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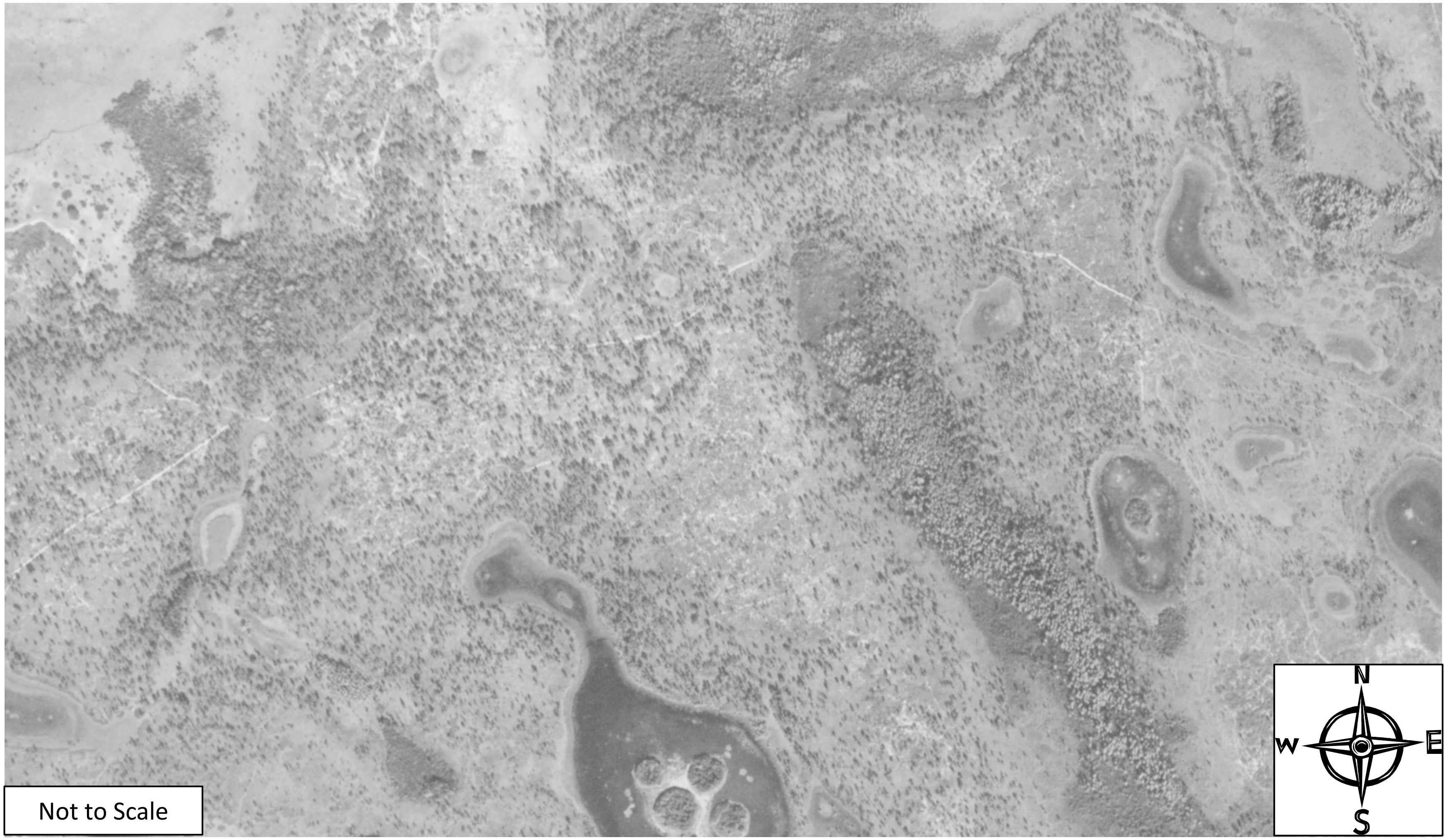

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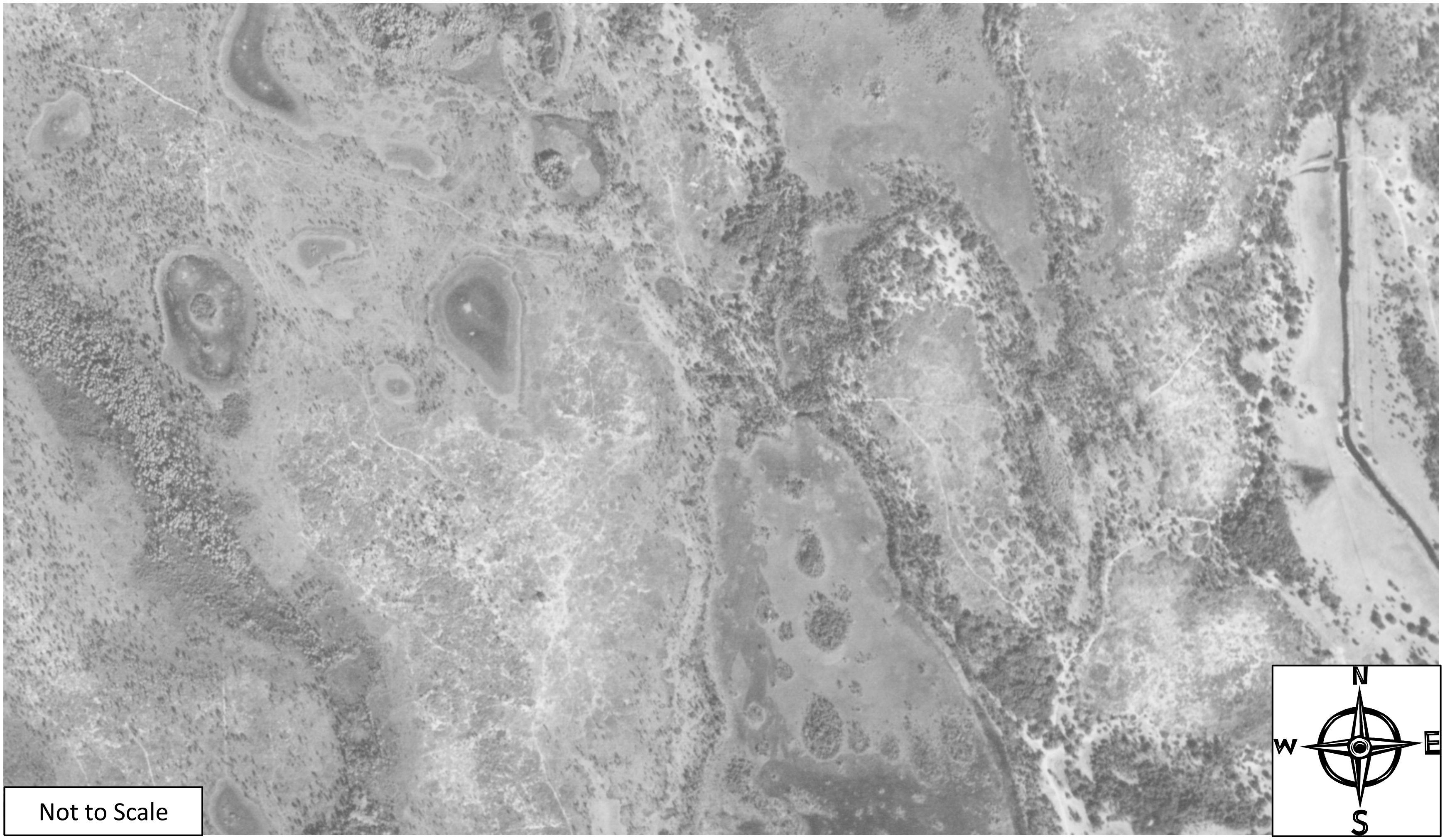

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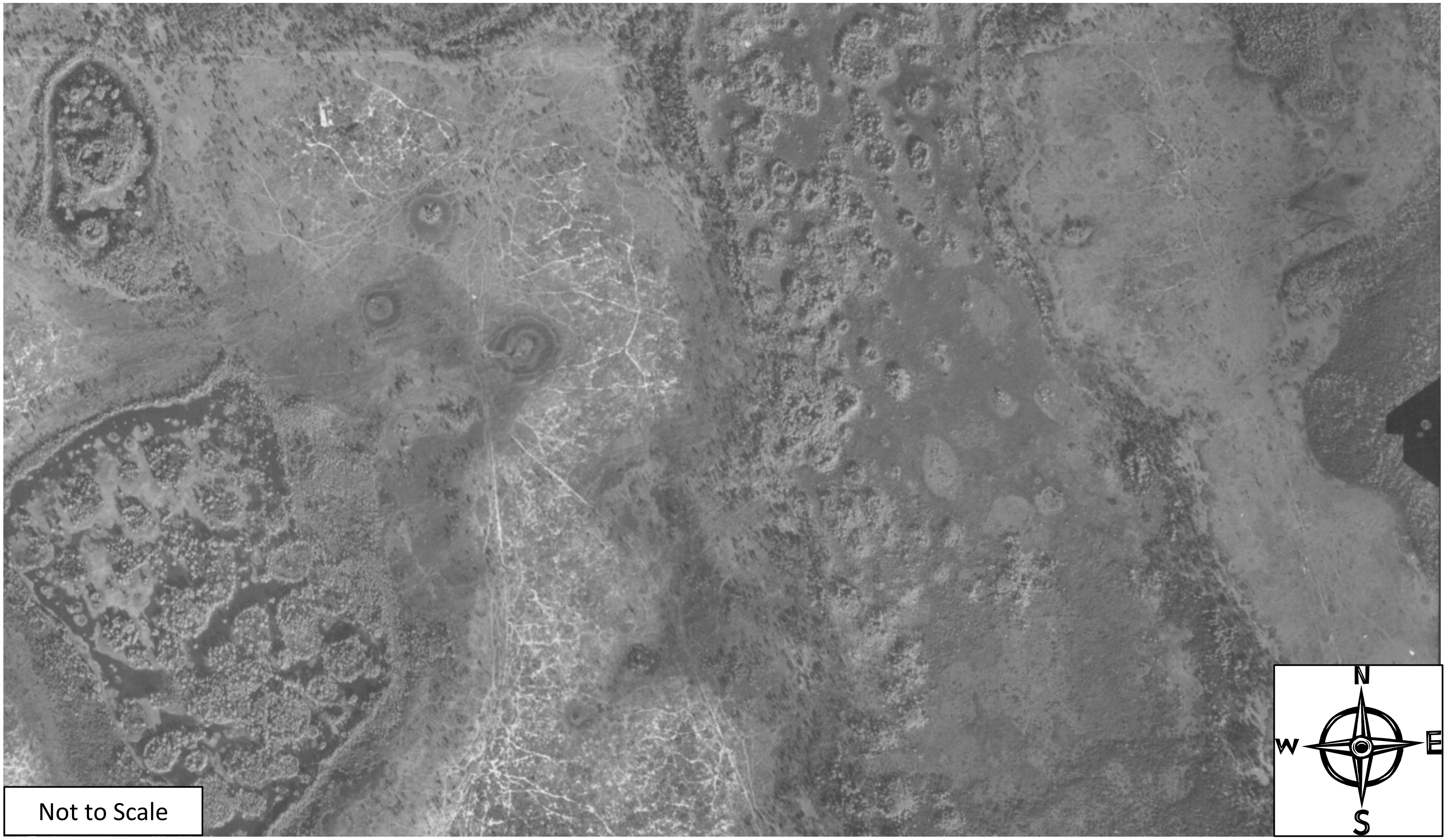

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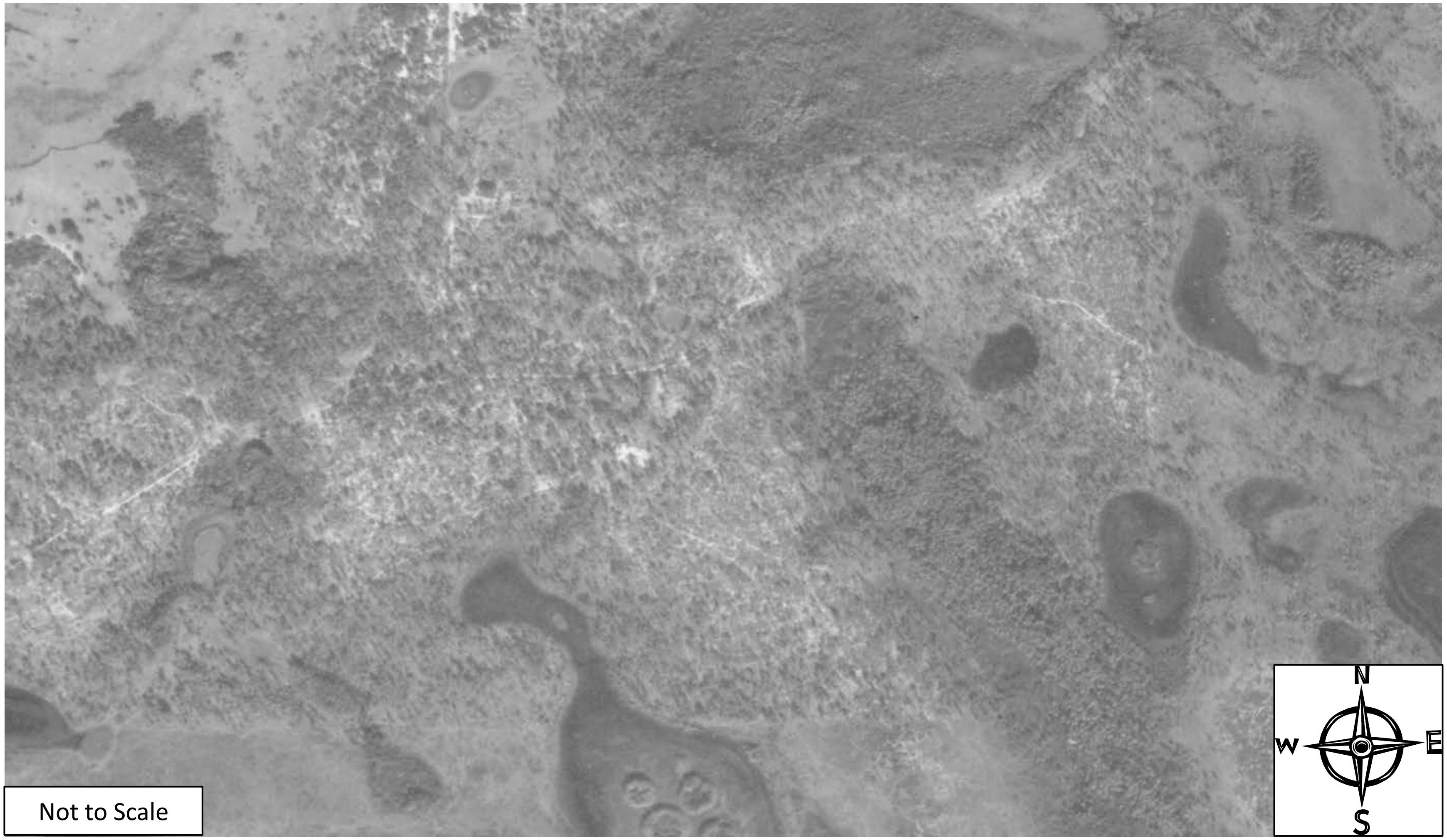

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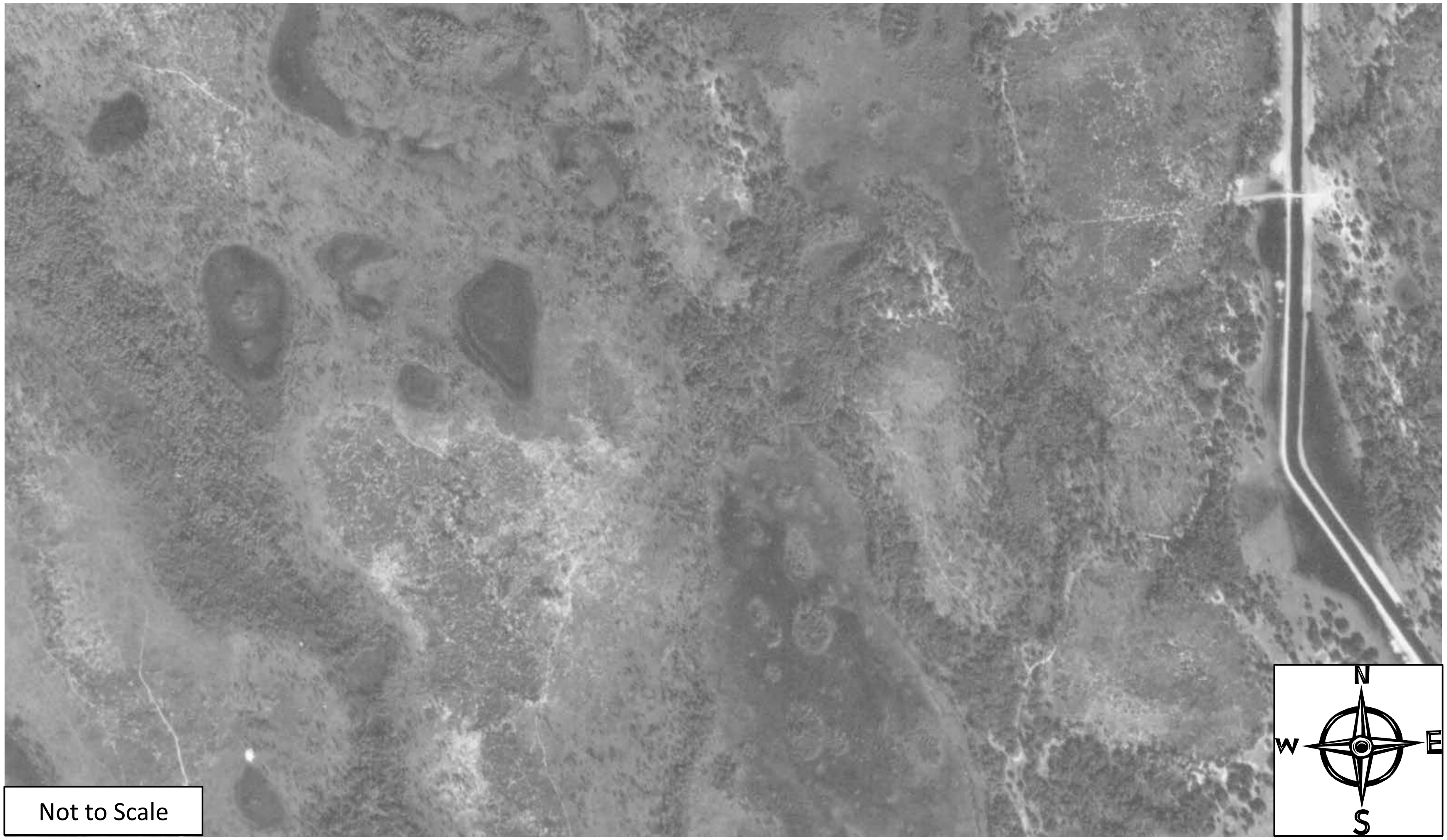

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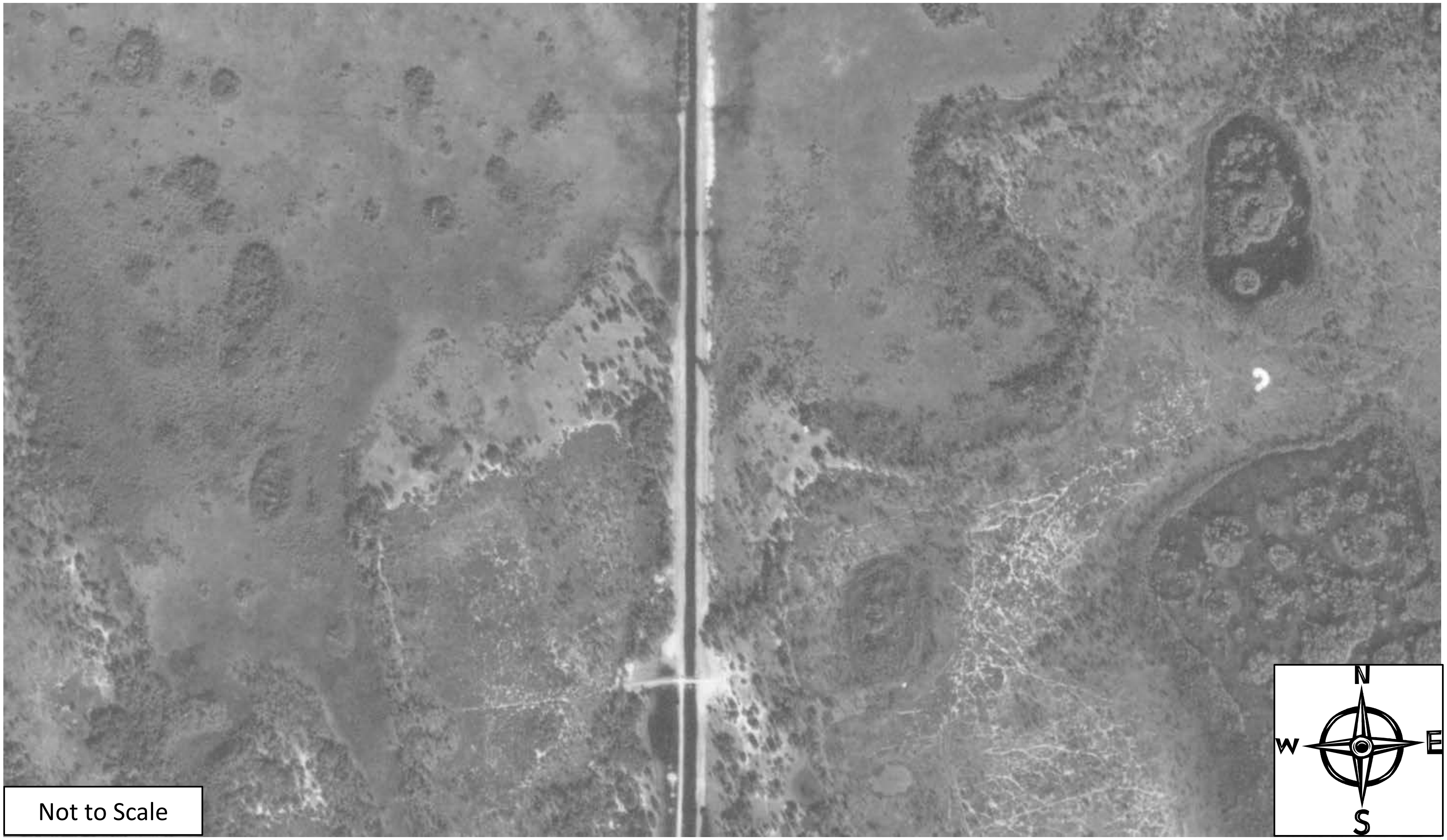

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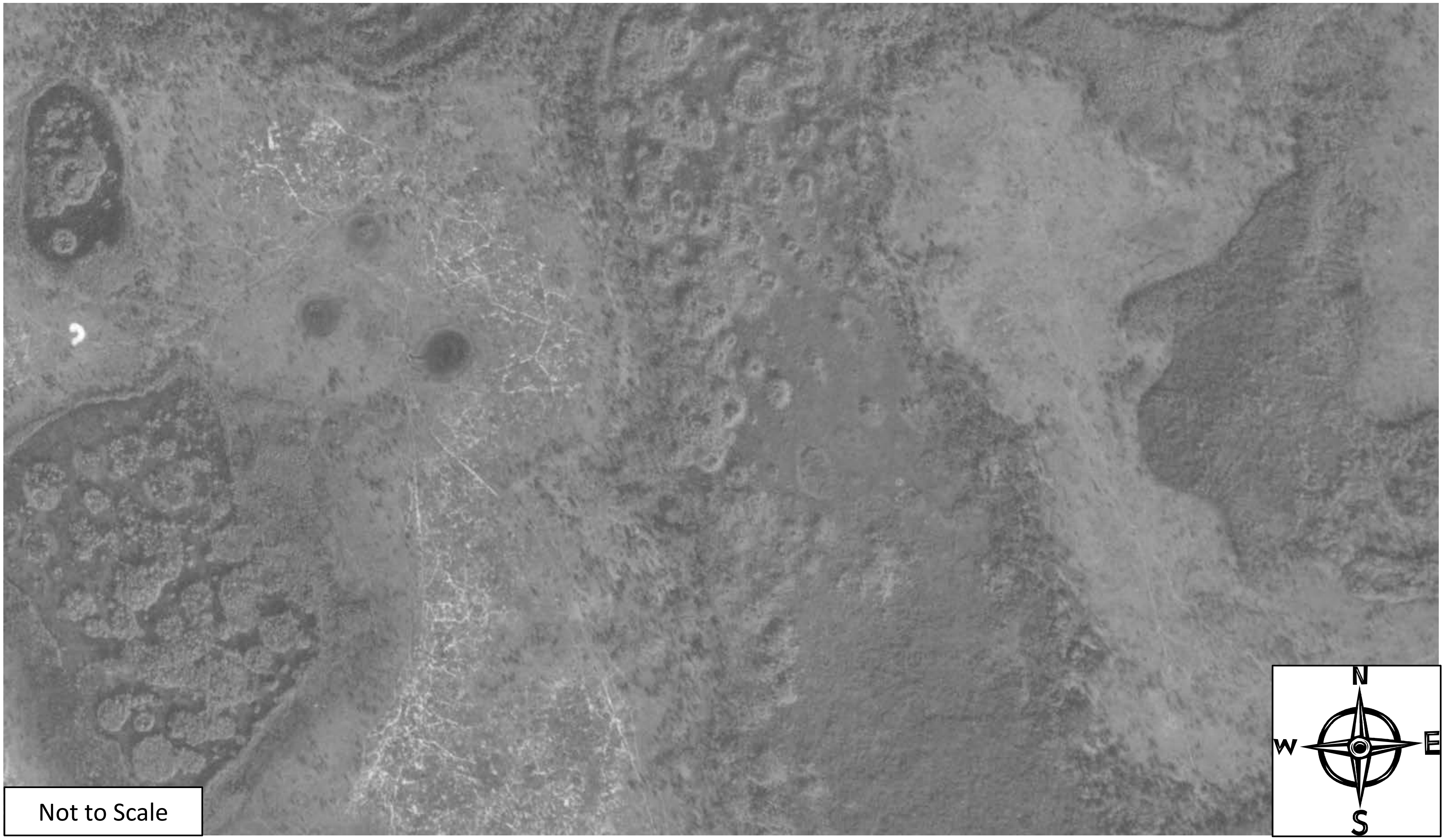

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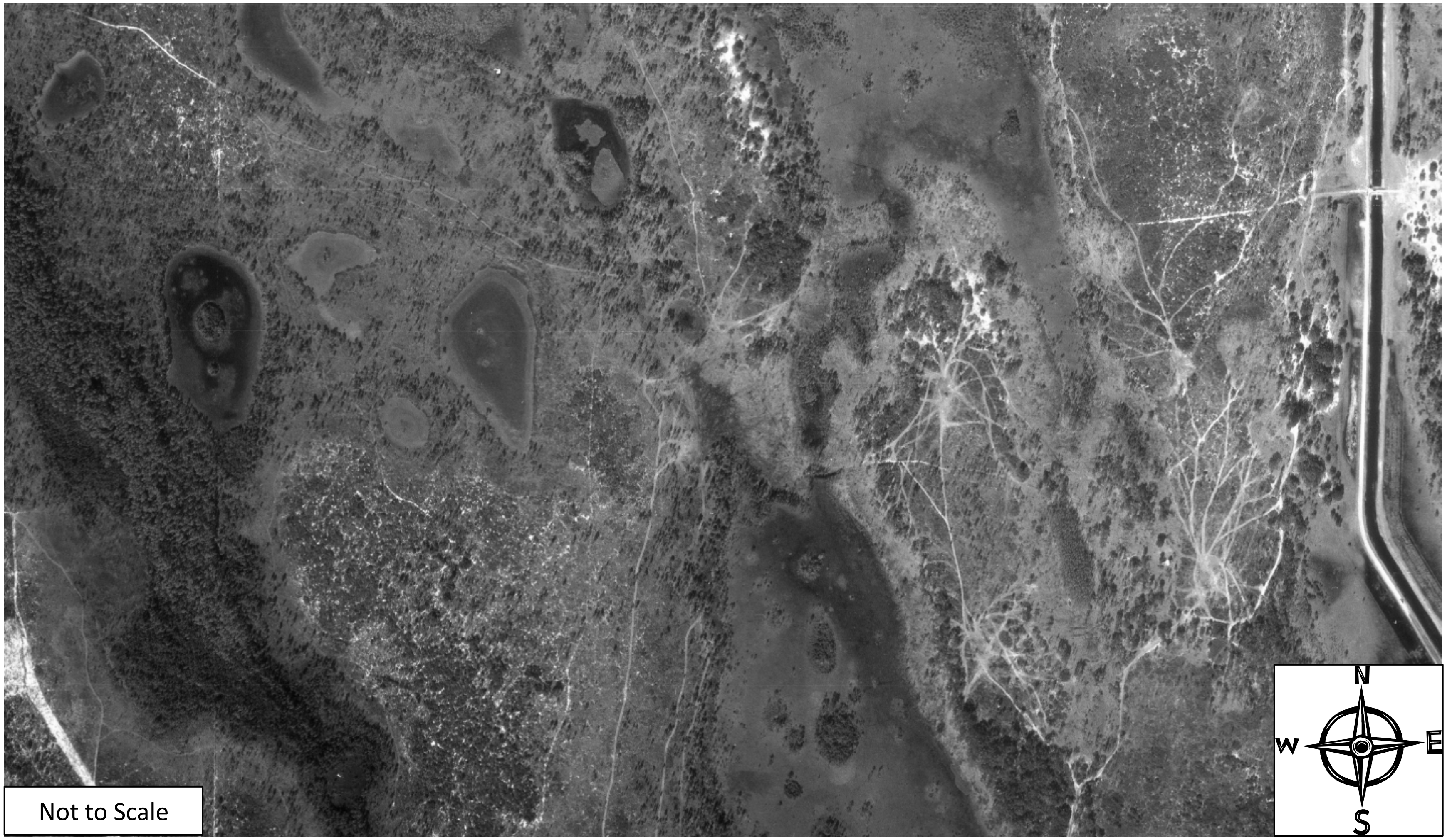

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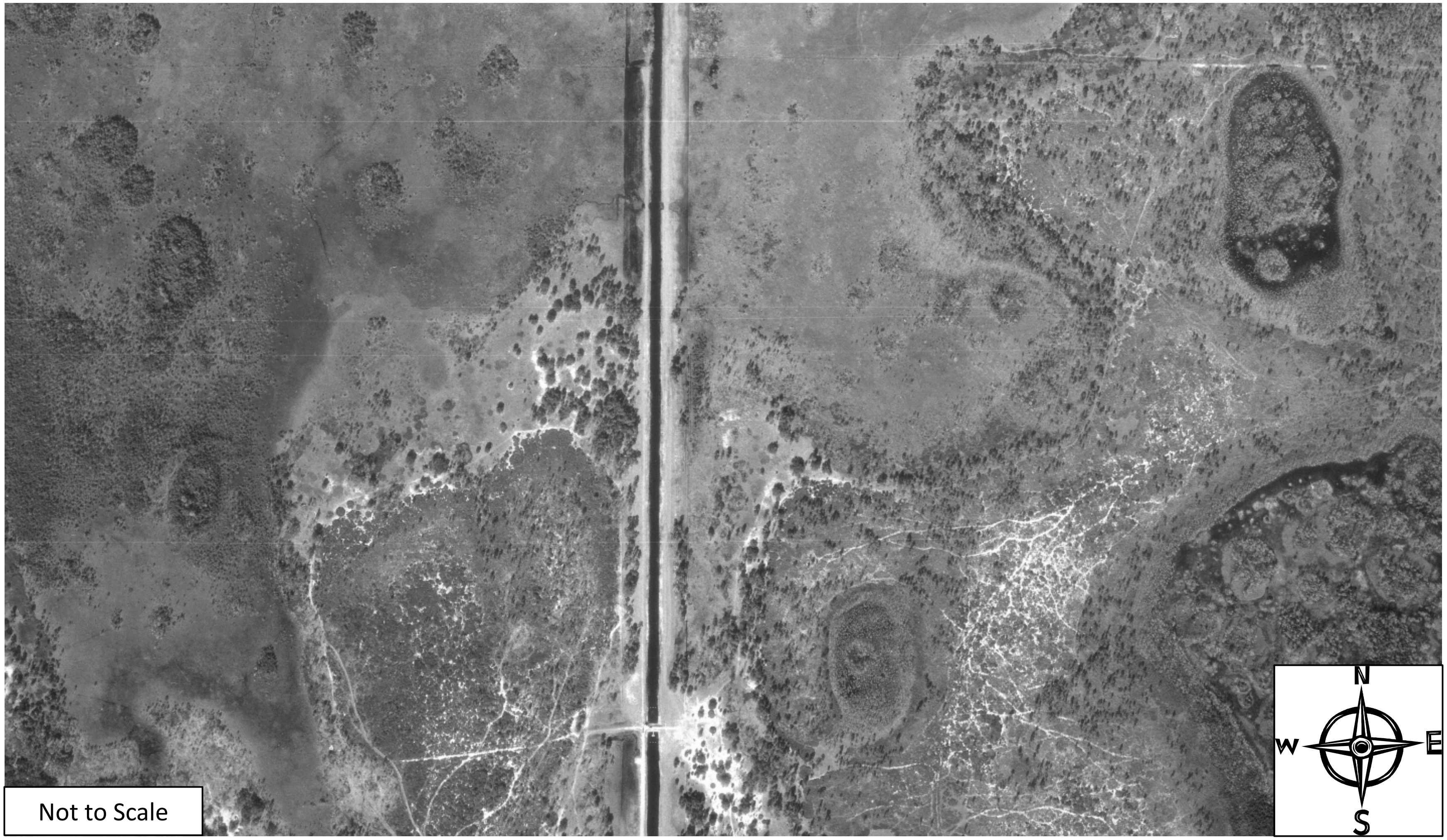

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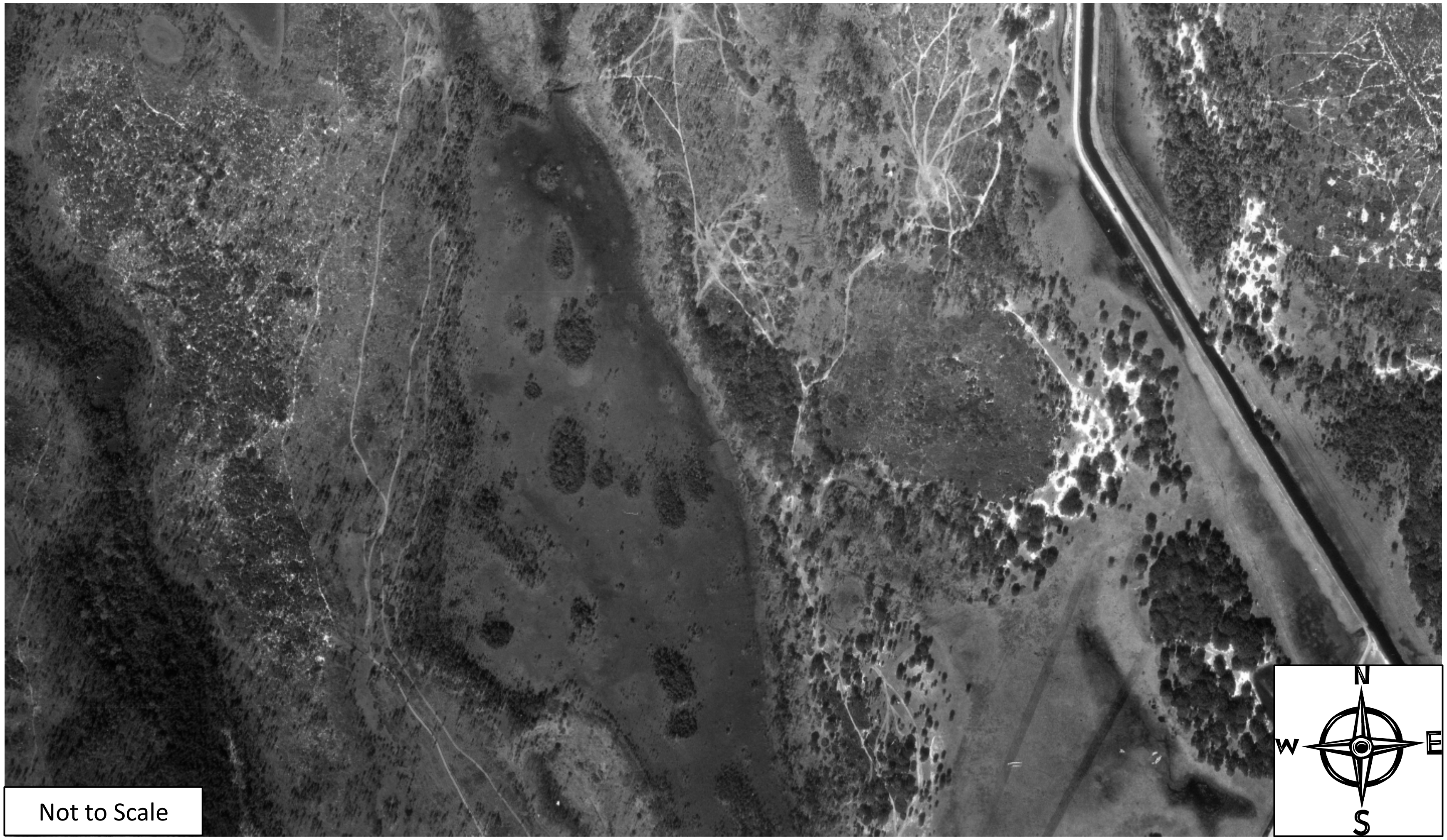

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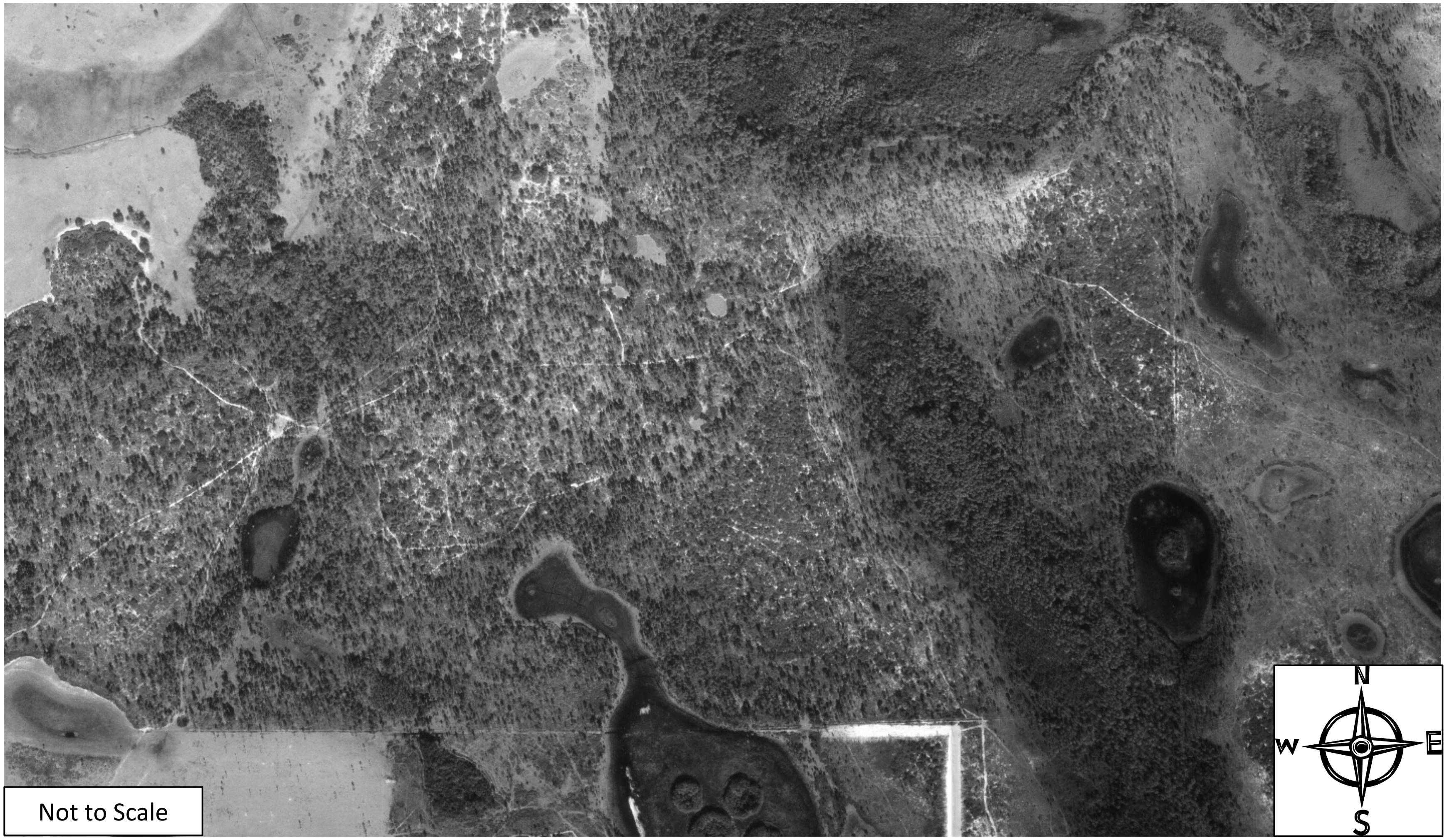

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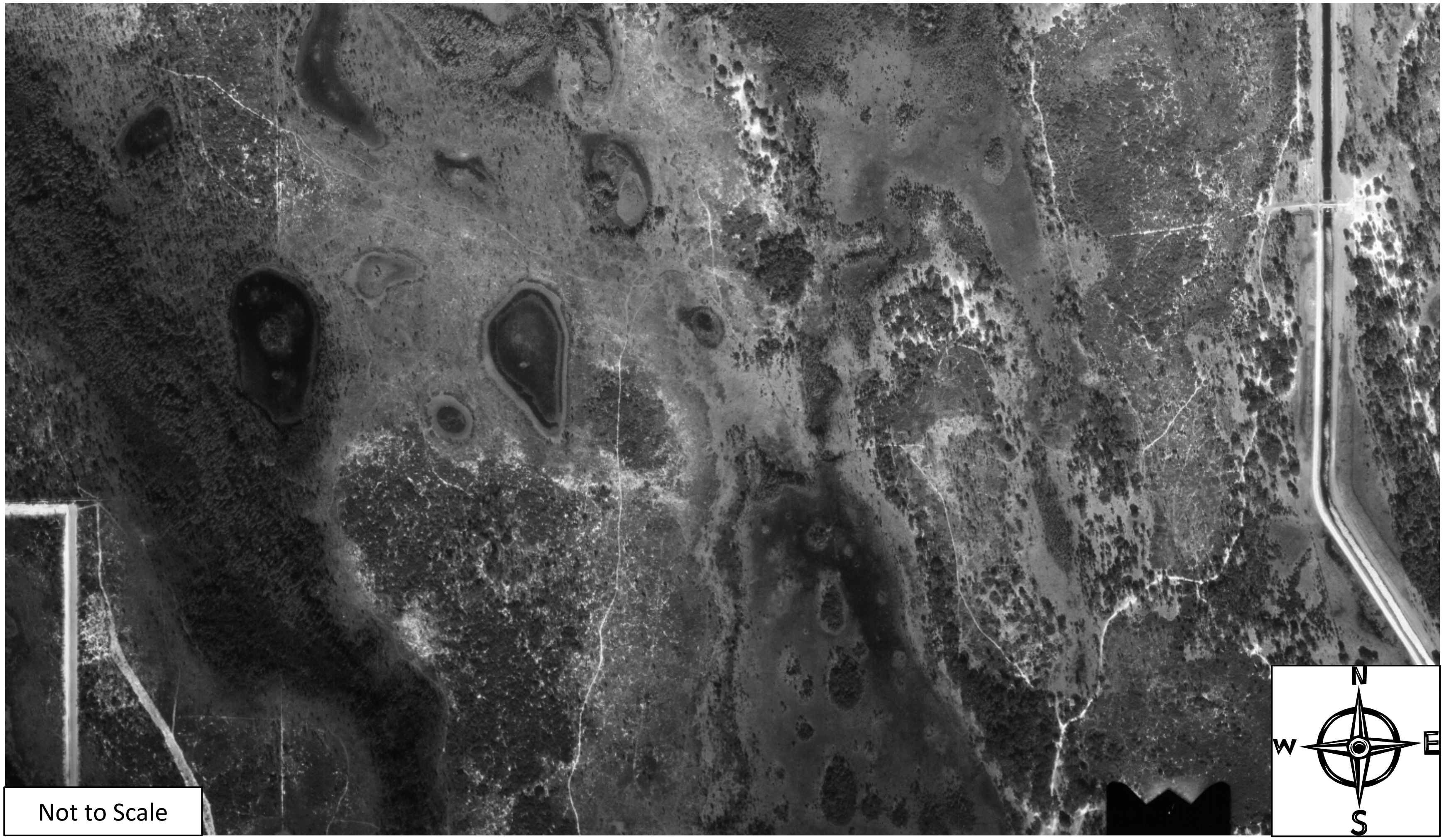

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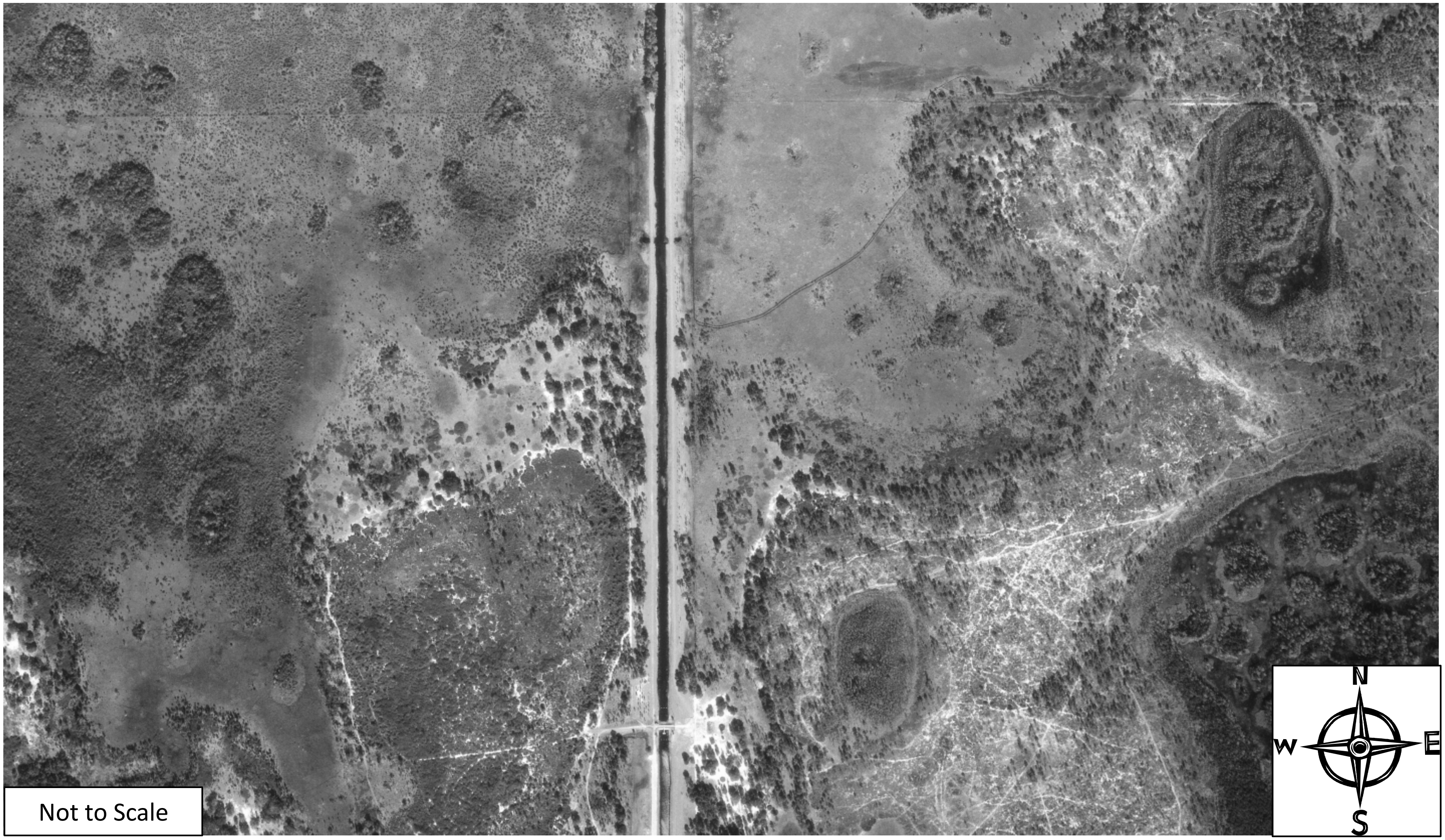

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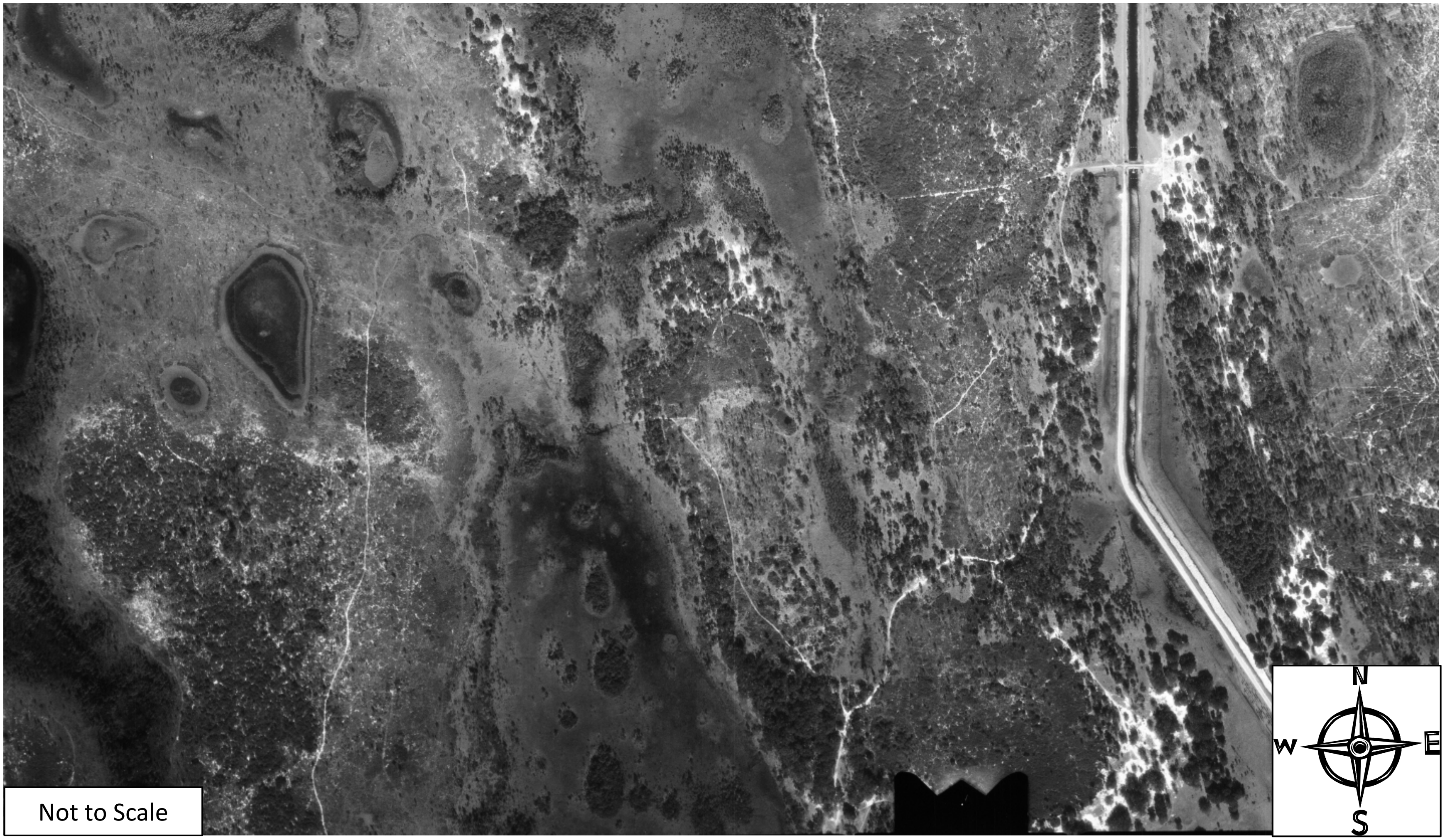

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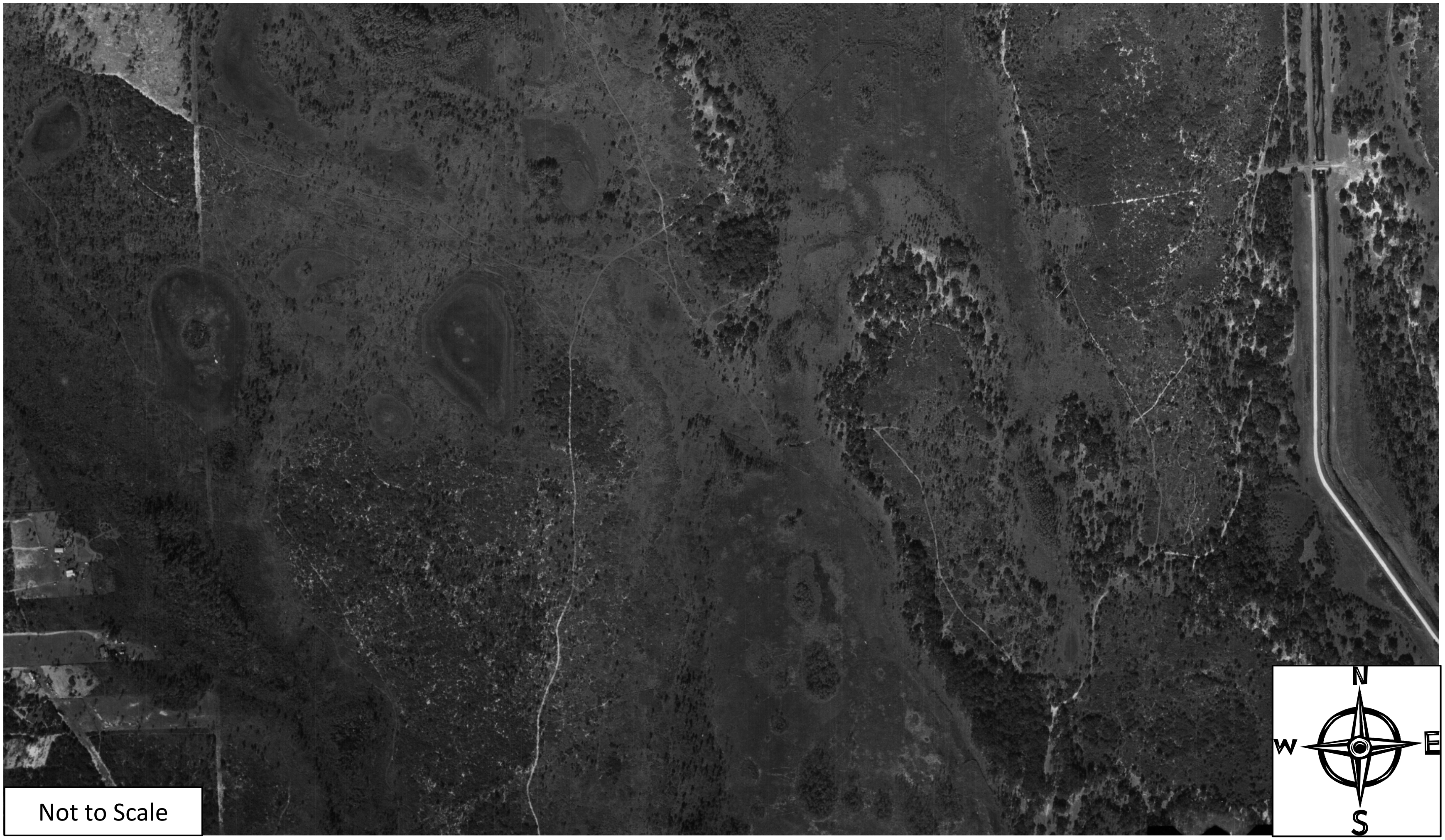

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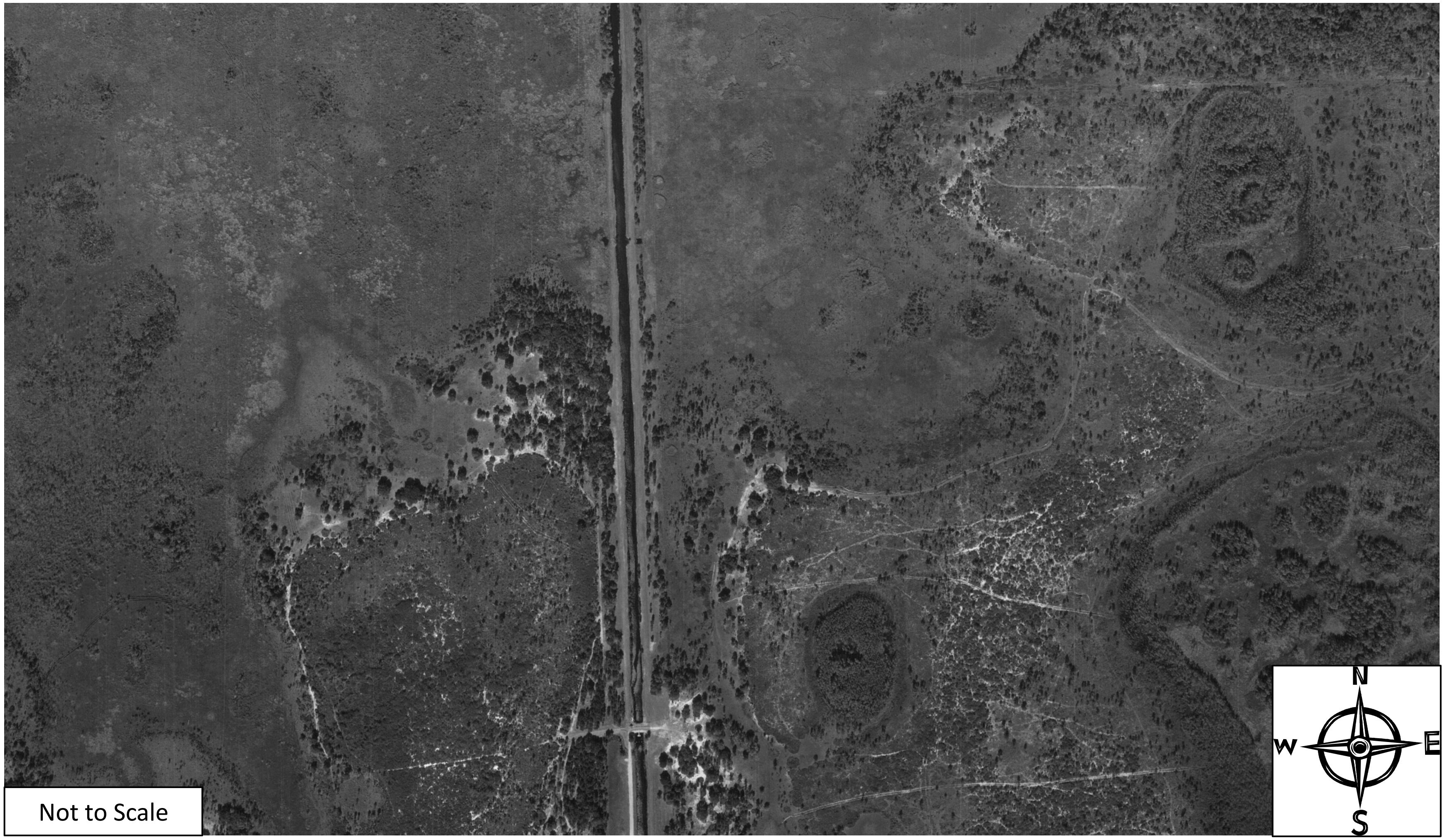

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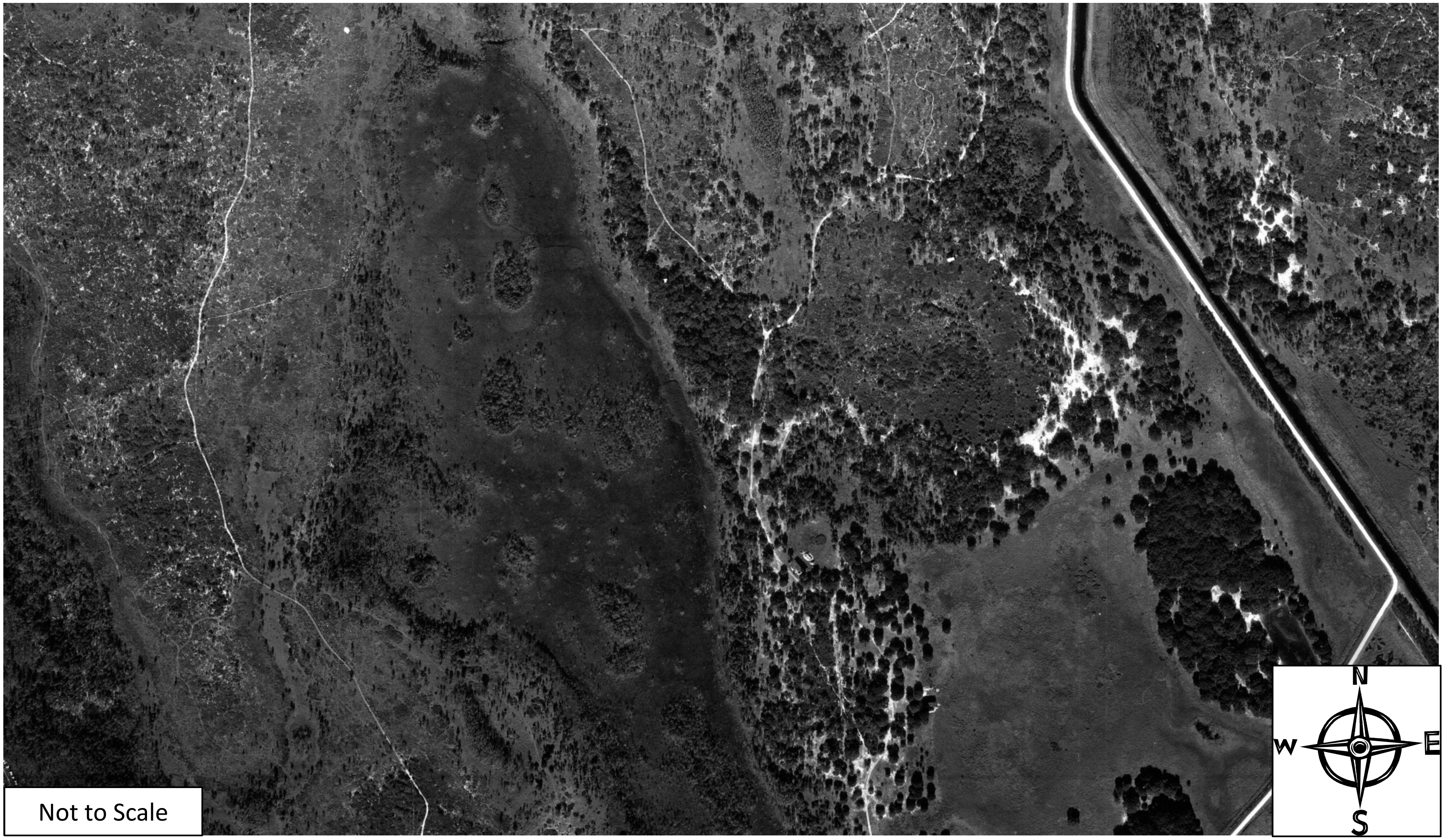

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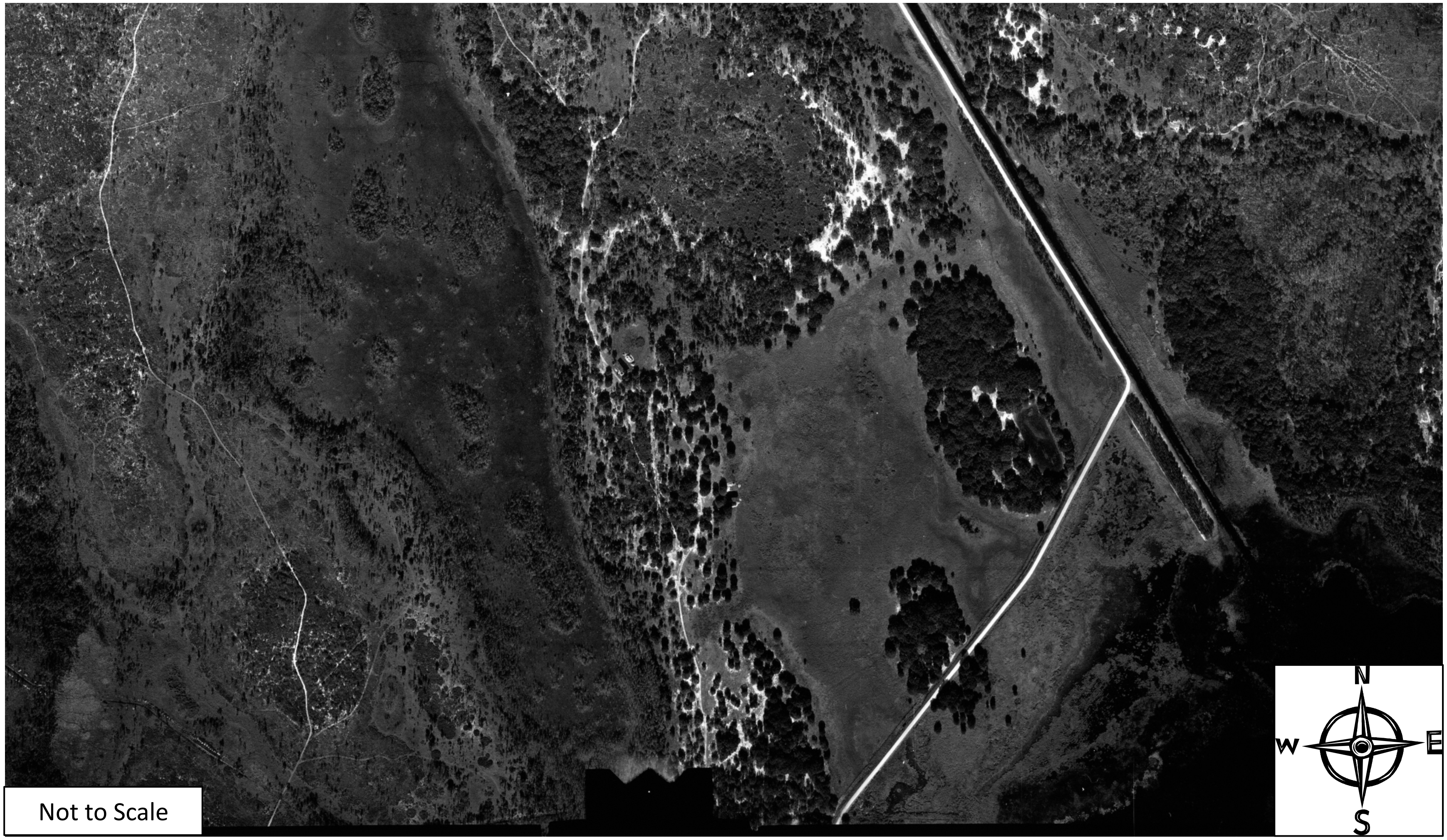

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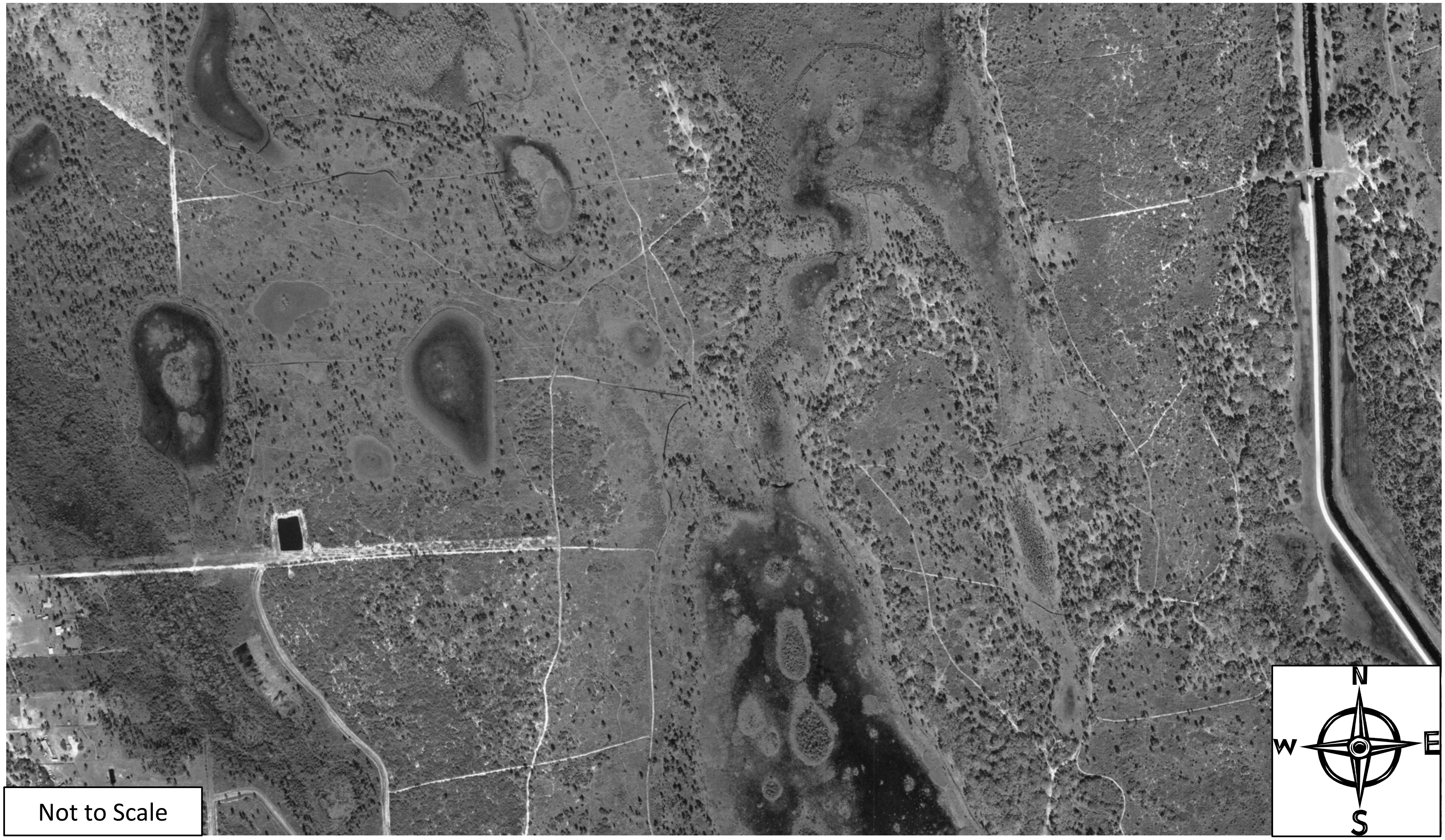

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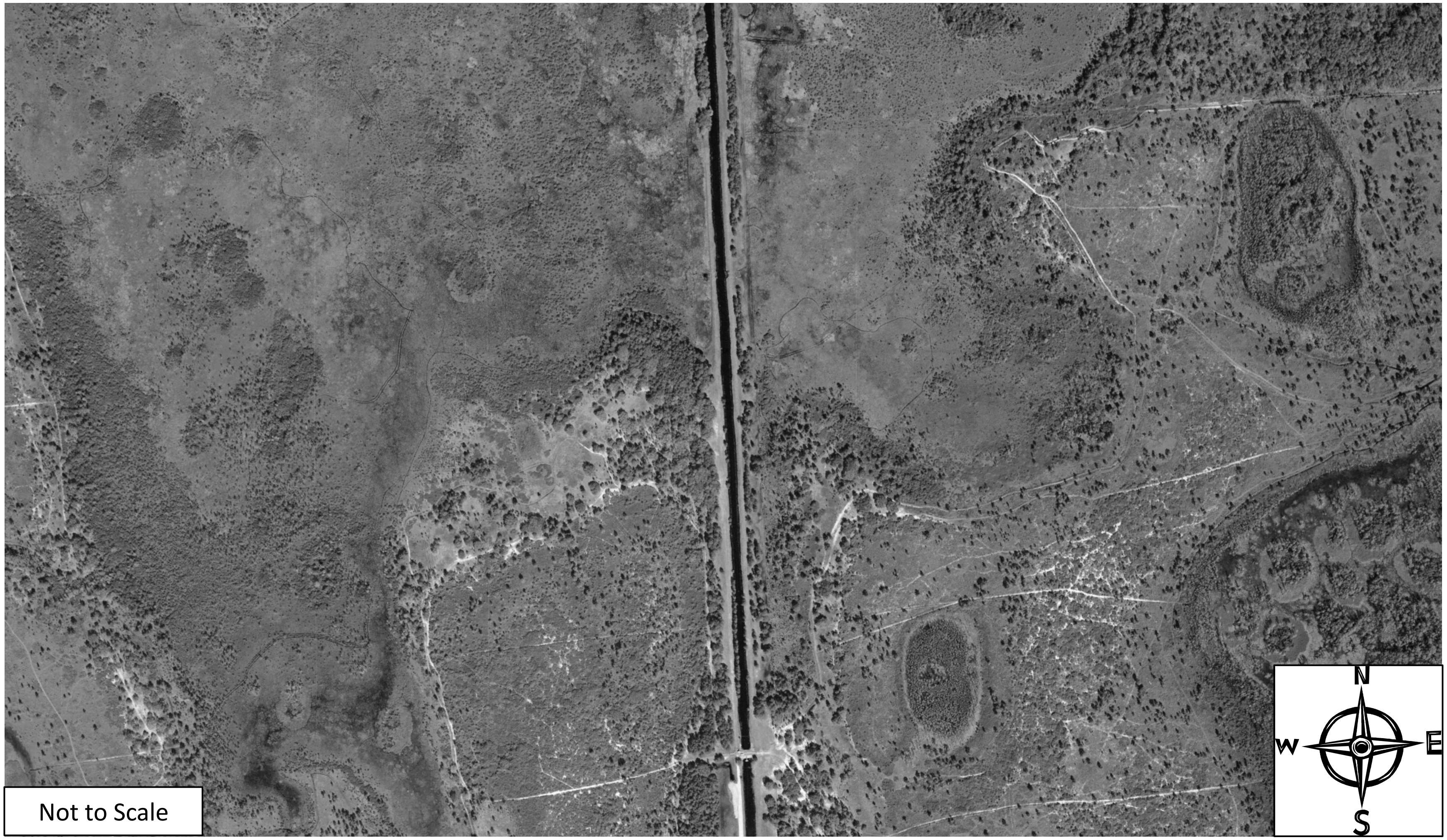

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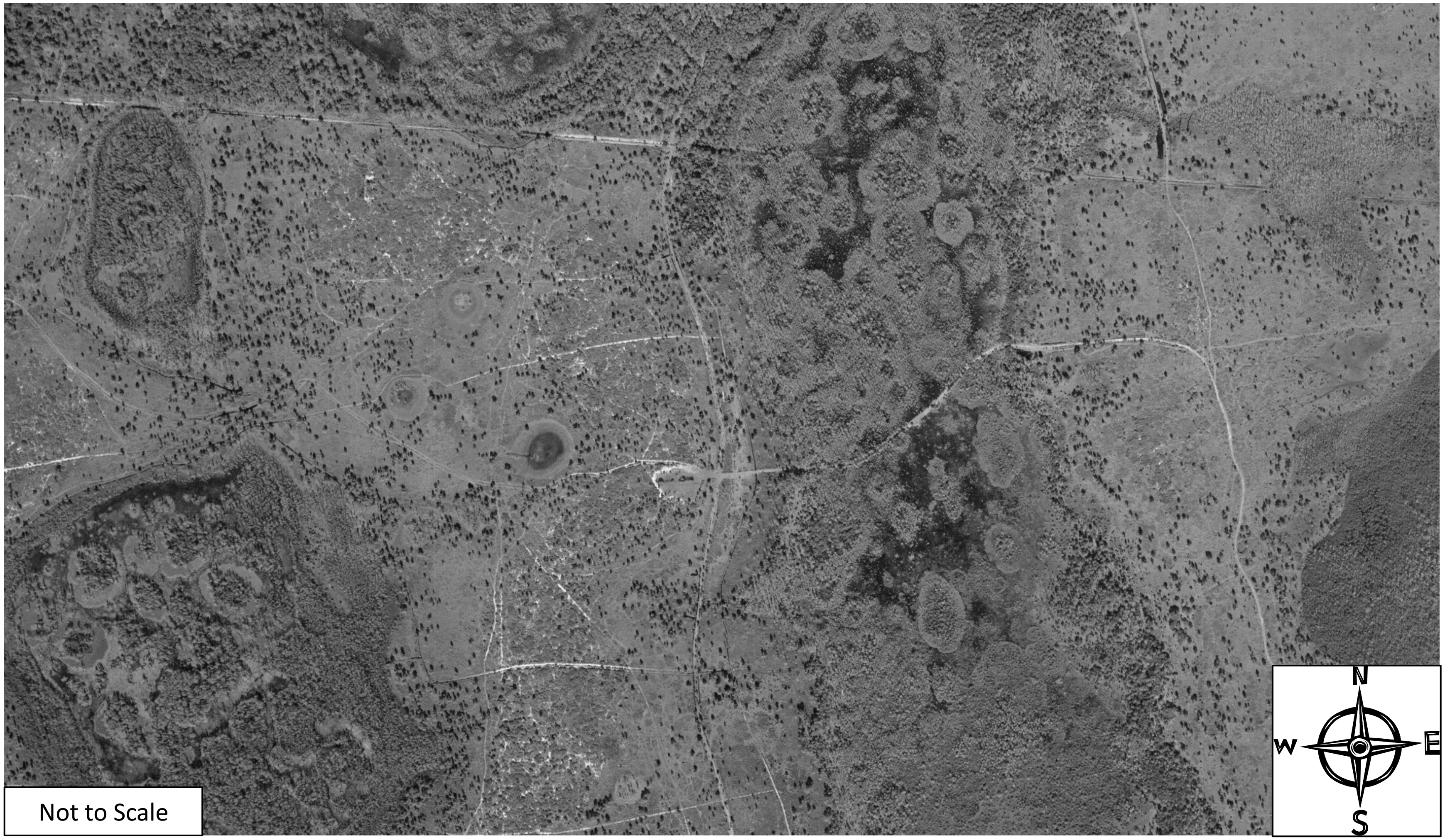

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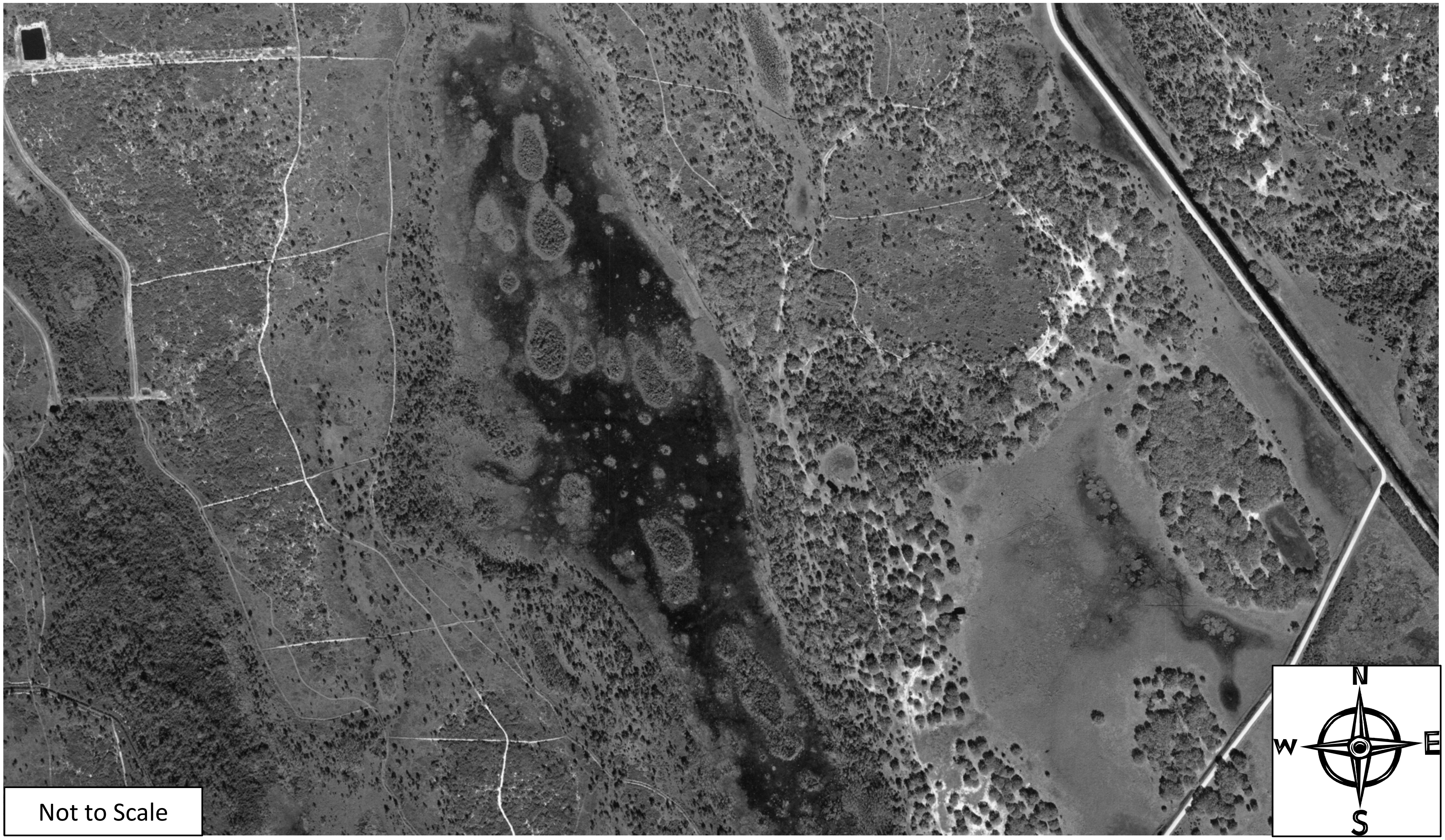

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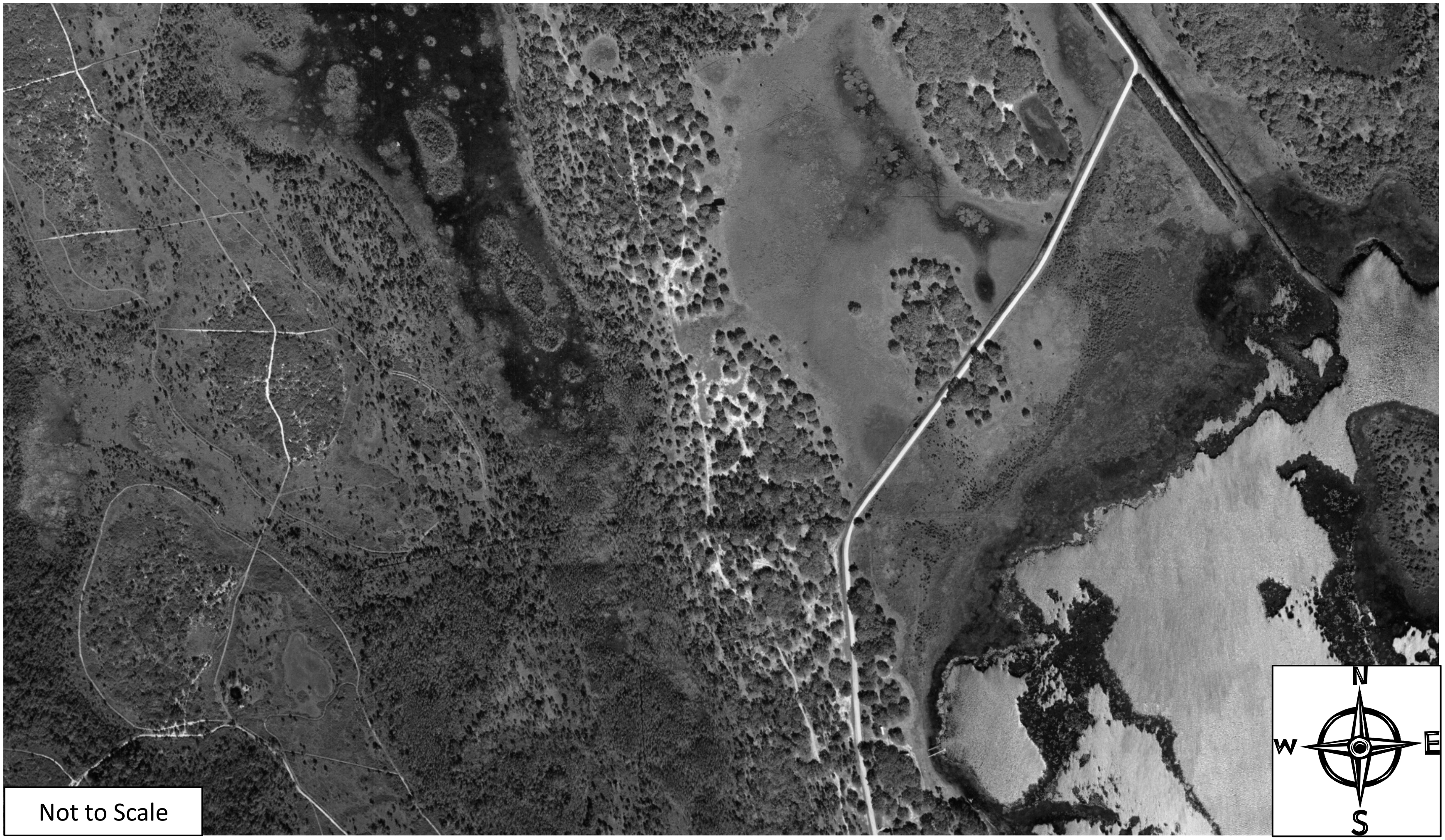

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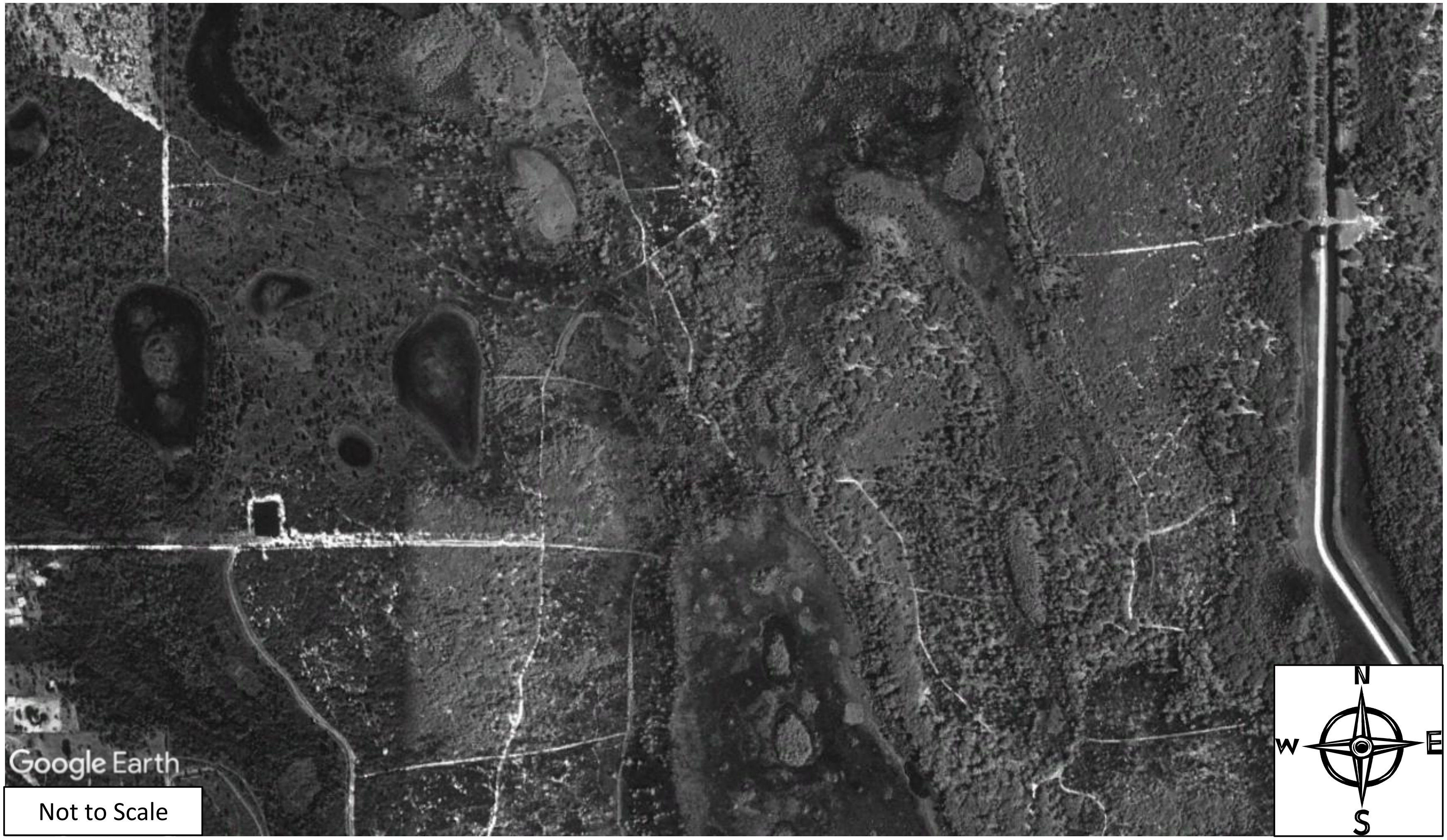

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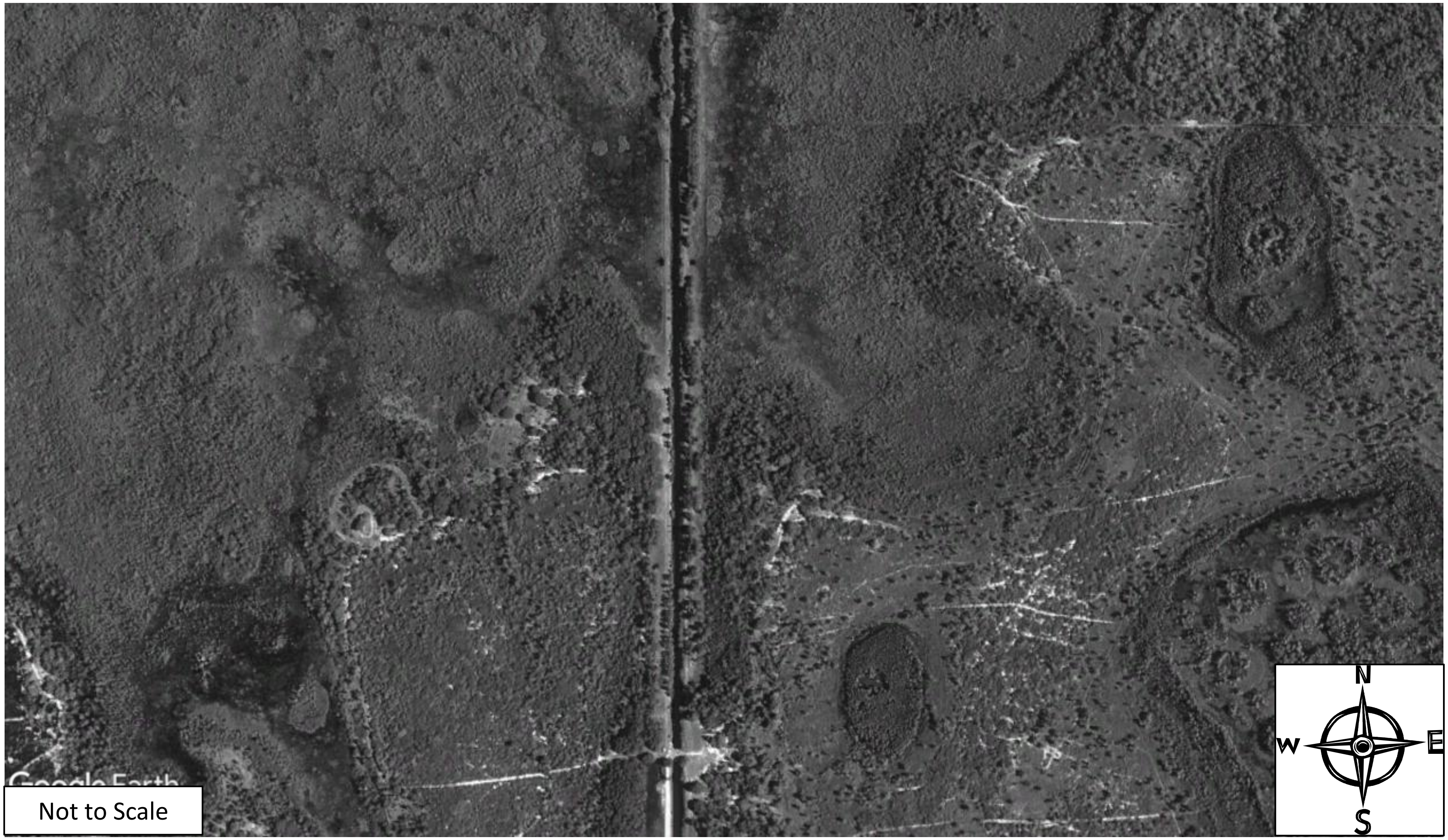

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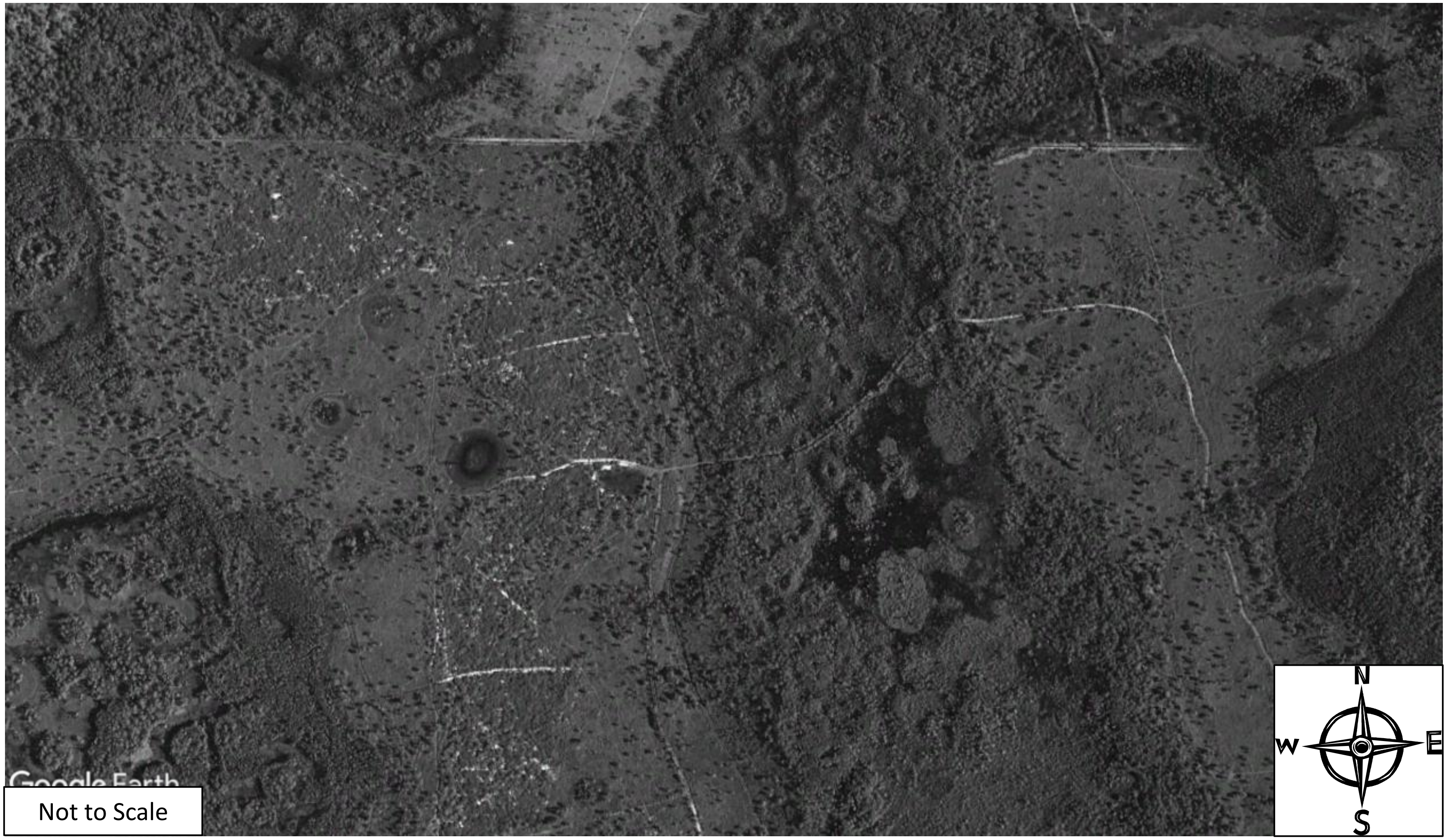

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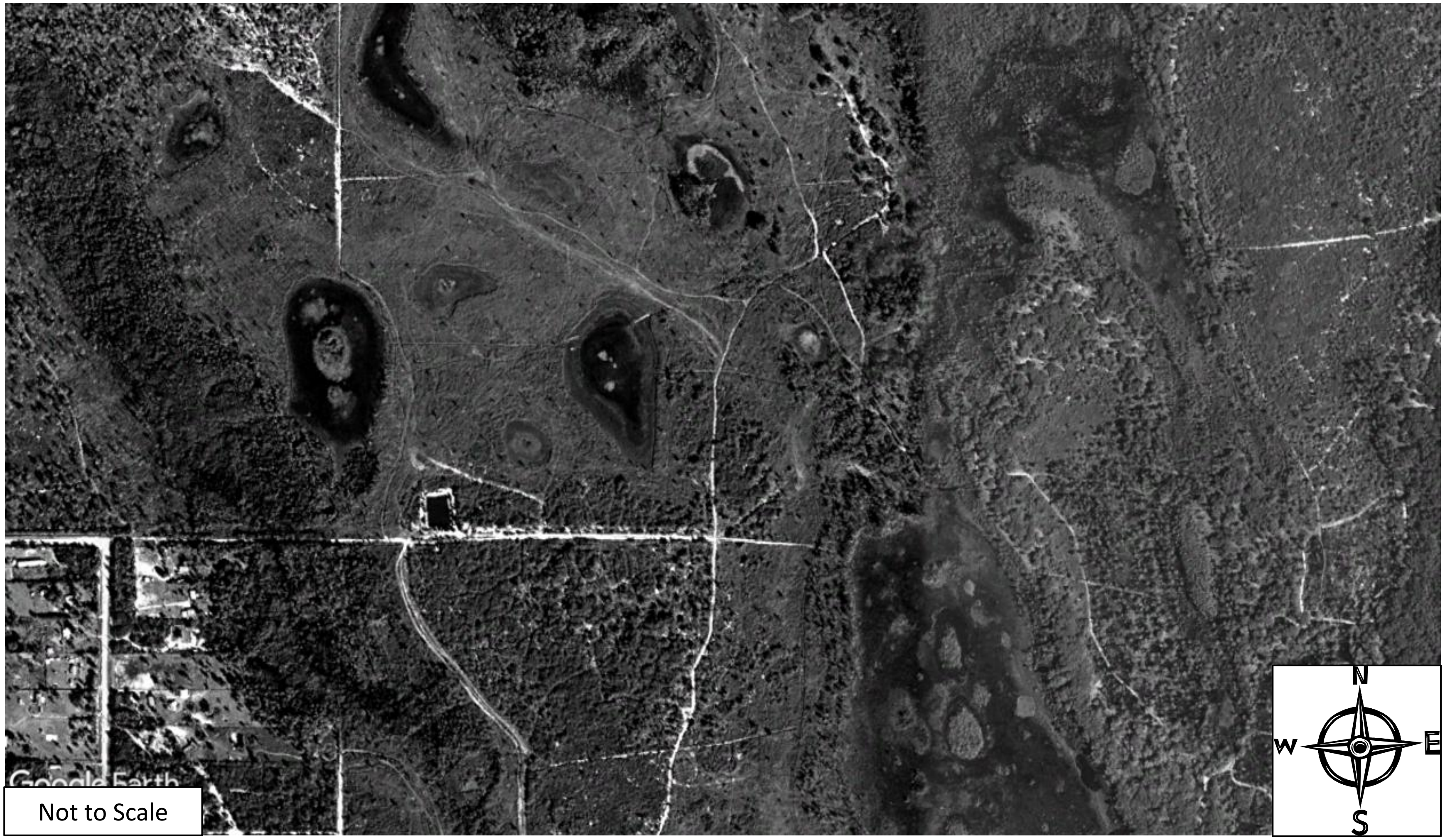

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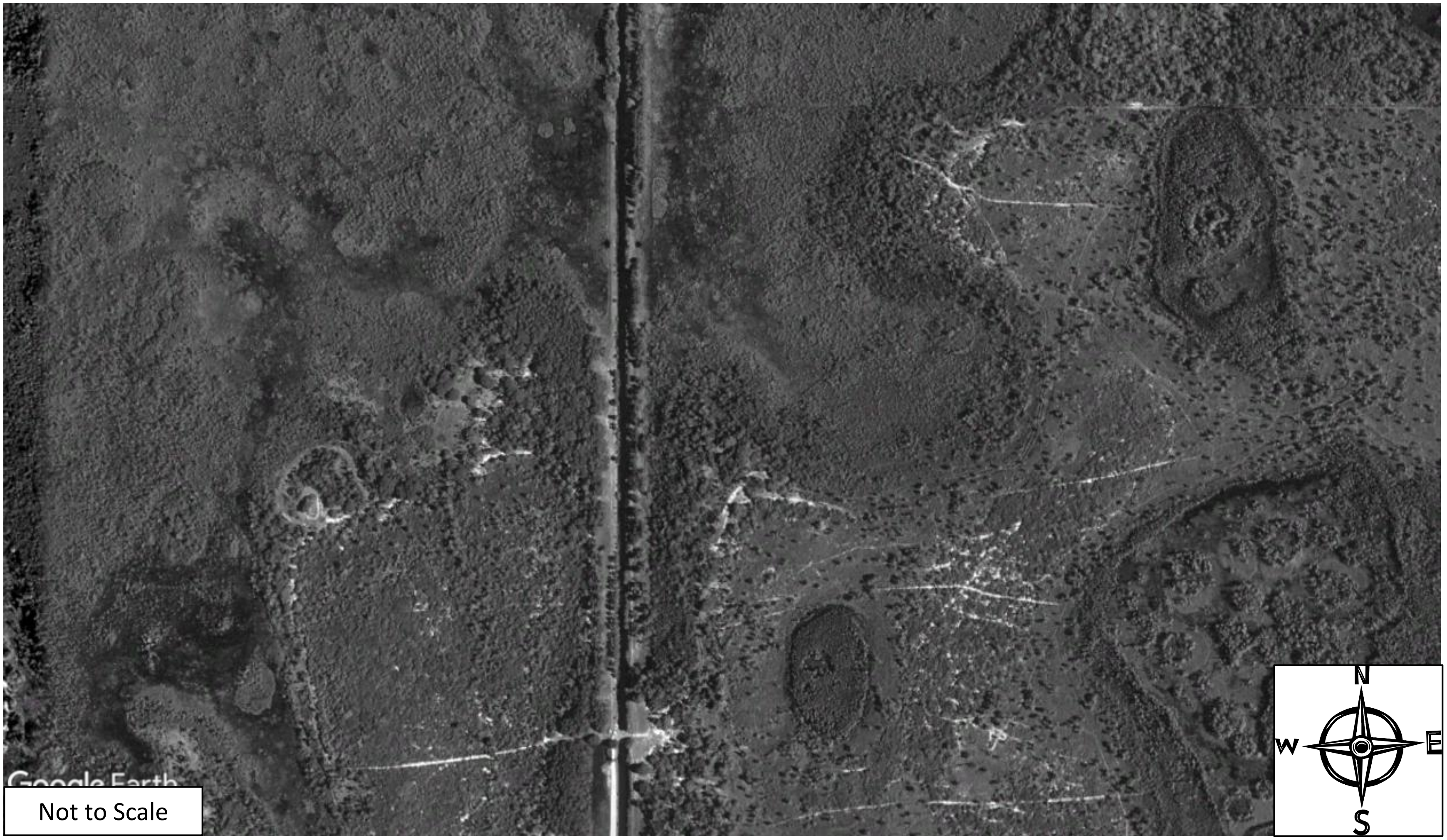

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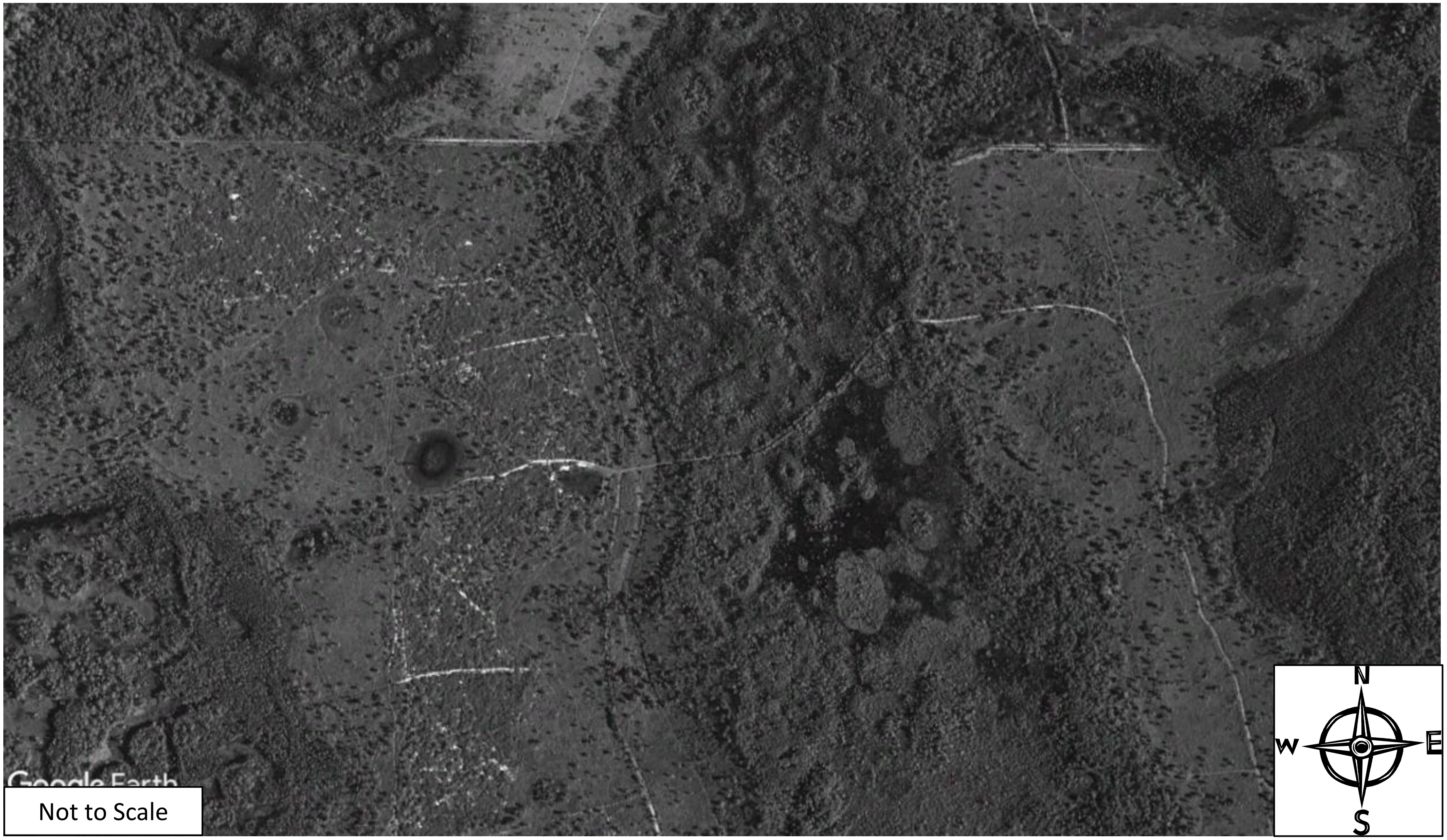

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2004 (Image 6 of 8)

2004 (Image 7 of 8)

2004 (Image 8 of 8)

2008 (Image 1 of 8)

2008 (Image 2 of 8)

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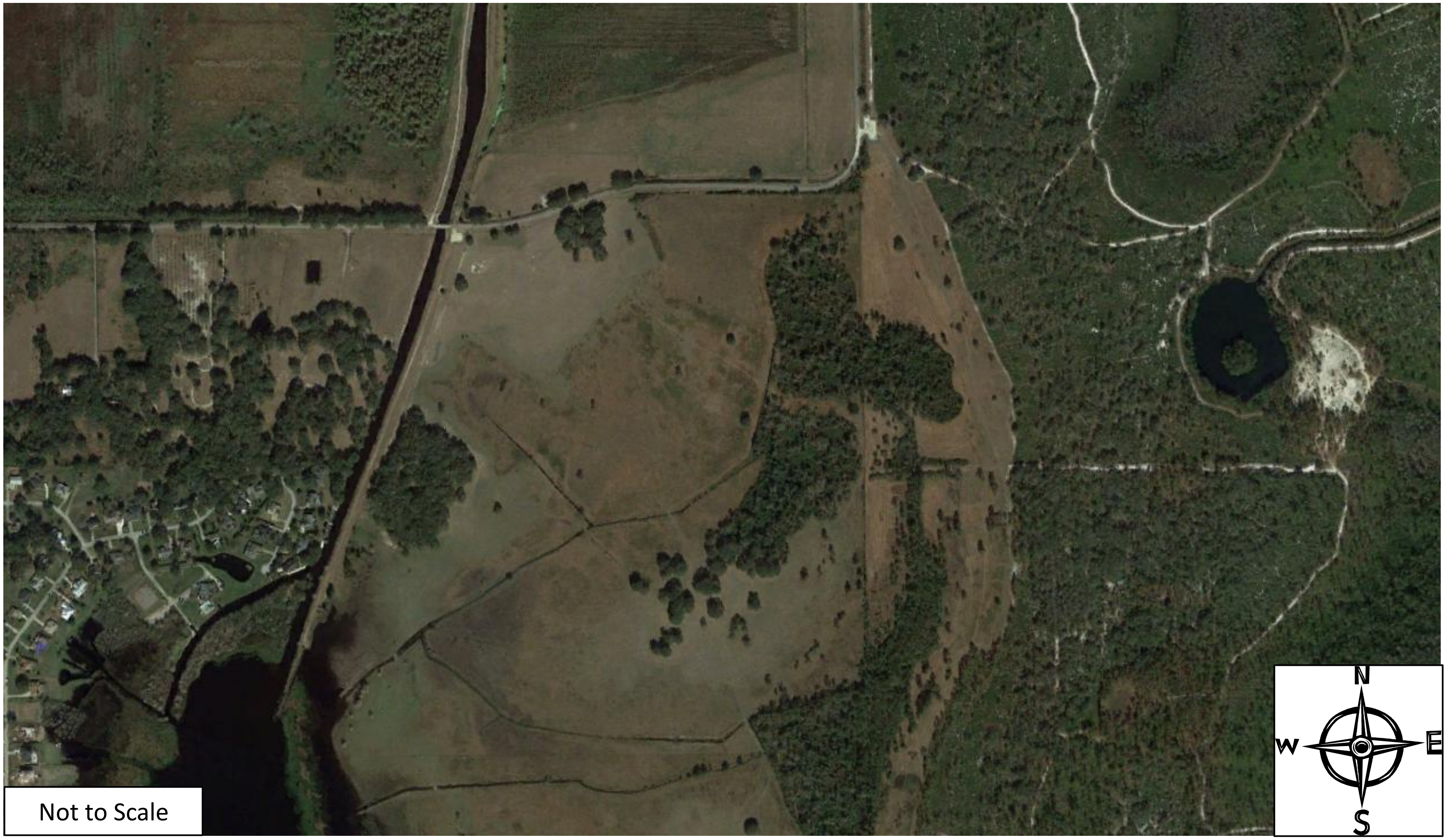
2018 (Image 1 of 8)



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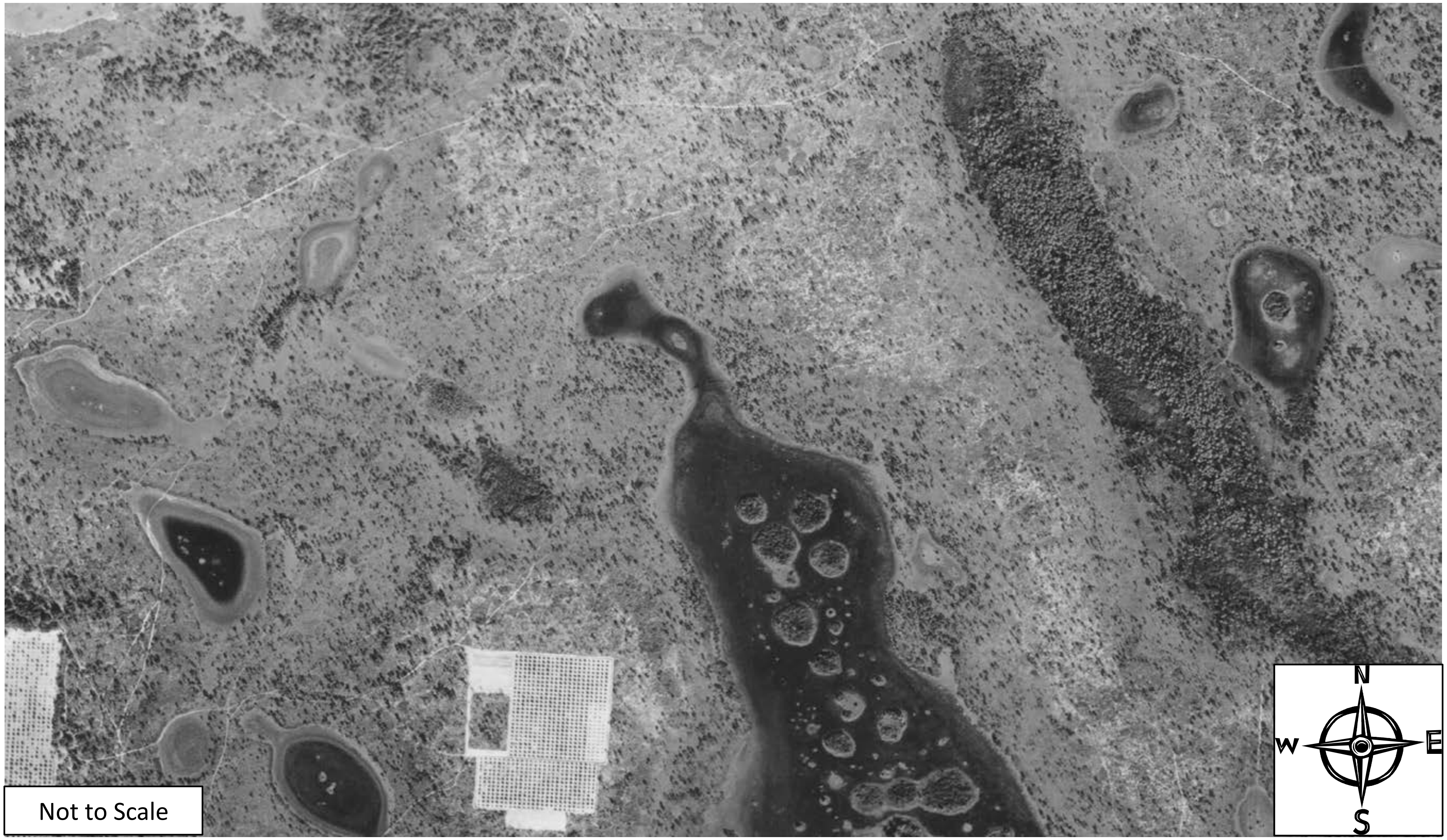
ALTERNATIVE 207D-1

AVOID SPLIT OAK / WETLAND

1944 (Image 1 of 8)

1944 (Image 2 of 8)



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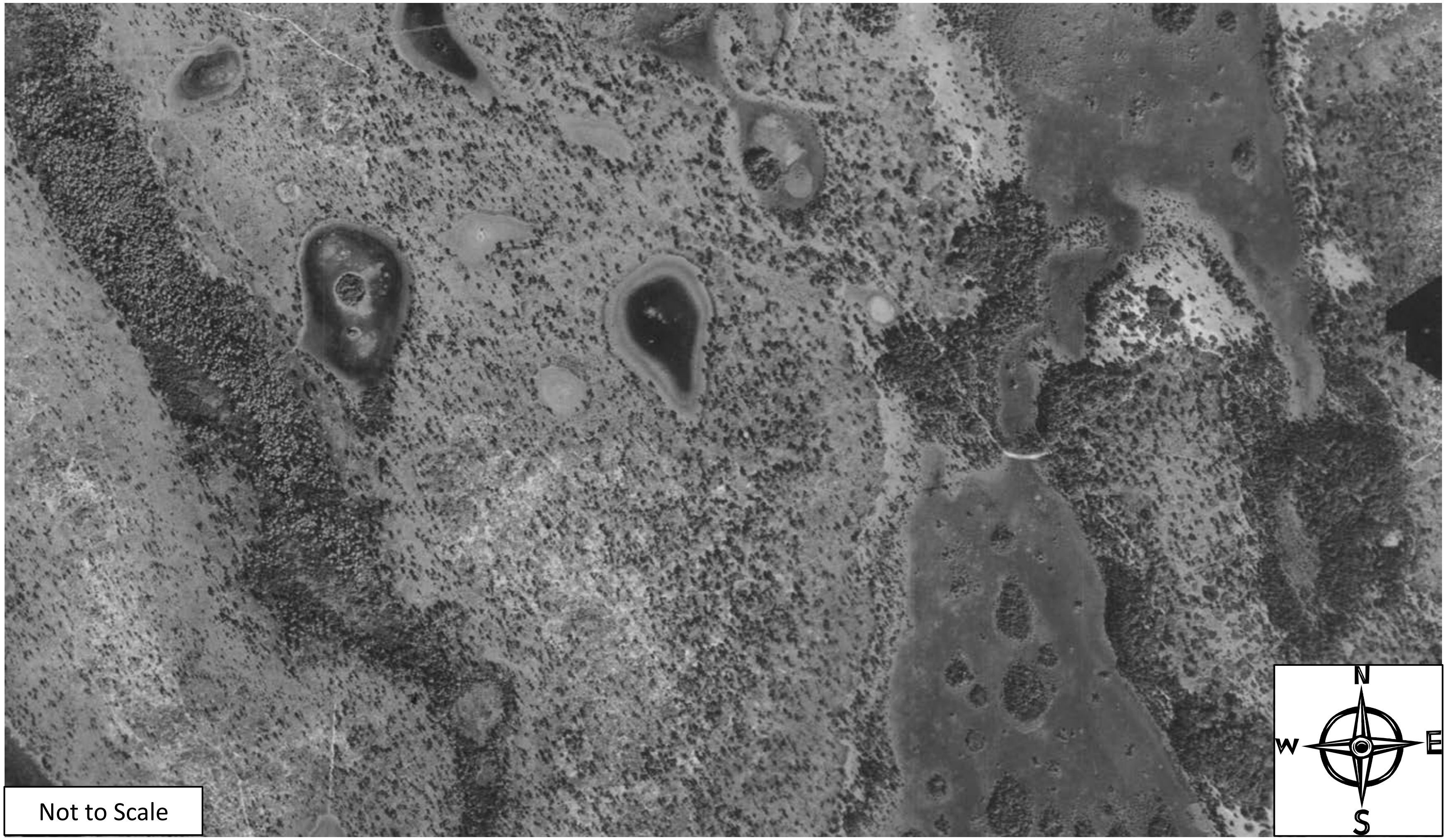

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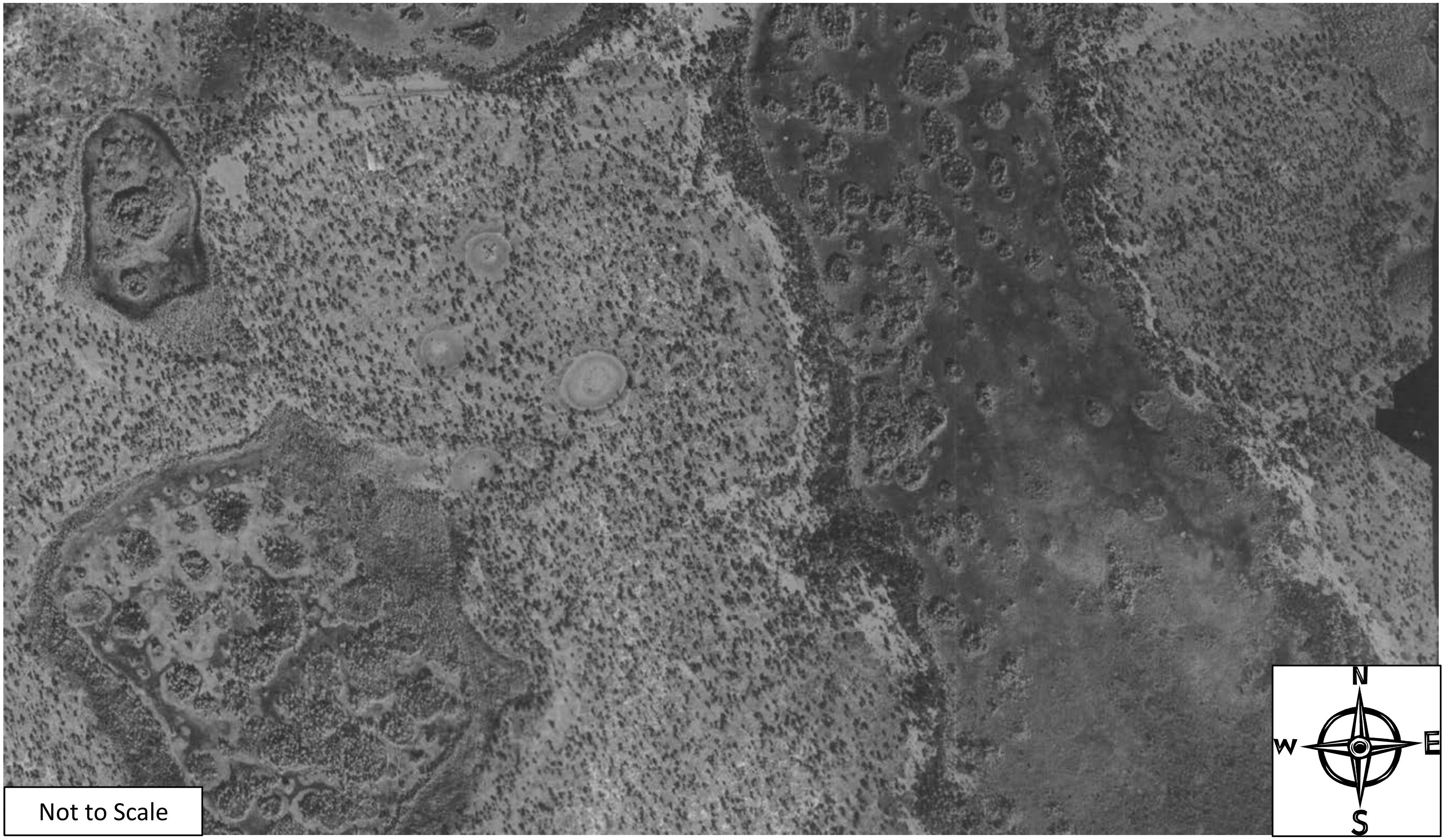

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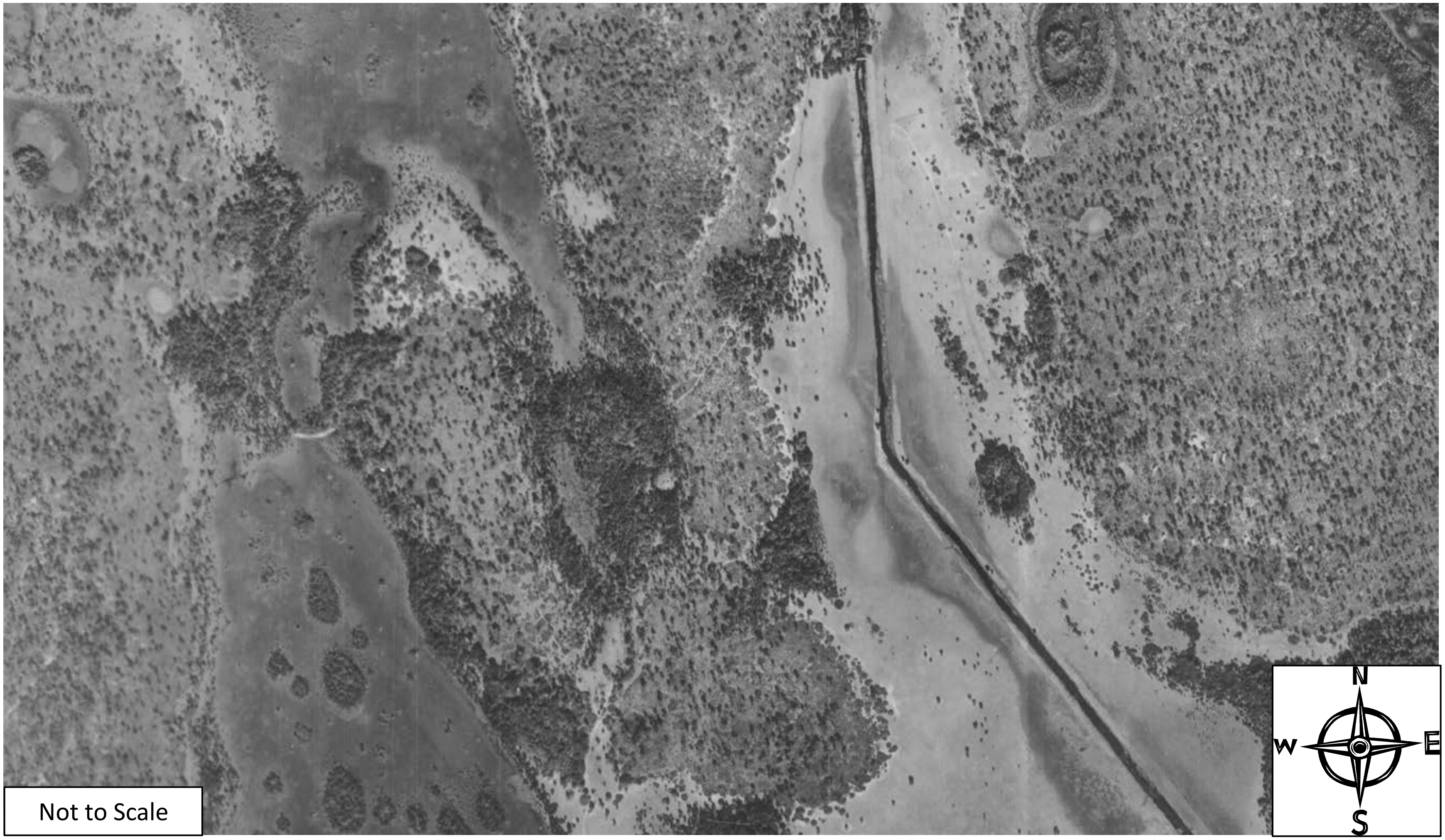

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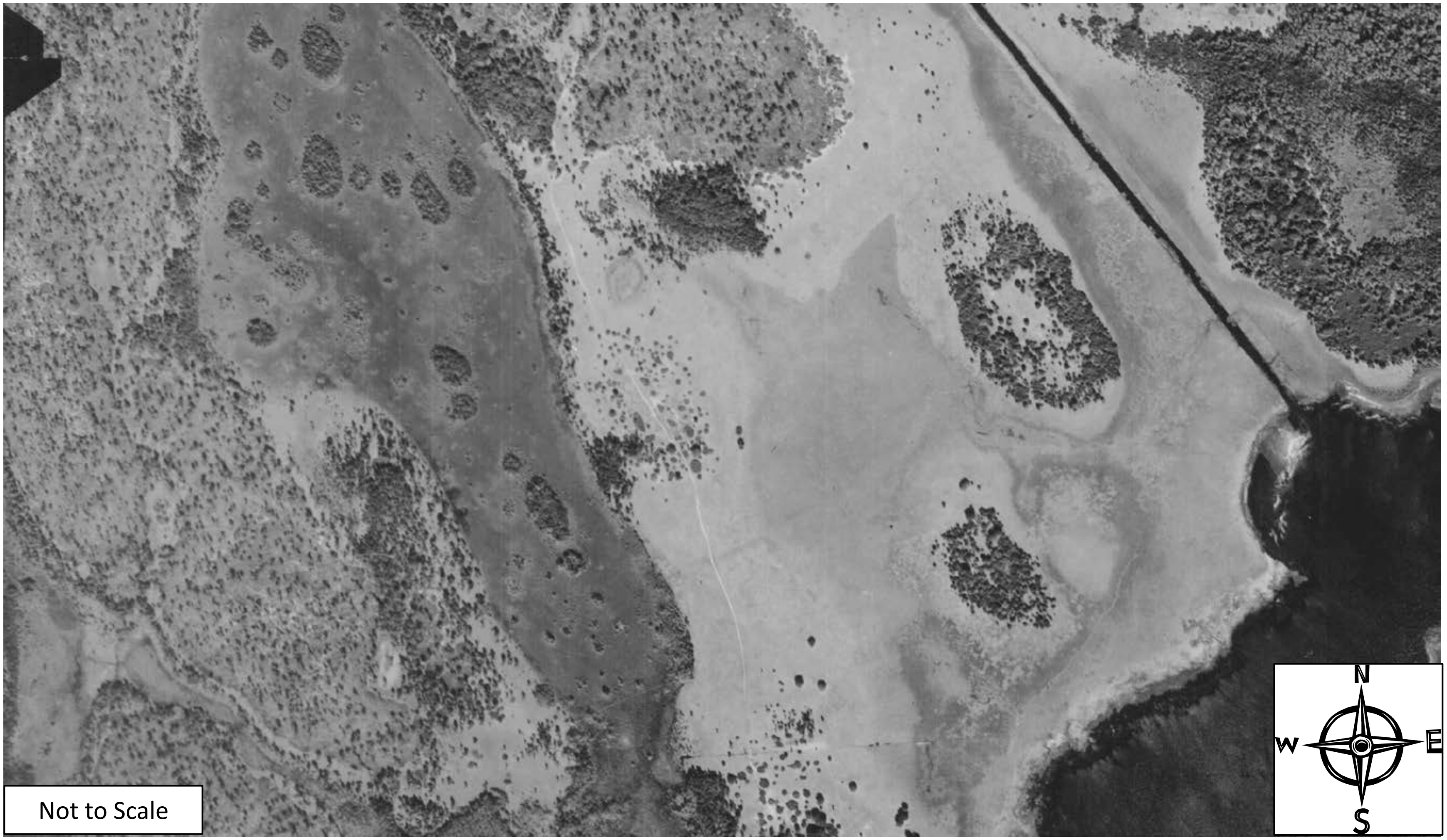

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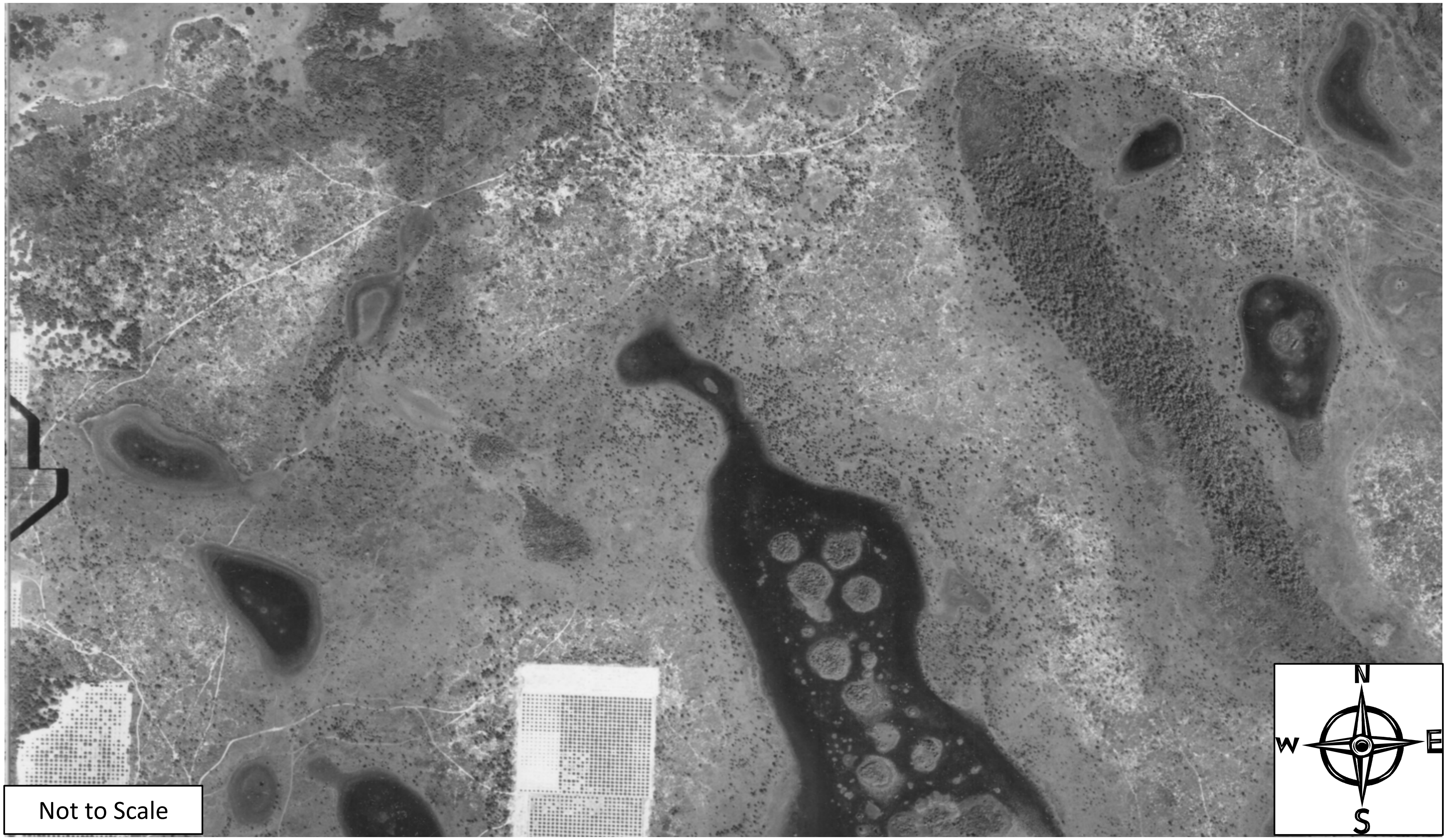

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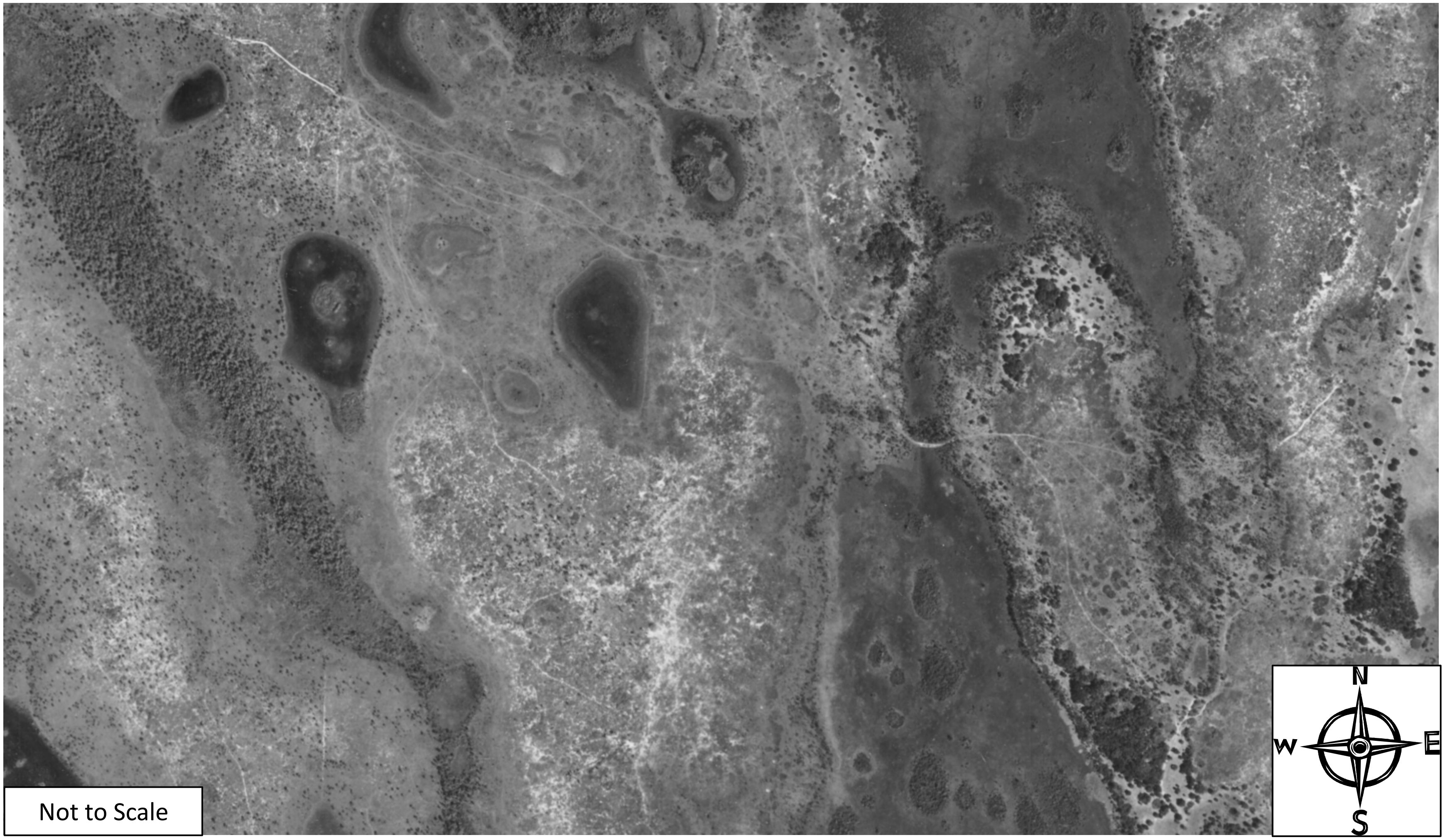

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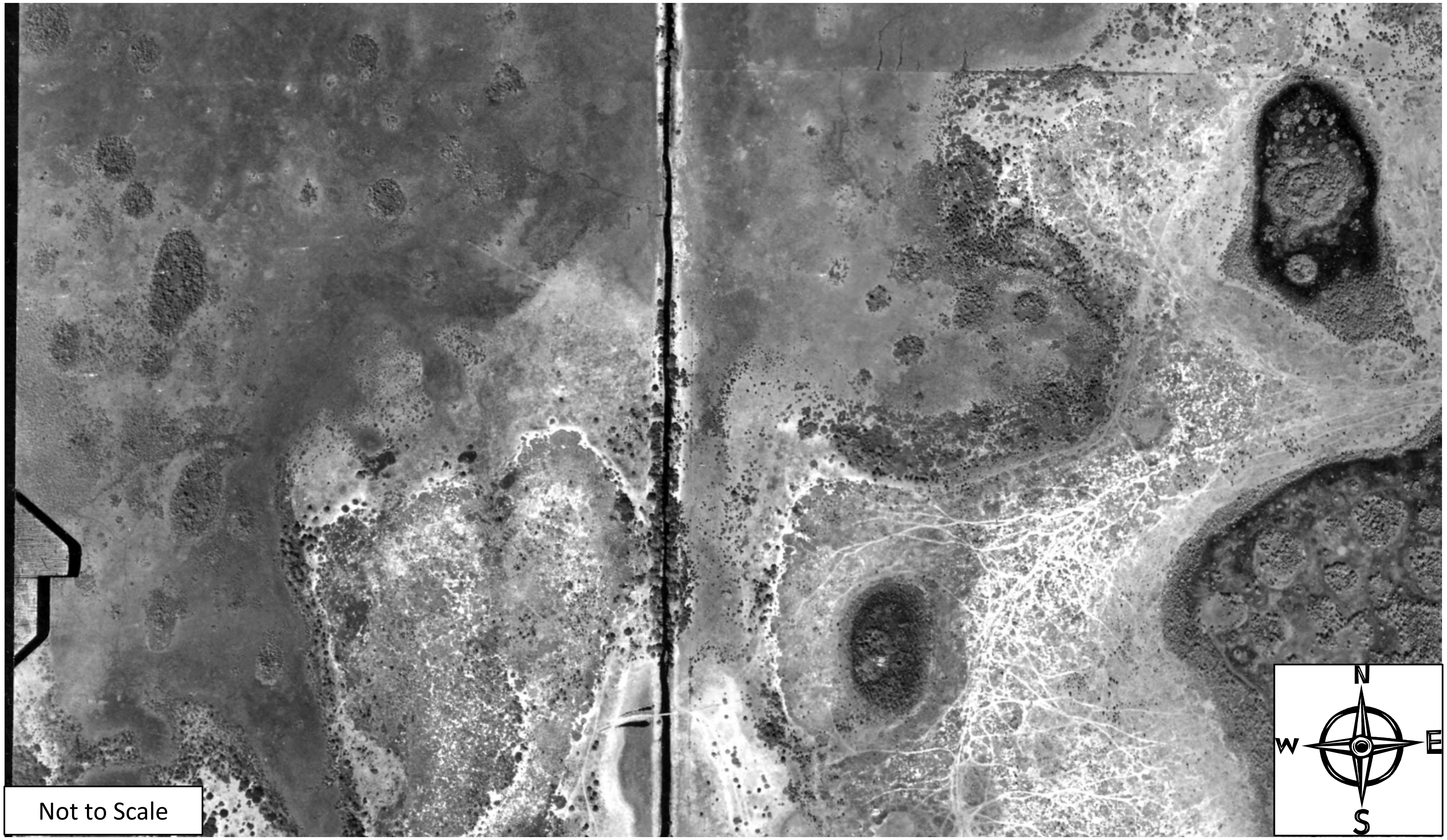

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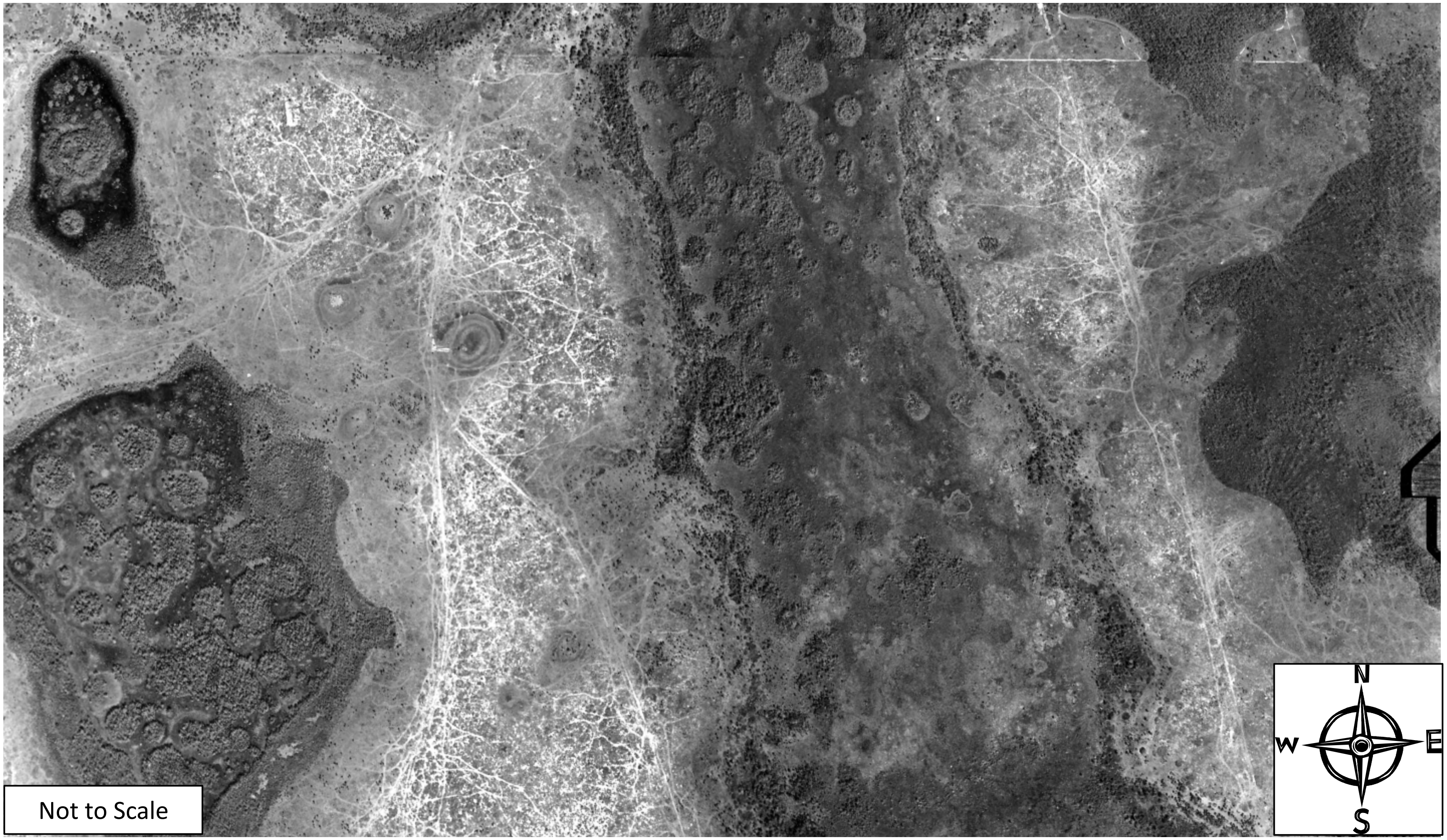

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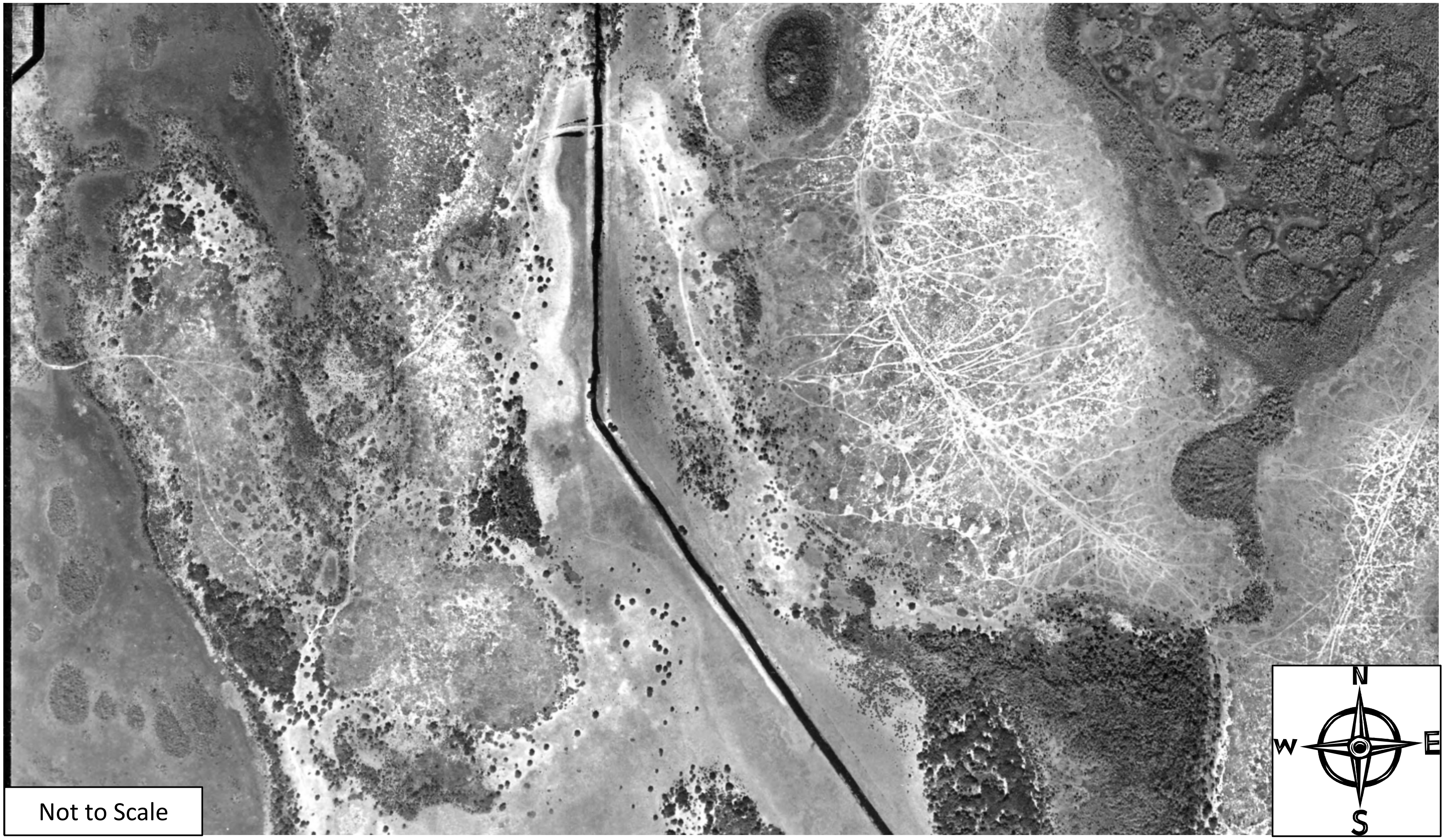

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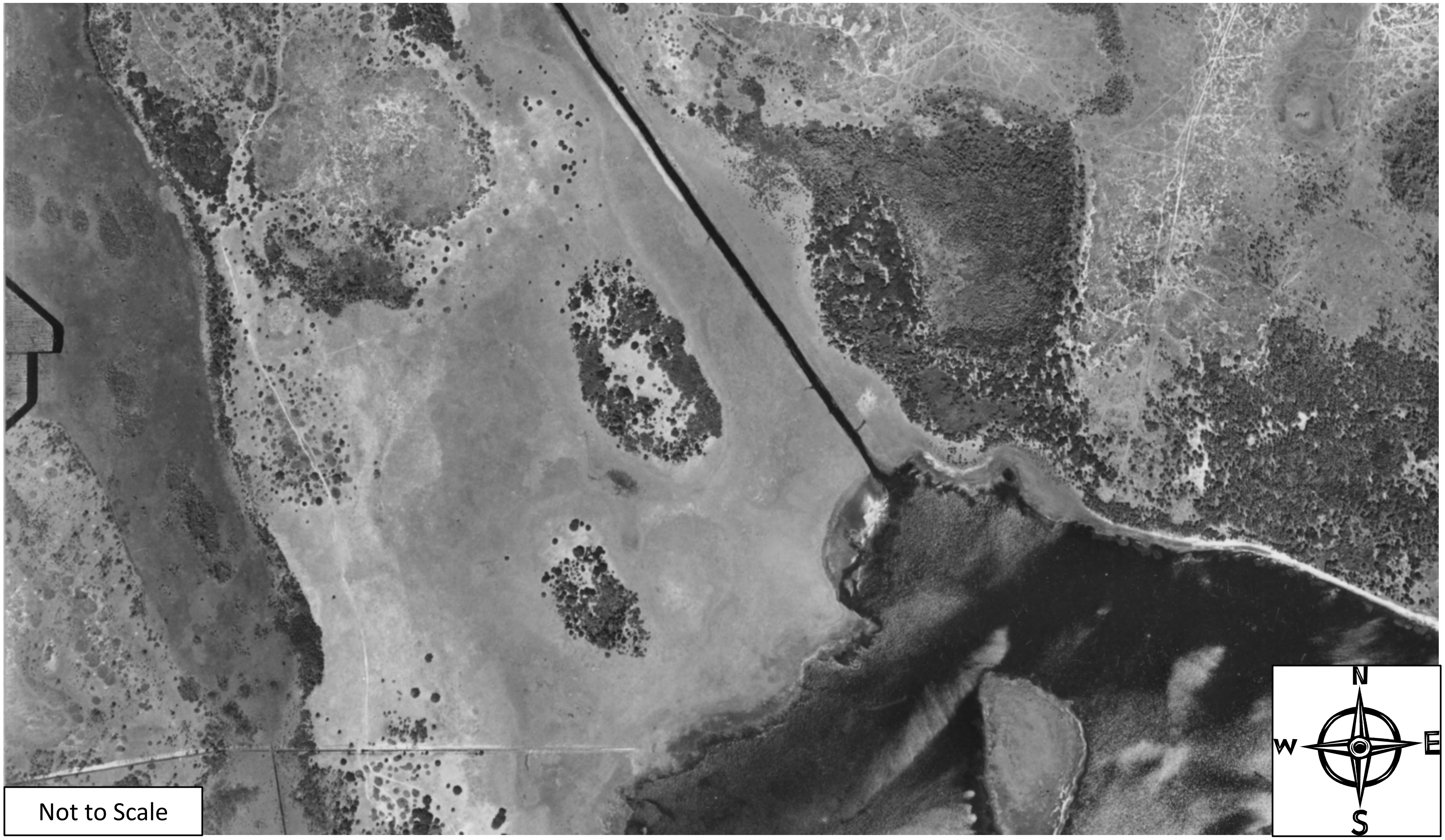

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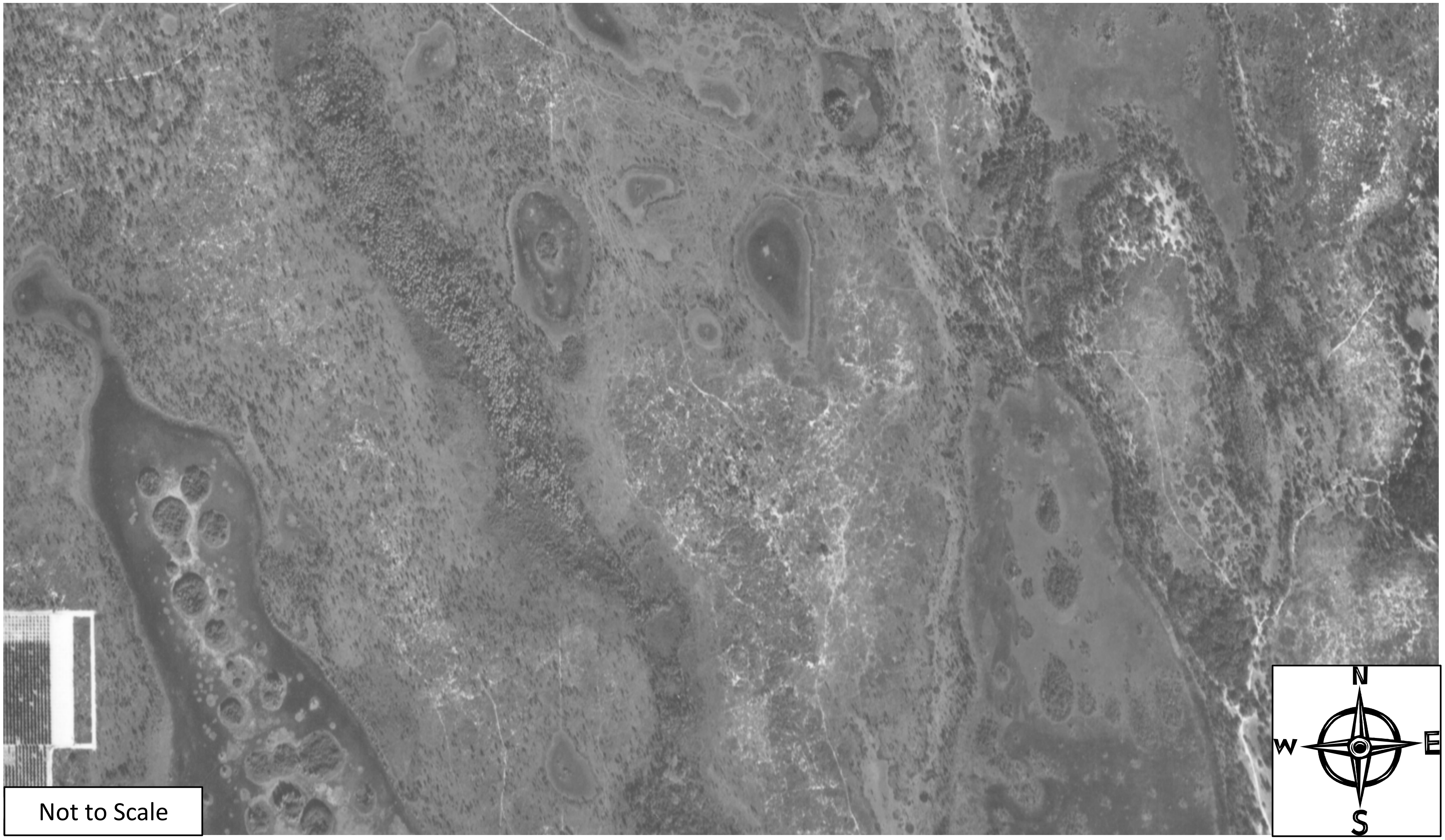

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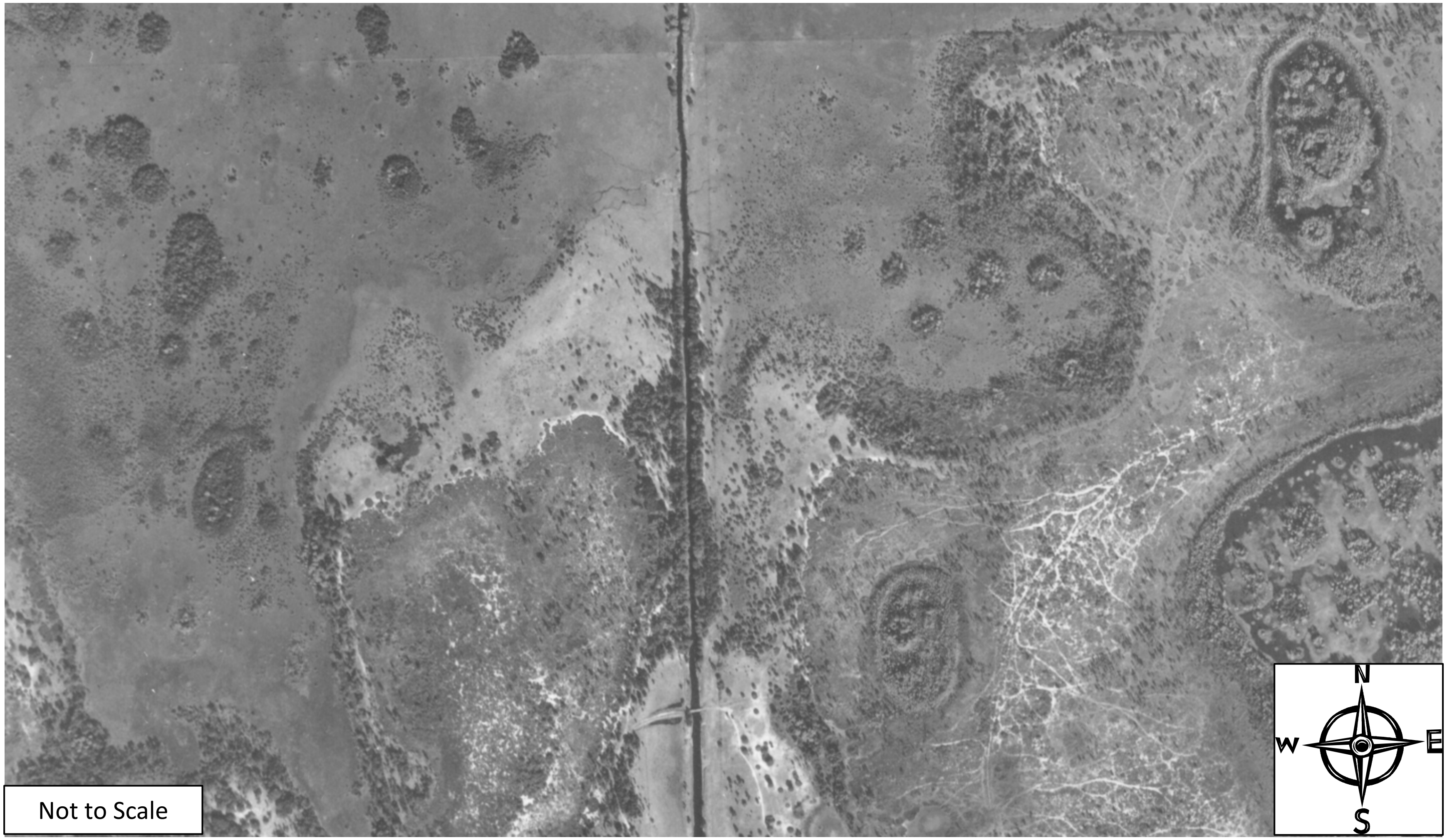

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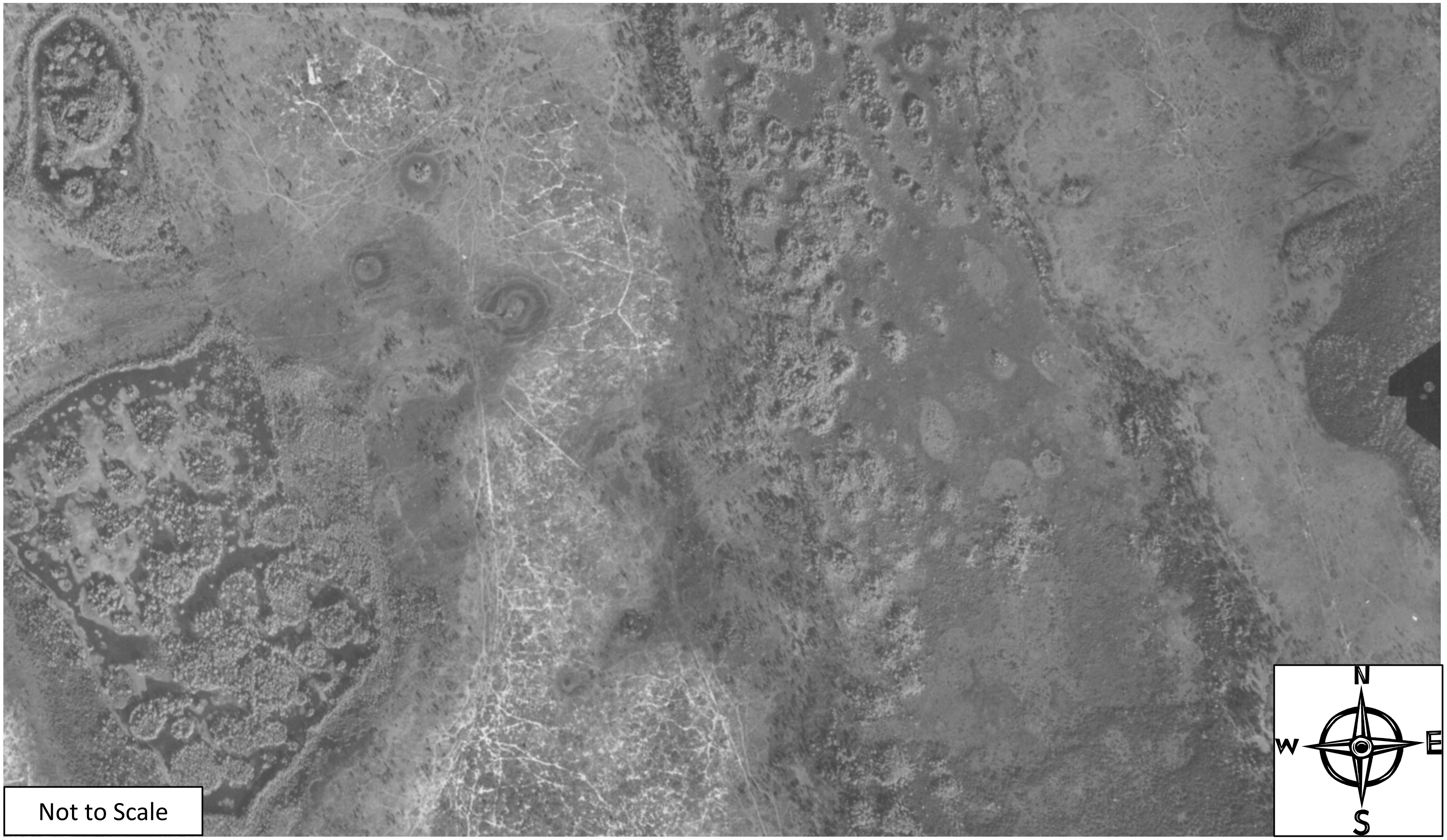

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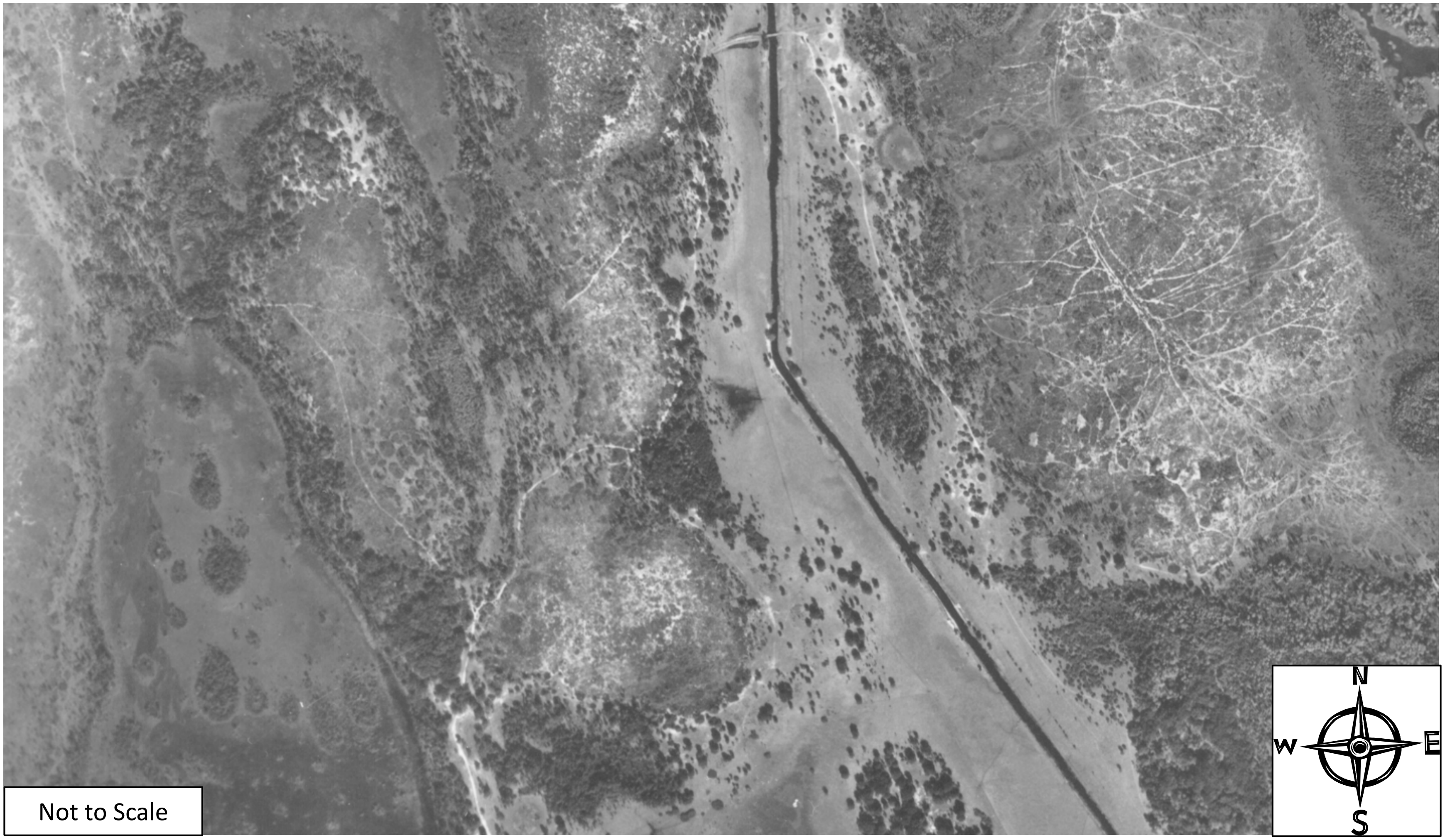

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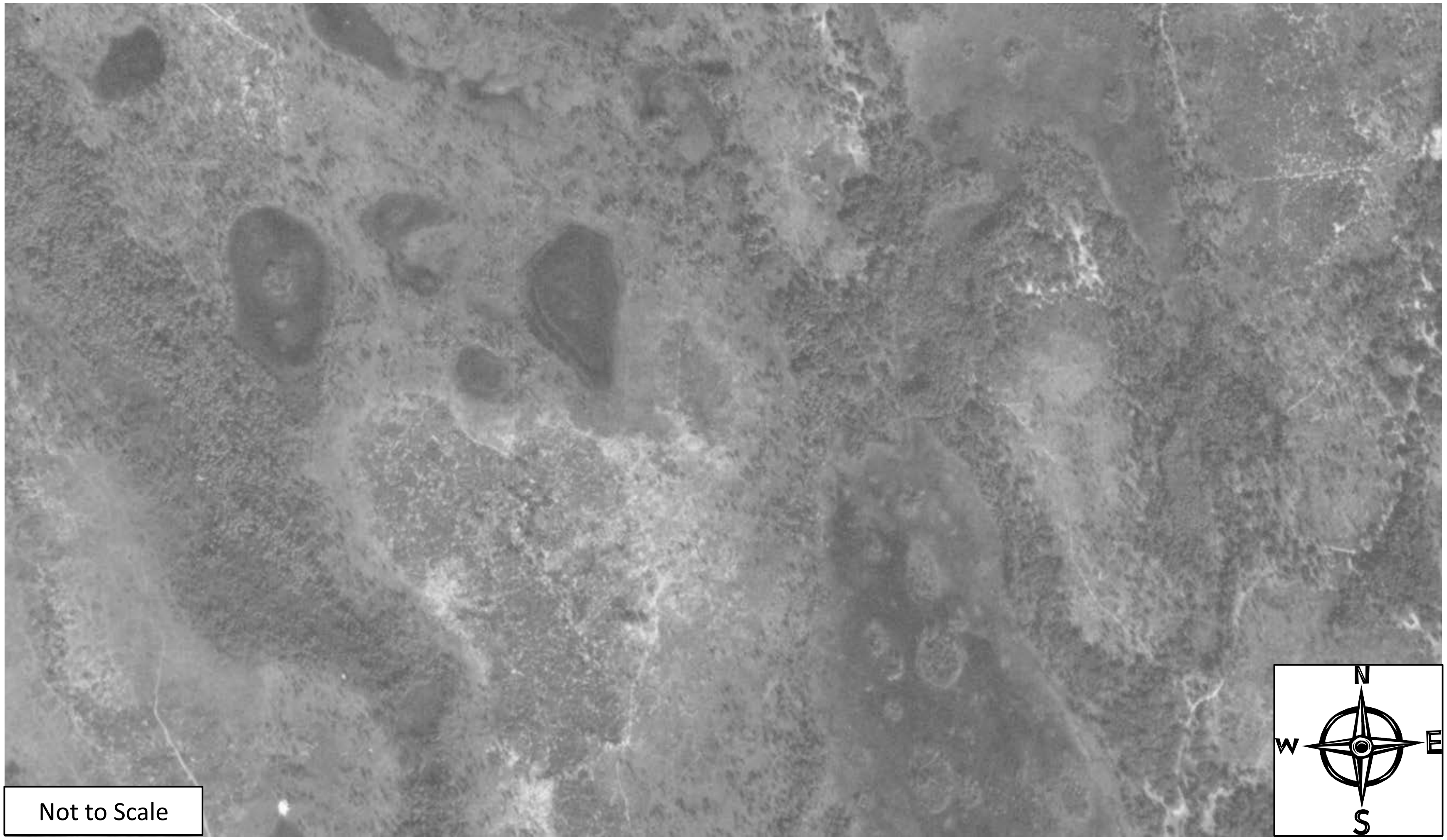

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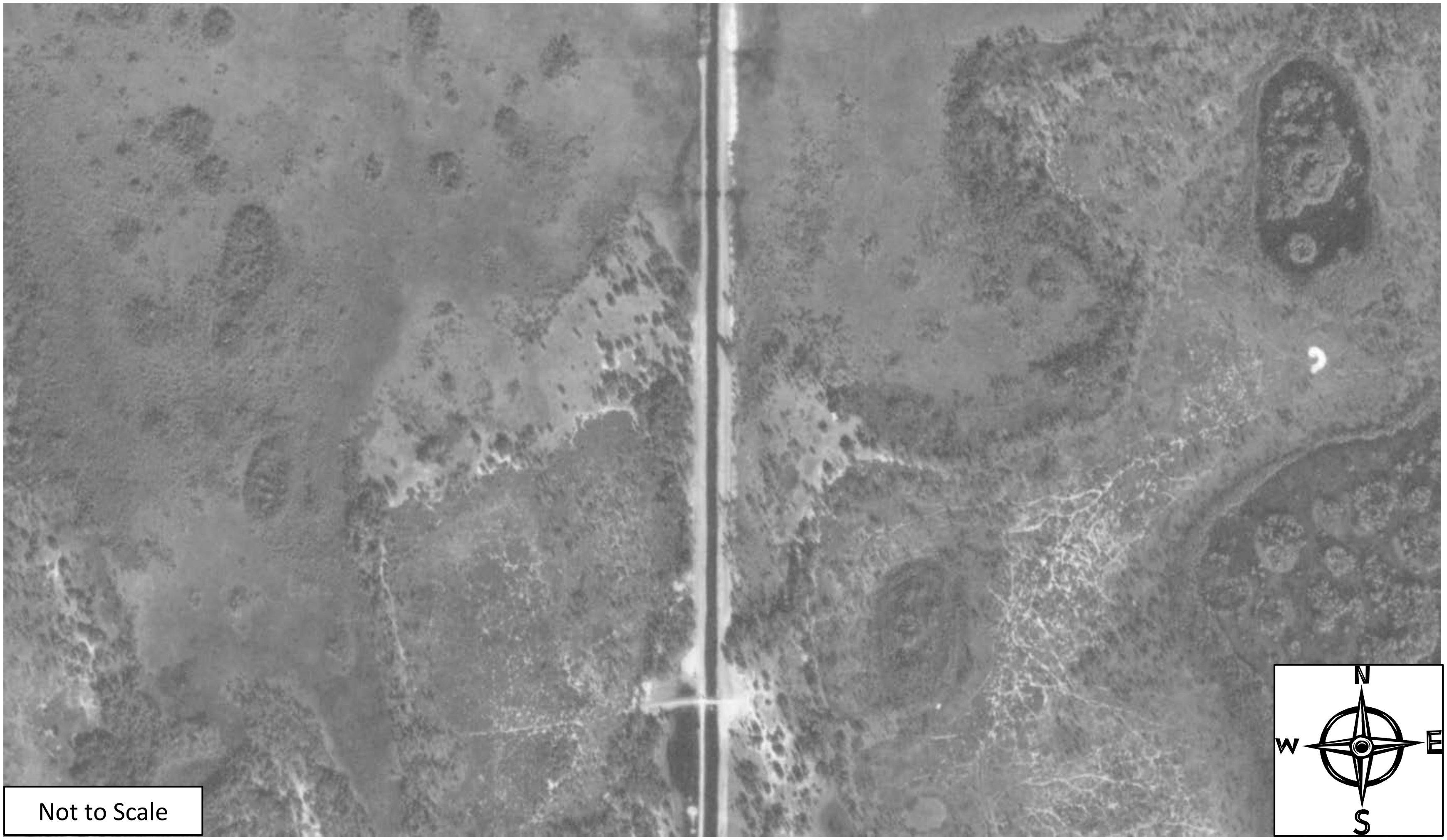

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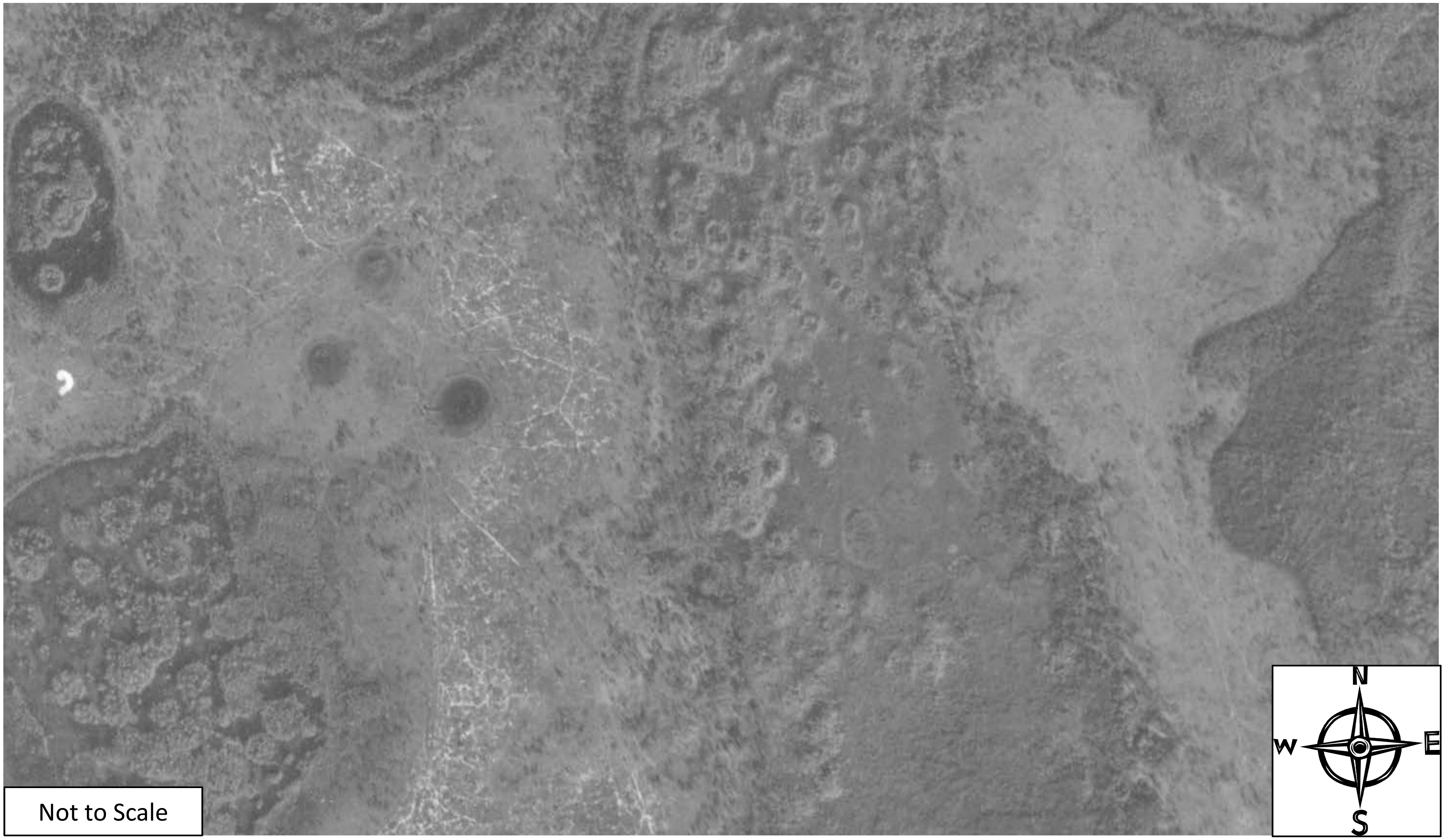

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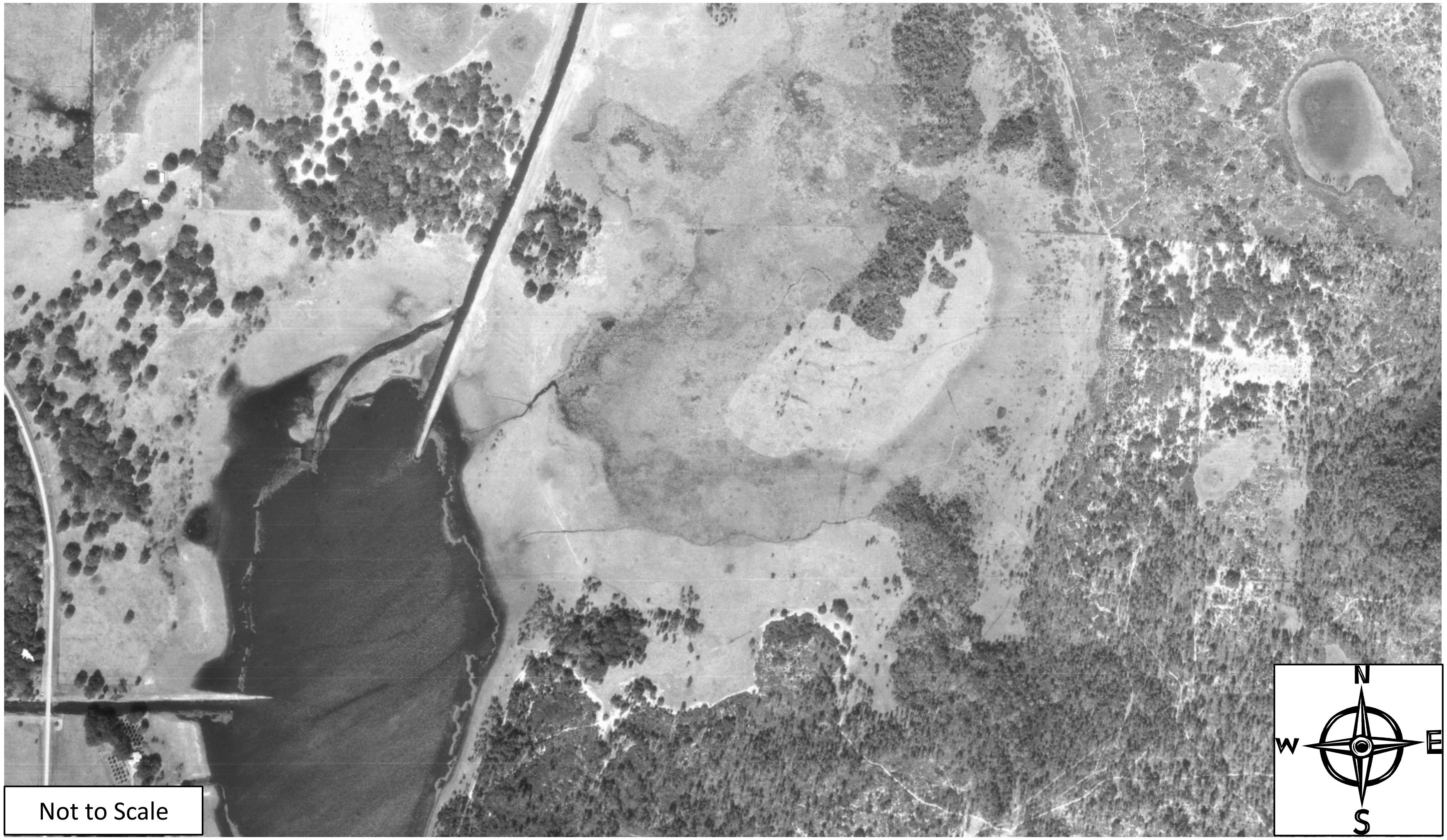

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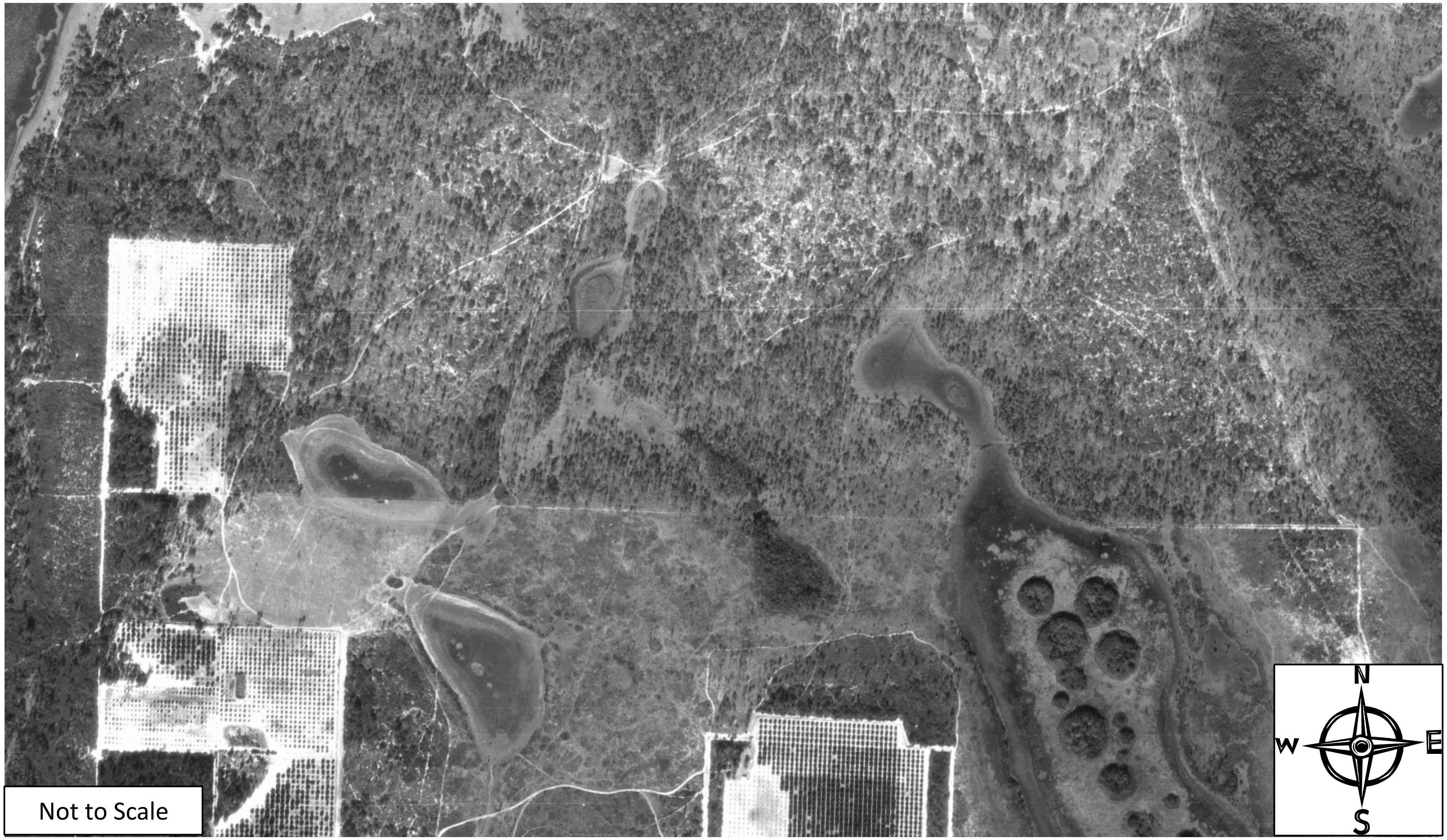

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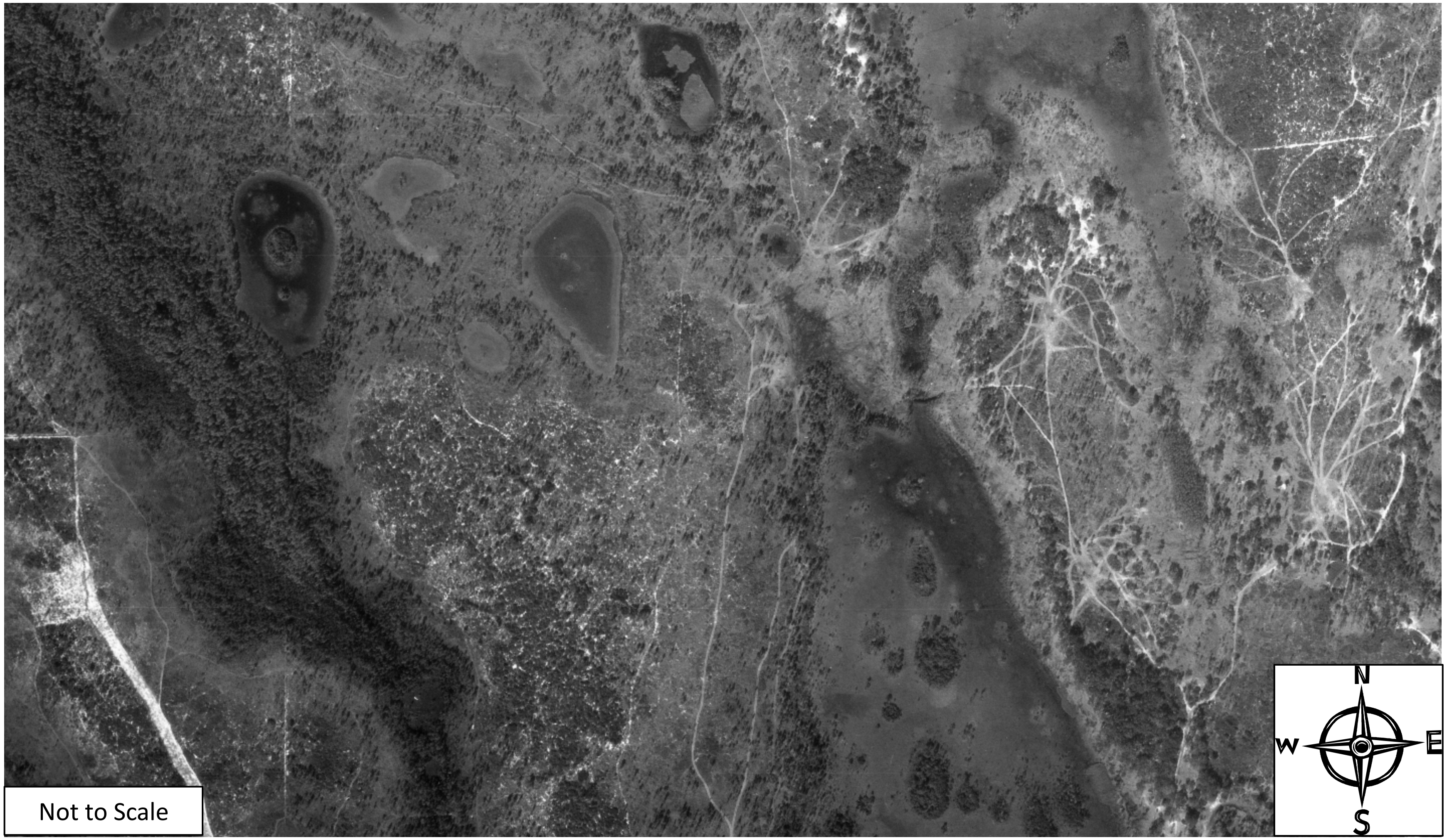

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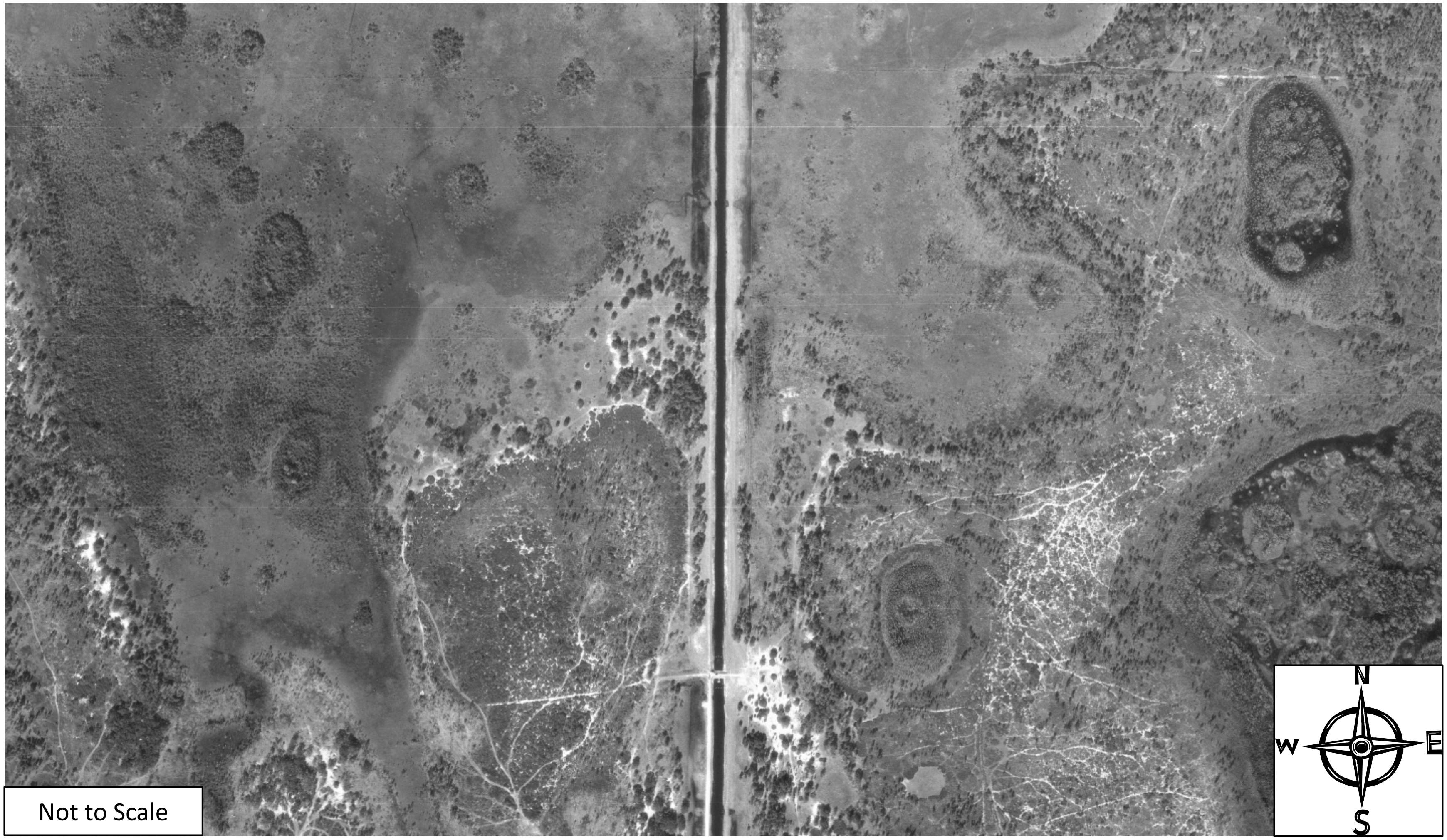

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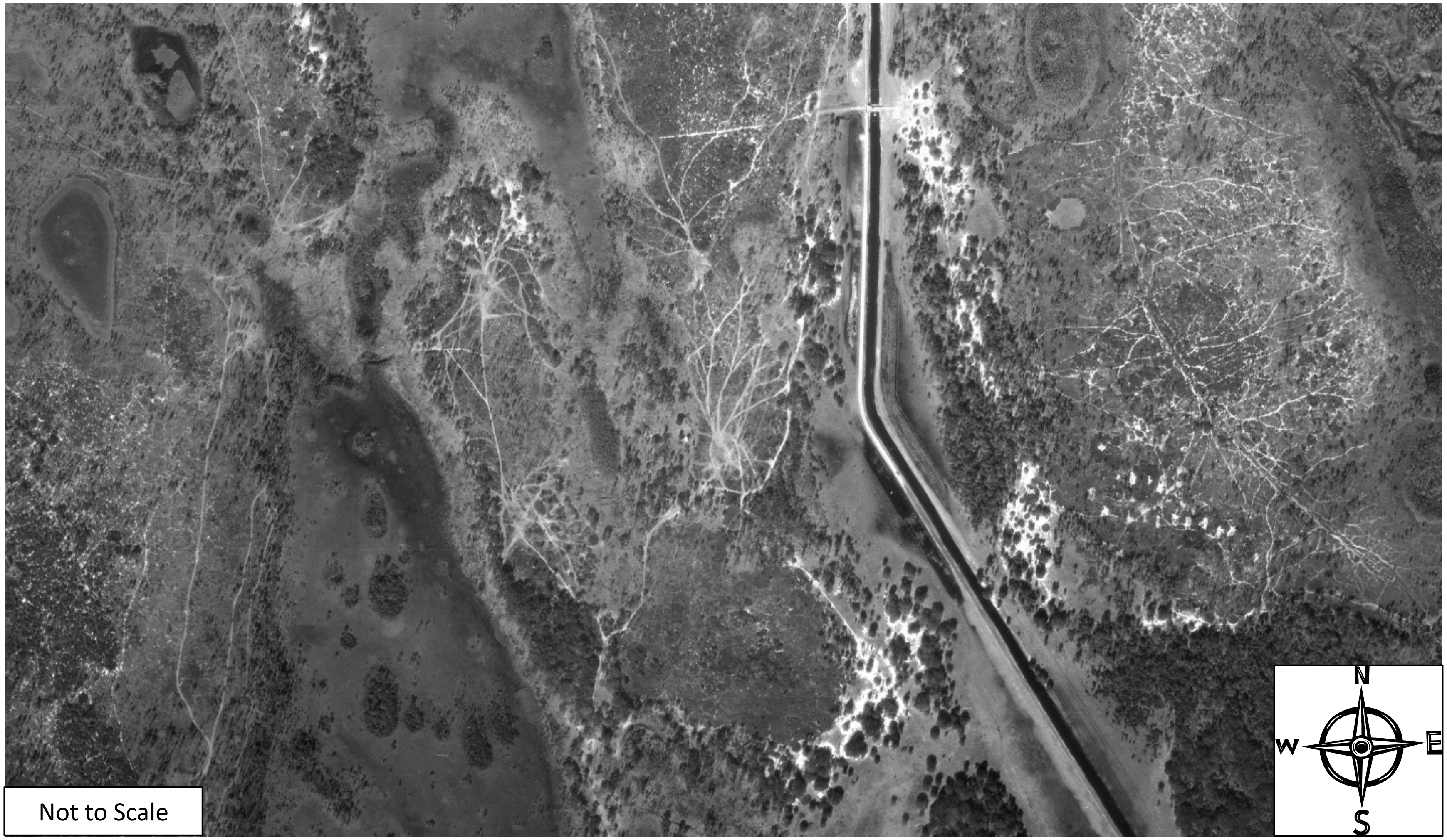

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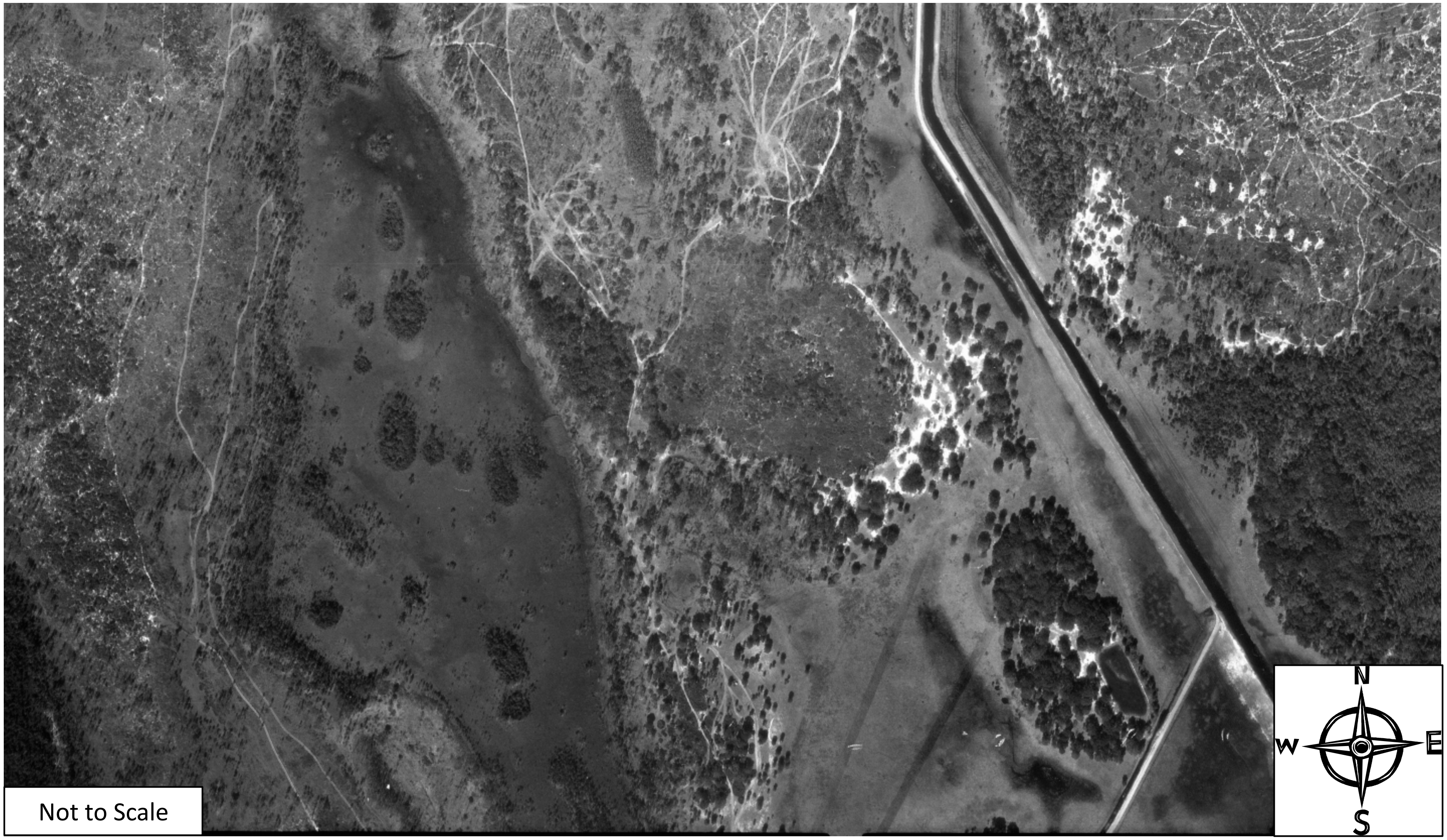

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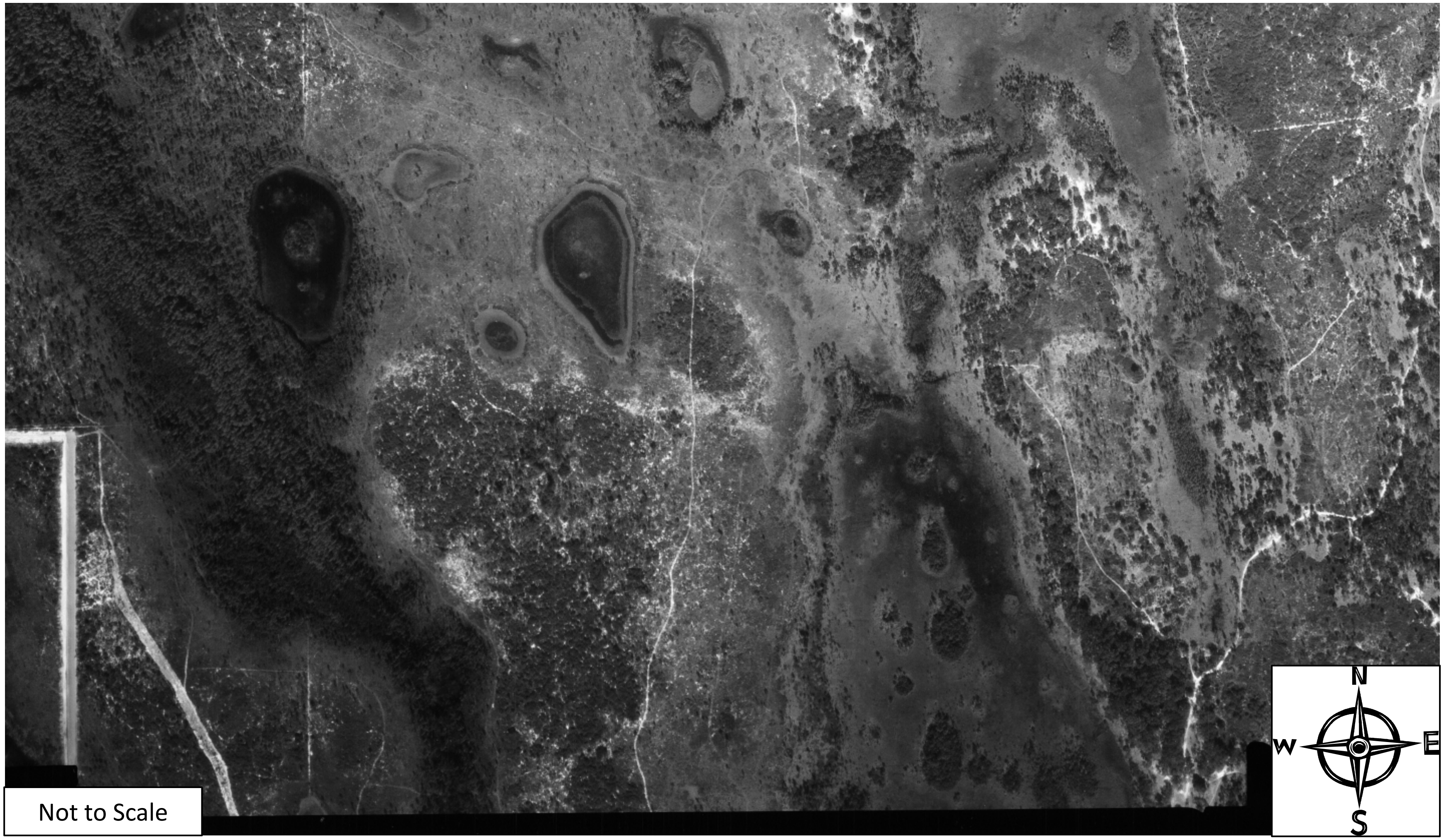

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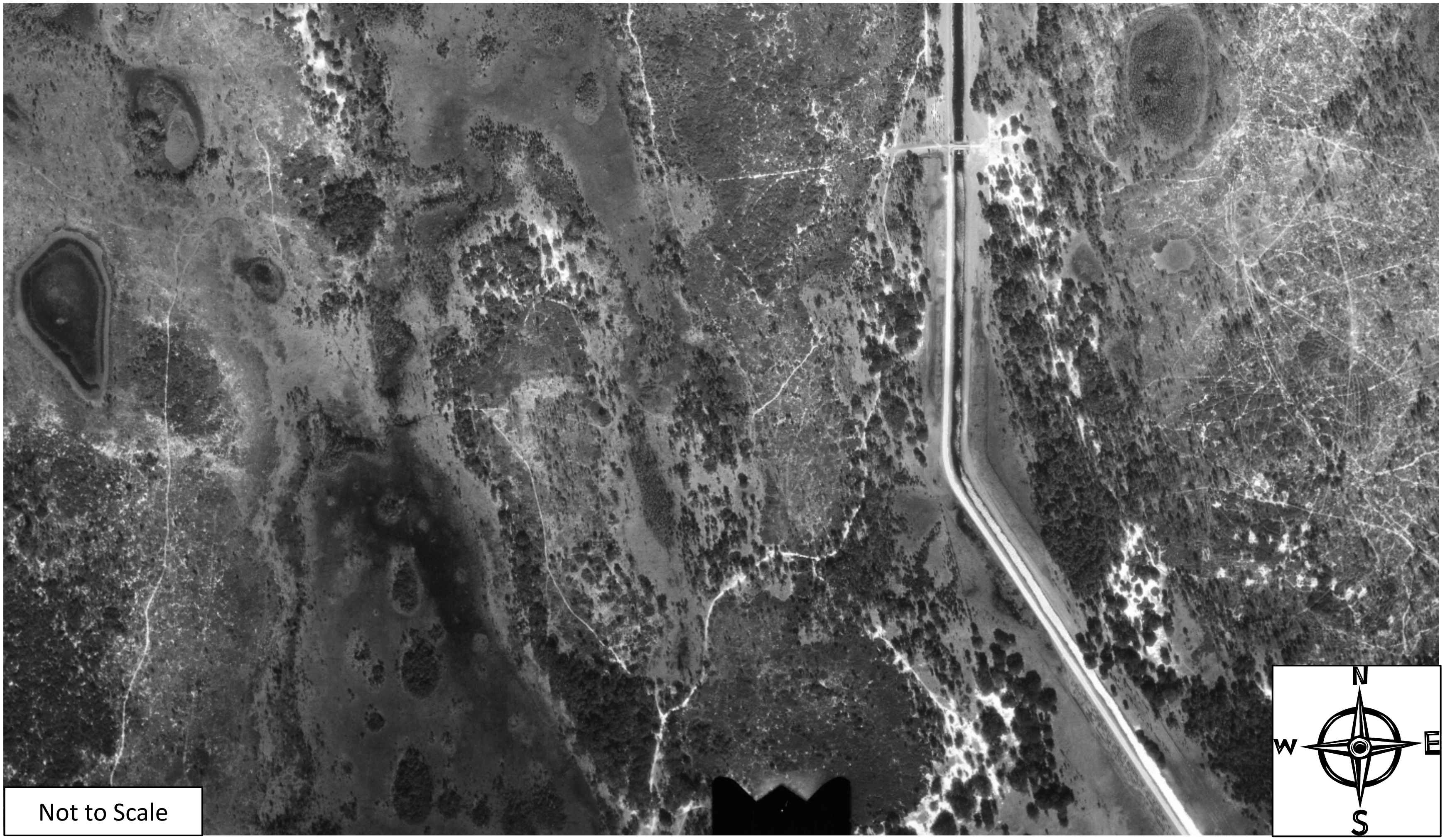

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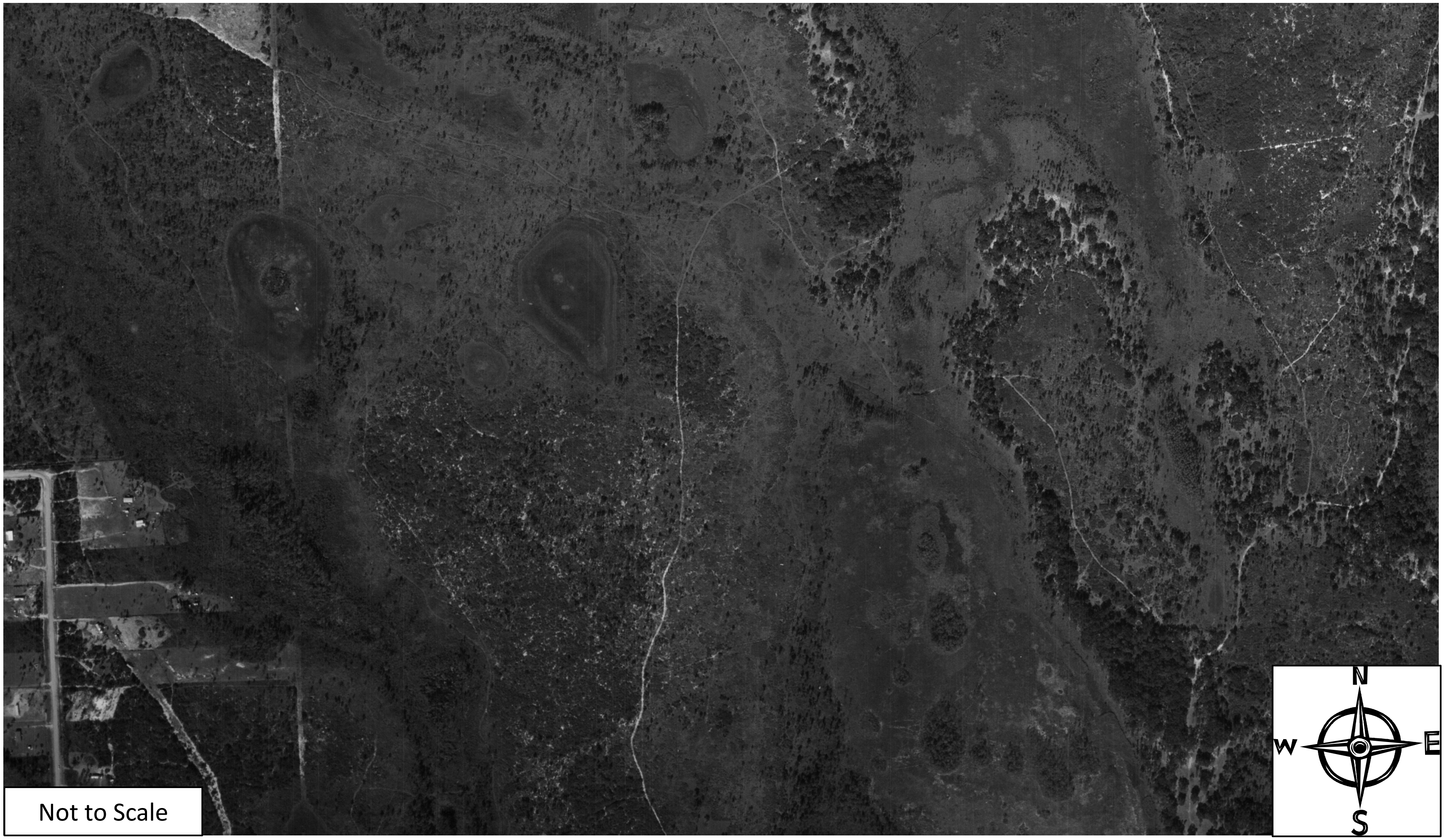
1984 (Image 3 of 8)



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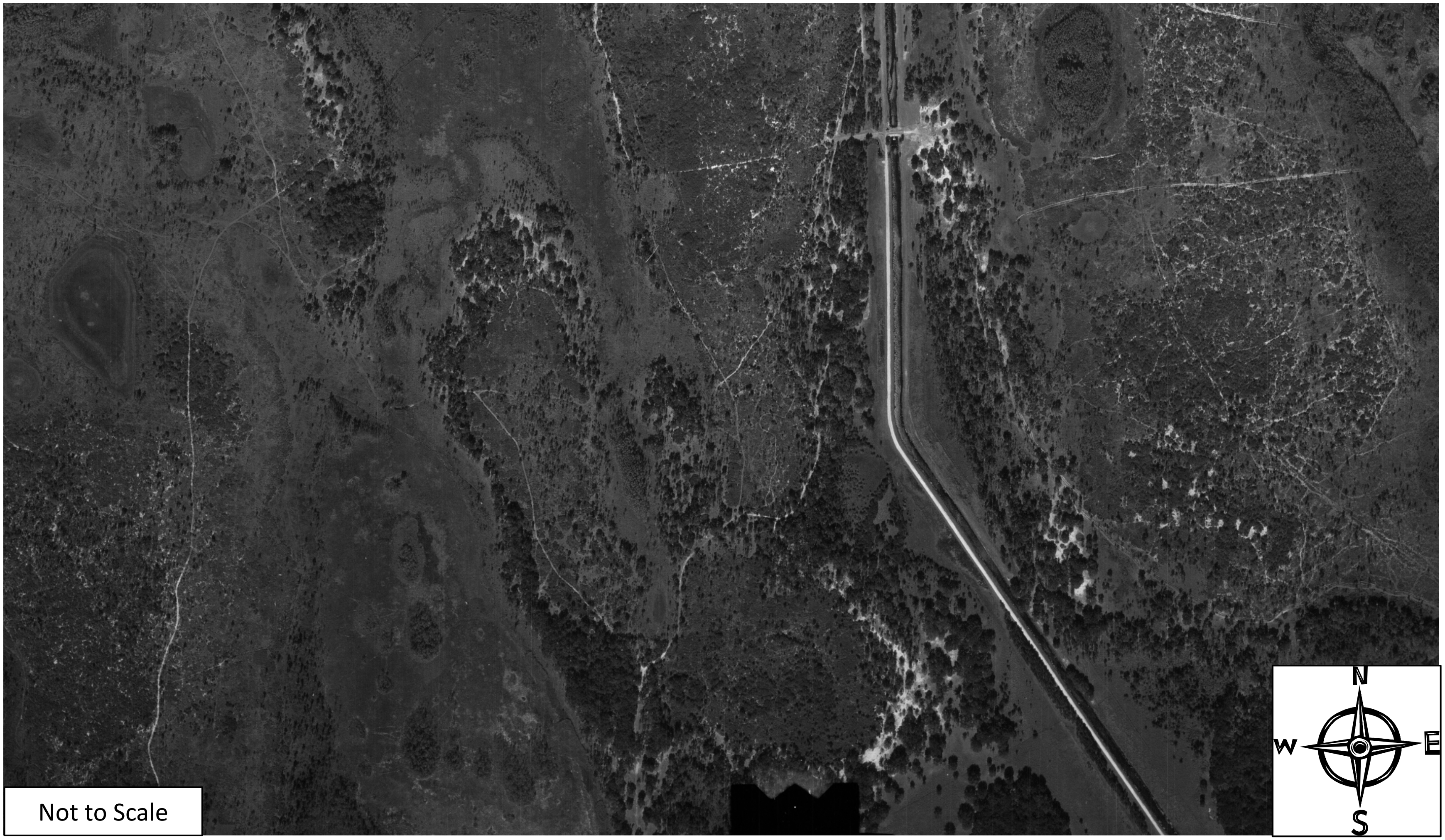

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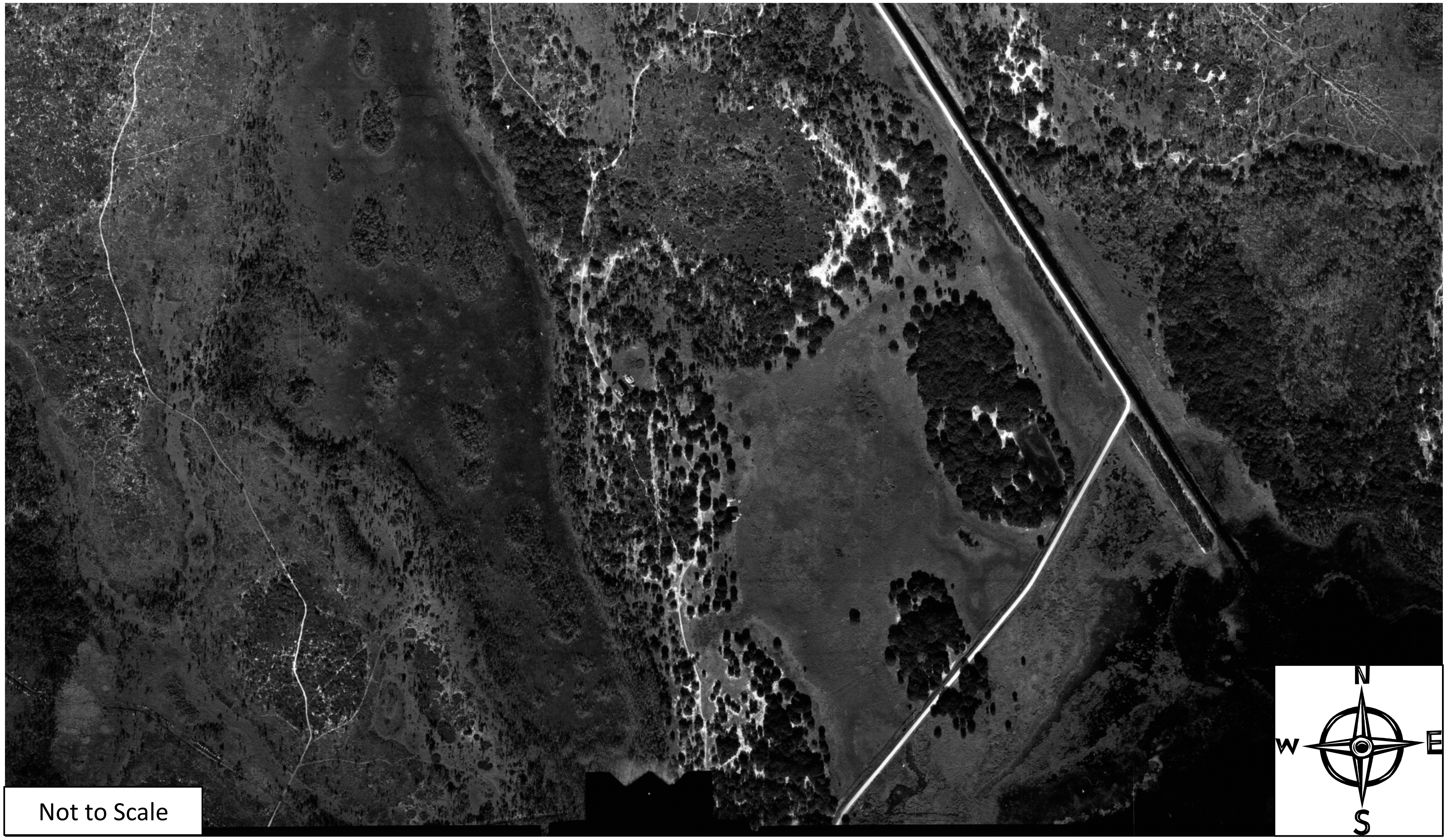

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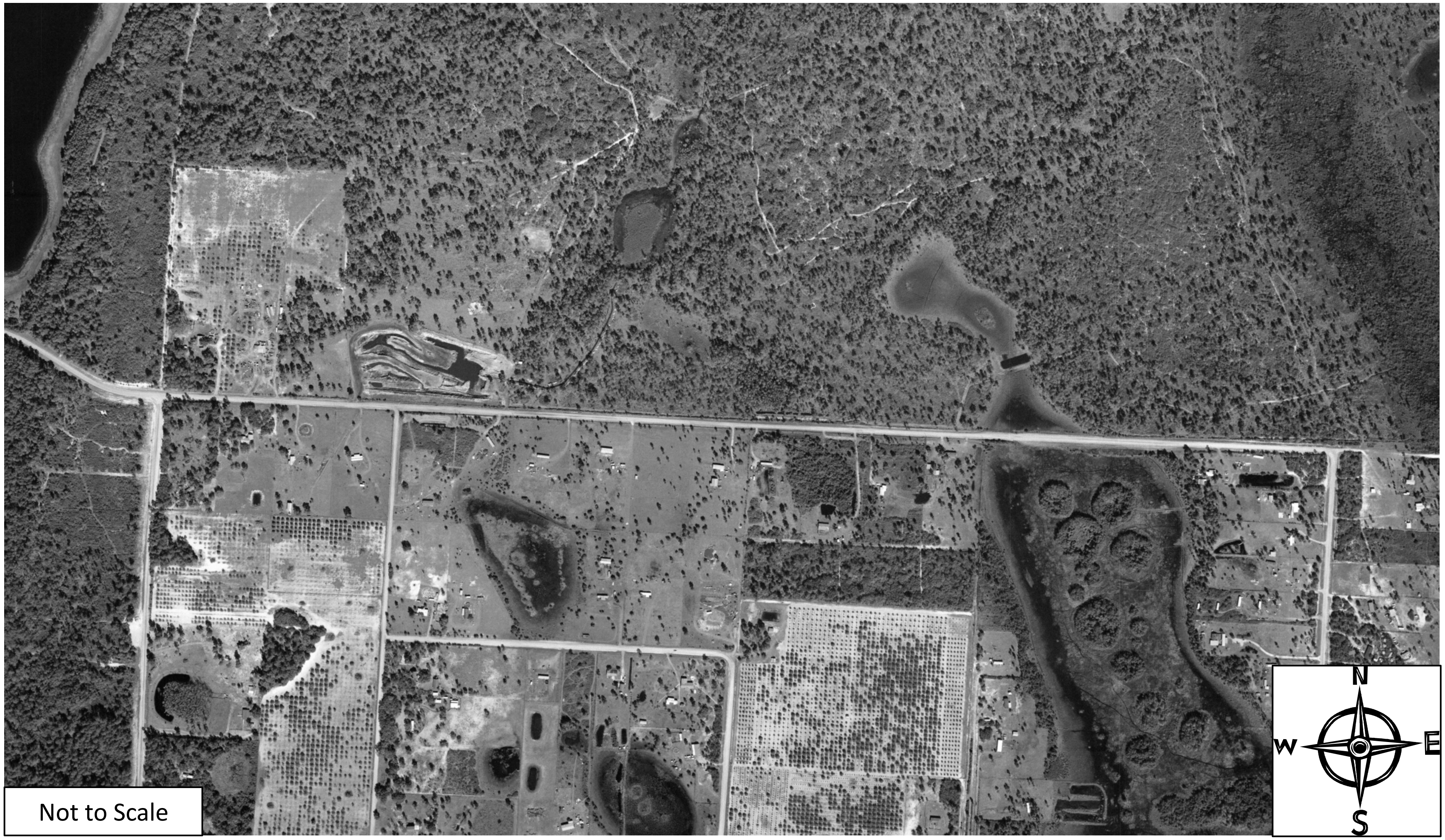

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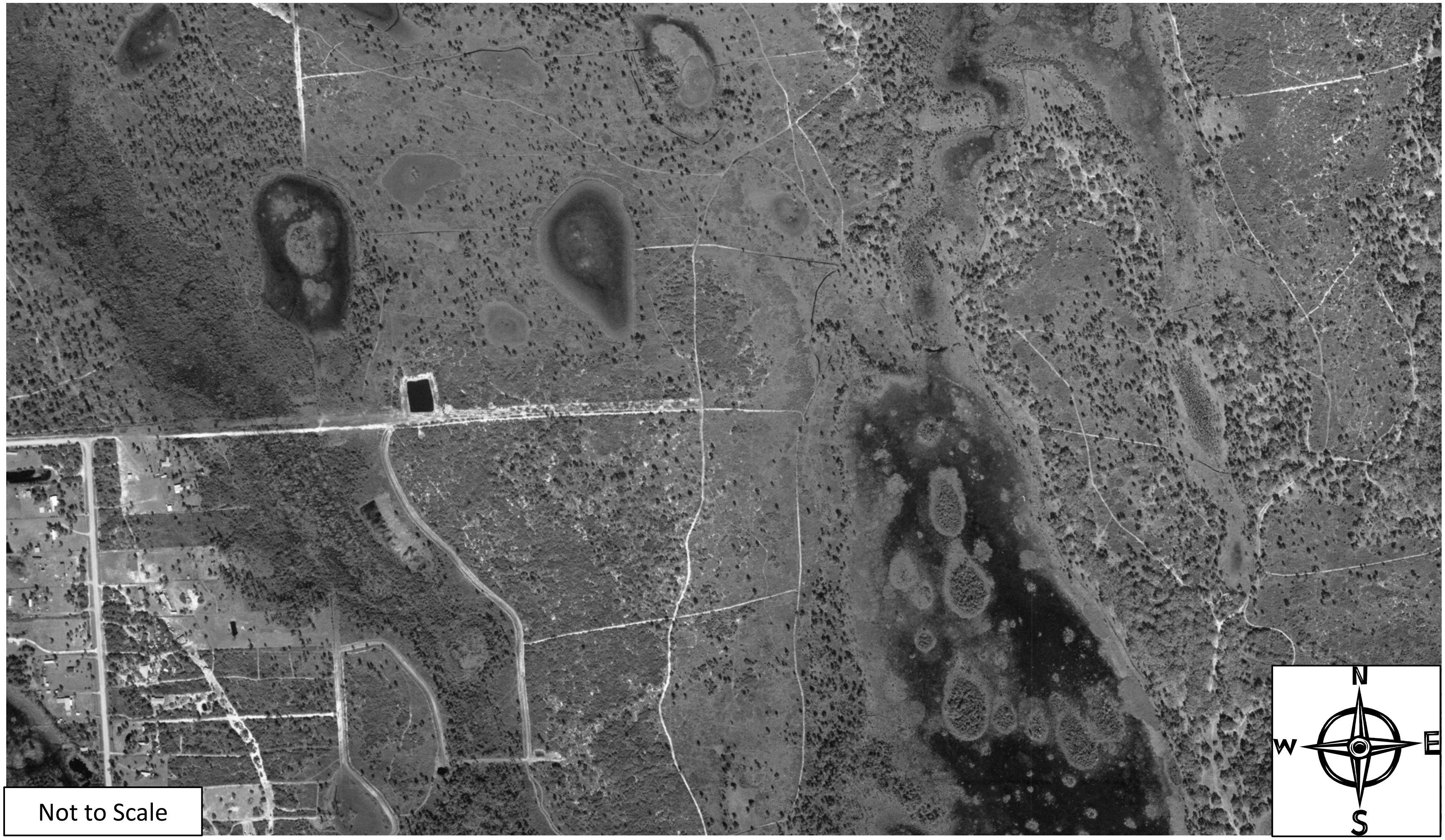

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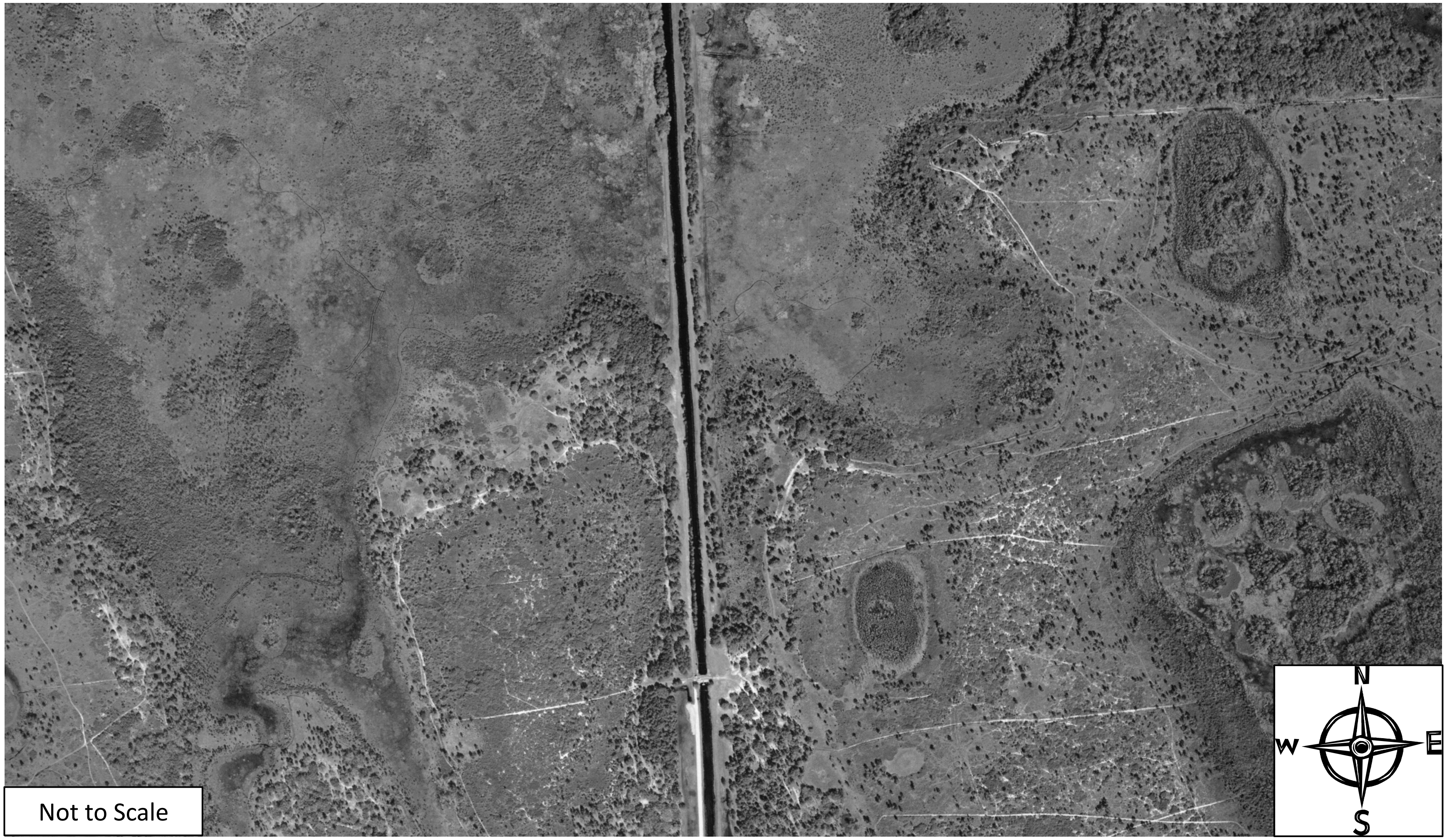

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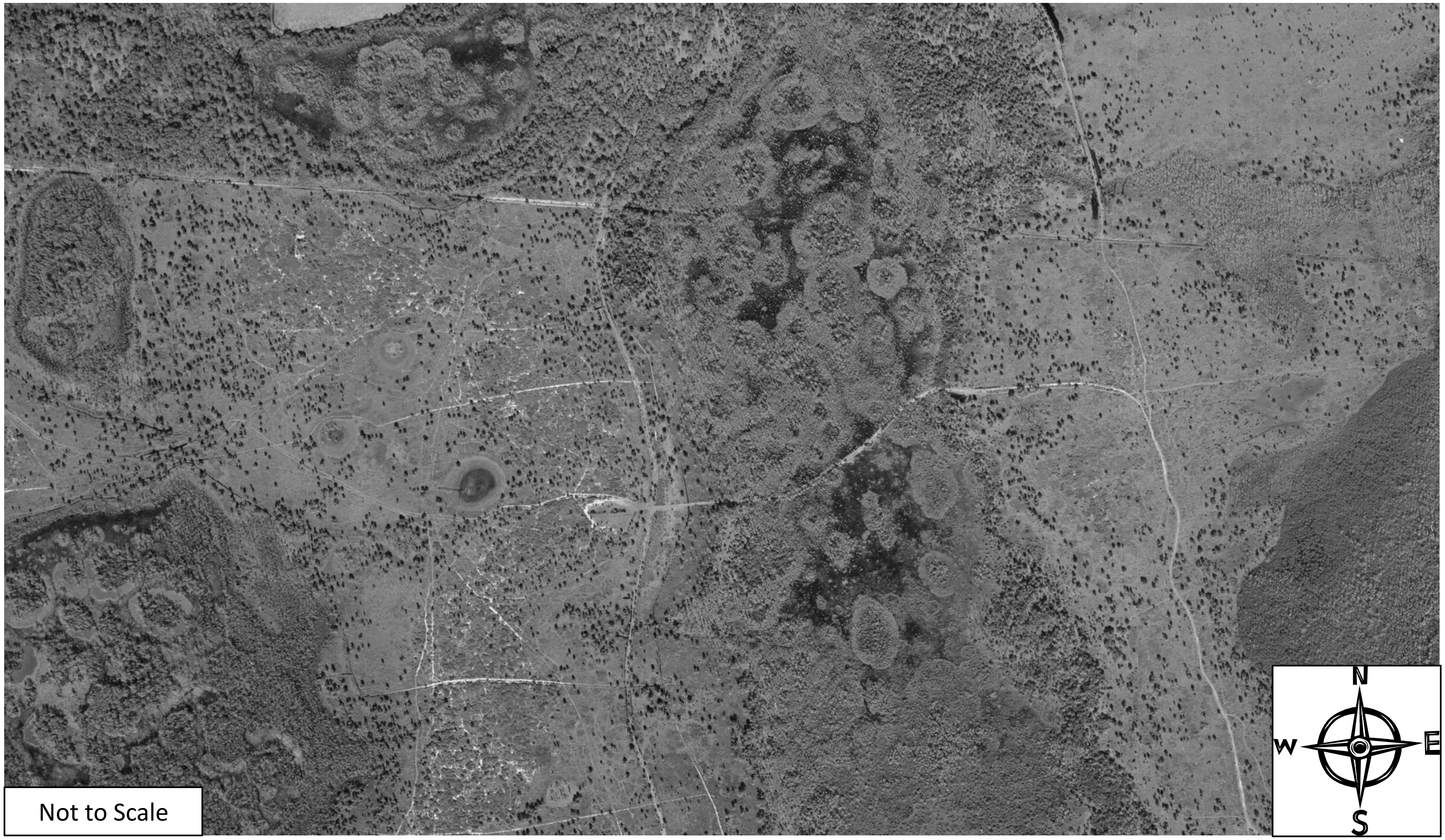

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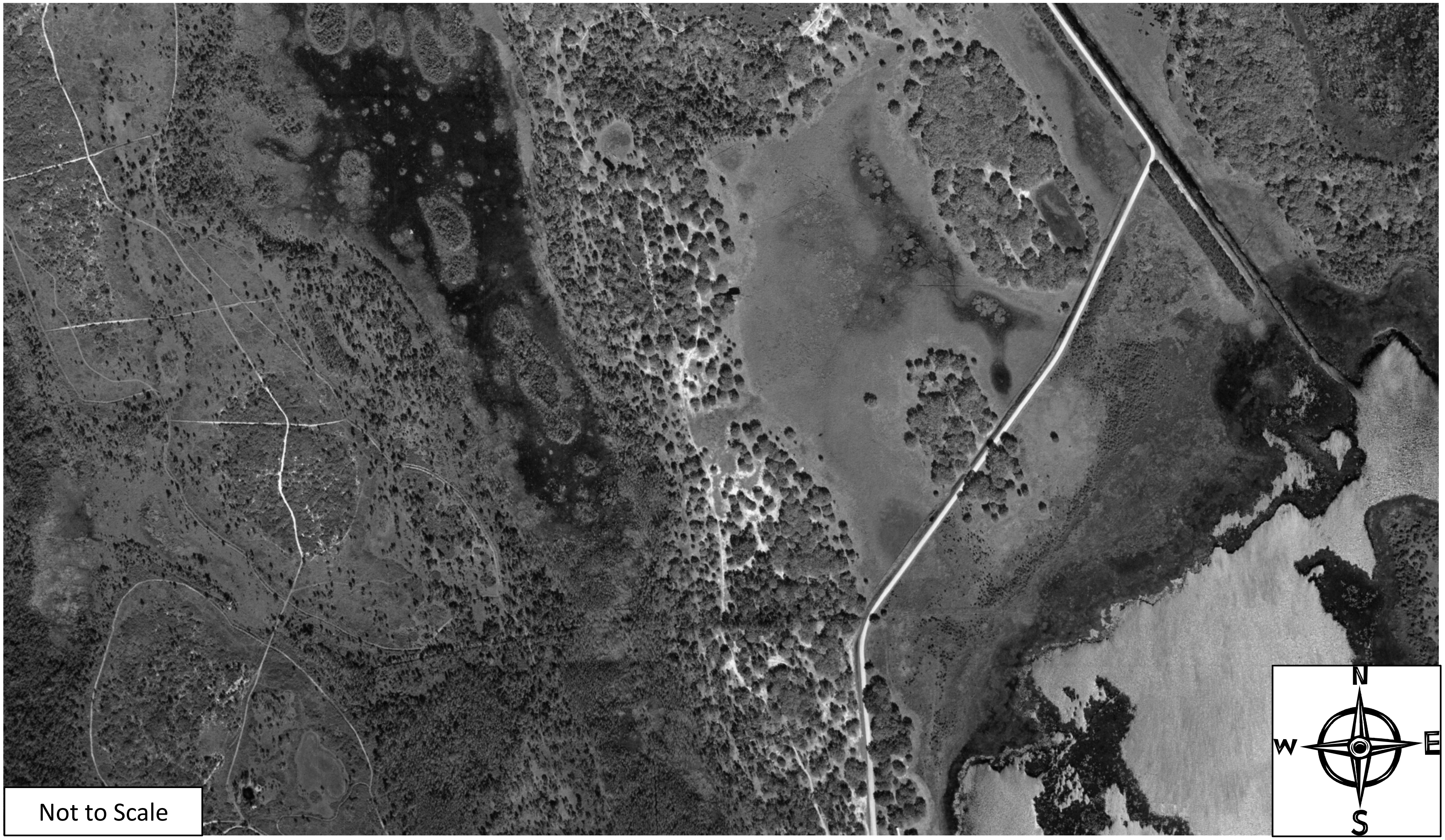

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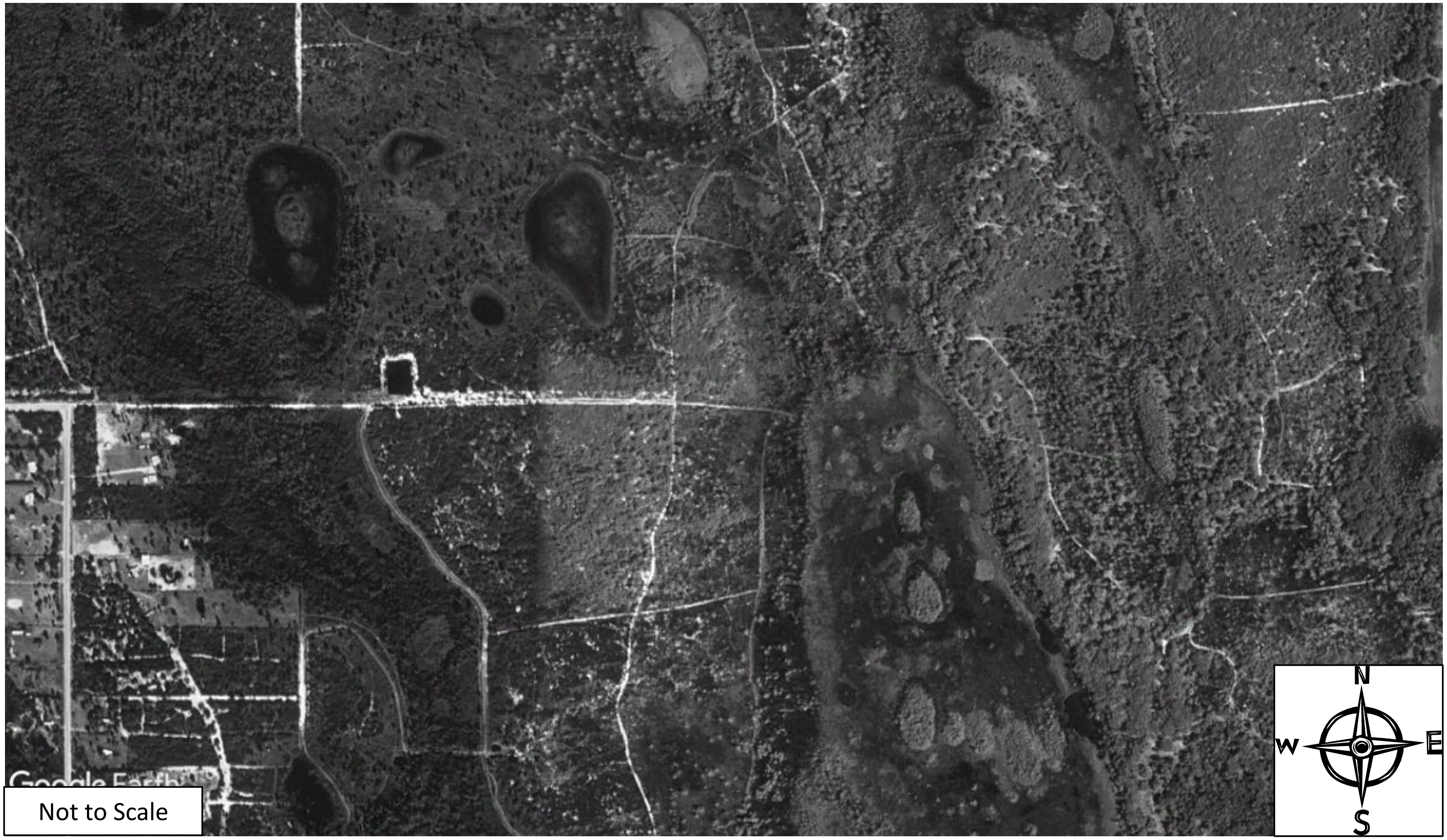
1995 (Image 3 of 8)



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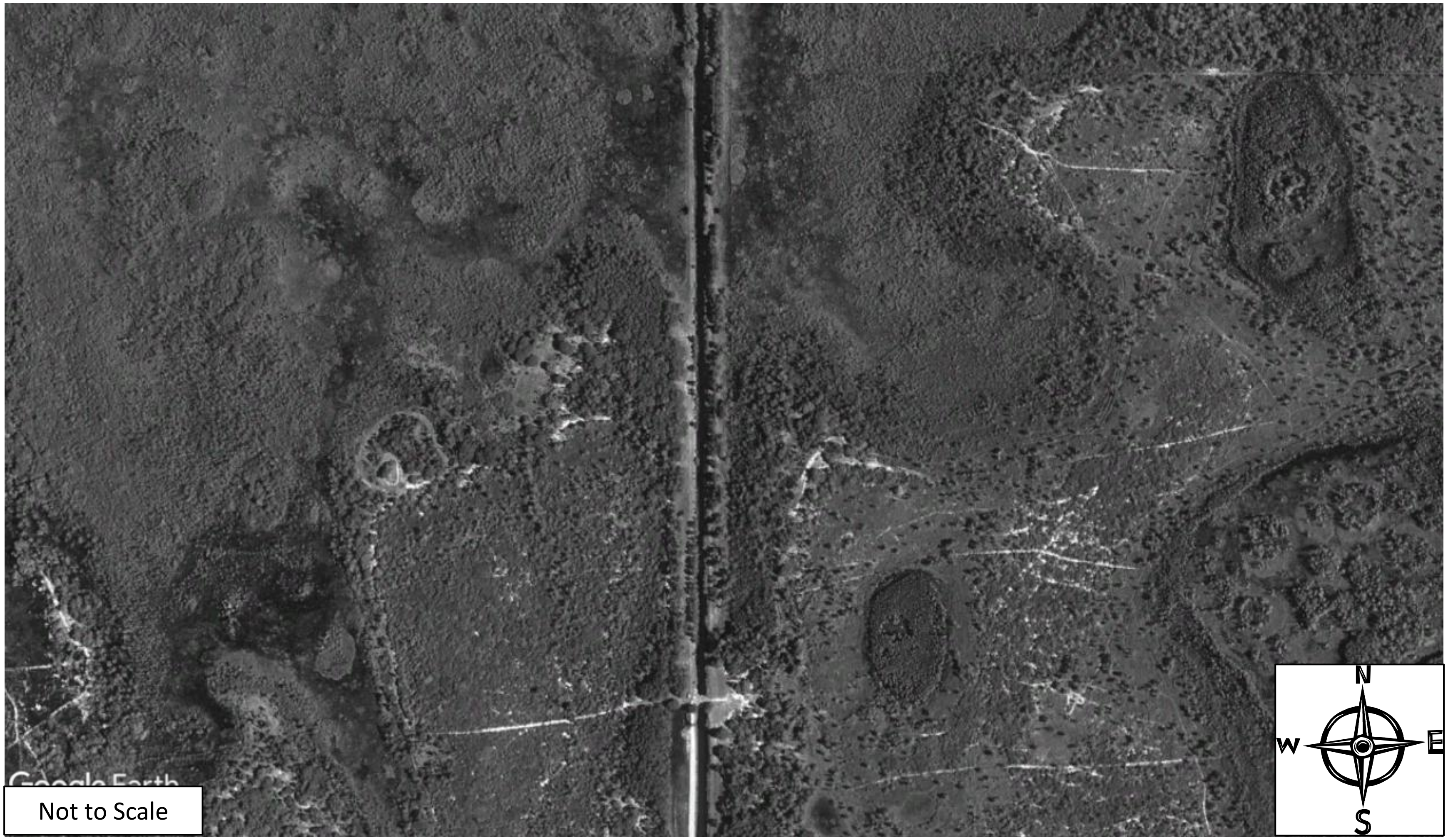

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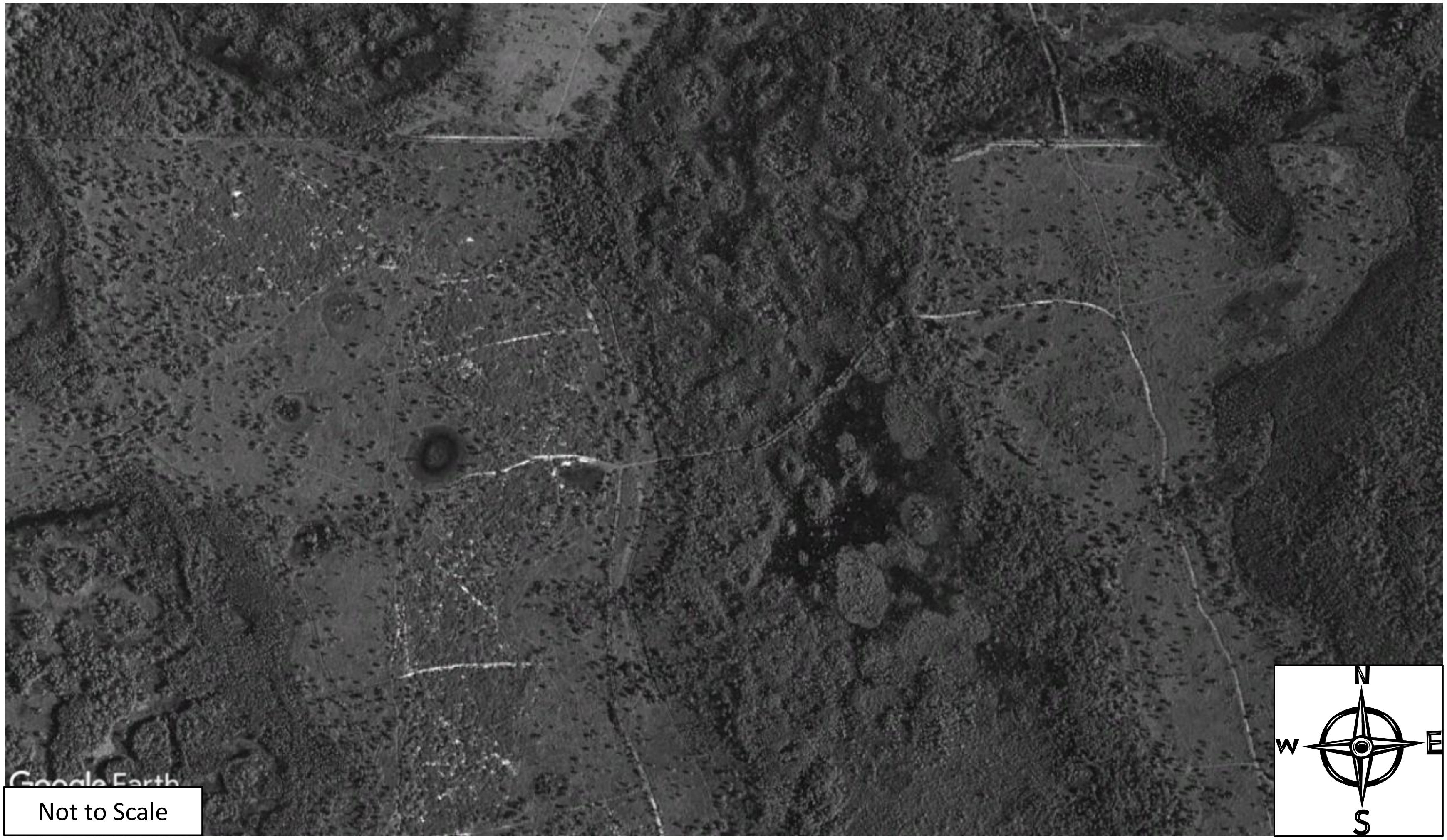

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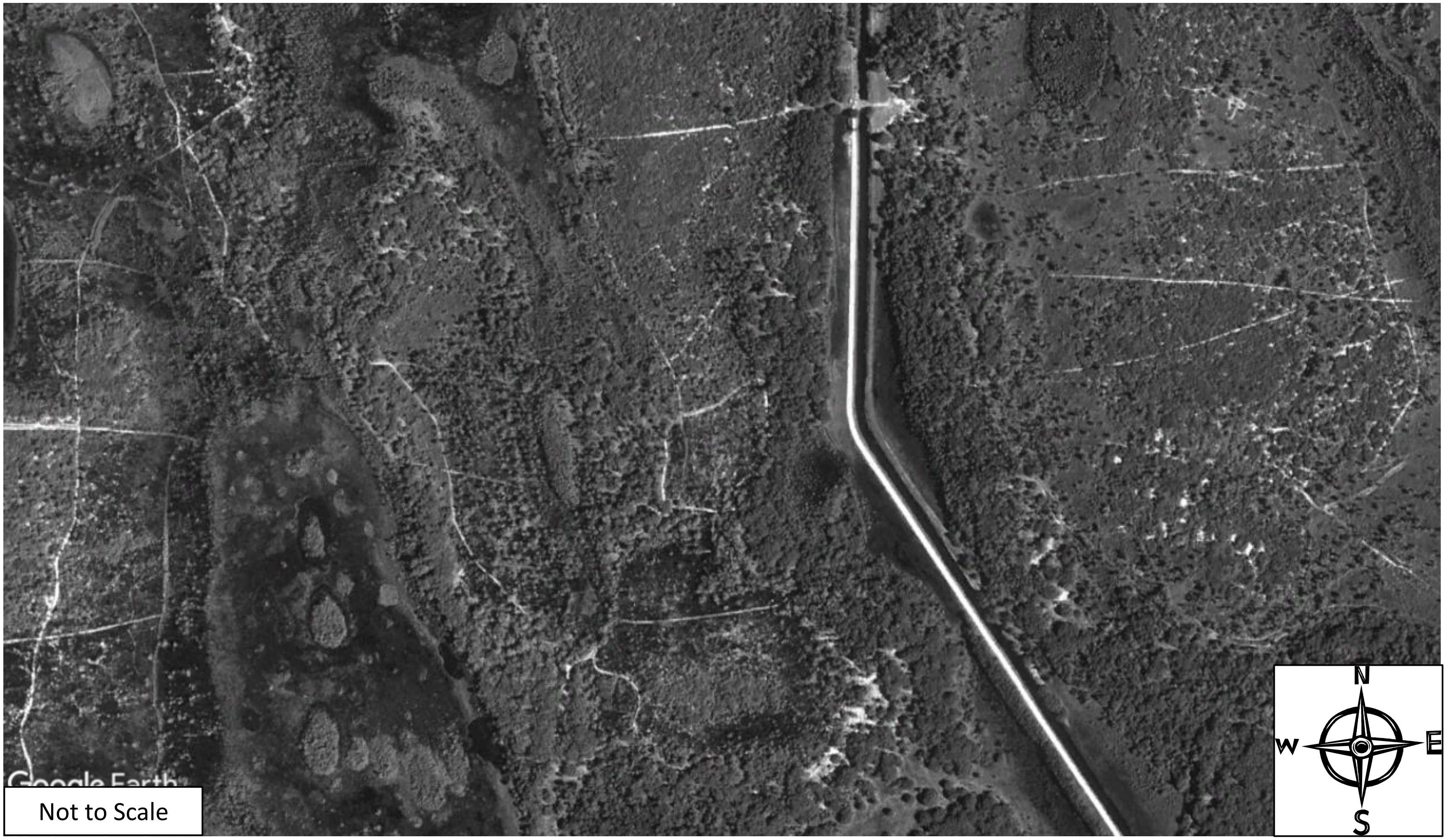

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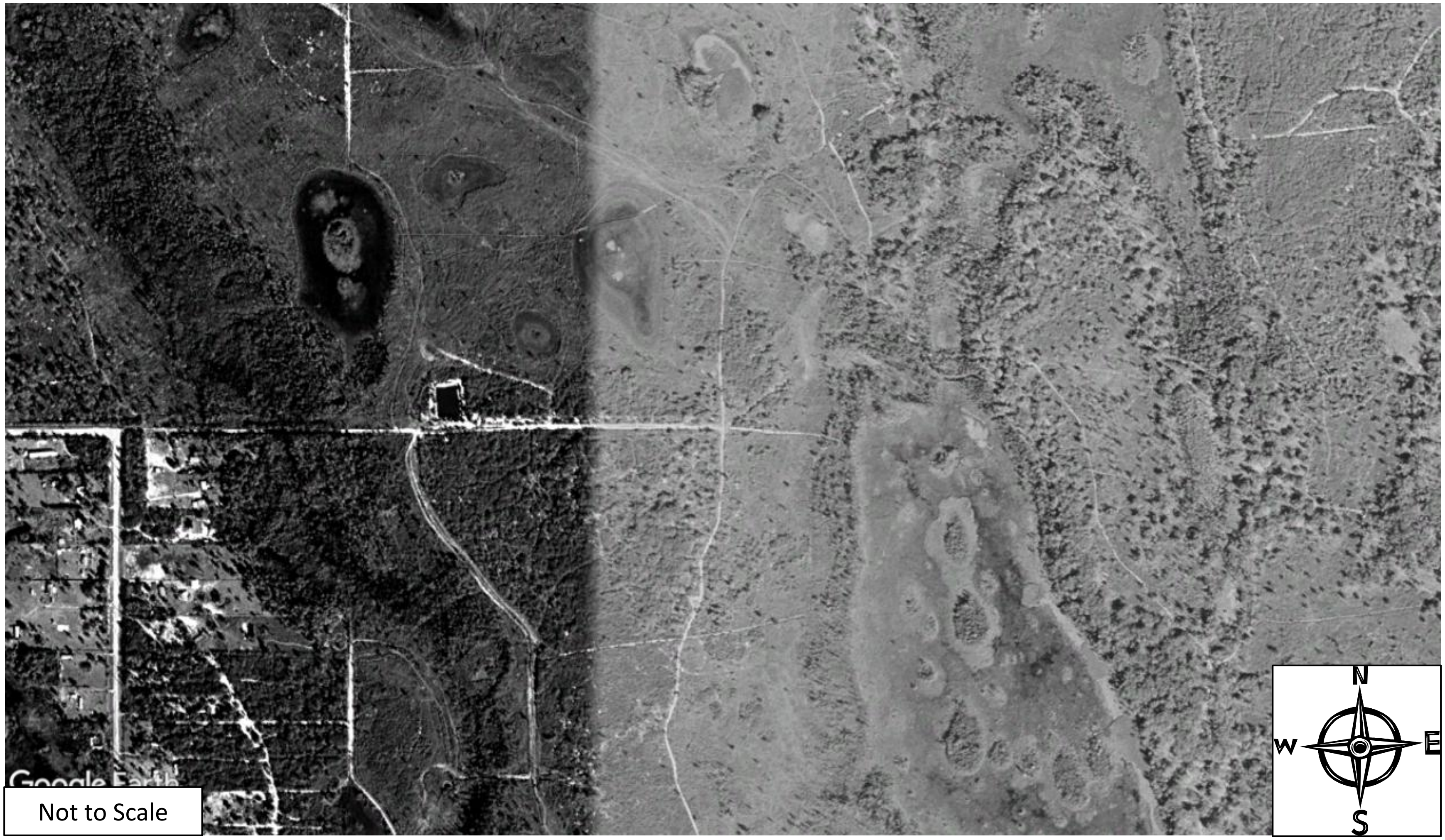
1999 (Image 2 of 8)

1999 (Image 3 of 8)



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1999 (Image 5 of 8)

1999 (Image 6 of 8)

1999 (Image 7 of 8)

1999 (Image 8 of 8)

2004 (Image 1 of 8)

2004 (Image 2 of 8)

2004 (Image 3 of 8)

2004 (Image 4 of 8)

2004 (Image 5 of 8)

2004 (Image 6 of 8)

2004 (Image 7 of 8)

2004 (Image 8 of 8)

2008 (Image 1 of 8)

2008 (Image 2 of 8)

2008 (Image 3 of 8)

2008 (Image 4 of 8)

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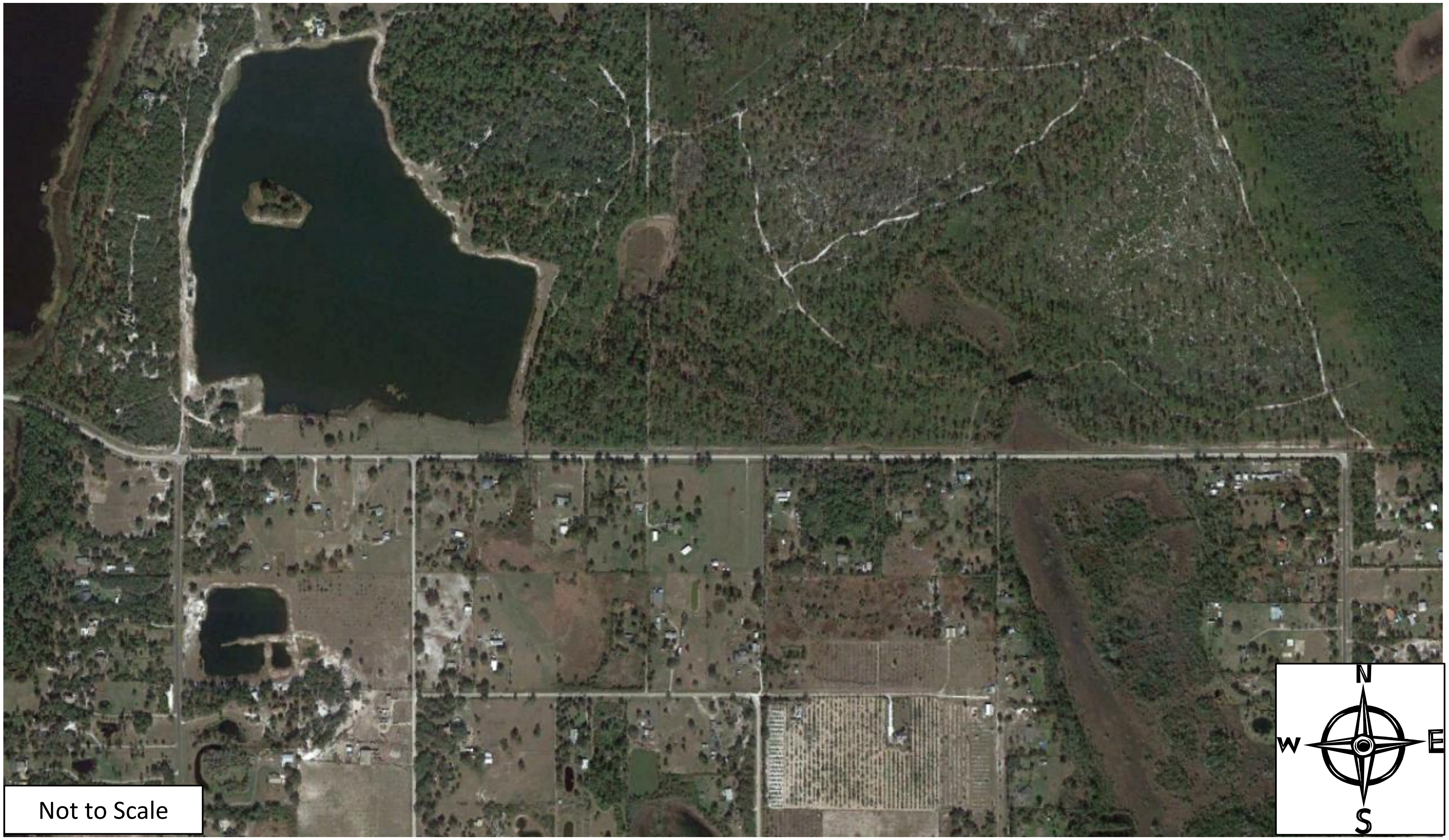
2013 (Image 2 of 8)



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2013 (Image 5 of 8)

2013 (Image 6 of 8)

2013 (Image 7 of 8)

2013 (Image 8 of 8)

2018 (Image 1 of 8)

2018 (Image 2 of 8)

2018 (Image 3 of 8)

2018 (Image 4 of 8)

2018 (Image 5 of 8)

2018 (Image 6 of 8)

2018 (Image 7 of 8)

2018 (Image 8 of 8)

APPENDIX B

Definitions of Common Report Terms

Aboveground Storage Tank (AST) - A storage tank that is situated on the ground surface and may or may not be installed on a concrete pad with secondary spill containment.

Active Remediation (AR) - Implementation of an approved Remedial Action Plan.

Contamination - The presence of any material or chemical contained within the soil, surface water, sediment, or groundwater on or adjacent to the project corridor, that may require assessment, remediation, or special handling, or that has a potential for liability.

Contamination Risk Potential Rating (CRPR) - Site risk rating system defined in Chapter 20 of the FDOT PD&E Manual.

Engineering Control (EC) - A modification to a site to reduce or eliminate the potential for migration of, and exposure to, contaminants of concern. Examples of ECs include slurry walls, sheet pile walls, and engineered liners to prevent exposure.

Hazardous Material - Any solid, liquid, or gas that has the potential to harm people, other living organisms, property, or the environment, either by itself or through interaction with other factors. Hazardous material may be radioactive, flammable, explosive, toxic, corrosive, biohazardous, an oxidizer, an asphyxiant, a pathogen, an allergen, or may have other characteristics that render it hazardous in specific circumstances. These materials may threaten workers through occupational exposure and the general public in their homes, communities, and general environment. Exposure to these materials can occur near the site of generation, along the path of its transportation, or near their ultimate disposal sites. Hazardous materials are often subject to laws and regulations on the use and handling of such materials and may differ depending on the activity or status of the material.

Institutional Controls (IC) - A restriction on use of, or access to, a site to eliminate or minimize exposure to contaminants of concern. Examples of ICs include deed restrictions, use restrictions, or restrictive zoning.

Natural Attenuation Monitoring (NAM) - A means of conducting site rehabilitation in which natural degradation of media contaminants are monitored for extended periods of time provided that human health, public safety, and the environment are protected.

No Further Action with Conditions (CNFA) - No further assessment or remediation is required at a site provided that certain conditions are met as approved by the lead regulatory agency. Conditional No Further Actions can be granted to sites that employ ICs and/or ECs as part of the site rehabilitation strategy.

No Further Action without Conditions (NFA) - No further assessment or remediation is required at a site. No contaminants are present at the site above default or approved alternative clean-up standards.

Petroleum Products - Liquid crude oil derivatives that are derived by distillation, cracking, hydro forming and/or other petroleum refinery processes falling under the description of either "Gasoline Analytical Group," "Kerosene Analytical Group" or "Used Oil" as defined in Florida Administrative Code (FAC) 62-770.200(24), (29) and (64), respectively. These materials include, but are not limited to: leaded and unleaded gasoline, gasohol, aviation and jet fuels, diesel fuel, kerosene, new or used motor oil, hydraulic fluid, and gear oil.

Potential Hazardous Material or Petroleum Contamination Site - A potential hazardous material or petroleum contamination site is a parcel of land upon which hazardous materials or petroleum products are produced, stored, accumulated, used, or disposed of. These sites typically include existing or former gasoline stations, dry cleaners, auto repair facilities, and other businesses where hazardous substances or petroleum product are present. The presence of hazardous substances and/or petroleum products does not mean that contamination is present, but merely indicates that the potential for contamination exists if the materials are not handled or disposed of properly.

Remedial Action Plan (RAP) - A plan that details a means by which contamination may be cleaned up.

Site Assessment Report (SAR) - Summarizes all tasks that were implemented pursuant to the Contamination Assessment.

Site Rehabilitation Complete Report (SRCR) - A report that describes that cleanup goals have been met.

Site Rehabilitation Completion Order (SRCO) - An order issued by the lead regulatory agency that approves the SRCR. No further assessment or remediation activities need to be conducted at the site once an SRCO has been issued unless a new release is discovered.

Source Removal (SR) - The removal of free petroleum product or excessively contaminated soil.

Underground Storage Tank (UST) - A storage tank that has been installed below the ground surface that may or may not contain secondary containment or leak detection systems. The FDEP has compiled several database lists that are useful in identifying potential sources of hazardous material or petroleum product contamination.

APPENDIX C

Contamination Risk Potential Rating Descriptions

The contamination potential risk rating system was developed by FDOT and is included in Chapter 20 of the PD&E Manual, dated June 14, 2017. The rating system incorporates four levels of risk:

1. **No** – A review of available information on the property and a review of the design plans indicates there is no potential for contamination to impact the project. It is possible that contaminants had been handled on the property. However, all information (assessment reports, monitoring well abandonments, results of recent soil and groundwater sampling, etc.) indicate that contamination impacts are not expected.

2. **Low** – A review of available information indicates that former or current activities on the property have an ongoing contamination concern, have a hazardous waste generator identification (ID) number, or have included handling hazardous materials in some capacity. However, based on all available information and current design plans, it is not likely that there would be any contamination impacts related to this project.

3. **Medium** - After a review of all available information, potential contamination has been identified. This may include known soil and/or water contamination that may not require remediation, is currently being remediated, or that is currently in the monitoring-only phase. The complete status of remediation is important to determine what FDOT must do if the property were to be acquired. If there is insufficient reliable information (such as regulatory records or historical documents) to make a determination as to the potential for contamination, and there is reasonable suspicion that contamination may exist, the property should be rated at least as a "Medium."

   A recommendation should be made for each property falling into this category based on whether it would be within the proposed project, what additional assessment or remedial actions may be required if the property is acquired, and the possible requirements for additional actions if there is a need to avoid the property.

   This ranking is the lowest possible rating a currently operating petroleum fueling or storage facility can receive in an assessment document, based on its distance to the right of way, contamination type, need for dewatering in the area, etc.

4. **High** - After a review of all available information and current conceptual or design plans, there is a reasonable potential for contamination impacts during construction. Once the design alternative has been selected, sites rated with "High" contamination potential require further assessment to confirm and delineate potential contaminants and to determine if remediation or special construction provisions will be needed during construction.

The recommendation for this rating should include a listing of the parameters of concern and media to be assessed, and if known, what construction activities will occur within or adjacent to the contaminated media. Properties used historically as gasoline stations and which have not been evaluated or assessed would likely receive this rating.

APPENDIX D

FDEP OCULUS, Map Direct, and Nexus Portal Information

SITE 1

Publix Super Market #1625

Florida Department of Environmental Protection
Bureau of Petroleum Storage Systems
Facility Inspection Cover Page

Facility Information

District: CD
County: Orange
Facility ID#: 9816363
Name: Publix Super Market #1625
14185 Lake Nona Blvd
Orlando, FL 32824
Contact: Store Mgr
Phone: --

Type: Fuel User/Non-Retail
Status: Open
Latitude: 28:21:53.7772
Longitude: 81:18:42.6682
LL Method: DPHO
LL Status: REVIEWED
Status Date: 07//13/2018

Account Owner Information

Name: Publix Super Markets Inc - Environmental
Po Box 407
Attn: Storage Tank Regis
Lakeland, FL 33802
Phone: 863-499-5418

Effective Date: 06/28/2018
Placard#/Date: 541929 - 07/09/2018

Tank Owner Information

Name: Publix Super Markets Inc - Environmental
Po Box 407
Attn: Storage Tank Regis
Lakeland, FL 33802
Phone: 863-499-5418

Effective Date: 06/28/2018

Tank #	Size	Content	Installed	Placement	Status	Const	Pipe	Monitor
1	1000	Emerg Generator Diesel	07/01/2018	ABOVE	U	I C M P	I A	F 1 Q

*****Note: Construction, Piping, and Monitoring Info not shown for CLOSED tanks (Status of A or B).**

Most Recent Insurance Document

FR Type	Effective Date	Expiration Date	Company Name
Self-Insurance - Letter From Chief Financial Officer	03/20/2018	03/20/2019	

No OPEN violations found!

No Discharge Information Found!

End of Data for Facility #: 9816363

Storage Tank Facility Installation Site Inspection Report

Facility Information:

Facility ID: 9816363 | County: ORANGE | Inspection Date: 07/24/2018
Facility Type: C - Fuel user/Non-retail
Facility Name: PUBLIX SUPER MARKET #1625
14185 LAKE NONA BLVD
ORLANDO, FL 32824
Latitude: 28° 21' 53.7772"
Longitude: 81° 18' 42.6682"
LL Method: DPHO

\# of Inspected ASTs: 1
USTs: 0
Mineral Acid Tanks: 0

Inspection Result:

Result: In Compliance

Signatures:

TKOREP - ORANGE CNTY ENVIRONMENTAL PROTECTION DIVISION (407) 836-1499

Storage Tank Program Office and Phone Number

Glen Becker

Inspector Name

Inspector Signature
Principal Inspector
ORANGE CNTY ENVIRONMENTAL PROTECTION DIVISION

Doug Vogt

Representative Name

Douglas Vogt

Representative Signature
Contractor
Jay Raymond Co.

Owners of UST facilities are reminded that the Federal Energy Policy Act of 2005 and 40 CFR 280 Subpart J, requires Operator Training at all facilities by October 13, 2018. For further information please visit: https://floridadep.gov/waste/permitting-compliance-assistance/content/underground-storage-tank-operator-training

Financial Responsibility:

Financial Responsibility: SELF-INSURANCE - LETTER FROM CHIEF FINANCIAL OFFICER

Insurance Carrier:

Effective Date: 03/20/2018 Expiration Date: 03/20/2019

Facility ID: 9816363

Completed System Tests

Type	Date Completed	Results	Reviewed	Next Due Date	Comment
Breach of Integrity Test	07/24/2018	Passed	07/24/2018	07/24/2018	Vacuum on AST interstitial space
Annual Operability Test	06/18/2018	Passed	10/29/2018	06/18/2019	Krueger Gauge
Annual Operability Test	10/05/2018	Passed	10/29/2018	10/05/2019	Ringpower - Rupture Basin Sensor, Overfill, and Spill Bucket

Reviewed Records

Record Category	Record Type	From Date	To Date	Reviewed Record Comment
Two Years	Certificate of Financial Responsiblity	03/20/2018	10/29/2018	Part P

Site Visit Comments

07/24/2018

A new Phoenix double wall steel genset 1000-gal AST was installed on July 2, 2018, per an email provided by Publix. OCEPD did not receive the required 48-72 written notification of the tank installation.
The AST is equipped with a factory built fill port spill containment.
The AST has a vacuum of 4"Hg on the interstitial space for a breach of integrity test.

EQ #'s:
1. Fill port spill bucket and phoenix tank, EQ 625
2. Madison High-level sensor/alarm, EQ 682
3. Madison Interstitial (rupture basin) leak gauge/alarm, EQ 682
4. Krueger fuel level gauge, EQ 730

Rcvd initial testing of the spill bucket, overfill device (high level alarm and Krueger Gauge), and interstitial sensor from Jessica Massanelli via email, Jessica.massanelli@publix.com, on Oct 8, 2018.

Facility ID: 9816363

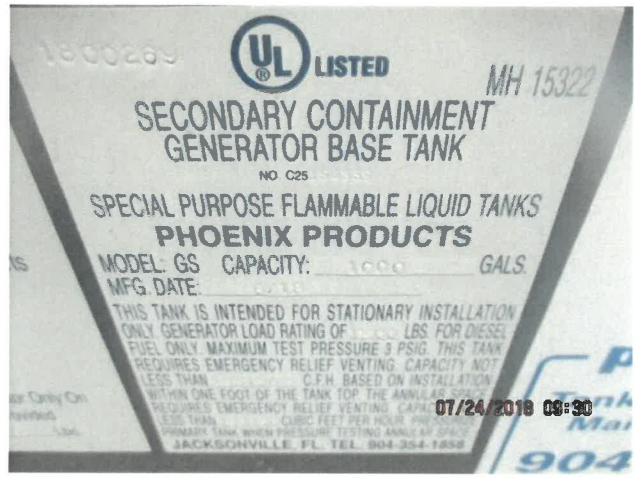
Inspection Photos

Added Date 07/24/2018

New Phoenix 1000-gal AST

Added Date 07/24/2018

AST manufacturer inforamtion

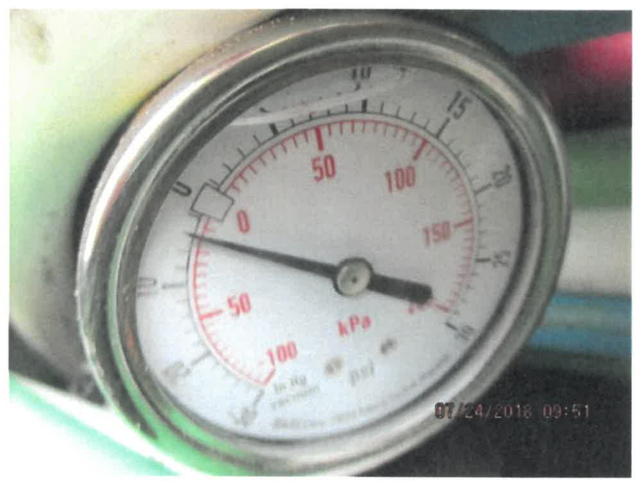


Added Date 07/24/2018

AST fill port spill containment, labeling

Added Date 07/24/2018

Vacuum on AST's interstitial space



SITE 4

Bob Zirots Landscaping & Nursery, Inc.

(Southside Garden Supply)

Florida Department of Environmental Protection
Bureau of Petroleum Storage Systems
Facility Inspection Cover Page
Facility Information

District: CD
County: Orange
Facility ID#: 8627080
Name: Bob Zirots Landscaping & Nursery Inc
14645 Boggy Creek Rd
Orlando, FL 32824-9211
Contact: Bob Zirot Nursery
Phone: 407-855-6766

Type: Fuel User/Non-Retail
Status: Closed
Latitude: 28:21:11.0376
Longitude: 81:18:30.5856
LL Method: DPHO
LL Status: REVIEWED
Status Date: 03//26/2010

Account Owner Information

Name: Zirot, Bob
14608 Happy Ln
Orlando, FL 32824-8987
Phone: 407-855-6766

Effective Date: 10/27/1986
Placard#/Date: -

Tank Owner Information

Name: Zirot, Bob
14608 Happy Ln
Orlando, FL 32824-8987
Phone: 407-855-6766

Effective Date: 10/27/1986

Tank #	Size	Content	Installed	Placement	Status	Const	Pipe	Monitor
2	1000	Leaded Gas	01/01/1980	UNDER	B			
3	1000	Unleaded Gas	05/01/1990	ABOVE	B			
4	400	Vehicular Diesel	05/01/1990	ABOVE	B			

*****Note: Construction, Piping, and Monitoring Info not shown for CLOSED tanks (Status of A or B).**

No Insurance Documents found!

No OPEN violations found!

Discharge Information

Discharge Date	Cleanup Status	Score	Eligibility Info	Site Manager	Phone
02/19/2003	Completed	40	-	Gonzalez_Cs	(407)836-1425

End of Data for Facility #: 8627080

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castil
Secretary

MAY 5 2004

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Pete Dunnington
John Deere Landscapes
6730 Moccasin Wallow Road
Palmetto, FL 34221

Subject: **Site Rehabilitation Completion Order**
John Deere Landscapes
14645 Boggy Creek Road
Orlando, Orange County
FDEP Facility ID# 488627080
Discharge Date: February 19, 2003 (Non-program)

Dear Mr. Dunnington:

The Orange County Environmental Protection Division (Division) has reviewed the Site Assessment Report (SAR) and No Further Action Proposal (NFAP) dated November 14, 2003 (received November 17, 2003), along with supplemental information received through March 5, 2004, prepared and submitted by HSA Engineers & Scientists for the petroleum product discharge discovered at this site. Documentation submitted with the NFAP confirms that criteria set forth in Rule 62-770.680(1), Florida Administrative Code (FAC), have been met. The NFAP is hereby incorporated by reference in this Site Rehabilitation Completion Order (Order). Therefore, you are released from any further obligation to conduct site rehabilitation at the site for petroleum product contamination associated with the discharge listed above, except as set forth below.

(1) In the event concentrations of petroleum products' contaminants of concern increase above the levels approved in this Order, or if a subsequent discharge of petroleum or petroleum product occurs at the site, the Florida Department of Environmental Protection (Department) may require site rehabilitation to reduce concentrations of petroleum products' contaminants of concern to the levels approved in the NFAP or otherwise allowed by Chapter 62-770, FAC.

(2) Additionally, you are required to properly abandon all monitoring wells, except compliance wells required by Chapter 62-761, FAC, for release detection, within 60 days of receipt of this Order. The monitoring wells must

be plugged and abandoned in accordance with the requirements of Rule 62-532.500(4), FAC.

Legal Issues

The Department's Order shall become final unless a timely petition for an administrative proceeding (hearing) is filed under Sections 120.569 and 120.57, Florida Statutes (FS), within 21 days of receipt of this Order. The procedures for petitioning for a hearing are set forth below.

Persons affected by this Order have the following options:

(A) If you choose to accept the Department's decision regarding the NFAP you do not have to do anything. This Order is final and effective as of the date on the top of the first page of this Order.

(B) If you choose to challenge the decision, you may do the following:

(1) File a request for an extension of time to file a petition for hearing with the Agency Clerk in the Office of General Counsel of the Department within 21 days of receipt of this Order; such a request should be made if you wish to meet with the Department in an attempt to informally resolve any disputes without first filing a petition for hearing; or

(2) File a petition for administrative hearing with the Agency Clerk in the Office of General Counsel of the Department within 21 days of receipt of this Order.

Please be advised that mediation of this decision pursuant to Section 120.573, FS, is not available.

How to Request an Extension of Time to File a Petition for Administrative Hearing

For good cause shown, pursuant to Rule 62-110.106(4), FAC, the Department may grant a request for an extension of time to file a petition for hearing. Such a request must be filed (received) by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from John Deere Landscapes, shall mail a copy of the request to John Deere Landscapes at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for administrative hearing must be made.

How to File a Petition for Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, FS. The petition must contain the information set forth below and must be filed (received) by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from John Deere Landscapes, shall mail a copy of the petition to John Deere Landscapes at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under Sections 120.569 and 120.57, FS.

Pursuant to Subsections 120.54(5)(b)4, and 120.569(2), FS, and Rule 28-106.201, FAC, a petition for administrative hearing shall contain the following information:

(a) The name, address, and telephone number of each petitioner, the name, address, and telephone number of the petitioner's representative, if any, the site owner's name and address, if different from the petitioner, the FDEP facility number, and the name and address of the facility;
(b) A statement of when and how each petitioner received notice of the Department's action or proposed action;
(c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
(d) A statement of the material facts disputed by the petitioner, or a statement that there are no disputed facts;
(e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

This Order is final and effective as of the date on the top of the first page of this Order. Timely filing a petition for administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or an Order Responding to Supplemental Information provided to the Department pursuant to meetings with the Department.

Judicial Review

Any party to this Order has the right to seek judicial review of it under Section 120.68, FS, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida

32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days after this Order is filed with the clerk of the Department (see below).

Questions

Any questions regarding the Division's review of your NFAP should be directed to Carlos S. Gonzalez at (407) 836-1425. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850) 245-2242. Contact with any of the above does not constitute a petition for administrative hearing or request for an extension of time to file a petition for administrative hearing.

The FDEP Facility Number for this site is 488627080. Please use this identification on all future correspondence with the Department or the Division.

Sincerely,

Michael E. Ashey, Chief
Bureau of Petroleum Storage Systems

MEA/csg

cc: Bret LeRoux, FDEP Central District Office
Grace Rivera, FDEP – BPSS
Carlos S. Gonzalez, Orange County Environmental Protection Division
Kenneth R. Caldwell, Project Geologist, HSA Engineers & Scientist, 4019 East Fowler Avenue, Tampa, FL 33617
File

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52 Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Nancy C Don ______ 5-5-2004
Clerk(or Deputy Clerk) Date

ENVIRONMENTAL PROTECTION DIVISION
Lori Cunniff, *Manager*
Leeds Commerce Center
800 Mercy Drive, Suite 4
Orlando, Florida 32808-7896
407-836-1400 • Fax 407-836-1499
www.OrangeCountyFL.net

P. G. Certification

The No Further Action Proposal for John Deere Landscapes located at 14645 Boggy Creek Road, Orlando, Orange County, Florida, FDEP Facility ID No. 488627080 has been reviewed.

I hereby certify that in my professional judgment, the components of this No Further Action Proposal satisfy the requirements set forth in Chapter 62-770, FAC and that the geological interpretations in this report provide reasonable assurances of achieving the assessment objectives stated in Chapter 62-770, FAC. However, I have not evaluated and do not certify aspects of the aforementioned documents that are outside my area of expertise.

___ I personally completed this review.

_X_ This review was conducted by Carlos S. Gonzalez under my supervision.

Lawrence Q. Ross

Lawrence Q. Ross, P.G.
Professional Geologist #001900
Petroleum Cleanup Team

4-9-04
Date

SOURCE REMOVAL REPORT
and
SITE ASSESSMENT REPORT
John Deere Landscapes
14645 Boggy Creek Road
Orlando, Florida
Facility No. 488670080
November 2003

Source Removal Report/Site Assessment Report
John Deere Landscapes
14645 Boggy Creek Road
Orlando, Florida
Facility No. 488670080

Prepared by:

HSA Engineers & Scientists
4019 East Fowler Avenue
Tampa, FL 33617

November 2003

STATEMENT OF GEOLOGY REVIEW

In accordance with Rule 62-103, Florida Administrative Code and Chapter 492 Florida Statutes, this Source Removal and Site Assessment Report for the John Deere Landscapes Site located at 14645 Boggy Creek Road in Orlando, Orange County, Florida has been reviewed, signed and sealed by a Professional Geologist registered in the State of Florida, and is consistent with standard principles related to soil and groundwater assessments.

Kenneth R. Caldwell, P.G.
Florida License No. 1637

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TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

HSA Engineers & Scientists (HSA), on behalf of John Deere Landscapes (John Deere), has prepared this Source Removal Report (SRR)/Site Assessment Report (SAR) for the facility located at 14645 Boggy Creek Road, Orlando, Orange County, Florida **(Figure 1)**. A Discharge Reporting Form (DRF) was filed with the State of Florida Department of Environmental Protection (FDEP) in February 2003. The site is registered as Facility No. 488670080.

The objective of this SRR/SAR is to provide information regarding the source removal activities conducted at the site as well as the findings from follow-up assessment activities to evaluate the extent of petroleum hydrocarbon impact to the soil and groundwater, if present, in accordance with the provisions of Chapter 62-770, Florida Administrative Code (FAC). This report includes a brief site history, results of completed activities, and recommendations for future courses of action to achieve site rehabilitation.

2.0 SITE BACKGROUND

2.1 Site Location

The site is located just north of the boundary between Orange County and Osceola County. The geographic location of the site is Section 34, Township 24 South, and Range 30 East, as depicted on the United States Geological Survey (USGS) Saint Cloud North, Florida topographic quadrangle map **(Figure 2)**.

2.2 Site Description

The site is a commercial business for cultivating and selling landscaping trees, plants and supplies. Features on the site include a main building that houses the business offices, restrooms and a garage/storage area; various planting beds; and dirt-covered access roads. The business leases an area comprising approximately 5 acres.

2.3 Site History

Prior to assuming operations at the site in January 2003 under a lease agreement, John Deere performed due diligence investigations. Record searches revealed that an underground storage tank (UST) for petroleum fuel had been removed in May 1990 from an area adjacent to the facility building. As a replacement fuel source, an aboveground storage tank (AST) for diesel was placed within a covered containment structure situated at the southwest corner of the facility building. John Deere's due diligence testing in the former UST area revealed evidence of localized impact from total recoverable petroleum hydrocarbons (TRPH) to soil and groundwater. According to the DRF filed by John Deere, the discovery date was February 19, 2003. Correspondence from Orange County Environmental Protection Division (OCEPD) in May 2003 confirmed the need to complete a SAR in accordance with the provisions of Chapter 62-770, FAC. John Deere solicited scopes of work and bids to complete assessment work and source removal actions. HSA was contracted to complete a recommended source removal action, follow-up site assessment activities, and the necessary reporting to meet Chapter 62-770, FAC requirements.

2.4 Source Removal Actions

Prior to initiating the source removal action, HSA personnel mobilized to the site on August 12, 2003 to collect a pre-treatment soil sample from the former UST area. A pre-cleaned, stainless-steel hand auger was used to collect a composite sample from the upper 2 ft of the soil profile. The sample was collected into laboratory-supplied containers, packed in ice, and delivered to STL in Tampa, Florida. The sample was analyzed for the presence of volatile organic halogens (VOHs) and volatile organic aromatics (VOAs) by EPA Method 8021, total recoverable petroleum hydrocarbons (TRPH) by State Method FL-PRO, and RCRA 4 metals (arsenic, cadmium, chromium, and lead) by EPA Method 6010, per the requirements of Chapter 62-713, FAC. The analytical results revealed detectable levels of ethylbenzene, naphthalene, toluene, xylenes and TRPH. A copy of the laboratory report and chain-of-custody documentation is provided in **Appendix A.**

On September 5, 2003, HSA re-mobilized to the site to complete a source removal action. A trackhoe was used to excavate soils down to the water table. During excavation, the soil headspace for representative soil samples was screened using a Toxic Vapor Analyzer (TVA) equipped with a flame ionization detector (FID) using the methodology described below in **Section 3.1.2.** Field FID readings are provided in **Table 1.** Sampling locations are depicted on **Figure 3.** The rich organic nature of the soil contributed to a relatively high natural methane content in the soil. This resulted in most of the filtered FID readings being higher than the unfiltered readings.

The final excavation dimensions were approximately 11 ft by 17 ft by 3 ft deep. Water gradually infiltrated into the excavation and an approximate water table depth of 2 to 2-1/2 feet below land surface (ft bls) was observed. No evidence of free product was noted on standing water in the open excavation. The excavation was backfilled the same day with imported clean fill material. A total of 30.75 tons of petroleum-impacted soils were removed from the site and transported to Soil Treatment Services (STS) in Kissimmee, Florida for thermal treatment. Copies of the profile documents and shipping manifests are included in **Appendix A.**

Prior to backfilling, and because of the anomalous nature of the FID readings, soil samples were collected from each of the four (4) excavation sidewalls. The samples were collected into laboratory-supplied containers, assigned a unique identification number, packed in ice, and delivered to PEL Laboratories in Tampa, Florida. Appropriate preservatives were used, and chain-of-custody documentation accompanied all samples. Each sample was analyzed for the presence of VOAs using EPA Method 8021, polycyclic aromatic hydrocarbons (PAHs) using EPA Method 8310, and TRPH using State Method FL-PRO. The analytical results are summarized in **Table 2.**

Results were used for site assessment purposes and are discussed below in **Section 4.1.** A copy of the laboratory report is provided in **Appendix A.**

2.5 Physiography and Topography

The site is located in extreme south-central Orange County. The topography of the site and immediately surrounding area is generally flat. The surface elevation, according to the USGS topographic map, range between 75 and 80 feet above mean sea level (amsl). Marshy areas are located due east, south and west from the site. Boggy Creek trends north-south and lies approximately 3,000 ft west from the site.

2.6 Regional Geology and Hydrogeology

Orange County is located in the north-central part of peninsular Florida, east and southeast of the crest of the Ocala Uplift, or the Ocala High. Surficial deposits are underlain by extensive deposits of Eocene age carbonates. The dissolution of limestone and the paleo-marine processes that shaped the surficial deposits are the dominant forces responsible for the development of the surface features observed in the county.

Two major, generalized physiographic divisions occur in Orange County. They are the Central Highlands and the Coastal Lowlands. The Central Highlands form the western one-third of the county, and the Coastal Lowlands form the eastern two-thirds. The Central Highlands include such physiographic features as the Marion Upland, the Mount Dora Ridge, the Lake Wales Ridge, the Orlando Ridge, and the Central Valley. The Coastal Lowlands include the Eastern Valley, the Wekiva Plain, and the Osceola Plain.

Orange County is underlain by limestone units of Eocene age (Ocala Group, Avon Park Limestone, and Lake City Limestones. These sedimentary deposits are very fine- or fine-grained, are chalky and porous, and have a cream color. These limestone units contain many large foraminifera and abundant mollusks. The surface of the limestone generally dips eastward. The surface is irregular because of dissolution of the limestone.

The sedimentary deposits that are immediately and unconformably underlain by the Eocene limestone units are of the Miocene-aged Hawthorn Group. The highly variable, diverse, lithologic character of the Hawthorn Group includes interbedded and interfingering sand, clayey sand, sandy clay, phosphatic sediment, dolomite, and limestone.

Clayey sand covers large areas of western Orange County and is under much of the higher areas of the Central Highlands (elevations up to 310 feet near Lake Apopka). Shell beds of Miocene age through Pleistocene age are in the eastern part of the county. Unconsolidated sand blankets the county.

Based upon review of the USGS Report of Investigation No. 50 (*Water Resources of Orange County, Florida*), groundwater occurs within either non-artesian or artesian aquifer systems in Orange County. The non-artesian water-table aquifer is approximately 40 feet thick across most of the county. Lower permeability sediments within the underlying Hawthorn Group generally retard vertical groundwater movement, but there are "secondary artesian aquifers" within this unit. In the south-central part of the county, the combined sediments of the water-table aquifer and the Hawthorn Group are approximately 250 ft thick. Although groundwater may be obtained for private use from these units, the principal source for the county are the underlying carbonate units that comprise the Floridan aquifer of Eocene age. Water levels of the Floridan aquifer range from about 15 feet to 60 feet below the land surface. The quality of the groundwater in Orange County ranges from moderately hard in the western and central areas to saline in the extreme eastern part of the county.

2.7 Well Survey

An interview with onsite personnel revealed that there are no wells located on the subject property. Site irrigation water is supplied by a well and overflow pond located on adjoining nursery property to the north.

During mobilizations to the site for site assessment activities, HSA personnel performed a windshield survey for public and private supply wells (potable and irrigation) within a 1/2-mile radius of the incident area. Surrounding land is rural and sparsely developed. The windshield survey revealed several mobile homes to the east and south that are suspected to have active private wells. However, the closest mobile home is at least 1/8 mile from the area being investigated on the subject site.

3.0 ASSESSMENT METHODOLOGY

This section describes field sampling and laboratory analysis methodologies for assessment activities conducted by HSA at this site. Field sampling activities were conducted in accordance with the Florida Department of Environmental Protection's (FDEP) Standard Operating Procedures (SOP) for Field Activities dated January 2002, effective April 2002.

3.1 Soil Assessment

Soil assessment included eight (8) "grab samples" during the September 2003 source removal, installation of five (5) additional delineation soil borings in October 2003, soil vapor screening at all locations with an FID instrument, and laboratory analysis of five (5) soil samples from selected intervals and locations. The soil assessment locations are shown on **Figure 3.**

3.1.1 Location Rationale

The final excavation sidewall sampling locations are in the immediate vicinity of the identified source – the former UST. Post-excavation soil borings were strategically located adjacent to the former UST area and surrounding the current AST containment structure to fully assess the potential horizontal and vertical extent of soil impacts.

3.1.2 FID Screening

The TVA/FID was used to measure organic vapors in soil headspace for all soil sampling locations. All samples measured were collected from soils above the water table. "Grab samples" obtained during source removal were collected into glass mason jars directly from the excavation. Later, soil boring samples were collected using a stainless-steel hand auger. Prior to and between sampling locations, the auger was cleaned using deionized water, an Alconox®-water rinse, and a final rinse with deionized water. Soil samples were transferred to glass mason jars directly from the auger bucket. Each mason jar sample was covered with aluminum foil and allowed to equilibrate. The FID probe was then inserted through the foil to measure the soil vapor headspace. An initial unfiltered reading was collected. Next, a filtered reading using a probe with granular activated carbon (GAC) was collected. The GAC-filled probe filters most naturally occurring organics such as methane. The difference between the unfiltered and filtered FID readings is the level presumably attributable to petroleum hydrocarbon vapors. The FID was calibrated before screening activities in accordance with the manufacturer's specifications using a methane calibration standard. Field FID readings are provided in **Table 1.**

3.1.3 Soil Sampling and Laboratory Analysis

Confirmatory soil samples for laboratory analysis were collected from five (5) locations to supplement the soil vapor screening data. Samples were collected into laboratory-supplied containers, assigned a unique identification number, packed in ice, and delivered to the project laboratory. Appropriate preservatives were used, and chain-of-custody documentation accompanied all samples.

All confirmatory soil samples were delivered to PEL Laboratories located in Tampa, Florida. Samples were analyzed for the presence of benzene, toluene, ethylbenzene and xylenes [BTEX] and methyl tert-butyl ether [MTBE] using EPA Method 8021, PAHs using EPA Method 8310, and TRPH using State Method FL-PRO. Additionally, one set of samples was analyzed by the Synthetic Precipitation Leachate Procedure (SPLP) using EPA Methods 1312 and 8310 for selected PAH constituents to determine the site-specific leachability of the soils, and by the Total Petroleum Hydrocarbon Working Group (TPHCWG) Method to determine the site-specific aliphatic versus aromatic fractionation of TRPH. The TPHCWG analysis was performed by STL located in Tampa, Florida.

The results are summarized in **Table 2.** Significant findings are discussed below in **Section 4.1.** Copies of the laboratory report and custody documentation for source removal samples (September 2003) are included in **Appendix A,** and for assessment phase samples (October 2003) are included in **Appendix B.**

3.2 Groundwater Assessment Methodology

Groundwater assessment was conducted following the source removal action to evaluate if there were any residual effects to groundwater. This assessment task included the installation and sampling of groundwater from a network of monitoring wells.

3.2.1 Monitoring Well Construction and Location Rationale

Prior to final monitoring well installation, a network of four (4) PVC piezometers was installed into boreholes located in the vicinity of the main facility building. HSA personnel then surveyed top-of-casing elevations, measured water levels, and made a field determination for shallow groundwater flow direction. This task resulted in an inferred shallow groundwater flow direction toward the west (in the direction of Boggy Creek). Subsequently, one monitoring well location (MW-3) was selected for the backfilled source removal excavation area, and two locations (MW-1 and MW-2) were chosen in the inferred downgradient direction. Final monitoring well locations are depicted on **Figure 3.**

Monitoring wells were installed on October 3, 2003 using direct-push technology (DPT) equipment. Each well was constructed with a basal 10-ft section of 1-inch diameter PVC screen surrounded by a 2-inch diameter PVC screen with a 20/30 graded silica sand filter pack in the annular space, and each screen section was 0.010-inch slot size. This section was connected to a 1-inch PVC riser up to land surface. Due to the shallow groundwater table, each well was set to a total depth of approximately 10-1/2 ft bls. The remaining annular space between the DPT borehole and the outer 2-inch PVC screen was also filled with a 20/30 graded sand pack. This sand pack was capped with a fine sand (30/65 graded silica sand) seal, and finally a neat cement grout seal to land surface. A flush-mounted steel manhole set within a 2 ft by 2 ft concrete pad was set at each wellhead for surface protection. Each well was developed using a peristaltic pump until a relatively sediment-free discharge was obtained. Field lithologic and well construction logs are provided in **Appendix C.**

3.2.2 Groundwater Elevations

Groundwater depth measurements were collected using a probe that emits a signal upon contact with water. Top-of-casing elevation were surveyed for each monitoring well and referenced to an arbitrary site benchmark. A relative groundwater elevation was computed by subtracting the groundwater depth from the relative well casing elevation. Results are summarized in **Table 3,** and significant findings are discussed below in **Section 4.2.**

3.2.3 Monitoring Well Sampling and Laboratory Analysis

Groundwater samples were collected from all monitoring wells on October 9, 2003. Water levels were measured at each well prior to initiating groundwater sample collection. Next, each well was purged at a rate of approximately 1 liter per minute, or less, and field parameters were collected in accordance with FDEP SOPs for groundwater sampling. After purging was completed, groundwater samples were collected from each well using a unique section of disposable polyethylene tubing. All groundwater samples were observed for the presence of free-phase petroleum product, sheen, and/or odors. All observations and field parameter readings were recorded on field sampling logs, copies of which are provided in **Appendix D**.

The groundwater samples were placed into laboratory-supplied containers, assigned a unique identification number, packed in ice, and delivered to the PEL Laboratories. Appropriate preservatives were used, and chain-of-custody documentation accompanied all samples. All samples were analyzed for the presence of BTEX and MTBE using EPA Method 8021, PAHs using EPA Method 8310, and TRPH using State Method FL-PRO.

The results are summarized in **Table 4.** Significant findings are discussed below in **Section 4.2.** Copies of laboratory reports and custody documentation are included in **Appendix B.**

4.0 ASSESSMENT RESULTS

The results of the soil and groundwater assessment activities performed at the subject site between September and October 2003 are described below.

4.1 Soil Assessment

4.1.1 Soil Vapor Screening Results

Soil screening results are summarized in **Table 1**. Nearly every sample displayed a trend of a higher filtered than unfiltered reading. This is attributed to the highly organic nature of the soil and a relatively high naturally occurring methane content. Soil sample location SB-4 which displayed a net reading of 129 parts per million (ppm) was eventually removed during soil excavation in September 2003. Sidewall location SB-8 on September 5, 2003 displayed a net reading of nearly 112 ppm. Soil boring location SB-13 on October 9, 2003 was designed to "twin" the location of SB-8. However, on that particular date, soil sampling at a slight angle beneath the AST containment wall for SB-13 did not encounter detectable vapors attributable to petroleum fuels. Additional sampling around the AST containment wall on October 9, 2003 similarly did not detect indications of petroleum hydrocarbon vapors.

4.1.2 Soil Analytical Results

Four (4) confirmatory sidewall samples were collected on September 5, 2003 to validate the soil screening results. The laboratory analytical results were compared to Soil Cleanup Target Levels (SCTLs) cited in Chapter 62-777, FAC for direct exposure (residential and industrial land use scenarios) and potential leachability to groundwater. Soil analytical results are summarized in **Table 2** and on **Figure 4**. Significant findings are as follows:

- Samples from the north (SB-5), south (SB-7), and west (SB-6) excavation sidewalls contained no detectable target compounds, except for trace levels of methylnaphthalenes at SB-5. These locations were characterized by FID readings that ranged from "negative" 331 parts per million (ppm) up to 1 ppm.

- A sample collected from the eastern excavation sidewall (SB-8) contained concentrations of certain PAHs that exceed the default leachability SCTLs, but not the corresponding direct exposure SCTLs. The exceedances were for naphthalene (2.02 mg/kg), 1-methylnaphthalene (9.38 mg/kg), and 2-methylnaphthalene (21.8 mg/kg). The reported concentration for TRPH (9,680 mg/kg) exceeded both the direct exposure and the default leachability SCTL. Trace levels of VOAs and other PAHs were also detected, but all at concentrations below corresponding SCTLs.

- Soil Boring SB-13 completed on October 9, 2003 was designed to "twin" the location for SB-8, and it was collected from a borehole hand augered at an angle beneath the AST containment wall. Samples were collected and analyzed to report only those constituents that had exceeded SCTLs in sample SB-8. Although the methylnaphthalenes and TRPH were detected, their concentrations were approximately two orders of magnitude less than those reported for SB-8. SPLP analysis indicated trace to non-detectable levels of these target compounds in the sample extract. TPHCWG fractionation analysis indicated all hydrocarbon classes as below detection limits.

4.1.3 Site-Specific Geology

Site-specific lithology was evaluated during installation of soil borings and monitoring wells. Field descriptions of lithology observed during monitoring well installation are presented in the copies of field log sheets provided in **Appendix C**.

Generally, the subsurface lithology at the site consists of very fine-grained sand, with a trace of silt, and orange to brown to gray-brown in color from land surface to at least 11 ft bls. The bottom foot of the borehole for MW-3 and the bottom 2 feet of the borehole for MW-2 encountered sand with trace amounts of clay.

4.2 Groundwater Assessment

4.2.1 Groundwater Depths and Gradients

The depth to water observed in the open excavation on September 5, 2003 was approximately 2 ft bls. The depth to water measured prior to sampling the monitoring wells on October 9, 2003 ranged from 1.75 to 1.32 feet below top-of-casing. Calculated water-level elevations for October 9, 2003 suggest a shallow groundwater flow direction toward the west (see **Figure 5**). This interpretation confirmed that derived in the field using temporary piezometers prior to well installations on October 3, 2003. The calculated horizontal gradient for the October 9, 2003 measurement date is approximately 0.0007 ft/ft.

Slug tests were not performed in the site monitoring wells. However, the hydraulic conductivity can be approximated using specific capacities data generated during well purging for groundwater sample collection. As referenced in *Groundwater and Wells* (Driscoll, 1986), specific capacity (or Q/s) for unconfined aquifers is related to hydraulic conductivity (K) by the following empirical relationship:

$Q/s = T/1500$, where

Q = well discharge in gallons per minute (site-specific value of $\pm$0.05 gpm)
s = well drawdown in ft (site-specific range of 0.74 to 5.24 ft)
T = transmissivity in gallons per day per foot

and,

$T = K\,b/7.48$, where

K = hydraulic conductivity in ft per day
b = aquifer thickness in ft (conservatively, one half the published regional thickness, or $\pm$20 ft)

Using the site-specific values presented above, the derived value for hydraulic conductivity (K) would range between approximately 5 and 37 ft per day, and this is within the expected range for fine-grained, sandy, surficial aquifers in central Florida.

4.2.2 Well Purging Field Parameters

As presented in the groundwater sampling logs (see **Appendix D**), field parameters stabilized and dissolved oxygen (DO) readings fell within the range specified by the FDEP SOP for groundwater sampling. Turbidity readings were acceptable (below 20 nephelometric turbidity units [NTUs]) in monitoring wells MW-2 and MW-3. The final turbidity reading in MW-1 was 89 NTUs, and this is attributed to the limited development capacity of small diameter wells. This circumstance is not expected to adversely affect the evaluation of analytical results from this particular monitoring well.

4.2.3 Groundwater Analytical Results

The analytical results for groundwater samples collected on October 2003 were compared to the groundwater cleanup target levels (GCTLs) cited in Chapter 62-777, FAC. Groundwater analytical results are summarized in **Table 4** and on **Figure 6**. Significant findings are as follows:

- In source area monitoring well MW-3, detectable levels of toluene, ethylbenzene, xylenes, certain PAHs, and TRPH were reported. However, all concentrations are below corresponding GCTLs.
- No target constituents were detected in perimeter monitoring well MW-1. Only TRPH (0.64 mg/L) was detected in perimeter monitoring well MW-2, but this concentration is well below the GCTL.

5.0 CONCLUSIONS

Based on the results of a site assessment following a source removal action, the following conclusions relative to site conditions can be made:

Due diligence testing in the immediate area of a former petroleum fuel UST indicated TRPH impacts to soil and groundwater, and a DRF was filed by John Deere.

Soil excavation in September 2003 encountered a limited quantity of impacted soil. The final excavation area was approximately 11 ft by 17 ft by 3 ft deep. A total of 30.75 tons of soil was transported offsite and thermally treated by STS in Kissimmee, Florida. The water level in the open pit rose to approximately 2 ft bls prior to backfilling. Soil vapor screening revealed a preponderance of natural methane. Confirmatory sidewall samples indicated no SCTL exceedances on three (3) sides. A confirmatory sample (SB-8) from the eastern sidewall, collected adjacent to the containment wall used for the current petroleum AST, indicated apparent impact due to SCTL exceedances for certain PAH constituents and TRPH.

To verify the results for location SB-8, a confirmatory sample was collected in October 2003 at a "twin" location. This sample was collected from a borehole hand augered at an angle beneath the AST containment wall. The analytical results revealed similar constituents but at concentrations approximately 2 orders of magnitude below those reported for SB-8 and below all SCTLs. SPLP analysis indicated no levels of target compounds in the sample extract above corresponding GCTLs. TPHCWG fractionation analysis indicated all hydrocarbon classes as below detection limits.

Post-excavation groundwater samples were collected in October 2003. The analytical results revealed detectable petroleum constituents at monitoring well (MW-3) installed within the backfilled excavation and at perimeter monitoring well MW-2. However, none of the reported concentrations exceed corresponding GCTLs. No target compounds were detected in perimeter monitoring well MW-1.

6.0 RECOMMENDATIONS

The assessment results indicate that the September 2003 source removal action has been effective in mitigating apparent impacts from the former UST. Continuing degradation of potential residual soil impacts is apparent from the analytical results along the AST containment wall collected in October 2003 versus September 2003. Based on the assessment findings, John Deere and HSA recommend that a status of "No Further Action" be approved.

7.0 REFERENCES

Driscoll, Fletcher G., 1986, *Groundwater and Wells*, Johnson Filtration Systems, Inc. 1089 p.

Florida Department of Environmental Protection, Standard Operating Procedures for Field Activities (DEP-SOP-001/01), January 2002 (Effective April 2002).

Florida Department of Environmental Protection, Chapter 62-770, Florida Administrative Code, Petroleum Contamination Site Cleanup Criteria, Effective August 5, 1999.

Florida Department of Environmental Protection, Chapter 62-777, Florida Administrative Code, Contaminant Cleanup Target Levels, Effective August 5, 1999.

Florida Department of Environmental Protection, Chapter 62-713, Florida Administrative Code, Soil Treatment Facilities, Effective August 5, 1999.

United States Geological Survey and Florida State Board of Conservation, 1968, *Water Resources of Orange County, Florida,* Report of Investigations No. 50, 150 p.

United States Geological Survey, 1963, *Saint Cloud North, Florida,* 7.5 Minute Series Topographic Quadrangle Map (photorevised 1987).

TABLES

TABLE 1: TVA/FID Results
John Deere Landscapes
Orlando, Orange County, Florida
FDEP Facility ID No. 488627080

Sample ID	Date	Sample Interval (feet bls)	FID Unfiltered (ppm)	FID Filtered (ppm)	FID "Net" Reading (ppm)
SB-1	9/5/2003	2-2.5	919	934	-15
SB-2	9/5/2003	2-2.5	32	107	-75
SB-3	9/5/2003	2-2.5	505	510	-5
SB-4	9/5/2003	2-2.5	522	393	129
SB-5	9/5/2003	1-1.5	5.5	16.4	-10.9
	9/5/2003	2-2.5	8.6	10.0	-1.4
SB-6	9/5/2003	1-1.5	3.6	3.9	-0.3
	9/5/2003	2-2.5	390	389	1
SB-7	9/5/2003	1-1.5	56.3	70.2	-13.9
	9/5/2003	2-2.5	111	442	-331
SB-8*	9/5/2003	1-1.5	126	14.1	111.9
	9/5/2003	2-2.5	943	1,163	-220
SB-9	10/9/2003	1-1.5	20	25	-5
SB-10	10/9/2003	1-1.5	80	90	-10
SB-11	10/9/2003	1-1.5	8	0	8
SB-12	10/9/2003	1-1.5	400	450	-50
SB-13*	10/9/2003	1-1.5	600	625	-25

Footnotes:
* = SB-8 and SB-13 are "twin" locations
ppm = parts per million
ft bls = feet below land surface
TVA/FID = Toxic Vapor Analyzer with Flame Ionization Detector
Net FID obtained by subtracting filtered from unfiltered reading.

TABLE 2
Summary of Soil Analytical Results
John Deere Landscapes
Orlando, Orange County, Florida
FDEP Facility ID No. 488627080

Analytes (Method), Units	FDEP SCTLs		SB-7	SB-8*	SB-5	SB-6	SB-13*
	Direct Exp.	Leachability	2-2.5 ft bls	1-1.5 ft bls	2-2.5 ft bls	2-2.5 ft bls	1-1.5 ft bls
			9/5/03	9/5/03	9/5/03	9/5/03	10/9/2003
Purgeable Aromatics (8021), mg/kg							
Benzene	1.1	0.007	<0.0019	<0.0019	<0.002	<0.0018	NA
Toluene	380	0.5	<0.0019	0.0096	<0.002	<0.0018	NA
Ethylbenzene	1100	0.6	<0.0019	0.208	<0.002	<0.0018	NA
Xylenes	5900	0.2	<0.0056	0.1111	<0.0061	<0.0054	NA
MTBE	3200	0.2	<0.0019	<0.0019	<0.002	<0.0018	NA
Polynuclear Aromatics (8310), mg/kg							
Acenaphthene	190	2.1	<0.010	<0.010	<0.010	<0.010	NA
Acenaphthylene	110	27	<0.010	0.357	<0.010	<0.010	NA
Anthracene	18000	2500	<0.010	0.752	<0.010	<0.010	NA
Benzo(a)Anthracene	14	3.2	<0.010	3.18	<0.010	<0.010	NA
Benzo(a)Pyrene	0.1	8	<0.010	<0.010	<0.010	<0.010	NA
Benzo(b)Fluoranthene	1.4	10	<0.010	0.219	<0.010	<0.010	NA
Benzo(g,h,i)Perylene	230	3200	<0.010	<0.010	<0.010	<0.010	NA
Benzo(k)Fluoranthene	15	25	<0.010	<0.010	<0.010	<0.010	NA
Chrysene	140	77	<0.010	3.12	<0.010	<0.010	NA
Dibenzo(a,h)Anthracene	0.1	30	<0.010	<0.010	<0.010	<0.010	NA
Fluoranthene	2900	1200	<0.010	12.6	<0.010	<0.010	NA
Fluorene	22	160	<0.010	2.79	<0.010	<0.010	NA
Indeno(1,2,3-cd)Pyrene	15	28	<0.010	0.0363	<0.010	<0.010	NA
Phenanthrene	2000	250	<0.010	7.63	<0.010	<0.010	NA
Pyrene	2000	880	<0.010	<0.010	<0.010	<0.010	NA
Naphthalene	40	1.7	<0.010	**2.02**	<0.010	<0.010	<0.010
1-Methylnaphthalene	68	2.2	<0.010	**9.38**	0.0113	<0.010	0.0346
2-Methylnaphthalene	80	6.1	<0.010	**21.8**	0.0147	<0.010	0.0539
TRPH (FL-PRO), mg/kg	340	340	<18	**9680**	<20	<18.2	88
Petroleum Hydrocarbon Vapors (OVA), ppm	NA	NA	(-331)	111.9	(-1.4)	1	(-25)
SPLP Polynuclear Aromatics (1312/8310), µg/L	**FDEP GCTLs**						
1-Methylnaphthalene	20		NA	NA	NA	NA	<0.22
2-Methylnaphthalene	20		NA	NA	NA	NA	0.36
Naphthalene	20		NA	NA	NA	NA	<0.22

Footnotes:
* - SB-8 and SB-13 are "twin" locations
ft bls - feet below land surface
FDEP SCTL - Florida Department of Environmental Protection Soil Cleanup Target Level per Chapter 62-777, FAC. Values presented are residential direct exposure and leachability based on groundwater cleanup criteria.
ug/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
ppm - parts per million
MTBE - methyl tert butyl ether
TRPH - Total Recoverable Petroleum Hydrocarbons
OVA - Organic Vapor Analyzer equipped with flame ionization detector
Bold data and shaded box indicates concentration exceeds SCTL(s).

TABLE 3
Well Construction Details and Water-Elevation Data
John Deere Landscapes
Orlando, Orange County, Florida
FDEP Facility ID No. 488627080

Well ID	Date Installed	Screen Interval (ft bls)	Screen Diameter (in)	TOC Elevation (ft amsl)	Depth to Water* (ft below TOC)	Water Elevation* (ft amsl)
MW-1	10/3/2003	0.5-10.5	2	49.87	1.75	48.12
MW-2	10/3/2003	0.5-10.5	2	49.46	1.33	48.13
MW-3	10/3/2003	0.5-10.5	2	49.48	1.32	48.16

in = inches
ft bls = feet below land surface
ft amsl = feet above mean sea level as referenced to arbitrary benchmark of 50 ft
TOC = top of casing
* = Depths and elevations are for October 9, 2003

TABLE 4
Summary of Groundwater Analytical Results
John Deere Landscapes
Orlando, Orange County, Florida
FDEP Facility ID No. 488627080

Analyte (Method), Units	FDEP GCTL	MW-1	MW-2	MW-3
Purgeable Aromatics (8021), ug/L		10/9/2003		
Benzene	1	<1	<1	<1
Toluene	40	<1	<1	1.1
Ethylbenzene	30	<1	<1	2.4
Xylenes	20	<3	<3	10.9
MTBE	50	<1	<1	<1
Polynuclear Aromatics (8270), ug/L				
Acenaphthene	20	<0.2	<0.2	1.3
Acenaphthylene	210	<0.2	<0.2	0.33
Anthracene	2,100	<0.2	<0.2	<0.2
Benzo(a)anthracene	0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	0.2	<0.2	<0.2	<0.2
Benzo(b)fluoranthene	0.2	<0.2	<0.2	<0.2
Benzo(g,h,i)perylene	210	<0.2	<0.2	<0.2
Benzo(k)fluoranthene	0.5	<0.2	<0.2	<0.2
Chrysene	4.8	<0.2	<0.2	<0.2
Dibenzo(a,h)anthracene	0.2	<0.2	<0.2	<0.2
Fluoranthene	280	<0.2	<0.2	0.43
Fluroene	280	<0.2	<0.2	0.54
Indeno(1,2,3-cd)pyrene	0.2	<0.2	<0.2	<0.2
Phenanthrene	210	<0.2	<0.2	0.71
Pyrene	210	<0.2	<0.2	<0.2
Naphthalene	20	<0.2	<0.2	4.2
1-Methylnaphthalene	20	<0.2	<0.2	4.8
2-Methylnaphthalene	20	<0.2	<0.2	8.6
Petroleum Range Organics (FL-PRO), mg/L				
TRPH	5.0	<0.34	0.64	4.2

Footnotes:

FDEP GCTL - Florida Department of Environmental Protection Groundwater Cleanup Target Level per Chapter 62-777 FAC.

ug/L - micrograms per liter

mg/L - milligrams per liter

MTBE - methyl tert butyl ether

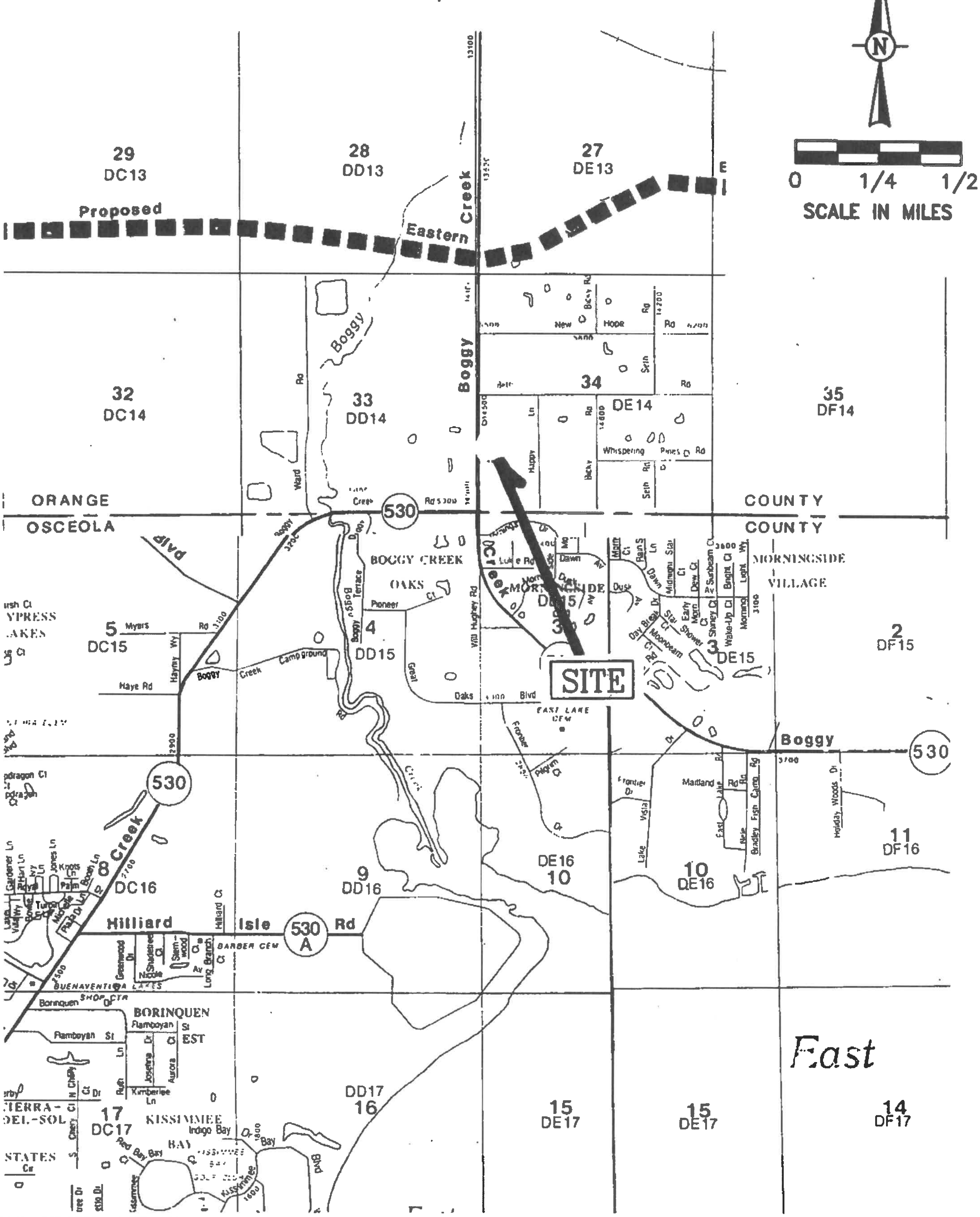
TRPH-Total Recoverable Petroleum Hydrocarbons

Bold indicates constituent exceeds GCTL

NA - Not analyzed

FIGURES

SECTION 34, TOWNSHIP 24 SOUTH, RANGE 30 EAST
ORANGE COUNTY, FLORIDA

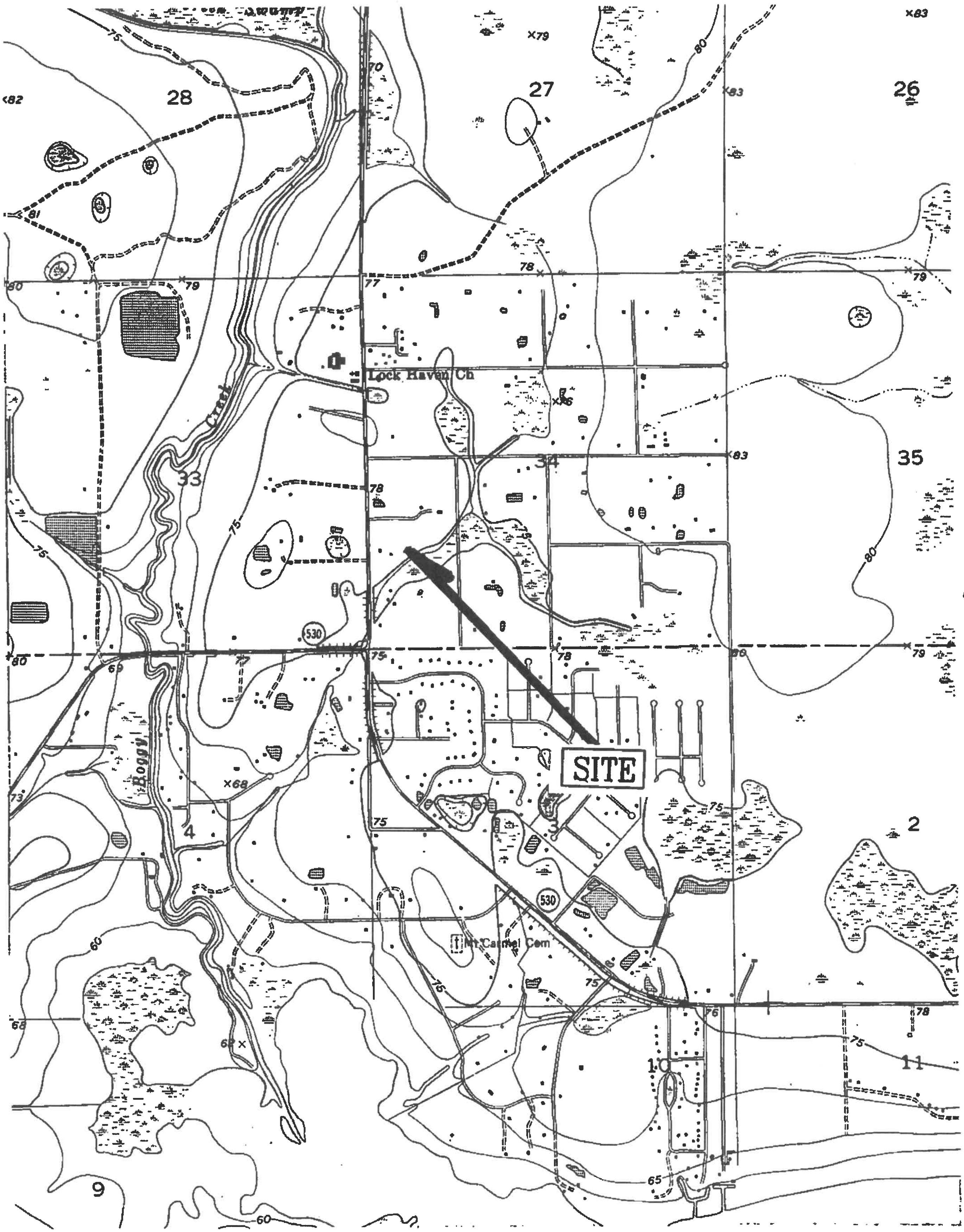


JOB NO.: 6005906100
CAD NO.: 906100-02
DATE: 11/10/03

HSA
ENGINEERS & SCIENTISTS
4019 E. Fowler Avenue Tampa, Florida 33617 Tel: (813) 971-3882

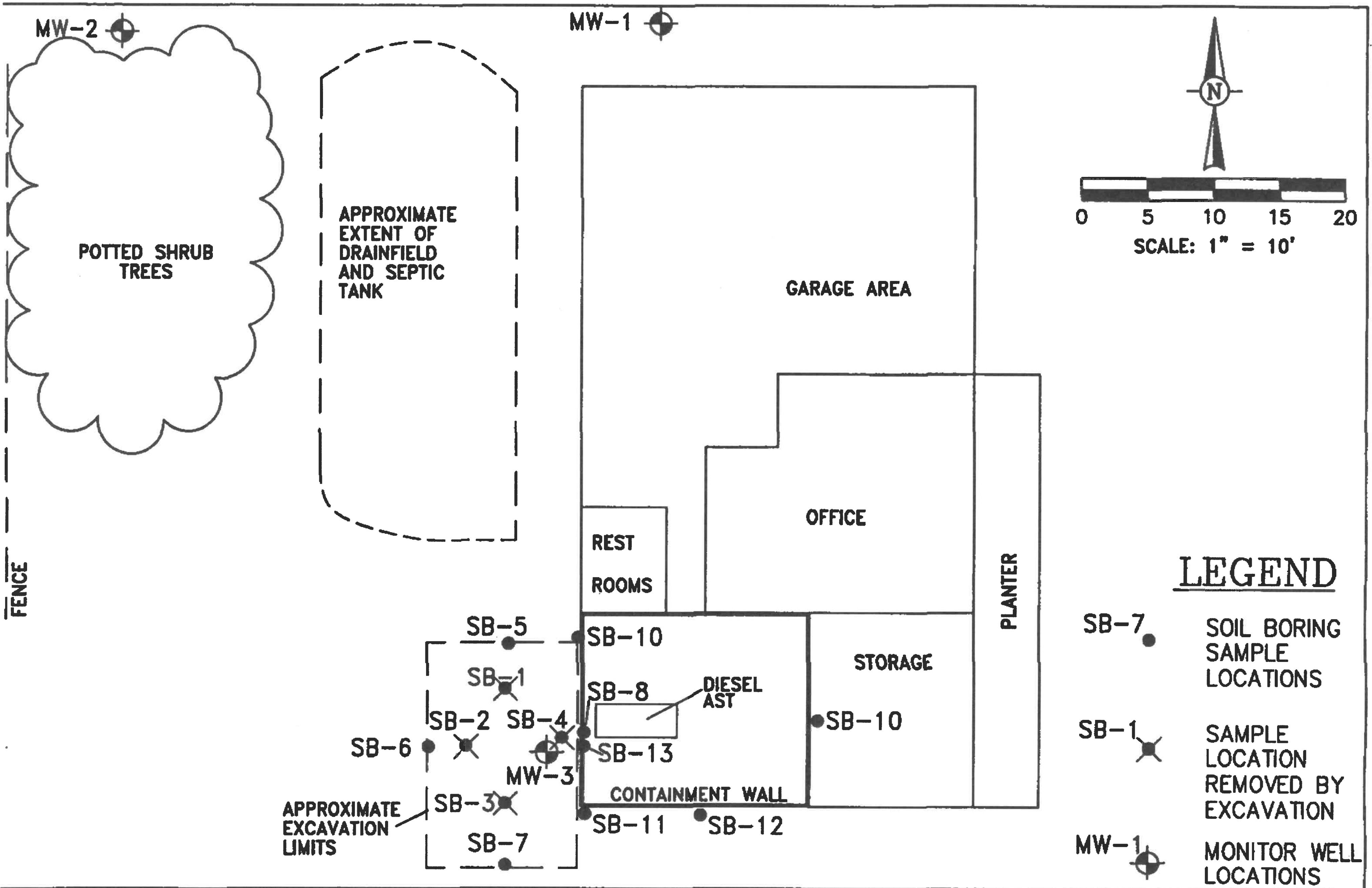
JOHN DEERE LANDSCAPES
14645 BOGGY CREEK ROAD
ORLANDO, FLORIDA
FDEP FAC NO. 488627080

SHEET TITLE
SITE LOCATION MAP



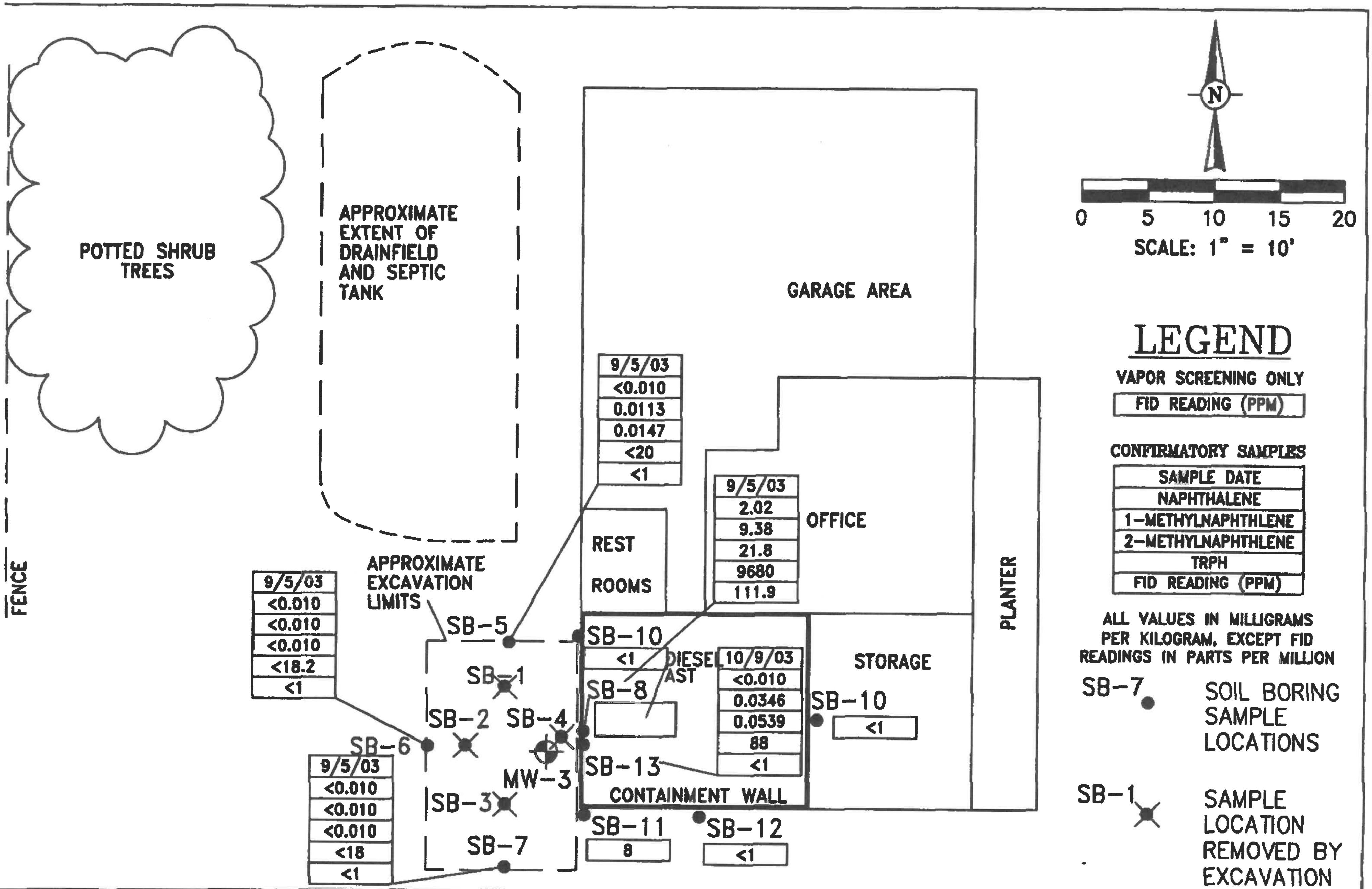
SOURCE: USGS SAINT CLOUD NORTH, FL QUADRANGLE, SCALE 1 INCH = 2000 FT

JOB NO.: 6005906100 CAD NO.: 906100-02 DATE: 11/10/03	HSA ENGINEERS & SCIENTISTS 4019 E. Fowler Avenue, Tampa, Florida 33617 Tel: (813) 971-3882	JOHN DEERE LANDSCAPES 14645 BOGGY CREEK ROAD ORLANDO, FLORIDA FDEP FAC NO. 488627080	SHEET TITLE SITE TOPOGRAPH MAP



SHEET TITLE: SITE PLAN	DESIGNED N/A	JOB #: 6005906100	HSA ENGINEERS & SCIENTISTS	JOHN DEERE LANDSCAPES 14645 BOGGY CREEK ROAD ORLANDO, FLORIDA
	DRAWN RBW	DATE: 11/10/03		
	CHECKED	CAD #		

FIGURE 3



SHEET TITLE PETROLIUM CONSTITUENT IN SOIL	DESIGNED N/A	JOB #: 6005906100
FIGURE 4	DRAWN RBW	DATE: 11/10/03
	CHECKED	CAD #

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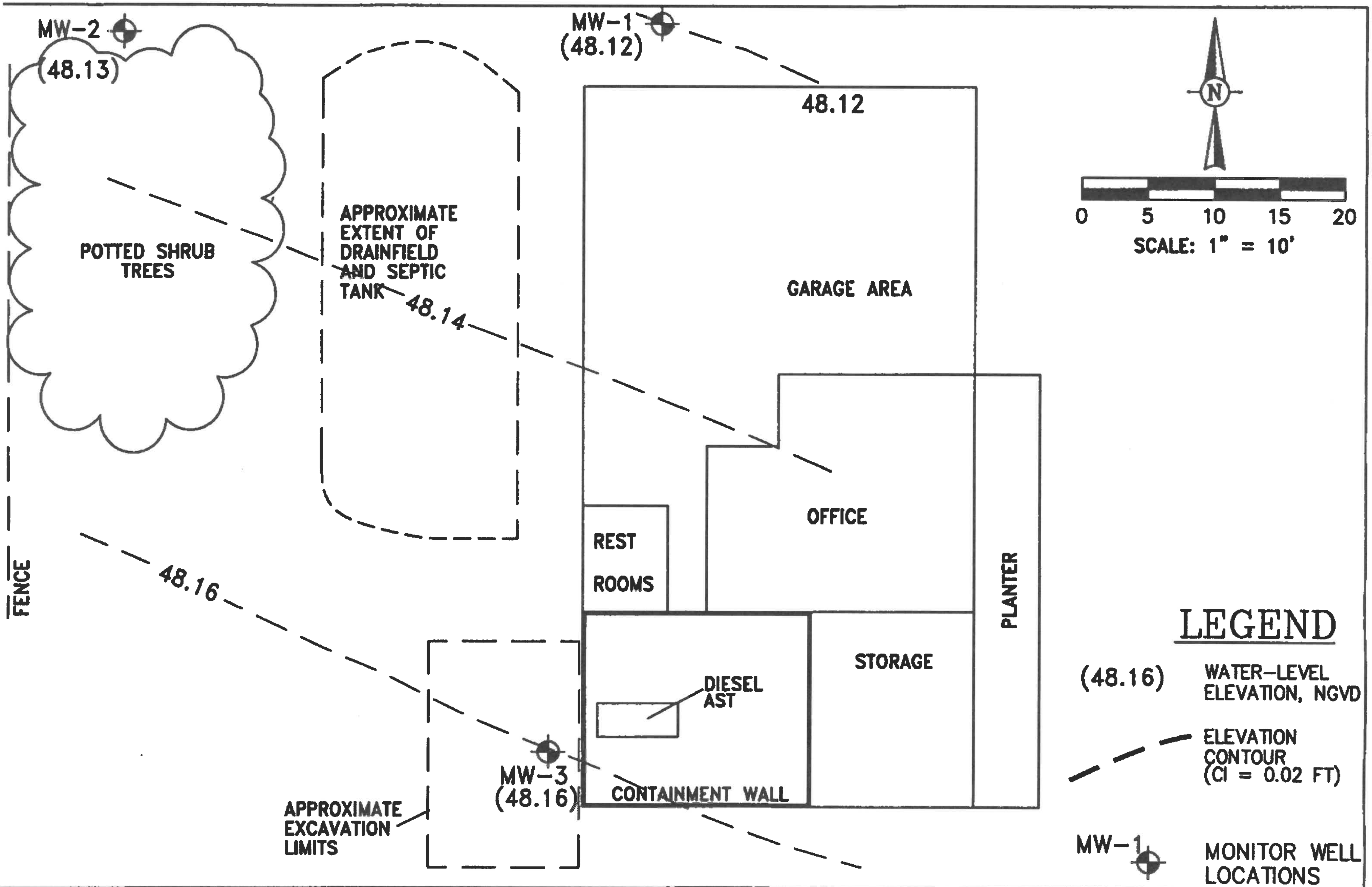
ORLANDO, FLORIDA



SHEET TITLE
WATER-LEVE
ELEVATIONS
(OCTOBER 9th, 2

FIGURE 6

DESIGNED	N/A	JOB #:	6005906100
DRAWN	RBW	DATE:	11/10/03
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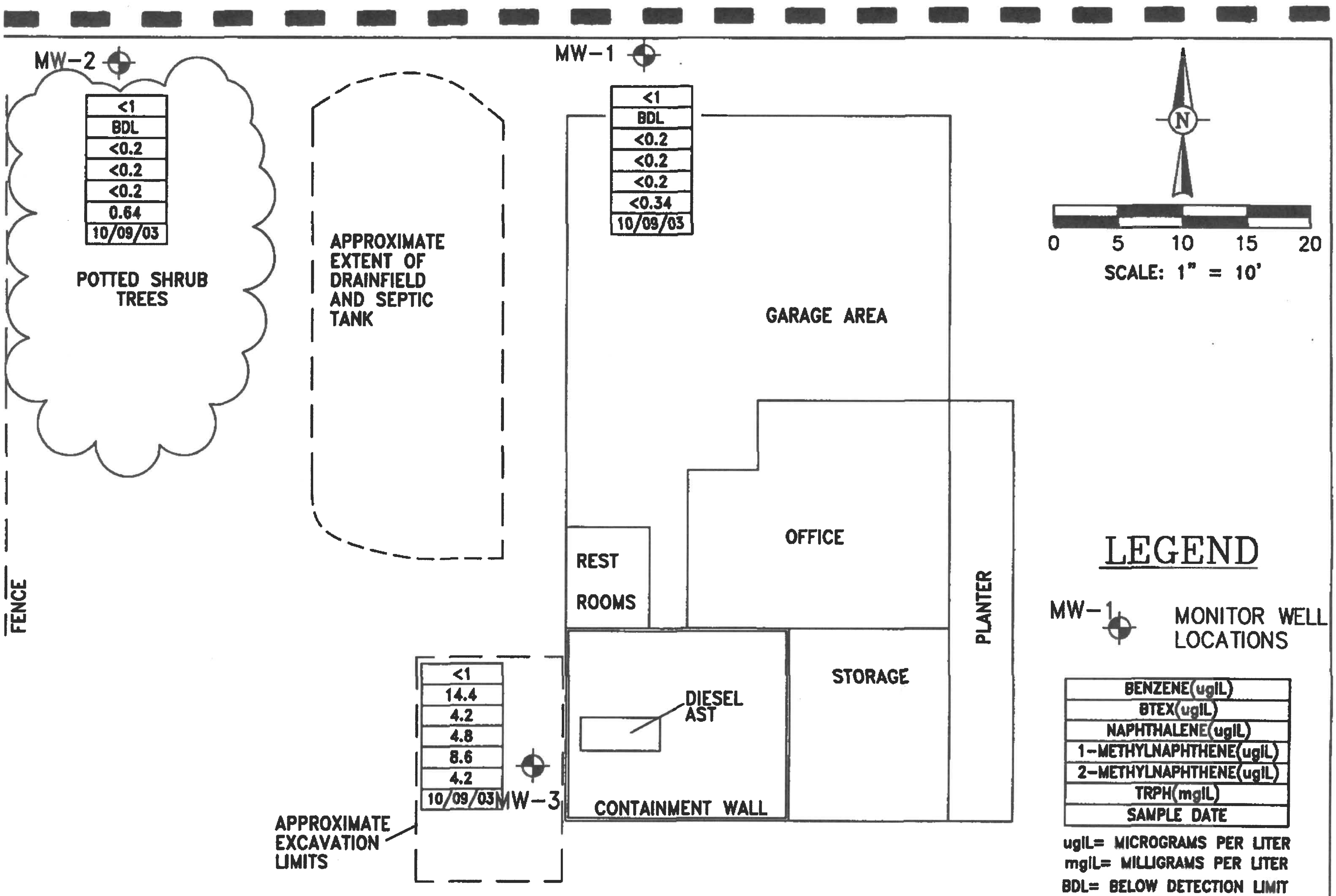

FIGURE 6	SHEET TITLE: PETROLIUM CONSTITUENTS GROUND WAT	DESIGNED N/A	JOB #: 6005906100
		DRAWN RBW	DATE: 11/10/03
		CHECKED	CAD #

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ORLANDO, FLORIDA

SITE 6

Historical Auto Salvage Yard

federal register

Friday
September 29, 1995

INCLUDES INFORMATION RE: AUTO SALVAGE YARD CONTAMINATION CONCERNS

Part XIV

Environmental Protection Agency

Final National Pollutant Discharge Elimination System Storm Water Multi-Sector General Permit for Industrial Activities; Notice

M. Storm Water Discharges Associated With Industrial Activity From Automobile Salvage Yards

1. Industry Profile

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of "storm water discharges associated with industrial activity." This definition included point source discharges of storm water from eleven categories of facilities, including "* * * battery reclaimers, salvage yards, and automobile recyclers, including but limited to those classified as Standard Industrial Classification 5015.* * *"

This section establishes special conditions for the storm water discharges associated with industrial activities at automobile salvage yards. Washwaters from vehicle, equipment, and parts cleaning areas are process wastewaters. Discharges of process wastewater and discharges subject to process wastewater effluent limitation guidelines are not eligible for coverage under this section.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

This section has been developed for storm water discharges associated with activities related to dismantling of used motor vehicles for the purpose of selling parts. As stated above, category (vi) of the definition of storm water discharges associated with industrial activity includes facilities primarily engaged in the wholesale or retail distribution of used motor vehicle parts and classified as SIC code 5015. Dismantlers are a major source for replacement parts for motor vehicles in service.

The following description summarizes operations that might occur at a typical automobile dismantling facility. The primary activity involves the dismantling or wrecking of used motor vehicles. Some facilities, however, perform vehicle maintenance and may rebuild vehicles for resale.

Typically, automobile dismantling facilities receive vehicles that are either uneconomical to run or wrecks that are uneconomical to repair. The nature of operations generally depends on the size and location of the facility. In urban areas where land is more valuable, vehicles are typically dismantled upon arrival, parts are segregated, cleaned, and stored. Remaining hulks are generally sold to scrap dealers rather than stored onsite due to limited space. In more rural areas, discarded vehicles are typically stored on the lot and parts removed as necessary. Remaining hulks are sold to scrap dealers less frequently.

Once a used vehicle is brought to the site, fluids may be drained and the tires, gas tank, radiator, engine and seats may be removed. The dismantler may separate and clean parts. Such cleaning may include steam cleaning of the engine and transmission as well as the use of solvents to remove oil and grease and other residues. Usable parts are then inventoried and stored for resale. The remaining car and/or truck bodies are stored onsite for future sale of the sheet metal and glass. Stripped vehicles and parts that have no resale value are typically crushed and sold to a steel scrapper. Some operations may, however, convert used vehicles and parts into steel scrap as a secondary operation. This is accomplished by incineration, shearing (bale shearer), shredding, or baling.

According to the 1987 census, 6,075 establishments reported SIC code 5015 as their primary SIC code, although some estimates indicate that there may be as many as 11,000 to 12,000 of these facilities.[89] Vehicle wreckers and dismantlers are generally small, privately owned businesses. Most facilities employ 10 or fewer employees and derive the majority of their profits from the sale of usable parts. Only a small percentage of this universe consists of large establishments with fleets of trucks, cranes, mobile balers and computers to maintain inventories of parts.[90]

Table M–1 below lists potential pollutant sources from activities that commonly take place at automobile salvage yards.

[89] "The Automobile Scrap Processing Industry," Howard Ness, P.E., 1984.

[90] Ibid.

TABLE M–1.—COMMON POLLUTANT SOURCES

Activity	Pollutant source	Pollutants
Vehicle Dismantling	Oil, anti-freeze, batteries, gasoline, diesel fuel, hydraulic fluids.	Oil and grease, ethylene glycol, heavy metals.
Used Parts Storage	Batteries, chrome bumpers, wheel balance weights, tires, rims, filters, radiators, catalytic converters, engine blocks, hub caps, doors, drivelines, galvanized metals, mufflers.	Sulfuric acid, galvanized metals, heavy metals, petroleum hydrocarbons, suspended solids.
Outdoor Vehicle and Equipment Storage	Leaking engines, chipping/corroding bumpers, chipping paint, galvanized metal.	Oil and grease, arsenic, organics, heavy metals, TSS.
Vehicle and Equipment Maintenance	Parts cleaning	Chlorinated solvents, oil and grease, heavy metals, acid/alkaline wastes.
	Waste disposal of greasy rags, oil filters, air filters, batteries, hydraulic fluids, transmission fluids, radiator fluids, degreasers.	Oil, heavy metals, chlorinated solvents, acid/alkaline wastes oil, heavy metals, chlorinated solvents, acid/alkaline wastes, ethylene glycol.
	Spills of oil, degreasers, hydraulic fluids, transmission fluid, and radiator fluids.	Oil, arsenic, heavy metals, organics, chlorinated solvents, ethylene glycol
	Fluids replacement, including oil, hydraulic fluids, transmission fluid, and radiator fluids.	Oil, arsenic, heavy metals, organics, chlorinated solvents, ethylene glycol.
Vehicle, Equipment, and Parts Washing Areas.	Washing and steam cleaning waters	Oil and grease, detergents, heavy metals, chlorinated solvents, phosphorus, salts, suspended solids.
Liquid Storage in Above Ground Storage Tanks	External corrosion and structural failure	Fuel, oil and grease, heavy metals, materials being stored.
	Installation problems	Fuel, oil and grease, heavy metals, materials being stored.
	Spills and overfills due to operator error	Fuel, oil and grease, heavy metals, materials being stored.
Illicit Connection to Storm Sewer	Process wastewater	Dependent on operations.
	Sanitary water	Bacteria, biochemical oxygen demand (BOD), suspended solids.
	Floor drain	Oil and grease, heavy metals, chlorinated solvents, fuel, ethylene glycol.
	Vehicle washwaters	Oil and grease, detergents, metals, chlorinated solvents, phosphorus, suspended solids.
	Radiator flushing wastewater	Ethylene glycol.
	Leaking underground storage tanks	Materials stored or previously stored.

Sources:
NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991 through December 31, 1992.
Alabama Department of Environmental Management. September 30, 1992. "Best Management Plan for Automobile Salvage Yards—Final Report."
EPA, Office of Research and Development. October 1991. "Guides to Pollution Prevention—The Automotive Refinishing Industry." EPA/625/7–91/016.
EPA, Office of Research and Development. October 1991. "Guides to Pollution Prevention—The Automotive Repair Industry." EPA/625/7–91/013.
EPA, Office of Research and Development. May 1992. "Facilities Pollution Prevention Guide." EPA/600/R–92/088.
EPA, Office of Water. September 1992. "Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices." EPA 832–R–92–006.

2. Pollutants in Storm Water Discharges Associated With Automobile Salvage Yards.

Impacts caused by storm water discharges from automobile salvage yards will vary. Several factors influence to what extent operations at the site can affect water quality. Such factors include: geographic location; hydrogeology; the types of industrial activity occurring outside (e.g., dismantling, vehicle and parts storage, or steam cleaning); the size of the operation; and the type, duration, and intensity of precipitation events. Each of these, and other factors, will interact to influence the quantity and quality of storm water runoff. For example, outdoor storage of leaking engine blocks may be a significant source of pollutants at some facilities, while dismantling operations is the primary source at others. In addition, sources of pollutants other than storm water, such as illicit connections,[91] spills, and other improperly dumped materials, may increase the pollutant loading discharged into waters of the United States.

[91] Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any number of sources including improper connections, dumping or spills from industrial facilities, commercial establishments, or residential dwellings. The probability of illicit connections at used motor vehicle parts facilities is low yet it may be applicable at some operations.

EPA has identified the storm water pollutants and sources resulting from various automobile salvage yard activities in Table M–1. Table M–1 identifies oil, heavy metals, acids, and ethylene glycol as some of the parameters of concern at automobile salvage yards.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at automobile salvage yards as a whole and not subdivide this sector. Therefore, Table M–2 lists data for selected parameters from facilities in the automobile salvage yards sector. These data include the eight pollutants that all facilities were required to monitor under Form 2F, as well as the pollutants that EPA determined merit further monitoring.

TABLE M–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY AUTOMOBILE SALVAGE YARDS SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	45	59	58	74	15.9	12.37	2.0	0.0	216.0	84.0	7.0	6.0	42.3	38.62	82.5	77.33
COD	65	43	83	54	123.8	73.52	0.0	11.0	1660.0	215.0	62.0	54.5	365.2	177.2	722.3	279.3
Nitrate + Nitrite Nitrogen	45	58	58	73	1.02	2.38	0.00	0.0	6.50	69.3	0.60	0.67	3.23	6.96	6.52	17.0
Total Kjeldahl Nitrogen	37	51	50	68	3.19	2.20	0.04	0.04	18.0	011.0	2.00	1.68	10.22	6.01	19.48	10.2
Oil & Grease	41	N/A	58	N/A	7.0	N/A	0.0	N/A	84.0	N/A	3.0	N/A	26.8	N/A	60.5	N/A
pH	67	N/A	87	N/A	N/A	N/A	3.1	N/A	9.1	N/A	7.3	N/A	9.0	N/A	9.9	N/A
Total Phosphorus	39	54	52	66	0.76	1.22	0.00	0.00	11.20	45.0	0.15	0.11	2.61	2.49	7.70	7.79
Total Suspended Solids	47	60	60	76	552	524.9	0	1.0	4200	8565	196	166.00	2473	2462.6	6951	7999.9
Aluminum, Total	37	34	37	34	13.38	9.14	0.30	0.40	88.00	45.20	8.50	5.95	61.05	36.47	158.90	81.08
Iron, Total	37	34	37	34	19.1	11.2	0.9	0.7	95.0	54.0	10.7	7.5	82.3	43.9	212.2	98.6
Lead, Total	22	22	24	22	0.340	0.200	0.100	0.100	1.400	0.600	0.21	0.10	0.884	0.467	1.512	0.731

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

3. Options for Controlling Pollutants

In evaluating options for controlling pollutants in storm water discharges, EPA must achieve compliance with the technology-based standards of the Clean Water Act [Best Available Technology (BAT) and Best Conventional Technology (BCT)]. The Agency does not believe that it is appropriate to establish specific numeric effluent limitations or a specific design or performance standard in this section for storm water discharges associated with industrial activity from automobile salvage yard operations to meet the BAT/BCT standards of the Clean Water Act. Because of the diversity of operations at automobile salvage yards and the lack of sufficient storm water water quality data currently available to EPA, establishing numeric effluent limitations is not feasible at this time. Rather, this section establishes requirements for the development and implementation of a site-specific storm water pollution prevention plan consisting of a set of Best Management Practices that are sufficiently flexible to address different sources of pollutants at different sites.

Best Management Practices (BMPs) are implemented to prevent and/or eliminate pollutants in storm water discharges. EPA believes the most effective BMPs for reducing pollutants in storm water discharges from automobile salvage yards is through exposure minimization practices. Exposure minimization practices minimize the potential for storm water to come in contact with pollutants. These BMP methods are generally uncomplicated and inexpensive practices. They are easy to implement, and require little or no maintenance. In some instances, more resources-intensive BMPs, including detention ponds or filtering devices, may be necessary depending on the type of discharge, types and concentrations of contaminants, and volume of flow.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, hydrogeology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with automobile salvage yards.

Part 1 group application data indicate that BMPs have not been widely implemented at the representative sampling facilities. Less than 5 percent of the sampling subgroup list indoor storage as a material management practice. Less than 8 percent of the representative sampling facilities use covering at their storage areas. Less than 3 percent of the representative facilities utilize waste minimization practices. The most commonly listed (approximately 20 percent) material management practice is draining fluids from vehicles prior to storage. Because BMPs described in part 1 data are limited, Table M–3 is provided to identify BMPs associated with activities that may be employed at automobile salvage yards.

TABLE M–3.—STORM WATER BMPS FOR AUTOMOBILE SALVAGE YARDS

Activity	BMPs
Dismantling and vehicle maintenance	Drain all fluids from vehicles upon arrival at the site. Segregate the fluids and properly store or dispose of them.
	Maintain an organized inventory of materials used in the maintenance shop.
	Keep waste streams separate (e.g., waste oil and mineral spirits). Nonhazardous substances that are contaminated with a hazardous substance is considered a hazardous substance.
	Recycle anti-freeze, gasoline, used oil, mineral spirits, and solvents.
	Dispose of greasy rags, oil filters, air filters, batteries, spent coolant, and degreasers properly.
	Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries).
	Drain oil filters before disposal or recycling.

TABLE M–3.—STORM WATER BMPs FOR AUTOMOBILE SALVAGE YARDS—Continued

Activity	BMPs
	Store cracked batteries in a nonleaking secondary container. Promptly transfer used fluids to the proper container. Do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers. Do not pour liquid waste down floor drains, sinks, or outdoor storm drain inlets. Plug floor drains that are connected to the storm or sanitary sewer. If necessary, install a sump that is pumped regularly. Inspect the maintenance area regularly for proper implementation of control measures. Filtering storm water discharges with devices such as oil-water separators. Train employees on proper waste control and disposal procedures.
Outdoor vehicle, equipment, and parts storage .	Use drip pans under all vehicles and equipment waiting for maintenance and during maintenance. Store batteries on impervious surfaces. Curb, dike or berm this area. Confine storage of parts, equipment and vehicles to designated areas. Cover all storage areas with a permanent cover (e.g., roofs) or temporary cover (e.g., canvas tarps). Install curbing, berms or dikes around storage areas. Inspect the storage yard for filling drip pans and other problems regularly. Train employees on procedures for storage and inspection items.
Vehicle, equipment and parts washing areas	Avoid washing parts or equipment outside. Use phosphate-free biodegradable detergents. Consider using detergent-based or water-based cleaning systems in place of organic solvent degreasers. Designate an area for cleaning activities. Contain steam cleaning washwaters or discharge under an applicable NPDES permit. Ensure that washwaters drain well. Inspect cleaning area regularly. Install curbing, berms or dikes around cleaning areas. Train employees on proper washing procedures.
Liquid storage in above ground containers	Maintain good integrity of all storage containers. Install safeguards (such as diking or berming) against accidental releases at the storage area. Inspect storage tanks to detect potential leaks and perform preventive maintenance. Inspect piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks. Train employees on proper filling and transfer procedures.
Improper connection with storm sewers	Plug all floor drains if it is unknown whether the connection is to storm sewer or sanitary sewer systems. Alternatively, install a sump that is pumped regularly. Perform dye testing to determine if interconnections exist between sanitary water system and storm sewer system. Update facility schematics to accurately reflect all plumbing connections. Install a safeguard against vehicle washwaters and parts cleaning waters entering the storm sewer unless permitted. Maintain and inspect the integrity of all underground storage tanks; replace when necessary. Train employees on proper disposal practices for all materials.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991 through December 31, 1992.
EPA, Office of Research and Development. October 1991. "Guides to Pollution Prevention—The Automotive Refinishing Industry." EPA/625/7–91/0.
EPA, Office of Research and Development. October 1991. "Guides to Pollution Prevention—The Automotive Repair Industry." EPA/625/7–91/013.
EPA, Office of Research and Development. May 1992. "Facility Pollution Prevention Guide." EPA/600/R–92/088.
EPA, Office of Water. September 1992. "Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices." EPA 832–R–92–006.
Minnesota Technical Assistance Program. September 1988. "Waste minimization—Auto Salvage Yards."

4. Pollutant Control Measures Required Through Other EPA Programs

Because hazardous substance including oil, gasoline, and lead are commonly found at automobile salvage yards, such facilities may be subject to other State or Federal environmental protection programs. In particular, as described below, the Resource Conservation and Recovery Act (RCRA) and the Underground Storage Tank (UST) programs require careful management of materials used onsite which decreases the probability that storm water from such areas will be contaminated by these materials.

Under the RCRA program, on September 10, 1992, EPA promulgated standards in 40 CFR Part 279 for the management of used oils that are recycled (57 FR 41566). These standards include requirements for used oil generators, transporters, processors/re-refiners, and burners. The standards for used oil generators apply to all generators, regardless of the amount of used oil they generate. Do-it-yourself (DIY) generators which generate used oil from the maintenance of their personal vehicles, however, are not subject to the management standards in 40 CFR 279.20(a)(1)).

The requirements for used oil generators were designed to impose a minimal burden on generators while protecting human health and the environment from the risks associated with managing used oil. Under Subpart C of 40 CFR Part 279, used oil generators must not store used oil in units other than tanks, containers, or units subject to regulation under 40 CFR Parts 264/265 (Section 279.22(a)). In other words, generators may store used oil in tanks or containers that are not subject to Subpart J (hazardous waste tanks) or Subpart I (containers) of 40 CFR Parts 264/265, as long as such tanks or containers are maintained in compliance with the used oil management standards. This does not preclude generators from storing used oil in Subpart J tanks or Subpart I containers or other units, such as surface impoundments (Subpart K), that are subject to regulation under 40 CFR Part 264 or 265.

Storage units at generator facilities must be maintained in good condition and labeled with the words "used oil." Upon detection of a release of used oil to the environment, a generator must take steps to stop the release, contain the released used oil, and properly manage the released used oil and other materials [40 CFR 279.22 (b) to (d)]. Generators storing used oil in underground storage tanks are subject to the UST regulations in 40 CFR Part 280.

If used oil generators ship used oil offsite for recycling, they must use a transporter who has notified EPA and obtained an EPA identification number [40 CFR 279.24].

The technical standards for USTs at 40 CFR Part 280 require that new UST systems (defined as systems for which installation commenced after December 12, 1988) use overfill prevention equipment that will: 1) automatically shut off flow into the tank when the tank is no more than 95 percent full; or 2) alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high level alarm. The preceding requirements do not apply to systems that are filled by transfers of no more than 25 gallons at one time. Existing UST systems (defined as systems for which installation has commenced on or before December 12, 1988) are required to have installed the described overfill prevention equipment by December 12, 1998.

5. Storm Water Pollution Prevention Plan Requirements

EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from automobile salvage yards. Pollution prevention plans allow the operator of a facility to select BMPs based on site-specific considerations such as: facility size; climate; geographic location; geology/hydrology; the environmental setting of each facility; and volume and type of discharge generated. This flexibility is necessary because each facility will be unique in that the source, type, and volume of contaminated surface water discharges will differ from site to site.

Under today's general permit, all facilities must prepare and implement a storm water pollution prevention plan. The establishment of a pollution prevention plan requirement reflects EPA's decision to allow operators of automobile salvage yards to utilize BMPs as the BAT/BCT level of control for the storm water discharges covered by this section. The requirements included in pollution prevention plans provide a flexible framework for the development and implementation of site specific controls to minimize pollutants in storm water discharges. This approach and associated deadlines are consistent with EPA's storm water general permits finalized on September 9, 1992 and September 25, 1992 for discharges in nonauthorized NPDES States (57 FR 41236).

There are two major objectives to a pollution prevention plan: 1) to identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility; and 2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility.

Specific requirements for a pollution prevention plan for automobile salvage yards are described below. These requirements must be implemented in addition to the baseline pollution prevention plan provisions discussed previously.

a. Contents of the Plan. Storm water pollution prevention plans are intended to aid operators of automobile salvage yards to evaluate all potential pollution sources at a site, and assist in the selection and implementation of appropriate measures designed to prevent, or control, the discharge of pollutants in storm water runoff. EPA has developed guidance entitled "Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices," EPA, 1992, (EPA 832–R–92–006) to assist permittees in developing and implementing pollution prevention measures.

(1) Description of Potential Pollution Sources. There are no requirements beyond those described in Part VI.C.2 of this fact sheet.

(2) Measures and Controls. Following completion of the source identification and assessment phase, the permittee must evaluate, select, and describe the pollution prevention measures, best management practices (BMPs), and other controls that will be implemented at the facility. For the following areas at the site, the permittee must assess the applicability of the corresponding BMPs:

Vehicle Dismantling and Maintenance Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for vehicle dismantling and maintenance. The facility must consider draining and segregating all fluids from vehicles upon arrival at the site, or as soon as feasible thereafter. The facility must consider performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts fluids prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and/or collecting the storm water runoff from the maintenance area and providing treatment. Where dismantling and maintenance activities can not take place indoors, facilities may consider methods for containing oil or other fluid spillage during parts removal. Drip pans, large plastic sheets, or canvas may be considered for placement under vehicles or equipment during maintenance and dismantling activities. Where drip pans are used, they should not be left unattended to prevent accidental spills.

Vehicle, Parts, and Equipment Storage Areas—The storage of vehicles, parts, and equipment must be confined to designated areas (delineated on the site map). The plan must describe measures that prevent or minimize contamination of the storm water runoff from these areas. The facility must consider the use of drip pans, large sheets of plastic, canvas (or equivalent measures) under vehicles, parts, and equipment. Canvas or sheets of plastic may be used as temporary coverage of storage areas. Indoor storage of vehicles, parts and equipment, as well as the installation of roofs, curbing, berming and diking of these areas must be considered. Large plastic or metal bins with secure lids should be used to store oily parts (e.g., small engine parts). Used batteries should be stored within nonleaking secondary containment or by other equivalent means to prevent leaks of acid into storm water discharges.

Material Storage Areas—As part of a good housekeeping program, consider labeling storage units of all materials (e.g., used oil, used oil filters, spent solvents, paint wastes, radiator fluids, transmission fluids, hydraulic fluids). Maintain such containers and units in good condition, so as to prevent contamination of storm water. The plan must describe measures that prevent or minimize contamination of the storm water runoff from such storage areas. The facility may consider indoor storage of the materials and/or installation of berming and diking of the area.

Vehicle, Equipment, and Parts Cleaning Areas—The plan must describe measures that prevent or minimize contamination of storm water from all areas used for vehicle, equipment, and parts cleaning. The facility must consider performing all cleaning operations indoors. In addition, the facility must consider covering or berming the cleaning operation area. Washwaters from vehicle, equipment, and parts cleaning areas are process wastewaters that are not authorized discharges under this section.

These four areas are sources of pollutants in storm water from automobile salvage yards. EPA believes that the incorporation of BMPs such as those suggested, in conjunction with a pollution prevention plan, will substantially reduce the potential of storm water contamination from these areas. In addition, EPA believes that these requirements continue to provide the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with different facilities.

(a) Preventive Maintenance—Permittees are required to develop a preventive maintenance program that includes regular inspections and maintenance of storm water BMPs. The purpose of the inspections, which may coincide with the inspections required in (b) below, is to check on the effectiveness of the storm water pollution prevention plan. The inspections allow facility personnel to monitor the success or failure of elements of the plan on a regular basis. The use of an inspection checklist should be considered. The checklist will ensure that all required areas are inspected, as well as help to meet the recordkeeping requirements. In addition to regular inspections, employees identifying potential problems during their daily activities, such as leaks or spills, shall take appropriate measures to address these problems as soon as feasible.

(b) Inspections—This section requires that in addition to the comprehensive site evaluation required under Part XI.M.3.a. of today's permit, qualified facility personnel shall be identified to inspect: upon arrival, or as soon as feasible thereafter, all vehicles for leaks; any equipment containing oily parts, hydraulic fluids, or any other fluids, at least quarterly for leaks; and any outdoor storage containers for liquids, including, but not limited to, brake fluid, transmission fluid, radiator water, and anti-freeze, at least quarterly for leaks.

In addition, qualified facility personnel are required to conduct, at a minimum, quarterly visual inspections of BMPs. The inspections shall include: (1) an assessment of the integrity of any flow diversion or source minimization systems; and (2) visual inspections of dismantling areas; outdoor vehicle, equipment, and parts storage area; vehicle and equipment maintenance areas; vehicle, equipment, and parts washing areas; and liquid storage in above ground containers. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections.

The quarterly inspections must be made at least once in each of the following designated periods during daylight hours: January through March (storm water runoff or snow melt); April through June (storm water runoff); July through September (storm water runoff); October through December (storm water runoff). Records of inspections shall be maintained as part of the plan.

(c) Employee Training—Permittees are required to include a schedule for conducting training in the plan. EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan. Employee training must, at a minimum, address the following areas when applicable to a facility: used oil management; spill prevention and response; good housekeeping practices; used battery management; and proper handling (i.e., collection, storage, and disposal) of all fluids. This training should serve as: (1) training for new employees; (2) a refresher course for existing employees; and (3) training for all employees on any storm water pollution prevention techniques recently incorporated into the plan, where appropriate, contractor personnel also must be trained in relevant aspects of storm water pollution prevention.

(d) Recordkeeping and Internal Reporting—Permittees must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. The plan must address spills, monitoring, and BMP inspection and maintenance activities. Ineffective BMPs must be reported and the date of their corrective action noted.

(e) Storm Water Management—The permittee must evaluate the appropriateness of each storm water BMP that diverts, infiltrates, reuses, or otherwise reduces the discharge of contaminated storm water. In addition, the permittee must describe the storm water pollutant source area or activity (i.e., loading and unloading operations, raw material storage piles etc.) to be controlled by each storm water management practice.

(3) Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluations that qualified personnel will conduct to: (1) confirm the accuracy of the description of potential pollution sources contained in the plan; (2) determine the effectiveness of the plan; and (3) assess compliance with the terms and conditions of this section. Comprehensive site compliance evaluations should be conducted at least once a year for automobile salvage yards. These evaluations are intended to be more in depth than the quarterly visual inspections. The individual or individuals who will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years after the date of the evaluation.

Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each evaluation. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the evaluation.

6. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that automobile salvage yards may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, the permit requires automobile yards to collect and analyze samples of their storm water discharges for the pollutants listed in Table M–4. The pollutants listed in Table M–4 were found to be above benchmark levels for a significant portion of sampling facilities that submitted quantitative data in the group application process. EPA is requiring monitoring for these pollutants after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

At a minimum, storm water discharges from automobile salvage yards must be monitored quarterly during the second year of permit coverage, unless the facility exercises the Alternative Certification in Section VI.E.3 of this fact sheet. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table M–4. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE M–4.—INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Suspended Solids	100 mg/L.
Total Recoverable Aluminum	0.75 mg/L.
Total Recoverable Iron	1.0 mg/L.
Total Recoverable Lead	0.0816 mg/L.

If the average concentration for a parameter is less than or equal to the value listed in Table M–4, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table M–4, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule of monitoring is presented in Table M–5.

TABLE M–5.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table M–4, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table M–4, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table M–4. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative certification described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis, in lieu of sampling described under Part VIII.M.6.a of this factsheet, under penalty of law, signed in accordance with Part VII.G (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in lieu of monitoring reports. The permittee is required to complete any and all sampling until the exposure is eliminated. If the facility is reporting for a partial year, the permittee must specify the date exposure was eliminated. If the permittee is certifying that a pollutant was present for part of the reporting period, nothing relieves the permittee from the responsibility to sample that parameter up until the exposure was eliminated and it was determined that no significant materials remained. This certification is not to be confused with the low concentration sampling waiver. The test for the application of this certification is whether the pollutant is exposed, or can reasonably be expected to be present in the storm water discharge. If the facility does not and has not used a parameter, or if exposure is eliminated and no significant materials remain, then the facility can exercise this certification. The Agency does not expect that facilities will be able to use the alternative certification for indicator parameters such as TSS and BOD. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report Form must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. All automobile salvage yard facilities are required to conduct quarterly visual examinations of storm water discharges from each outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples. The examinations must be of a grab sample collected from each storm water outfall.

The examination must be made at least once in each of the following three-month periods: January through March, April through June, July through September, and October through December. The examinations shall be made during daylight unless there is insufficient rainfall or snow-melt to runoff. Whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

Pollutants in vehicles

The auto salvage industry is fast becoming a highly regulated industry in the United States by government environmental agencies, i.e. U.S. EPA, state environmental regulatory agencies, county government, and municipal government. By taking preventive actions, a salvage yard can minimize the potential for regulatory enforcement and increase positive public perception of the reuse and recycling role that an auto salvage yard plays.

In addition, most pollution prevention activities are low-cost, low-risk activities that have extensive benefits, including cost savings. Environmental clean-up and regulatory enforcement can be quite costly. Good management and waste minimization practices can minimize or eliminate the potential for substantial costs associated with regulatory fines and hazardous materials cleanup..

By implementing waste minimization and pollution prevention activities, a salvage yard can help reduce the potential harm to the community and its residents (including the facility's own employees). This is particularly important in areas where residents draw their drinking water from local groundwater wells. Even if the salvage yard is not located near residents or well heads, the contaminants can move over time and eventually reach groundwater and surface waters (lakes, rivers, streams, wetlands, etc.). Thus, pollution prevention at salvage yards helps to protect the environmental health and safety of communities, with the added benefit of reducing or eliminating liability concerns for the operators of the salvage facilities.

Releases of hazardous materials into the environment are a common risk at auto salvage yards. The primary hazardous materials are petroleum-based products including oils, lubricants, fuel, antifreeze (ethylene glycol & propylene glycol), brake fluid, and steering fluid. Other hazardous materials commonly handled at salvage facilities include freon or other refrigerants, which are air contaminants; mercury from switches; lead from lead/acid batteries and wheel weights, and asbestos from brakes.

The following is a list of some of the hazardous materials commonly handled at salvage facilities. This list is not meant to be comprehensive; for more information on hazardous materials common to the auto salvage industry, consult the list of links associated with this Topic Hub.

Air Bags
See "Sodium Azide Air Bags" below.

Antifreeze
Antifreeze is comprised primarily of water and ethylene glycol or propylene glycol (a less environmentally hazardous alternative chemical). The glycol increases the surface tension of water or other fluids and retards freezing. Ethylene glycol is a toxic substance that contaminates water and the soil. It is poisonous to humans and pets, and can cause coma or death. Pets are attracted to puddles of sweet-tasting antifreeze. This, and the fact that many salvage yards traditionally have pet or guard dogs at the facility, provide additional motivation to manage antifreeze properly. Antifreeze may also become contaminated during use with gasoline, oils, and metals, such as lead, cadmium or mercury.

Asbestos
Asbestos may be found in some automobile brake shoes and clutches. Asbestos consists of microscopic fibers that may become airborne and inhaled into the lungs, causing a variety of significant health problems. Potential health problems caused by asbestos inhalation include

asbestosis, mesothelioma (a cancer of the lung lining and chest cavity whose only known cause is asbestos exposure), and lung cancer.

Auto Fluff /Auto Shredder Residue (ASR)
Scrap metal pieces are magnetically removed from shredded auto body material. The shredded material remaining after ferrous metal removal is referred to as auto "fluff" or auto shredder residue (ASR). Fluff may contain a complex cocktail of substances such as cadmium, chromium, lead, polychlorinated biphenyls (PCBs), textiles, rubber, glass, foam, plastics, various materials treated with brominated flame retardants, various fluids (if these were not completely drained from the vehicle prior to shredding), even dirt. The exact composition of fluff will vary based upon the vehicle in question, as well as the dismantling and recovery procedures of the salvage facility where the vehicle was shredded. If not properly stored and disposed off, toxic substances within the fluff may leach into surrounding soil and groundwater. Depending upon its composition, fluff may also be flammable.

Brake Fluid
Brake fluid is a flammable product, which contains 80-85% solvent in the form of glycols (methyl, ethyl, and butyl ethers of ethylene glycol). Break fluid is poisonous, and if ingested may cause central nervous system depression and kidney failure. Used brake fluid contains lead and other heavy metals, which present an environmental danger if disposed of improperly.

Freon
See "Refrigerants" below.

Fuel and Fuel Filters
Fuel is obviously flammable, and can contaminate soil and groundwater if not stored and disposed of correctly.

Lead-Acid Batteries (Lead and Sulfuric Acid)
Lead-acid batteries contain both lead and acid (sulfuric acid). Each of these materials is hazardous. Lead is a persistent bioaccumulative toxic substance (PBT), which is a health hazard to humans and other animals. PBTs either degrade very slowly in the environment or not at all, and once they have entered an organism, they build up in tissue over time. PBTs may move up food chains, meaning they will contaminate the bodies of organisms that eat other organisms that are themselves contaminated. Lead may cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. The effects of lead on the adult body include problems with reproduction, digestion, and with memory and concentration; high blood pressure, nerve disorders; and muscle and joint pain.

The electrolyte in spent lead-acid batteries may contain up to 70 times the amount of lead found in the electrolyte of new batteries. Therefore, exposure to electrolyte from spent lead-acid batteries presents a greater hazard to health and the environment. If spent lead-acid batteries are improperly stored at a salvage yard they may release lead and lead-contaminated sulfuric acid into the environment. This can pollute drinking water sources such as lakes, rivers, streams and groundwater.

The electrolyte (battery acid) in a typical lead-acid battery contains approximately 60% water and 40% sulfuric acid. Sulfuric acid is a corrosive material that can cause harm to the body upon physical contact or through the inhalation of vapors or mists. When sulfuric acid comes in contact with flesh, it burns the skin, leaving a black charred carbon residue in place of living tissue.

Sulfuric acid is also a hazard due to reactivity. Sulfuric acid can react with other chemicals, generating enough heat to ignite ordinary combustible materials. Many types of metals are easily dissolved by sulfuric acid, resulting in a release of hydrogen, which is extremely flammable. In addition to reactivity, sulfuric acid can also feed an existing fire by releasing oxygen, which acts as a fuel to fire.

Lead Wheel Weights

Wheel weights made of lead are clipped onto wheel rims to ensure even balancing of wheels. Wheel weights made of alternative substances, such as steel, zinc, iron or tin are available, and lead wheel weights are being phased out in the European Union and in certain parts of the United States (for example, Ann Arbor, Michigan is phasing out lead weights on city vehicles, and the state of Minnesota is replacing lead wheel weights with alternatives on state vehicles). However, the majority of incoming vehicles to salvage yards will include lead wheel weights. See "Lead-Acid Batteries" for information on the environmental and health hazards associated with lead.

Mercury Switches

Like lead, mercury is a PBT, meaning that it persists in the environment, accumulates in living tissue, and may be passed up food chains (this is the reason for mercury fish advisories that are issued for the Great Lakes and other bodies of water in the Great Lakes region). Elemental mercury vaporizes when heated and the vapors are highly toxic. Also, when mercury is released into the environment, it may be converted to methylmercury, a highly toxic form of mercury, by microorganisms. Mercury poisoning can cause damage to the central nervous system, kidneys and liver, and in extreme cases can cause death.

Many auto manufacturers are committed to eliminating mercury switches from new vehicles. However, according to the U.S. EPA Mercury Switch and Auto Recycling Program, more than 215 million mercury switches remain in vehicles on the road as of 2003. Unless a salvage facility has a program in place to remove the mercury switches from the vehicles prior to crushing and recycling, the mercury can be released into the environment. Mercury switches that are removed must be safely stored and transported to a recycling facility.

Oil and Oil Filters

Used oil can contaminate soil and water if leaked or improperly stored or disposed of. It is considered hazardous waste if it has been mixed with or contaminated by solvents or other hazardous vehicle fluids, such as antifreeze, solvents or cleaners.

Power Steering Fluid

Power steering fluid is petroleum based and should be managed as used oil provided it is not contaminated by other hazardous materials. Like any petroleum-based product, power steering fluid may contaminate soil and water if improperly stored or disposed.

Refrigerants (e.g. Freon)

Freon (also called R-12 or CFC-12) is a chlorofluorocarbon (CFC), a type of substance that if released into the air will drift into the upper atmosphere and destroy the ozone layer that protects Earth from harmful ultraviolet radiation from the sun. Production and use of CFCs for air conditioning and refrigeration ended in the U.S. in 1995; however vehicles built before 1994 may still use freon in their air-conditioning systems. Non-CFC substitute refrigerants, such as HFC-134a (also called R-134a), exist; however, some substitutes may contain or be contaminated by flammable materials, or they may have high "global warming potential (GWP)." GWP is a measure of how much effect a given refrigerant may have on global warming as compared to carbon dioxide, which has a GWP equal to 1. The lower the GWP, the more "environmentally friendly" the refrigerant. Even currently used refrigerants with relatively modest GWPs have GWP values over 1000. The U.S. Environmental Protection Agency (EPA) prohibits the venting of any automobile refrigerant.

Sodium Azide Air Bags

Sodium azide, the chemical used to trigger air bags to deploy, is as poisonous as sodium cyanide. Ingesting as little as 50 milligrams can lead to a coma-like state within five minutes. Ingesting slightly more can lead to death within 40 minutes. Sodium azide has the appearance of common table salt, but it kills everything from bacteria and fungi to mammals. At least 11 million pounds of sodium azide has already been manufactured into the vehicle airbags in the United States as of 2000.

Sodium azide is water-soluble. If an airbag cartridge is broken, the sodium azide can migrate into sewers, surface waters and groundwater systems if exposed to water. If not removed from vehicles prior to crushing, the canister can be smashed, spilling sodium azide on the ground and generating toxic dust that humans and animals could breathe in. Once vehicles are crushed, they are shredded. Vehicles with airbags remaining in place can trigger explosions inside the shredder due to the sodium azide in the cartridge.

Storage Tanks (Underground and Above Ground)

Storage tanks can break down over time and leak. Modern tanks contain corrosion resistant coatings and secondary liners, and leak detection systems. Leaks can occur nevertheless. Storage tanks that are buried underground can contaminate the soil and groundwater and go undetected for long periods of time, which increases the volume of contaminants getting into the environment.

Spills commonly occur at the point of filling storage tanks. Modern tanks are equipped with overfill prevention devices. However, these devices do not completely protect the area around the tank. Care must be taken to avoid spills.

Tires

Used tires present a health hazard because they provide breeding grounds for disease carrying mosquitoes, and they are also a fire hazard. The storage and disposal of used tires is regulated by every Great Lakes state as well as U.S. EPA. Tire piles must be managed according to state and local regulations. Many county and municipal governments also have regulations related to used tire disposal. Proper, controlled storage of used tires will also minimize health hazards and fire liabilities. This can result in environmental compliance and a savings on insurance premiums.

Transmission Fluid

Transmission fluid may contain toxic metals, including lead. The heavy metals used in transmission fluid can cause severe nervous system damage to wildlife and other animals if disposed of improperly.

Windshield Wiper Solution

The solution may contain methanol (up to 100%), detergent and water. Methanol is an air pollutant (volatile organic compound, or VOC) and is highly toxic. Methanol may be readily absorbed through the skin or inhaled. Exposure may cause blurred vision, headache, dizziness or nausea. Motor dysfunction and blindness may also occur depending upon degree and level of exposure to methanol. Windshield wiper solution may also contain small amounts of ethylene glycol or propylene glycol (see "Antifreeze" above for more information on these substances).

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Compliance assistance at work in auto salvage yards and auto recycling facilities

Recent compliance success: EPA settlement with auto recycler will reduce mercury pollution

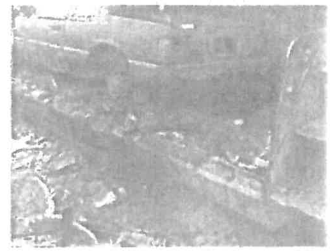
Pick Your Part Auto Wrecking Co. will remove and recycle mercury in 60,000 switches from salvaged vehicles at its nine California yards in the first such project in the state. This project is showing the way for other salvage yards to comply with a California law requiring all auto dismantlers to remove mercury switches from scrapped vehicles starting in January 2005.

Within the United States, an estimated 10 tons of highly toxic mercury are released to the environment each year from mercury-containing light switches during the shredding and crushing of old vehicles. Pick Your Part's environmental project, valued at $235,000 will prevent mercury from 60,000 switches from polluting the environment.

The project was part of the settlement reached after EPA fined Pick Your Part Auto Wrecking $165,000 for failing to carry out adequate stormwater management practices and pollution prevention plans, in violation of the Clean Water Act, at five auto wrecking and recycling yards in California.

National Information

- Compliance Assistance Centers EXIT Disclaimer
- Environmental Compliance for Automotive Recyclers EXIT Disclaimer



When cars are smashed in this crusher, toxic fluids leak out onto the crusher bed, and onto nearby soil, in violation of the Clean Water Act.

State of California Auto Dismantlers Association wins EPA environmental award for compliance assistance program

The California Auto Dismantlers Association (SCADA) has created the "Partners in the Solution" program to ensure that member businesses adhere to strong environmental, safety, business and licensing standards. This innovative program raises the bar for the auto recycling industry, while providing the education and support needed to bring facilities into compliance with these standards. Nearly 200 auto recycling facilities currently participate in the program.

EPA supports industry efforts, like SCADA's, which assist their members in complying with the complete range of environmental, safety and business regulations. By law, auto dismantling facilities must drain, manage, and dispose of toxic vehicle fluids in an environmentally safe manner; dismantle and clean the vehicles as specified in their permits; cover engines and other auto parts; and develop and carry out storm water pollution prevention plans.

Recycling cars and trucks

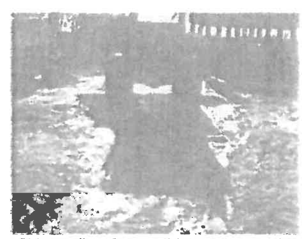
Cars and trucks are the number one recycled product in America. About 8 million cars and 5 million trucks are recycled every year. There are well over 7,000 auto recycling operations nationwide.

In California, with more cars registered than any other state, up to 2.5 million vehicles are brought to salvage yards each year; about 700,000 of these are shredded for their metals. State and local agencies are working with the industry to improve environmental compliance and prevent pollution at salvage yards throughout the state.

These mostly-small businesses often have environmental compliance problems that fall within EPA's authority under clean air, stormwater and hazardous waste regulations. The products and practices used by auto salvage businesses have the potential to pollute the land, ground water and the air. One of the primary threats is polluted stormwater runoff resulting from the mishandling of vehicular fluids (see list, below).

Potential damage from the following fluids:

- gasoline diesel fuel oil
- transmission fluid, power steering fluid, brake fluid
- mineral spirits, washer fluid, gear oil
- battery acid, solvents



Shiny soil surface at this salvage yard after a rainstorm indicates spilled fluids, a source of polluted runoff.

Other hazardous and solid wastes that could contaminate and/or pollute the air:

- mercury from switches, lamps and electronic devices (navigation aids, CD players)
- lead from lead-acid batteries, wheel weights, battery cable ends
- CFCs and other refrigerants
- sodium azide from air bags
- asbestos from brake shoes and clutches
- tires (whole, shredded)
- PCB from foam rubber, carpets and plastic components
- metals: aluminum, cadmium, copper, iron,zinc, lead
- plastics
- transmission and oil filters

EPA's workshops and environmental audit policy

EPA regularly conducts workshops to promote compliance assistance and compliance incentives. The Agency's environmental self-audit policy requires actions to reduce, treat, or eliminate pollutants. The self-audit policy provides major incentives for facilities that voluntarily discover, promptly disclose, and expeditiously correct compliance problems.

Last updated on 4/27/2016

SITE 7

Circle K #7466

Florida Department of Environmental Protection
Bureau of Petroleum Storage Systems
Facility Inspection Cover Page
Facility Information

District: CD
County: Osceola
Facility ID#: 8731776
Name: Circle K #7466
3280 Boggy Creek Rd
Kissimmee, FL 32741
Contact: Graham Biggs
Phone: 919-774-6700

Type: Retail Station
Status: Open
Latitude: 28:20:51.3310
Longitude: 81:18:35.8808
LL Method: DPHO
LL Status: REVIEWED
Status Date: 02//20/2003

Account Owner Information

Name: Circle K Stores Inc
1100 Situs Ct
Attn: Storage Tank Regis Ste 100
Raleigh, NC 27606-4295
Phone: 919-774-6700

Effective Date: 05/20/1994
Placard#/Date: 538616 - 06/26/2018

Tank Owner Information

Name: Circle K Stores Inc
1100 Situs Ct
Attn: Storage Tank Regis Ste 100
Raleigh, NC 27606-4295
Phone: 919-774-6700

Effective Date: 05/20/1994

Tank #	Size	Content	Installed	Placement	Status	Const	Pipe	Monitor
1	10000	Unleaded Gas	03/01/1985	UNDER	U	M O C N H S	C J F K	H K F 2 4
2	10000	Unleaded Gas	03/01/1985	UNDER	U	M O C N H S	C J F K	H K F 2 4
3	10000	Unleaded Gas	03/01/1985	UNDER	U	M O C	C J F	H K F

						N H S	K	2 4
4	10000	Vehicular Diesel	03/01/1985	UNDER	U	M O C N H S	J C F K	H K F 2 4

*****Note: Construction, Piping, and Monitoring Info not shown for CLOSED tanks (Status of A or B).**

Most Recent Insurance Document

FR Type	Effective Date	Expiration Date	Company Name
Insurance	12/01/2017	12/01/2018	Ironshore Specialty Insurance
Insurance	12/01/2014	12/01/2015	Ironshore Specialty Insurance
Insurance	12/01/2011	12/01/2013	Chubb
Insurance	12/18/2010	12/17/2011	Chubb
Insurance	12/17/2009	12/17/2010	Chubb
Insurance	12/17/2008	12/17/2009	American International Special

Other Financial Responsibility Mechanisms on File

FR Type	Effective Date	Expiration Date
Insurance	12-01-2002	12-01-2004

No OPEN violations found!

Discharge Information

Discharge Date	Cleanup Status	Score	Eligibility Info	Site Manager	Phone
11/23/1988	Inactive	55	Early Detection Incentive-Eligible	Scarboroug_B	(850)245-8873

End of Data for Facility #: 8731776

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5602 Thompson Center Court, Suite 405
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www.atcgroupservices.com

March 21, 2018

Ms. Leah J. Smith
Environmental Specialist
Ecology & Environment, Inc.
Petroleum Restoration Program – PRP
2600 Blair Stone Road, MS 4530
Tallahassee, Florida 32399

Subject: **Post Active Remediation Monitoring Report**
Circle K #7466
3280 Boggy Creek Road
Kissimmee, Osceola County, Florida
FDEP Facility Number: 49/8731776
PBAC Contract: #395-M
ATC Project: Z165640639

Dear Ms. Smith:

ATC Group Services, LLC (ATC) on behalf of the Phillips 66 Company (P66) has prepared this Annual Post Active Remediation Monitoring (PARM) Report for Circle K #7466, located at 3280 Boggy Creek Road, Kissimmee, Florida. This Annual PARM Report was completed in accordance with the Florida Department of Environmental Protection (FDEP) Purchase Order number AC #395-M. The purpose of this report is to summarize results of the groundwater sampling event performed for the Year 2, Quarter 3 PARM event. A Site Plan which depicts pertinent site features is included as **Figure 1**.

Groundwater Sampling Year 2, Quarter 3

Prior to groundwater sample collection, static depth-to-water was measured in monitoring wells MW-1R, MW-5R, CW-2R, MW-7, and MW-14 on November 2, 2017. Depth to groundwater ranged from 4.07 feet below top of casing (btoc) in MW-1R to 5.32 feet btoc in MW-14. A summary of the water table elevation calculations is provided on **Table 1**. Groundwater flow in the shallow wells appeared to be generally towards the west-northwest (**Figure 2**).

Sample collection and decontamination procedures were performed in accordance with the most recent FDEP groundwater sampling standard operating procedure (SOP) and related guidance documents. The equipment calibration and groundwater sampling logs are included in **Appendix A**.

During the groundwater sampling event on November 2, 2017, groundwater samples were collected from monitoring wells CW-2R and MW-5R. The samples were analyzed for benzene, toluene, ethylbenzene, total xylenes, and methyl tert-butyl ether (BTEX/MTBE) via Environmental Protection Agency (EPA) Method 8260B and polycyclic aromatic hydrocarbons (PAHs) via EPA Method 8270D. The groundwater laboratory analytical results are summarized on **Table 2** and illustrated on **Figure 3**. A copy of the laboratory analytical report is included in **Appendix A**.

The laboratory analytical report for groundwater samples collected from monitoring well CW-2R, during the November 2, 2017, sampling event, yielded petroleum constituent concentrations in excess of Chapter 62-777 Florida Administrative Code (F.A.C.) Groundwater Cleanup Target Levels (GCTLs) for benzene and naphthalene. The laboratory analytical report for groundwater samples collected from monitoring well MW-5R, during the November 2, 2017, sampling event, yielded no petroleum constituent concentrations in excess of GCTLs.

Recommendations

The concentrations of benzene and naphthalene remain above GCTLs at monitoring well MW-CW-2R. Concentrations of constituents of concern in the groundwater sampled from monitoring well MW-5R have returned to below GCTLs during the November 2, 2017 sampling event. ATC recommends completing a Remediation Action Plan Modification (RAPMOD) under the PBAC Contract #395-M to address the dissolved petroleum concentrations in the area of monitoring well CW-2R.

If you have any questions concerning this report or this project in general, please contact the undersigned at (813) 781-6070.

Sincerely,

ATC Group Services, LLC

Adam Bourcy
Senior Project Manager

cc: Ms. Beni Siersema, Phillips 66 Contract Program Manager

ATC
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PROFESSIONAL GEOLOGIST CERTIFICATION

Post Active Remediation Monitoring Report

Circle K #7466
3280 Boggy Creek Road
Kissimmee, Osceola County, Florida
FDEP Facility Number: 49/8731776
ATC Project: Z165640639

I have reviewed the geologic/hydrogeologic information in this document and found it to confirm to currently accepted geologic practices pursuant to Chapter 492 of the Florida Statutes.

Kurt Gildemeister, P.G.
Florida P.G. Registration #1338

KURT DONALD GILDEMEISTER
LICENSE
No. PG 1338
STATE OF
FLORIDA
PROFESSIONAL GEOLOGIST

Date

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TABLES

TABLE 1: GROUNDWATER ELEVATION TABLE

Facility Name: Circle K #7466 **Facility ID#:** 49/8731776

ND = Not Detected
All Measurements = Feet
No Data = Blank

Well No.	MW-1R	MW-2R	MW-3R	MW-4R	MW-5R	MW-6R
Diameter	2"	2"	2"	2"	2"	2"
Well Depth	12'	12'	12'	12'	12'	12'
Screen Interval	2' - 12'	2' - 12'	2' - 12'	2' - 12'	2' - 12'	2' - 12'
TOC Elevation	99.98	100.00	99.34	99.91	100.14	100.11

DATE	DTW	ELEV	FP	DTW	ELEV	FP	DTW	ELEV	FP	DTW	ELEV	FP	DTW	ELEV	FP	DTW	ELEV	FP
12/05/05	4.63	95.35	ND	4.66	95.34	ND	3.98	95.36	ND	5.04	94.87	ND	5.14	95.00	ND	5.38	94.73	ND
09/19/06	4.59	95.39	ND	4.69	95.31	ND	3.95	95.39	ND	4.96	94.95	ND	5.10	95.04	ND	5.05	95.06	ND
05/29/07	4.28	95.70	ND	6.29	93.71	ND	5.72	93.62	ND	6.57	93.34	ND	6.60	93.54	ND	6.53	93.58	ND
08/27/07							5.27	94.07	ND	5.26	94.65	ND	5.30	94.84	ND			
06/10/08	4.53	95.45	ND	4.67	95.33	ND	3.84	95.50	ND	5.00	94.91	ND	5.12	95.02	ND	5.11	95.00	ND
06/14/11				5.82	94.18	ND				6.56	93.35	ND	6.18	93.96	ND	6.10	94.01	ND
07/11/11				4.24	95.76	ND												
04/24/12				5.36	94.64	ND	4.68	94.66	ND	5.65	94.26	ND	5.70	94.44	ND			
03/11/14				5.35	94.65	ND				5.77	94.14	ND	5.74	94.40	ND			
07/24/14													8.25	91.89	ND			
10/24/14													5.18	94.96	ND			
01/20/15													4.68	95.46	ND			
03/30/15				4.72	95.28	ND				5.25	94.66	ND	5.18	94.96	ND			
07/24/15													5.71	94.43	ND			
10/27/15													5.18	94.96	ND			
05/16/17	6.87	93.11	ND							7.11	92.80	ND	7.04	93.10	ND			
11/02/17	4.07	95.91	ND										4.83	95.31	ND			

TABLE 1: GROUNDWATER ELEVATION TABLE

Facility Name: Circle K #7466 **Facility ID#:** 49/8731776

ND = Not Detected
All Measurements = Feet
No Data = Blank

Well No.	CW-1R			CW-2R			MW-8R			MW-9			MW-10			MW-11		
Diameter	2"			2"			2"			2"			2"			2"		
Well Depth	12'			12'			12'			12'			12'			12'		
Screen Interval	2 - 12'			2 - 12'			2 - 12'			2 - 12'			2 - 12'			2 - 12'		
TOC Elevation	99.98			100.00			100.14			100.31			100.2			99.04		
DATE	**DTW**	**ELEV**	**FP**	**DTW**	**ELEV**	**FP**	**DTW**	**ELEV**	**FP**	**DTW**	**ELEV**	**FP**	**DTW**	**ELEV**	**FP**	**DTW**	**ELEV**	**FP**
09/19/06	4.81		ND	5.00		ND												
05/29/07	6.44		ND	6.58		ND												
08/27/07	5.02	94.96	ND	5.27	94.73	ND	5.81	94.33	ND	6.04	94.27	ND	5.39	94.81	ND	3.81	95.23	ND
06/10/08	4.77	95.21	ND	5.04	94.96	ND	5.55	94.59	ND	5.85	94.46	ND	5.18	95.02	ND	3.53	95.51	ND
12/11/08							6.03	94.11	ND	6.22	94.09	ND						
05/14/10							5.49	94.65	ND	5.76	94.55	ND						
08/09/10										5.11	95.20	ND						
06/14/11				6.19	93.81	ND	6.59	93.55	ND	6.71	93.60	ND						
07/11/11				4.60	95.40	ND												
04/24/12	5.50	94.48	ND	5.68	94:32	ND	6.03	94.11	ND									
03/11/14	5.52	94.46	ND	5.78	94.22	ND												
07/24/14				7.81	92.19	ND												
10/24/14				5.31	94.69	ND												
01/20/15				4.88	95.12	ND												
03/30/15	4.89	95.09	ND	5.23	94.77	ND												
07/24/15				5.70	94.30	ND												
10/27/15				5.31	94.69	ND												
01/29/16				3.56	96.44	ND												
04/27/16				5.48	94.52	ND												
05/18/16				4.51	95.49	ND												
08/11/16				5.42	94.58	ND												
11/09/16				5.45	94.55	ND												
02/08/17				6.33	93.67	ND												
05/16/17				7.38	92.62	ND												
11/02/17				4.81	95.19	ND												

TABLE 1: GROUNDWATER ELEVATION TABLE

Facility Name: Circle K #7466 **Facility ID#:** 49/8731776

ND = Not Detected
All Measurements = Feet
No Data = Blank

Well No.	MW-12	MW-13	DW-2	DW-3	MW-7	MW-14
Diameter	2"	2"	6" / 2"	6" / 2"	2"	2"
Well Depth	12'	12'	30'	30'	12'	12'
Screen Interval	2 - 12'	2 - 12'	25 - 30'	25 - 30'	2 - 12'	2 - 12'
TOC Elevation	99.04	99.16	100.15	99.91	100.21	100.30

DATE	MW-12 DTW	MW-12 ELEV	MW-12 FP	MW-13 DTW	MW-13 ELEV	MW-13 FP	DW-2 DTW	DW-2 ELEV	DW-2 FP	DW-3 DTW	DW-3 ELEV	DW-3 FP	MW-7 DTW	MW-7 ELEV	MW-7 FP	MW-14 DTW	MW-14 ELEV	MW-14 FP
08/27/07	3.81	95.23	ND	4.36	94.80	ND	5.10	95.05	ND	5.13	94.78							
06/10/08	3.40	95.64	ND	3.95	95.21	ND	4.88	95.27	ND	4.88	95.03	ND	5.49	94.72	ND	5.51	94.79	ND
12/11/08				4.65	94.51	ND										5.48	94.82	ND
05/14/10				4.02	95.14	ND										5.41	94.89	ND
08/09/10				2.99	96.17	ND												
06/14/11				5.31	93.85	ND				5.89	94.02	ND	6.45	93.76	ND	6.58	93.72	ND
04/24/12				4.70	94.46	ND							6.00	94.21	ND	6.10	94.20	ND
03/11/14													6.07	94.14	ND	6.19	94.11	ND
07/24/14													7.97	92.24	ND	7.92	92.38	ND
10/24/14													5.56	94.65	ND	5.75	94.55	ND
01/20/15													5.10	95.11	ND	5.38	94.92	ND
03/30/15													5.58	94.63	ND	5.70	94.60	ND
07/24/15													6.06	94.15	ND	6.13	94.17	ND
10/27/15													5.59	94.62	ND	5.76	94.54	ND
01/29/16																4.20	96.10	ND
04/27/16																5.98	94.32	ND
08/11/16																5.89	94.41	ND
11/09/16																5.90	94.40	ND
02/08/17																6.76	93.54	ND
05/16/17										7.13	92.78	ND	7.38	92.83	ND	7.80	92.50	ND
11/02/17													5.31	94.90	ND	5.32	94.98	ND

TABLE 1: GROUNDWATER ELEVATION TABLE

ND = Not Detected
All Measurements = Feet
No Data = Blank

Facility Name: Circle K #7466 **Facility ID#:** 49/8731776

Well No.	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20
Diameter	2"	2"	1"	1"	1"	2"
Well Depth	12'	12'	12'	12'	12'	12'
Screen Interval	2 - 12'	2 - 12'	2 - 12'	2-12'	2-12'	2-12'
TOC Elevation	100.12	99.21	98.97	98.50	98.48	97.93

DATE	DTW	ELEV	FP	DTW	ELEV	FP	DTW	ELEV	FP	DTW	ELEV	FP	DTW	ELEV	FP	DTW	ELEV	FP
08/27/07																		
06/10/08	6.12	94.00	ND															
12/11/08	6.45	93.67	ND															
05/14/10	6.05	94.07	ND															
08/09/10	5.45	94.67	ND															
08/20/10				3.92	95.29	ND	1.94	97.03	ND	0.92	97.58	ND	0.73	97.75	ND			
06/14/11	6.94	93.18	ND										4.87	93.61	ND	5.17	92.76	ND
04/24/12	6.45	93.67	ND															
03/11/14	6.74	93.38	ND													5.02	92.91	ND
07/24/14	7.39	92.73	ND															
10/24/14	6.64	93.48	ND													4.49	93.44	ND
01/20/15	5.99	94.13	ND													4.59	93.34	ND
03/30/15	6.43	93.69	ND													4.87	93.06	ND
07/24/15	6.79	93.33	ND													5.13	92.80	ND
10/27/15	6.43	93.69	ND													4.85	93.08	ND
01/29/16	5.10	95.02	ND															
04/27/16	6.66	93.46	ND															
08/11/16	6.53	93.59	ND															
11/09/16	6.65	93.47	ND															
02/08/17	7.13	92.99	ND															
05/16/17	7.87	92.25	ND															

TABLE 1: GROUNDWATER ELEVATION TABLE

Facility Name: Circle K #7466

Facility ID#: 49/8731776

ND = Not Detected
All Measurements = Feet
No Data = Blank

Well No.	DW-4	MW-21
Diameter	2"	2"
Well Depth	30'	12'
Screen Interval	25-30'	2-12'
TOC Elevation	97.79	99.95

DATE	DTW	ELEV	FP	DTW	ELEV	FP
06/14/11	4.61	93.18	ND			
04/24/12				5.88		
03/11/14				5.98		
07/24/14				8.02		
10/24/14				5.56		
01/20/15				5.23		
03/30/15				5.44		
07/24/15				5.93		
10/27/15				5.55		
01/29/16				3.73		
04/27/16				5.52	94.43	ND
08/11/16				5.51	94.44	ND
11/09/16				5.48	94.47	ND
02/08/17				6.35	93.60	ND
05/16/17				7.82	92.13	ND

TABLE 2: GROUNDWATER ANALYTICAL SUMMARY

Facility Name: Circle K #7466 **Facility ID#:** 49/8731776

Not Detected = ND
Not Sampled = NS
Analytical Results = ug/L

Current Data =

Sample Location	Sample Date	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	Naphthalene	1-methyl-naphthalene	2-methyl-naphthalene	Acenaphthene	TRPH	EDB	Lead
GCTLs		**1**	**40**	**30**	**20**	**20**	**14**	**28**	**28**	**20**	5,000	0.02	**15**
NADCs		**100**	**400**	**300**	**200**	200	**140**	**280**	**280**	**200**			
DW-1	03/29/95	**2.8**	<1.0	<1.0	<1.0	<10	<10	<10	<10	<10	<1000	<0.020	**16**
	12/05/05	Abandoned/Destroyed											
CW-1	12/29/94	**580**	**44**	**180**	**870**	**3,200**	**230**	<10	16	<10			
		Abandoned/Destroyed											
CW-1R	12/05/05	**4.56**	<1.00	1.51	7.93	<1.00							
	09/19/06	<0.50	<0.51	<0.44	<0.50	<0.44	<0.25	<0.50	<0.50				
	04/24/12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U						
	03/11/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.041 U	0.041 U	0.041 U	0.041 U			
	03/30/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.041 U	0.041 U	0.041 U	0.041 U			
CW-2	12/29/94	**370**	**53**	**180**	**1,000**	**890**	**180**	<10	<10				
		Abandoned/Destroyed											
CW-2R	12/05/05	**3.05**	<1.00	1.32	6.72	<1.00							
	09/19/06	**2,000**	**48**	**490**	**1,200**	**47**	**66**	1.5	2.4				
	05/29/07	**3,600**	**300**	**2,100**	**7,300**	**66**	4.9	<0.074	<0.056				
	06/10/08	**1,100**	**65**	**690**	**1,730**	12 I	**93**	2.9	4.6	1.5	**6,400**		
	6/14/2011*	**360**	**110**	**1,600**	**4,800**	2.3 I	0.19	0.036 U	0.036 U	0.036 U	**8,300**		
	7/11/2011**	0.19 U	0.26 U	0.33 U	0.2 U	0.18 U	**220**	9.5	18	2	**7,600**		
	04/24/12	**150**	32	**880**	**2,000**	2 I	**220**						
	03/11/14	**36**	5 I	**490**	**750**	3 U	**210**	13	21	2.1			
	07/24/14	0.5 U	0.5 U	3	0.5 U	0.5 U	8.5	1.5	2.2	0.26			
	10/24/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.31	0.052	0.070	0.040 U			
	01/20/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.27	0.041 U	0.041 U	0.041 U			
	03/30/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.042 U	0.042 U	0.042 U	0.042 U			
	07/24/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.040 U	0.040 U	0.040 U	0.040 U			
	10/27/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.047 I	0.040 U	0.040 U	0.040 U			
	01/29/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.041 U	0.041 U	0.041 U	0.041 U			
	04/27/16	**3**	0.5 U	0.7 I	0.5 U	0.5 U	**87**	1.1	1.1	0.041 U			
	05/18/16	**4**	0.5 U	1	0.5 U	0.5 U	**120**	2.9	3.3	0.20	330 I		
	08/11/16	**4.51**	0.780 U	2.31	1.06 U	0.587 I	**65.7**	3.93	4.57	0.782			2.87
	11/09/16	**5.82**	0.780 U	18.1	1.06 I	0.756 I	**62.5 J**	3.69 J	3.78 J	1.09 J			4.01
	02/08/17	**3.7**	0.30 U	4.5	0.81 I	0.59 I	**27.3**	2.7	3.0	1.3			
	05/16/17	**2.1**	0.30 U	1.8	1.2 I	0.23 U	12.2	1.2	0.96	1.3			
	11/02/17	**8.8**	0.41 I	5.6	1.5 I	0.67 I	**44.7**	4.7	5.30	1.9			

TABLE 2: GROUNDWATER ANALYTICAL SUMMARY

Facility Name: Circle K #7466 **Facility ID#:** 49/8731776

Not Detected = ND
Not Sampled = NS
Analytical Results = ug/L

Current Data =

Sample Location	Sample Date	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	Naphthalene	1-methyl-naphthalene	2-methyl-naphthalene	Acenaphthene	TRPH	EDB	Lead
GCTLs		**1**	**40**	**30**	**20**	**20**	**14**	**28**	**28**	**20**	**5,000**	**0.02**	**15**
NADCs		**100**	**400**	**300**	**200**	**200**	**140**	**280**	**280**	**200**			
CW-3	12/29/94	**64**	**40**	**110**	**530**	**1,800**	**270**	18	11				
								Abandoned/Destroyed					
CW-4	12/29/94	**700**	**97**	**230**	**1400**	**1600**	**200**	<10	<10				
								Abandoned/Destroyed					
MW-1	03/29/95	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<10	<1000	0.038	<5.0
	12/05/05							Abandoned/Destroyed					
MW-1R	12/05/05	**3.02**	<1.00	1.21	6.32	<1.00							
	09/19/06	**3.9**	<0.51	6.2	13	<0.44	0.62	<0.50	<0.50				
	05/29/07	0.2 U	0.19 U	0.16 U	0.24 U	0.21 U							
	05/16/17	0.31 U	0.30 U	0.36 U	0.72 U	0.23 U	0.32 U	0.32 U	0.32 U	0.32 U			6.5
MW-2	03/29/95	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<10	<1000	0.037	<5.0
	12/05/05							Abandoned/Destroyed					
MW-2R	12/05/05	**2800 D**	**55.6**	**695 D**	**2,934**	**897 D**							
	09/19/06	**3.0**	<0.51	5.4	12	<0.44	0.78	<0.50	<0.50				
	05/29/07	0.2 U	0.19 U	0.16 U	0.75 I	0.21 U	0.099 U	0.074 U	0.056 U				
	6/14/2011*	0.19 U	0.26 U	0.33 U	0.2 U	0.18 U	**330**	15	28	0.036 U	390 U		
	7/11/2011**	220	59	370	1,150	1.9 I	0.066 I	0.036 U	0.036 U	0.036 U	390 U		
	04/24/12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U						
	03/11/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.047 I	0.040 U	0.040 U	0.040 U			
	03/30/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.041 U	0.041 U	0.041 U	0.041 U			
MW-3	03/29/95	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<10	<1000	<0.020	<5.0
	12/05/05							Abandoned/Destroyed					
MW-3R	12/05/05	**6.87**	<1.00	2.72	13.82	1.80							
	09/19/06	**19**	1.3	21	**44**	<0.44	2.6	<0.50	<0.50				
	05/29/07	0.2 U	0.19 U	0.16 U	0.75 I	0.21 U							
	04/24/12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U						

TABLE 2: GROUNDWATER ANALYTICAL SUMMARY

Facility Name: Circle K #7466

Facility ID#: 49/8731776

Not Detected = ND
Not Sampled = NS
Analytical Results = ug/L

Current Data =

Sample Location	Sample Date	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	Naphthalene	1-methyl-naphthalene	2-methyl-naphthalene	Acenaphthene	TRPH	EDB	Lead
GCTLs		1	40	30	20	20	14	28	28	20	5,000	0.02	15
NADCs		100	400	300	200	200	140	280	280	200			
MW-4	03/29/95	1,500	280	240	1,300	5,500	77	<10	<10	<10	<1000	<0.020	<5.0
	12/05/05	Abandoned/Destroyed											
MW-4R	12/05/05	15.6	0.818	5.78	27.47	23.9							
	09/19/06	0.57	<0.51	<0.44	<0.50	43	<0.25	<0.50	<0.50				
	05/29/07	1.7 I	<0.19	5.5	23.7	86							
	06/14/11	0.19 U	0.26 U	0.33 U	0.2 U	3 I	0.22	0.036 U	0.036 U	0.036 U	390 U		
	04/24/12	0.5 U	0.5 U	0.5 U	0.5 U	1.0	1 U						
	03/11/14	0.5 U	0.5 U	0.5 U	0.5 U	0.7 I	0.10	0.040 U	0.040 U	0.040 U			
	03/30/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.041 U	0.041 U	0.041 U	0.041 U			
	05/16/17	0.31 U	0.30 U	0.36 U	0.72 U	0.23 U	0.81	0.32 U	0.32 U	0.32 U			1.1 U
MW-5	03/29/95	53	<1.0	<1.0	1.9	91	<10	<10	<10	<10	<1000	<0.020	88
(MW-5 dup)	03/29/95	90	<1.0	1.2	2.5	110	<10	<10	<10	<10	<1000	<0.020	5.8
	12/05/05	Abandoned/Destroyed											
MW-5R	12/05/05	11.3	0.582	18.0	20.81	1.82							
	09/19/06	41	1.4	79	80	<0.44	6.0	<0.50	<0.50				
	05/29/07	58	1.6 I	86	76.3	2.7 I	150	4.1	6				
	06/14/11	4.6	0.26 U	4.5 I	1.4 IV	0.18 U	3.3	0.11 I	0.15	0.036 U	390 U		
	04/24/12	7	0.5 U	3	3	0.5 U	4						
	03/11/14	4	0.5 U	6	0.8 I	0.5 U	7.9	0.31	0.52	0.041 U			
	07/24/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.17	0.041 U	0.041 U	0.041 U			
	10/24/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.073	0.040 U	0.040 U	0.040 U			
	01/20/15	0.6 I	0.5 U	0.5 U	0.5 U	0.5 U	0.33	0.041 U	0.041 U	0.041 U			
	03/30/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.21	0.041 U	0.041 U	0.041 U			
	07/24/15	0.5 U	0.5 U	1 I	0.5 U	0.5 U	1.2	0.040 U	0.045 I	0.040 U			
	10/27/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.24	0.042 U	0.042 U	0.042 U			
	05/16/17	9.9	0.30 U	90.2	4.1	0.23 U	41.3	0.39 I	2.1	0.32 U			2.1 I
	11/02/17	0.31 U	0.30 U	1.4	0.72 U	0.23 U	4.3	0.32 U	0.32 U	0.32 U			

TABLE 2: GROUNDWATER ANALYTICAL SUMMARY

Facility Name: Circle K #7466

Facility ID#: 49/8731776

Not Detected = ND
Not Sampled = NS
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Current Data =

Sample Location	Sample Date	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	Naphthalene	1-methyl-naphthalene	2-methyl-naphthalene	Acenaphthene	TRPH	EDB	Lead
GCTLs		1	40	30	20	20	14	28	28	20	5,000	0.02	15
NADCs		100	400	300	200	200	140	280	280	200			
MW-6	04/25/95	<1.0	<1.0	<1.0	6.1	<10	<10	<10	<10	<10	1700	<0.020	9.1
	12/05/05	Abandoned/Destroyed											
MW-6R	12/05/05	<1.00	<1.00	<1.00	<2	<1.00							
	09/19/06	**7.6**	0.54	9.9	**21**	<0.44	2.2	<0.50	<0.50				
	05/29/07	0.2 U	0.19 U	0.16 U	0.24 U	0.21 U	0.099 U	0.074 U	0.056 U				
	06/14/11	0.19 U	0.26 U	0.33 U	0.2 U	0.18 U	0.14	0.036 U	0.036 U	0.036 U	390 U		
MW-7	04/25/95	**4.7**	<1.0	<1.0	<1.0	**97**	<10	<10	<10	<10	1800	<0.020	<5.0
	02/08/05	<1.00	<1.00	<1.00	<2	15.9							
	06/10/08	0.2 U	0.19 U	0.16 U	0.53 U	2.6 I	0.099 U	0.074 U	0.056 U	0.067 U	100 U		
	06/14/11	0.19 U	0.26 U	0.33 U	1.24 I	1.2 I	0.37	0.036 U	0.036 U	0.036 U	390 U		
	04/24/12	0.5 U	0.5 U	0.5 U	0.5 U	0.8 I	1 U						
	03/11/14	0.5 U	0.5 U	0.5 U	0.5 U	1 I	0.15	0.040 U	0.040 U	0.040 U			
	07/24/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.16	0.077	0.057	0.041 U			
	10/24/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.086	0.041 U	0.041 U	0.041 U			
	01/20/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.045 I	0.040 U	0.040 U	0.040 U			
	03/30/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.041 U	0.041 U	0.041 U	0.041 U			
	07/24/15	0.5 U	0.5 U	0.7 I	0.5 U	0.7 I	0.20	0.040 U	0.040 U	0.040 U			
	10/27/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.15	0.041 U	0.041 U	0.041 U			
	05/16/17	0.31 U	0.30 U	0.36 U	0.72 U	0.64 I	0.32 U	0.32 U	0.32 U	0.32 U			1.1 U

TABLE 2: GROUNDWATER ANALYTICAL SUMMARY

Facility Name: Circle K #7466

Facility ID#: 49/8731776

Not Detected = ND
Not Sampled = NS
Analytical Results = ug/L

Current Data =

Sample Location	Sample Date	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	Naphthalene	1-methyl-naphthalene	2-methyl-naphthalene	Acenaphthene	TRPH	EDB	Lead
GCTLs		1	40	30	20	20	14	28	28	20	5,000	0.02	15
NADCs		100	400	300	200	200	140	280	280	200			
MW-8	04/25/05	4.4	<1.0	<1.0	3.5	88	<10	<10	<10	<10	<1000	<0.020	<5.0
	12/05/05	Abandoned/Destroyed											
MW-8R	08/27/07	0.2 U	0.19 U	0.16 U	0.24 U	18	0.099 U	0.074 U	0.056 U	0.067 U			
	12/11/08	0.2 U	0.19 U	0.94 I	2.8 I	9.4							
	05/14/10	0.39 U	0.37 U	0.48 U	0.94 U	0.4 U	0.036 U	0.036 U	0.036 U	0.036 U	180 I		
	06/14/11	0.19 U	0.26 U	0.33 U	0.2 U	1.1 I	0.08 I	0.036 U	0.036 U	0.036 U	390 U		
	04/24/12	0.5 U	0.5 U	0.5 U	0.5 U	1	1 U						
MW-9	08/27/07	0.2 U	0.19 U	0.16 U	2.9	0.92	0.099 U	0.074 U	0.056 U	0.067 U			
	12/11/08	0.2 U	8	0.51 I	2.5 I	0.66 I							
	05/14/10	0.43 I	2.7	0.48 U	0.94 U	0.4 U	0.093 I	0.036 U	0.036 U	0.036 U	330 I		
	06/14/11	0.19 U	0.26 U	0.33 U	0.2 U	0.18 U	0.19	0.036 U	0.036 U	0.036 U	390 U		
MW-10	08/27/07	0.2 U	0.19 U	0.16 U	0.24 U	0.21 U	0.099 U	0.074 U	0.056 U	0.067 U			
MW-11	08/27/07	0.2 U	0.19 U	0.16 U	0.24 U	0.21 U	0.099 U	0.074 U	0.056 U	0.067 U			
MW-12	08/27/07	0.2 U	0.19 U	0.16 U	0.24 U	0.21 U	9.2	0.95	1.7	2.4			

TABLE 2: GROUNDWATER ANALYTICAL SUMMARY

Facility Name: Circle K #7466 **Facility ID#:** 49/8731776

Not Detected = ND
Not Sampled = NS
Analytical Results = ug/L

Current Data =

Location	Date	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	Naphthalene	1-methyl-naphthalene	2-methyl-naphthalene	Acenaphthene	TRPH	EDB	Lead
GCTLs		1	40	30	20	20	14	28	28	20	5,000	0.02	15
NADCs		100	400	300	200	200	140	280	280	200			
MW-13	08/27/07	**5.1**	6.2	0.92	2.79	15	0.099 U	0.074 U	0.056 U	0.067 U			
	06/10/08	**14**	0.19 U	0.16 U	0.53 I	9.6	1.0	0.074 U	0.056 U	0.067 U	100 U		
	12/11/08	**6**	0.19 U	0.8 I	<0.24	4.4 I							
	05/14/10	**2.2**	0.37 U	0.38 U	0.94 U	0.4 U	0.064 I	0.036 U	0.036 U	0.036 U	360 I		
	06/14/11	0.19 U	0.26 U	1.7 I	0.76 I	2 I	2.2	0.18	0.19	0.14	390 U		
	04/24/12	0.5 U	0.5 U	1	0.8 I	0.7 I	1 U						
MW-14	06/10/08	**930**	10	**140**	**276**	**72**	**42**	0.68	0.94	0.18 I	1,600		
	12/11/08	**740**	17	**210**	**460**	**21**							
	05/14/10	**360**	10	**230**	**523**	4.1 I	**64**	1.5	2.1	0.34	2,200		
	06/14/11	**320**	11	**320**	**880**	3 I	**90**	1.8	3.1	0.68	2,900		
	04/24/12	**200**	10	**230**	**360**	1	**130**						
	03/11/14	**19**	0.5 U	27	4	0.6 I	**64**	1.8	2.3	0.59			
	07/24/14	**27**	0.8 I	**65**	**49**	0.6 I	**57**	1.5	1.7	0.73			
	10/24/14	0.7 I	0.5 U	2	0.5 U	0.5 U	9.0	0.31	0.33	0.13			
	01/20/15	0.5 U	0.5 U	0.6 I	0.5 U	0.5 U	0.95	0.041 U	0.041 U	0.041 U			
	03/30/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.8	0.19	0.23	0.076			
	07/24/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.040 U	0.040 U	0.040 U	0.040 U			
	10/27/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.66	0.041 U	0.041 U	0.041 U			
	01/29/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.2	0.077	0.094	0.045 I			
	04/27/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.44	0.040 U	0.040 U	0.040 U			
	08/11/16	0.331 U	0.780 U	0.384 U	1.06 U	0.367 U	1.41	0.0265 I	0.0298 I	0.0174 I			2.56
	11/09/16	0.331 U	0.780 U	0.384 U	1.06 U	0.367 U	3.01 J	0.0470 JU	0.0560 JU	0.316 JU			0.676 I
	02/08/17	0.31 U	0.30 U	0.36 U	0.72 U	0.23 U	0.32 U	0.32 U	0.32 U	0.32 U			
	05/16/17	0.31 U	0.30 U	0.36 U	0.72 U	0.23 U	0.32 U	0.32 U	0.32 U	0.32 U			

TABLE 2: GROUNDWATER ANALYTICAL SUMMARY

Facility Name: Circle K #7466

Facility ID#: 49/8731776

Not Detected = ND
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Analytical Results = ug/L

Current Data =

Sample Location	Sample Date	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	Naphthalene	1-methyl-naphthalene	2-methyl-naphthalene	Acenaphthene	TRPH	EDB	Lead
GCTLs		1	40	30	20	20	14	28	28	20	5,000	0.02	15
NADCs		100	400	300	200	200	140	280	280	200			
MW-15	06/10/08	**1,300**	13	**170**	**270**	**490**	**37**	0.36	0.55	0.18 I	1,900		
	12/11/08	**1,900**	**110**	**540**	**1,100**	**90**							
	05/14/10	**410**	11	**170**	**189**	**22**	**18**	0.22	0.31	0.074 I	1,100		
	06/14/11	**530**	22	**440**	**850**	4.4 I	**120**	2.4	4.3	1.2	3,800		
	04/24/12	**310**	10	**300**	**500**	1	**110**						
	03/11/14	**11**	0.5 U	14	1	0.5 U	**24**	0.79	1.1	0.31			
	07/24/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.3	0.053	0.073	0.051 I			
	10/24/14	**2**	0.5 U	0.7 I	0.5 U	0.7 I	1.0	0.061	0.079	0.041 I			
	01/20/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.061	0.041 U	0.041 U	0.041 U			
	03/30/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.064	0.041 U	0.041 U	0.041 U			
	07/24/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.11	0.040 U	0.040 U	0.040 U			
	10/27/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.37	0.041 U	0.041 U	0.041 U			
	01/29/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.1	0.089	0.065	0.042 U			
	04/27/16	0.6 I	0.5 U	0.5 U	0.5 U	0.5 U	7.5	0.39	0.34	0.12			
	08/11/16	0.331 U	0.780 U	0.384 U	1.06 U	0.367 U	3.61	0.335	0.207 I	0.15			0.277 I
	11/09/16	0.331 U	0.780 U	0.384 U	1.06 U	0.367 U	0.960 IJ	0.0864 IJ	0.0991 IJ	0.316 JU			0.353 I
	02/08/17	0.31 U	0.30 U	0.36 U	0.72 U	0.23 U	0.32 U	0.32 U	0.32 U	0.32 U			
	05/16/17	0.31 U	0.30 U	0.36 U	0.72 U	0.23 U	0.32 U	0.32 U	0.32 U	0.32 U			
MW-16	08/20/10	0.21 I	0.2 U	0.18 U	0.49 U	0.2 U	0.12 I	0.036 U	0.036 U	0.036 U	150 U		
MW-17	08/20/10	0.19 U	0.2 U	0.18 U	0.49 U	0.2 U	0.036 U	0.036 U	0.036 U	0.036 U	150 U		

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Facility Name: Circle K #7466

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Not Detected = ND
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Current Data =

Sample Location	Sample Date	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	Naphthalene	1-methyl-naphthalene	2-methyl-naphthalene	Acenaphthene	TRPH	EDB	Lead
GCTLs		1	40	30	20	20	14	28	28	20	5,000	0.02	15
NADCs		100	400	300	200	200	140	280	280	200			
MW-18	08/20/10	0.19 U	0.2 U	0.18 U	0.49 U	0.2 U	0.14 I	0.036 U	0.036 U	0.036 U	150 U		
MW-19	08/20/10	0.2 I	0.2 U	0.18 U	0.49 U	0.2 U	0.32	0.036 U	0.036 U	0.036 U	150 U		
	06/14/11	0.19 U	0.26 U	0.33 U	0.2 U	0.18 U	0.036 U	0.036 U	0.036 U	0.036 U	390 U		
MW-20	06/14/11	0.19 U	0.26 U	0.33 U	0.2 U	0.18 U	0.036 U	0.036 U	0.036 U	0.036 U	390 U		
	03/11/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.040 U	0.040 U	0.040 U	0.040 U			
	10/24/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.041 U	0.041 U	0.041 U	0.041 U			
	01/20/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.040 U	0.040 U	0.040 U	0.040 U			
	03/30/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.040 U	0.040 U	0.040 U	0.040 U			
	07/24/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.040 U	0.040 U	0.040 U	0.040 U			
	10/27/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.041 U	0.041 U	0.041 U	0.041 U			
MW-21	04/24/12	**28**	0.7 I	**42**	**39**	0.5 U	**62**						
	03/11/14	**5**	0.5 U	22	0.7 I	0.5 U	**94**	4.1	5.5	0.94			
	07/24/14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.041 U	0.041 U	0.041 U	0.041 U			
	10/24/14	**18**	0.5 U	5	0.5 U	0.5 U	**27**	0.70	0.61	0.36			
	01/20/15	**2**	0.5 U	0.5 U	0.5 U	0.5 U	0.67	0.040 U	0.040 U	0.040 U			
	03/30/15	**2**	0.5 U	0.5 U	0.5 U	0.5 U	**23**	0.78	0.91	0.32			
	07/24/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.040 U	0.040 U	0.040 U	0.040 U			
	10/27/15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.6	0.25	0.14	0.30			
	01/29/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5.1	0.35	0.36	0.26			
	04/27/16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	4.7	0.12	0.10	0.13			
	08/11/16	0.331 U	0.780 U	0.384 U	1.06 U	0.367 U	8.23	0.190 I	0.122 I	0.171			2.61
	11/09/16	0.331 U	0.780 U	0.384 U	1.06 U	0.367 U	9.31 J	0.249 IJ	0.234 IJ	0.316 JU			1.79
	02/08/17	0.31 U	0.30 U	0.36 U	0.72 U	0.23 U	1.9	0.32 U	0.32 U	0.32 U			
	05/16/17	0.31 U	0.30 U	0.36 U	0.72 U	0.23 U	0.32 U	0.32 U	0.32 U	0.32 U			
DW-2	08/27/07	0.2 U	0.19 U	0.16 U	0.24 U	0.21 U	0.099 U	0.074 U	0.056 U	0.067 U			

TABLE 2: GROUNDWATER ANALYTICAL SUMMARY

Facility Name: Circle K #7466 **Facility ID#:** 49/8731776

Not Detected = ND
Not Sampled = NS
Analytical Results = ug/L

Current Data =

Location	Date	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	Naphthalene	1-methyl-naphthalene	2-methyl-naphthalene	Acenaphthene	TRPH	EDB	Lead
GCTLs		1	40	30	20	20	14	28	28	20	5,000	0.02	15
NADCs		100	400	300	200	200	140	280	280	200			
DW-3	08/27/07	**4.6**	**190**	**54**	**321**	0.21 U	**19**	4.7	10	0.067 U			
	06/10/08	0.2 U	1 I	0.54 I	1.89 I	0.21 U	0.43	0.074 U	0.082 I	0.067 U	100 U		
	06/14/11	0.19 U	0.26 U	0.33 U	0.2 U	0.18 U	0.32	0.036 U	0.055 I	0.036 U	390 U		
	05/16/17	0.31 U	0.30 U	0.36 U	0.72 U	0.23 U	0.32 U	0.32 U	0.32 U	0.32 U			1.2 I
DW-4	06/14/11	0.19 U	0.26 U	0.33 U	0.2 U	0.18 U	0.036 U	0.036 U	0.036 U	0.036 U	390 U		
Ryan Potable Well***	08/23/11	0.5 U	0.7 U	0.8 U	0.8 U	0.5 U	0.028 U	0.0095 U	0.0095 U	0.0095 U	95 U	0.017 U	**104**

Note: On 6/10/08, groundwater from CW-2R contained 1 ug/L Anthracene, 0.53 ug/L Fluorene and 1 ug/L Phenanthrene; Below the GCTLs of 2100 ug/L, 280 ug/L and 210 ug/L, respectively.

On 5/14/10, groundwater from MW-14 contained 0.081 I ug/L Fluorene; below the GCTL of 280 ug/L.

On 6/14/11, groundwater from MW-2R contained 3.8 ug/L Acenaphthene (below the GCTL of 20 ug/L), 0.099 I ug/L Anthracene (below the GCTL of 2,100 ug/L), 0.33 ug/L Fluoranthene (below the GCTL of 280 ug/L), 1.4 ug/L Fluorene (below the GCTL of 280 ug/L) 1.6 ug/L Phenanthrene (below the GCTL of 210 ug/L) and 0.19 ug/L Pyrene (below the GCTL of 210 ug/L).

On 6/14/11, groundwater from MW-8R contained 0.076 I ug/L Benzo(g,h,i)perylene (below the GCTL of 210 ug/L), 0.068 I ug/L Dibenz(a,h)anthracene (above the GCTL of 0.005 ug/L) and 0.069 I ug/L Indeno(1,2,3-cd)pyrene (above the GCTL of 0.05 ug/L).

On 6/14/11, groundwater from MW-14 contained 0.2 ug/L Fluorene (below the GCTL of 280 ug/L) and 0.078 I ug/L Phenanthrene (below the GCTL of 210 ug/L) .

On 6/14/11, groundwater from MW-15 contained 0.33 ug/L Fluorene (below the GCTL of 280 ug/L).

On 6/14/11, groundwater from MW-20 contained 0.059 I ug/L Benzo(a)pyrene (below the GCTL of 0.2 ug/L).

On 7/11/11, groundwater from CW-2R contained 0.74 ug/L Fluorene (below the GCTL of 280 ug/L), 0.74 ug/L Phenanthrene (below the GCTL of 210 ug/L) and 0.072 I ug/L Pyrene (below the GCTL of 210 ug/L).

*- On 6/14/11, It is postulated that the PAH sample bottles collected at CW-2R and MW-2R locations were switched in the lab based on historic groundwater quality results of analyses. Confirmation samples from CW-2R and MW-2R were collected on 7/11/11.

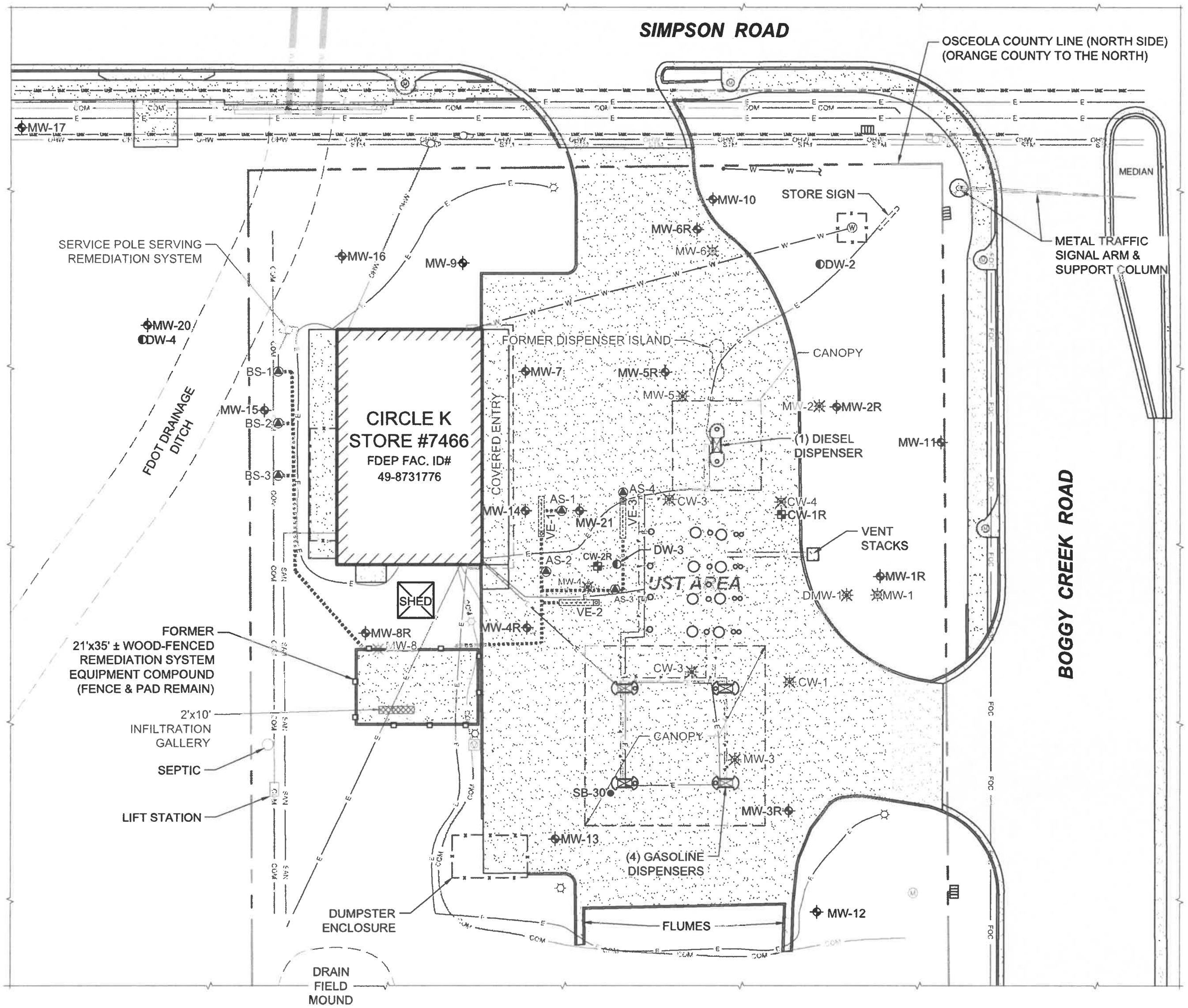
**- On 7/11/11, It is postulated that the BTEX/MTBE sample bottles collected at CW-2R and MW-2R locations were switched in the lab based on historic groundwater quality results of analyses.

*** - Water from the Ryan potable well was sampled for the Gasoline/Kerosene Analytical Group Parameters in addition to arsenic, cadmium, and chromium. No VOH or PAH constituents were detected at the laboratory's method detection limit. Arsenic and chromium were not detected at the laboratory's method detection limit. Cadmium was reported at an estimated value (between the laboratory's method detection limit and the limit of quantitation) of 0.75 J ug/L; below the GCTL of 5.0 ug/L.

I- Analyte detected but could not be quantified with certainty
V- Analyte detected in the Method Blank at or above the Method Detection Limit
J - Estimated value. The result is greater than/equal to the Method Detection Limit and less than the Limit of Quantitation.
D - Sample was diluted due to targets detected over the highest point of the calibration curve or due to matrix interference.
GCTL - Groundwater Cleanup Target Level; Chapter 62-777, F.A.C.
Total VOA - Summation of detected benzene, toluene, ethyl benzene and total xylenes
TRPH - Total recoverable petroleum hydrocarbons
EDB - Ethylene dibromide
VOH - Volatile organic halocarbons by EPA Method 8260B
PAH - Polynuclear Aromatic Hydrocarbons by EPA Method 8270C

5602 Thompson Center Court, Suite 405
Tampa, Florida 33634
Telephone 813-889-8960
Fax 813-889-8754
www.atcgroupservices.com

FIGURES



	LEGEND:
	MONITORING WELL
	DEEP MONITORING WELL
	COMPLIANCE WELL
	AIR SPARGING (AS) WELL
	DESTROYED COMPLIANCE WELL
	DESTROYED MONITORING WELL
	SOIL BORING - AUG, 2010
	VAPOR EXTRACTION (VE) LATERAL WELL
	POTABLE WATER WELL
	MAN HOLE COVER
	LIGHT POLE
	POWER POLE
	STORM WATER CATCH BASIN
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	GRASS / LANDSCAPING / UNPAVED
UST	UNDERGROUND STORAGE TANK

	FENCE
	UNDERGROUND PRODUCT/FUEL PIPE
	UNDERGROUND VAPOR/VENT PIPE
	APPROXIMATE PROPERTY BOUNDARY
	REMEDIATION SYSTEM PIPE TRENCH
COM	UNDERGROUND COMMUNICATION WIRE
FOC	UNDERGROUND FIBER OPTIC CABLE
E	UNDERGROUND ELECTICAL WIRE
OHW	OVERHEAD WIRE (UTILITY)
SAN	SANITARY / SEPTIC SEWER
STM	STORM SEWER
W	UNDERGROUND WATER PIPE

NOTE:
REMEDIATION SYSTEM IS NOT ACTIVE.
AIR SPARGING SPARES TERMINATE AT BS-1;
AIR SPARGING & VAPOR EXTRACTION
SPARES TERMINATE AT AS-4.

0 Approximate Feet 30

NAME/ADDRESS:

CIRCLE K STORE #7466
FDEP FAC. ID# 49-8731776
3280 Boggy Creek Road
Kissimmee, Osceola County, Florida

DRAWING TITLE:

SITE PLAN

ATC

Certificate of Authorization #7783
5602 Thompson Center Ct.,Ste 405
Tampa, Florida
(813) 889-8960
(813) 889-8754 FAX

DRAWN BY:	J.J.D.	FIGURE NO.
CHECKED BY:	A.B.	1
PROJECT NO.	Z165640639	

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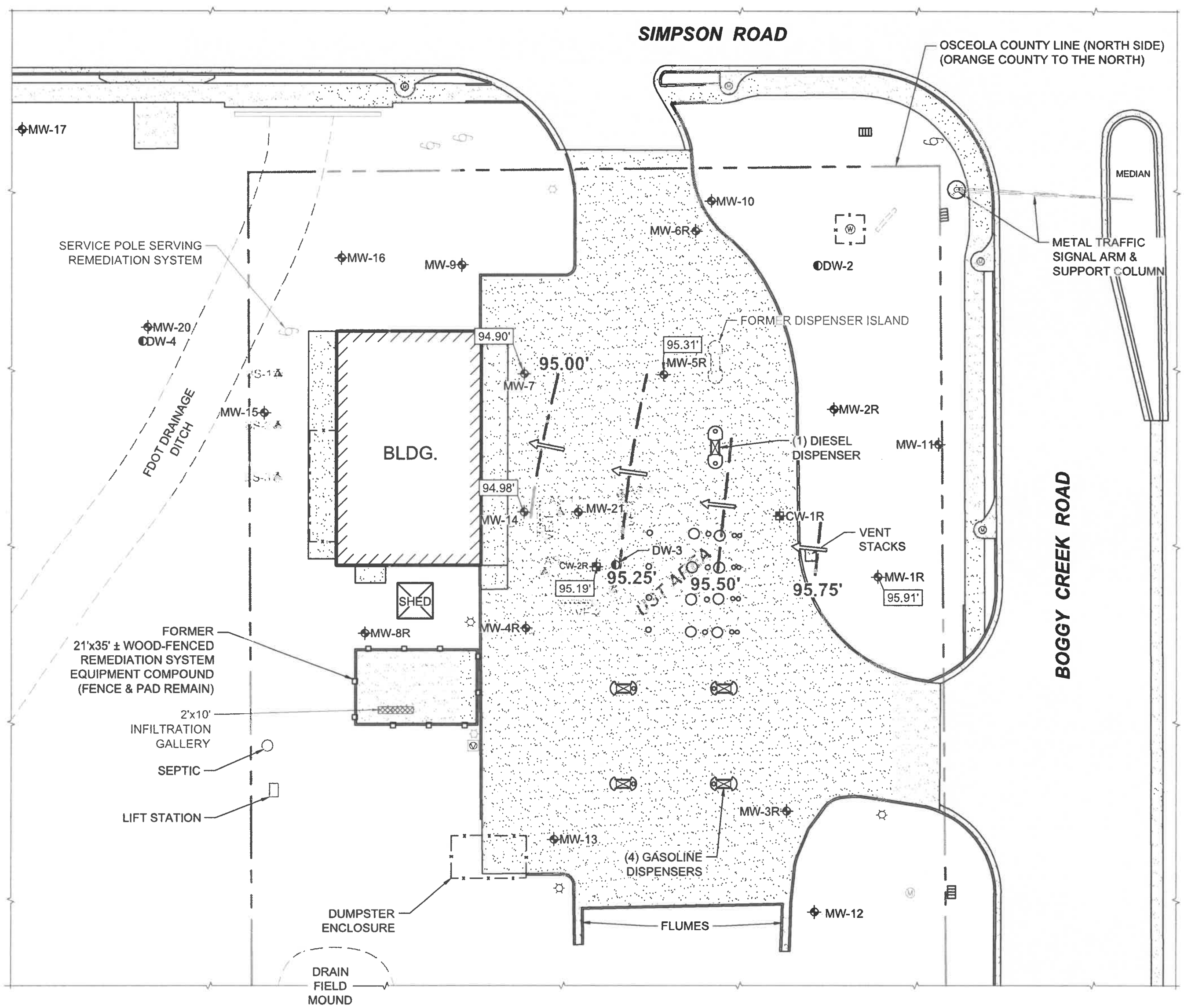

LEGEND:	
	MONITORING WELL
	DEEP MONITORING WELL
	COMPLIANCE WELL
	AIR SPARGING (AS) WELL
	DESTROYED COMPLIANCE WELL
	DESTROYED MONITORING WELL
	SOIL BORING - AUG. 2010
	VAPOR EXTRACTION (VE) LATERAL WELL
	POTABLE WATER WELL
	MAN HOLE COVER
	LIGHT POLE
	POWER POLE
	STORM WATER CATCH BASIN
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	GRASS / LANDSCAPING / UNPAVED
UST	UNDERGROUND STORAGE TANK

	FENCE
	APPROXIMATE PROPERTY BOUNDARY

FEET	EQUIPOTENTIAL LINE CONTOUR INTERVAL 0.25 FEET
	GROUNDWATER FLOW DIRECTION
FEET	WATER TABLE ELEVATION

0 Approximate Feet 30

NAME/ADDRESS:

CIRCLE K STORE #7466
FDEP FAC. ID# 49-8731776
3280 Boggy Creek Road
Kissimmee, Osceola County, Florida

DRAWING TITLE:

GROUNDWATER ELEVATION CONTOUR MAP
11/2/2017

ATC

Certificate of Authorization #7783
5602 Thompson Center Ct., Ste 405
Tampa, Florida
(813) 889-8960
(813) 889-8754 FAX

DRAWN BY:	J.J.D.	FIGURE NO.
CHECKED BY:	A.B.	2
PROJECT NO.	Z165640639	

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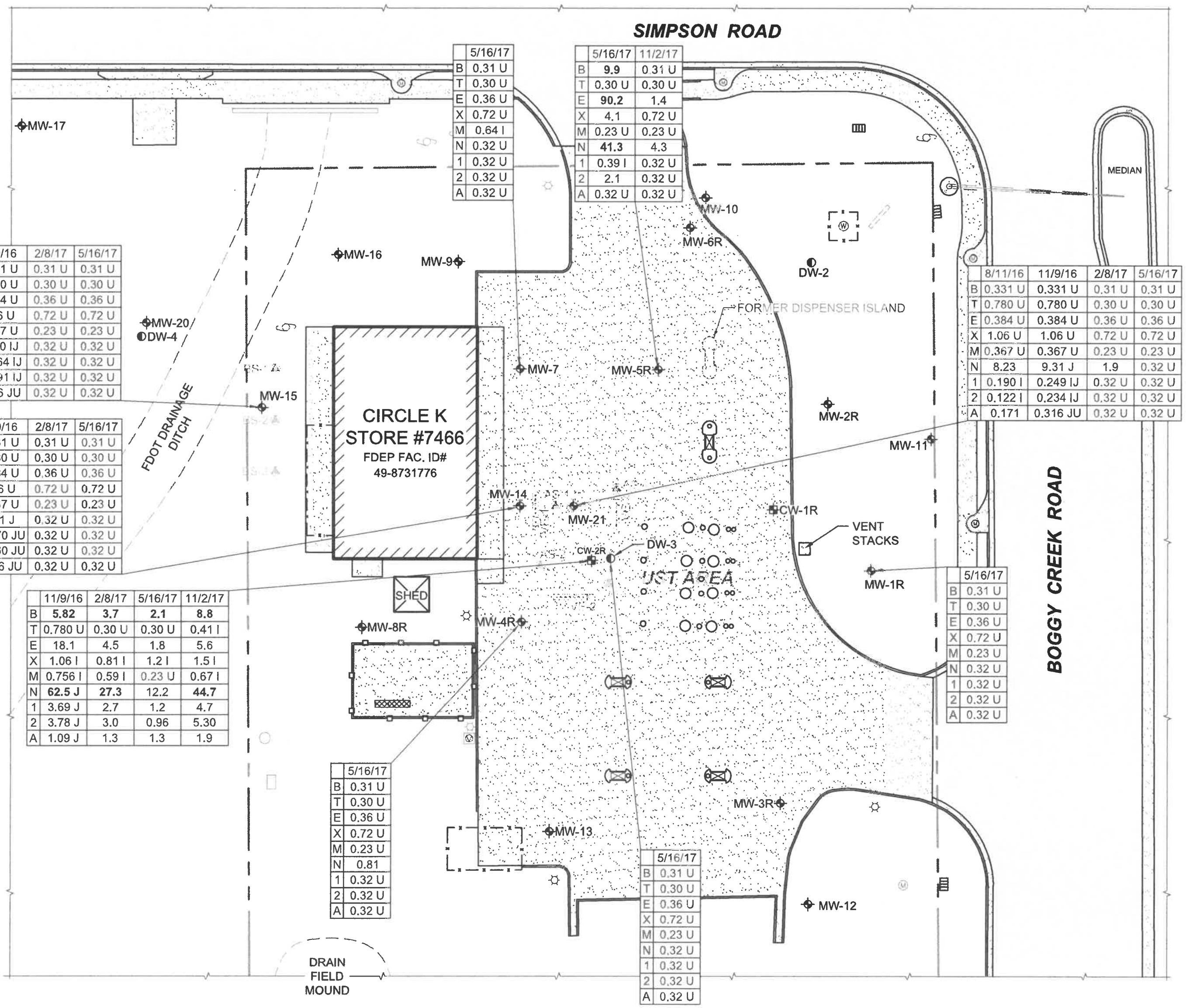

	5/16/17
B	0.31 U
T	0.30 U
E	0.36 U
X	0.72 U
M	0.64 I
N	0.32 U
1	0.32 U
2	0.32 U
A	0.32 U

	5/16/17	11/2/17
B	**9.9**	0.31 U
T	0.30 U	0.30 U
E	**90.2**	1.4
X	4.1	0.72 U
M	0.23 U	0.23 U
N	**41.3**	4.3
1	0.39 I	0.32 U
2	2.1	0.32 U
A	0.32 U	0.32 U

	8/11/16	11/9/16	2/8/17	5/16/17
B	0.331 U	0.331 U	0.31 U	0.31 U
T	0.780 U	0.780 U	0.30 U	0.30 U
E	0.384 U	0.384 U	0.36 U	0.36 U
X	1.06 U	1.06 U	0.72 U	0.72 U
M	0.367 U	0.367 U	0.23 U	0.23 U
N	3.61	0.960 IJ	0.32 U	0.32 U
1	0.335	0.0864 IJ	0.32 U	0.32 U
2	0.207 I	0.0991 IJ	0.32 U	0.32 U
A	0.15	0.316 JU	0.32 U	0.32 U

	8/11/16	11/9/16	2/8/17	5/16/17
B	0.331 U	0.331 U	0.31 U	0.31 U
T	0.780 U	0.780 U	0.30 U	0.30 U
E	0.384 U	0.384 U	0.36 U	0.36 U
X	1.06 U	1.06 U	0.72 U	0.72 U
M	0.367 U	0.367 U	0.23 U	0.23 U
N	1.41	3.01 J	0.32 U	0.32 U
1	0.0265 I	0.0470 JU	0.32 U	0.32 U
2	0.0298 I	0.0560 JU	0.32 U	0.32 U
A	0.0174 I	0.316 JU	0.32 U	0.32 U

	11/9/16	2/8/17	5/16/17	11/2/17
B	**5.82**	**3.7**	**2.1**	**8.8**
T	0.780 U	0.30 U	0.30 U	0.41 I
E	18.1	4.5	1.8	5.6
X	1.06 I	0.81 I	1.2 I	1.5 I
M	0.756 I	0.59 I	0.23 U	0.67 I
N	**62.5 J**	**27.3**	12.2	**44.7**
1	3.69 J	2.7	1.2	4.7
2	3.78 J	3.0	0.96	5.30
A	1.09 J	1.3	1.3	1.9

	5/16/17
B	0.31 U
T	0.30 U
E	0.36 U
X	0.72 U
M	0.23 U
N	0.81
1	0.32 U
2	0.32 U
A	0.32 U

	5/16/17
B	0.31 U
T	0.30 U
E	0.36 U
X	0.72 U
M	0.23 U
N	0.32 U
1	0.32 U
2	0.32 U
A	0.32 U

	8/11/16	11/9/16	2/8/17	5/16/17
B	0.331 U	0.331 U	0.31 U	0.31 U
T	0.780 U	0.780 U	0.30 U	0.30 U
E	0.384 U	0.384 U	0.36 U	0.36 U
X	1.06 U	1.06 U	0.72 U	0.72 U
M	0.367 U	0.367 U	0.23 U	0.23 U
N	8.23	9.31 J	1.9	0.32 U
1	0.190 I	0.249 IJ	0.32 U	0.32 U
2	0.122 I	0.234 IJ	0.32 U	0.32 U
A	0.171	0.316 JU	0.32 U	0.32 U

	5/16/17
B	0.31 U
T	0.30 U
E	0.36 U
X	0.72 U
M	0.23 U
N	0.32 U
1	0.32 U
2	0.32 U
A	0.32 U

LEGEND:	
	MONITORING WELL
	DEEP MONITORING WELL
	COMPLIANCE WELL
	AIR SPARGING (AS) WELL
	VAPOR EXTRACTION (VE) LATERAL WELL
	POTABLE WATER WELL
	MAN HOLE COVER
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	POWER POLE
	STORM WATER CATCH BASIN
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	GRASS / LANDSCAPING / UNPAVED
UST	UNDERGROUND STORAGE TANK

FENCE
APPROXIMATE PROPERTY BOUNDARY

	DATE SAMPLED (mm/dd/yy)
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
M	METHYL TERT-BUTYL ETHER (MTBE)
N	NAPHTHALENE
1	1-METHYLNAPHTHALENE
2	2-METHYLNAPHTHALENE
A	ACENAPHTHENE

ALL RESULTS IN µg/L (micrograms per liter ≈ parts per billion).
BOLD TEXT indicates concentration exceeds Groundwater Cleanup Target Level (GCTL).
BOLD ITALIC TEXT indicates value exceeds Natural Attenuation Default Concentration (NADC).
Most recent sampling event is highlighted.

I	INDICATES REPORTED VALUE IS BETWEEN METHOD DETECTION LIMIT AND PRACTICAL QUANTITATION LIMIT.
U	ANALYTE NOT DETECTED AT METHOD DETECTION LIMIT.
J	ESTIMATED VALUE. THE RESULT IS GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT AND LESS THAN THE LIMIT OF QUANTITATION (LOQ).

0 Approximate Feet 30

NAME/ADDRESS:
CIRCLE K STORE #7466
FDEP FAC. ID# 49-8731776
3280 Boggy Creek Road
Kissimmee, Osceola County, Florida

DRAWING TITLE:
GROUNDWATER ANALYTICAL RESULTS SUMMARY MAP

Certificate of Authorization #7783
5602 Thompson Center Ct.,Ste 405
Tampa, Florida
(813) 889-8960
(813) 889-8754 FAX

DRAWN BY:	J.J.D.	FIGURE NO.
CHECKED BY:	A.B.	3
PROJECT NO.	Z165640639	

F:\AutoCAD\Cardno-ATC projects\001.TAMPA-OFFICE\Z165640639 - CK 7466 Kissimmee\2018-02\3 GWQ 2017-11.dwg, 2/13/2018 5:08:15 PM

SITE 8

Showcase M.H. Sales, Inc.

Facility Detailed List Report

Number of Facilities = 1

Facility Info

Facility ID	County	Status	EPA ID	Other ID	Old Fac. ID	Follow Up
78065	Osceola	O - Out Of Business	NA		4900507	N - None Needed
Facility Name	**Mailing Address**	**Location Address**	**Contact**	**Title**	**Phone**	**E-mail Address**
Showcase M.H. Sales , Inc	3300 Morningside Dr Kissimmee, FL 34741	3300 Morningside Dr Kissimmee, 34741	Mark Taliento	Mgr.	(407) 344-2828	na
SIC Code	**Gen Stat**	**Total HW Disposal**	**Data Type**	**Date**	**Org Contact**	**Org Code**
5271 - Retail Trade - Mobile Home Dealers	N - NOT A HAZARDOUS WASTE GENERATOR	0	V - Verification By On-Site Visit	8/3/2018	Mike Bryant	49 - Osceola

Full-Time Employees	Facility Updated Date
2	8/3/2018 10:24:22 AM

Comments:

Comment Date	Comment
9/17/2002	Mobile Home Sales Only
3/26/2009	U Haul Rentals Only
8/3/2018	Empty Lot

Waste Info

Waste Type	Storage Method	Disposal Method	Mo. (Units)	Max Mo. (Lbs)	Lbs/ Year	Disposal Location	Ques Storage	Ques Disposal	RCRA Hazardous
Facility has no corresponding waste information.									

Activity Info

Activity Type	Description	Activity Date	Return To Compliance Date
Facility has no corresponding activity information.			

SITE 13
Orlando City Lift Station #139

Florida Department of Environmental Protection
Bureau of Petroleum Storage Systems
Facility Inspection Cover Page
Facility Information

District: CD
County: Orange
Facility ID#: 9805557
Name: Orlando City Lift Stat #139
6655 Central Florida Greenway
Orlando, FL 32827
Contact: Gary Williams
Phone: 407-246-2664

Type: Local Government
Status: Open
Latitude: 28:22:27.8777
Longitude: 81:17:29.0499
LL Method: DGPS
LL Status: REVIEWED
Status Date: 03//02/2004

Account Owner Information

Name: Orlando City-Environ Control Sec
5100 L B Mcleod Rd
Orlando, FL 32811-6612
Phone: 407-246-2664

Effective Date: 03/25/2003
Placard#/Date: 529297 - 06/07/2018

Tank Owner Information

Name: Orlando City-Environ Control Sec
5100 L B Mcleod Rd
Orlando, FL 32811-6612
Phone: 407-246-2664

Effective Date: 03/25/2003

Tank #	Size	Content	Installed	Placement	Status	Const	Pipe	Monitor
1	4000	Emerg Generator Diesel	02/01/2001	ABOVE	U	C R M	I B A	F Q

*****Note: Construction, Piping, and Monitoring Info not shown for CLOSED tanks (Status of A or B).**

Most Recent Insurance Document

FR Type	Effective Date	Expiration Date	Company Name
Local Governments - Financial Test	01/26/2017	01/26/2018	
Local Governments - Financial Test	01/13/2016	01/13/2017	
Local Governments - Financial Test	02/01/2014	01/31/2015	
Local Governments - Financial Test	02/22/2012	02/22/2013	

Local Governments - Financial Test	01/01/2012	12/31/2012
Local Governments - Financial Test	01/01/2011	12/31/2011
Local Governments - Financial Test	10/01/2010	09/30/2011
Local Governments - Financial Test	02/15/2010	02/15/2011
Local Governments - Financial Test	02/26/2009	02/26/2010

Other Financial Responsibility Mechanisms on File

FR Type	Effective Date	Expiration Date
Local Governments - Financial Test	02-01-2017	01-31-2018

No OPEN violations found!

No Discharge Information Found!

End of Data for Facility #: 9805557

Florida Department of Environmental Protection
Twin Towers Office Bldg. 2600 Blair Stone Road, Tallahassee, Florida, 32399-2400
Division of Waste Management
Petroleum Storage Systems

Storage Tank Facility Annual Compliance Site Inspection Report

Facility Information:

Facility ID: 9805557 County: ORANGE Inspection Date: 02/16/2017

Facility Type: H - Local Government

Facility Name: ORLANDO CITY LIFT STAT #139
6655 CENTRAL FLORIDA GREENWAY
ORLANDO, FL 32827

# of Inspected ASTs: 1
USTs: 0
Mineral Acid Tanks: 0

Latitude: 28° 22' 27.8777"
Longitude: 81° 17' 29.0499"
LL Method: DGPS

Inspection Result:

Result: Minor Out of Compliance

Also Performed:

Financial Responsibility:

Financial Responsibility: LOCAL GOVERNMENTS - FINANCIAL TEST

Insurance Carrier:

Effective Date: 01/26/2017 Expiration Date: 01/26/2018

Findings:

Signatures:

TKOREP - ORANGE CNTY ENVIRONMENTAL PROTECTION DIVISION

Storage Tank Program Office

(407) 836-1499

Storage Tank Program Office Phone Number

Facility ID: 9805557

Seth B. Moorhead

Inspector NAME

Inspector Signature

Leo Dixon

Representative NAME

Representative Signature

Completed System Tests

Type	Date Completed	Results	Reviewed	Next Due Date	Comment
Annual Operability Test	08/02/2016	Passed	02/28/2017	08/02/2017	LC2000 - P.E.C., inc.

Reviewed Records

Record Category	Record Type	From Date	To Date	Reviewed Record Comment
Two Years	Monthly Maint. Visual Examinations and Results	02/13/2015	02/16/2017	Visuals
Two Years	Monthly Release Detection Results	02/13/2015	02/16/2017	ATG Checks
Life Time	Written Release Detection Response Level Info	02/16/2017	02/16/2017	Good for the Life of the System
Two Years	Certificate of Financial Responsiblity	01/26/2017	02/16/2017	CFR Financial Test Local Gov.

Facility ID: 9805557

New Violations

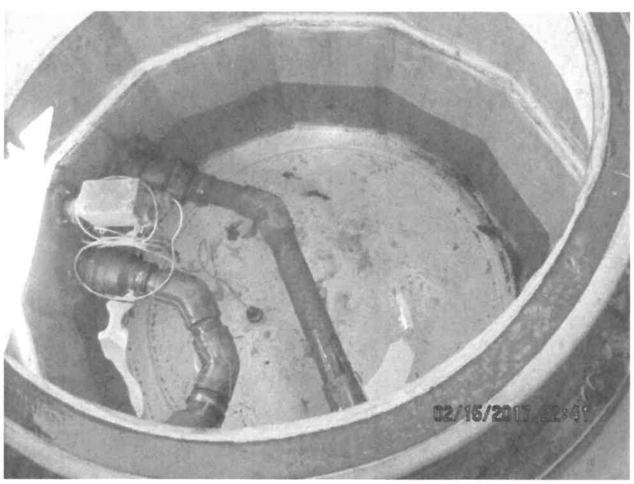
Type:	Violation
Significance:	Minor
Rule:	62-762.601(1)(a)1.
Violation Text:	Cannot detect a new release from any portion of the system.
Explanation:	ATG in alarm due to water in piping sump.
Corrective Action:	Please repair the ATG. Please place the sump sensor equal to or below the lowest penetration. Please have the water removed.

Type:	Violation
Significance:	Minor
Rule:	62-762.701(1)(c)1.
Violation Text:	Spill containment, dispenser liners and piping sumps not accessible; water and regulated substances not removed.
Explanation:	The piping sump has approx. 12" of crystal clear water in it. ATG in alarm.
Corrective Action:	Please remove the water and contact seth.moorhead@ocfl.net for a re-inspection.

Violation Photos

Added Date 02/16/2017

Water in piping sump



Facility ID: 9805557

Site Visit Comments

02/16/2017

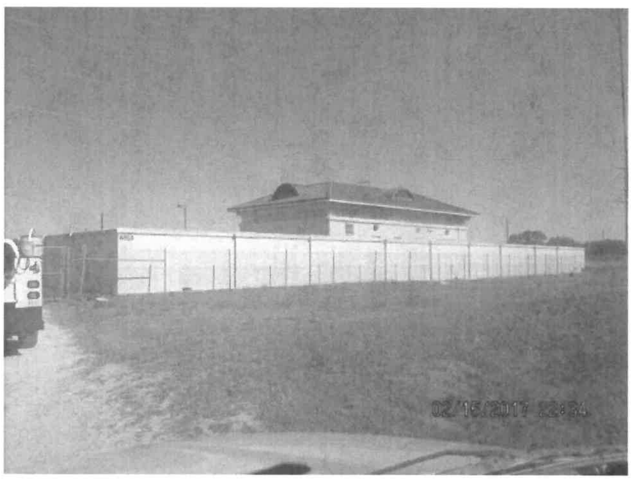
This is a secure facility. No entry without an appointment and an escort from the City of Orlando Wastewater Division.
Conducted inspection with Leo Dixon, Lift Station Supervisor, leobert.dixon@cityoforlando.net, Cell: 321-228-8476.

The CFR, RDRL and Registration Placard are posted in the generator building.
The tank is in good condition and secured to a concrete pad.
The spill containment bucket is clean and dry.
Clock gauge for overfill protection.
The aboveground portion of the piping is in good condition.

Inspection Photos

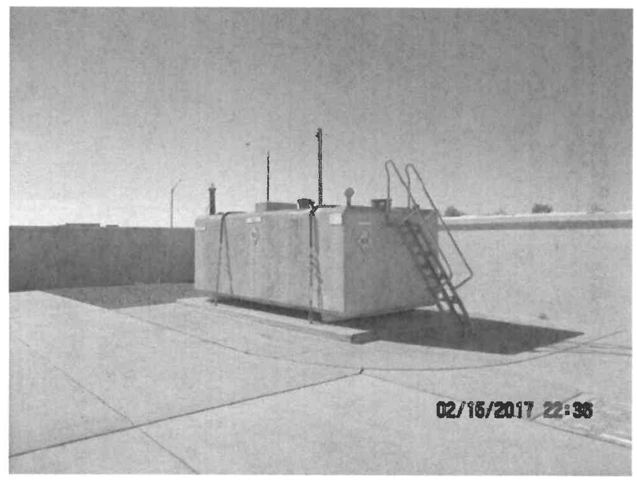
Added Date 02/16/2017

Site Picture



Added Date 02/16/2017

Tank



SITE 14
University of Florida-Lake Nona Research Center #3425

Florida Department of Environmental Protection
Bureau of Petroleum Storage Systems
Facility Inspection Cover Page
Facility Information

District: CD
County: Orange
Facility ID#: 9813132
Name: Unv Of Fl-Lake Nona Academic & Research Ctr #3425
6550 Sanger Rd
Orlando, FL 32827-7445
Contact: Katie Harmer
Phone: 407-313-7106

Type: State Government
Status: Open
Latitude: 28:21:56.8800
Longitude: 81:17:22.5600
LL Method: DPHO
LL Status: REVIEWED
Status Date: 06//05/2012

Account Owner Information

Name: Univ Of Fl-Environ Health & Safety Div
Po Box 112190
Attn: Storage Tank Regis
Gainesville, FL 32611-2190
Phone: 352-392-1591

Effective Date: 07/05/2016
Placard#/Date: 539990 - 06/28/2018

No Tank Owner information found!

Tank #	Size	Content	Installed	Placement	Status	Const	Pipe	Monitor
1	3400	Emerg Generator Diesel	12/01/2011	ABOVE	U	C M P I	A B D	F Q R 6

*****Note: Construction, Piping, and Monitoring Info not shown for CLOSED tanks (Status of A or B).**

Most Recent Insurance Document

FR Type	Effective Date	Expiration Date	Company Name
Exempt-State Or Federal Government Entity			

No OPEN violations found!

No Discharge Information Found!

End of Data for Facility #: 9813132

Florida Department of Environmental Protection

Twin Towers Office Bldg. 2600 Blair Stone Road, Tallahassee, Florida, 32399-2400

Division of Waste Management

Petroleum Storage Systems

Storage Tank Facility Re-Inspection Site Inspection Report

Facility Information:

Facility ID: 9813132 County: ORANGE Inspection Date: 07/07/2016

Facility Type: G - State Government

Facility Name: UNV OF FL-LAKE NONA ACADEMIC &

6550 SANGER RD

ORLANDO, FL 32827-7445

# of Inspected ASTs: 1

USTs: 0

Mineral Acid Tanks: 0

Latitude: 28° 21' 56.88"

Longitude: 81° 17' 22.56"

LL Method: DPHO

Inspection Result:

Result: In Compliance

Also Performed:

Financial Responsibility:

Financial Responsibility: EXEMPT-STATE OR

Insurance Carrier:

Effective Date: Expiration Date:

Findings:

Signatures:

TKOREP - ORANGE CNTY ENVIRONMENTAL PROTECTION DIVISION

Storage Tank Program Office

(407) 836-1499

Storage Tank Program Office Phone Number

Facility ID: 9813132

Steve A. Cottrell	Katie Harmer
INSPECTOR NAME	**REPRESENTATIVE NAME**
INSPECTOR SIGNATURE	**REPRESENTATIVE SIGNATURE**

Owners of UST facilities are reminded that the Federal Energy Policy Act of 2005 and 40 CFR 280 Subpart J, requires Operator Training at all facilities by October 15, 2018. For further information please visit: http://www.dep.state.fl.us/waste/categories/tanks/pages/op_train.htm

System Tests

Type	Date Completed	Results	Reviewed	Next Due Date	Comment
Completed Tests					
Annual Operability	06/16/2016	Passed	06/16/2016	06/16/2017	By TAW

Site Visit Comments

07/07/2016

This inspection addressed the unresolved physical violation at this facility.

No records were reviewed during this inspection.

Corrective Action Taken:
AST exterior has been treated and painted to control corrosion. Repair work was conducted by TAW.

Current violation is resolved.

Inspection Comments

07/07/2016

Non-compliance Inspection
Arrived on site: 0905 hours

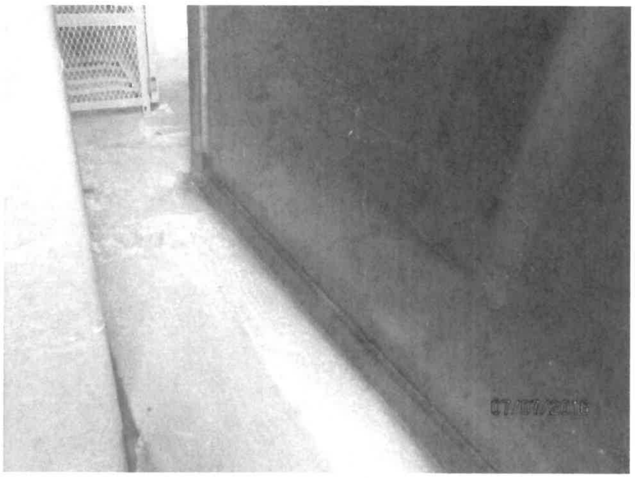
Facility ID: 9813132

The Signed Report is sent on July 7, 2016 via email to:
Katie Harmer at: kharmer@ufl.edu

Inspection Photos

Added Date 07/07/2016

2016-07-07 AST exterior condition, Unv of Fl Lake Nona



Added Date 07/07/2016

2016-07-07 AST view looking SW, Unv of Fl Lake Nona

SITE 17
Hi-Acres Services

Florida Department of Environmental Protection
Bureau of Petroleum Storage Systems
Facility Inspection Cover Page
Facility Information

District: CD
County: Orange
Facility ID#: 8622736
Name: Hi-Acres Services
5 Mi S Of Bealine On Sr 15
Forest City, FL 32751
Contact: Hi-Acres Services, Inc.
Phone: 305-862-1000

Type: Fuel User/Non-Retail
Status: Open
Latitude: 28:21:07.5500
Longitude: 81:14:08.2400
LL Method: DPHO
LL Status: REVIEWED
Status Date: 11//15/2005

Account Owner Information

Name: Hi Acres Services Inc
Po Box 547853
Orlando, FL 32824
Phone: 352-429-4145

Effective Date: 05/20/1994
Placard#/Date: -

Tank Owner Information

Name: Hi Acres Services Inc
Po Box 547853
Orlando, FL 32824
Phone: 352-429-4145

Effective Date: 05/20/1994

Tank #	Size	Content	Installed	Placement	Status	Const	Pipe	Monitor
52	1000	Other Non Regulated		ABOVE	U	E	A	Y

*****Note: Construction, Piping, and Monitoring Info not shown for CLOSED tanks (Status of A or B).**

No Insurance Documents found!

No OPEN violations found!

No Discharge Information Found!

End of Data for Facility #: 8622736

Department of Environmental Regulation

Stationary Tank Registration/Notification Form

Form 17-1.218(2)

HI-ACRES SERVICES
ORANGE AVENUE AND HWY 431
FOREST CITY FL 32751

(Make corrections to name and addresses here)

1. Facility/Addressee name

Facility address 5 mi S of Bealine on SR 15 Forest City, FL

Mailing address

FACILITY LOCATION
ADDRESS: ~~ORANGE AVENUE AND HWY 431~~
CITY: FOREST CITY FL 32751

Use this form to comply with the following requirements of the Stationary Tank Rule Chapter 17-61, Florida Administrative Code.

1 Each owner or operator shall register the following with the department.
a All existing facilities by December 31, 1984 (Questions 1-19)
b All new storage systems or facilities at least 10 days prior to the start of installation of tanks except in the cases of emergency replacement (Questions 1-19)
c A non pollutant containing installation which is to be converted to a facility, at least 10 days prior to the placement of pollutants in such a facility (Questions 1-19)
2. Each owner or operator shall notify the department of the following
a All storage systems within 10 days of abandonment (Questions 1-12, 16, 20)
b Facility sale within 10 days of sale. Notice shall be made by the seller. (Answer questions 1-7, and 11. Question 7 about the new owner.)
c. Retrofitting within 10 days of completion. (Questions 1-19)
3 You may notify the department of a change of operator (Questions 1-6)

Agency Use Only

~~10811~~

~~00269000 4660~~

DATA ENTERED

FEB 18 1986

CM

BY de

PLEASE PRINT OR TYPE

2 Facility number (DER will provide this number) 488622736 3 Date 12-26-84

4 Federal Employment Identification (number used to file IRS forms) 591279484

5 County Code (see enclosed letter) 48 ~~58~~

6 Operator of facility HI-ACRES SERVICES INC.

Effective date (only for change of operator): Telephone number (305) 862-1000

7 Company/Person owning tanks and piping HI-ACRES SERVICES, INC

Address P.O. BOX 7853 ORLANDO FL 32854

Contact person LESTER AUSTIN Telephone number: (305) 862-1000

Effective date (only for change of owner)

8 How many tanks at this location have an individual storage capacity of greater than 550 gallons and store vehicular fuel made from petroleum?

______ Underground ______ Aboveground

9 Facility location. Latitude ° ' " Longitude ° ' " Section 29 Township 24 Range 31

This information is listed on property deeds, and in the offices of the property appraiser and tax assessor.

10. Sketch the facility on a separate page showing the APPROXIMATE location of buildings, tanks, and dispensers.
A. Draw a line from tank to dispenser to show which are connected by piping.
B. Label each tank as Tank 1, Tank 2, etc.
C. Write the date and your facility number, if known, or name and address exactly as it appears above.
D. Keep a copy of your sketch.

REFER TO TANKS BY THESE LABELS IN ANY COMMUNICATION WITH THE DEPARTMENT
DESCRIBE PIPING BY THE NUMBER OF THE TANK IT IS ATTACHED TO

11 TO THE BEST OF MY KNOWLEDGE AND BELIEF ALL INFORMATION SUBMITTED ON THIS FORM IS TRUE ACCURATE, AND COMPLETE

LESTER AUSTIN

Name of owner, operator or authorized representative

Lester Austin

Signature of owner, operator or authorized representative

RECEIVED

KEEP A COPY OF THIS FORM FOR YOUR RECORDS

DEC 26 1984

MAIL TO: DER Stationary Tank Registration
2600 Blair Stone Road
Room 603
Tallahassee, Florida 32301

DER FORM 17-1.218(2) 9-1-84 (1/85)

SOLID WASTE SUBSECTION

INSTRUCTIONS: Use one row across for each tank counted in question 8. The tank number must agree with the number on the sketch of your facility. A new tank installed where a registered tank was removed should be given the number of the removed tank with an R and a number added. Example. Tank 3R1 is first replacement for tank 3. It is in the same place where tank 3 was. Tank 3R2 is the second replacement for tank 3. Attach extra pages if necessary. Write your facility number, if known, or name and address, exactly as it appears on the front of the form, on all extra pages.

(12) Tank Number	(13) Tank Size in Gallons	(14) Tank Contents (see List 14 below)	(15) Tank Installation Date. Month/Year (put X if unknown)	(16) Underground or Aboveground Tank (write U or A)	(17) Tank Construction Specifics (see List 17U or 17A below)	(18) Integral Piping System Construction Specifics (see List 18 below)	(19) Monitoring System Type (see List 19)	(20) Tank Disposal Method (see List 20)
52	1,000	Z	X	A	V	A	Y	

ENTER THE LETTERS WHICH APPLY TO EACH TANK IN THE BOXES ABOVE. WRITE ALL THAT APPLY.

List 14

Tank contents are:

A. leaded gasoline.
B. unleaded gasoline.
C. Alcohol enriched gasoline.
D. diesel fuel.
E. aviation fuel.
Z. other.

List 17U
UNDERground Tanks

Underground tank:

A. has overfill protection.
B. is interior lined.
C. is painted/asphalted steel.
D. is of unknown type.
E. is fiberglass type.
F. is fiberglass-clad steel.
G. is sacrificial anode type.
H. is impressed current type.
I. is double walled.
J. is concrete.
K. is in secondary containment.
N. is or has none of the above.

List 17A
ABOVEground Tanks

Aboveground tank:

O. has overfill protection.
P. is surrounded by impervious dike.
Q. is surrounded by earth dike.
R. rests on an impervious base.
S. rests on a earth/gravel base.
T. has interior lined bottom.
U. is cathodically protected.
V. is built of/coated with corrosion resistant materals.
W. is supported above the soil.
Z. is or has none of the above.

List 18

Integral Piping System has:

A. no parts in contact with the soil.

Parts contacting the soil which are:

B. unprotected metal.
C. built of corrosion resistant materials.
D. corroson resistant coated.
E. cathodically protected.
F. double-walled.
G. within a secondary containment.
H. interior lined.
M. none of the above.

List 19

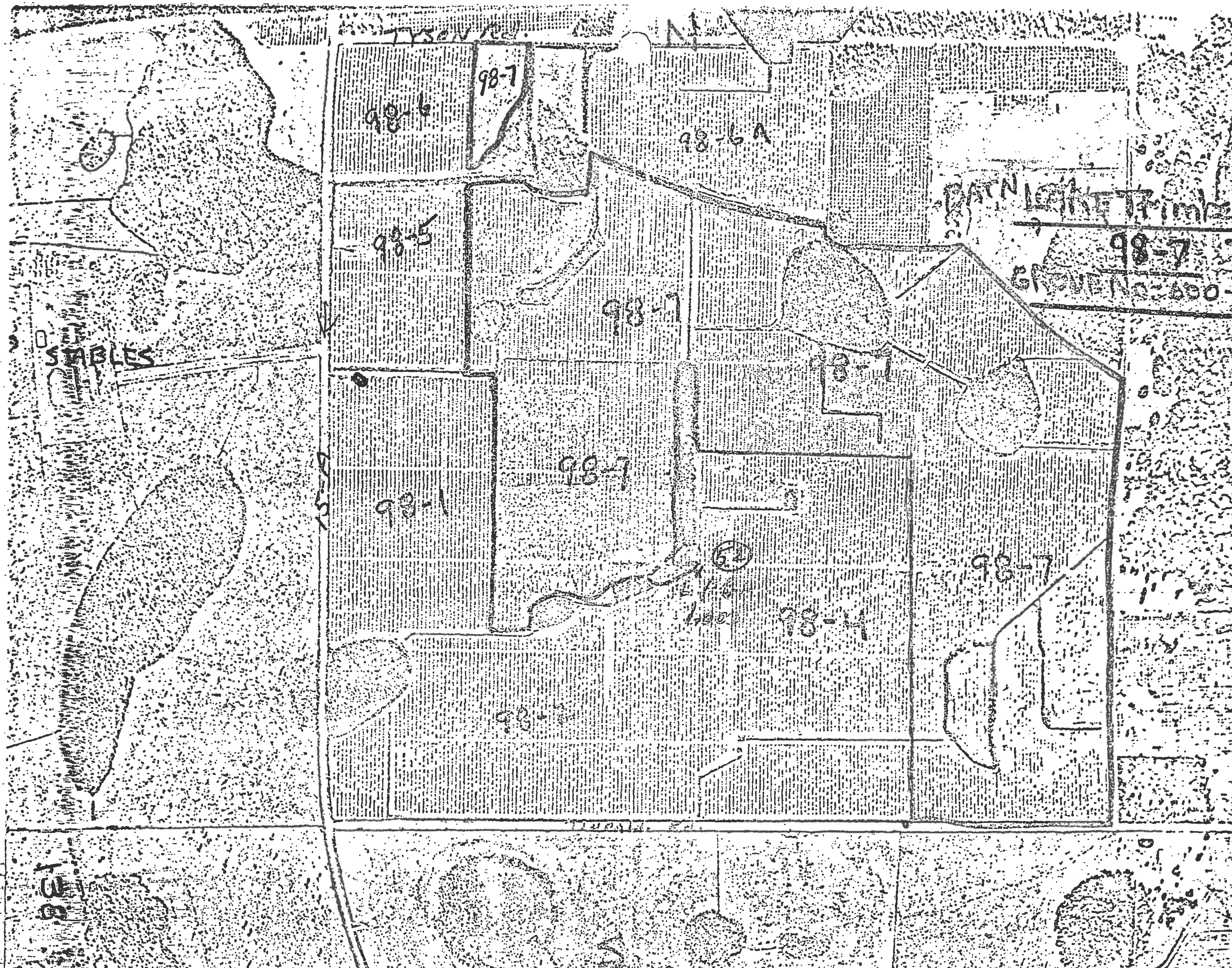
Monitoring system is:

A. automatically sampled well(s).
B. manually sampled well(s).
C. groundwater monitoring plan.
D. SPCC plan.
E. well/detector in secondary containment.
F. in-ground detector.
G. within walls of double-walled tank.
H. continuous in piping.
I. not required.
N. none of the above.

List 20

Tank disposal method.

A. Filling.
B. Removal.
C. Retrofitting.
F. Other.


98-6
98-7
98-6A
98-5
98-7
STABLES
98-1
54
98-4
GROVE NO. 600

SITE 20

Lake Hart Property Area #12

Florida Department of Environmental Protection
Bureau of Petroleum Storage Systems
Facility Inspection Cover Page
Facility Information

District: CD
County: Orange
Facility ID#: 9301102
Name: Lake Hart Property Area #12
Clapp Simms Duda Rd
Orlando, FL 32832
Contact: Daryl Carter
Phone: 407-422-3144

Type: Agricultural
Status: Closed
Latitude: 28:21:04.4711
Longitude: 81:12:58.0650
LL Method: DPHO
LL Status: REVIEWED
Status Date: 08//02/2011

Account Owner Information

Name: Lake Hart Co Tenants
Po Box 568821
Orlando, FL 32806
Phone: 407-422-3144

Effective Date: 12/10/1993
Placard#/Date: -

Tank Owner Information

Name: Lake Hart Co Tenants
Po Box 568821
Orlando, FL 32806
Phone: 407-422-3144

Effective Date: 12/10/1993

Tank #	Size	Content	Installed	Placement	Status	Const	Pipe	Monitor
1	300	Unknown/Not Reported		UNDER	B			

*****Note: Construction, Piping, and Monitoring Info not shown for CLOSED tanks (Status of A or B).**

No Insurance Documents found!

No OPEN violations found!

No Discharge Information Found!

End of Data for Facility #: 9301102

DER Form # 17-761.900(2)
Form Title Storage Tank Registration Form
Effective Date December 10, 1990
DER Application No. ______

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DATA ENTERED

Storage Tank Registration Form

DEC 10 1993

SEP 1993 RECEIVED

Please Print or Type - Review Instructions Before Completing Form

1. DER Facility ID Number: 48/8301102 2. Facility Type: M
3. New Registration [X] New Owner Data [ ] Facility Revision [ ] Tank(s) Revision [X]
4. County and Code of tank(s) location: Orange County / County Code 48

5. Facility Name: Lake Hart Property - Area 12
Tank(s) Address: Clapp - Simms - Duda Road
City/State/Zip: Orlando, Florida
Contact Person: Daryl Carter Telephone: (407) 422-3144
6. Financial Responsibility Type:

7a. Tank(s) Owner: Lake Hart Co-Tenants
Owner Mailing Address: P.O. Box 568821
City/State/Zip: Orlando, Florida 32856-8821
Contact Person: Daryl Carter Telephone: (407) 422-3144

7b. New Owner Signature/Change Date: ______ / __/__/__

8. Location (optional) Latitude: __°__'__" Longitude: __°__'__" Section 33 Township 24S Range

Complete One Line For Each Tank At This Facility (Use Codes - See Instructions)

Complete 9 - 16 for tanks in use: 9 - 19 for tanks out of use

9	10	11	12	13	14	15	16	17	18	19
1	300	Y		U	C	Y	Y	B	<5	9/1

20. Don Wood, Inc. DPR# PCC045044
Certified Contractor* Department of Professional Regulation License Num

*For new tank installation or tank removal

To the best of my knowledge and belief all information submitted on this form is true, accurate and complete.

Daryl M. Carter, Broker [signature] 9/22/93
Print name & title of owner or authorized person Signature Date

APPENDIX E

Interview Documentation

Bret Moreau

From:	Mike Bryant <Mike.Bryant@osceola.org>
Sent:	Tuesday, December 04, 2018 9:04 AM
To:	Bret Moreau
Subject:	RE: Environmental Assessment

Good morning,

Not that I'm aware of no Sir.

From: Bret Moreau [mailto:bmmoreau@g-e-c.com]
Sent: Monday, December 03, 2018 4:14 PM
To: Mike Bryant <Mike.Bryant@osceola.org>
Subject: Environmental Assessment

Mike,

We are performing an environmental assessment through Osceola and Orange County, Florida. The study corridor begins west of the Boggy Creek Road and Simpson Road intersection and extends eastward along the Orange / Osceola County line for approximately 6 miles before turning south into Osceola County to meet the northern terminus of the proposed Northeast Connector Expressway. The project also includes a north/south segment linking to SR 417 in the general vicinity of the Boggy Creek Road interchange. I'm looking to identify any environmental concerns such as hazardous waste, petroleum or solid waste dumping along this corridor. Are you aware of anything that might be a serious concern? I've attached an aerial highlighting our proposed alignment.

Thanks,

Bret M. Moreau, E.I.
Engineer Intern

GEC Geotechnical and Environmental Consultants, Inc.

Geotechnical and Environmental Consultants, Inc.
919 Lake Baldwin Lane
Orlando, Florida 32814
P (407) 898-1818 ext. 8988
Email: bmmoreau@g-e-c.com
www.g-e-c.com

Bret Moreau

From: Mark Gantz <Mark.Gantz@osceola.org>
Sent: Tuesday, December 04, 2018 7:43 AM
To: Bret Moreau
Subject: RE: Environmental Assessment

I did not see anything in my system for this area it looks like Orange County may be able to serve you better on this one.

Mark Gantz
Inspector/ Investigator
2586 Partin Settlement Road
Kissimmee, Florida 34744
Phone# 407-742-6707

From: Bret Moreau [mailto:bmmoreau@g-e-c.com]
Sent: Monday, December 03, 2018 4:13 PM
To: Mark Gantz <Mark.Gantz@osceola.org>
Subject: Environmental Assessment

Mark,

We are performing an environmental assessment through Osceola and Orange County, Florida. The study corridor begins west of the Boggy Creek Road and Simpson Road intersection and extends eastward along the Orange / Osceola County line for approximately 6 miles before turning south into Osceola County to meet the northern terminus of the proposed Northeast Connector Expressway. The project also includes a north/south segment linking to SR 417 in the general vicinity of the Boggy Creek Road interchange. I'm looking to identify any environmental concerns such as hazardous waste, petroleum or solid waste dumping along this corridor. Are you aware of anything that might be a serious concern? I've attached an aerial highlighting our proposed alignment.

Thanks,

Bret M. Moreau, E.I.
Engineer Intern

Bret Moreau

From: Richard P. McCormick
Sent: Tuesday, January 29, 2019 8:48 AM
To: Bret Moreau
Cc: Gary Kuhns
Subject: FW: File Request

Bret, Pls include with the revised Osceola Parkway Extension report.

The other OCEPD departments have not responded as of yet.

Richard P. McCormick, P.G.
Senior Geologist
GEC Geotechnical and Environmental Consultants, Inc.
Geotechnical and Environmental Consultants, Inc.
P 321-352-8975
C 407-267-7314

GEC is proud to serve our community as Geotechnical Engineering Consultant on these Central Florida Transportation Legacy Projects: SunRail Phases I, II and III, Wekiva Parkway, I-4 Ultimate P3 Design Oversight and OIA South Terminal Airside and Landside Infrastructure. **GEC is a certified Small Business Enterprise (SBE) with FDOT.**

From: Ruth.Rauenzahn@ocfl.net [mailto:Ruth.Rauenzahn@ocfl.net]
Sent: Tuesday, January 22, 2019 5:08 PM
To: Richard P. McCormick
Subject: RE: File Request

Will do!

Ruth

From: Richard P. McCormick [mailto:rpmccormick@g-e-c.com]
Sent: Tuesday, January 22, 2019 5:07 PM
To: Rauenzahn, Ruth
Subject: RE: File Request

Hi Ruth,

If that's not a problem, please ask the other departments.

Thank you!

Richard P. McCormick, P.G.
Senior Geologist

Geotechnical and Environmental Consultants, Inc.

Geotechnical and Environmental Consultants, Inc.
P 321-352-8975
C 407-267-7314

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From: Ruth.Rauenzahn@ocfl.net [mailto:Ruth.Rauenzahn@ocfl.net]
Sent: Tuesday, January 22, 2019 4:53 PM
To: Richard P. McCormick
Subject: RE: File Request

Hi Rich,

I did not find where any petroleum storage tanks or petroleum contamination has been reported for 14857 Boggy Creek Rd. I'm not personally aware of any concerns not listed by FDEP.

We can run the address past other sections in the office if you'd like.

Thanks,
Ruth Rauenzahn
Environmental Program Supervisor
Orange County Environmental Protection Division
Storage Tank Compliance
3165 McCrory Place, Ste. 200
Orlando, FL 32803
office: 407-836-1475
cell: 321-689-8417
fax: 407-836-1499
email: ruth.rauenzahn@ocfl.net
web: www.ocepd.org

ORANGE COUNTY GOVERNMENT FLORIDA

From: Richard P. McCormick [mailto:rpmccormick@g-e-c.com]
Sent: Tuesday, January 22, 2019 3:48 PM
To: Rauenzahn, Ruth
Subject: File Request

Hi Ruth,

Do you have any files for the address 14857 Boggy Creek Road? I was doing some aerial photograph reviews and appears that this property may previously have been used for auto salvage purposes.

We have also reviewed the Map Direct and the FDEP information portal for files for the area along Boggy Creek Road from SR 417 to the Orange County Line and across the Orange County Line to Narcoossee Road. The area is mostly residential and undeveloped – are you personally aware of any concerns that are not listed by FDEP and might be along those two corridors?

Thanks!

Richard P. McCormick, P.G.
Senior Geologist

Geotechnical and Environmental Consultants, Inc.
P 321-352-8975
C 407-267-7314

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PLEASE NOTE: Florida has a very broad public records law (F. S. 119).
All e-mails to and from County Officials are kept as a public record.
Your e-mail communications, including your e-mail address may be
disclosed to the public and media at any time.

Total Control Panel Login

To: rpmccormick@g-e-c.com Remove this sender from my allow list

Bret Moreau

From: Richard P. McCormick
Sent: Tuesday, January 29, 2019 8:51 AM
To: Bret Moreau
Cc: Gary Kuhns
Subject: FW: No records found matching provided criteria [ref:_00DG0i115._5004A1adnmR:ref]

FDEP response for Osceola Parkway Extension project.

Richard P. McCormick, P.G.
Senior Geologist
GEC Geotechnical and Environmental Consultants, Inc.
Geotechnical and Environmental Consultants, Inc.
P 321-352-8975
C 407-267-7314

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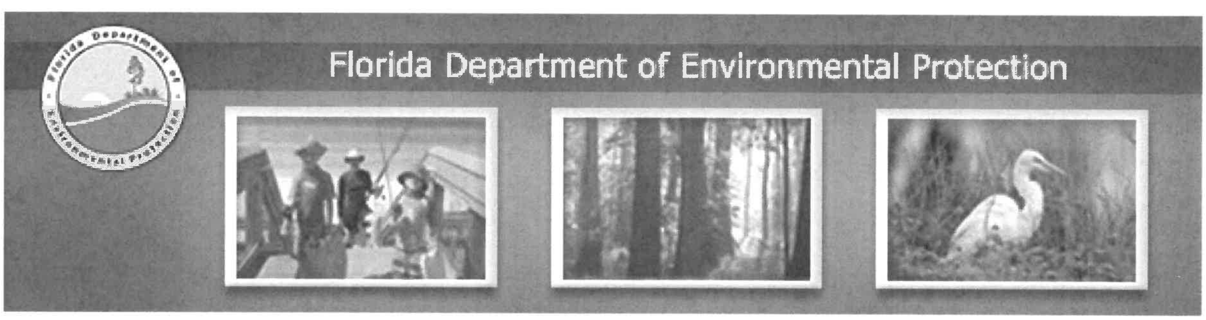
From: noreply@salesforce.com [mailto:noreply@salesforce.com] **On Behalf Of** DEP PRR Regulatory
Sent: Wednesday, January 23, 2019 7:29 AM
To: Richard P. McCormick
Subject: No records found matching provided criteria [ref:_00DG0i115._5004A1adnmR:ref]



Good morning!

This email relates to your request for any files for the address 14857 Boggy Creek Road.

The Florida Department of Environmental Protection would like to inform you that no records were found matching the provided criteria.

Please be advised that name variations, misspellings and incorrect addresses may not indicate the existence of actual files, and the Department will not be responsible for records not retrieved based on such information being submitted to us. Although we have made a diligent search to fulfill your request, files may still exist in other agencies of which we are not the records custodian that may contain information related to your request. Therefore, please reach out to the respective county as applicable.

If you have any questions, please feel free to contact us.

Thank you for contacting DEP. Have a great day!

Lauren

Did you know you can access many public records from your personal computer using our free public online resources? The Florida Department of Environmental Protection has several public online databases where records are stored: OCULUS, DEP Information Portal and Map Direct.

Please look below for more information on each database. For your future records needs, you might try checking out one of these databases before submitting a request.

- OCULUS
  - You can search for records in OCULUS using a facility-site ID, facility address, or facility name.
  - You can open OCULUS here.
  - If you need help maneuvering OCULUS, please use this helpful guide: OCULUS Instruction.
- DEP Information Portal
  - You can search for records in the DEP Information Portal using a facility-site ID, facility address, or facility name.
  - You can open the DEP Information Portal here.
  - If you need help maneuvering the DEP Information Portal, please use this helpful guide: DEP Portal Instruction.
- Map Direct
  - You can search for records using Map Direct using a facility address.
  - You can open Map Direct here.
  - If you need help maneuvering Map Direct, please use this helpful guide: Map Direct Instruction

In accordance with Chapter 119, Florida Statutes, public records requests will be processed within a reasonable time, and each request is processed in the order that it was received. Depending on the specific request, there may be a fee* assessed for processing.

***Notice of Fees and Charges**: Although many public records are provided at no cost there may be charges for extensive use of staff time and resources (119.07(04) F.S.). Extensive use is defined as more than 30 minutes of staff and/or computer resource time. There may also be charges for paper copies, CD/DVDs, postage and other expenses. When possible we will provide you with an estimate of any costs in advance. Note that when charges are accrued records may not be released until payment has been made in full. For more information on public records please visit our web page at: www.dep.state.fl.us/secretary/ps/default.htm.

***Please note**: Florida has a very broad public records law. Most written communications to or from state officials regarding state business are public records available to the public and media upon request. Your e-mail communications may therefore be subject to public disclosure.*

Public Records Request Liaison
Florida Department of Environmental Protection
Division of Water Resource Management
PublicRecordsRequests_Regulatory@dep.state.fl.us
Office: 850.245.8362 & 850.245.8391

ref:_00DG0i115._5004A1adnmR:ref

Total Control Panel

To: rpmccormick@g-e-c.com

Message Score: 30

From:
publicrecordsrequests_regulatory=dep.state.fl.us__@3976lfkk96wpv7h7.vxxg0sncnkymk49u.h9pq4atsup412zqc.76k65.g-i115maa.na47.bnc.salesforce.com

My Spam Blocking Level: Me

APPENDIX F

Site Photographs

Geotechnical and Environmental Consultants, Inc.

At the very foundation of our community

Photographic Log

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo:	Date:
1	11/30/18

Description:

Publix Super Market at 14185 Lake Nona Boulevard.

(**Site No. 1**)

Photo:	Date:
2	11/30/18

Description:

Plant nursery east of and adjacent to Boggy Creek Road.

(**Site No. 2**)

Photographic Log

Geotechnical and Environmental Consultants, Inc.

At the very foundation of our community

Client Name:	**Project Name:**	**Project Location:**	**GEC Project No.:**
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo:	Date:
3	2018

Description:

Boggy Creek Tree Farms, LLC at 6350 New Hope Road, 6301 Beth Road and 6386 Beth Road.

Google Earth - 2018

(**Site No. 3**)

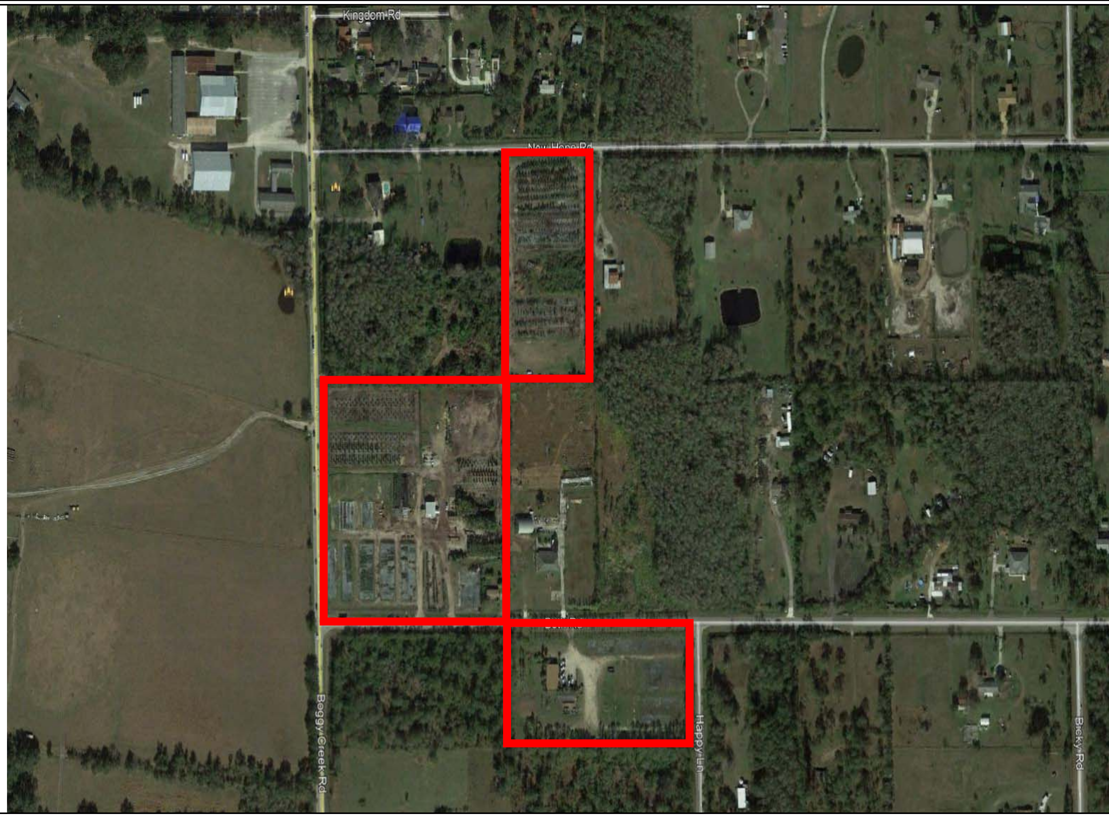


Photo:	Date:
4	11/30/18

Description:

Bob Zirots Landscaping & Nursery, Inc. at 14645 Boggy Creek Road.

(**Site No. 4**)

Photographic Log

At the very foundation of our community

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo: 5	Date: 1990

Description:

Historical citrus grove at 5707 Simpson Road.

Historical Aerial - 1990

(**Site No. 5**)

Photo: 6	Date: 2008

Description:

Historical auto salvage yard at 14857 Boggy Creek Road.

Google Earth - 2008

(**Site No. 6**)

Photographic Log

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo:	Date:
7	11/30/18

Description:

Circle K at 3280 Boggy Creek Road.

(**Site No. 7**)

Photo:	Date:
8	2016

Description:

Family Dollar facility at 3300 Morningside Drive.

Google Earth (street view) - 2016

(**Site No. 8**)

Photographic Log

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo: 9	Date: 12/4/18

Description:

Cattle pen south of and adjacent to SR 417.

(**Site No. 9**)

Photo: 10	Date: 11/30/18

Description:

Area of apparent hydraulic oil dumping north of SR 417.

(**Site No. 10**)

Photographic Log

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo:	Date:
11	11/30/18

Description:

Railroad located north of SR 417.

(**Site No. 11**)

Photo:	Date:
12	1978

Description:

Historical cattle pen located north of SR 417.

Historical Aerial - 1978

(**Site No. 12**)

Photographic Log

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo: 13 Date: 11/30/18

Description:

Orlando City Lift Station at 6655 Central Florida Greenway.

(**Site No. 13**)

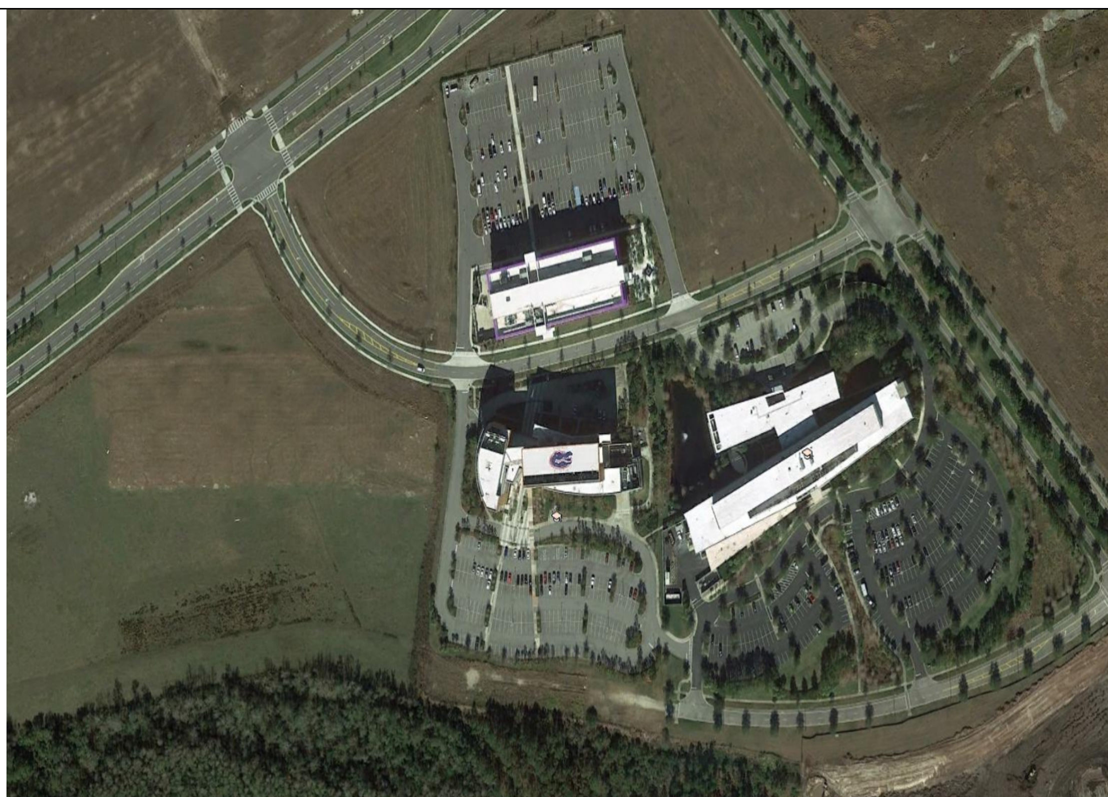
Photo: 14 Date: 2018

Description:

University of Florida-Lake Nona Research Center at 6550 Sanger Road.

Google Earth - 2018

(**Site No. 14**)



Photographic Log

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo: 15

Date: 12/4/18

Description:

Building foundation of historical ranching structure located northwest of the Boggy Creek Road and Narcoossee Road intersection.

(**Site No. 15**)

Photo: 16

Date: 3/1/17

Description:

Historical citrus grove located west of the Narcoossee Road and Clapp Simms Duda Road intersection.

Historical Aerial - 1978

(**Site No. 16**)

Photographic Log

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo:	Date:
17	11/30/18

Description:

Area of historical citrus groves in the northeast quadrant of the Narcoossee Road and Clapp Simms Duda Road intersection.

(**Site No. 17**)

Photo:	Date:
18	11/30/18

Description:

Citrus grove located east of the Narcoossee Road and Clapp Simms Duda Road intersection.

(**Site No. 18**)

Photographic Log

At the very foundation of our community

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo: 19 Date: 11/30/18

Description:

Historical row crop area located east of the Narcoossee Road and Clapp Simms Duda Road intersection.

(**Site No. 19**)

Photo: 20 Date: 11/30/18

Description:

Cattle pen located east of the Narcoossee Road and Clapp Simms Duda Road intersection.

(**Site No. 20**)

Photographic Log

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo:	Date:
21	12/3/18

Description:

Historical citrus grove in the southwest quadrant of the Cyrils Drive and Franklin Road intersection.

(**Site No. 21**)

Photo:	Date:
22	1944

Description:

Apparent lumber camps east of the Cyrils Drive and Absher Road intersection.

Historical Aerial - 1944

(**Site No. 22**)

Photographic Log

At the very foundation of our community

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo:	Date:
23	3/1/17

Description:

Construction material and apparent dump area at 14262 Boggy Creek Road.

Google Earth - 2008

(**Site No. 23**)

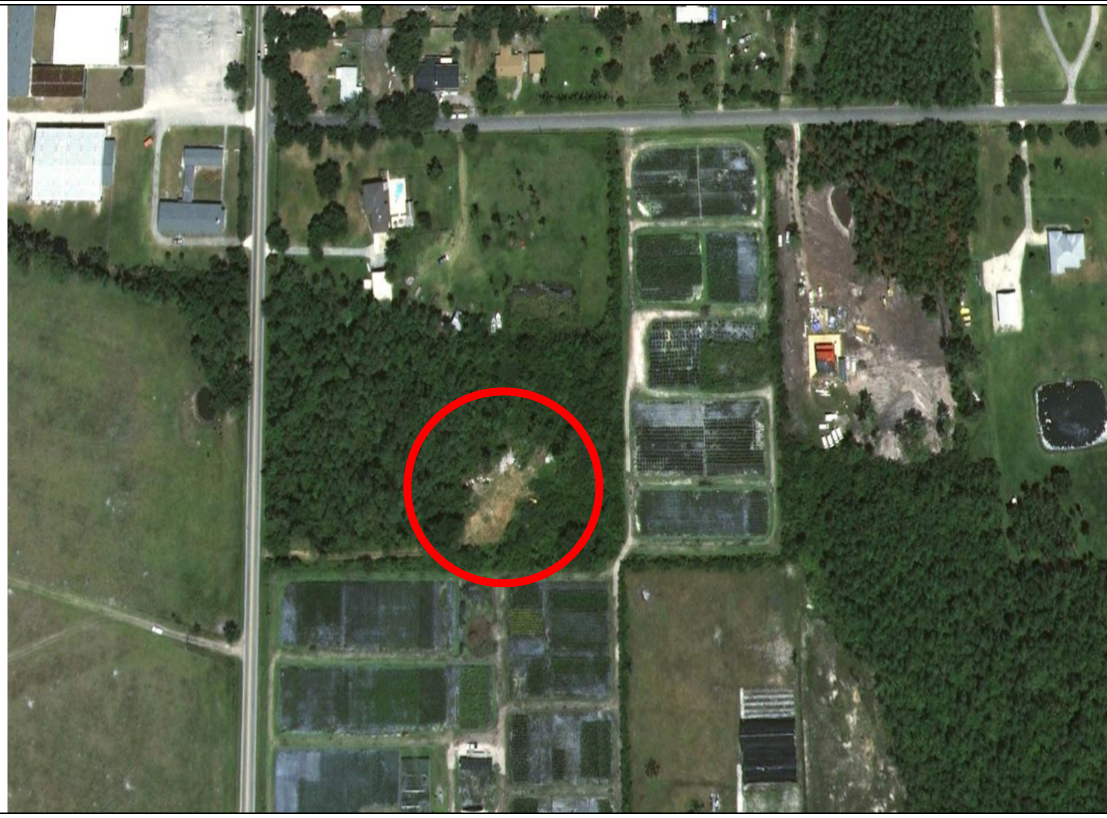


Photo:	Date:
24	3/1/17

Description:

Multiple vehicles and debris at 14411 Boggy Creek Road.

Google Earth - 2004

(**Site No. 24**)

Photographic Log

Client Name:	Project Name:	Project Location:	GEC Project No.:
RS&H, Inc.	Osceola Parkway Extension	Orange and Osceola Counties	4256E

Photo:	Date:
25	11/30/18

Description:

Cattle pen located north of the Boggy Creek Road and SR 417 interchange.

(**Site No. 25**)