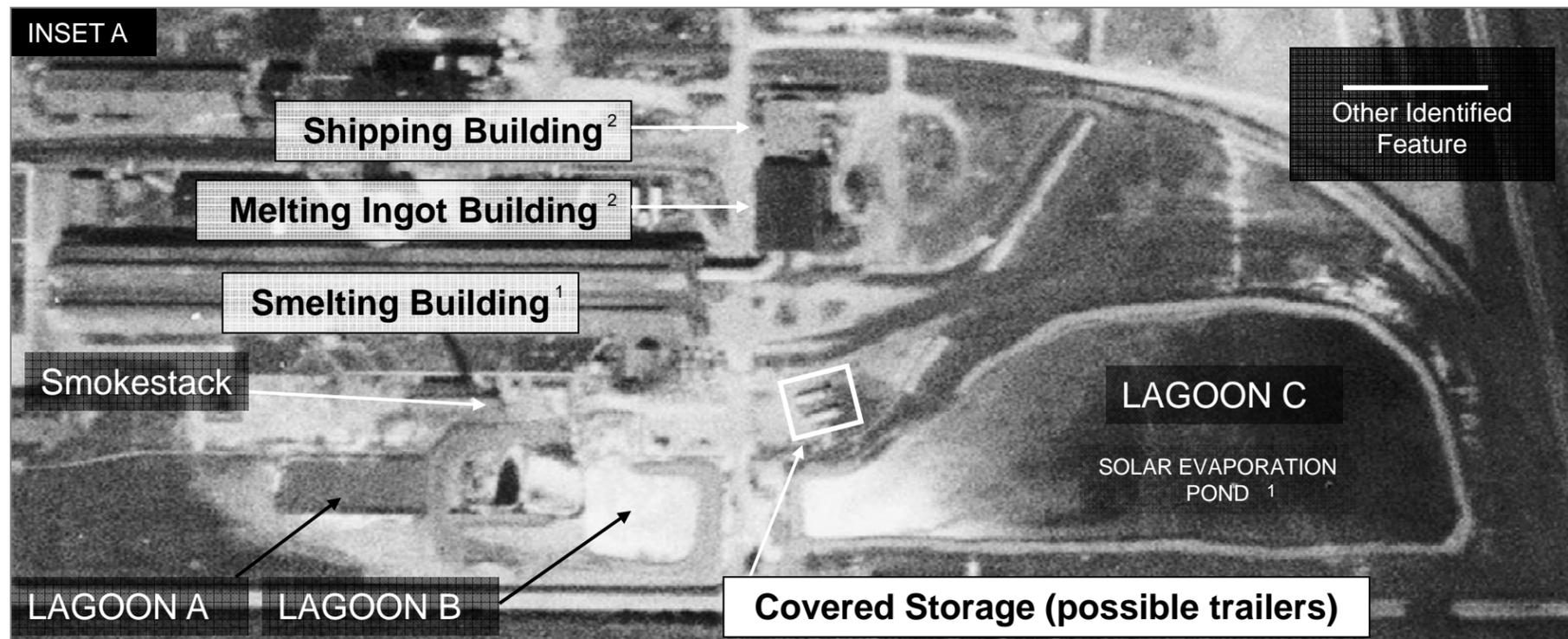
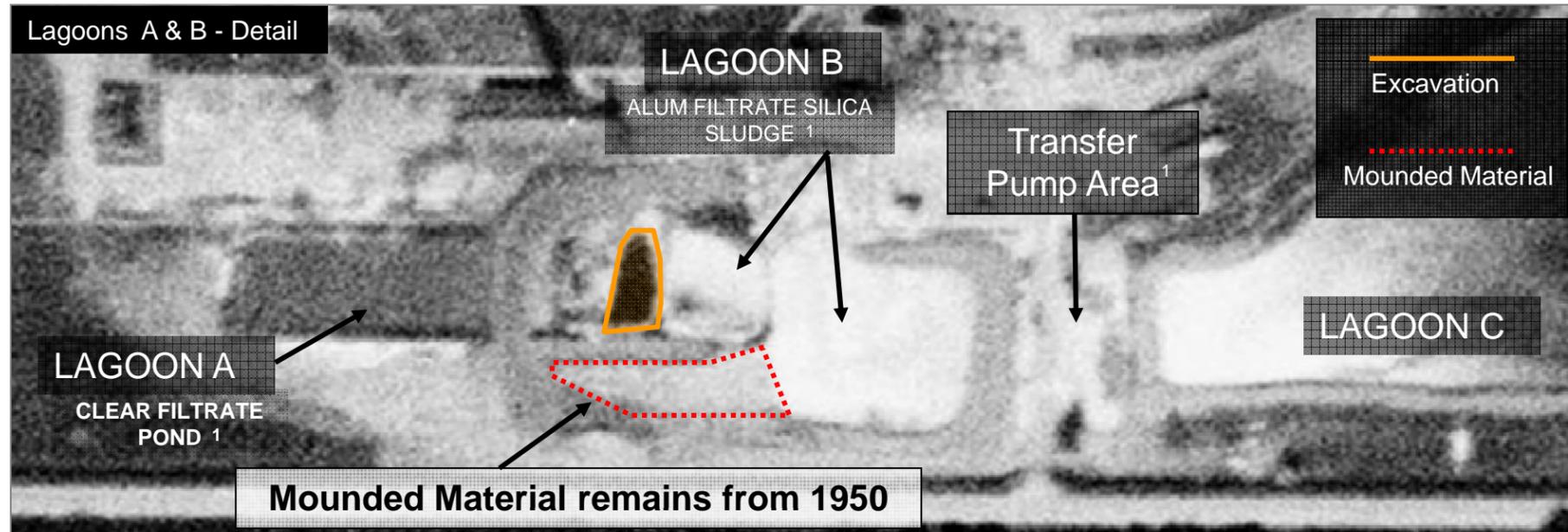


PHOTOGRAPHIC ANALYSIS – AUGUST 1951

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

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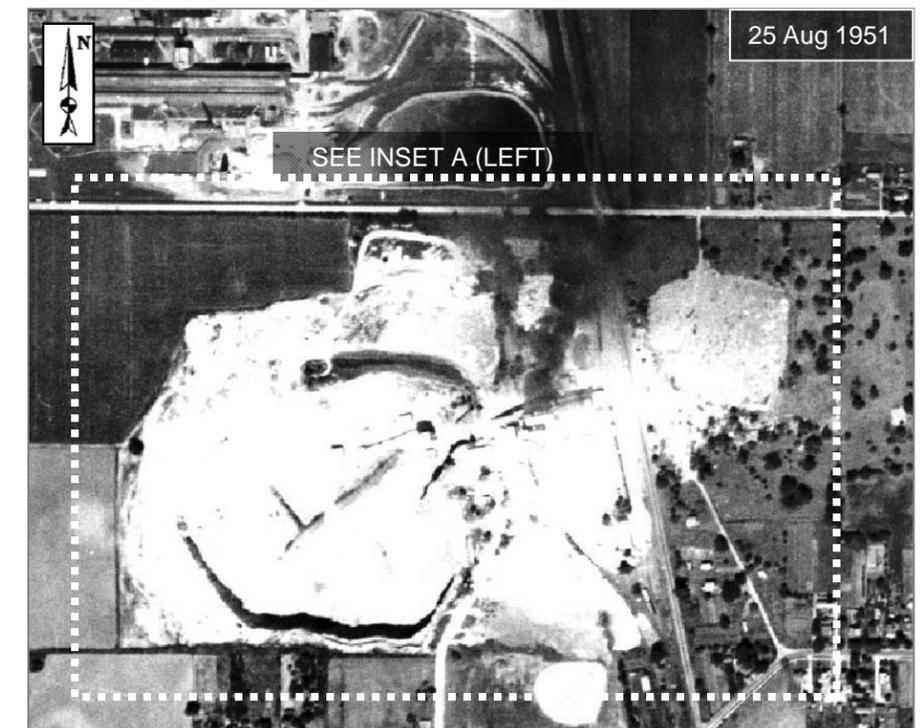
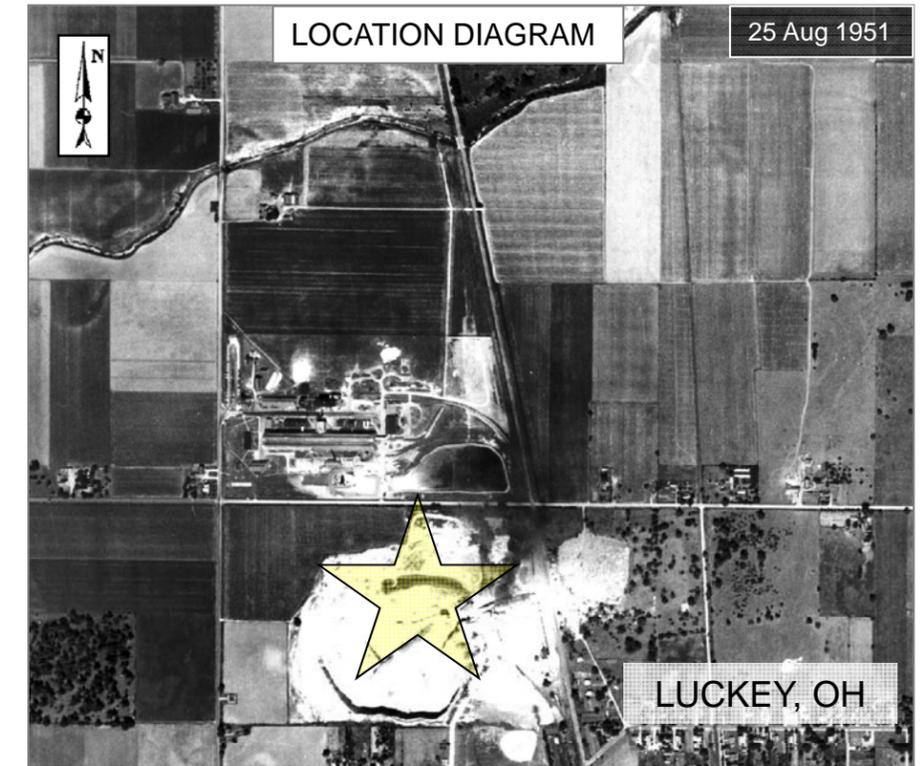
25 AUGUST 1951 – VERTICAL VIEW: LAGOON AREA



¹ Partial Plot Plan, Brush Beryllium Company, 18 Sept. 1958.
² National Lead Company, Plot Plan, 5 July 1942.



25 AUGUST 1951 – VERTICAL VIEW: QUARRY AREA





PHOTOGRAPHIC ANALYSIS

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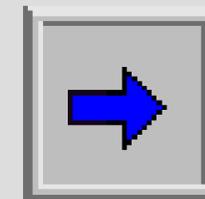
PERIOD OF CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION

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

Photo Interpretation Of Aerial Photography

September
1957



Brush Beryllium Company
(later Brush Wellman)

 Selected findings from the aerial photographic analysis.

 Locations are shown in the State Plane; FIPS Zone 3401; NAD83 datum; units in feet.

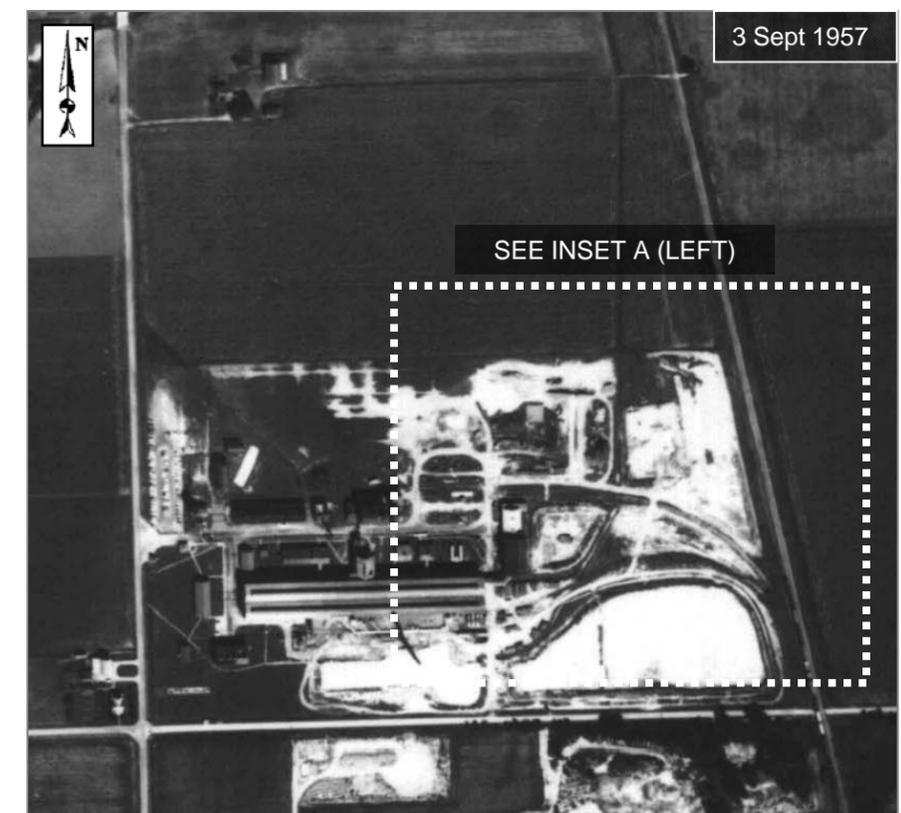
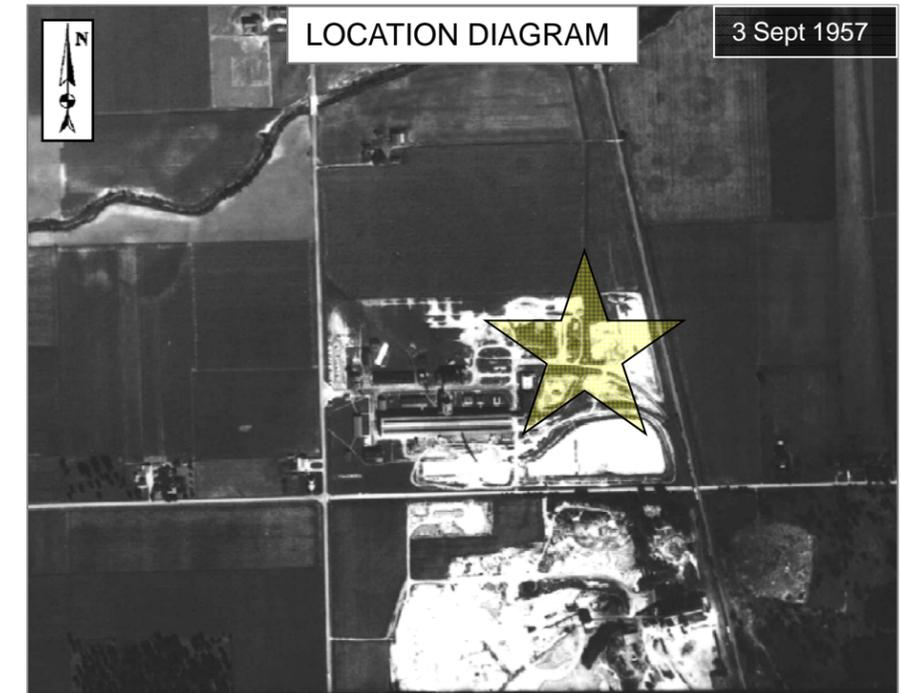
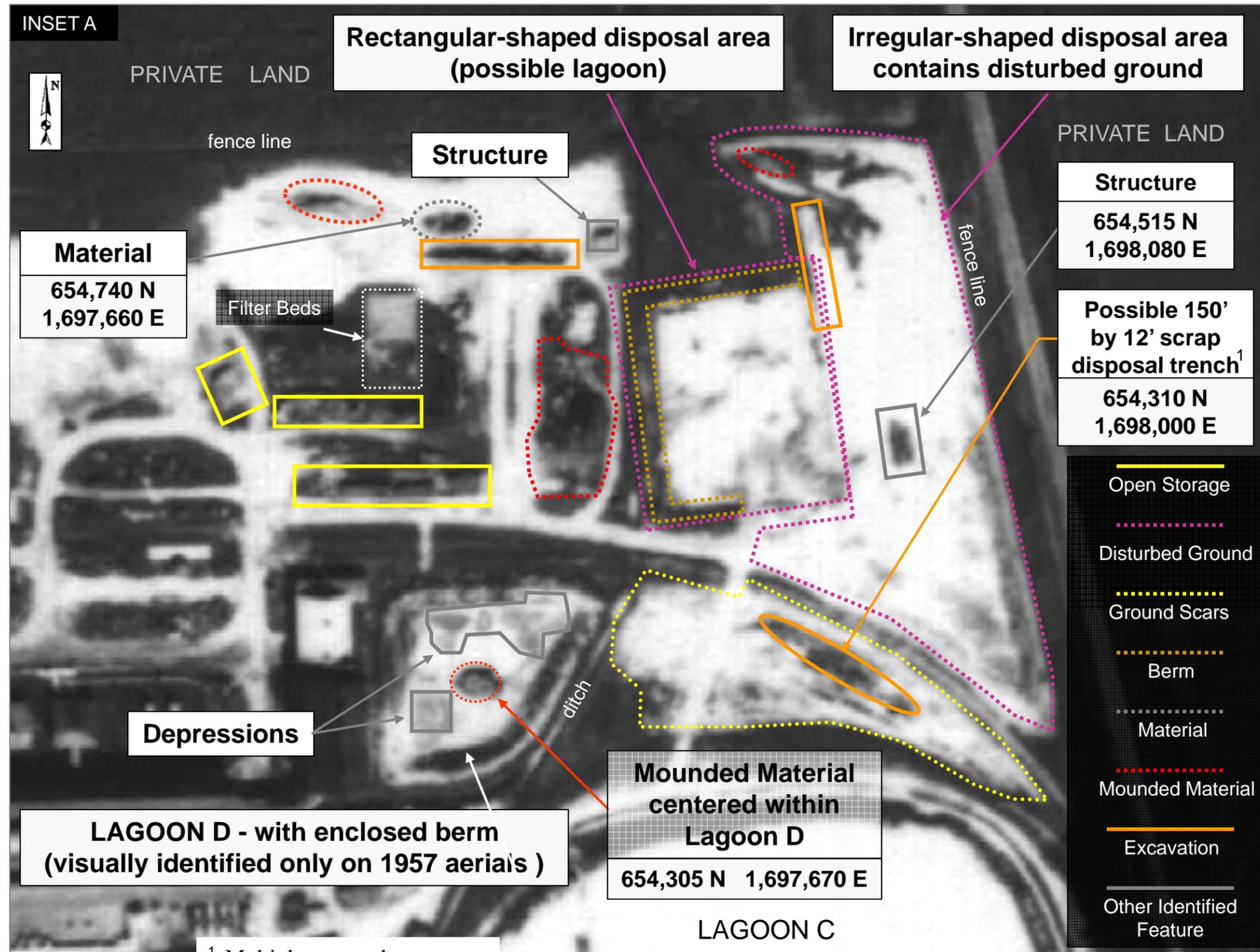
PHOTOGRAPHIC ANALYSIS – SEPTEMBER 1957



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3 SEPTEMBER 1957 – VERTICAL VIEW: NORTHEAST SECTOR



¹ Multiple source documents.

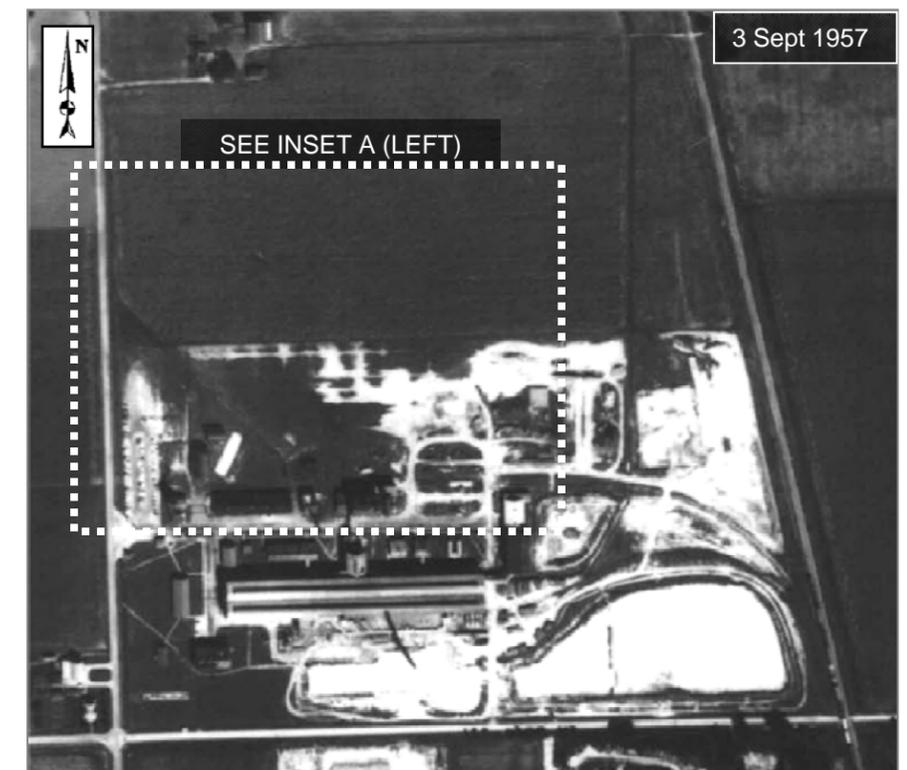
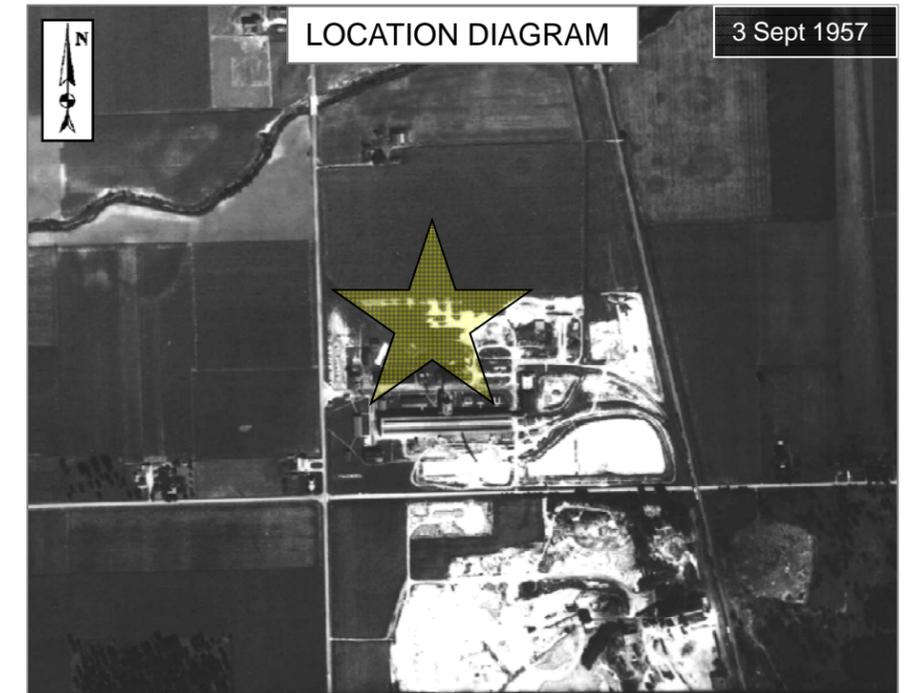
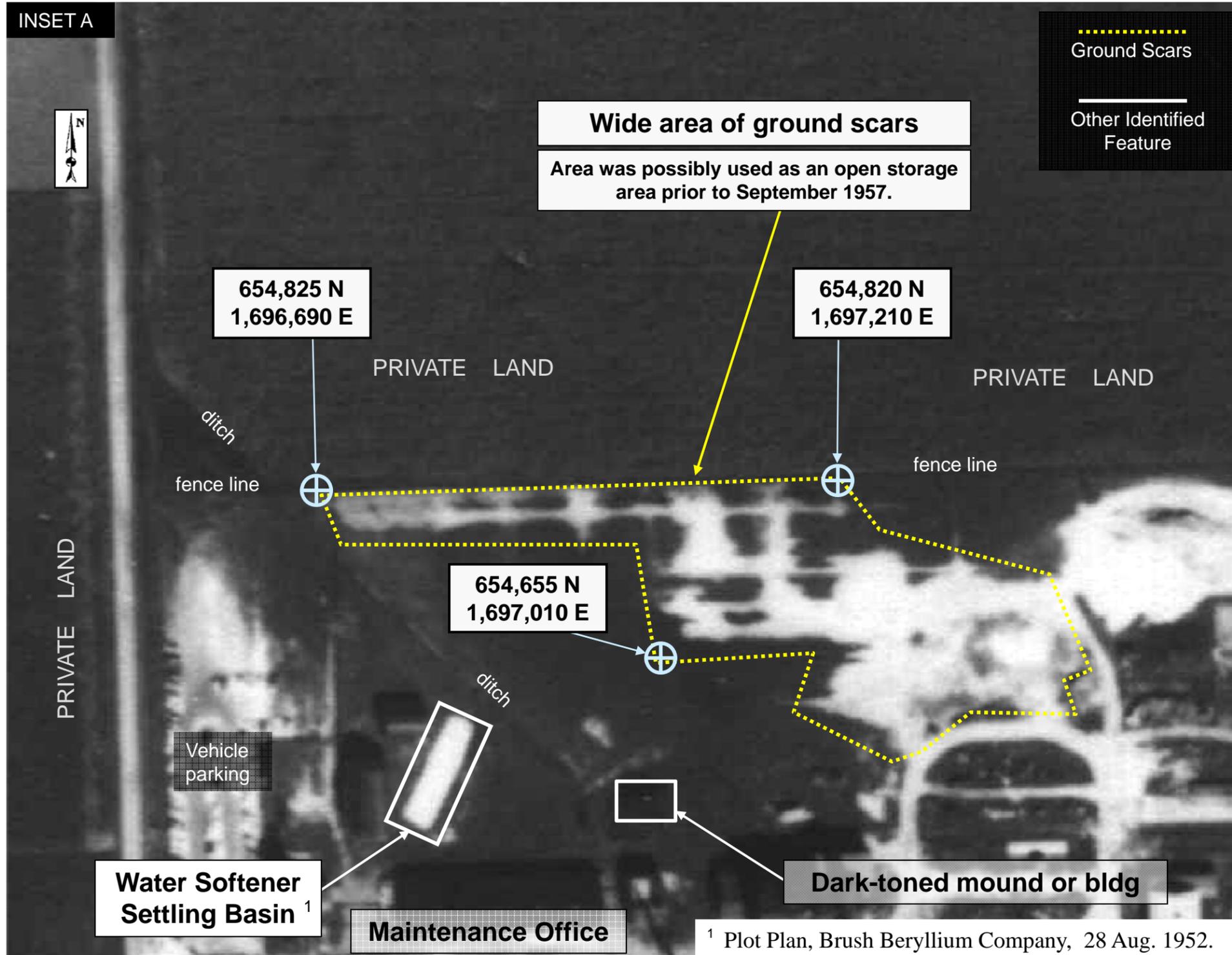
PHOTOGRAPHIC ANALYSIS – SEPTEMBER 1957



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

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3 SEPTEMBER 1957 – VERTICAL VIEW: NORTHWEST SECTOR



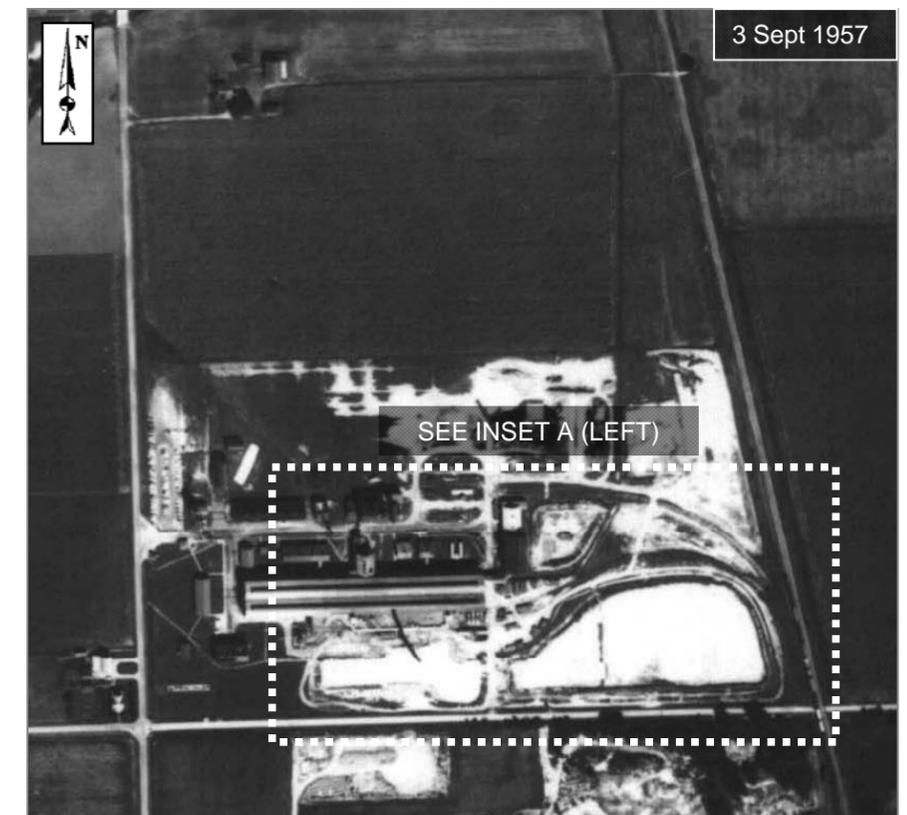
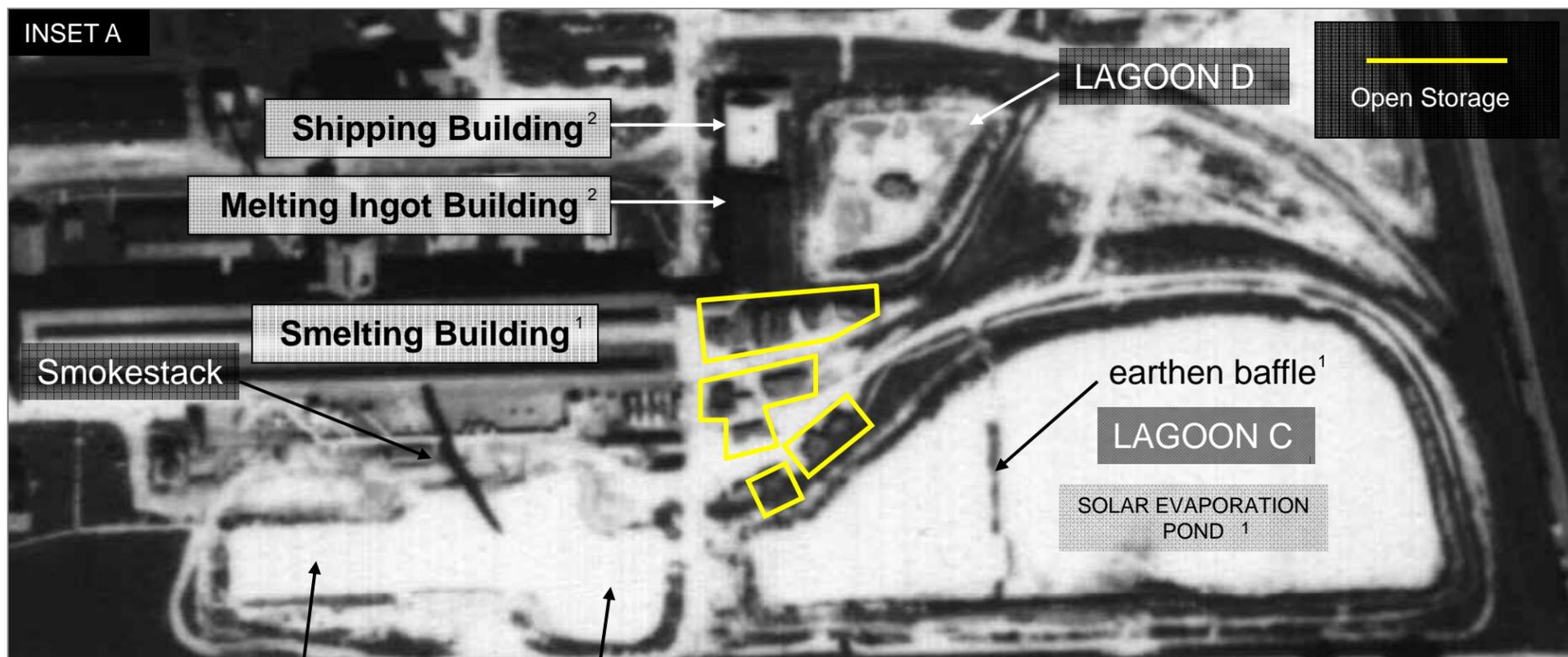
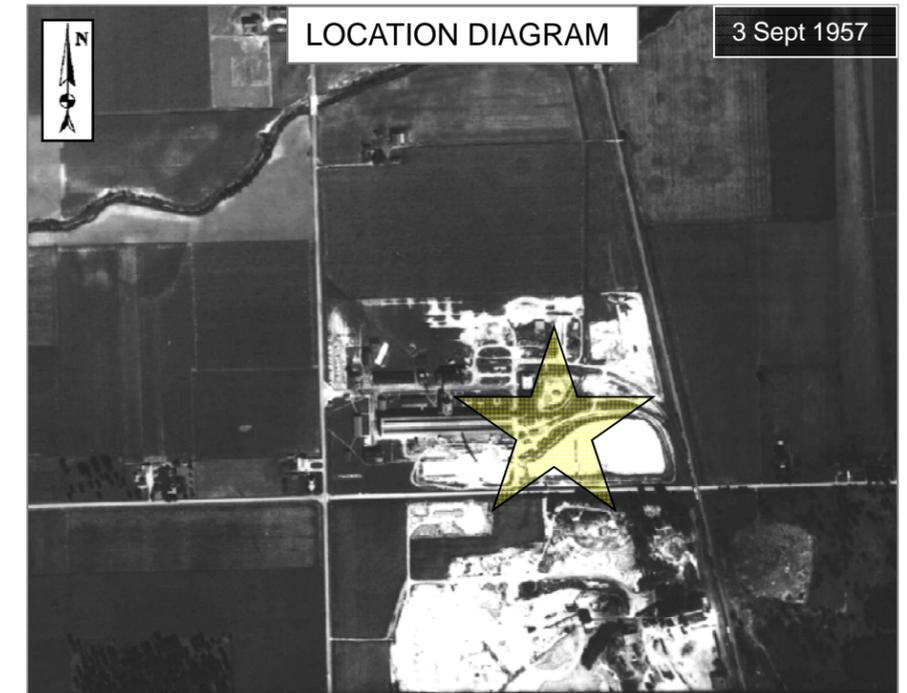
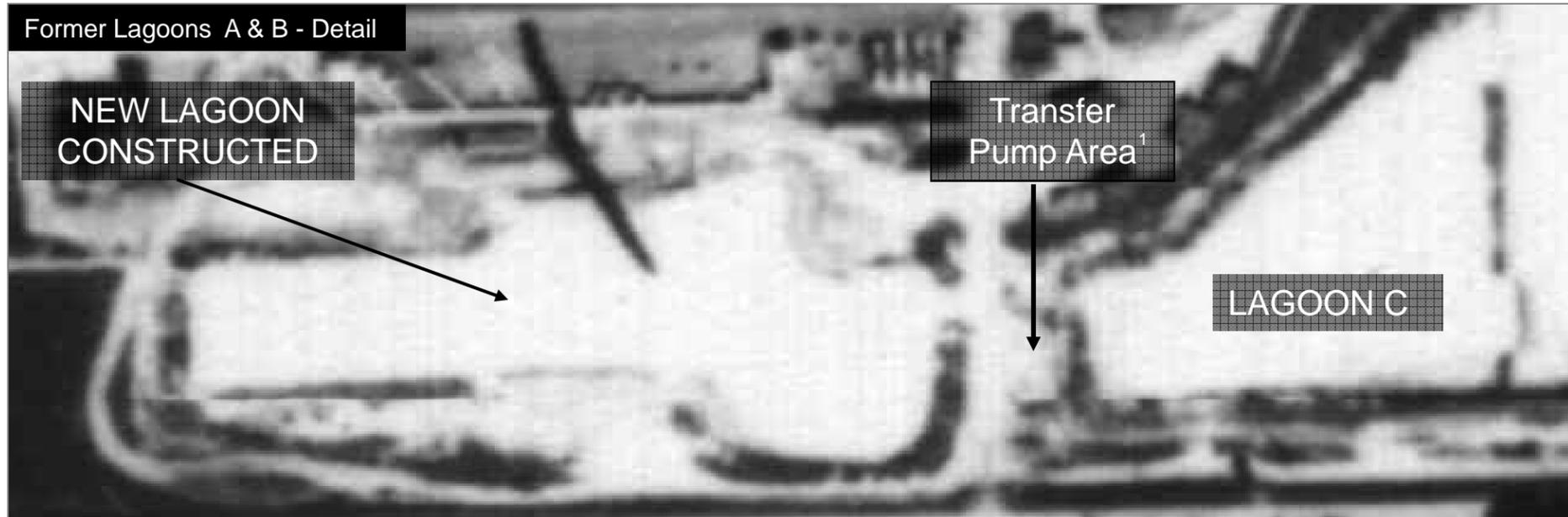
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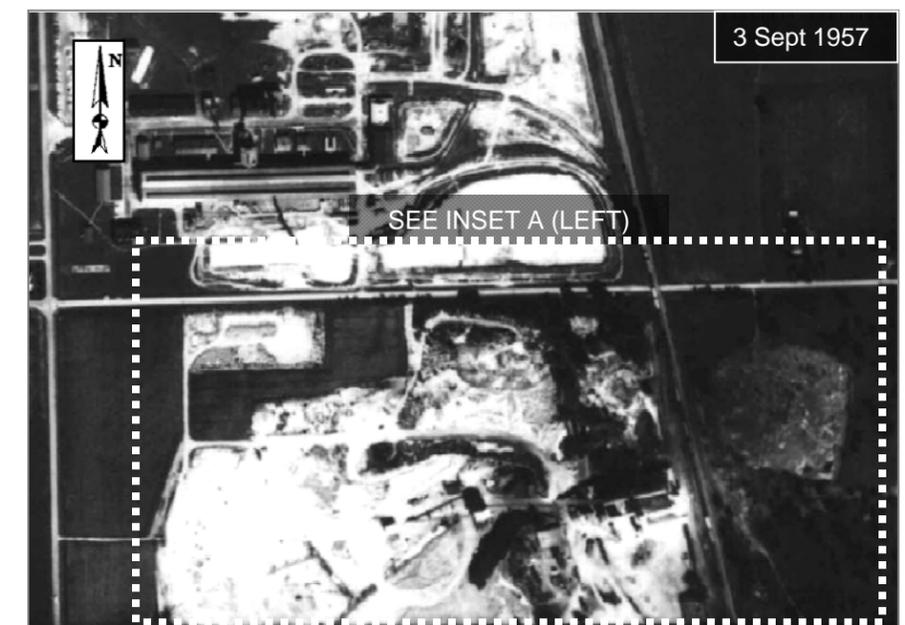
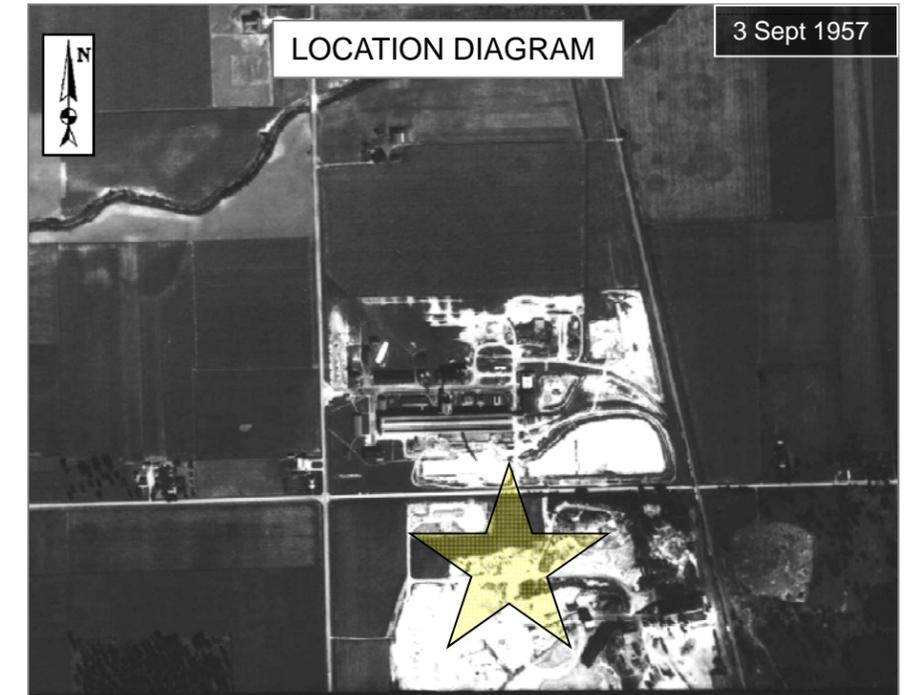
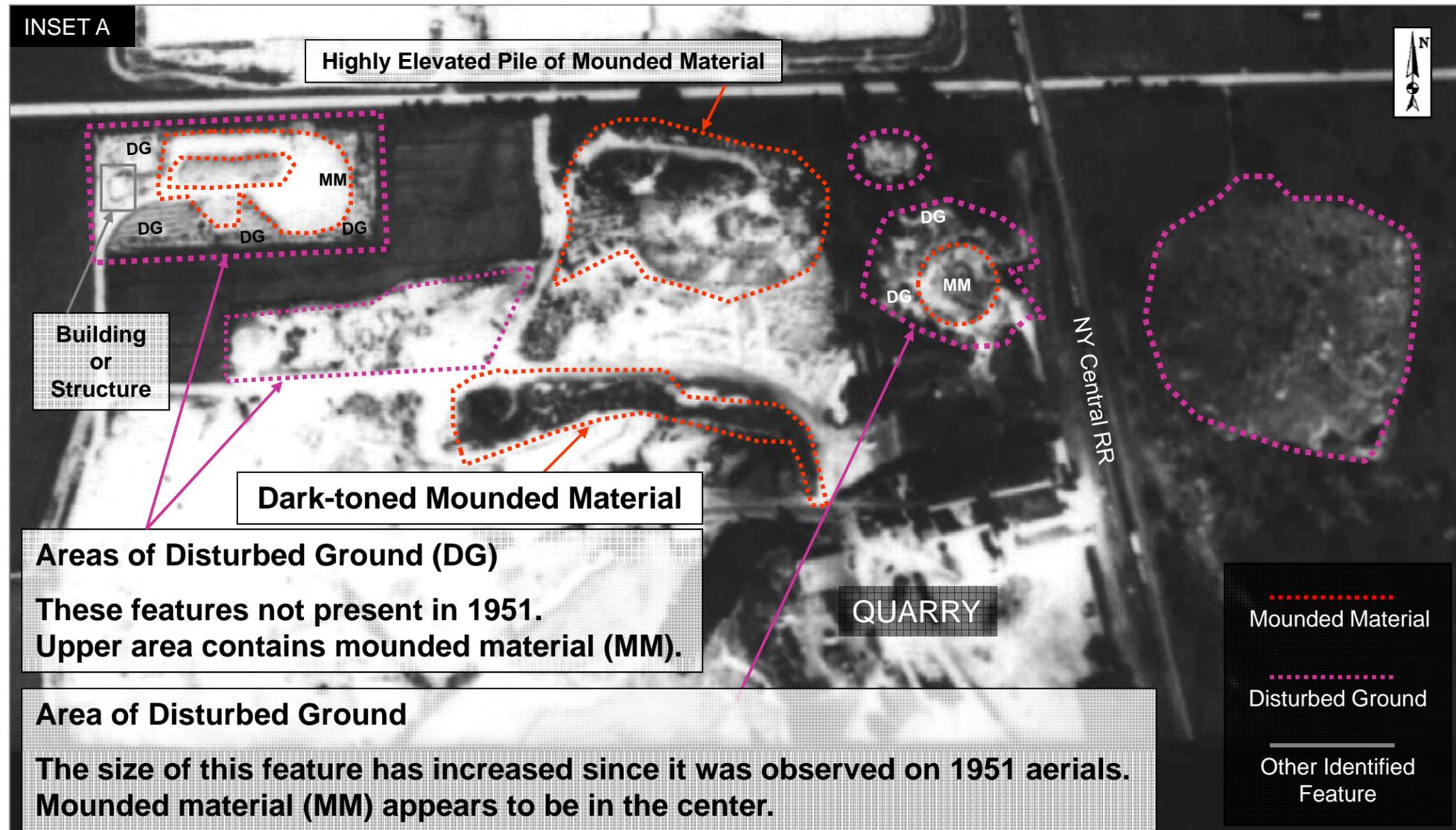
3 SEPTEMBER 1957 – VERTICAL VIEW: LAGOON AREA



¹ Partial Plot Plan, Brush Beryllium Company, 18 Sept. 1958.
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3 SEPTEMBER 1957 – VERTICAL VIEW: QUARRY AREA





PHOTOGRAPHIC ANALYSIS

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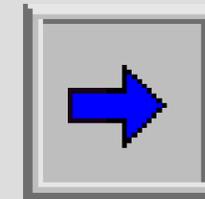
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From 1948 to 1958, the plant at the Luckey FUSRAP site is operated by Brush Beryllium/Brush Wellman and performs work for the U.S. Atomic Energy Commission.

Source: U.S. Department of Energy

Photo Interpretation Of Aerial Photography

November
1957



Brush Beryllium Company
(later Brush Wellman)

 Selected findings from the aerial photographic analysis.

 Locations are shown in the State Plane; FIPS Zone 3401; NAD83 datum; units in feet.

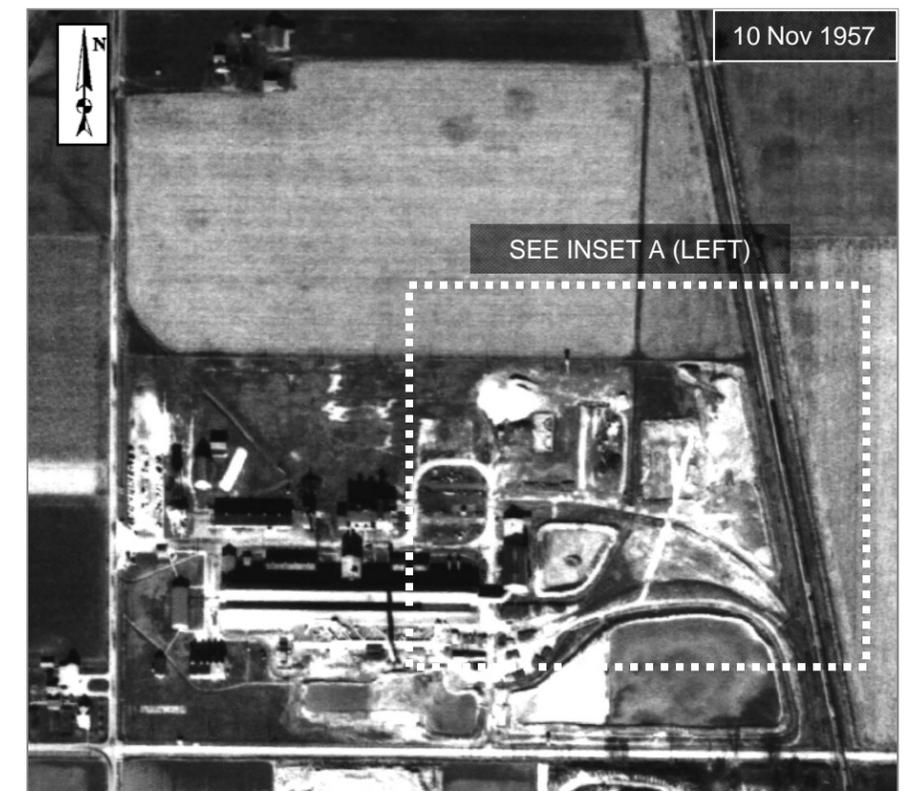
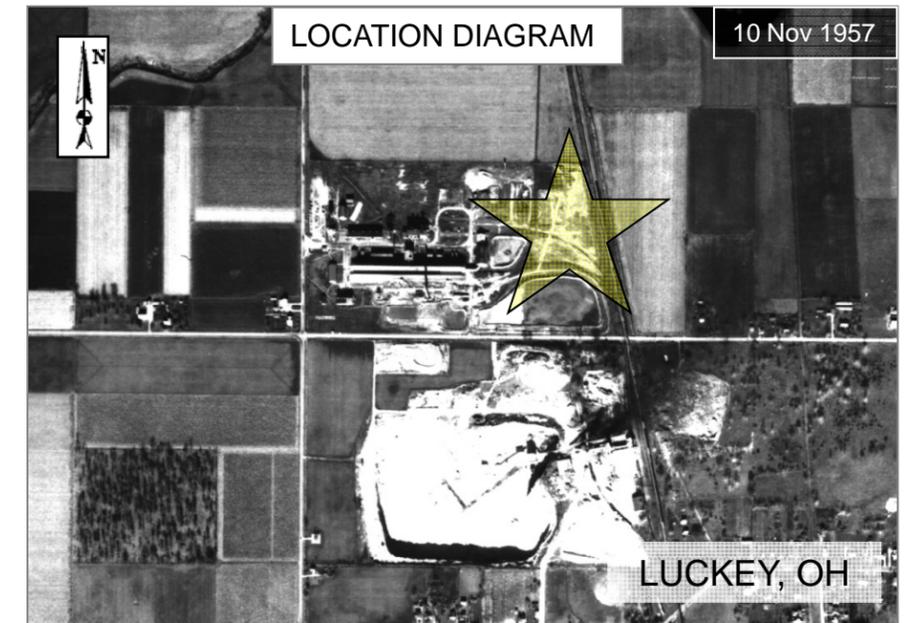
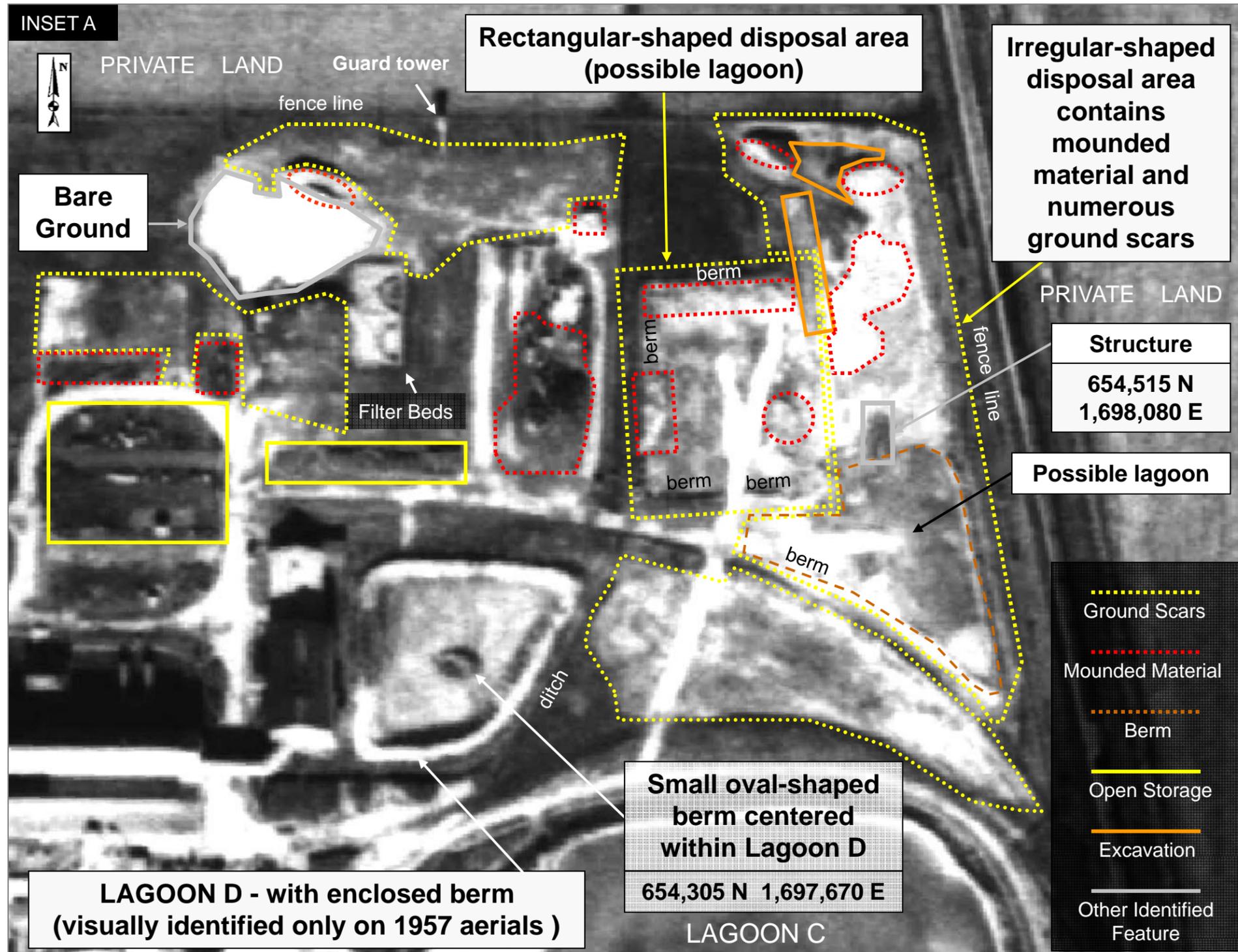
PHOTOGRAPHIC ANALYSIS – NOVEMBER 1957



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

10 NOVEMBER 1957 – VERTICAL VIEW: NORTHEAST SECTOR



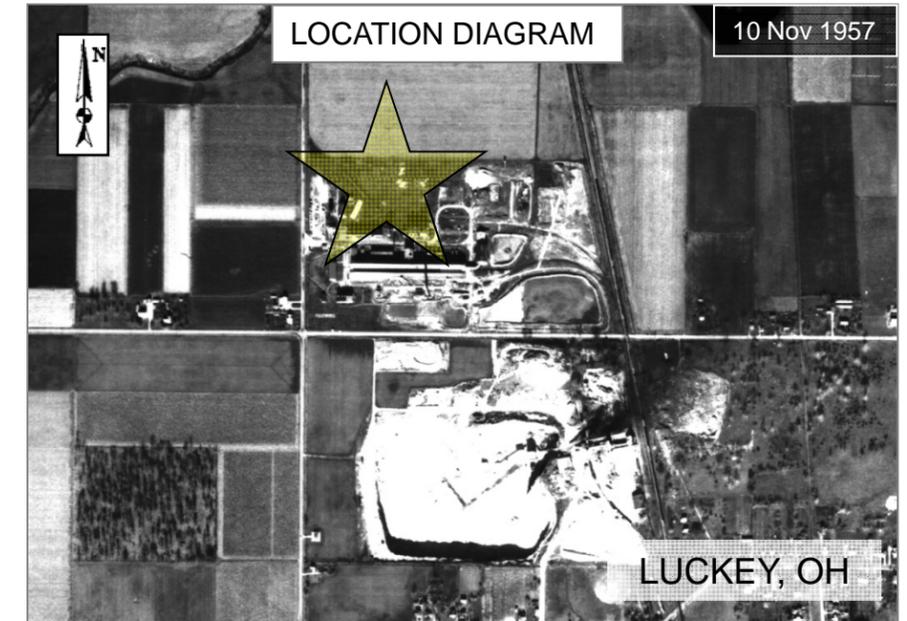
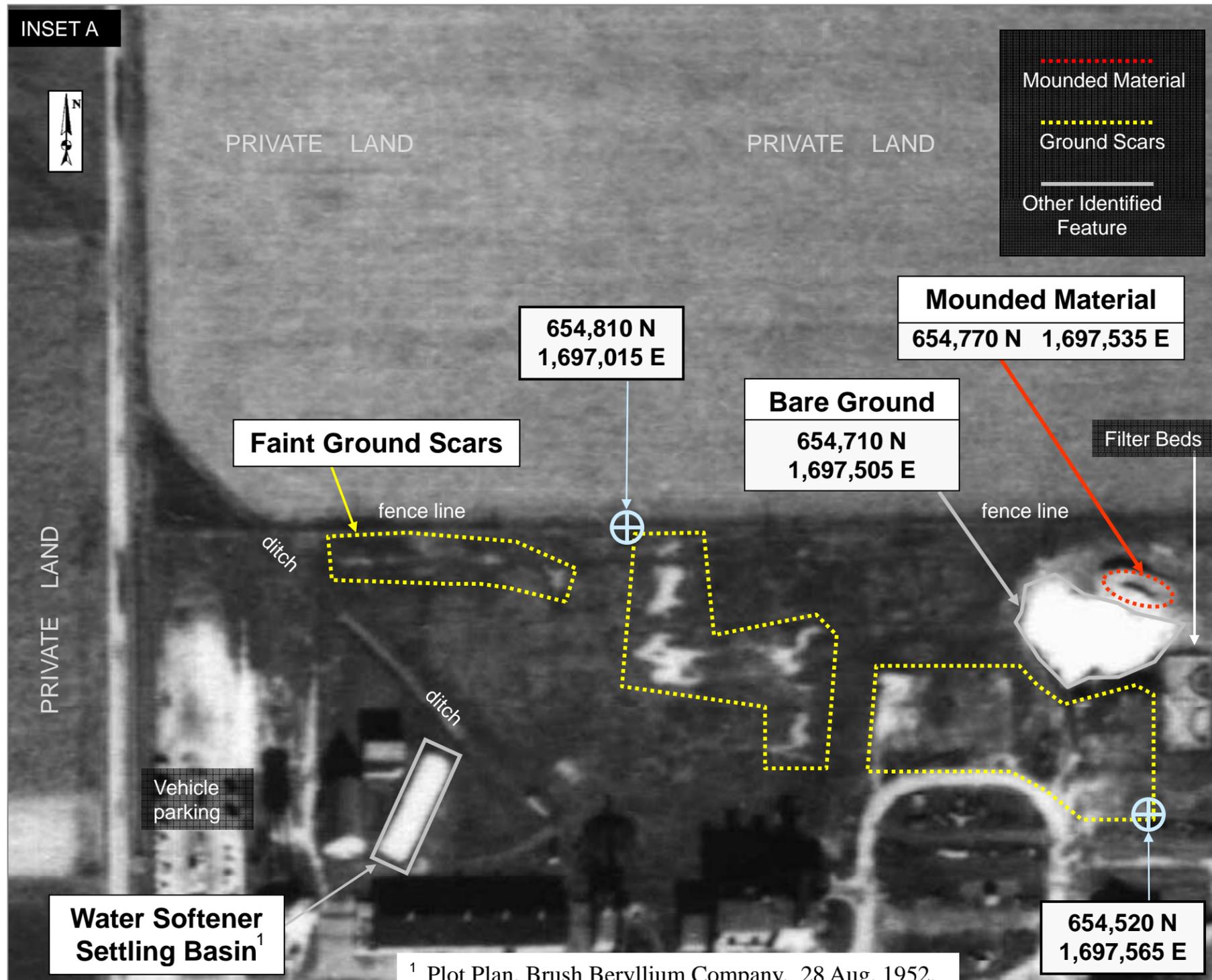


PHOTOGRAPHIC ANALYSIS – NOVEMBER 1957

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

10 NOVEMBER 1957 – VERTICAL VIEW: NORTHWEST SECTOR



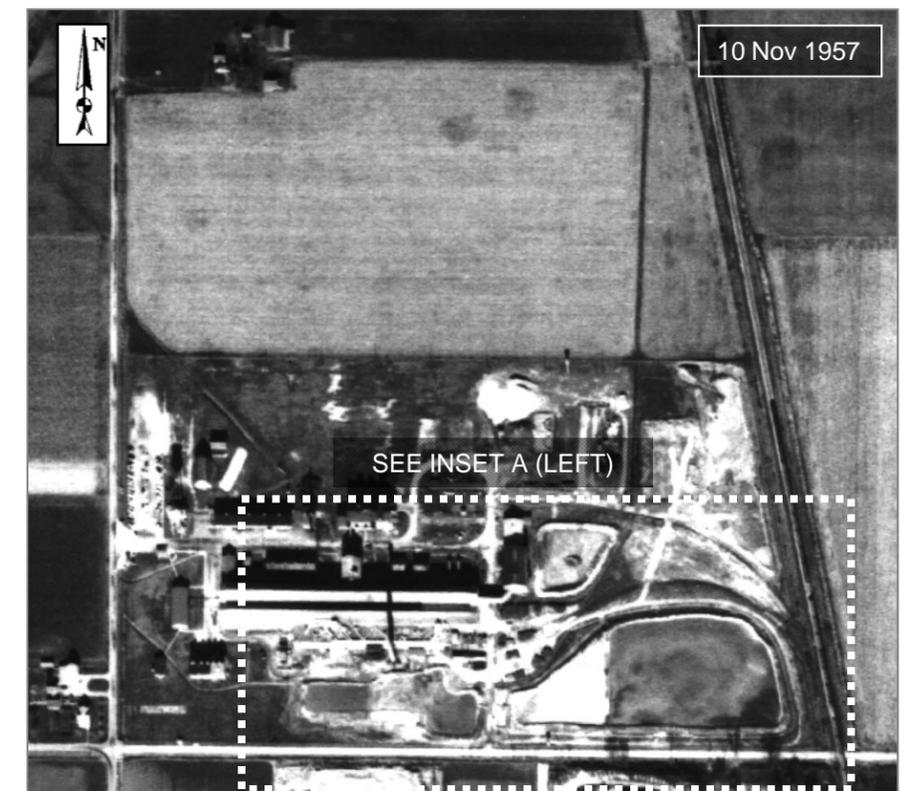
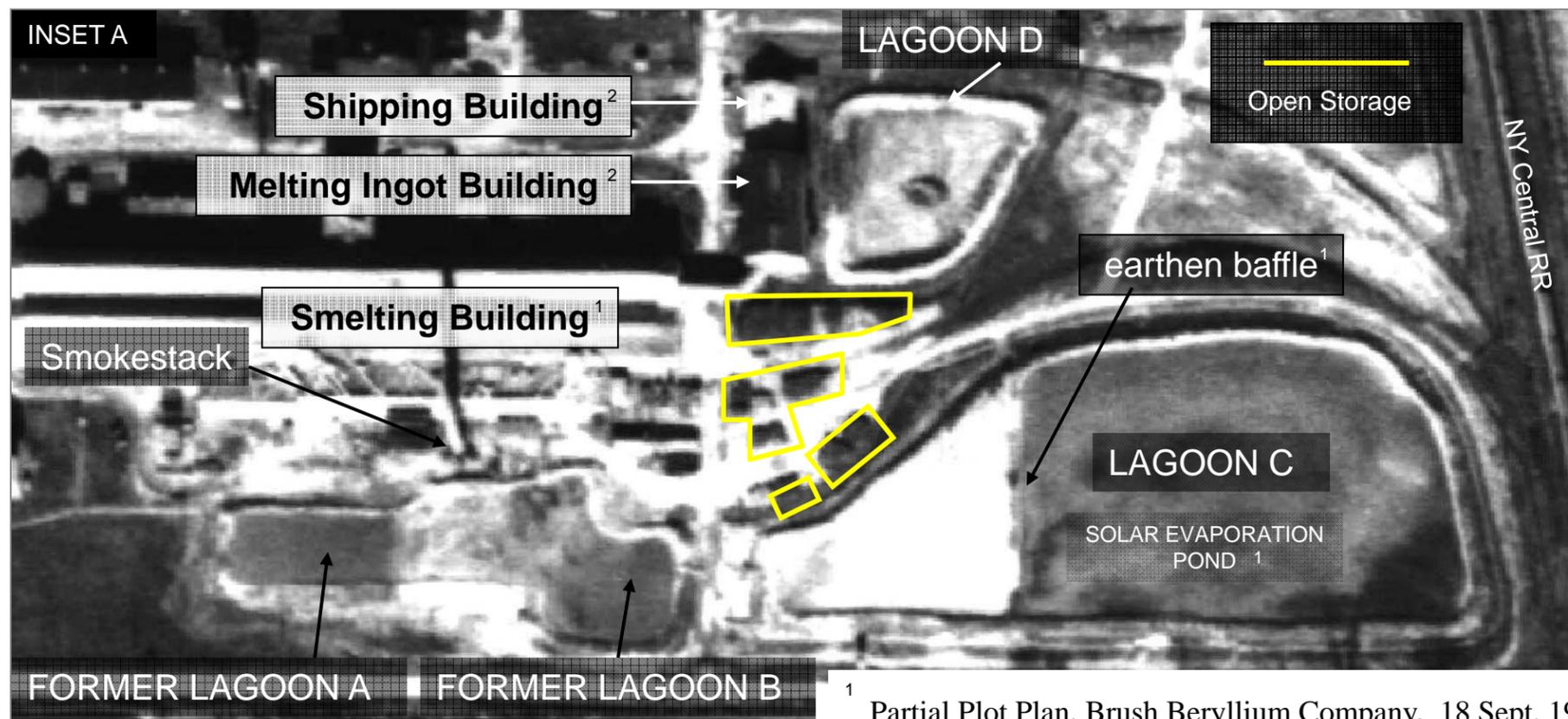
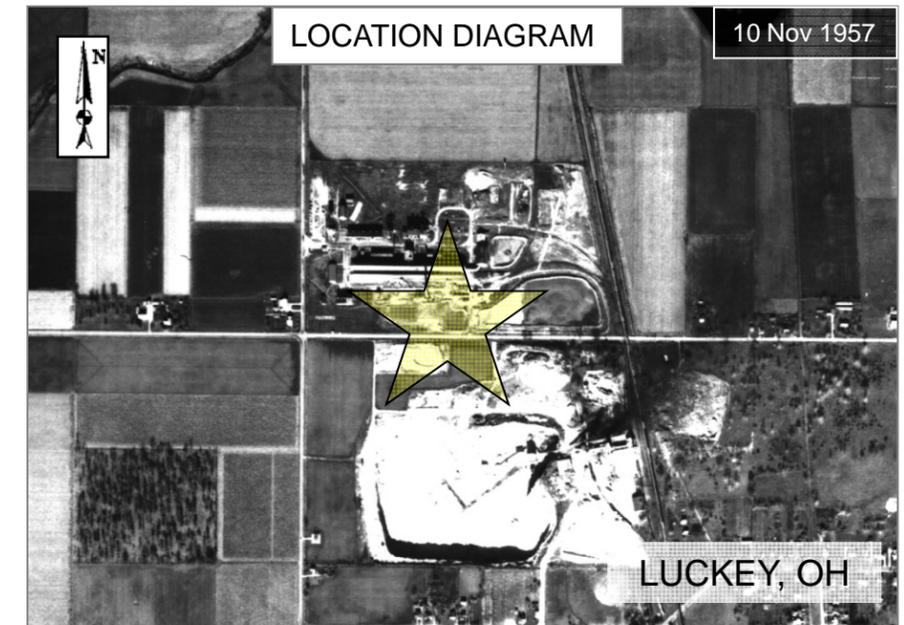
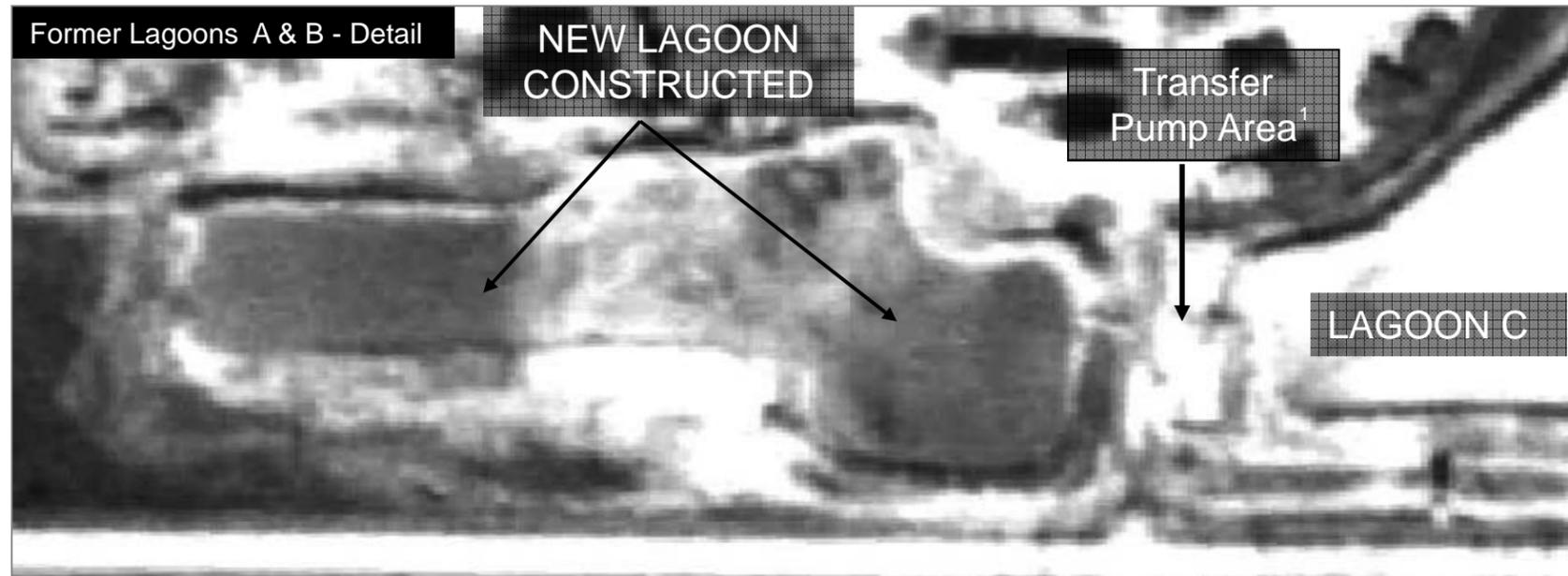
PHOTOGRAPHIC ANALYSIS – NOVEMBER 1957



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

10 NOVEMBER 1957 – VERTICAL VIEW: LAGOON AREA

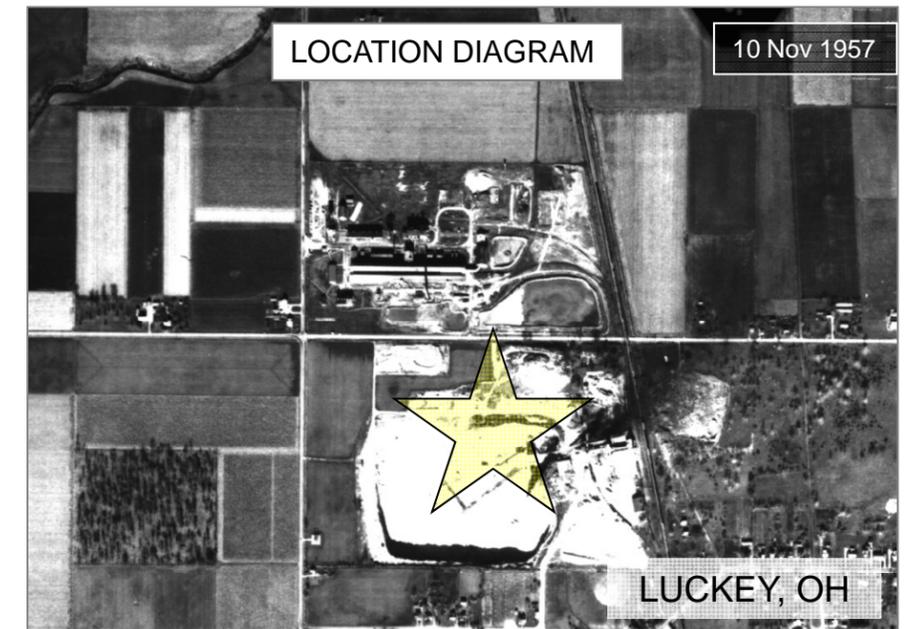
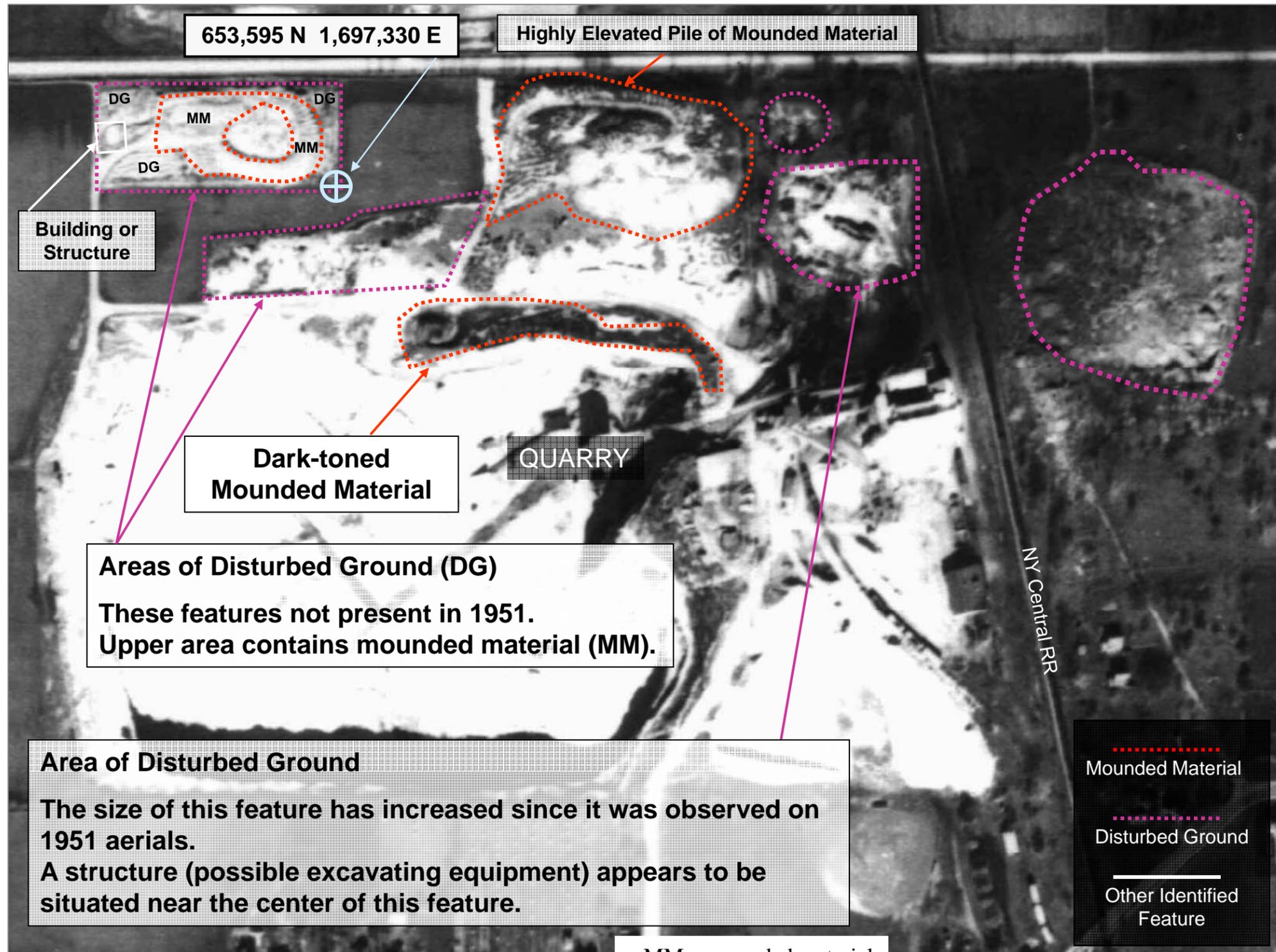


¹ Partial Plot Plan, Brush Beryllium Company, 18 Sept. 1958.

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



10 NOVEMBER 1957 – VERTICAL VIEW: QUARRY AREA





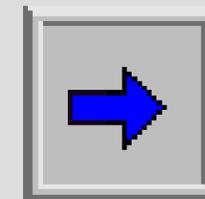
PHOTOGRAPHIC ANALYSIS

Final Report

CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

Photo
Interpretation
Of Aerial
Photography

1963



Brush Beryllium Company
(later Brush Wellman)

 Selected findings from the aerial photographic analysis.

 Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.

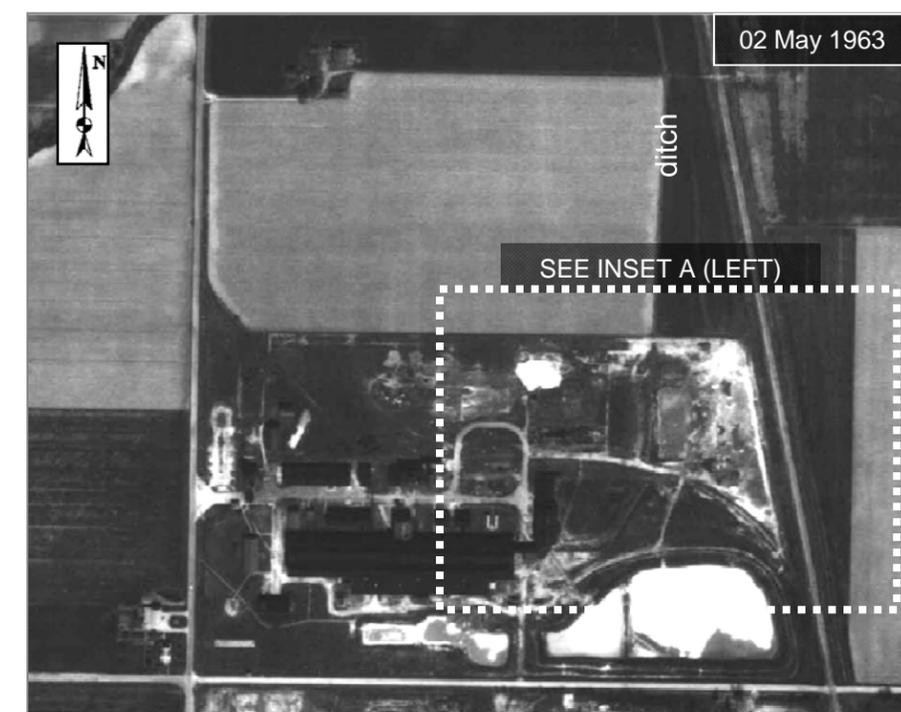
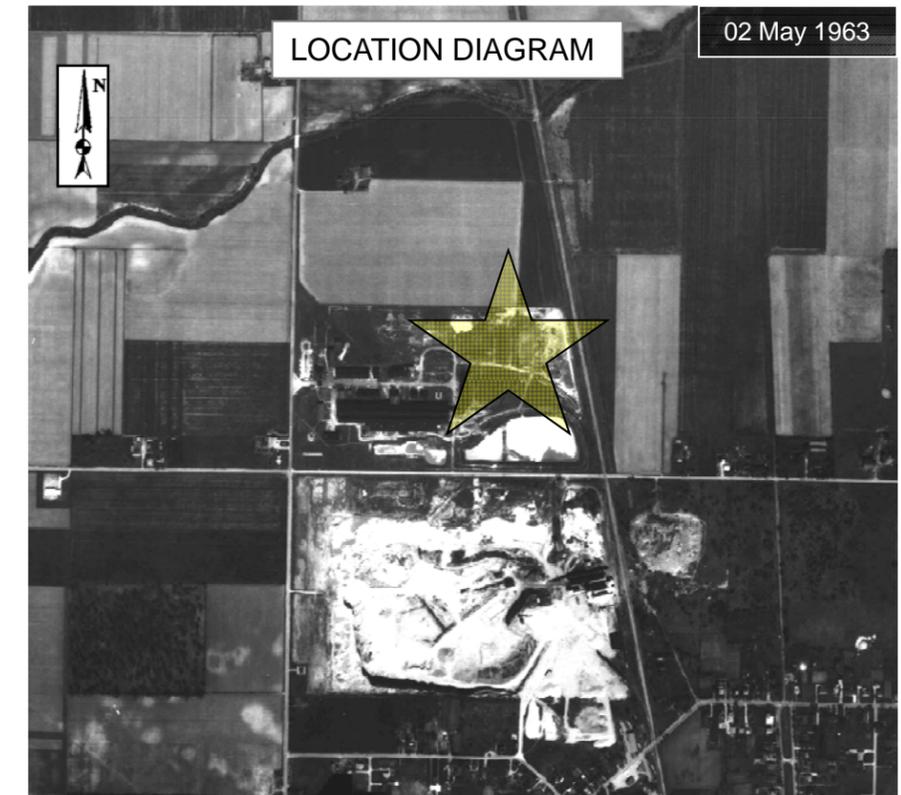
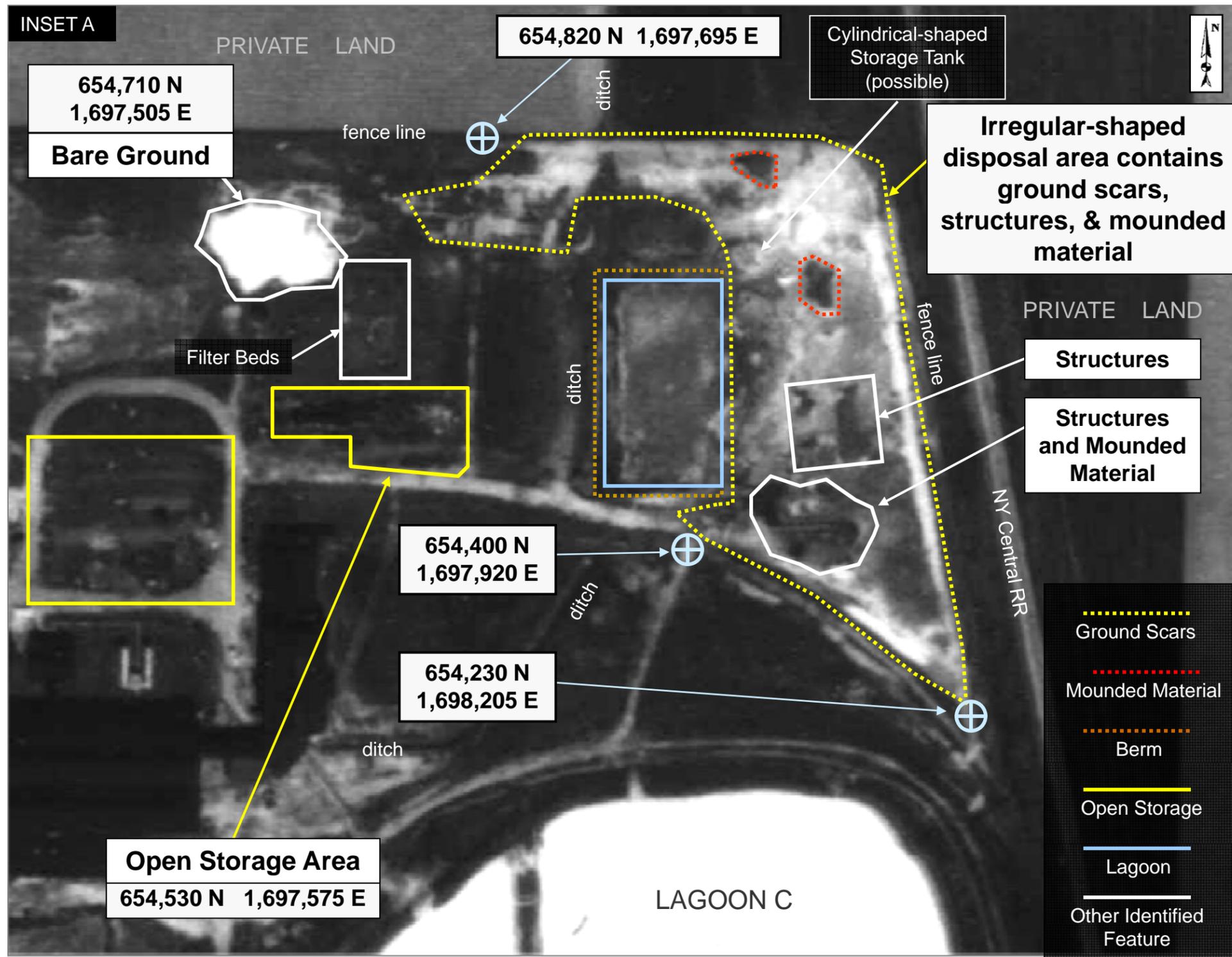
PHOTOGRAPHIC ANALYSIS – MAY 1963



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

02 MAY 1963 – VERTICAL VIEW: NORTHEAST SECTOR



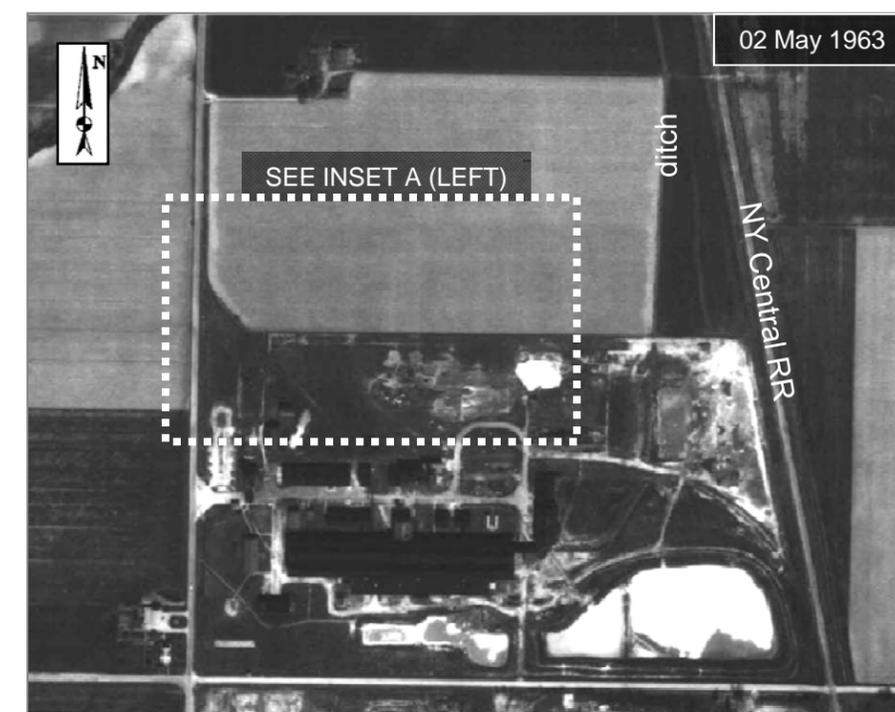
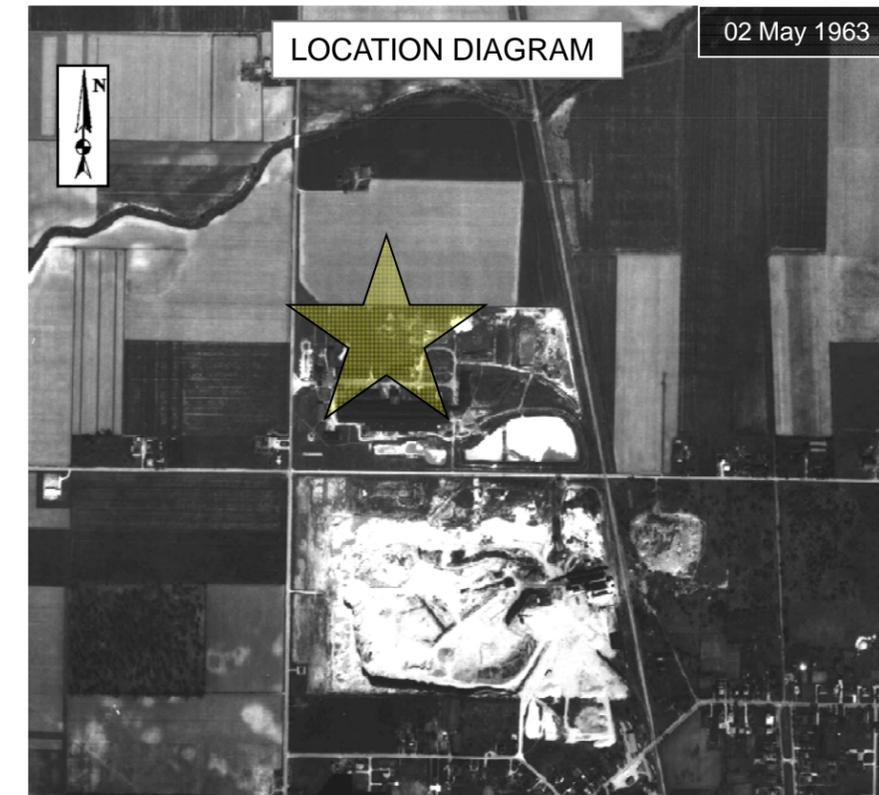
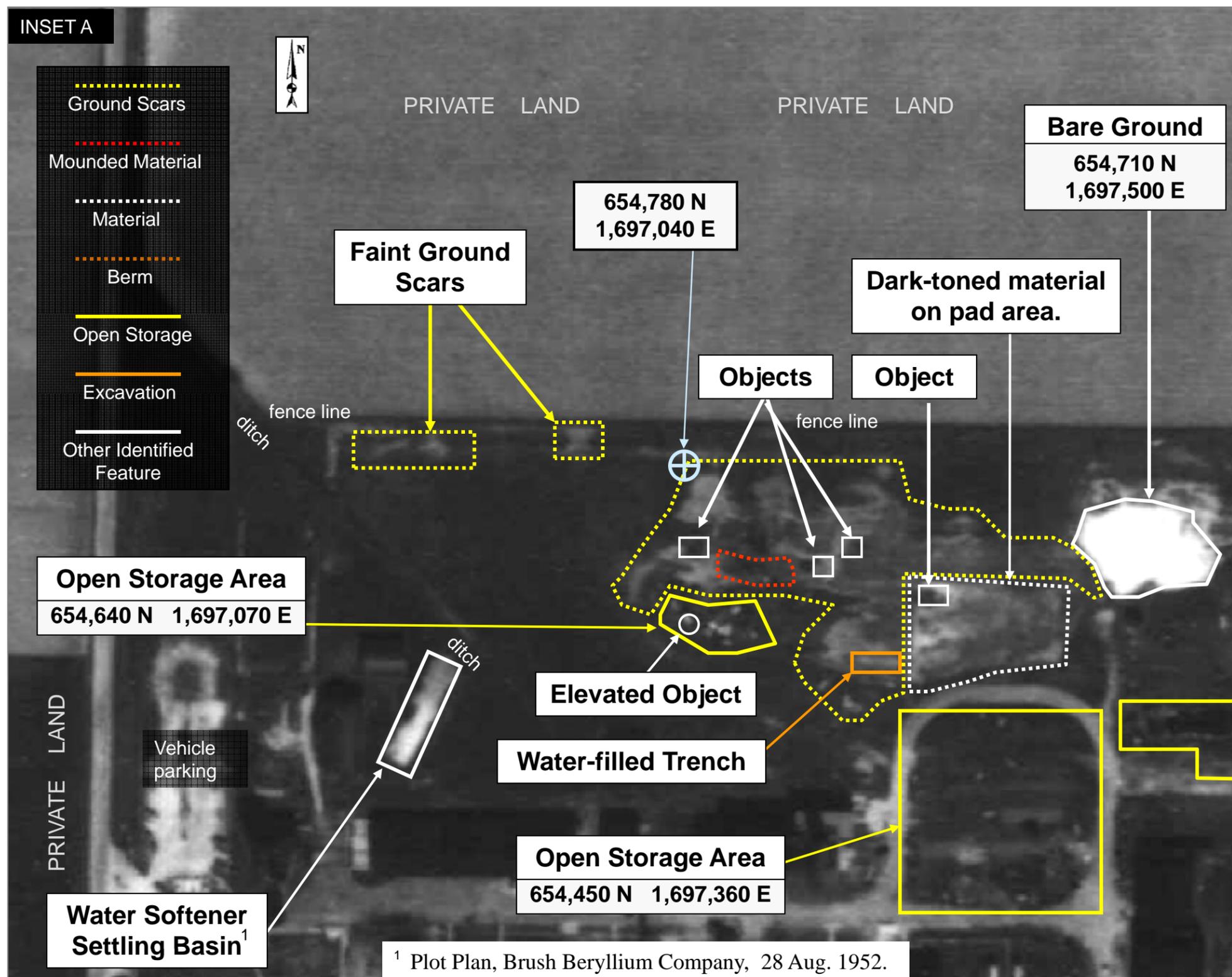
PHOTOGRAPHIC ANALYSIS – MAY 1963



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

02 MAY 1963 – VERTICAL VIEW: NORTHWEST SECTOR



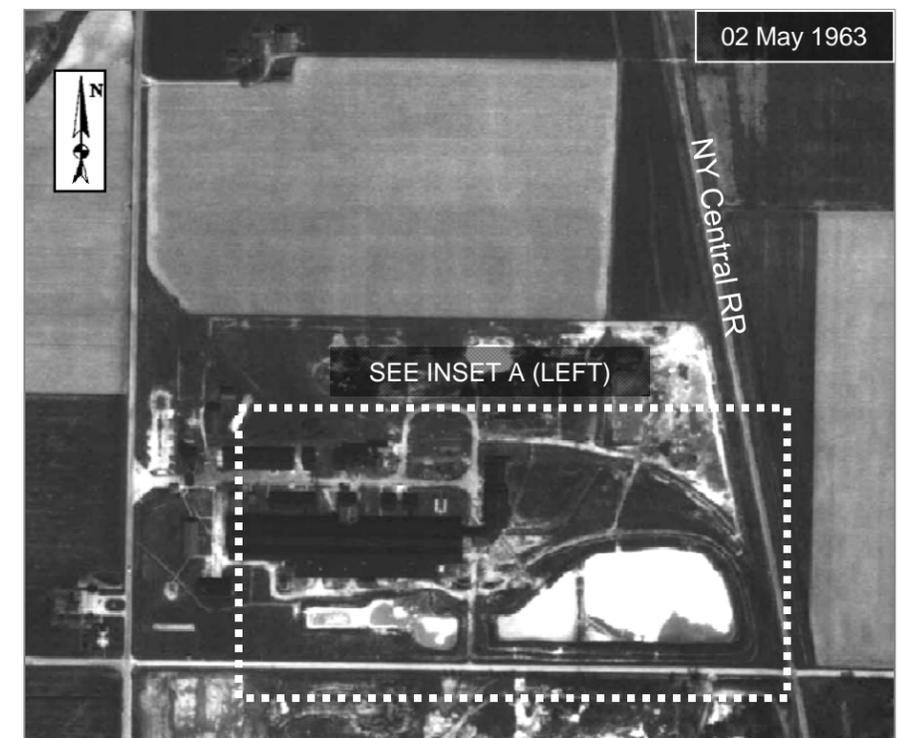
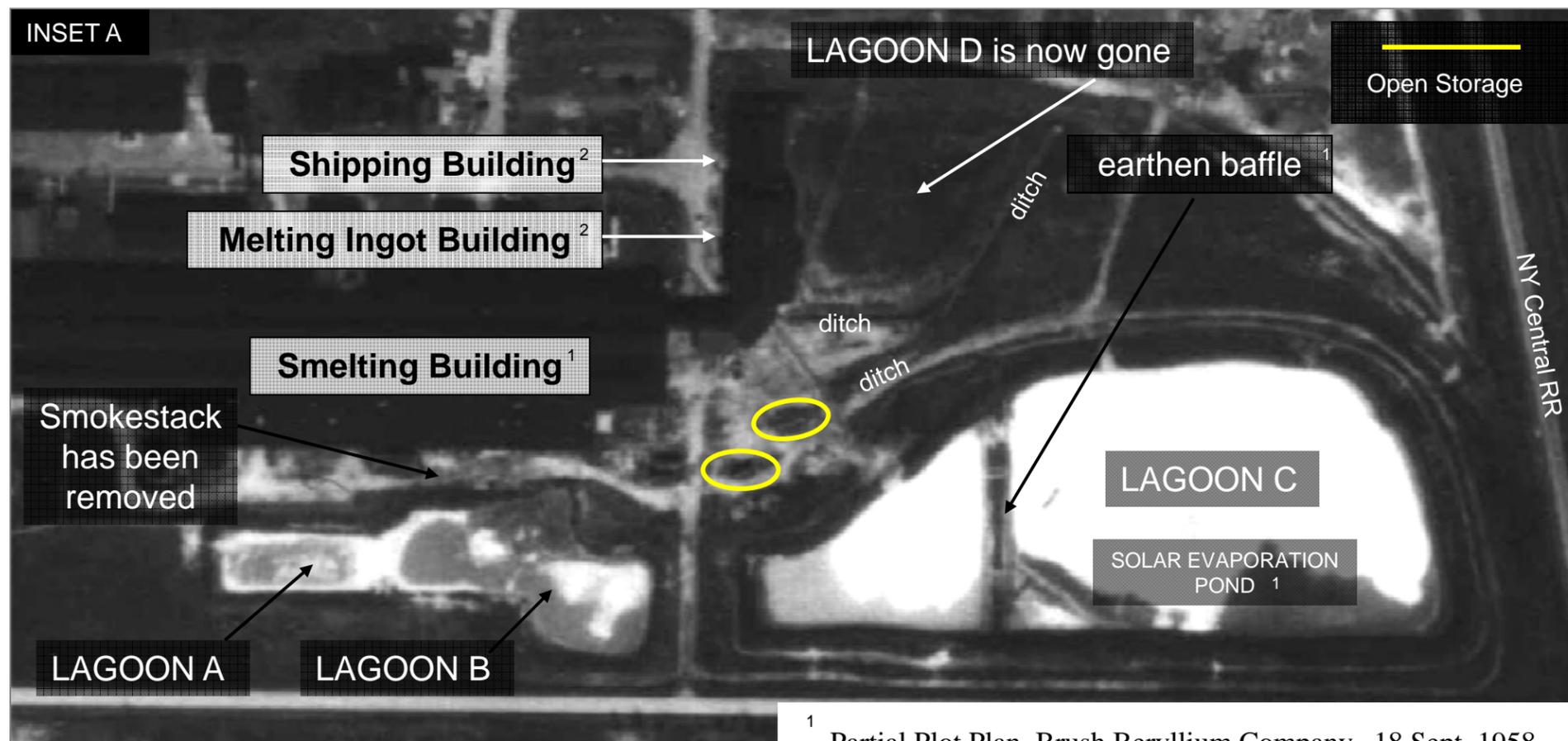
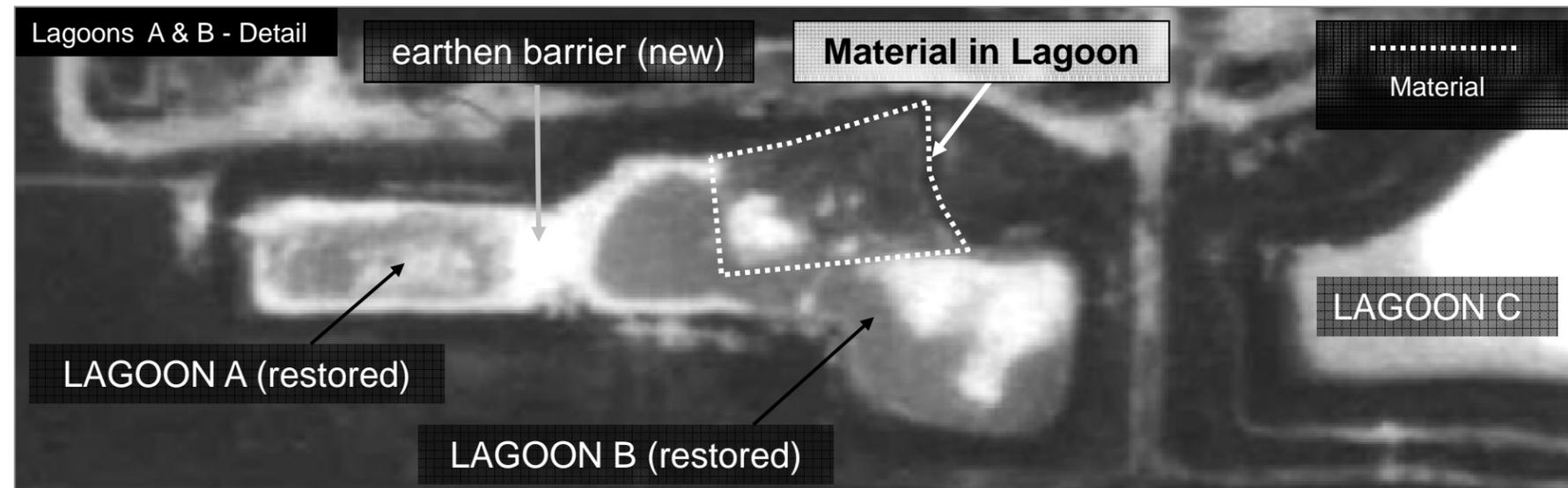


PHOTOGRAPHIC ANALYSIS – MAY 1963

LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

02 MAY 1963 - VERTICAL VIEW: LAGOON AREA



¹ Partial Plot Plan, Brush Beryllium Company, 18 Sept. 1958.
² National Lead Company, Plot Plan, 5 July 1942.

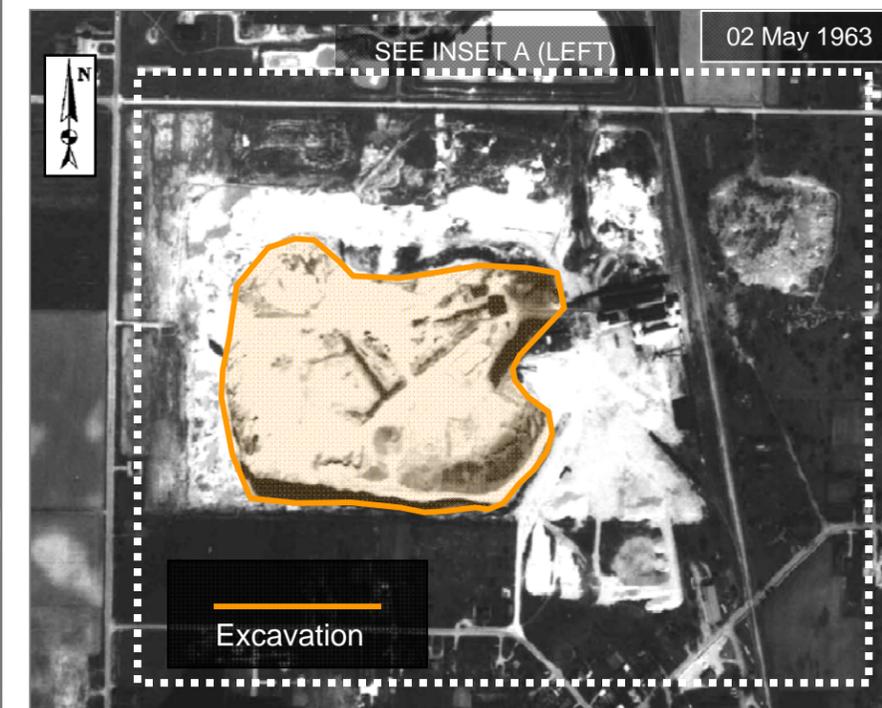
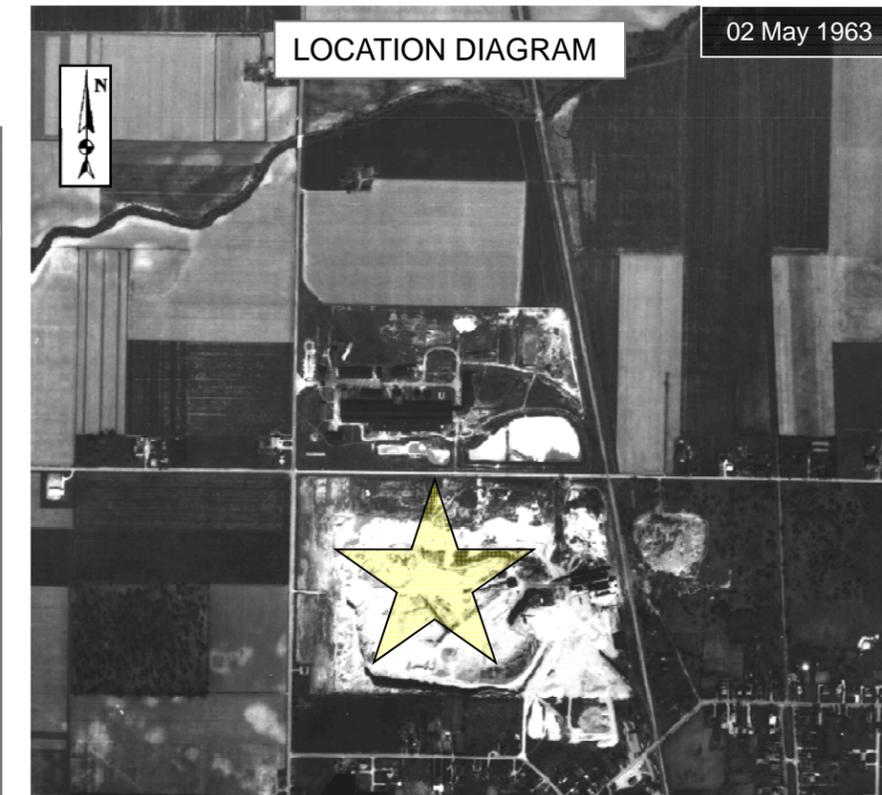
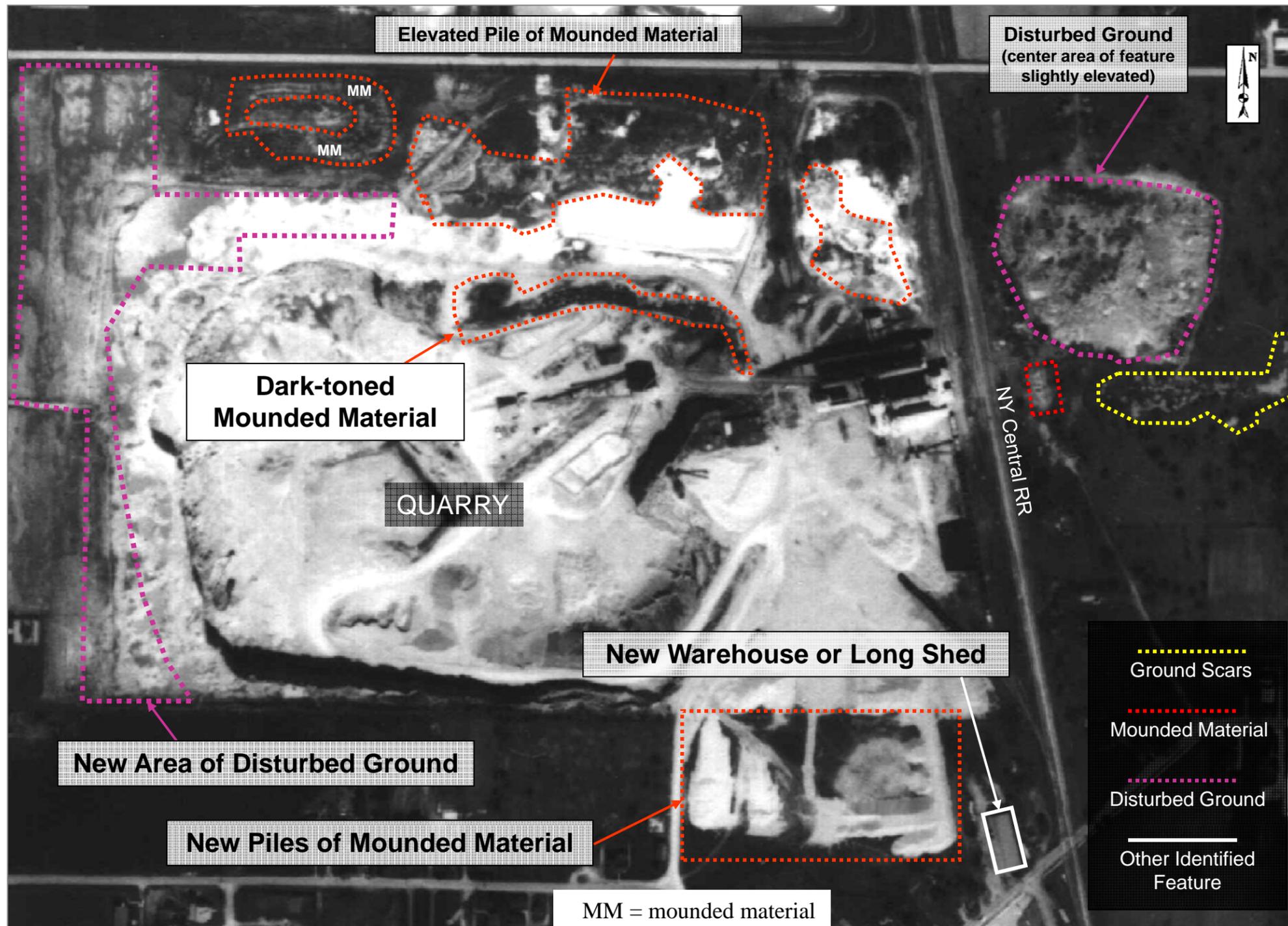
PHOTOGRAPHIC ANALYSIS - MAY 1963



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

02 MAY 1963 - VERTICAL VIEW: QUARRY AREA





VERTICAL VIEWS COMPARED - 1957 & 1963

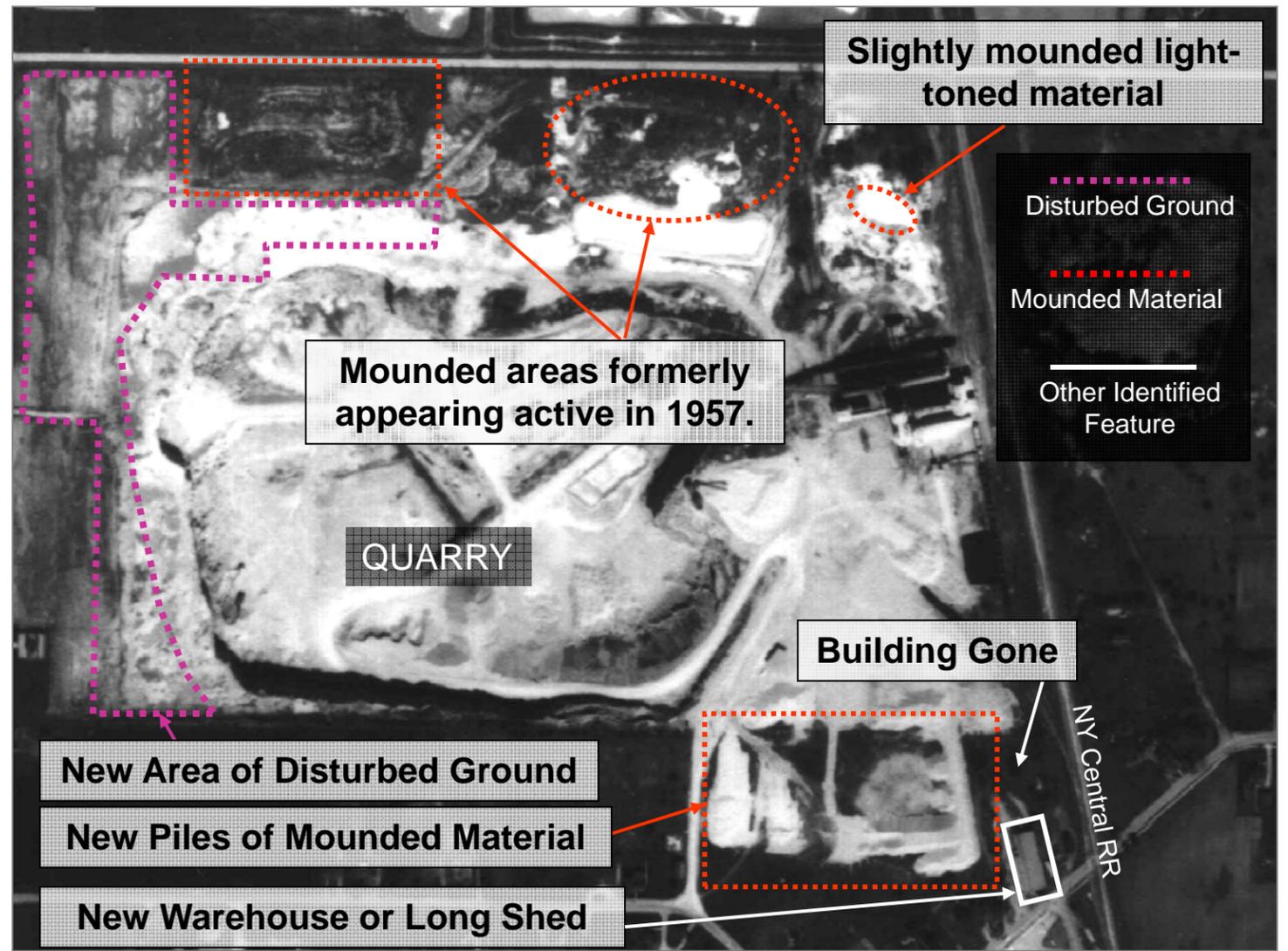
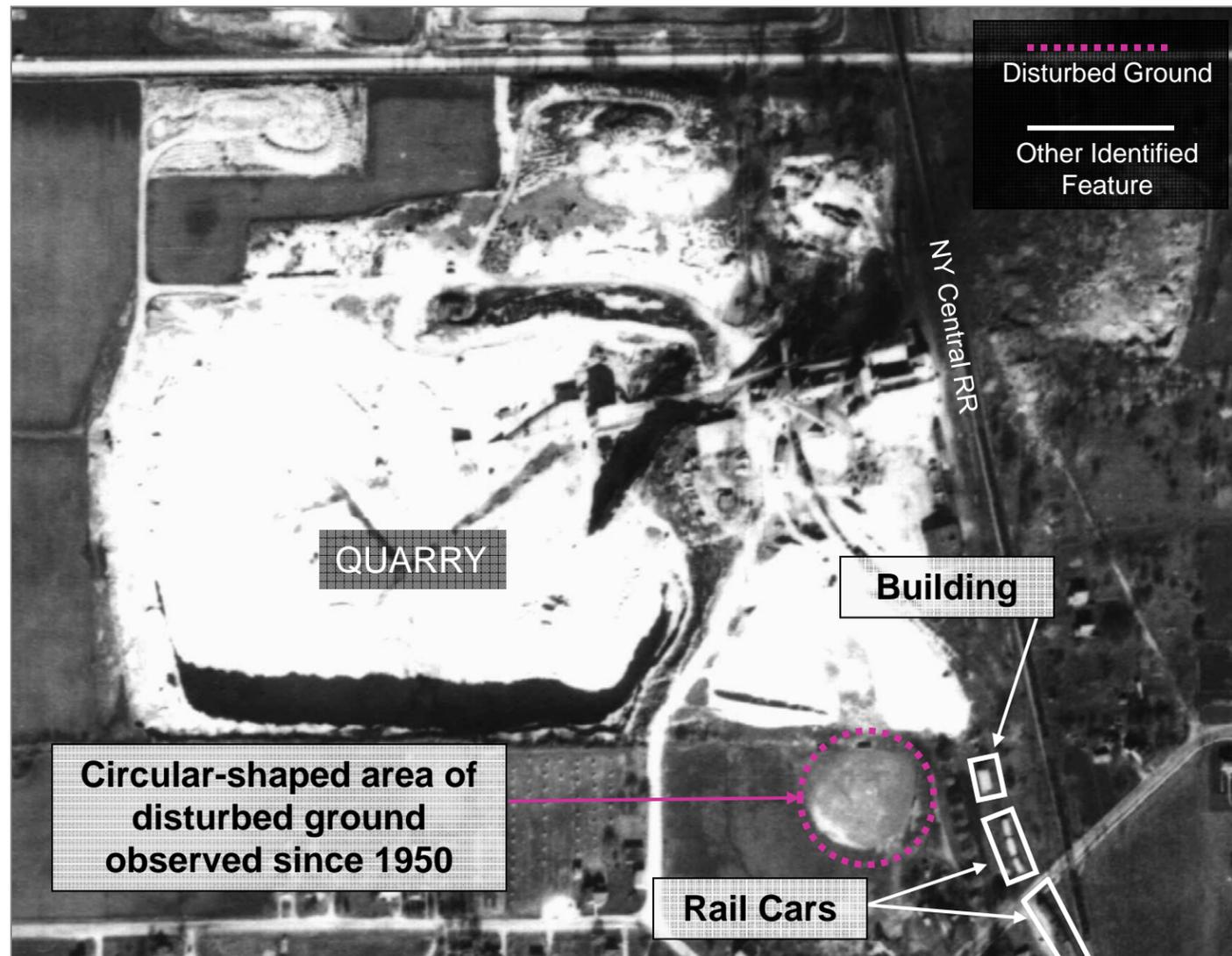
LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

QUARRY AREA

NOVEMBER 1957

MAY 1963





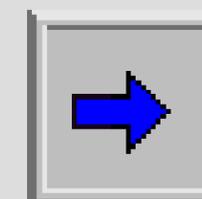
PHOTOGRAPHIC ANALYSIS

Final Report

CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

Photo
Interpretation
Of Aerial
Photography

1969



Brush Beryllium Company
(later Brush Wellman)

 Selected findings from the aerial photographic analysis.

 Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.

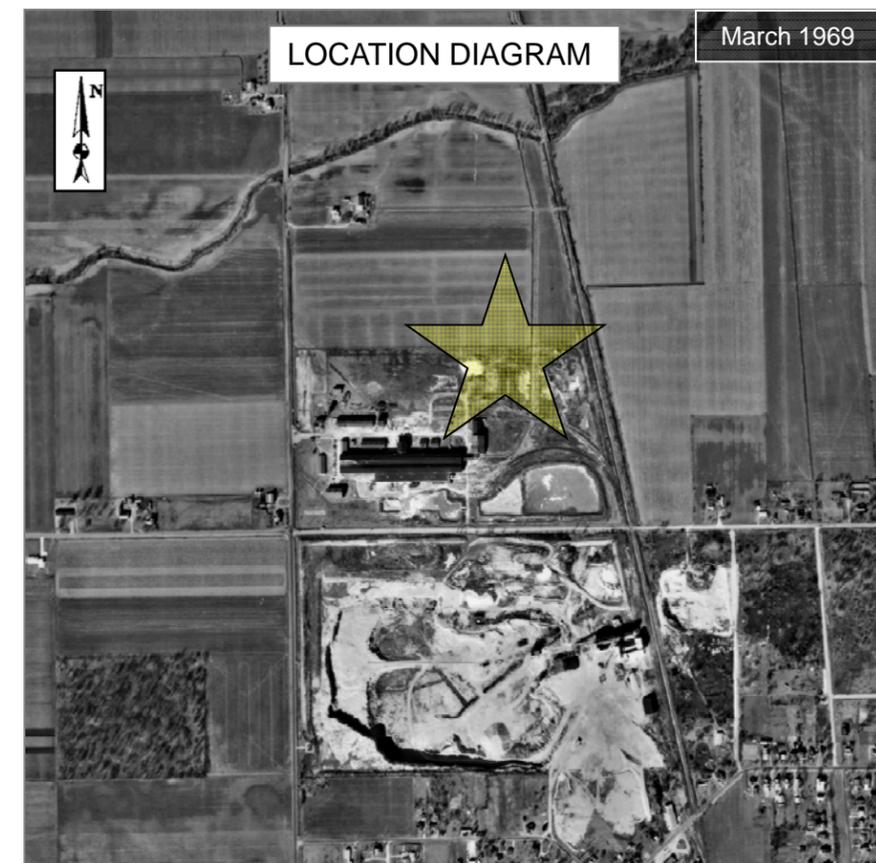
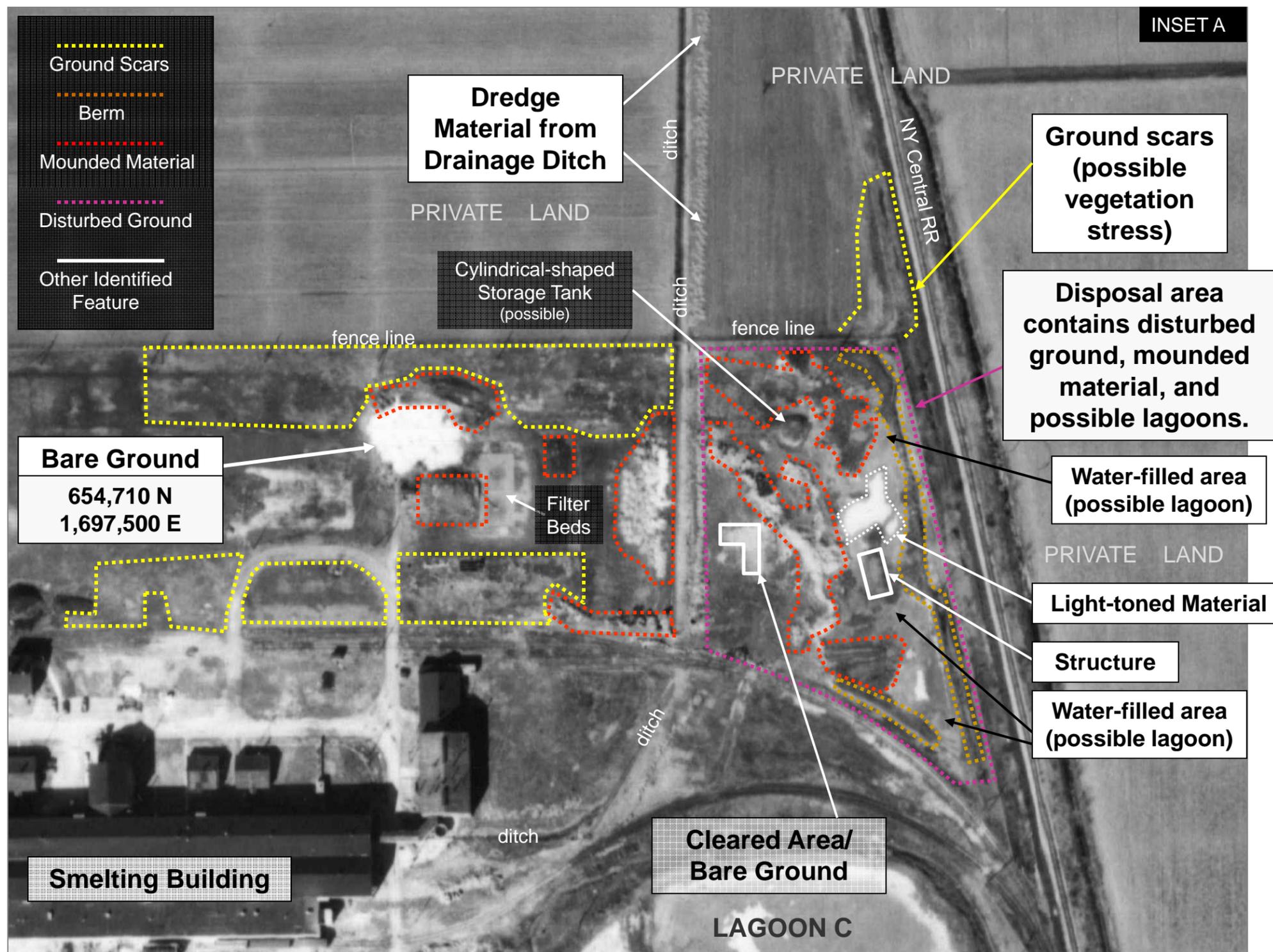
PHOTOGRAPHIC ANALYSIS – MARCH 1969



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

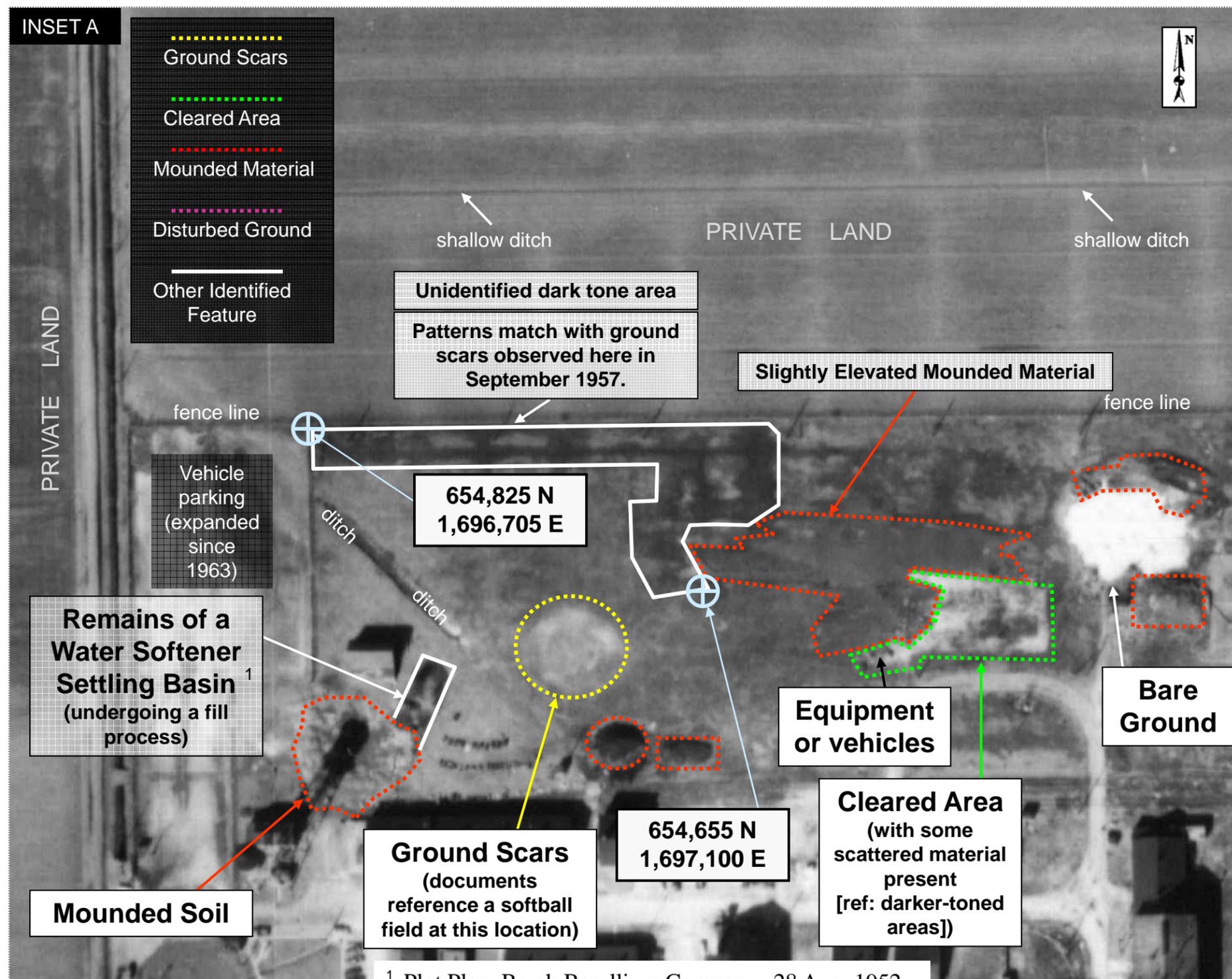
Final Report

MARCH 1969 – VERTICAL VIEW: NORTHEAST SECTOR

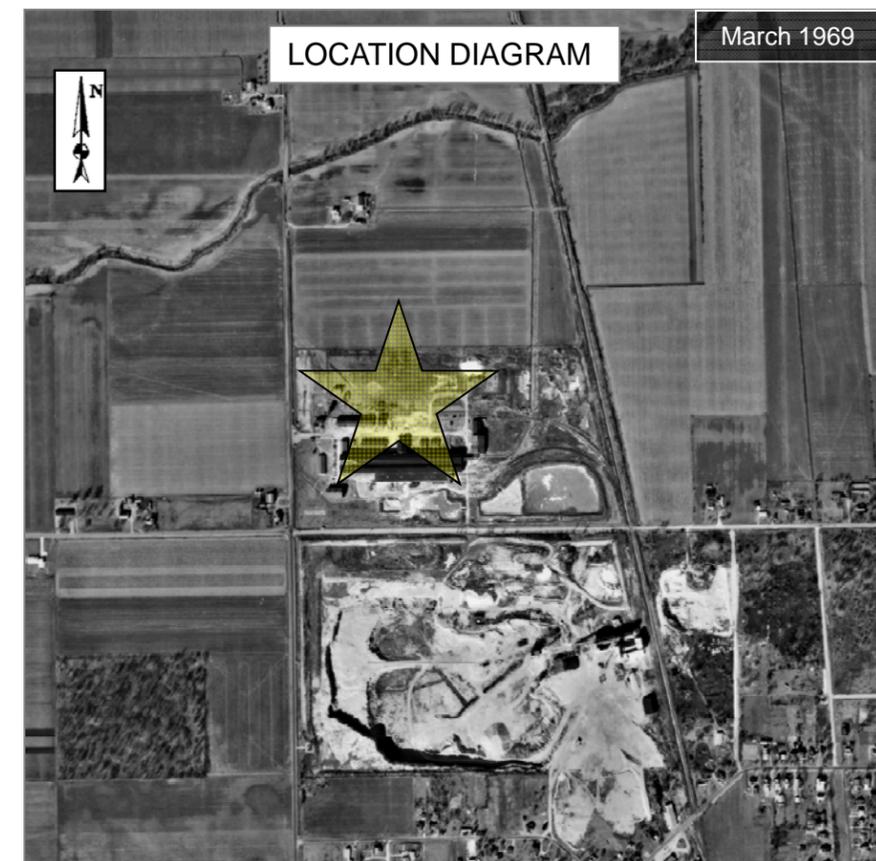




MARCH 1969 – VERTICAL VIEW: NORTHWEST SECTOR



¹ Plot Plan, Brush Beryllium Company, 28 Aug. 1952.



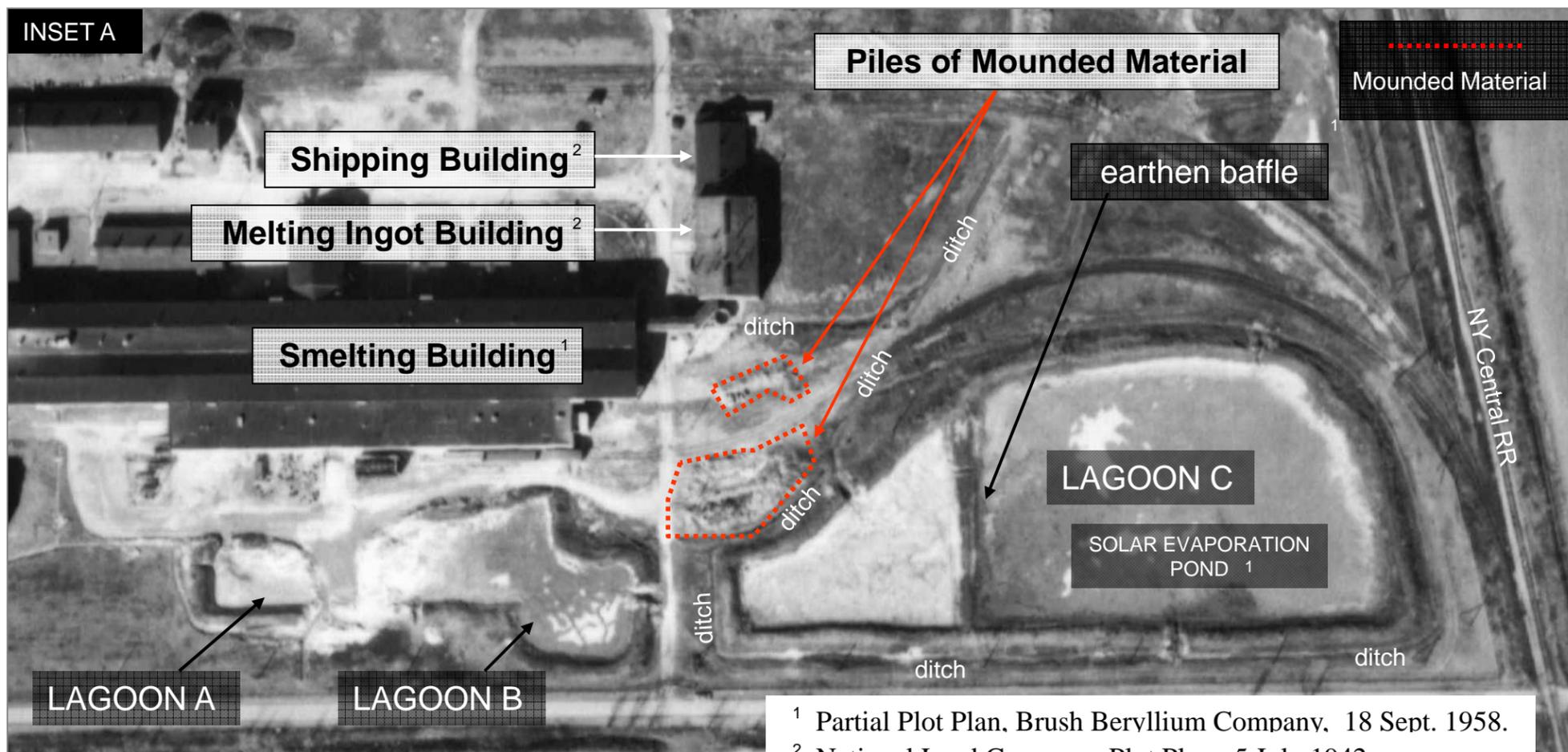
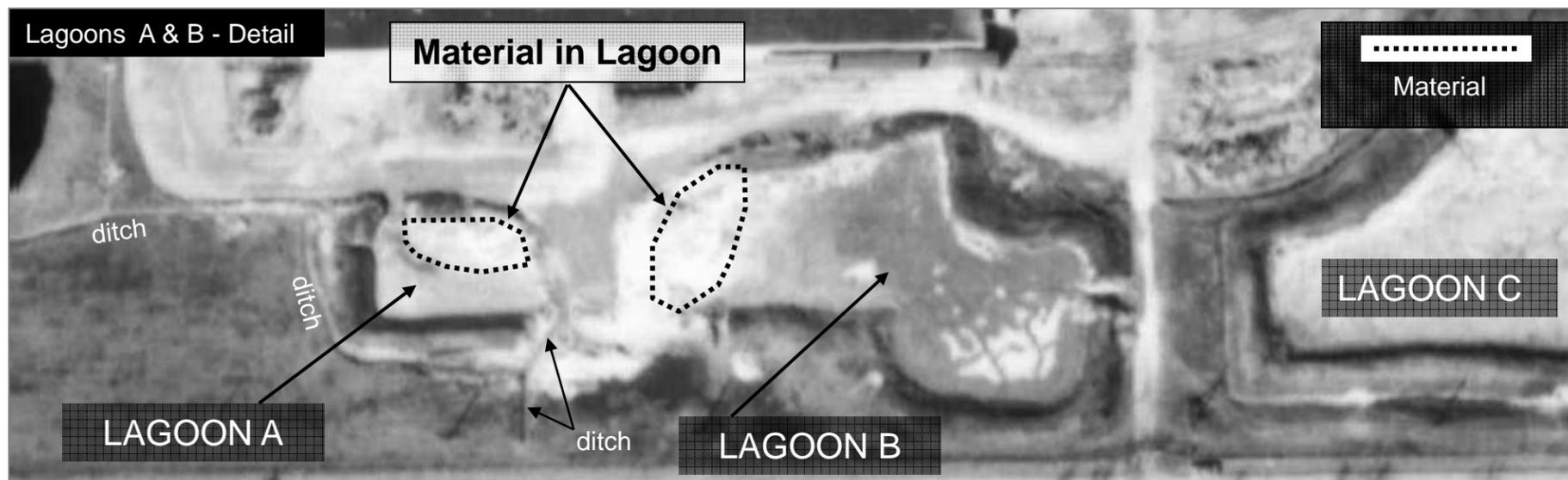
PHOTOGRAPHIC ANALYSIS - MARCH 1969



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

MARCH 1969 - VERTICAL VIEW: LAGOON AREA



¹ Partial Plot Plan, Brush Beryllium Company, 18 Sept. 1958.

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

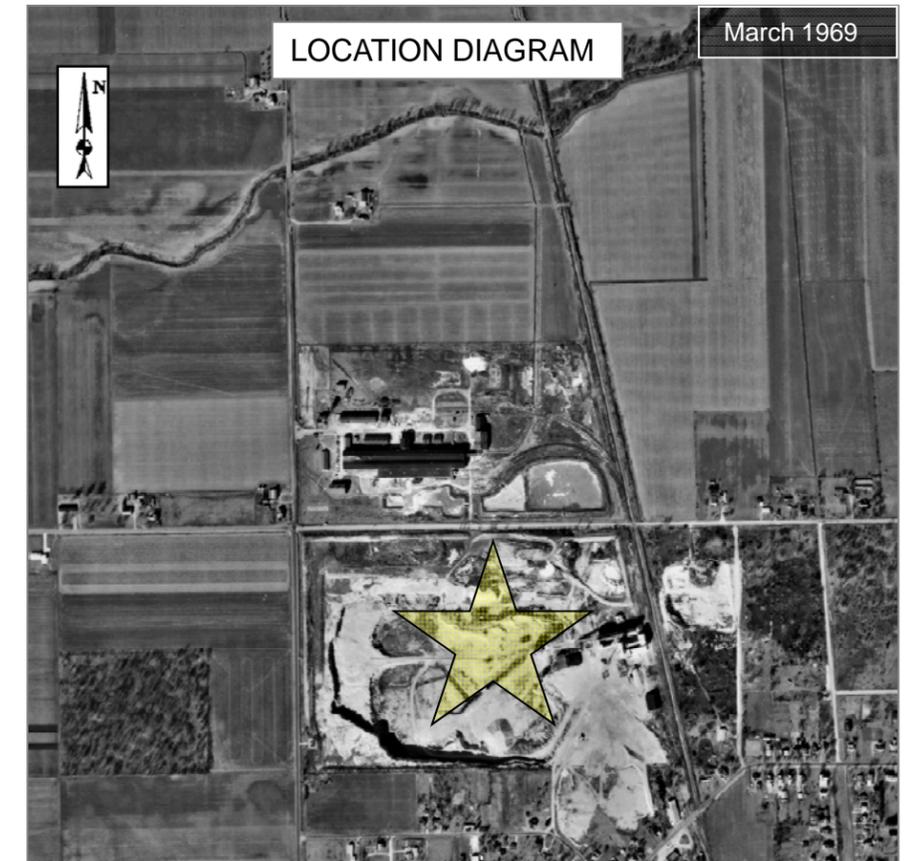
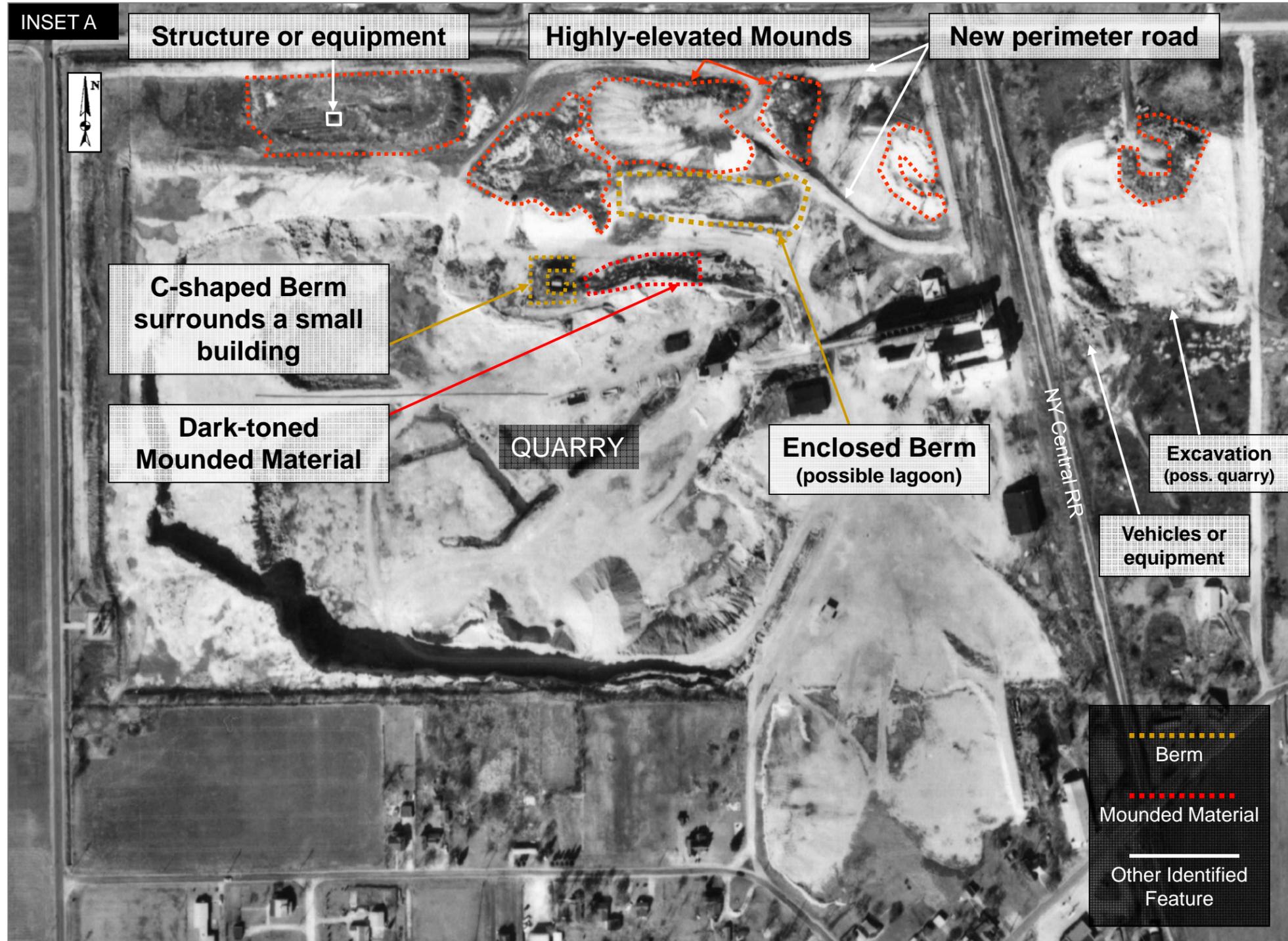
PHOTOGRAPHIC ANALYSIS - MARCH 1969



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

MARCH 1969 - VERTICAL VIEW: QUARRY AREA





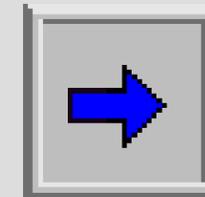
PHOTOGRAPHIC ANALYSIS

Final Report

CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

Photo
Interpretation
Of Aerial
Photography

1972



Brush Beryllium Company
(later Brush Wellman)

 Selected findings from the aerial photographic analysis.

 Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.

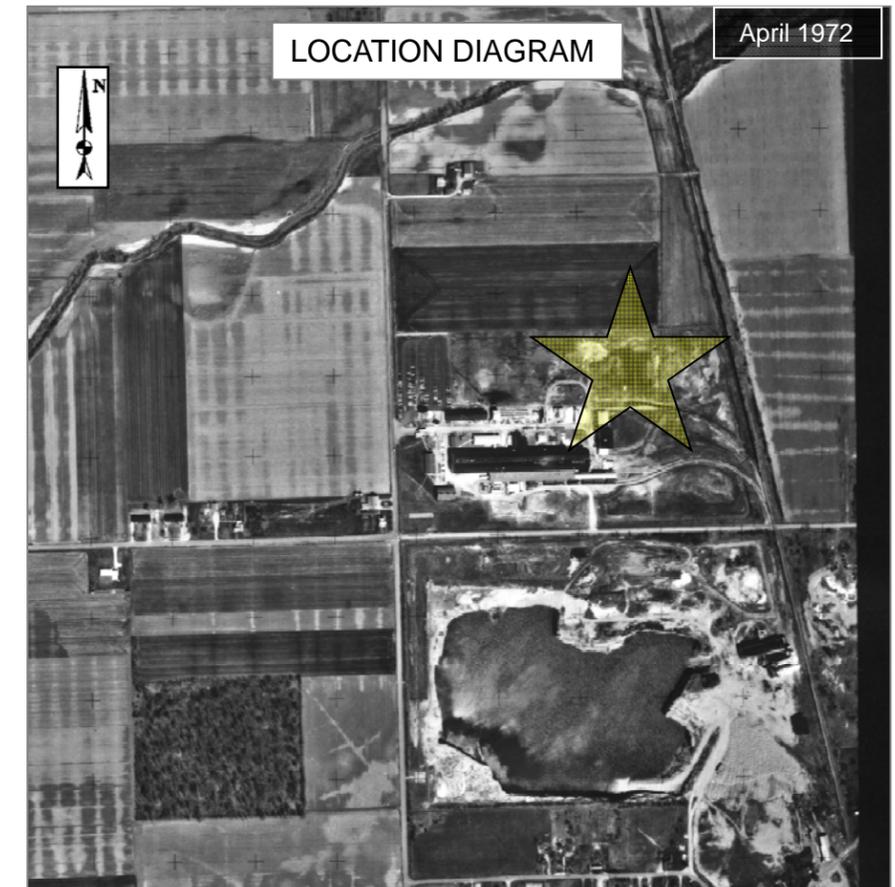
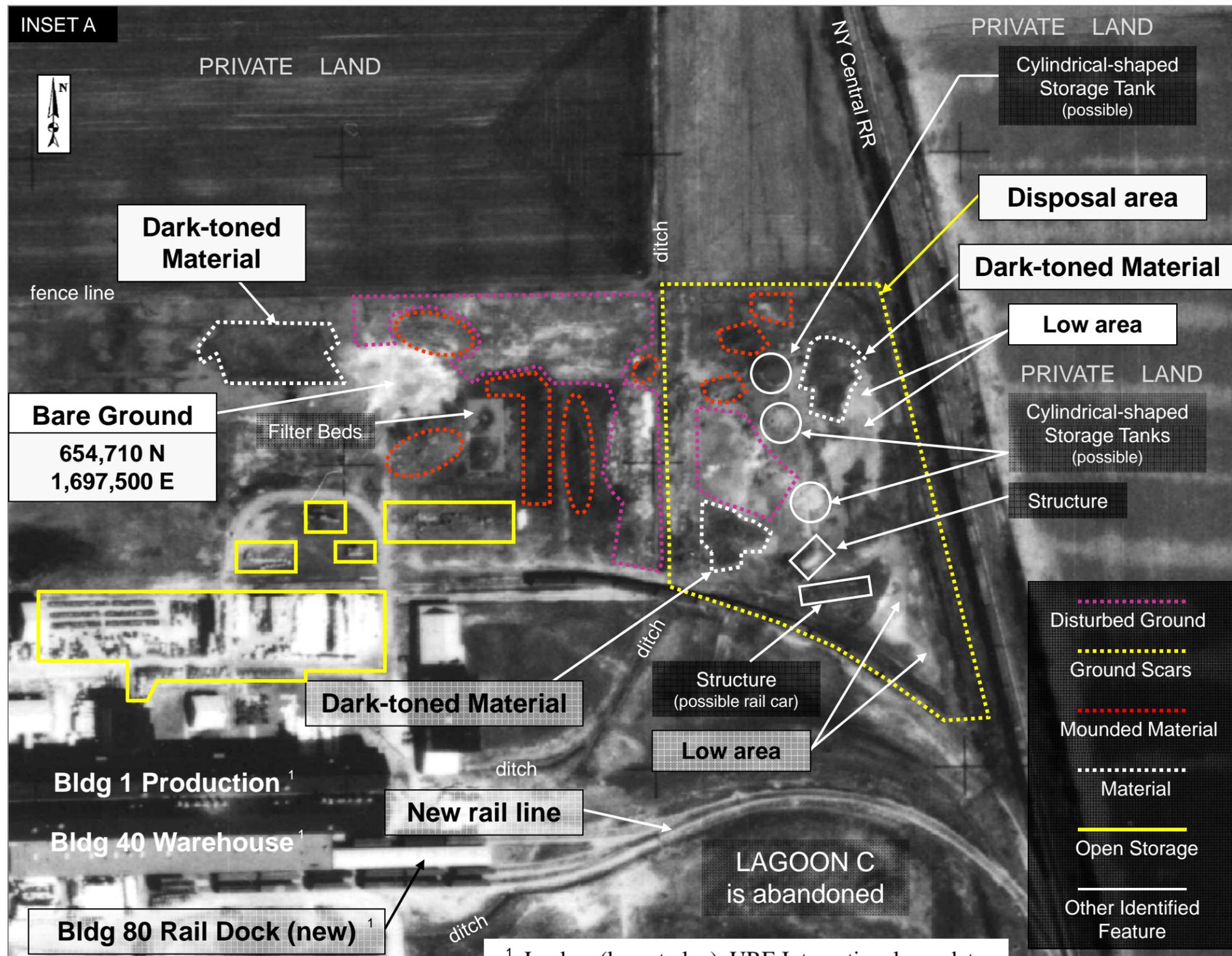
PHOTOGRAPHIC ANALYSIS - APRIL 1972



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

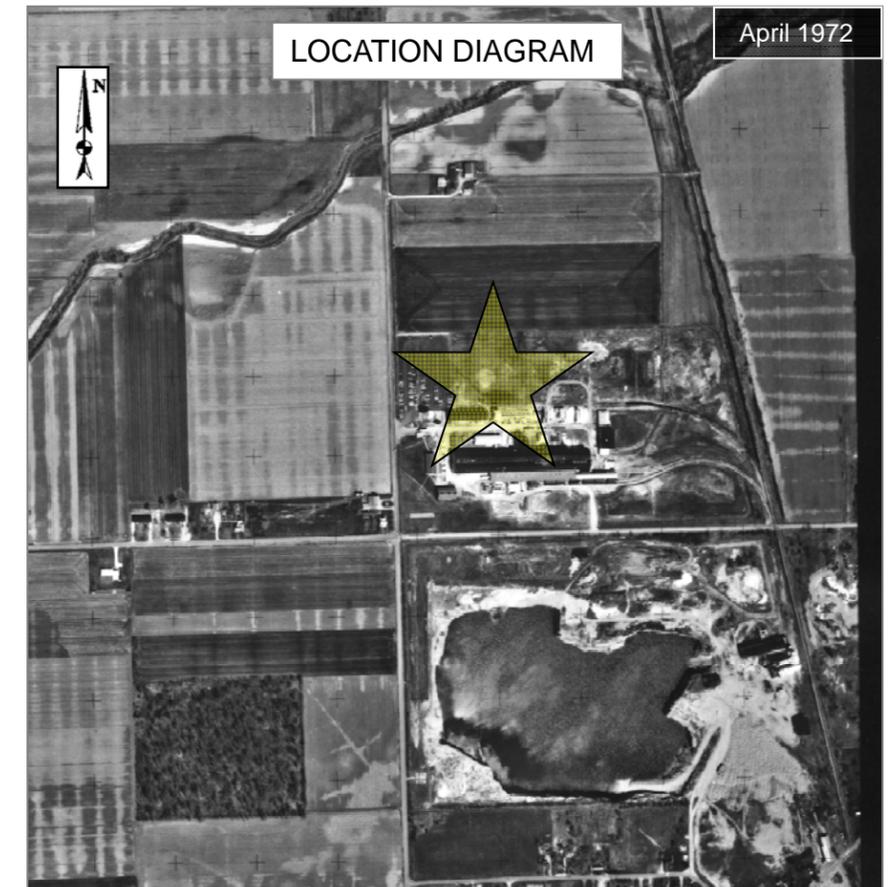
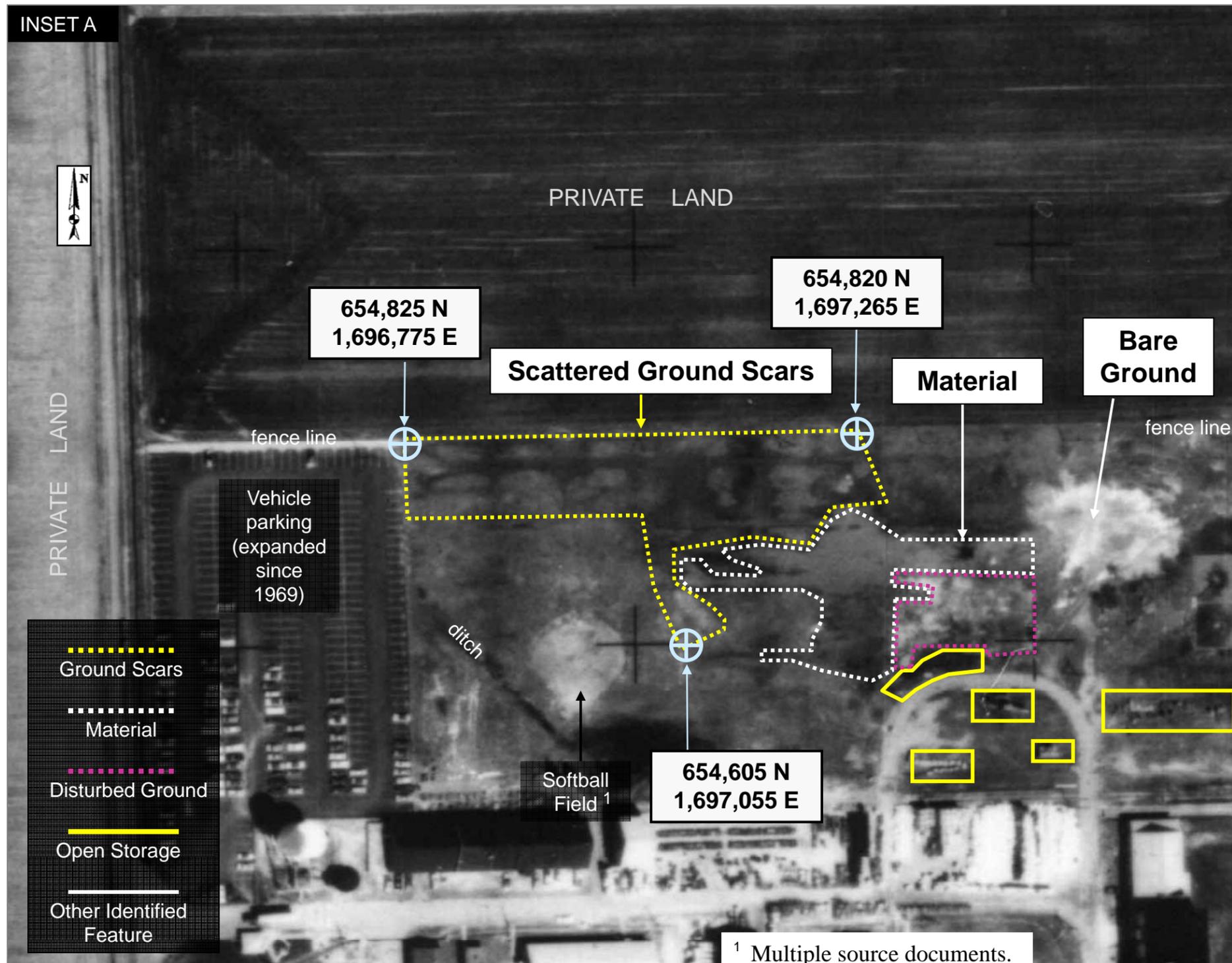
APRIL 1972 – VERTICAL VIEW: NORTHEAST SECTOR



¹ Luckey (layout plan), URE International, no date.



APRIL 1972 - VERTICAL VIEW: NORTHWEST SECTOR



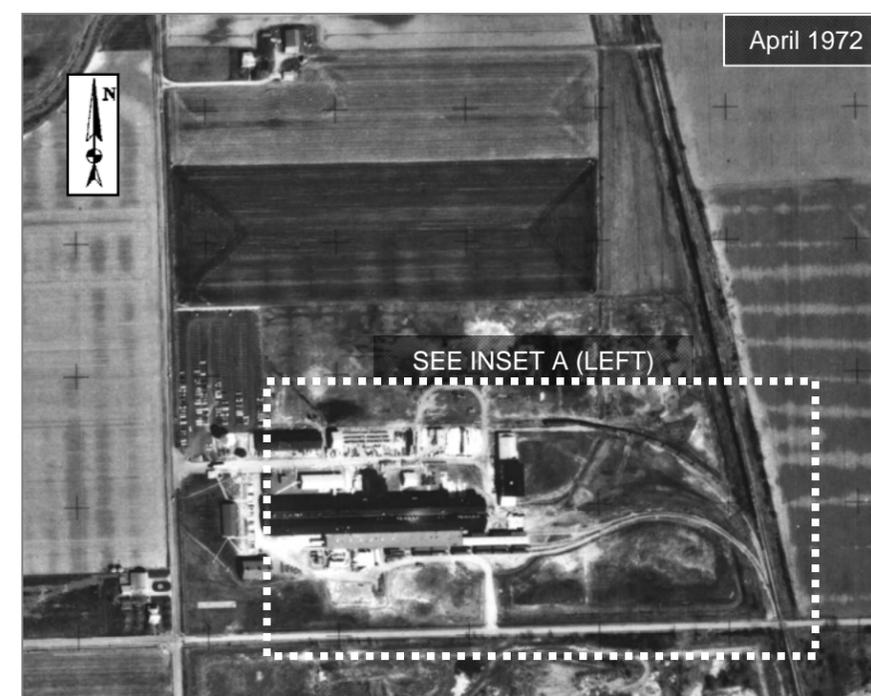
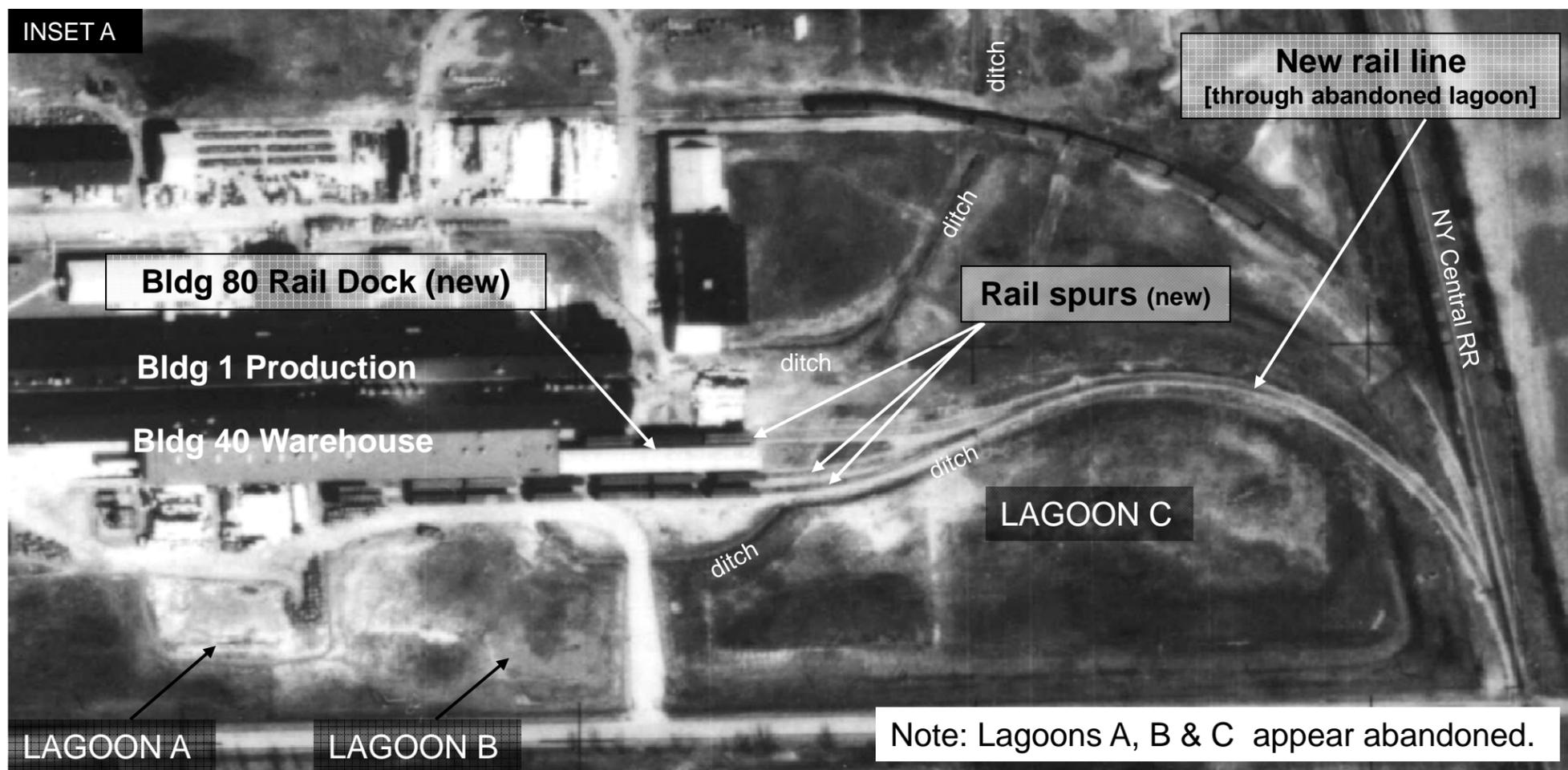
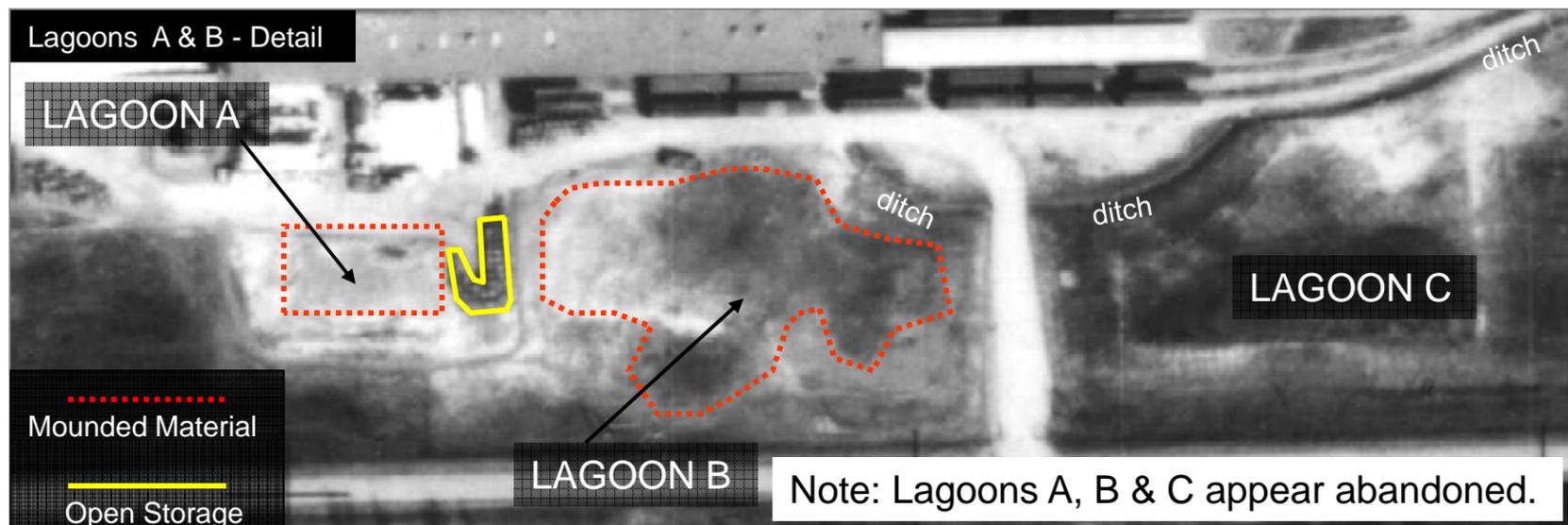
PHOTOGRAPHIC ANALYSIS - APRIL 1972



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

APRIL 1972 - VERTICAL VIEW: LAGOON AREA



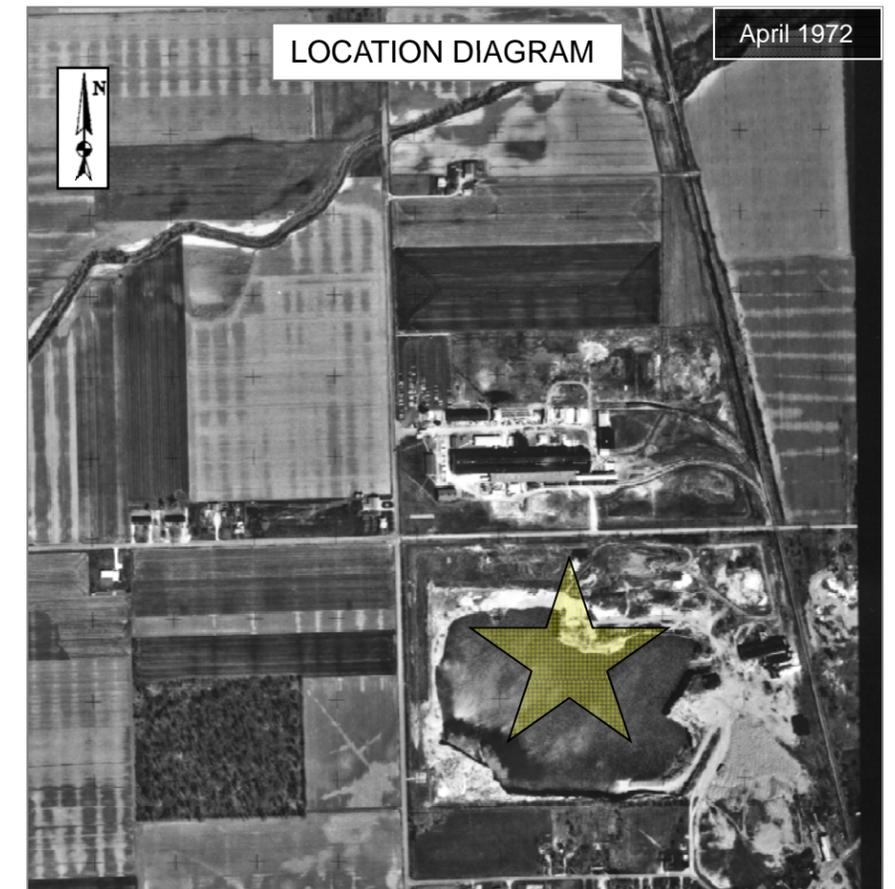
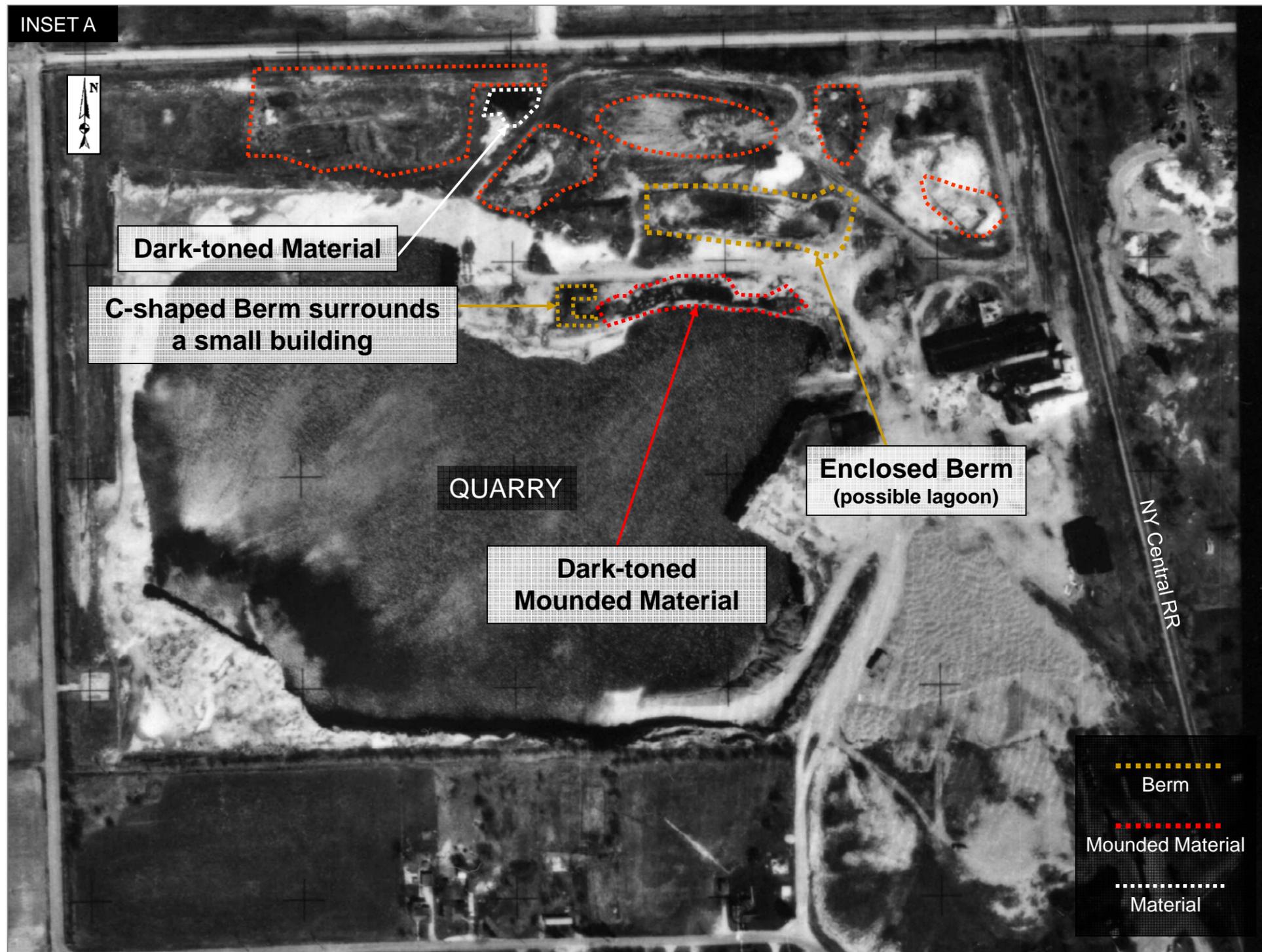
PHOTOGRAPHIC ANALYSIS - APRIL 1972



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

APRIL 1972 - VERTICAL VIEW: QUARRY AREA





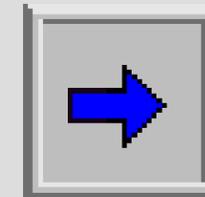
PHOTOGRAPHIC ANALYSIS

Final Report

CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

Photo
Interpretation
Of Aerial
Photography

1980



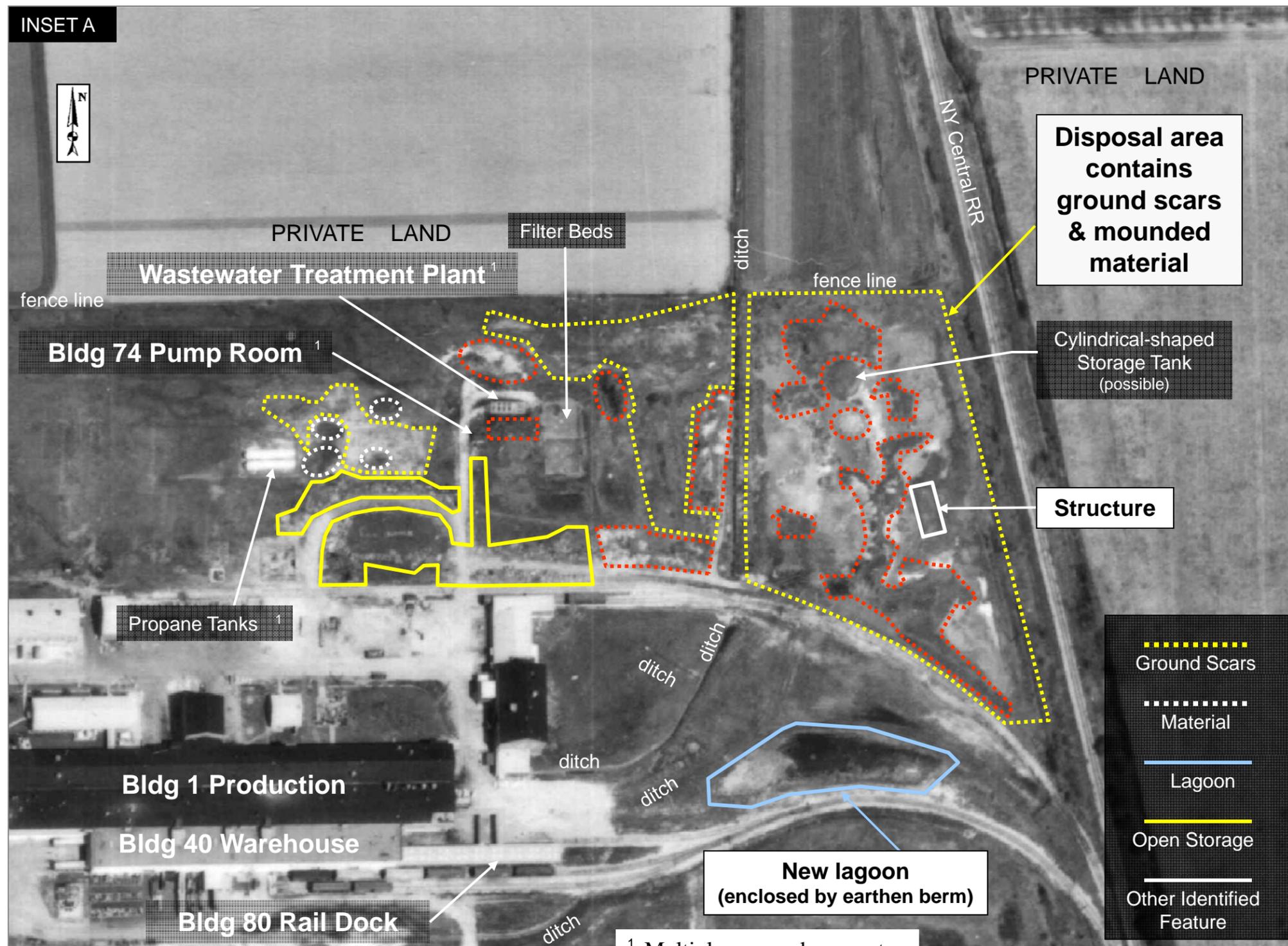
Brush Beryllium Company
(later Brush Wellman)

 Selected findings from the aerial photographic analysis.

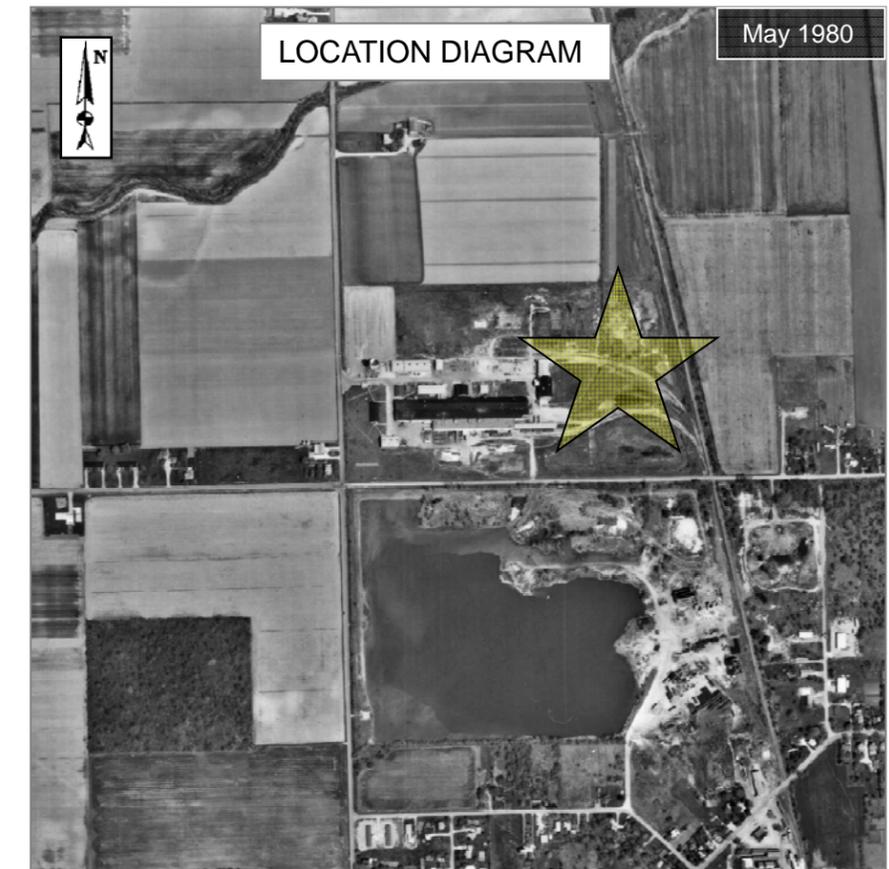
 Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.



MAY 1980 – VERTICAL VIEW: NORTHEAST SECTOR

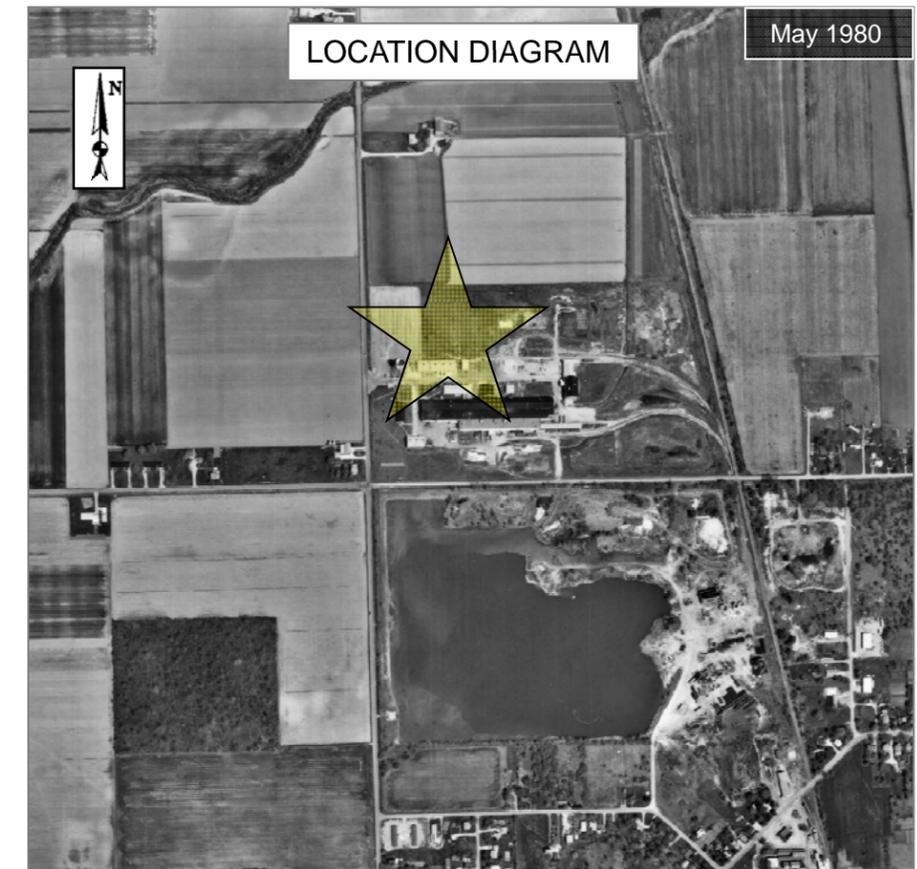


¹ Multiple source documents.





MAY 1980 - VERTICAL VIEW: NORTHWEST SECTOR



¹ Multiple source documents.

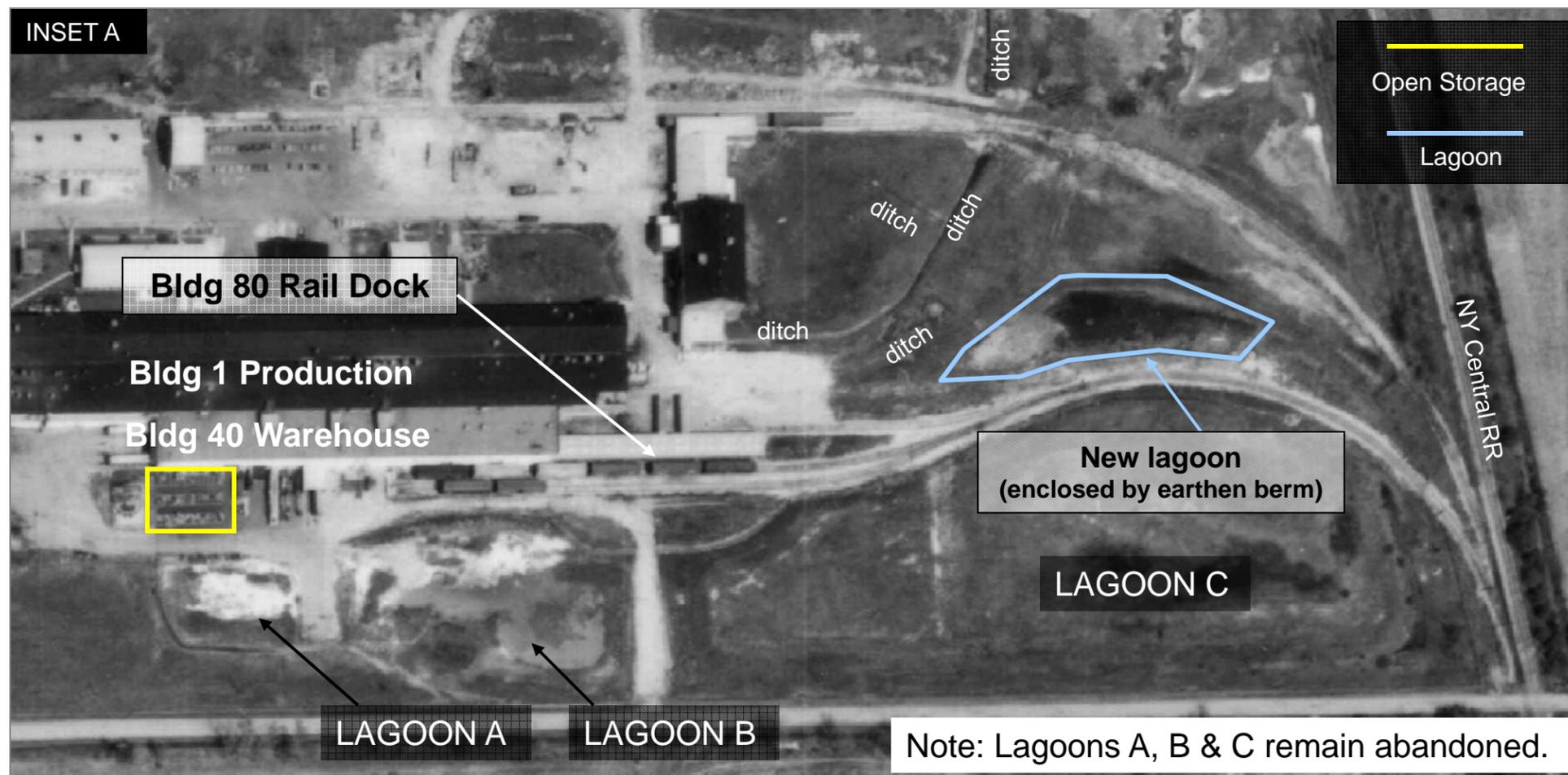
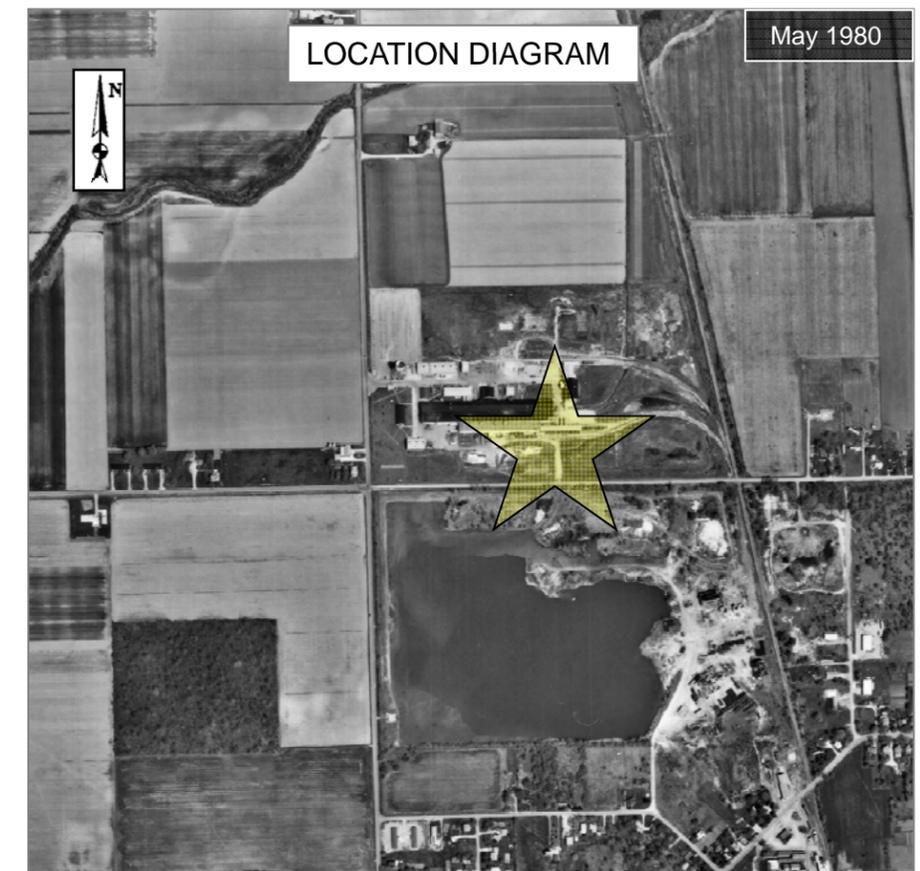
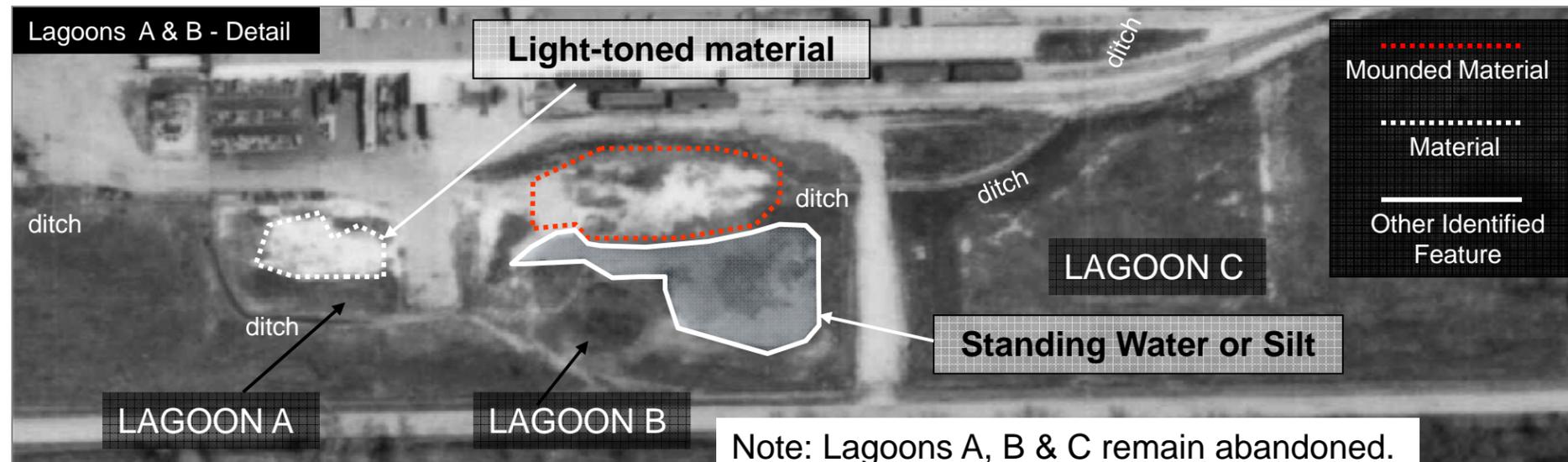
PHOTOGRAPHIC ANALYSIS – MAY 1980



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

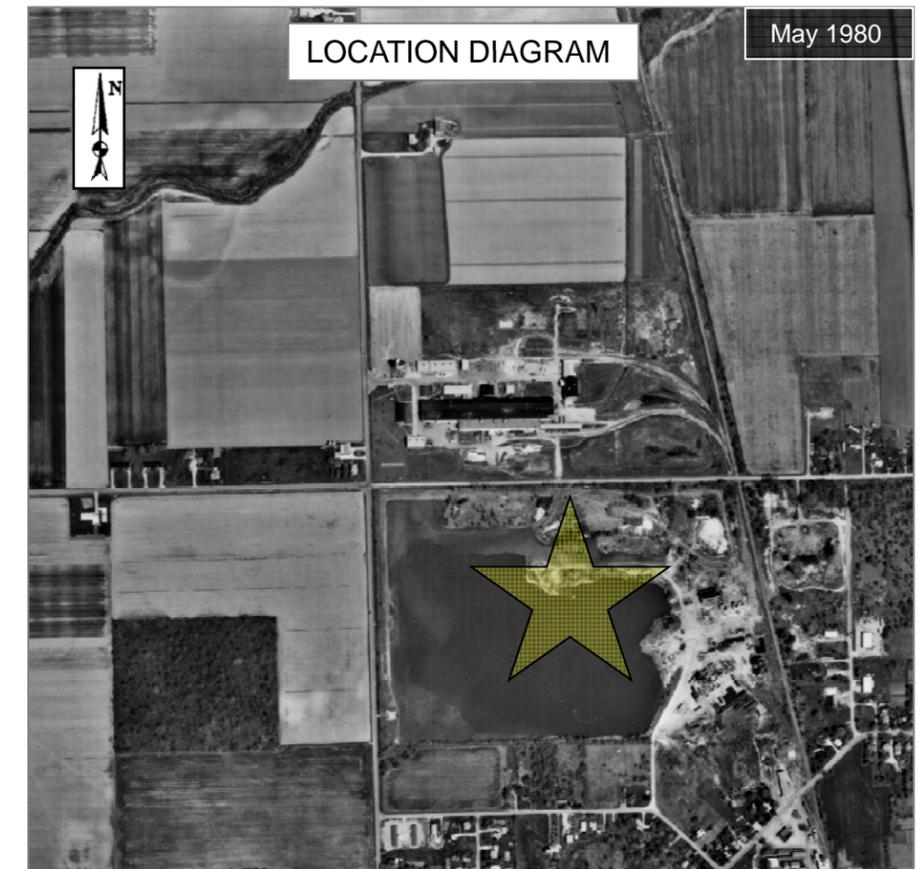
Final Report

MAY 1980 - VERTICAL VIEW: LAGOON AREA





MAY 1980 - VERTICAL VIEW: QUARRY AREA





PHOTOGRAPHIC ANALYSIS

Final Report

CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

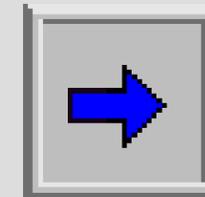
NOTE: THE 1988
IMAGERY IS COLOR
INFRARED (C-IR)
AERIAL
PHOTOGRAPHY.

Very intense shades of red
indicate dense vegetation
that is growing quite
vigorously.

Shades of white, blue, or
green indicate low plant
density activity.

Photo
Interpretation
Of Aerial
Photography

1988 Color Infrared



Brush Beryllium Company
(later Brush Wellman)

 Selected findings from the aerial photographic analysis.

 Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.

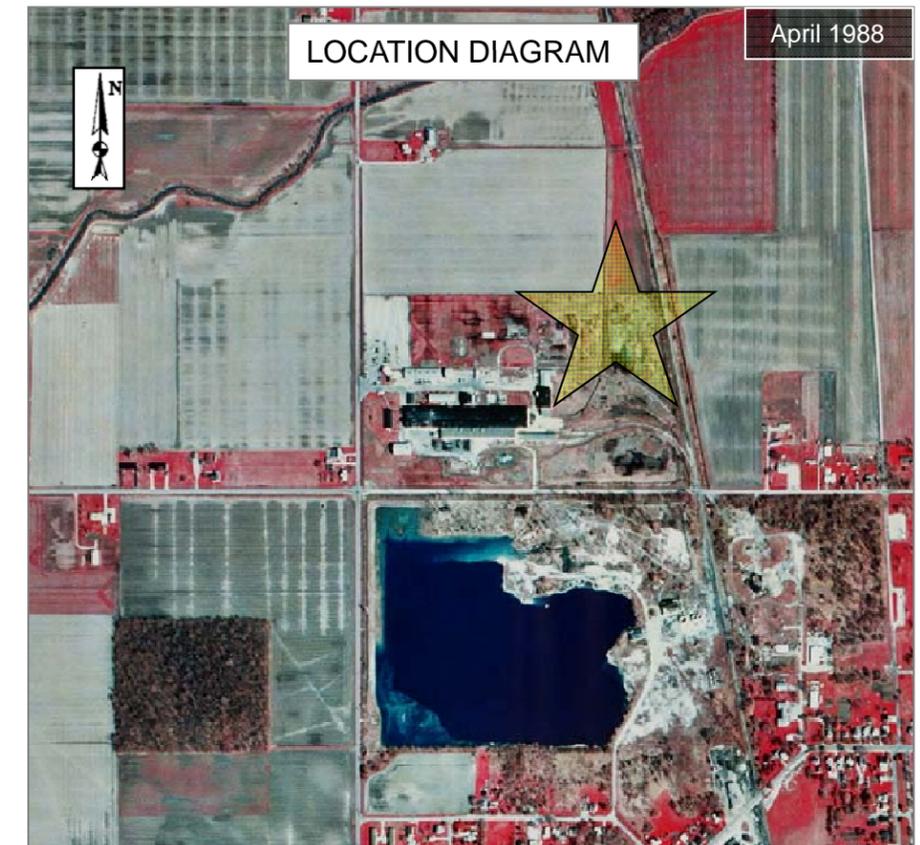
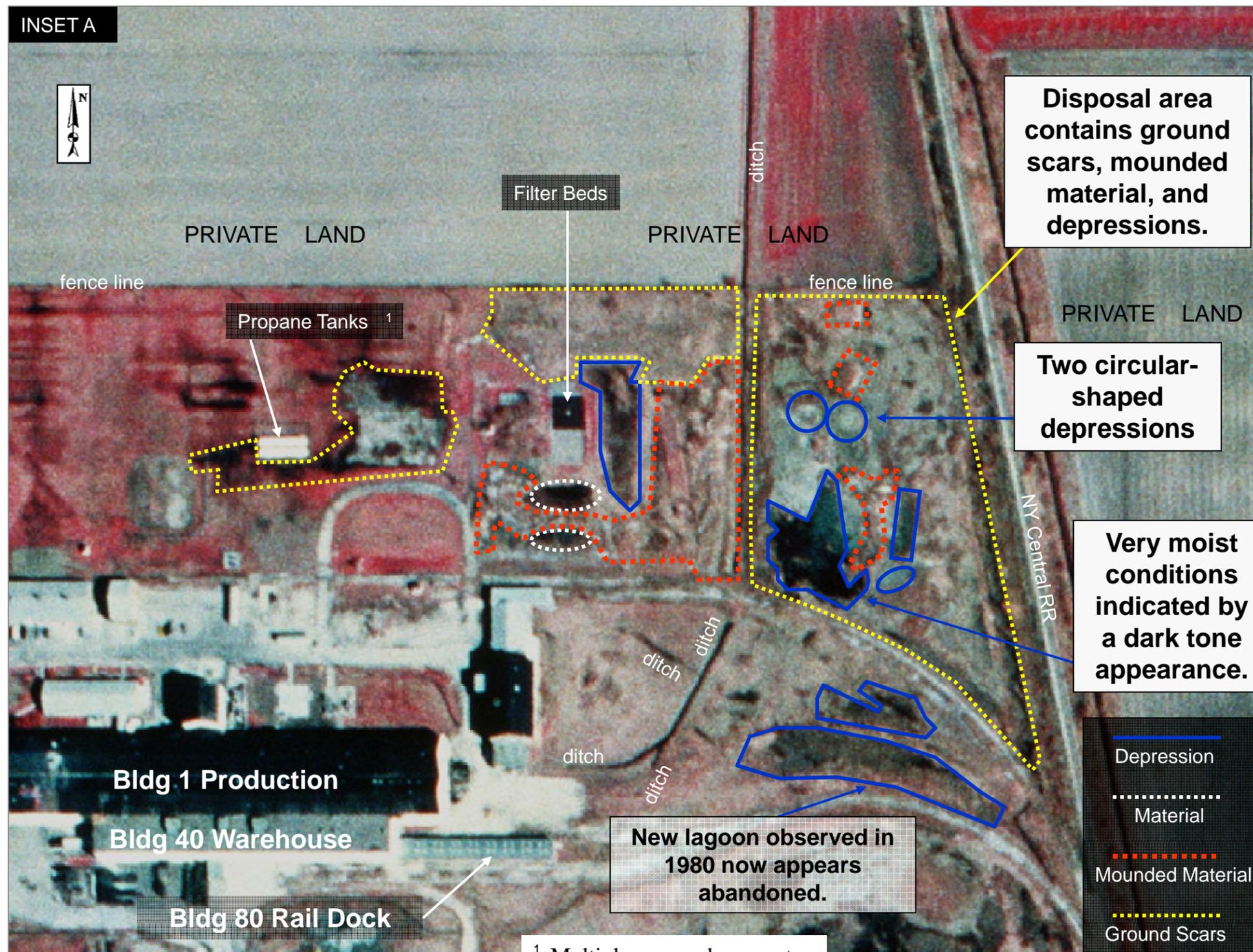
PHOTOGRAPHIC ANALYSIS – 9 APRIL 1988



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

9 APRIL 1988 – VERTICAL VIEW: NORTHEAST SECTOR



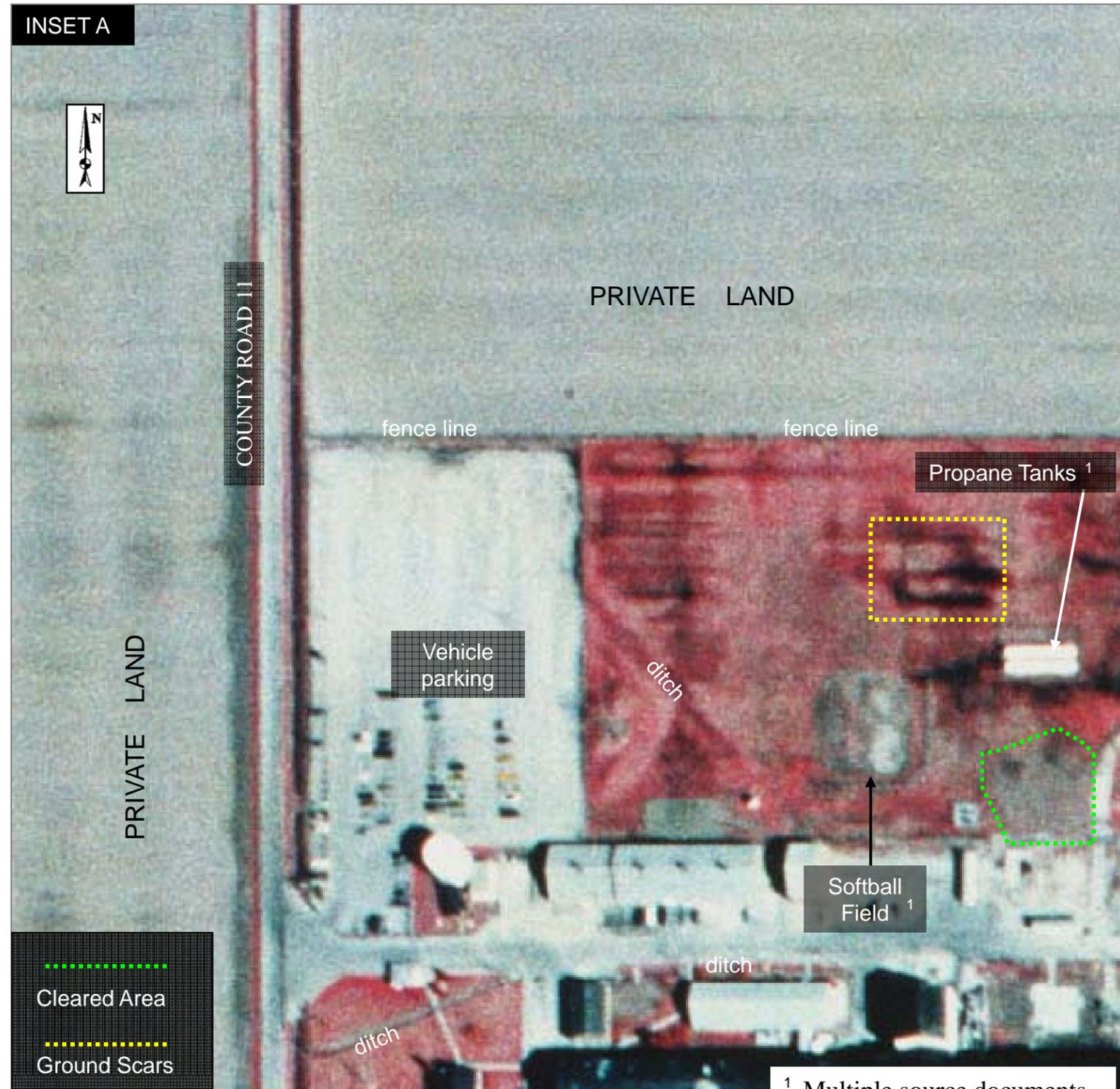
PHOTOGRAPHIC ANALYSIS - 9 APRIL 1988



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

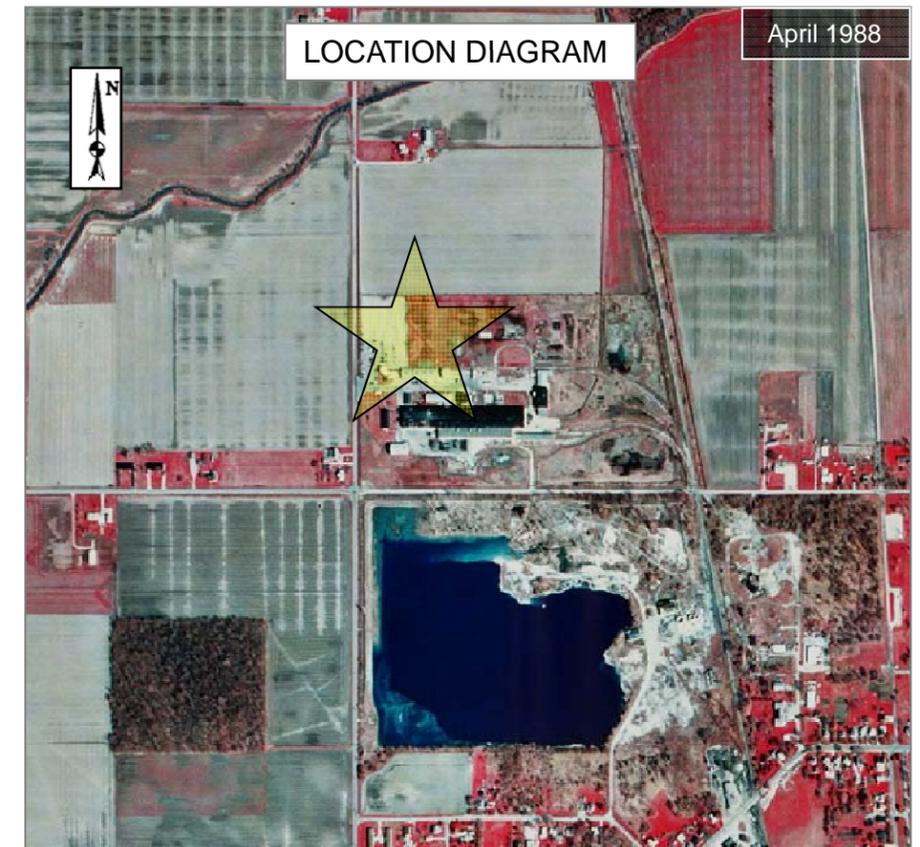
Final Report

9 APRIL 1988 - VERTICAL VIEW: NORTHWEST SECTOR



.....
Cleared Area
.....
Ground Scars

¹ Multiple source documents.



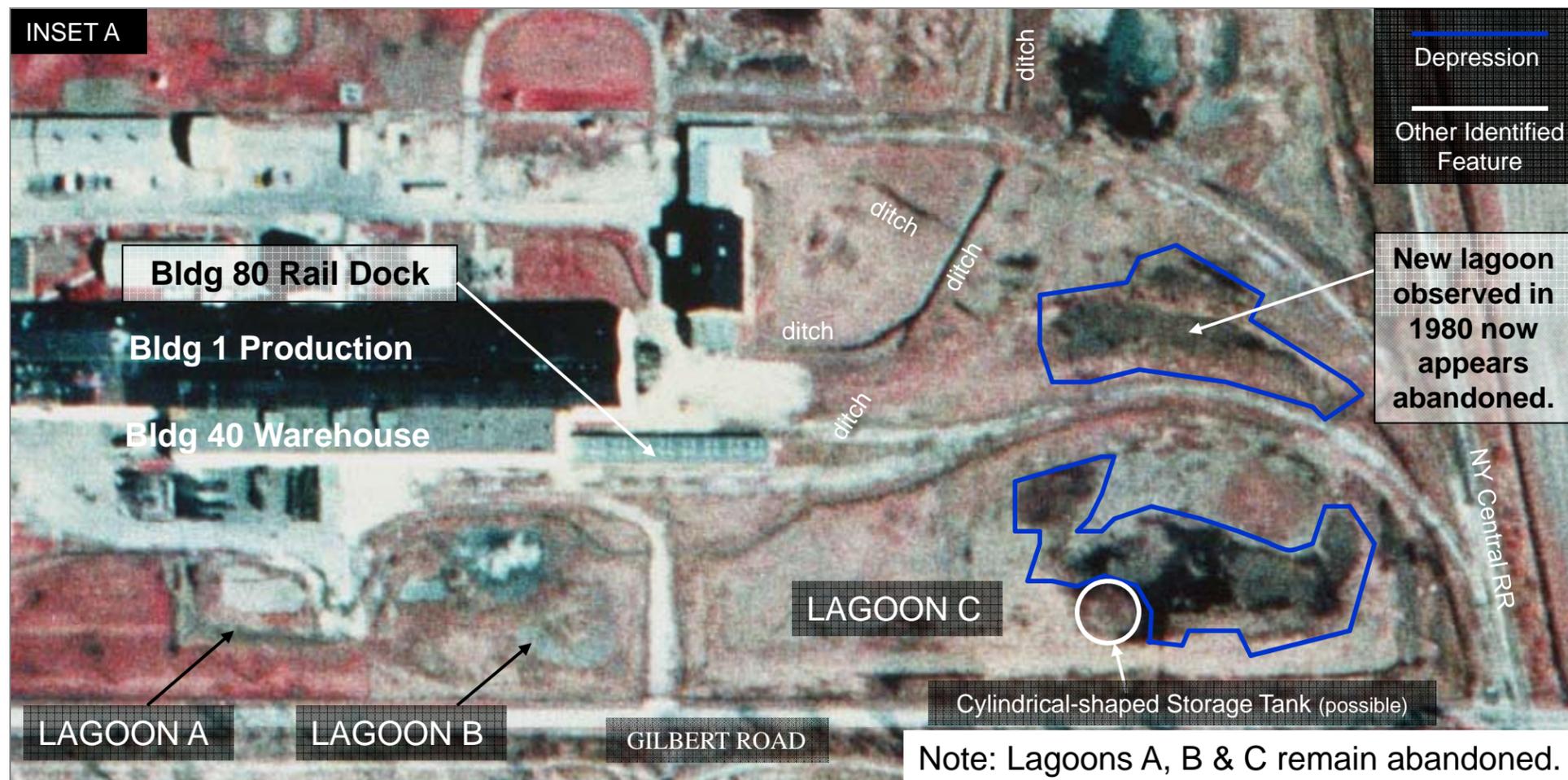
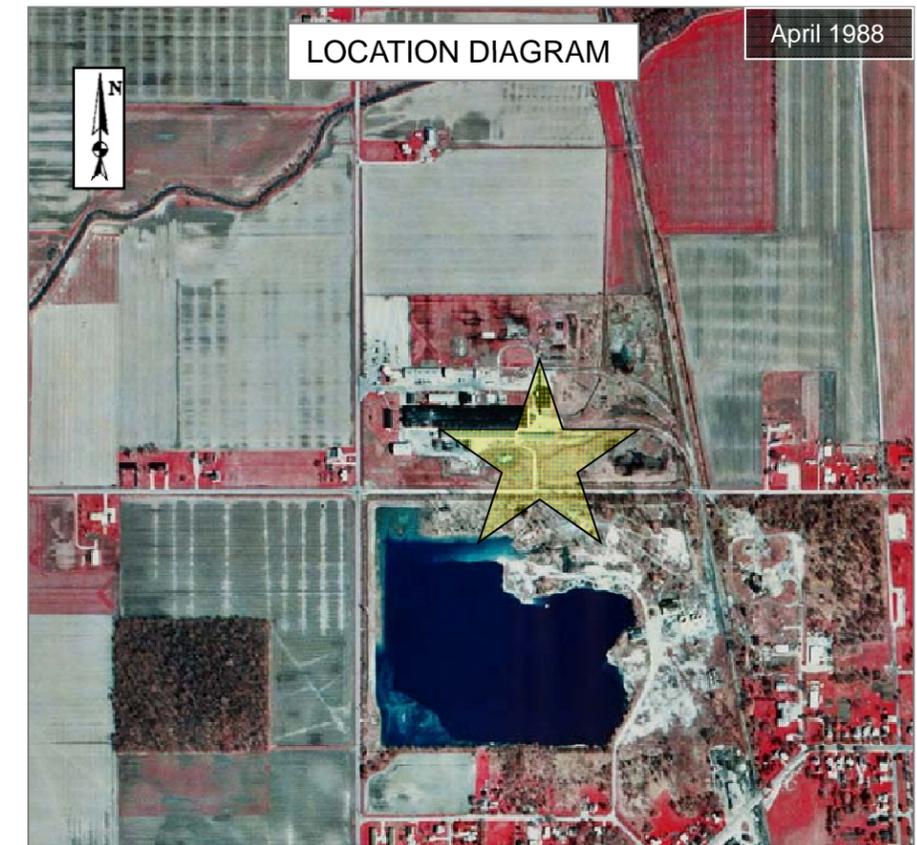
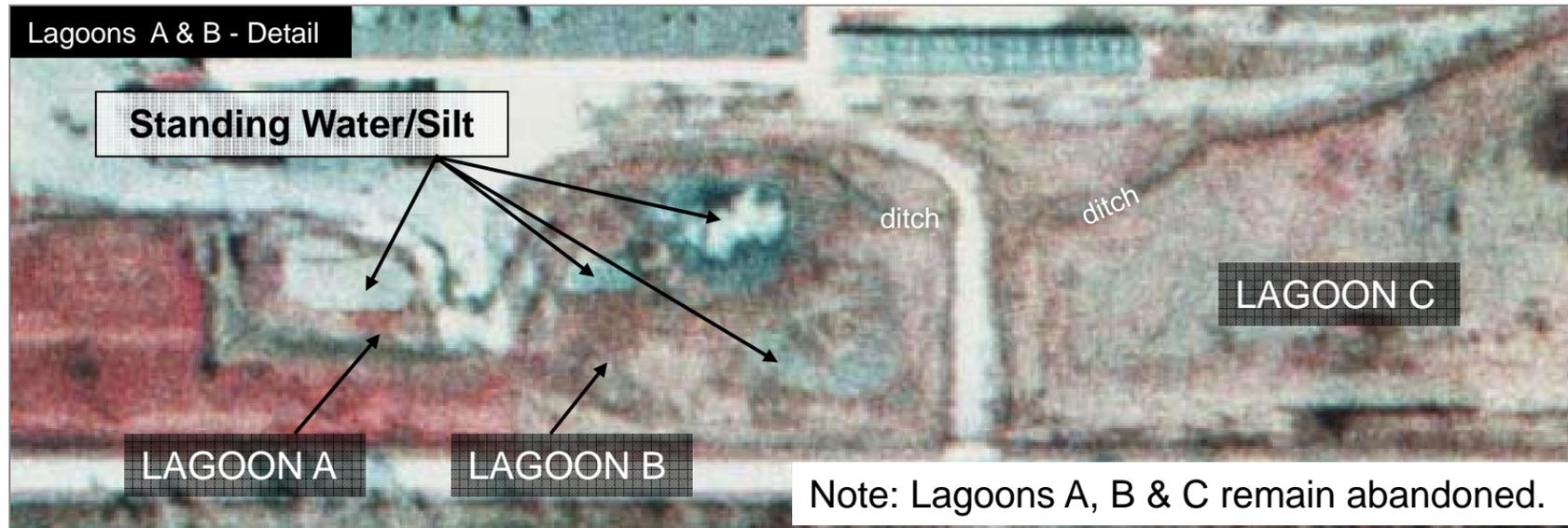
PHOTOGRAPHIC ANALYSIS - 9 APRIL 1988



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

9 APRIL 1988 - VERTICAL VIEW: LAGOON AREA



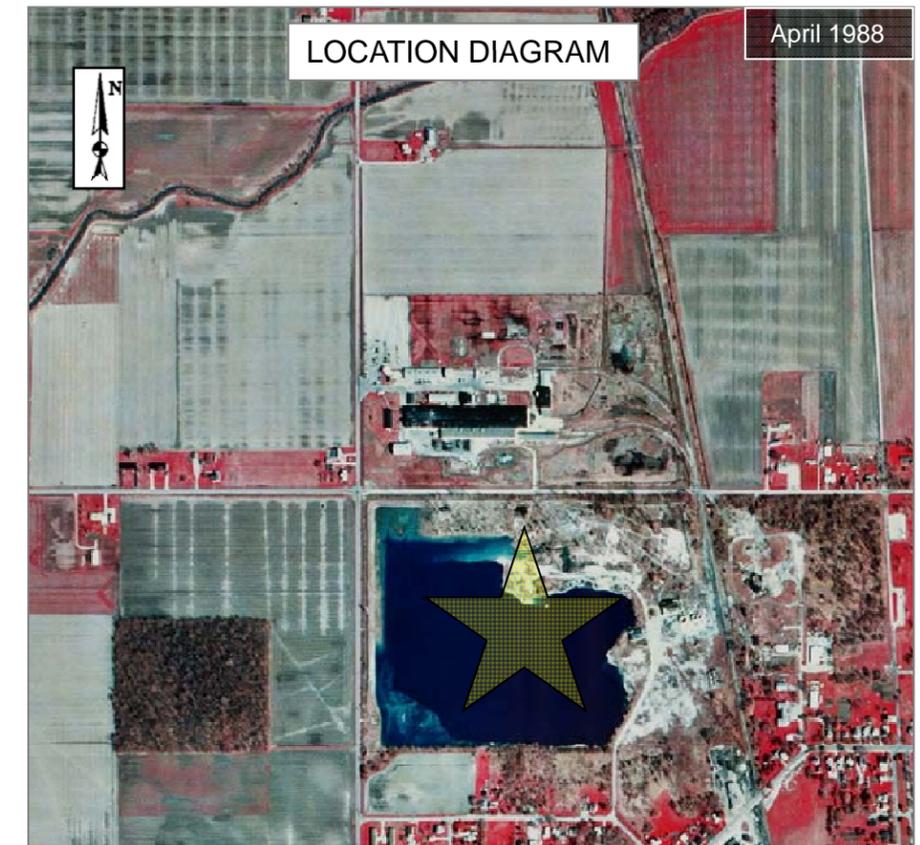
PHOTOGRAPHIC ANALYSIS - 9 APRIL 1988



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

9 APRIL 1988 - VERTICAL VIEW: QUARRY AREA





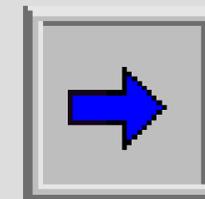
PHOTOGRAPHIC ANALYSIS

Final Report

CONTRACTED WORK FOR THE ATOMIC ENERGY COMMISSION HAS CEASED*

Photo
Interpretation
Of Aerial
Photography

2010



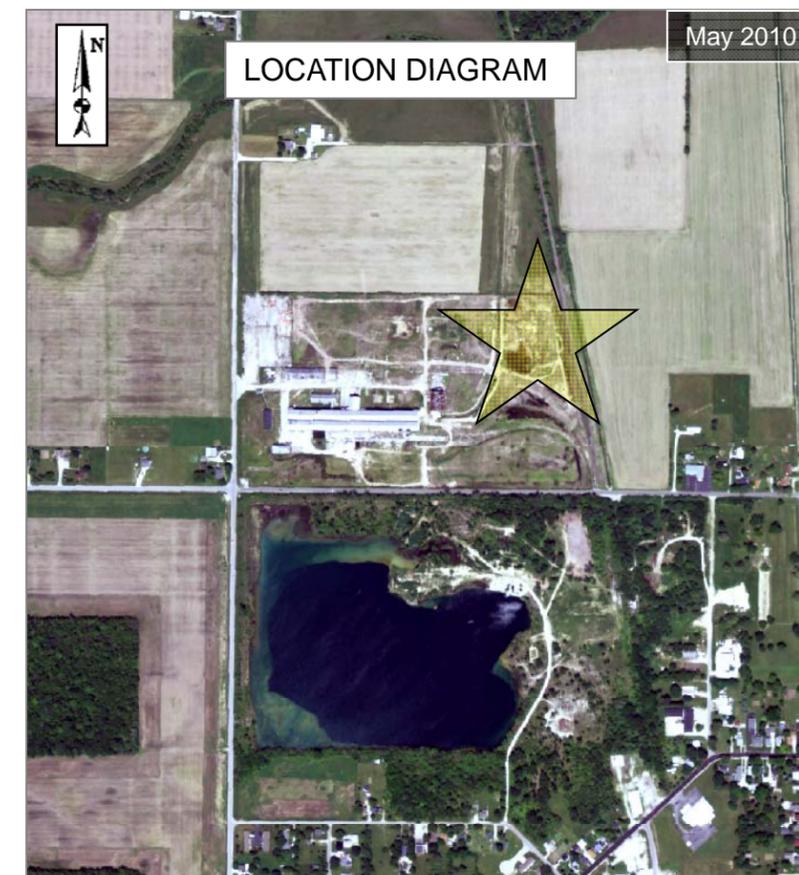
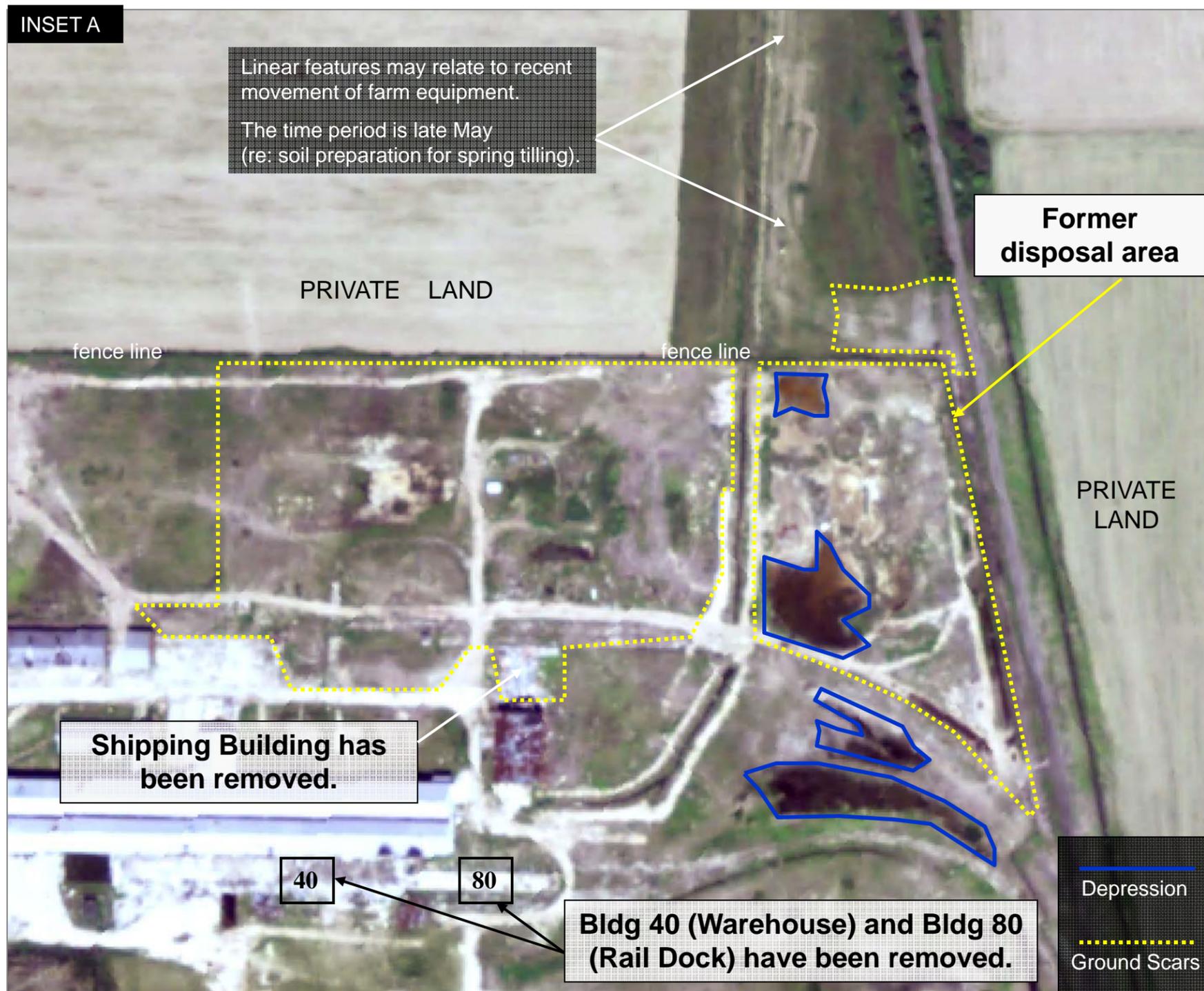
National Agriculture Imagery
Program (NAIP) Data
(non-stereo coverage; 1 meter resolution)

 Selected findings from the aerial photographic analysis.

 Locations are shown in the State Plane; FIPS Zone 3103; NAD83 datum; units in feet.

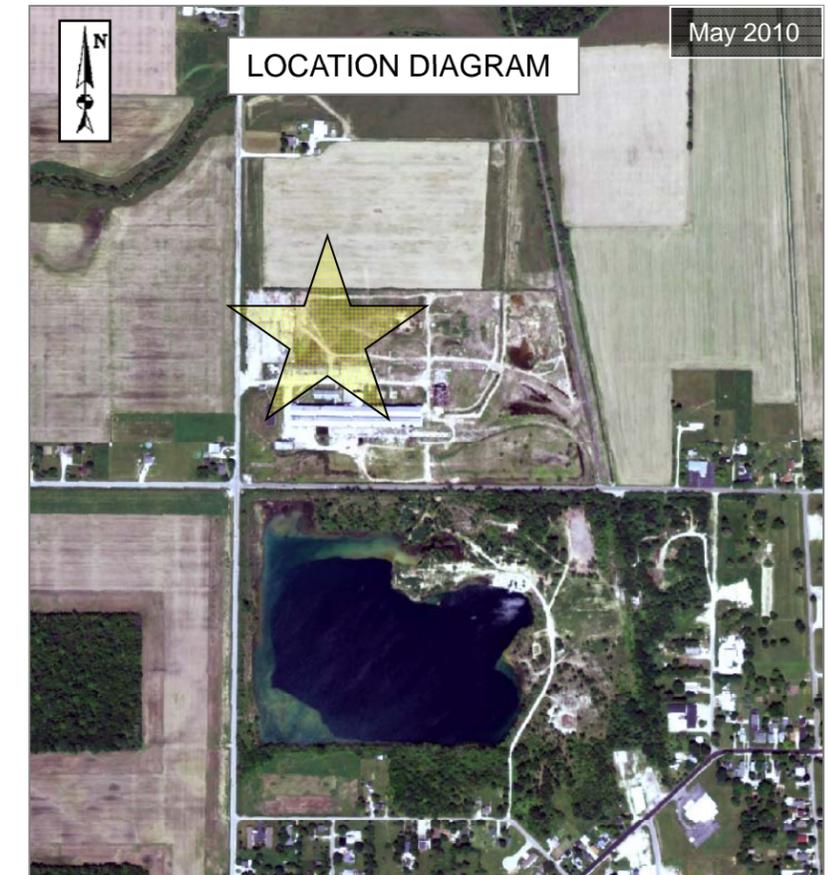


29 MAY 2010 – VERTICAL VIEW: NORTHEAST SECTOR





29 MAY 2010 - VERTICAL VIEW: NORTHWEST SECTOR



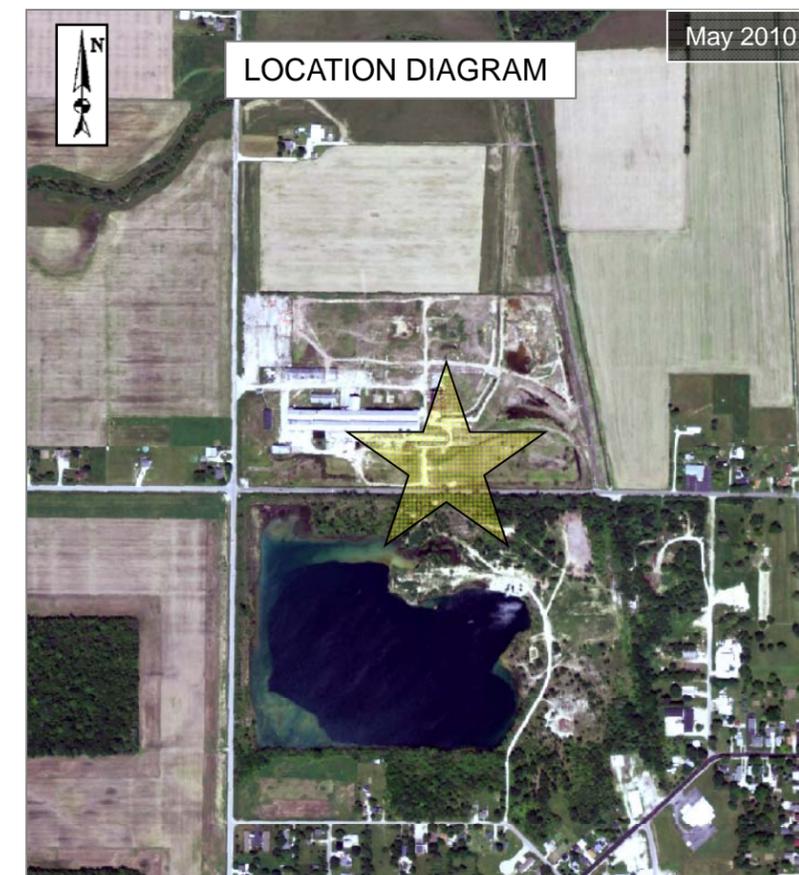
PHOTOGRAPHIC ANALYSIS – 29 MAY 2010



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

29 MAY 2010 - VERTICAL VIEW: LAGOON AREA



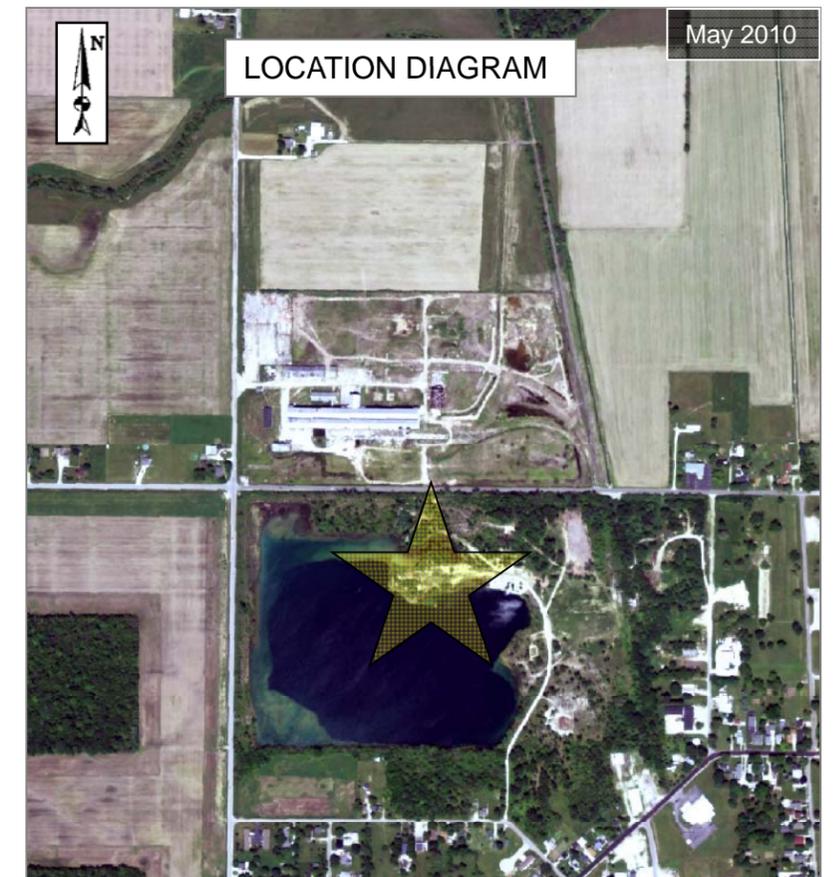
PHOTOGRAPHIC ANALYSIS – 29 MAY 2010



LUCKEY FUSRAP SITE, WOOD COUNTY, OHIO

Final Report

29 MAY 2010 - VERTICAL VIEW: QUARRY AREA





APPENDIX A

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.

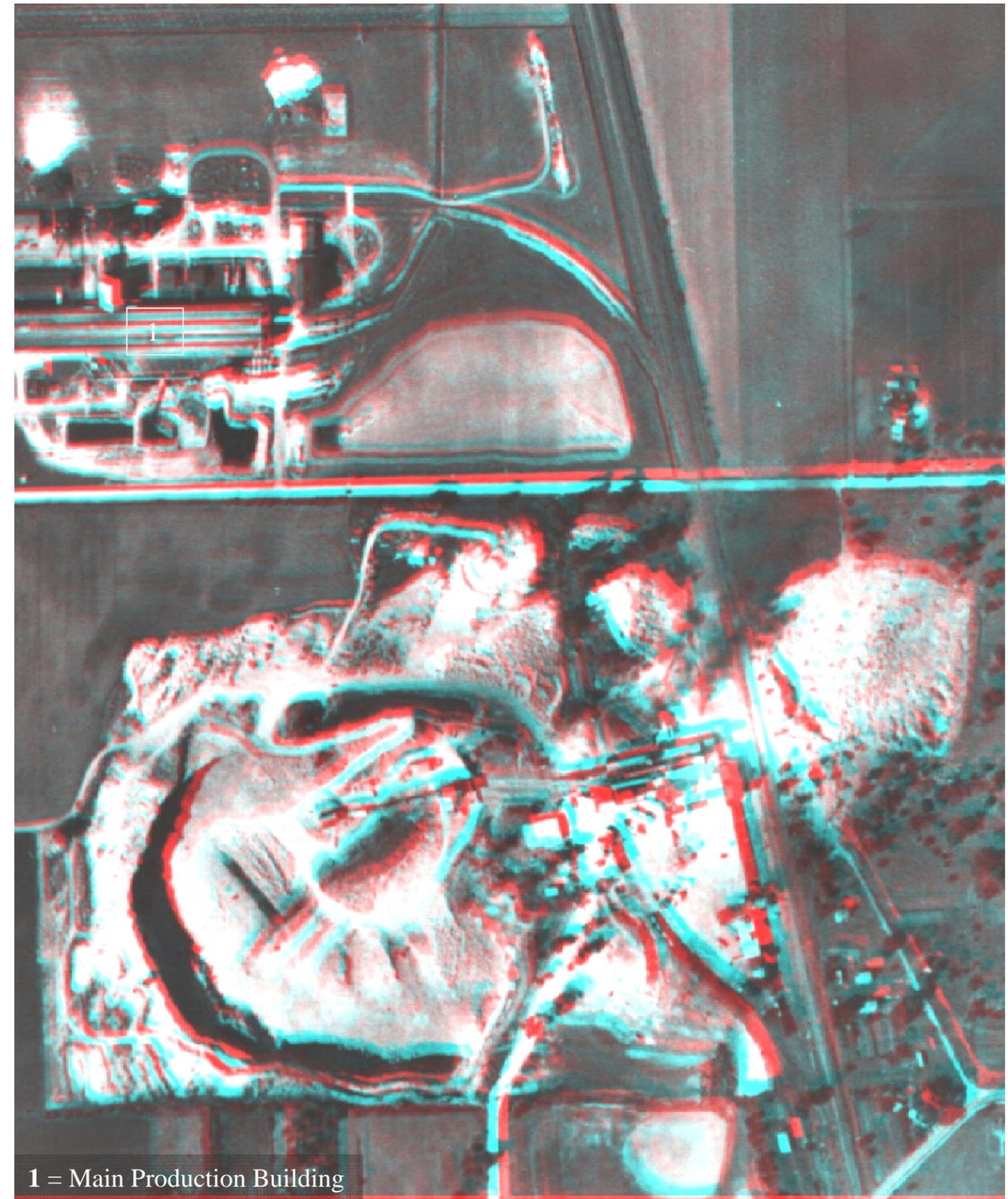
APPENDIX A



3-D VIEWS OF AERIAL PHOTOGRAPHY DATED 6 SEPTEMBER 1950



1 = Main Production Building

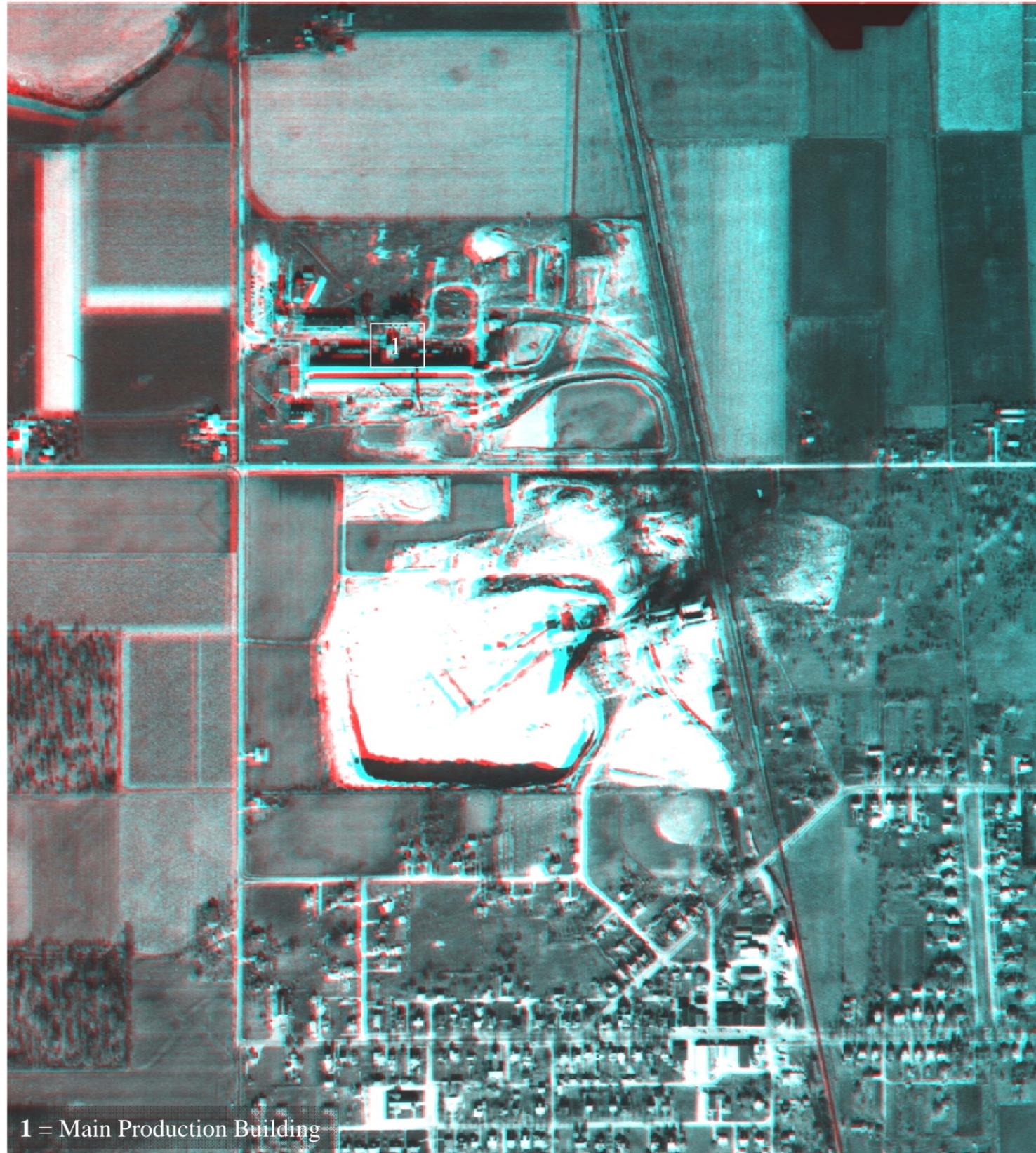


1 = Main Production Building

APPENDIX A



3-D VIEWS OF AERIAL PHOTOGRAPHY DATED 10 NOVEMBER 1957



1 = Main Production Building

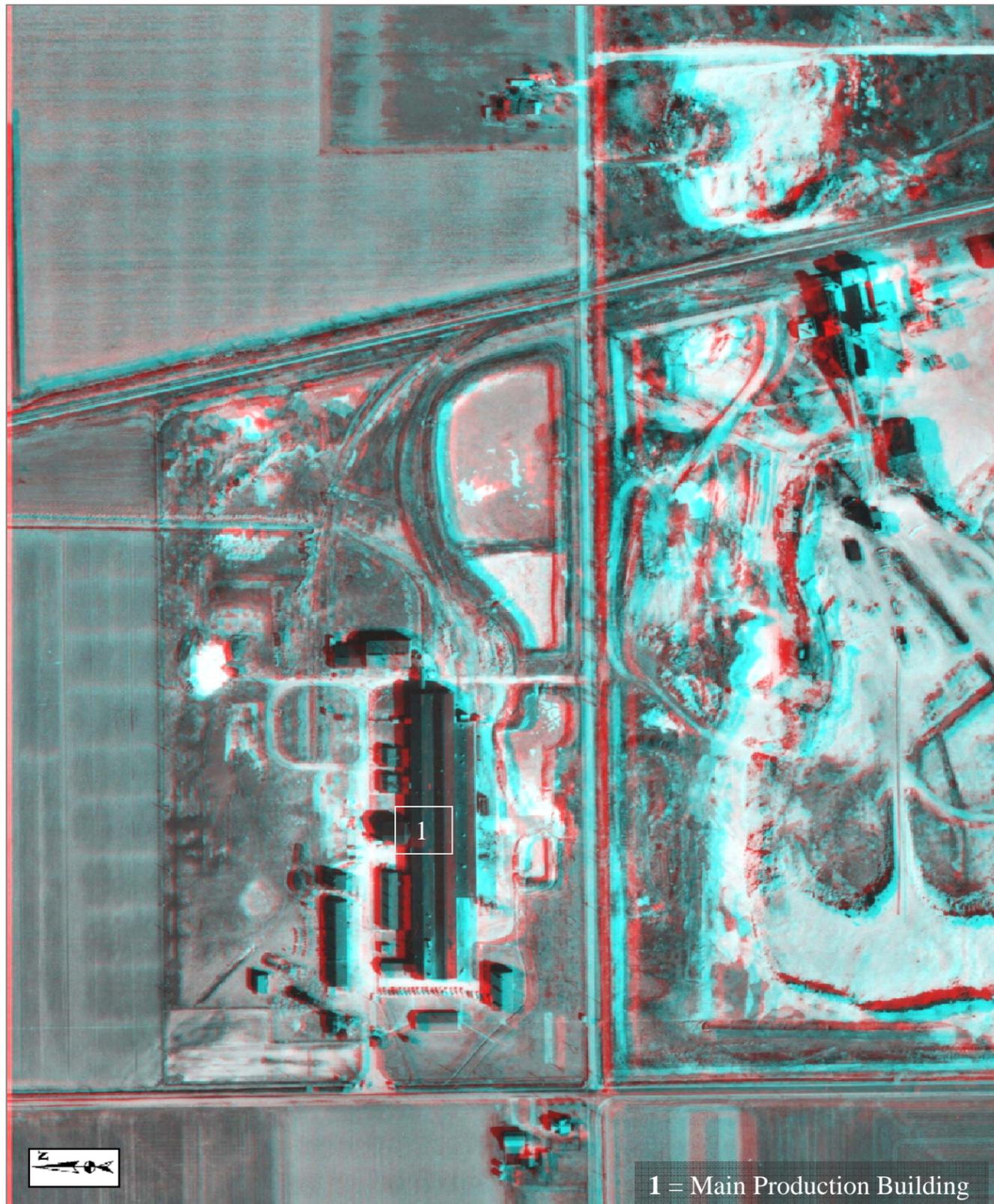


1 = Main Production Building

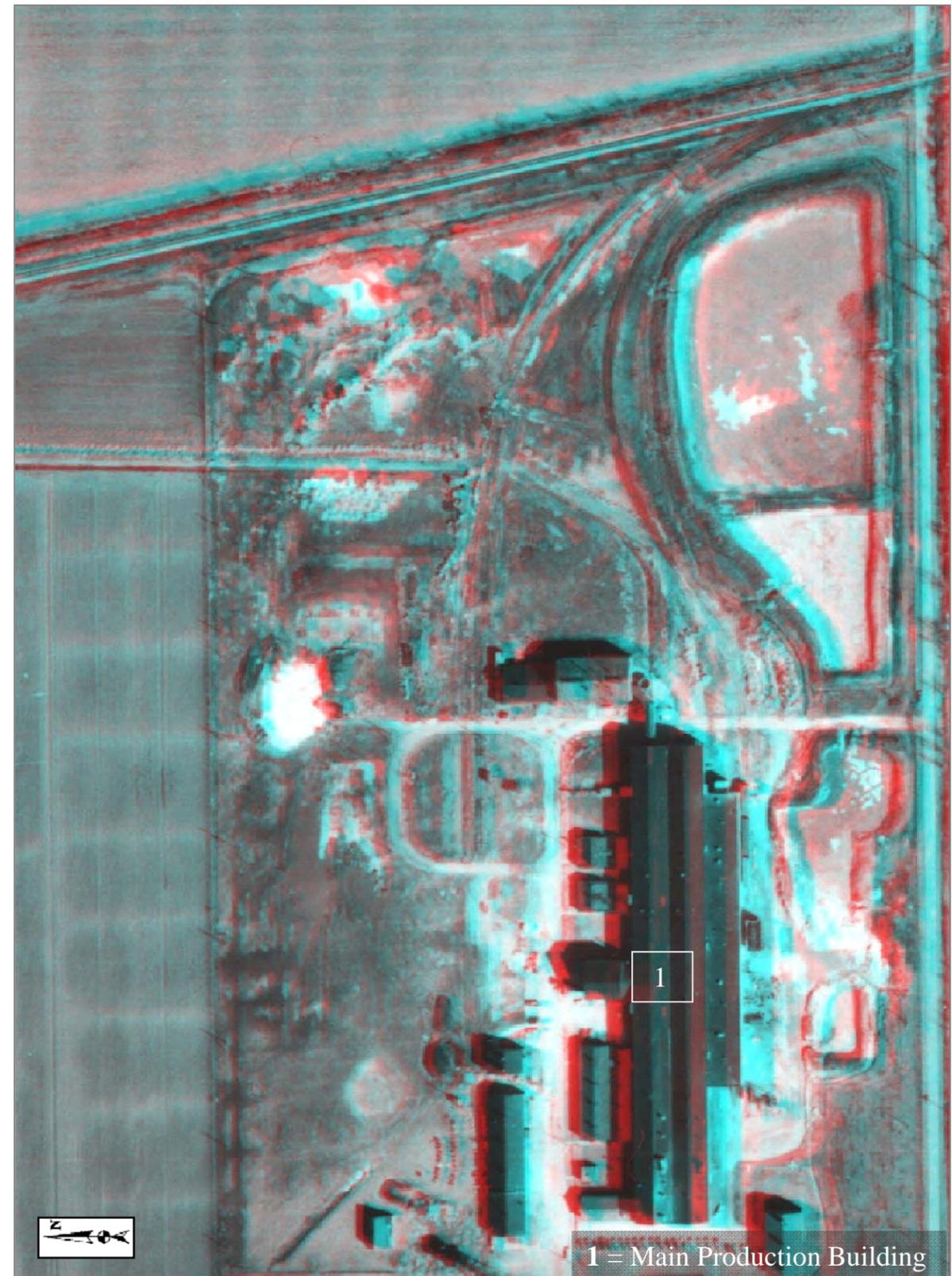
APPENDIX A



3-D VIEWS OF AERIAL PHOTOGRAPHY DATED MARCH 1969



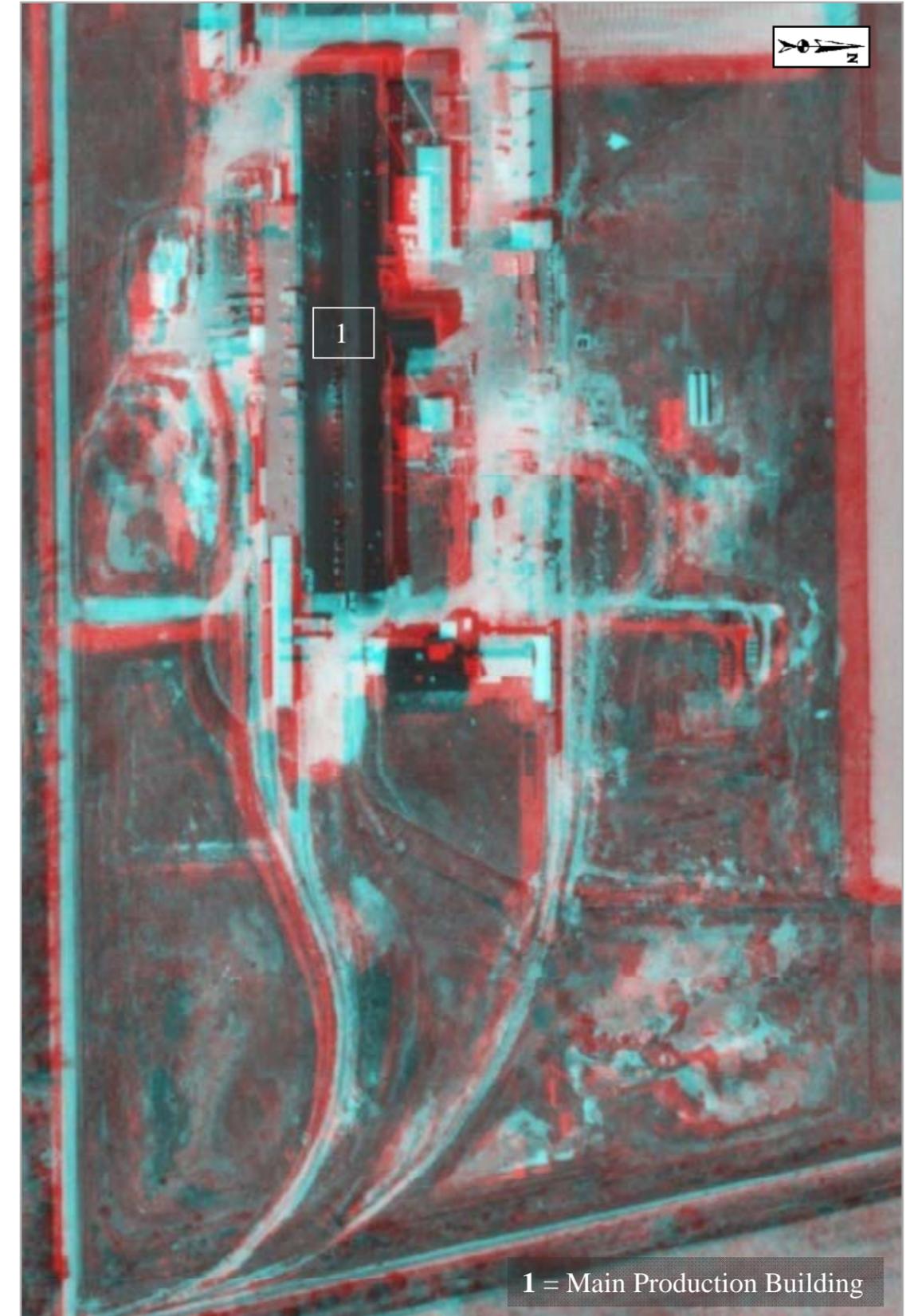
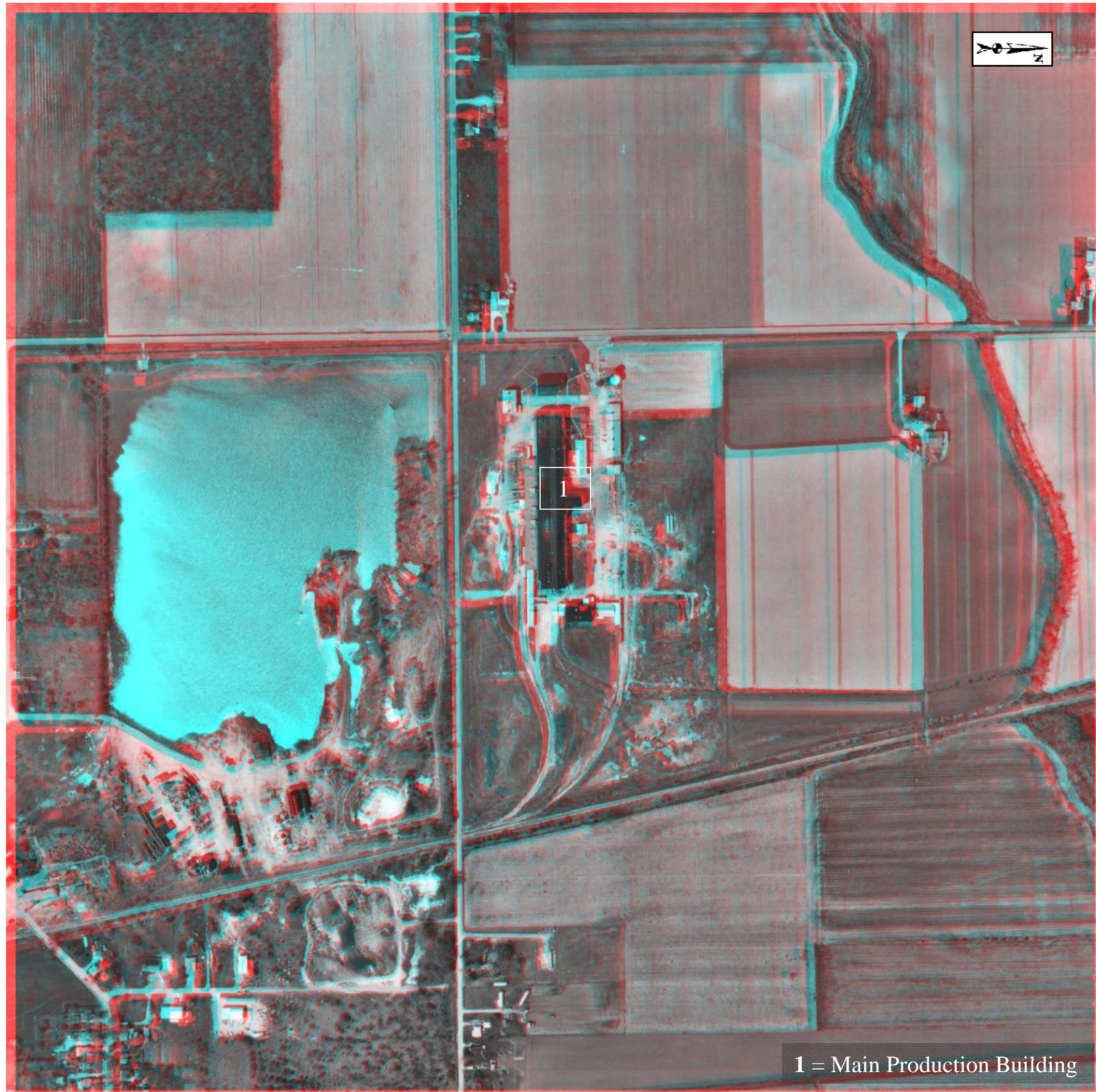
1 = Main Production Building



1 = Main Production Building

APPENDIX A

3-D VIEWS OF AERIAL PHOTOGRAPHY DATED MAY 1980





APPENDIX B

GLOSSARY

LUCKEY FUSRAP SITE

Terms/
Definitions



GLOSSARY

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.



GLOSSARY

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



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.
