

**ASTM PHASE I
ENVIRONMENTAL SITE ASSESSMENT
&
PHASE II LIMITED SITE INVESTIGATION**



**Hidden Trails Residential Subdivision
Off County Road**

Wareham, Massachusetts

(Lightship Project No. 1075.1)

February 27, 2024

Prepared for:

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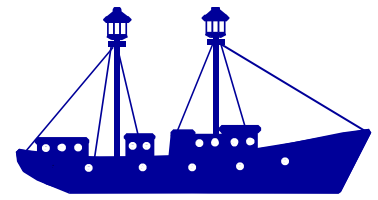


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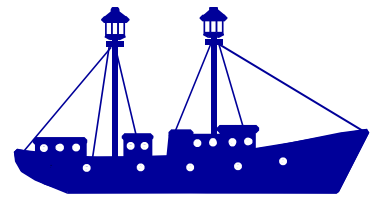


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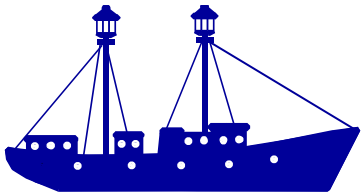


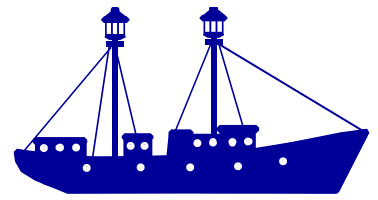
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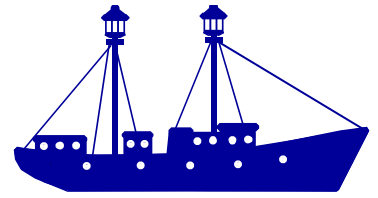
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1.0 INTRODUCTION

Pursuant to the scopes of work prepared by Lightship Engineering, LLC (“Lightship Engineering”) dated November 2, 2023 and December 7, 2023 (collectively, the “Scopes of Work”), Sarajon Realty, LLC (“Sarajon”) retained Lightship Engineering to conduct a Phase I Environmental Site Assessment (“Phase I”) and Phase II Limited Site Investigation (“Phase II”) of the undeveloped property referred to as Hidden Trails located off County Road in Wareham, Massachusetts (the “Subject Property”). A Subject Property Locus Map is attached as Figure 1-1, Appendix A.

1.1 PURPOSE

The purpose of the Phase I was to investigate for evidence of “recognized environmental conditions” at the Subject Properties, as that term is defined by the ASTM International (“ASTM”) Standard E 1527-21 *Phase I Environmental Site Assessment* (the “Standard”).

1.1.1 Definitions

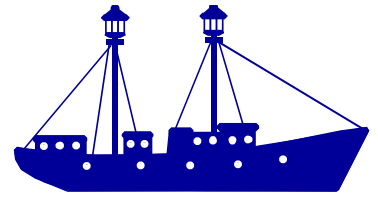
Recognized Environmental Conditions (“RECs”) are defined by ASTM E 1527-21, Section 1.1.1 as, “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property:

- (1) due to any release to the environment;
- (2) under conditions indicative of a release to the environment; or
- (3) under conditions that pose a material threat of a future release to the environment.

De minimis Conditions are defined by ASTM E 1527-21, Section 3.2.22 as a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions nor controlled recognized environmental conditions.

Controlled Recognized Environmental Conditions are defined by ASTM E 1527-21, Section 3.2.18 as recognized environmental conditions resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (*e.g.*, deed restriction). A condition considered by the environmental professional to be a Controlled REC shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a REC in the conclusions section of the Phase I Environmental Site Assessment report.

Historical Recognized Environmental Conditions are defined by ASTM E 1527-21, Section 3.2.42 as a past release of any hazardous substances or petroleum products that has



occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls. Before calling the past release a Historical REC, the environmental professional must determine whether the past release is a REC at the time the Phase I Environmental Site Assessment is conducted (*e.g.*, changes regulatory criteria). If the environmental professional considers the past release to be a REC at the time the Phase I Environmental Site Assessment is conducted, the condition shall be included in the conclusions section of the report as a REC.

Business Environmental Risks (“Environmental Issues”) are defined by ASTM E 1527-21, Section 3.2.11 as a risk which can have a material environmentally or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated as part of ASTM E 1527-21. Consideration of Environmental Issues may involve addressing one or more non-scope considerations.

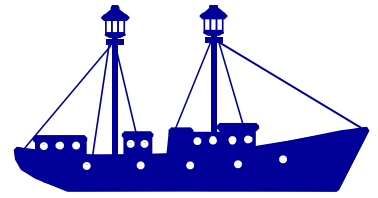
1.2 SIGNIFICANT ASSUMPTIONS

Information regarding operations, conditions, and other data provided by Sarajon, site contacts, third parties, and municipal agencies is assumed to be correct and complete.

1.3 LIMITATIONS AND EXCEPTIONS

The following limitations and exceptions to the Standard are noted with respect to this assessment:

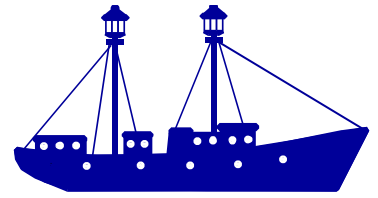
- Lightship Engineering did not review Title Records for the Subject Property;
- Lightship Engineering did not conduct an evaluation of the purchase price of the Subject Property compared to the fair market value;
- Lightship Engineering did not obtain any historical information prior to 1888 with respect to the Subject Property;
- Lightship Engineering requested records associated with the use, storage, disposal, and/or release of oil and/or hazardous materials (“OHM”) at the Subject Property from the Town of Wareham Health Department. At the time of this report, the Health Department has not responded to Lightship Engineering’s request;
- Lightship Engineering requested records associated with the use, storage, disposal, and/or release of OHM at the Subject Property from the Wareham Fire and Water District. At the time of this report, the Wareham Fire and Water District has not responded to Lightship Engineering’s request; and
- Portions of the Subject Property were covered with thick vegetation at the time of the reconnaissance that limited accessibility and visibility of conditions at the Subject



Property. Based on historical information reviewed by Lightship Engineering, it appears that the historic sand mining operations at the Subject Property primarily took place in the open area north of the pond as well as within the current location of the pond.

1.4 SPECIAL TERMS AND CONDITIONS

The Phase I and Phase II investigation was conducted by Lightship Engineering on behalf of Sarajon, consistent with the Scopes of Work dated November 2, 2023 and December 7, 2023, and the terms and conditions between Lightship Engineering and Sarajon dated November 2, 2023. No other special terms and conditions were established in connection with the Phase I and Phase II.

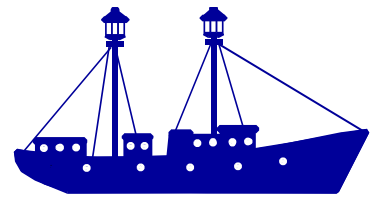


2.0 SCOPE OF SERVICES

The Phase I was conducted consistent with the Standard. The “List of Additional Issues” set forth in *Section 13 Non-Scope Considerations* of the Standard was not included in the assessment. Lightship Engineering conducted the following activities as part of the Phase I, consistent with the Scope of Work.

- Interviewed personnel and reviewed records regarding the past and present use of the Subject Property at the following municipal offices:
 - Assessing Department;
 - Inspectional Services Department;
 - Public Health Department;
 - Public Works;
 - Water Department;
 - Conservation Commission; and
 - Fire Department.
- Reviewed Federal and State environmental databases available through Environmental Data Resources, Inc. (“EDR”) Radius Map™ with GeoCheck Report® (“EDR Report”), with respect to the Subject Property and surrounding properties, consistent with the distances set forth in ASTM E 1527-21. A copy of the EDR Report is included as Appendix B.
- Reviewed natural resource information available through the EDR Report with respect to the Subject Property and surrounding area.
- Reviewed historical use of the Subject Property and surrounding properties using historical sources available through EDR, including a city directory abstract, aerial photographs, and topographic maps.
- Reviewed portions of the plans titled *Hidden Trails – Definitive Subdivision Plan of Land and Special Permit for a Residential Cluster Development in Wareham*, prepared by JC Engineering, Inc. (“JC Engineering”) dated September 7, 2023.
- Conducted a Subject Property reconnaissance on November 15, 2023, to observe current Subject Property uses and conditions. Lightship Engineering was accompanied by Mr. Bradley Bertolo of JC Engineering.
- Conducted a Phase II that included the collection of select soil, groundwater, surface water, sediment, and building material samples for laboratory analysis to assess if former historic operations impacted soil and groundwater above applicable Chapter 21E, Massachusetts Contingency Plan (“MCP”), 310 CMR 40.0000, Reportable Concentrations for soil (RCS-1) and groundwater (RCGW-1 and RCGW-2).

The results of the Phase I and Phase II are set forth below.

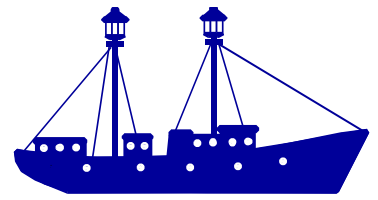


3.0 SUBJECT PROPERTY DESCRIPTION

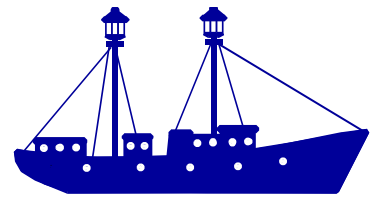
3.1 LOCATION AND LEGAL DESCRIPTION

The Town of Wareham Assessing Department identifies the Subject Property as the following parcels and addresses:

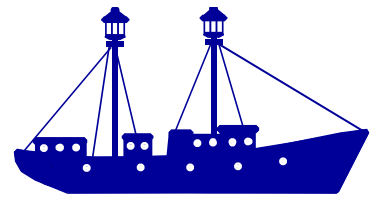
Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
63//1013//	0 County Road Off	48409/0297	Fearing Hill LLC	18.08
63//AA//	0 Allie's Lane	6459/0121	Wolcott, Walter S. C/O Lorusso & Grilli	0.01
63//C//	0 Allie's Lane	39458/013	Lorusso, Gerard C. & Grilli, Henry G. Trustees	0.74
63//F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	0.55
63//21//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//22//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//23//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.6
63//24//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.4
63//25//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	2.25
63//26//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	2.54
63//27//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.4
63//28//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.43
63//29//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38



Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
63//30//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.4
63//31//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//32//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//33//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.42
63//34//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.7
63//35//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.48
63//36//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.42
63//37//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.6
63//38//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//39//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.43
63//40//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//41//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//42//	0 Allie's Lane	29516/0311	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.64
63//43//	0 Allie's Lane	29516/0311	Lorusso, Gerard C. & Grilli, Henry G. Trustees	2.09
63//44//	0 Allie's Lane	29516/0311	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.99
64//J//	0 Allie's Lane	36482/0130	Lorusso, Gerard C. & Grilli, Henry G. Trustee of County Rd 2004 Tr	0.4



Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
64//K//	0 Allie's Lane	36482/0130	Lorusso, Gerard C. & Grilli, Henry G. Trustee of County Rd 2004 Tr	0.88
64//1F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	1.82
64//2F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	1.49
64//3F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	1.71
64//4//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	1.62
64//5//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	1.38
64//6//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	1.38
64//7//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	1.38
64//8//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	1.38
64//13//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	1.55
64//14//	0 Casey Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	2.27
64//15//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	1.53
64//16//	0 Juliana Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	2.1
64//17//	0 Juliana Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	3.4
64//18//	0 Juliana Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	2.18
64//19//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	2.26



Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
64//20//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	2.02
64//G//	0 County Road Off	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	35.64
64//H//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	7.21
64//I//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Tr	5.14
65//9//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
65//10//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
65//11//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.42
65//12//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
65//R//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	0.46

*Address per Town of Wareham Assessing Department

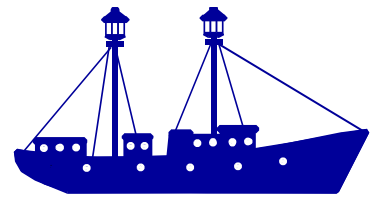
A portion of the Town of Wareham Assessor's Map containing the Subject Property is provided as Figure 3-1, Appendix A.

3.2 SUBJECT PROPERTY AND VICINITY GENERAL CHARACTERISTICS

The Subject Property is comprised of 54 vacant parcels, totaling approximately 153 acres of land off County Road in Wareham, Massachusetts. The Subject Property is located in a residential zoned area. According to the Town of Wareham, aerial photographs, and historical topographic maps, the parcel was formerly the location of a sand and gravel operation.

3.3 CURRENT USE OF THE SUBJECT PROPERTY

The Subject Property is currently comprised of 54 parcels and is undeveloped land.



3.4 DESCRIPTION OF IMPROVEMENTS

The Subject Property is not connected to any utility services. The following utilities serve the vicinity of the Subject Property:

<u>Utility</u>	<u>Provider</u>
Electricity	Eversource
Natural Gas	National Grid
Potable Water	Wareham Fire and Water District

3.4.1 Sewage Disposal

According to the records from the Town of Wareham Sewer Department, the Subject Property is not connected to the municipal sewer system and municipal sanitary sewer is not available in the area of the Subject Property. As set forth in Section 6.6, an on-site septic system was previously located on-Site as part of the historic sand and gravel operation. There was no information regarding the removal of the septic system.

3.4.2 Water Supply

According to the records from the Wareham Fire and Water District, the Subject Property is not connected to the municipal water supply. Based on information provided by JC Engineering, municipal water is available in the area of the Subject Property.

3.4.3 Oil and/or Hazardous Materials

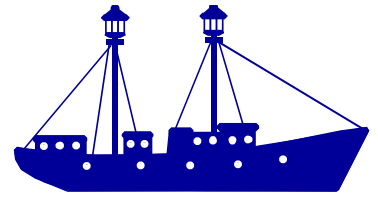
No OHM was observed by Lightship Engineering during the reconnaissance.

3.4.4 Storage Tanks

No storage tanks were observed by Lightship Engineering during the reconnaissance. It should be noted that as set forth in Section 6.6, aboveground storage tanks (“ASTs”) and underground storage tanks (“USTs”) were historically located on-site as part of the historic sand and gravel operation.

3.4.5 Odors, Pools of Liquid, Staining

No unusual odors, pools of liquid or staining were observed by Lightship Engineering during the reconnaissance.



3.4.6 Drums

No drums were observed by Lightship Engineering during the reconnaissance.

3.4.7 Floor Drains or Sumps

No floor drains or sumps were observed by Lightship Engineering during the reconnaissance.

3.4.8 Pits, Ponds, or Lagoons

Lightship Engineering observed a pond in the central portion of the Subject Property. Based on historical topographic maps and aerial photographs, the pond appears to be man-made and was constructed sometime around 1950.

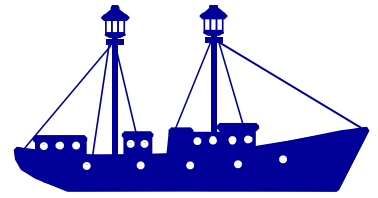
No pits or lagoons were observed at the Subject Property by Lightship Engineering during the reconnaissance.

3.4.9 Stained Soil or Stressed Vegetation

No evidence of stained soil or stressed vegetation was observed at the Subject Property during the reconnaissance.

3.5 CURRENT USE OF ADJOINING PROPERTIES

- North:** Undeveloped forested land and residences are located north of the Subject Property.
- South:** Undeveloped forested land and residences are located south of the Subject Property.
- East:** Undeveloped forested land with residential and agricultural properties located easterly abutting the Subject Property.
- West:** Residential properties are located westerly abutting County Road with undeveloped forested land beyond the remainder of the western boundary of the Subject Property.



4.0 USER PROVIDED INFORMATION

A summary of user provided information is set forth below.

4.1 TITLE RECORDS

As set forth in Lightship Engineering's scope of work dated November 2, 2023, Lightship Engineering assumed that others would review title records. Therefore, no title information is included in this Phase I and Phase II report.

4.2 ENVIRONMENTAL LIENS, LIMITATIONS, AND PROPERTY VALUE

As set forth in Lightship Engineering's scope of work dated November 2, 2023, Lightship Engineering assumed that others would review environmental liens, limitations, and property value. Therefore, no environmental lien, limitation and property value information is included in this Phase I and Phase II report.

Lightship Engineering queried the Commonwealth of Massachusetts Department of Environmental Protection's ("MassDEP") on-line Waste Site/Reportable Release Look Up database (the "MassDEP Searchable Database") for Activity and Use Limitations ("AULs") associated with the Subject Property address. The MassDEP Searchable Database did not include an AUL for the Subject Property.

4.3 SPECIALIZED KNOWLEDGE

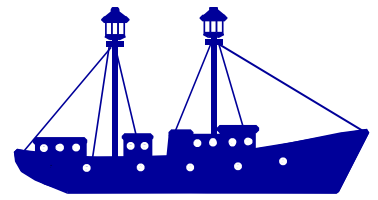
Sarajon did not provide any information regarding specialized knowledge of RECs at the Subject Property.

4.3.1 Commonly Known or Reasonably Ascertainable Information

With the exception of the documents provided by Sarajon, as set forth in Section 2.0, Sarajon did not provide Lightship Engineering with any commonly known or reasonably ascertainable information.

4.4 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

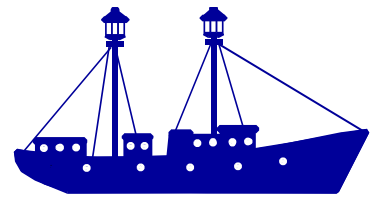
As set forth in Lightship Engineering's scope of work dated November 2, 2023, Lightship Engineering assumed that others would review the sale price of the Subject Property in comparison of the expected value of the property if no environmental issues existed. Therefore, a comparison of the expected value of the Subject Property and the proposed sale price is not included in this Phase I and Phase II report.



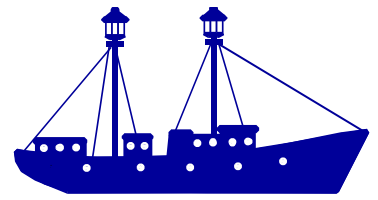
4.5 OWNER, PROPERTY MANAGER AND OCCUPANT INFORMATION

According to the Town of Wareham Assessor's Office, the Subject Property is identified as the following parcels and is recorded at the Plymouth County Registry of Deeds:

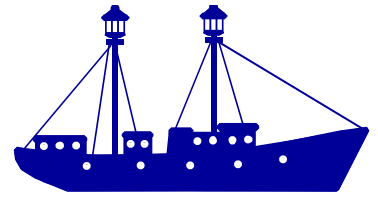
Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
63//1013//	0 County Road Off	48409/0297	Fearing Hill LLC	18.08
63//AA//	0 Allie's Lane	6459/0121	Wolcott, Walter S. C/O Lorusso & Grilli	0.01
63//C//	0 Allie's Lane	39458/013	Lorusso, Gerard C. & Grilli, Henry G. Trustees	0.74
63//F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	0.55
63//21//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//22//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//23//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.6
63//24//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.4
63//25//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	2.25
63//26//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	2.54
63//27//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.4
63//28//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.43
63//29//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//30//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.4
63//31//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38



Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
63//32//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//33//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.42
63//34//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.7
63//35//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.48
63//36//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.42
63//37//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.6
63//38//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//39//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.43
63//40//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//41//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//42//	0 Allie's Lane	29516/0311	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.64
63//43//	0 Allie's Lane	29516/0311	Lorusso, Gerard C. & Grilli, Henry G. Trustees	2.09
63//44//	0 Allie's Lane	29516/0311	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.99
64//J//	0 Allie's Lane	36482/0130	Lorusso, Gerard C. & Grilli, Henry G. Trustee of County Rd 2004 Tr	0.4
64//K//	0 Allie's Lane	36482/0130	Lorusso, Gerard C. & Grilli, Henry G. Trustee of County Rd 2004 Tr	0.88
64//1F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.82



Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
64//2F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.49
64//3F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.71
64//4//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.62
64//5//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.38
64//6//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.38
64//7//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.38
64//8//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.38
64//13//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.55
64//14//	0 Casey Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	2.27
64//15//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.53
64//16//	0 Juliana Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	2.1
64//17//	0 Juliana Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	3.4
64//18//	0 Juliana Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	2.18
64//19//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	2.26
64//20//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	2.02
64//G//	0 County Road Off	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	35.64



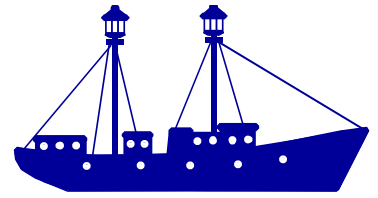
Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
64//H//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	7.21
64//I//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	5.14
65//9//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
65//10//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
65//11//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.42
65//12//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
65//R//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	0.46

*Address per Town of Wareham Assessing Department

The Subject Property is comprised of 54 vacant parcels, totaling approximately 153 acres of land off County Road in Wareham, Massachusetts.

4.6 REASON FOR COMMISSIONING PHASE I STUDY

Sarajon requested that a Phase I and Phase II be conducted in connection with the potential acquisition of the Subject Property.



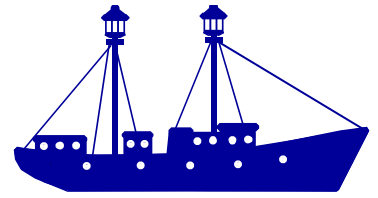
5.0 SUBJECT PROPERTY RECONNAISSANCE AND INTERVIEWS

5.1 METHODOLOGY AND LIMITING CONDITIONS

Lightship Engineering conducted a reconnaissance of the Subject Property on November 15, 2023. A summary of the observations is set forth below.

5.2 EXTERIOR OBSERVATIONS

- The Subject Property includes 54 vacant parcels of land totaling approximately 153-acres.
- Lightship Engineering accessed the Subject Property from County Road on the northwest corner of the Subject Property and traversed the Subject Property via existing pathways.
- The Subject Property is primarily wooded with the exception of sparsely vegetated sandy areas north of the pond and a sandy area on the southern edge of the pond. Based on historical topographic maps and aerial photographs, the pond appears to be man-made and constructed sometime around 1950.
- Lightship Engineering observed numerous tires, a hull of a boat, televisions, mattresses, an empty 5-gallon bucket labelled *general all-purpose solvent*, asphalt shingle pieces, and concrete in the wooded areas in the northwestern portion of the Subject Property. No visual and/or olfactory indications of a significant release of OHM were observed in these areas.
- Lightship Engineering observed utility poles and lines along the dirt path running perpendicular to County Road that service the residential properties north of the Subject Property. No visual and/or olfactory indications of a significant release of OHM were observed in this area.
- Lightship Engineering observed multiple apparently man-made earthen mounds throughout the Subject Property during the reconnaissance. The source and purpose of the mounds was not evident.
- Lightship Engineering observed portions of railroad tracks in the northern portion of the Subject Property and remnants of a foundation in the sandy area north of the pond. No visual and/or olfactory indications of a significant release of OHM were observed in these areas.
- As set forth above, portions of the Subject Property were covered with thick vegetation at the time of the reconnaissance that limited accessibility and visibility of conditions at the Subject Property.



5.3 OWNER REPRESENTATIVE INTERVIEW

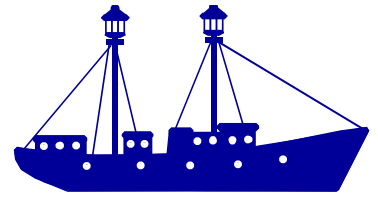
Lightship Engineering interviewed and was accompanied during the reconnaissance by Mr. Bradley Bertolo of JC Engineering, Inc. Information provided to Lightship Engineering by Mr. Bertolo is summarized in this report.

5.4 LOCAL GOVERNMENT OFFICIAL INTERVIEW

As set forth in Section 6.2, Lightship Engineering interviewed personnel and/or reviewed records regarding the past and present use of the Subject Property at the following municipal offices: Town of Wareham Assessor's Office, Inspectional Services Department, Town Clerk, Sewer Department, Health Department, and Wareham Fire and Water District.

5.5 INTERVIEWS WITH OTHERS

No other interviews were conducted in connection with this Phase I and Phase II report.



6.0 RECORDS REVIEW

6.1 STANDARD ENVIRONMENTAL RECORDS SOURCES

Lightship Engineering reviewed Federal and State environmental databases as set forth in the EDR Report provided at Appendix B. The search radii used to generate the report were consistent with ASTM Method E 1527-21 standards. A copy of the EDR Report is provided in Appendix B, and a summary of the search findings is presented below.

National Priority List (“NPL”)

There are no NPL sites listed within a 1.0-mile radius of the Subject Property.

Comprehensive Environmental Response, Compensation and Liability Information System (“CERCLIS”)

There are no CERCLIS sites listed within a 0.5-mile radius of the Subject Property.

Resource Conservation and Recovery Act (“RCRA”)

There are no RCRA treatment, storage, and/or disposal facilities (“TSD”) sites listed within a 0.5-mile radius of the Subject Property.

There are no RCRA corrective action Sites (“CORRACTS”) listed within a 1.0-mile radius of the Subject Property.

There are no RCRA Large Quantity Generators (“RCRA-LQG”), RCRA Small Quantity Generators (“RCRA-SQG”), or Very Small Quantity Generators (“RCRA-VSQG”) within a 0.25-mile radius of the Subject Property.

RCRA NonGen/NLR

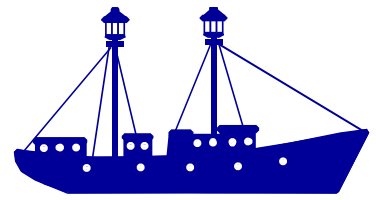
There are no RCRA NonGen/NLRs (waste generators that currently do not generate) within a 0.25-mile radius of the Subject Property.

Emergency Response Notification Site (“ERNS”)

The Subject Property is not identified as ERNS.

Massachusetts Hazardous Waste and Waste Oil Generators (“HW GEN”)

There are no HW GEN sites located within 0.25 miles of the Subject Property.



Leaking UST (“LUST”) and Leaking AST (“LAST”) Site

There are no LUST releases located within a 0.5-mile radius of the Subject Property.

There is one LAST release located within a 0.5-mile radius of the Subject Property. The closest LAST site is *Residential Property* located at 365 County Road and approximately 1,591 feet southwest of the Subject Property.

Registered UST Site (“UST”) and AST Site (“AST”)

There are no registered UST sites within a 0.25-mile radius of the Subject Property.

There are no registered AST sites within a 0.25-mile radius of the Subject Property.

Federal, State or Tribal Institutional Controls (“MA INST CONTROL”)

There are no MA INST CONTROL sites identified within a 0.5-mile radius of the Subject Property.

Mines Mineral Resources Data System (“MINES MRDS”)

The Subject Property is listed as a MINES MRDS site identified as Whitehead Brothers, Inc. According to the EDR report, Whitehead Brothers, Inc. operated a Sand & Gravel operation on a portion of the Subject Property.

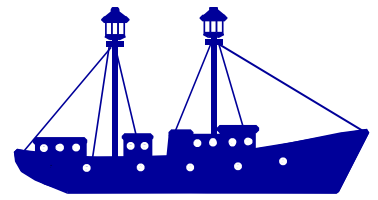
Release/State Hazardous Waste (“RELEASE/SHWS”) Sites

The Subject Property is listed as a State Release Site (“RELEASE”) and State Hazardous Waste Site (“SHWS”) identified as Whibco Plant located on Squirrel Island Road. Refer to section 6.6.1 for further information.

There are three other SHWS sites located within a 1.0-mile radius of the Subject Property.

A summary of select SHWS sites located at or near the Subject Property are set forth below. The summaries are based upon information available online through the MassDEP Searchable Database website and reviewed by Lightship Engineering.

Address	RTN	Regulatory Status	Location
365 County Road	4-0025950	PSNC (Residential AST release)	1,591 feet southwest



Address	RTN	Regulatory Status	Location
240 County Road	4-0023231	Class A-2 RAO (Fuel Tank release in roadway)	2,007 feet south southwest
583 Mary's Pond Road	4-0026158	PSNC (Fuel Tank release in roadway)	2,322 feet northwest

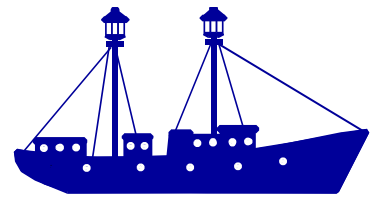
RTN – Release Tracking Number
 RAO – Response Action Outcome
 PSNC – Permanent Solution with No Conditions

6.2 ADDITIONAL ENVIRONMENTAL RECORD SOURCES

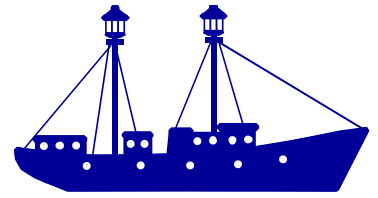
6.2.1 Assessing Department

The Town of Wareham Assessing Department identifies the Subject Property as the following parcels and addresses with the following owners and deed information identified:

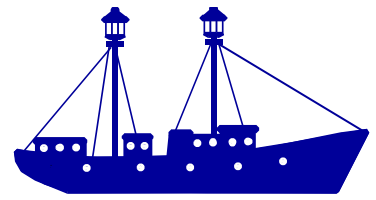
Parcel ID	*Address	Owner	Deed Book/Page* Sale Date	Lot Size (acres)
63//1013//	0 County Road Off	Fearing Hill LLC	48409/0297 May 11, 2017	18.08
63//AA//	0 Allie's Lane	Wolcott, Walter S. C/O Lorusso & Grilli	6459/0121 December 5, 1985	0.01
63//C//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	39458/0131 December 24, 2010	0.74
63//F//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	0.55
63//21//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.38
63//22//	0 Marissa Way	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.38
63//23//	0 Marissa Way	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.6
63//24//	0 Marissa Way	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.4



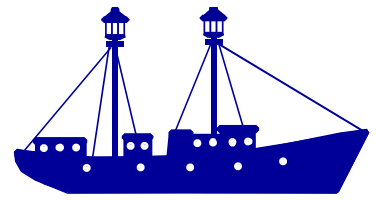
Parcel ID	*Address	Owner	Deed Book/Page* Sale Date	Lot Size (acres)
63//25//	0 Marissa Way	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	2.25
63//26//	0 Marissa Way	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	2.54
63//27//	0 Marissa Way	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.4
63//28//	0 Marissa Way	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.43
63//29//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.38
63//30//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.4
63//31//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.38
63//32//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.38
63//33//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.42
63//34//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.7
63//35//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.48
63//36//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.42
63//37//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.6
63//38//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.38



Parcel ID	*Address	Owner	Deed Book/Page* Sale Date	Lot Size (acres)
63//39//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.43
63//40//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.38
63//41//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	32966/0082 June 30, 2006	1.38
63//42//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	29516/0311 November 23, 2004	1.64
63//43//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	29516/0311 November 23, 2004	2.09
63//44//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	29516/0311 November 23, 2004	1.99
64//J//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustee of County Rd 2004 Tr	36482/0130 October 28, 2008	0.4
64//K//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustee of County Rd 2004 Tr	36482/0130 October 28, 2008	0.88
64//1F//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	1.82
64//2F//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	1.49
64//3F//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	1.71
64//4//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	1.62
64//5//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	1.38
64//6//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	1.38



Parcel ID	*Address	Owner	Deed Book/Page* Sale Date	Lot Size (acres)
64//7//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	1.38
64//8//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	1.38
64//13//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	1.55
64//14//	0 Casey Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	2.27
64//15//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	1.53
64//16//	0 Juliana Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	2.1
64//17//	0 Juliana Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	3.4
64//18//	0 Juliana Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	2.18
64//19//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	2.26
64//20//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	2.02
64//G//	0 County Road Off	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	35.64
64//H//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	7.21
64//I//	0 Allie's Lane	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	32966/0082 June 30, 2006	5.14
65//9//	0 Casey Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	43600/0248 September 13, 2013	1.38



Parcel ID	*Address	Owner	Deed Book/Page* Sale Date	Lot Size (acres)
65//10//	0 Casey Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	43600/0248 September 13, 2013	1.38
65//11//	0 Casey Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	43600/0248 September 13, 2013	1.42
65//12//	0 Casey Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	43600/0248 September 13, 2013	1.38
65//R//	0 Casey Lane	Lorusso, Gerard C. & Grilli, Henry G. Trustees	43600/0248 September 13, 2013	0.46

*Address per Town of Wareham Assessing Department

A portion of the Town of Wareham Assessor's Map containing the Subject Property is provided as Figure 3-1, Appendix A.

6.2.2 Inspectional Services Department

Lightship Engineering requested records associated with the use, storage, disposal, and/or release of OHM at the Subject Property from the Town of Wareham Inspectional Services Department. According to the Town of Wareham Inspectional Services Department there are no records available for review associated with the Subject Property.

6.2.3 Health Department

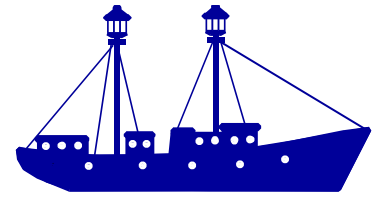
Lightship Engineering requested records associated with the use, storage, disposal, and/or release of OHM at the Subject Property from the Town of Wareham Health Department. At the time of this report, the Health Department has not responded to Lightship Engineering's request.

6.2.4 Water Department

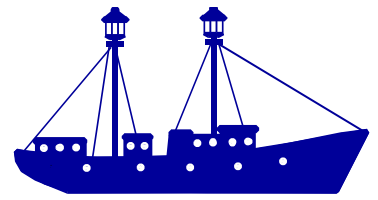
Lightship Engineering requested water connection date for the Subject Property from the Wareham Fire and Water District. According to the Wareham Fire and Water District there are no records available for review associated with the Subject Property.

6.2.5 Planning Department

Lightship Engineering requested records from the Town of Wareham Planning Department. Records reviewed at the Planning Department included the following:

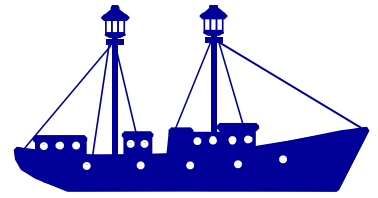


- A letter regarding *Fearing Hill, LLC & County Road 2004 Realty Trust, Hidden Trails – off County Road, Wareham, MA* – To construct roadways, utilities, and storm water management systems associated with a proposed residential 56-lot cluster subdivision, dated October 18, 2023. The letter includes comments on behalf of the Community Land and Water Coalition (“CLWC”) regarding the planned development of the Subject Property. As set forth in the letter, *On October 4, 2023, the Commission heard testimony about the disposal of "barrels", vehicles and of dumping on this site. One witness testified that vehicles were driven into the gravel pit pond for disposal. The witness reported to you that this pond is estimated to be 100 feet deep. Other witnesses testified that equipment was abandoned on site. The testimony presented to the Commission established that there is a release or threat of release of hazardous materials that mandates notification under the state Superfund law.*
- A report titled *Drainage Calculations & Supplemental Information for Hidden Trails* (“Drainage Report”), prepared by JC Engineering, Inc. (“JC Engineering”) dated September 7, 2023. As set forth in the Drainage Report, *The total land area of the current project is approximately 153 acres, which includes a 30.5 acre manmade pond centrally located on the property. The manmade pond was created by a former sand mining operation that is no longer active. Besides the alteration that created the pond, there are approximately 27 acres of adjacent bordering vegetated wetlands and approximately 16.5 acres of unvegetated, previously disturbed property. The approximately 79 acres of the remainder of the property, besides some trails and a couple of former sand pits, is undeveloped woodland. The soil types found within the limits of the drainage analysis are classified as the following:*
 - 1.) *Windsor Loamy Sand, 3 to 8 percent slopes (255B)*
 - 2.) *Deerfield Loamy Fine Sand, 0 to 3 percent slopes (256A)*
 - 3.) *Deerfield Loamy Fine Sand, 3 to 8 percent slopes (256B)*
 - 4.) *Carver Loamy Coarse Sand, 0 to 3 percent slopes (259A)*
 - 5.) *Aquepts, 0 to 3 percent slopes (657A)*
 - 6.) *Udipsamments, 0 to 8 percent slopes (665B)*
- A report titled *Special Permit for Cluster Development and Site Plan Review Application* (“Special Permit Application”), prepared by JC Engineering, Inc. (“JC Engineering”) dated September 7, 2023. As set forth in the Special Permit Application, *a proposed watermain will be installed along the entire length of all roadways, and hydrants will be installed at no greater than 500’ intervals and at the end of each roadway. The new watermains will connect to the most recent Wareham Fire District water system expansion in Wareham. This development is not within 1,500 feet of a municipal sewer main, therefore, all houses will be serviced by an individual sewage disposal system on each lot.*
- A letter dated November 2, 2023 prepared by citizen Julie Abele-King. The letter includes comments regarding the planned development of the Subject Property. As set forth in the letter, *For the record, I frequented this area beginning in 1985 when my ex-husband's parents purchased 163 Squirrel Island Road. Additionally, I resided at 163*

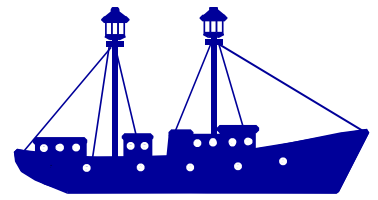


Squirrel Island Road from 2001 until 2007. This residence is the last house on Squirrel Island Road prior to the abandoned rail line and is in close proximity to the Whitehead property, which at that time included a man-made pond, the result of earth removal and excavation activities. During this entire period, spanning three decades, I witnessed the vehicles associated with Whitehead Company use Squirrel Island Road as their access. When Whitehead was not operating, mainly on nights and weekends, the pond transformed into a playground for my children, family, and friends, as well as other local residents. We went swimming, fishing, and enjoyed the pond for its recreational uses as well as sledding in the winter months from the mid-eighties until 2007. As such, I would consider myself a "credible eye witness". I attest that in the approximately 23 years described above, I was not witness to any of the conditions described in the comments (again, not testimony) of said witnesses. I never witnessed or observed evidence of "barrels", dumped vehicles or abandoned equipment. I never witnessed any contamination or had reason to believe the area was a hazardous waste dump site.

- *A letter regarding 15-23 Sarajon Realty LLC – Special Permit for Cluster Development and Site Plan Review, Hidden Trails – off County Road, Wareham, MA, dated November 8, 2023 prepared by citizen Kathy Pappalardo. The letter includes comments regarding the planned development of the Subject Property. As set forth in the letter, *The site has numerous wetlands and streams. Another major concern was the slope of the pond. This “pond” is left over from the sand mining operation. Apparently, the industrial sand mining hit groundwater and that is how the “pond” was created. Many folks who grew up around here talk about the property, what’s in the pond, what’s buried on the property, etc. I would be very hesitant to permit residential units on a known industrial site without a major environmental examination.**
- *A letter regarding Hidden Trails under Sarajon Realty, LLC Case No.: 15-23, dated December 14, 2023 prepared by Robert L. Perry, J.D. The letter includes an Affidavit executed by Paul A. Tetrault in regard to the condition of the Whitehead property during the twenty (20) years Mr. Tetrault worked there. As set forth in the Affidavit:*
 1. *This Affidavit is being made to refute the false allegations of contamination of the Whitehead property through dumping of hazardous waste.*
 2. *My name is Paul A. Tetrault, and I have resided at all relevant times at 12 Burr Parkway, Wareham, Massachusetts.*
 3. *I worked for Whitehead Brothers, a New Jersey Corporation, for approximately Twenty (20) Years at the location known as the Whitehead property in West Wareham.*
 4. *For most of my tenure working for Whitehead I was in charge of the entire operation.*
 5. *The operation in West Wareham was solely to mine foundry sand, that was screened and immediately shipped out, originally by train then by truck to New Jersey.*



6. *For the purposes of mining sand, we used excavators, loaders, conveyors and of course the trucks used to deliver the sand.*
 7. *All equipment and vehicles were continuously checked for oil leaks since any contamination whatsoever would render the sand unfit for use therefore would be adverse to our best interest.*
 8. *Oil changes were done on equipment on site and the waste oil was properly disposed of off-site. Oil changes on trucks were done off site.*
 9. *Once again, we were very careful not to spill any oil doing oil changes since contaminated sand would have no value, and the supply of sand was limited.*
 10. *In support of the fact that there is no contamination of the property, we had a minor leak from a fuel tank observed by the representative of the Wareham Fire Department during the annual tank inspection.*
 11. *Based on the fuel leak, we performed a cleanup under the oversight of DEP and the Wareham Fire Department.*
 12. *The cleanup was completed and approved resulting in a determination that any potential contamination was taken care of.*
 13. *The pond on the property was created by us by mining sand below water table due to the fact that the sand on the property was limited and we wanted to recover as much of the fine sand as possible before the supply of sand on the Whitehead property was exhausted and the operation came to an end.*
 14. *At no time did we ever dispose of cars or anything else in the pond, in fact we had nothing to dispose of.*
 15. *Shortly after I left the job with Whitehead Brothers, the company closed the Wareham operation due to a lack of any more sand to be recovered.*
 16. *Upon my knowledge and belief, based upon the condition of the property when I went to work there, when I left and when the operation ceased, there can't possibly be contamination by hazardous materials of any type on the Whitehead property, especially in light of the fuel clean up.*
- A letter regarding 15-23 Sarajon Realty LLC, "Hidden Trails", dated January 5, 2024 prepared by citizen Doreen Adams. The letter includes comments regarding the planned development of the Subject Property. As set forth in the letter, *PROPER DRAINAGE. The houses must have adequate drainage for heavy rainfall and proper leeching fields. The Conservation Commission/Department will need to explain the leeching process. Those of us with wells would like to discuss the eventual impact on our wells and on the pond from excavation, the eventual grand disturbance of the topography due to the septic systems and fertilizer poisoning from lawn care from this new city being torn into open land.*



6.2.6 Conservation Commission

According to the Town of Wareham Conservation Commission, there are no records available for review associated with the Subject Property.

6.2.7 Fire Department

Lightship Engineering requested records associated with the use, storage, disposal, and/or release of OHM at the Subject Property from the Wareham Fire and Water District. At the time of this report, the Fire Department has not responded to Lightship Engineering’s request.

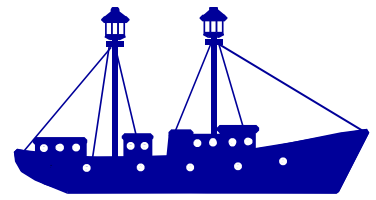
6.2.8 Sanborn Fire Insurance Maps

According to EDR, the Subject Properties and surrounding area is located in an unmapped area. Copies of the Sanborn Maps are attached as Appendix C.

6.2.9 Aerial Photos

Aerial photographs were obtained through EDR for various years between 1952 and 2018. Copies of the aerial photos are attached as Appendix D. The year and a review of each aerial photograph are set forth below.

1952	The Subject Property is mostly undeveloped with the exception of a clearing, some buildings and pond in the northeastern portion of the Subject Property. The area surrounding the Subject Property appears to be sparsely developed and improved with some roads, residences, and agricultural properties. The scale and quality of the aerial photo does not provide additional details of the Subject Property or surrounding area.
1961	The Subject Property appears similar to the previous aerial photograph with the exception that the pond and clearing are larger. Additional development has occurred in the area surrounding the Subject Property. The scale and quality of the aerial photo does not provide additional details of the Subject Property or surrounding area.
1970, 1980, 1985, 1995	The Subject Property appears similar to the previous aerial photograph with the exception that the pond is larger and additional areas have been cleared. Additional development has occurred in the surrounding area. The scale and quality of the aerial photo does not provide additional details of the Subject Property or surrounding area.



2006, 2010, 2014, 2018 The Subject Property appears similar to the previous aerial photograph with the exception that the buildings have been removed, the northern portion of the pond has been filled and/or drained and areas formerly cleared have been re-vegetated. Additional development has occurred in the surrounding area. The scale and quality of the aerial photo does not provide additional details of the Subject Property or surrounding area.

6.2.10 Historical Topographic Maps

Historical topographic maps were obtained through EDR for various years between 1888 and 2018. Copies of the topographic maps are attached as Appendix D. The year and a review of each topographic map are set forth below.

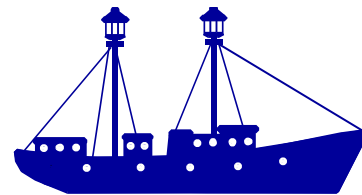
1888, 1889, 1893, 1915, 1916, 1918 1935, 1936, 1938, 1939, 1941, 1942 1943, 1944, 1946, 1947, 1948, 1949, 1953 The Subject Property appears undeveloped and the surrounding area appears to be sparsely developed with some roadways and the Old Colony Railroad located east of the Subject Property. The map does not provide any specific details regarding the Subject Property.

1957, 1962, 1977, 1985 The northeast portion of the Subject Property appears to be cleared, a pond is present in this area and map labels the area as a sand and gravel pit. A railroad spur is depicted entering the Subject Property in the northeast portion of the Subject Property. The surrounding area appears developed with some roadways and structures. The map does not provide any specific details regarding the Subject Property.

2012, 2015, 2018 The pond is present but the sand and gravel operations appear to have ceased. The map does not provide details regarding the Subject Property.

6.2.11 City Directory

Lightship Engineering reviewed an abstract of available City Directories provided by EDR for various years between 1992 and 2020 with respect to the Subject Property and surrounding area. A copy of the EDR-City Directory Abstract Report is provided in Appendix F. Based on a review of the City Directories abstract provided by EDR, the Subject Property is not listed on the City Directories reviewed.



6.3 PHYSICAL SETTING SOURCE(S)

A summary of the natural resource information provided in the EDR Report attached at Appendix B and obtained from information provided to and reviewed by Lightship Engineering is set forth below.

6.3.1 Regional Physiographic Conditions

According to the EDR Report, the Subject Property topography generally slopes in a south southeasterly direction and is located approximately 22 feet above mean sea level.

6.3.2 Soil Description

As set forth in the EDR Report, the soils in the area of the Subject Property are classified as Carver soils, coarse sand. As set forth in the Drainage Report, *the soil types found within the limits of the drainage analysis are classified as the following:*

- 1.) Windsor Loamy Sand, 3 to 8 percent slopes (255B)
- 2.) Deerfield Loamy Fine Sand, 0 to 3 percent slopes (256A)
- 3.) Deerfield Loamy Fine Sand, 3 to 8 percent slopes (256B)
- 4.) Carver Loamy Coarse Sand, 0 to 3 percent slopes (259A)
- 5.) Aquepts, 0 to 3 percent slopes (657A)
- 6.) Udipsamments, 0 to 8 percent slopes (665B)

6.3.3 Bedrock Description

As set forth in the EDR Report, bedrock in the area of the Subject Property is characterized as the Precambrian system in the Precambrian era. Information reviewed by Lightship Engineering did not include depth to bedrock.

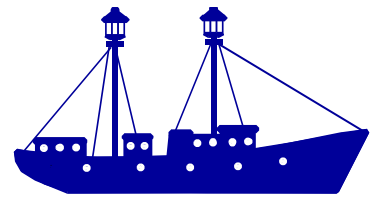
6.3.4 Groundwater

As set forth in Section 6.6, the reported depth to groundwater in the vicinity of the Subject Property is approximately 10 to 18 feet below grade and approximate groundwater flow direction is to the south.

6.3.5 Surface Water

The nearest surface water body is the manmade pond located in the north central portion of the Subject Property.

6.3.6 Flood Potential

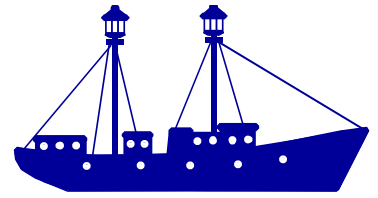


Based upon information available online from the Federal Emergency Management Agency (“FEMA”), the Subject Property is located in “Zone X” which represents an area of minimal flooding based on the Flood Insurance Rate Map, Community Panel No. 25023C0469K.

6.3.7 Sensitive Receptors

A summary of environmentally sensitive receptors within 0.5-mile radius of the Subject Properties, based upon the MassGIS MassMapper interactive mapping tool (“MassMapper”), is set forth below. The information obtained through MassMapper is included as Figure 6-1, Appendix A.

Resource	Present within 0.5 miles	Nearest Distance from Site
Open Water	Yes	An unnamed manmade pond is located on the Subject Property.
Wetland	Yes	Wetlands are present on, north, south, east, and west of the Subject Property.
Non-Potential Drinking Water Source Area	No	-
Protected Open Space	No	-
Areas of Critical Environmental Concern	No	-
Approved Wellhead Protection Area	No	-
Potentially Productive High Yield Aquifer	Yes	An EPA High Yield Aquifer is present southeast of the Subject Property.
Potentially Productive Medium Yield Aquifer	Yes	A Potentially Productive Medium Yield Aquifer is present on and north and east of the Subject Property.
NHESP Estimated Habitats of Rare Wildlife	No	-
NHESP Certified Vernal Pool	No	-
NHESP Potential Vernal Pool	No	-



Resource	Present within 0.5 miles	Nearest Distance from Site
FEMA 100-year Floodplain	Yes	A 100-year flood plain is located east of the Subject Property.
Solid Waste Landfill	No	-

NHESP – Natural Heritage & Endangered Species Program

6.4 HISTORICAL USE INFORMATION ON THE SUBJECT PROPERTY

Information regarding historical use of the Subject Property is set forth above in previous sections.

6.5 HISTORICAL USE INFORMATION FOR ADJOINING PROPERTIES

Information regarding historical use of adjacent properties is set forth above in previous sections.

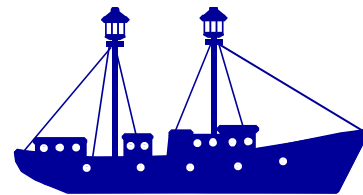
6.6 HISTORICAL ENVIRONMENTAL INVESTIGATIONS

Lightship Engineering reviewed the following historical environmental reports associated with the Subject Property provided by Sarajon and available online through the MassDEP Searchable Database website as set forth below.

6.6.1 Phase I Initial Site Assessment, Release Abatement Measure (RAM) Completion Report, Response Action Outcome, prepared by East Coast Engineering, Inc. dated January 17, 2001

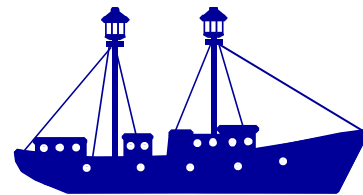
Lightship Engineering review of the *Phase I Initial Site Assessment, Release Abatement Measure (RAM) Completion Report, Response Action Outcome*, prepared by East Coast Engineering, Inc. dated January 17, 2001 (the “RAO report”), is set forth below.

- As set forth in the RAO report, *Currently, WHIBCO operates a sand and gravel removal operation on about ten (10) acres of the site. The remainder of the land consists of undeveloped land and a large pond. According to the property owner, this property has been used for sand and gravel operations since the mid-1930's. Prior to that time, the property was undeveloped.*
- *Existing structures include a drying operation for the sand as it is removed from the pond; a small garage used for business operations and equipment maintenance, and a screening plant for the earth removal operations. A 10,000 gallon aboveground storage tank (AST) (installed in 1995/1996) is located behind the dryer building on*

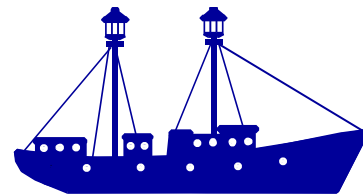


the eastern portion of the property and is used for the storage of diesel fuel. A 500 gallon waste oil AST (installed in 1995/1996) is located west of the garage/office building. Both of these tanks have 110 percent volume containment. Two water supply wells are located on-site. A 250 foot deep well is located near the dryer and used for production water, and the second is a 20-foot deep well located east of the garage/office building and used for water in the washroom. This water supply well was installed in August 1995. Bottled water is used for drinking purposes.

- In June 1992, the Wareham Fire Department, conducting a routine permitting inspection of the aboveground (AST) and underground tanks (UST) at the WHIBCO facility identified petroleum staining on the ground surface in the vicinity of the 660 gallon aboveground tank. This tank was partially buried and used for the storage of gasoline.*
- The Wareham Fire Department notified the Department of Environmental Protection (DEP) on June 22, 1992 of the petroleum-contaminated soil near the AST and the presence of a shallow water supply well on the property. The DEP conducted an inspection of the property and determined that remediation of the contaminated soil was required. The DEP required the excavation and removal of the underground and aboveground tanks on the property. Based on these conditions, DEP issued a Notice of Responsibility (NOR) on June 24, 1992. Release Tracking Number 4-06057 was assigned to the Site.*
- An on-site septic system is used for the handling of domestic wastewater.*
- The initial response actions were conducted in 1992. WHIBCO, Inc. contracted with Mason Environmental for the excavation and off-site removal of several aboveground and underground tanks and two former AST's which were abandoned and stored on the property. On November 9, 1992, a 1,000 gallon underground tank formerly used for the storage of gasoline was excavated and transported to James Grant Co., Inc. in Readville, Massachusetts. On January 15, 1993, Mason removed five additional tanks from the property including: a 1,000 gallon UST formerly containing diesel fuel; a 12,000 gallon AST formerly containing diesel fuel; an abandoned 8,000 gallon AST (former contents unknown; an abandoned 5,000 gallon AST (former contents unknown); and a 660 gallon AST formerly containing diesel fuel.*
- During the course of tank removal, it is reported by WHIBCO that Mason excavated and stockpiled between 275 and 300 tons of contaminated soil on-site. This material was stockpiled and covered with plastic and located south of the office/maintenance building.*
- The purpose of the RAM, dated March 30, 2000, was to develop a program for the removal and off-site management of the contaminated soil stockpiled on the property, to present reuse and disposal procedures to ensure the proper management of excavated soils, and to assess soil and groundwater conditions in the former locations of the tanks and stockpile area.*

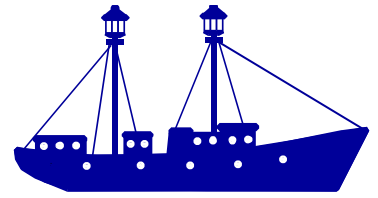


- *On July 18, 2000, the stockpile of contaminated soil was excavated. It was found that the stockpiled soil was initially placed on sheets of plastic and covered with same. About six inches of soil beneath the plastic sheeting was also excavated and moved off-site. The volume of soil removed off-site was 377.85 tons (approximately 250 cubic yards). The excavated soils were shipped off-site for recycling.*
- *On August 15, 2000, five soil borings were advanced on the property and the soils characterized for petroleum constituents. The locations of these soil borings identified as B-1 through B-5.*
- *Two soil borings were advanced in the area of the former stockpile area (B-3 and B-4), and one soil boring at each of the former tank locations (B-2 and B-5). An upgradient soil boring, B-1, was advanced to characterize background soil conditions.*
- *At each of these borings, soils were vertically characterized at two-foot intervals to the depth of and including the interface of the water table. (The depth to water was approximately 10 to 12 feet below the ground surface). At each of the two-foot core intervals, soil samples were prepared for laboratory analysis for Total Petroleum Hydrocarbons (TPH), and Volatile (VPH) and Extractable Petroleum Hydrocarbons (EPH). As a screening for petroleum hydrocarbons, each sample was laboratory analyzed for TPH. Based on the results of the TPH analysis, select soil samples were analyzed for VPH and EPH constituents.*
- *Eight groundwater monitoring wells were installed on the property. On August 22, 2000, groundwater samples were collected from each of the eight wells and analyzed each of the water samples for Extractable and Volatile Petroleum Hydrocarbons analysis.*
- *On August 22, 2000, a water sample was drawn from the existing water supply well located on the east side of the office/maintenance building. The sample was analyzed for volatile organic compounds (VOCs) by EPA Method 8260. The results of the analysis found non-detectable concentrations of petroleum compounds; 1.4 ug/l of trichloroethene was reported in the water sample but was reported at a level below reportable concentrations.*
- *Based on the groundwater measurements and surface water elevation, collected on August 22 and 31, 2000, respectively, the groundwater flow is toward the south. Depth to groundwater ranged from 10.89 to 18.58 feet below grade.*
- *The concentrations of Total Petroleum Hydrocarbons (TPH) in the soil ranged between non-detect (ND) and 135 mg/kg. The concentration of 135 mg/kg was identified in the soil sample collected at 12 to 16 feet below the ground surface in the vicinity of the former soil stockpile, (i.e., soil boring B-3). Based on these TPH results, the soil samples exhibiting the highest TPH concentration at each boring location, and the soil sample collected at the groundwater interface from each boring, were analyzed for Volatile Petroleum Hydrocarbons (VPH) and Extractable*



Petroleum Hydrocarbons (EPH) constituents. As shown on Table 2, concentrations of VPH and EPH carbon chain and target analytes were not detected in the any of the analyzed soil samples.

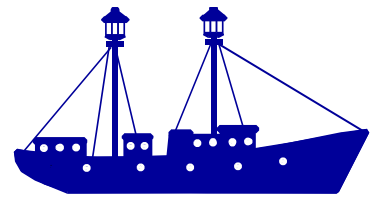
- *The EPH and VPH carbon chain and target analytes were not detected in the groundwater samples collected from wells MW-1, MW-3, MW-4, MW-5, MW-6, and MW-7. At well MW-2, the laboratory reported an estimated value of 0.3 ug/l of the C19- C36 Aliphatic Hydrocarbons in the groundwater sample, and at well MW-8 the laboratory reported an estimated value of 0.8 ug/l of the C11-C22 Aromatic Hydrocarbons in the groundwater. No other EPH and VPH analytes were detected in the groundwater at wells MW-2 and MW-8.*
- *To characterize the risk of harm to health, public welfare and the environment, a Method 1 Risk Characterization was prepared in accordance with 310 CMR 40.0970.*
- *Since the soil and groundwater concentrations are below the soil category S-1/GW-1 standard and groundwater category GW-1, a level of No Significant Risk has been achieved; an Activity and Use Limitation (AUL) on the site is not required.*
- *Based on the results of the analytical data and given the present and future uses of the site, and that remaining soils are less than the soil/groundwater applicable categories S-1/GW-1, S-1/GW- 2 and S-1/GW-3 standards, a level of No Significant Risk is posed at the site. Therefore, no further action is necessary.*
- *The RAM activities have been completed in accordance with the approved RAM Plan and the requirements of 310 CMR 40.1000. The work conducted met the objectives of providing risk reduction measures to manage contaminated soils. The results of these measures qualify as a Class A-2 Response Action Outcome as defined in 310 CMR 40.1036(2).*



7.0 DATA GAPS

- Lightship Engineering did not review Title Records for the Subject Property;
- Lightship Engineering did not conduct an evaluation of the purchase price of the Subject Property compared to the fair market value;
- Lightship Engineering did not obtain any historical information prior to 1888 with respect to the Subject Property;
- Lightship Engineering requested records associated with the use, storage, disposal, and/or release of OHM at the Subject Property from the Town of Wareham Health Department. At the time of this report, the Health Department has not responded to Lightship Engineering's request;
- Lightship Engineering requested records associated with the use, storage, disposal, and/or release of OHM at the Subject Property from the Wareham Fire and Water District. At the time of this report, the Wareham Fire and Water District has not responded to Lightship Engineering's request; and
- Portions of the Subject Property were covered with thick vegetation at the time of the reconnaissance that limited accessibility and visibility of conditions at the Subject Property. Based on historical information reviewed by Lightship Engineering, it appears that the historic sand mining operations at the Subject Property primarily took place in the open area north of the pond as well as within the current location of the pond.

The data gaps identified above are unlikely to significantly impact the conclusions of the Phase I investigation.

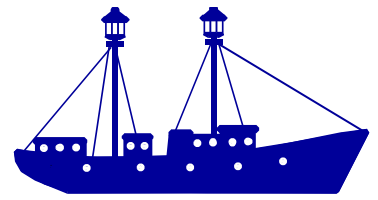


8.0 FINDINGS AND OPINIONS

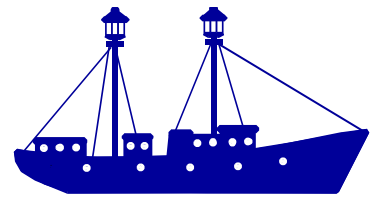
Consistent with the Scopes of Work, Lightship Engineering conducted an ASTM Phase I environmental assessment of the Subject Property. The findings and opinions are summarized below.

- The Town of Wareham Assessing Department identifies the Subject Property as the following parcels and addresses:

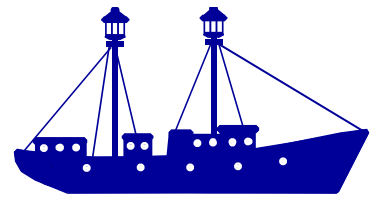
Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
63//1013//	0 County Road Off	48409/0297	Fearing Hill LLC	18.08
63//AA//	0 Allie's Lane	6459/0121	Wolcott, Walter S. C/O Lorusso & Grilli	0.01
63//C//	0 Allie's Lane	39458/013	Lorusso, Gerard C. & Grilli, Henry G. Trustees	0.74
63//F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	0.55
63//21//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//22//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//23//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.6
63//24//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.4
63//25//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	2.25
63//26//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	2.54
63//27//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.4
63//28//	0 Marissa Way	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.43
63//29//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38



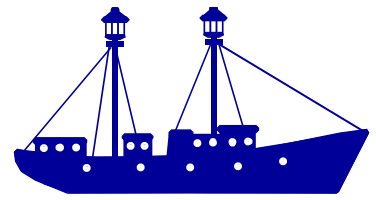
Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
63//30//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.4
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63//32//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//33//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.42
63//34//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.7
63//35//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.48
63//36//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.42
63//37//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.6
63//38//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//39//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.43
63//40//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//41//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
63//42//	0 Allie's Lane	29516/0311	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.64
63//43//	0 Allie's Lane	29516/0311	Lorusso, Gerard C. & Grilli, Henry G. Trustees	2.09
63//44//	0 Allie's Lane	29516/0311	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.99
64//J//	0 Allie's Lane	36482/0130	Lorusso, Gerard C. & Grilli, Henry G. Trustee of County Rd 2004 Tr	0.4



Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
64//K//	0 Allie's Lane	36482/0130	Lorusso, Gerard C. & Grilli, Henry G. Trustee of County Rd 2004 Tr	0.88
64//1F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.82
64//2F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.49
64//3F//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.71
64//4//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.62
64//5//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.38
64//6//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.38
64//7//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.38
64//8//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.38
64//13//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.55
64//14//	0 Casey Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	2.27



Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
64//15//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	1.53
64//16//	0 Juliana Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	2.1
64//17//	0 Juliana Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	3.4
64//18//	0 Juliana Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	2.18
64//19//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	2.26
64//20//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	2.02
64//G//	0 County Road Off	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	35.64
64//H//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	7.21
64//I//	0 Allie's Lane	32966/0082	Lorusso, Gerard C. & Grilli, Henry G. Tr County Rd 2004 Realty Trust	5.14
65//9//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
65//10//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
65//11//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.42

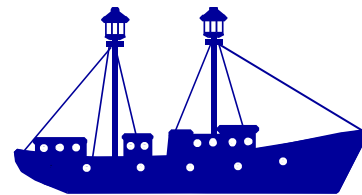


Parcel ID	*Address	Book/Page	Owner	Lot Size (acres)
65//12//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	1.38
65//R//	0 Casey Lane	43600/0248	Lorusso, Gerard C. & Grilli, Henry G. Trustees	0.46

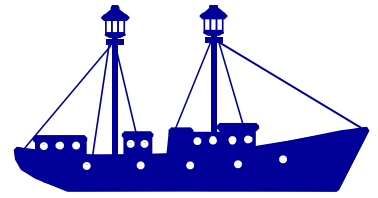
*Address per Town of Wareham Assessing Department

A portion of the Town of Wareham Assessor's Map containing the Subject Property is provided as Figure 3-1, Appendix A.

- The Subject Property is comprised of 54 vacant parcels, totaling approximately 153 acres of land off County Road in Wareham, Massachusetts. The Subject Property is located in a residential zoned area. According to the Town of Wareham, aerial photographs, and historical topographic maps, the parcel was formerly the location of a sand and gravel operation.
- According to the records from the Town of Wareham Sewer Department, the Subject Property is not connected to the municipal sewer system and municipal sanitary sewer is not available in the area of the Subject Property. As set forth in Section 6.6, an on-site septic system was previously located on-Site as part of the historic sand and gravel operation. There was no information regarding the removal of the septic system.
- According to the records from the Wareham Fire and Water District, the Subject Property is not connected to the municipal water supply. Based on information provided by JC Engineering, municipal water is available in the area of the Subject Property.
- No OHM and no indications of a significant release of OHM were observed by Lightship Engineering during the reconnaissance.
- No storage tanks were observed by Lightship Engineering during the reconnaissance. It should be noted that as set forth in Section 6.6, ASTs and USTs were historically located on-site as part of the historic sand and gravel operation.
- No odors, pools of liquid or significant staining were observed by Lightship Engineering during the reconnaissance.
- No drums were observed by Lightship Engineering during the reconnaissance.
- No floor drains or sumps were observed by Lightship Engineering during the reconnaissance.
- Lightship Engineering observed a pond in the central portion of the Subject Property. Based on historical topographic maps and aerial photographs, the pond appears to be man-made and was constructed sometime around 1950. No pits or lagoons were observed at the Subject Property by Lightship Engineering during the reconnaissance.

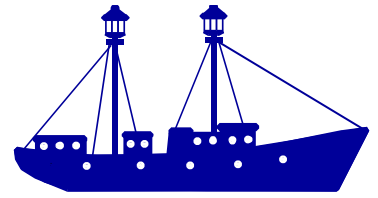


- No evidence of stained or stressed vegetation was observed at the Subject Property during the reconnaissance.
- The Subject Property is primarily wooded with the exception of sparsely vegetated sandy areas north of the pond and a sandy area on the southern edge of the pond. Based on historical topographic maps and aerial photographs, the pond appears to be man-made and constructed sometime around 1950.
- Lightship Engineering observed numerous tires, a hull of a boat, televisions, mattresses, an empty 5-gallon bucket labelled general all-purpose solvent, asphalt shingle pieces, and concrete in the wooded areas in the northwestern portion of the Subject Property. No visual and/or olfactory indications of a significant release of OHM were observed in these areas.
- Lightship Engineering observed utility poles and lines along the dirt path running perpendicular to County Road that service the residential properties north of the Subject Property. No visual and/or olfactory indications of a significant release of OHM were observed in this area.
- Lightship Engineering observed multiple apparently man-made earthen mounds throughout the Subject Property during the reconnaissance. The source and purpose of the mounds was not evident.
- Lightship Engineering observed portions of railroad tracks in the northern portion of the Subject Property and remnants of a foundation in the sandy area north of the pond. No visual and/or olfactory indications of a significant release of OHM were observed in these areas.
- As set forth above, portions of the Subject Property were covered with thick vegetation at the time of the reconnaissance that limited accessibility and visibility of conditions at the Subject Property.
- The Subject Property is listed as a RELEASE site and SHWS identified as Whibco Plant located on Squirrel Island Road. Refer to section 6.6.1 for further information. *The Site (RTN 4-06057) is listed as closed with a Class A-2 Response Action Outcome (RAO).*
- As set forth in Section 6.0, three state-listed sites are located within 1.0-mile of the Subject Property. Based on the nature, distance and/or groundwater flow direction, these releases appear unlikely to significantly impact the Subject Property.
- As set forth in Section 6.6, one or more releases of OHM were encountered at the Subject Property. Based on subsurface investigation activities, the OHM impacts from an on-site AST were excavated under a RAM. *The Site (RTN 4-06057) is listed as closed with a Class A-2 Response Action Outcome (RAO).*
- Lightship Engineering conducted a Phase II in December 2023, that included excavation of test pits and the collection of select soil, groundwater, building materials, surface water



and sediment samples for laboratory analysis at the locations, details are set forth in Section 10.0.

- Based on the results of the Phase II, OHM impacts from historic operations were detected below MCP reporting thresholds. In the event of future soil intrusive activities or redevelopment, soil and groundwater should be managed accordingly consistent with the MCP and relevant federal, state and local regulations.



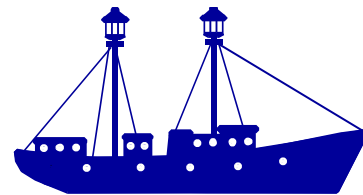
9.0 CONCLUSIONS

RECs, Historical RECS, and potential RECs associated with the Subject Property are summarized below.

9.1 **RECOGNIZED ENVIRONMENTAL CONDITIONS**

Lightship Engineering has performed a Phase I and Phase II environmental assessment in general conformance with the scope and limitations of ASTM Practice E 1527-21 of the Subject Property. This assessment has revealed no evidence of RECs in connection with the Subject Property with the exception of the following:

- The historic use of the property as a sand and gravel operation dating back to the mid 1950's which included ASTs, USTs, wells, and an on-site septic system. Lightship Engineering obtained no documentation regarding the locations and/or decommissioning of the wells, USTs and/or septic tank which is a REC.
- Lightship Engineering observed multiple apparently man-made earthen mounds. The source and purpose of the mounds was not evident, which is a REC.
- Lightship Engineering observed numerous instances of solid waste disposal (e.g., tires, a hull of a boat, televisions, mattresses, an empty 5-gallon bucket labelled *general all-purpose solvent*, asphalt shingle pieces) in the wooded areas in the northwestern perimeter of the Site. Although solid waste is not considered a hazardous waste, improper solid waste disposal may be indicative of improper hazardous waste disposal. It should be noted that Lightship Engineering observed no visual and/or olfactory indications of a significant release of OHM in these areas during the reconnaissance.
- A portion of the man-made pond was partially filled and/or drained in the 1990s and Planning Department records include allegations of large-scale disposal in and around the pond which is a REC.
- As part of the AST/UST investigation and remediation activities, a water sample was collected from the sink in the washroom at the Site and was submitted to a Commonwealth of Massachusetts certified analytical laboratory for VOCs analysis. The concentrations of target analytes were all reported below the analytical reporting limit, with the exception of TCE which was reported at a concentration of 1.4 ug/l. The reported concentration is below the MassDEP reporting threshold, but TCE does not naturally occur in the environment. TCE is a common ingredient in cleaning/degreasing products which may have used as part of the historic sand mining operations at the Subject Property. The source of water in the washroom was an on-Site well. The presence of TCE in groundwater represents a REC.
- The Site is located in an area with numerous commercial cranberry bogs and commercial farming pesticides have been identified as containing PFAS. PFAS compounds are highly soluble and easily migrate in groundwater. Considering the numerous commercial



cranberry bogs adjacent to and nearby the Site, the potential for PFAS impacts at the Site is considered a REC.

- Apparent building materials (corrugated concrete) were observed in the area of the former sand and gravel operations that may contain asbestos. The potential presence of asbestos containing materials is considered a REC. Based on the volume of solid waste observed at the Site, ACM may be present at other locations of the Site. It should be noted that no visual and/or olfactory indications of a significant release of OHM were observed in these areas during the reconnaissance.

In an attempt to assess the RECs, set forth above, Lightship Engineering conducted a limited subsurface investigation that included excavation of test pits and the collection of select soil, groundwater, building materials, surface water and sediment samples for laboratory analysis at the locations, details are set forth in Section 10.0.

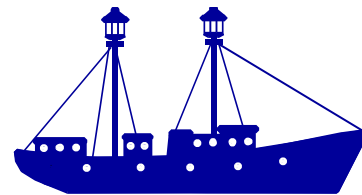
9.2 CONTROLLED RECOGNIZED ENVIRONMENTAL CONDITIONS

Lightship Engineering has performed a Phase I environmental assessment in general conformance with the scope and limitations of ASTM Practice E 1527-21 of the Subject Property. This assessment has revealed no evidence of Controlled RECs in connection with the Subject Property.

9.3 HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITIONS

Lightship Engineering has performed a Phase I environmental assessment in general conformance with the scope and limitations of ASTM Practice E 1527-21 of the Subject Property. This assessment has revealed no evidence of Historical RECs in connection with the Subject Property with the exception of the following:

- A release of petroleum-related compounds (“PRCs”) reportedly occurred at the Site in connection with former ASTs and/or USTs. The release was reported to the MassDEP and response actions included removal off the ASTs/USTs and the excavation and off-Site disposal of PRC impacted soils. The response actions reportedly achieved a Permanent Solution and a level of No Significant Risk, as those terms are defined by the MCP (310 CMR 40.0000). As a result, the release of PRCs is considered a Historical REC.



10.0 PHASE II LIMITED SITE INVESTIGATION, DECEMBER 2023 & JANUARY 2024

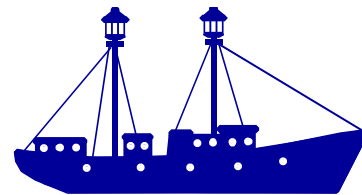
In an attempt to assess the RECs set forth in Section 9.1, Lightship Engineering conducted a limited subsurface investigation (the “Phase II investigation”) that included the excavation of test pits and the collection of soil, groundwater, building materials, sediment and surface water samples at the locations indicated on Figure 10-1, Appendix A. The Phase II investigation activities are summarized below.

10.1 TEST PIT INVESTIGATION

On December 14 and 19, 2023, Lightship Engineering excavated 20 test pits in readily accessible areas of the former sand and gravel operations (LE-TP1 through LE-TP20) at the approximate locations indicated on Figure 10-1, Appendix A and excavated into the earthen mounds located northeast of the pond. No visual or olfactory evidence of a significant release of OHM was observed in the earthen mounds uncovered. The test pits were excavated to approximately 10 to 12 feet below grade and soils at each test pit location appeared to be native. Upon completion, each test pit was backfilled with the excavated material.

Based on visual and/or olfactory observations, soil samples were collected field screened for total organic vapor (“TOV”) with a photoionization detector (“PID” 10.6 electron volt [“eV”]) utilizing the jar headspace method and were classified using the Unified Soil Classification System (“USCS”). TOV PID values ranged from below the instrument detection limit (<0.1 parts per million volume [“ppmv”]) to a maximum of 0.3 ppmv. Test pit logs are provided at Appendix G. With the exception of a moth ball like odor at LE-TP2 from four to six feet below grade, no visual, olfactory and/or TOV field screening data, indicative of a significant release of OHM, was encountered in the test pits.

At select test pit locations, soil samples were collected at or near the groundwater interface or at the location of the highest TOV concentration and submitted to a Commonwealth of Massachusetts certified analytical laboratory for volatile petroleum hydrocarbons (“VPH,” fractions only), volatile organic compounds (“VOCs,” Method 5035/8260) and/or extractable petroleum hydrocarbons (“EPH”) with target polynuclear aromatic hydrocarbons (“PAH”) analyses. The soil laboratory analytical results were compared to applicable MCP, (310 CMR 40.0000) Reporting Category RCS-1 thresholds. Select VPH, EPH, and/or PAHs were reported above the laboratory analytical reporting limit and/or the applicable MCP RCS-1 reporting thresholds. The laboratory analytical results of compounds detected are summarized in Tables 10-1 and 10-2, Appendix H and the laboratory analytical data packages are provided as Appendix I.



10.2 TEMPORARY GROUNDWATER MONITORING WELL INSTALLATION AND SAMPLING

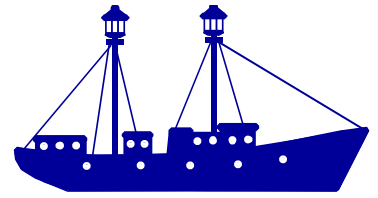
On December 14, 2023, temporary groundwater monitoring wells LE-TMW1 through LE-TMW4 were installed at test pits LE-TP4, LE-TP5, LE-TP6, and LE-TP7, respectively. The temporary groundwater monitoring wells were constructed of 2-inch polyvinyl chloride (“PVC”) casing with 10 feet of 0.010-inch slotted screen positioned to roughly bisect the water table, consistent with MassDEP’s Standard References for Monitoring Wells (“Standard References”). Temporary monitoring well construction logs are set forth in Appendix G.

On December 15, 2023, groundwater samples were collected from the temporary monitoring wells. Prior to sample collection, each temporary well was purged of five volumes of groundwater using a peristaltic pump utilizing the low flow purging methodology. Groundwater samples were collected and submitted to a Commonwealth of Massachusetts certified analytical laboratory for VOCs (Method 8260) and PFAS analyses. Groundwater samples collected for VOCs (Method 8260C) analysis were collected with dedicated disposal polyethylene bailers. The laboratory analytical results are summarized in Tables 10-3 and 10-4, Appendix H and the laboratory analytical data packages are provided in Appendix I.

Lightship Engineering returned to the Site on January 12, 2024, to re-sample the temporary groundwater monitoring wells. Prior to sample collection, each temporary well was purged of five volumes of groundwater using a peristaltic pump utilizing the low flow purging methodology. Groundwater samples were collected and submitted to a Commonwealth of Massachusetts certified analytical laboratory for VOCs (Method 8260) analyses. Groundwater samples collected for VOCs (Method 8260C) analysis were collected with dedicated disposal polyethylene bailers.

10.2.1 MassDEP Groundwater Reporting Categories

With respect to triggering a MCP reporting obligation, the MCP classifies groundwater in two categories, RCGW-1 and RCGW-2. Reporting category RCGW-1 is applicable to groundwater located within a Current or Potential Drinking Water Source area, as defined by the MCP. Reporting category RCGW-2 applies to all other groundwater in Massachusetts. Based on information reviewed by Lightship Engineering, the northern portion of the Subject Property is located within a medium yield potentially productive aquifer and, therefore, is subject to reporting category RCGW-1. Temporary groundwater monitoring wells LE-TMW3 and LE-TMW4 were installed within the limits of the medium yield potentially productive aquifer as indicated on Figure 10-2, Appendix A. Groundwater at the remaining portion of the Subject Property is subject to reporting category RCGW-2.



10.2.2 Groundwater Analytical Results

As set forth in Table 10-3, Appendix H, 1,1,2,2 – tetrachloroethane, 2-butanone and tetrahydrofuran were reported above the analytical reporting limit and above the applicable RCGW-1 reporting thresholds in groundwater samples collected in December 2023. As set forth above, the groundwater samples were less than 24-hours after the wells were installed in the test pit locations. Considering no apparent source of a release of OHM in the area of the monitoring wells (no VOCs were reported above the analytical reporting limit in any soil samples submitted for laboratory analysis) and that fine particulate matter was temporarily put into solution as a result of the test pit excavation and well installation activities, the reported concentrations appeared likely to be associated with soil particulates and not representative of groundwater quality. On January 12, 2024, four weeks after collecting the December groundwater samples, Lightship Engineering collected groundwater samples from the temporary groundwater monitoring wells. Concentrations of all target VOCs, including 1,1,2,2 – tetrachloroethane, 2-butanone and tetrahydrofuran were reported below the laboratory analytical reporting limit and/or below the applicable reporting thresholds. Based on the January groundwater sampling analytical results, the December groundwater samples do not appear representative of groundwater quality and, therefore, do not trigger a MCP reporting obligation.

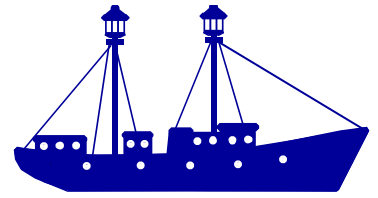
As set forth above, groundwater samples were collected from temporary monitoring wells LE-TMW1, LE-TMW2 and LE-TMW4 in December 2023 and were submitted to a Commonwealth of Massachusetts certified analytical laboratory for PFAS analysis. As set forth in Table 10-4, Appendix H, select PFAS concentrations were reported below the laboratory analytical reporting limit and/or below the applicable reporting thresholds.

10.3 SUSPECTED ACM SAMPLING AND ANALYSIS

On December 15, 2023, Lightship Engineering collected three samples of the suspected ACM building materials and submitted the samples to a Commonwealth of Massachusetts certified analytical laboratory for asbestos analysis. No asbestos was reported in the building material samples collected at the Site. The laboratory analytical data packages are provided as Appendix I.

10.4 SURFACE WATER AND SEDIMENT SAMPLING

On December 14, 2023, Lightship Engineering collected one surface water and one sediment sample from the manmade pond located on the Site. The samples were collected along the northern shoreline in a readily accessible area along the shoreline. The surface water and sediment samples were submitted to a Commonwealth of Massachusetts certified analytical laboratory for VPH (fractions only), VOCs (Method 8260C), EPH with target PAHs, E. Coli (surface water only) and/or PFAS analyses (surface water only) analyses.



The sediment sample results were compared to the applicable MCP Freshwater Sediment Screening Criteria¹ and Petroleum Hydrocarbon Sediment Toxicity Criteria². The surface water laboratory analytical results were compared to the applicable MCP Recommended Surface Water Quality Guidelines [Policy #WSC-02-411] - October 31, 2002, Connecticut Action Levels for PFAS³, and the Massachusetts Department of Public Health (“DPH”) Water Quality Criteria. No concentrations of OHM were detected above the laboratory reporting limits and or the standards/thresholds noted above in either the surface water or sediment samples. The laboratory analytical data packages are provided as Appendix I.

10.5 LIMITED SITE INVESTIGATION SUMMARY

Based on the Phase II investigation, a large release of OHM was not evident at the Subject Property, and while evidence of illegal dumping of solid waste was observed, widespread, large scale illegal dumping was not evident. The visual, olfactory and/or TOV field screening data associated with the test pits is not indicative of a significant release of OHM. Concentrations of OHM reported in soil, groundwater, sediment and surface water samples were all below the analytical reporting limit and/or below the applicable reporting thresholds.

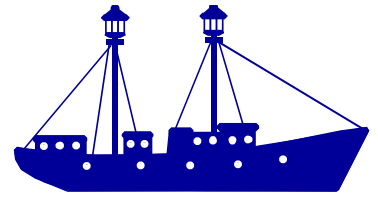
The elevated concentrations of select VOCs reported in groundwater samples collected in December 2023 appear to be the result of suspended soil particles and, therefore, are not representative of groundwater quality. Pursuant to 310 CMR 40.0317(14), the VOC concentrations reported in the December 2023 groundwater samples do not trigger an MCP reporting obligation.

Although no investigation can rule out the presence of environmental impacts, the field observations and laboratory analytical results indicate that the Subject Property has not been impacted by a large release of OHM. It should be noted that the detectable concentrations of OHM were reported in select soil and groundwater samples collected at the Subject Property. Although the Phase II investigation did not result in evidence of a large release of OHM at the Subject Property, the extent of the Phase II investigation was limited relative to the size of the property. Considering OHM was historically used at the Subject Property, that illegal dumping has occurred at the Subject Property and that OHM was detected in select samples, a potential exists for one or more releases of OHM to have significantly impacted discrete portions of the Subject Property. Additional investigation and laboratory analysis would be necessary to reduce the risk of significant OHM impacts being present at the Subject Property in areas beyond those assessed as part of the Phase II investigation.

1 - DEP's Technical Update - Revised Sediment Screening Values, January 2006.

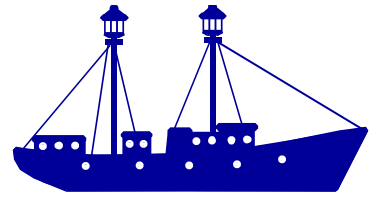
2 - Sediment Toxicity of Petroleum Hydrocarbon Fractions, September 2007

3 - It should be noted that while the MassDEP has not promulgated regulations or thresholds with respect to PFAS in swimming and/or bathing waters, the MassDEP has adopted the Connecticut Department of Public Health threshold of 210 parts per trillion PFAS for swimming and/or bathing waters.



11.0 REFERENCES

- Town of Wareham Assessing Department, Inspectional Services Department, Health Department, Sewer Department, Conservation Commission, and Wareham Fire and Water District.
- Environmental Data Resources, Inc., *The EDR Radius Map with GeoCheck®*, *Undeveloped Property, County Road, Wareham, Massachusetts 02576*.
- Environmental Data Resources, Inc., *Aerial Photo Decade Package, Undeveloped Property, County Road, Wareham, Massachusetts 02576*.
- Environmental Data Resources, Inc., *City Directory-Abstract, Undeveloped Property, County Road, Wareham, Massachusetts 02576*.
- Environmental Data Resources, Inc., *Sanborn Map Report, Undeveloped Property, County Road, Wareham, Massachusetts 02576*.
- Environmental Data Resources, Inc., *EDR Historical Topographic Map Report, Undeveloped Property, County Road, Wareham, Massachusetts 02576*.
- Plans titled *Hidden Trails – Definitive Subdivision Plan of Land and Special Permit for a Residential Cluster Development in Wareham*, prepared by JC Engineering, Inc. (“JC Engineering”) dated September 7, 2023.
- *Drainage Calculations & Supplemental Information for Hidden Trails*, prepared by JC Engineering, Inc. dated September 7, 2023.
- *Special Permit for Cluster Development and Site Plan Review Application* (“Special Permit Application”), prepared by JC Engineering, Inc. dated September 7, 2023.
- *Phase I Initial Site Assessment, Release Abatement Measure (RAM) Completion Report, Response Action Outcome*, prepared by East Coast Engineering, Inc. dated January 17, 2001.



12.0 SIGNATURE AND ENVIRONMENTAL PROFESSIONAL STATEMENT

The Environmental Professional responsible for preparing this report is set forth below.

Kristin Maloney

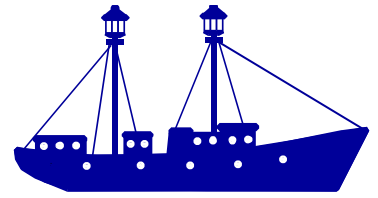
I, Kristin Maloney, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Kristin Maloney

Kristin Maloney

February 27, 2024

Date



13.0 LIMITATIONS

Reliance on this report is subject to the terms and conditions between Lightship Engineering, LLC, and Sarajon dated November 2, 2023 (the “Agreement”), as summarized below. The terms and conditions of the Agreement supersede all other terms and conditions.

Lightship Engineering is not responsible for the accuracy of the information provided to Lightship Engineering by third parties. Except as otherwise stated in this report, Lightship Engineering has not attempted to verify the accuracy or completeness of any such information.

The data presented in this report, and Lightship Engineering’s opinions based on such data, is provided in accordance with Lightship Engineering’s proposal for professional services and the terms and conditions between Sarajon and Lightship Engineering pursuant to which the environmental professional services were rendered. The data reported and findings, observations, and conclusions expressed in this report are limited by Lightship Engineering’s scopes of work, including the extent of subsurface exploration and other tests.

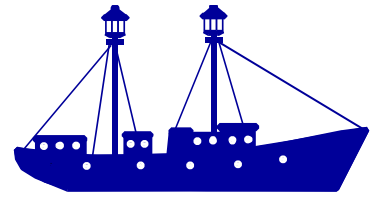
Any reuse or reliance on this report by any other third party shall be done only with the written consent of Lightship Engineering.

The findings, observations, opinions, conclusions, and recommendations are not intended to, and do not imply a warranty or a guarantee, and are based solely upon site conditions at the time of Lightship Engineering’s investigation. The findings, observations, opinions, conclusions, and recommendations should not be considered an opinion concerning the compliance of any past or present owner or operator of the Site with any federal, state, or local law or regulation. Nothing in this report constitutes a legal opinion or legal service and should not be relied upon as such.

Environmental, geologic, and geotechnical conditions at the Site are subject to change over time as a result of natural and man-made processes, and the environmental assessment produced by Lightship Engineering may not be relied upon as a guaranteed representation of Site conditions, contamination or costs which can vary from those encountered at the times when and locations where data are obtained by Lightship Engineering.

The work to be performed by Lightship Engineering did not include any analysis, testing, or evaluation with respect to the presence of polychlorinated biphenyls, or any airborne pollutants.

Lightship Engineering does not assume any responsibilities or liability with respect to any aspect or condition of the Site, now existing or hereafter arising or discovered, nor shall any liability or responsibilities be implied or inferred by reason of Lightship Engineering’s performance of the work.



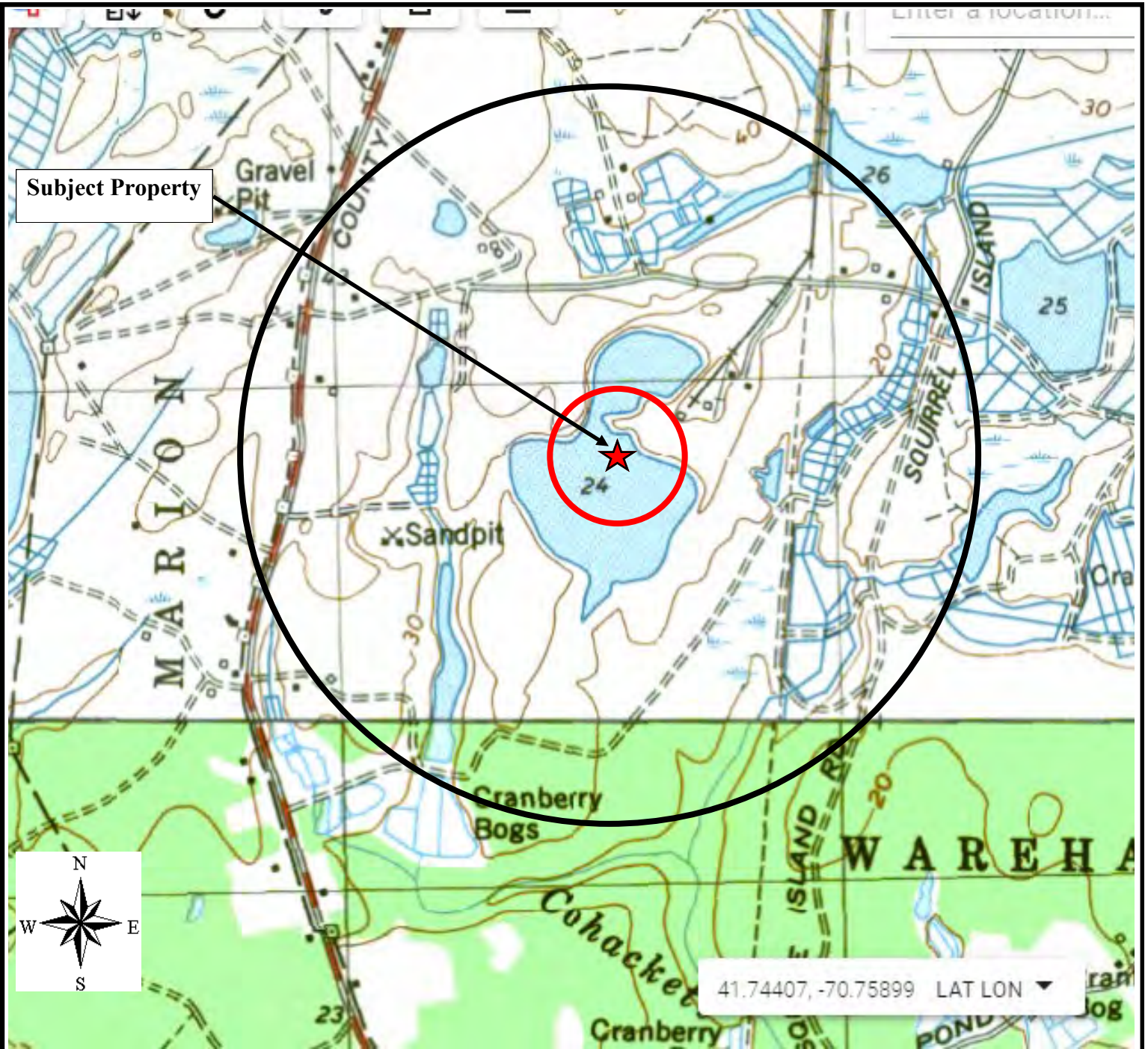
Lightship Engineering has performed services in a manner consistent with that level of care and skill ordinarily exercised by other professional consultants performing such services, within the same time period, and under the same or similar circumstances and conditions (the "Required Standard of Care"). Lightship Engineering's services shall not be subject to any express or implied warranties whatsoever.

To the fullest extent permitted by law, the total liability, in the aggregate, of Lightship Engineering and of Lightship Engineering's members, officers, directors, employees, agents, and independent professional associates, and any of them, to anyone claiming any and all injuries, claims, losses, expenses, or damages whatsoever arising out of or in any way related to the work conducted by Lightship Engineering shall not exceed the total amount of \$50,000.

APPENDIX A

FIGURES

- Figure 1-1 Subject Property Locus Map
- Figure 3-1 Town of Wareham Assessor's Map
- Figure 6-1 MassGIS Map
- Figure 10-1 Sampling Location Map
- Figure 10-2 Groundwater Reporting Category Map

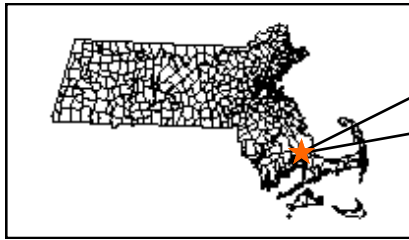


41.74407, -70.75899 LAT LON

UTM COORDINATES (NAD83):

4,623,841.0 m North
352,577.3 m East

SCALE: 1 inch ~ 1,000 feet
RADII: 500 feet and 1/2-mile



Subject Property

PREPARED FOR
Sarajon Realty, LLC
2854 Cranberry Highway
East Wareham, Massachusetts

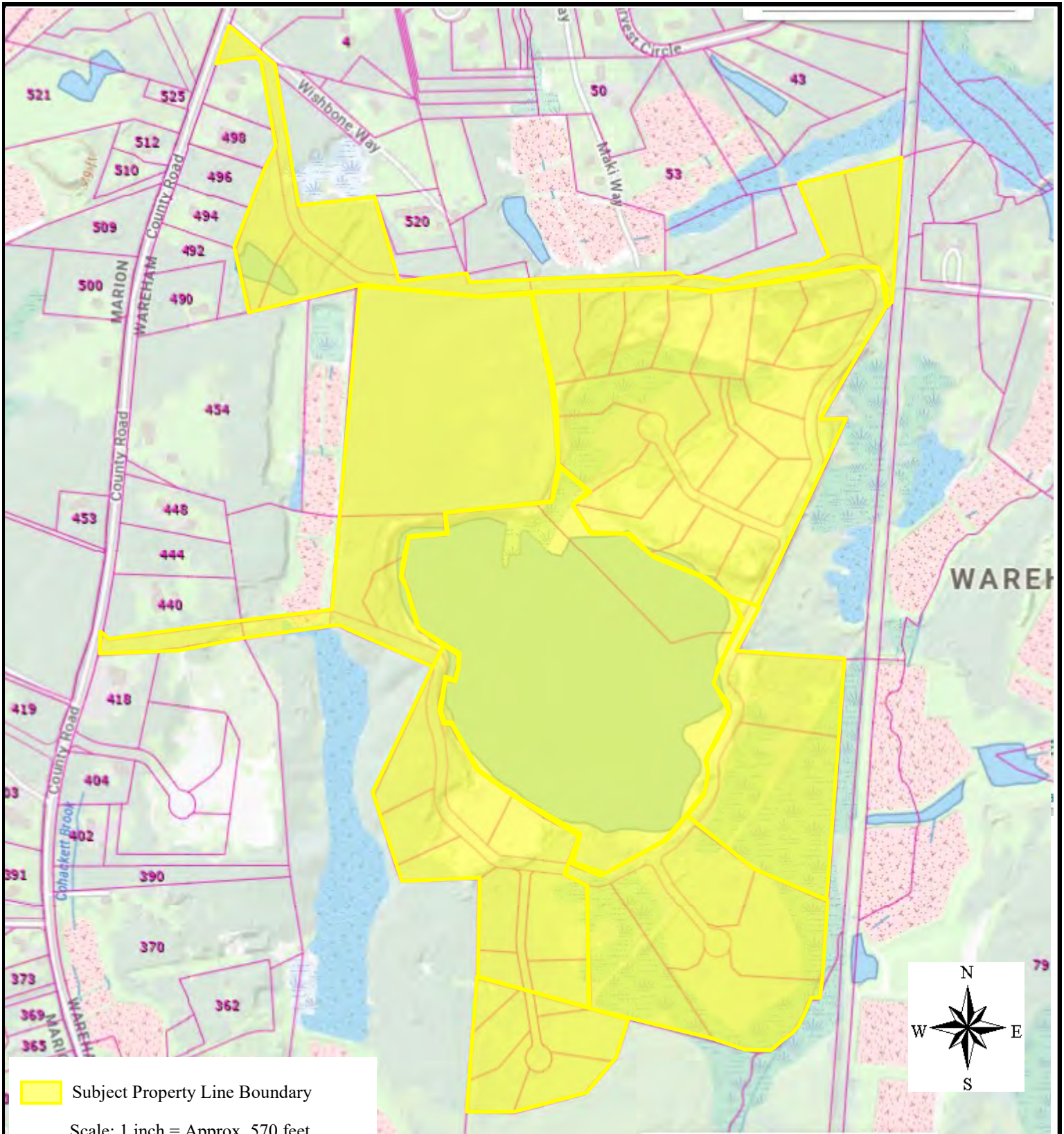
PROJECT
Proposed Hidden Trails
Residential Subdivision
Off County Road
West Wareham, Massachusetts

FIGURE 1-1
Subject Property
Locus Map

LIGHTSHIP
ENGINEERING
ENVIRONMENTAL & LAND-USE
CONSULTANTS



Source: MassGIS Online Data Viewer



PREPARED FOR

Sarajon Realty, LLC
 2854 Cranberry Highway
 East Wareham, Massachusetts

PROJECT

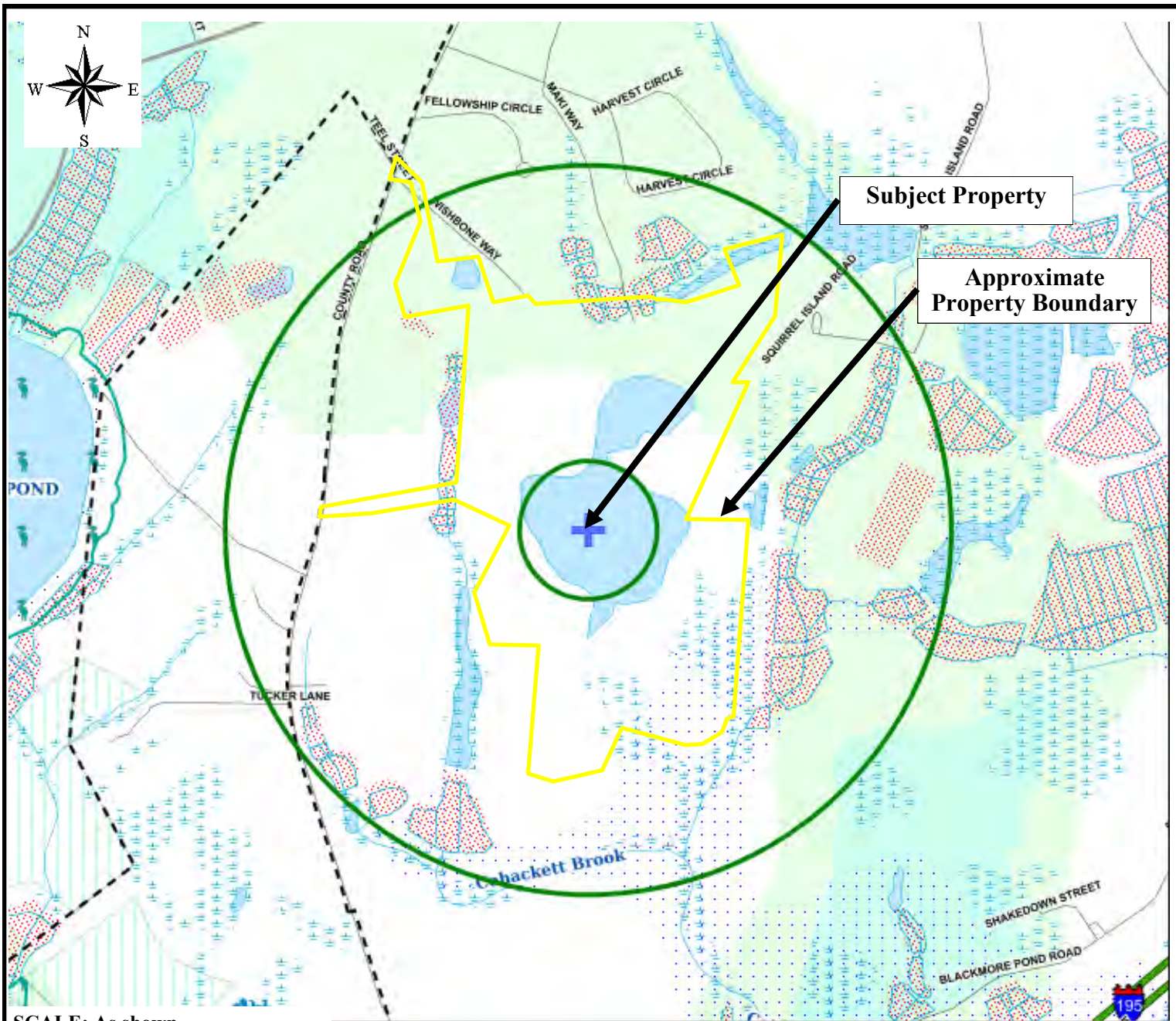
Proposed Hidden Trails
 Residential Subdivision
 Off County Road
 West Wareham, Massachusetts

FIGURE 3-1
 Town of Wareham
 Assessor's Map

LIGHTSHIP
ENGINEERING
 ENVIRONMENTAL & LAND-USE
 CONSULTANTS



Source: Wareham Property Viewer



SCALE: As shown
 RADII: 500 feet and 1/2-mile

MAP LEGEND

Community Groundwater Well	Town and State Boundary	Pipeline	Potentially Productive High Yield Aquifer	Surface Water Supply Watershed Boundary
Community Surface Water Intake	DEP Region Boundary	Powerline	Potentially Productive Medium Yield Aquifer	Public Water Supply Protection Area (Zone A)
Emergency Surface Water Intake	15 Meter Contour Interval	MBTA Blue Line	Open Water	Interim Wetland Protection Area (IWPA)
Non-Community Groundwater Well	3 Meter Contour Interval	MBTA Green Line	Public Water Supply Reservoir	Approved Wetland Protection Area (Zone II)
NHESP Certified Vernal Pool	Perennial Stream or Shoreline	MBTA Orange Line	Tidal Flat	Solid Waste Landfill
NHESP Potential Vernal Pool	Intermittent Stream	MBTA Red Line	Inundated Area	Areas of Critical Environmental Concern
School	Intermittent Shoreline	Active Rail Lines	Fresh Water Wetland	EPA Designated Sole Source Aquifer
Hospital	Intermittent Shoreline	Major Highway - Limited Access	Cranberry Bog	Protected Open Space
Long Term Care Residence	Ditch or Canal	Major Road - Not Limited Access	Salt Water Wetland	Non-Potential Drinking Water Source Area: High Yield
Prison	Aqueduct	Local Street or Road	NHESP Estimated Habitat of Rare Wildlife	Non-Potential Drinking Water Source Area: Medium Yield

PREPARED FOR

Sarajon Realty, LLC
 2854 Cranberry Highway
 East Wareham, Massachusetts

PROJECT

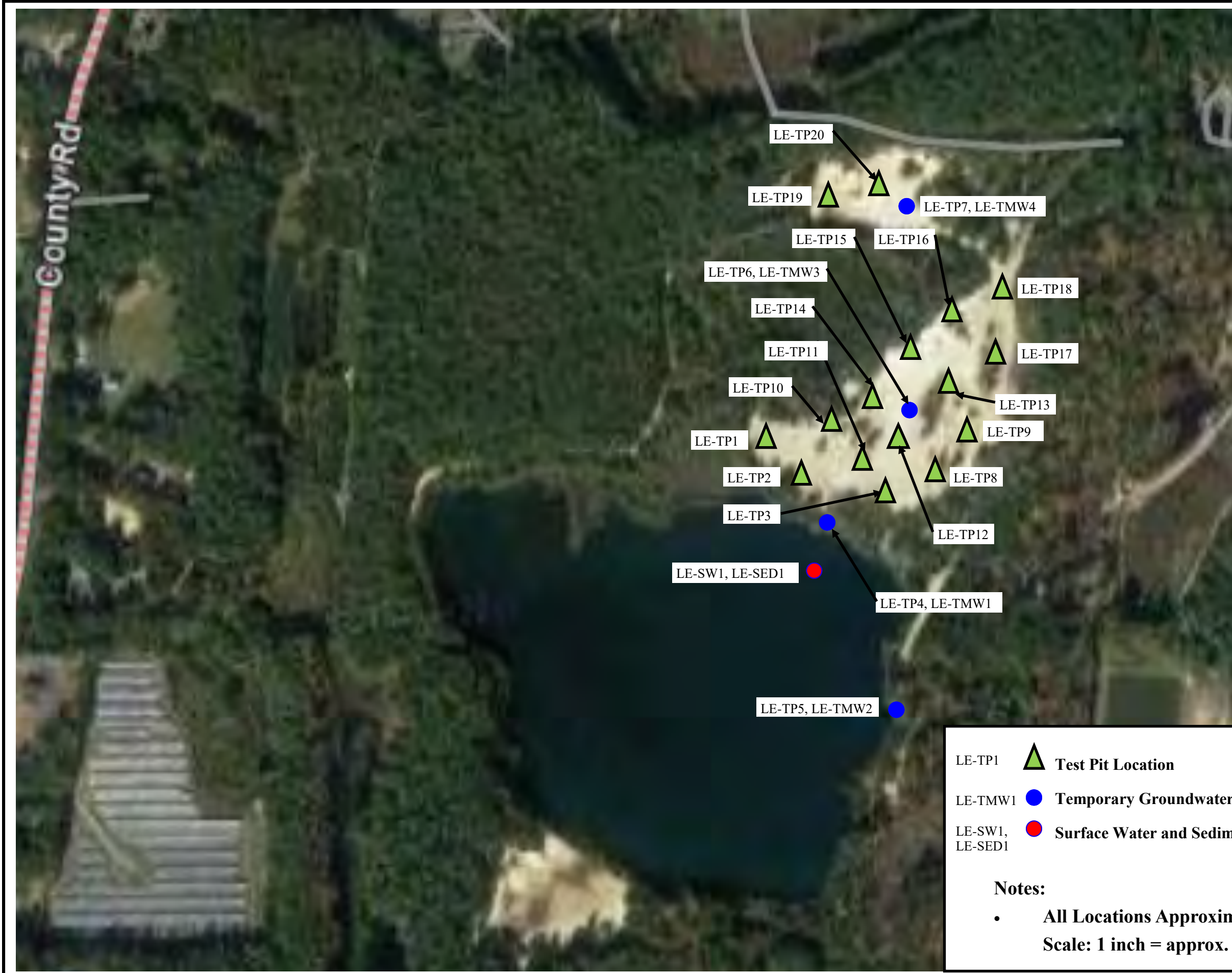
Proposed Hidden Trails
 Residential Subdivision
 Off County Road
 West Wareham, Massachusetts

**FIGURE 6-1
 MassGIS Map**

**LIGHTSHIP
 ENGINEERING**

ENVIRONMENTAL & LAND-USE
 CONSULTANTS





LIGHTSHIP

ENGINEERING

ENVIRONMENTAL & LAND-USE
CONSULTANTS

6 Resnik Road • Suite 207 • Plymouth, Massachusetts 02360

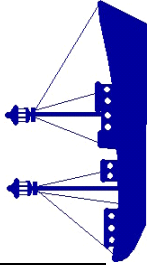
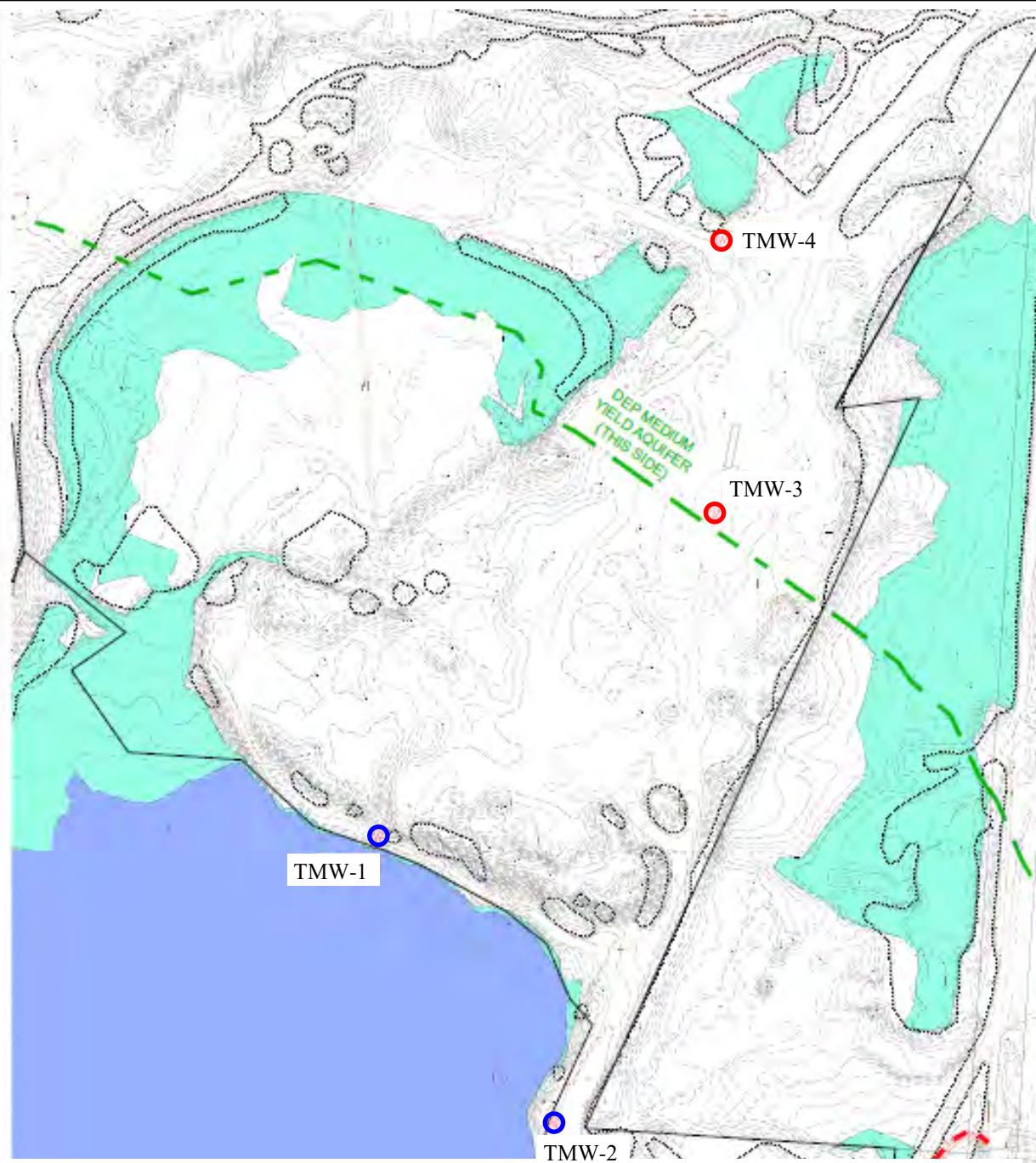



FIGURE 10-1
Sampling Location
Map


PROJECT
Proposed Hidden Trails
Residential Subdivision
Off County Road
Wareham, Massachusetts

PREPARED FOR
Sarajon Realty, LLC
2854 Cranberry Highway
East Wareham, Massachusetts

Source: Google Maps




TMW-3  Temporary Groundwater Monitoring Well Location Subject to MCP RCGW-1 Reportable Concentrations

TMW-2  Temporary Groundwater Monitoring Well Location Subject to MCP RCGW-2 Reportable Concentrations

All Locations Approximate.



<p>PREPARED FOR</p>	<p>PROJECT</p>	<p>FIGURE 10-2 Groundwater Reporting Category Map</p>	<p>LIGHTSHIP ENGINEERING</p>	
<p>Sarajon Realty, LLC 2854 Cranberry Highway East Wareham, Massachusetts</p>	<p>Proposed Hidden Trails Residential Subdivision Off County Road West Wareham, Massachusetts</p>			
<p>Source: Wareham Property Viewer</p>		<p>6 Resnik Road • Suite 207 • Plymouth, Massachusetts 02360 • (508) 830-3344 • Fax: (508) 830-3360</p>		

APPENDIX B

EDR RADIUS MAP REPORT

Undeveloped Property

County Road

West Wareham, MA 02576

Inquiry Number: 7489270.2s

November 06, 2023

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

COUNTY ROAD
WEST WAREHAM, MA 02576

COORDINATES

Latitude (North): 41.7546410 - 41° 45' 16.70"
Longitude (West): 70.7732110 - 70° 46' 23.55"
Universal Tranverse Mercator: Zone 19
UTM X (Meters): 352577.3
UTM Y (Meters): 4623841.0
Elevation: 22 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 11711328 SNIPATUIT POND, MA
Version Date: 2018

Northeast Map: 11711338 WAREHAM, MA
Version Date: 2018

Southeast Map: 11711308 ONSET, MA
Version Date: 2018

Southwest Map: 11730677 MARION, MA
Version Date: 2018

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20180930, 20180929
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
COUNTY ROAD
WEST WAREHAM, MA 02576

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	WHITEHEAD BROTHERS I		MINES MRDS	Higher	312, 0.059, ENE
2	RESIDENTIAL PROPERTY	365 COUNTY ROAD	LAST, RELEASE	Higher	1591, 0.301, SW
3	NEAR 240 COUNTY RD	240 COUNTY ROAD	SHWS, RELEASE	Lower	2007, 0.380, SSW
4	ROADWAY	583 MARY'S POND ROAD	SHWS, RELEASE	Higher	2322, 0.440, NW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL..... National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS..... Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-VSQG..... RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System

EXECUTIVE SUMMARY

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF..... Solid Waste Facility Database/Transfer Stations

Lists of state and tribal leaking storage tanks

LUST..... Leaking Underground Storage Tank Listing
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST..... Underground Storage Tank Listing
UST..... Summary Listing of all the Tanks Registered in the State of Massachusetts
AST..... Aboveground Storage Tank Database
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

INST CONTROL..... Sites With Activity and Use Limitation

Lists of state and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

Lists of state and tribal brownfield sites

BROWNFIELDS..... Completed Brownfields Covenants Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
ODI..... Open Dump Inventory
IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register
US CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS..... Liens Information Listing

EXECUTIVE SUMMARY

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
RELEASE..... Reportable Releases Database
SPILLS..... Historical Spill List
SPILLS 90..... SPILLS 90 data from FirstSearch
SPILLS 80..... SPILLS 80 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated
FUDS..... Formerly Used Defense Sites
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
CONSENT..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites
US AIRS..... Aerometric Information Retrieval System Facility Subsystem
US MINES..... Mines Master Index File
ABANDONED MINES..... Abandoned Mines
FINDS..... Facility Index System/Facility Registry System
UXO..... Unexploded Ordnance Sites
DOCKET HWC..... Hazardous Waste Compliance Docket Listing
ECHO..... Enforcement & Compliance History Information
FUELS PROGRAM..... EPA Fuels Program Registered Listing
PFAS NPL..... Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES..... Federal Sites PFAS Information
PFAS TRIS..... List of PFAS Added to the TRI
PFAS TSCA..... PFAS Manufacture and Imports Information
PFAS RCRA MANIFEST..... PFAS Transfers Identified In the RCRA Database Listing

EXECUTIVE SUMMARY

PFAS ATSDR.....	PFAS Contamination Site Location Listing
PFAS WQP.....	Ambient Environmental Sampling for PFAS
PFAS NPDES.....	Clean Water Act Discharge Monitoring Information
PFAS ECHO.....	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAINING.....	Facilities in Industries that May Be Handling PFAS Listing
PFAS PART 139 AIRPORT.....	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC.....	Aqueous Foam Related Incidents Listing
BIOSOLIDS.....	ICIS-NPDES Biosolids Facility Data
PFAS.....	PFAS Contaminated Sites Listing
AIRS.....	Permitted Facilities Listing
ASBESTOS.....	ASBESTOS
DRYCLEANERS.....	Regulated Drycleaning Facilities
ENF.....	Enforcement Action Cases
Financial Assurance.....	Financial Assurance Information Listing
GWDP.....	Ground Water Discharge Permits
HW GEN.....	List of Massachusetts Hazardous Waste Generators
MERCURY.....	Mercury Product Recycling Drop-Off Locations Listing
NPDES.....	NPDES Permit Listing
TIER 2.....	Tier 2 Information Listing
TSD.....	TSD Facility
UIC.....	Underground Injection Control Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner.....	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS.....	Recovered Government Archive State Hazardous Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Lists of state- and tribal hazardous waste facilities

SHWS: Contains information on releases of oil and hazardous materials that have been reported to DEP.

A review of the SHWS list, as provided by EDR, and dated 07/06/2023 has revealed that there are 2 SHWS sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ROADWAY Current Status: PSNC Release Tracking Number: 4-0026158	583 MARY'S POND ROAD	NW 1/4 - 1/2 (0.440 mi.)	4	13
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
NEAR 240 COUNTY RD Current Status: RAO Release Tracking Number: 4-0023231	240 COUNTY ROAD	SSW 1/4 - 1/2 (0.380 mi.)	3	11

Lists of state and tribal leaking storage tanks

LAST: The Leaking Aboveground Storage Tanks database

A review of the LAST list, as provided by EDR, and dated 07/06/2023 has revealed that there is 1 LAST site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RESIDENTIAL PROPERTY Release Tracking Number / Current Status: 4-0025950 / PSNC	365 COUNTY ROAD	SW 1/4 - 1/2 (0.301 mi.)	2	9

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

MINES MRDS: Mineral Resources Data System

A review of the MINES MRDS list, as provided by EDR, and dated 08/23/2022 has revealed that there is 1 MINES MRDS site within approximately 0.25 miles of the target property.

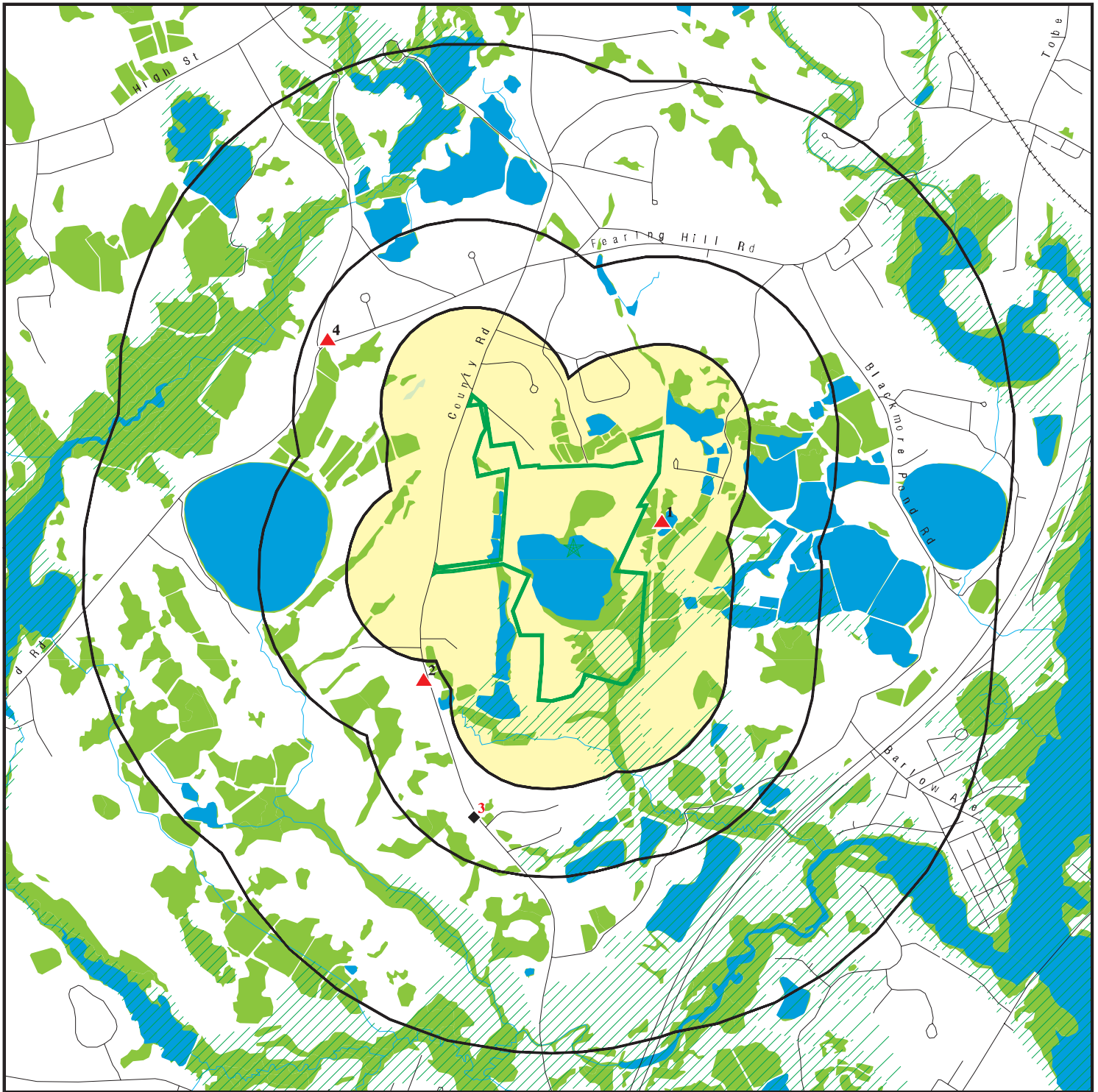
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
WHITEHEAD BROTHERS I		ENE 0 - 1/8 (0.059 mi.)	1	8

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

<u>Site Name</u>	<u>Database(s)</u>
WEST OF WALNUT PLAIN	SHWS, RELEASE
TRANSFORMER RELEASE - BLIZZARD	SHWS, RELEASE
WHIBCO PLANT	SHWS, RELEASE

OVERVIEW MAP - 7489270.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Critical Environmental Concern










This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.







SITE NAME: Undeveloped Property
 ADDRESS: County Road
 West Wareham MA 02576
 LAT/LONG: 41.754641 / 70.773211

CLIENT: Lightship Engineering
 CONTACT: Kristin Maloney
 INQUIRY #: 7489270.2s
 DATE: November 06, 2023 12:56 pm

DETAIL MAP - 7489270.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites

-  Indian Reservations BIA
-  Special Flood Hazard Area (1%)
-  0.2% Annual Chance Flood Hazard
-  National Wetland Inventory
-  State Wetlands
-  Areas of Critical Environmental Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Undeveloped Property
 ADDRESS: County Road
 West Wareham MA 02576
 LAT/LONG: 41.754641 / 70.773211

CLIENT: Lightship Engineering
 CONTACT: Kristin Maloney
 INQUIRY #: 7489270.2s
 DATE: November 06, 2023 12:56 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Lists of Federal NPL (Superfund) sites</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Lists of Federal Delisted NPL sites</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Lists of Federal sites subject to CERCLA removals and CERCLA orders</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Lists of Federal CERCLA sites with NFRAP</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Lists of Federal RCRA facilities undergoing Corrective Action</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Lists of Federal RCRA TSD facilities</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Lists of Federal RCRA generators</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>Lists of state- and tribal hazardous waste facilities</i>								
SHWS	1.000		0	0	2	0	NR	2
<i>Lists of state and tribal landfills and solid waste disposal facilities</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>Lists of state and tribal leaking storage tanks</i>								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LAST	0.500		0	0	1	NR	NR	1
INDIAN LUST	0.500		0	0	0	NR	NR	0
<i>Lists of state and tribal registered storage tanks</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
<i>State and tribal institutional control / engineering control registries</i>								
INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Lists of state and tribal voluntary cleanup sites</i>								
INDIAN VCP	0.500		0	0	0	NR	NR	0
<i>Lists of state and tribal brownfield sites</i>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
<i>Local Land Records</i>								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
<i>Records of Emergency Release Reports</i>								
HMIRS	TP		NR	NR	NR	NR	NR	0
RELEASE	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
SPILLS 80	TP		NR	NR	NR	NR	NR	0
<i>Other Ascertainable Records</i>								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		1	0	NR	NR	NR	1
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	TP		NR	NR	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ASBESTOS	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
GWDP	TP		NR	NR	NR	NR	NR	0
HW GEN	0.250		0	0	NR	NR	NR	0
MERCURY	0.500		0	0	0	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
TIER 2	TP		NR	NR	NR	NR	NR	0
TSD	0.500		0	0	0	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0

- Totals --		0	1	0	3	0	0	4
-------------	--	---	---	---	---	---	---	---

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

1
ENE
< 1/8
0.059 mi.
312 ft.

WHITEHEAD BROTHERS INC
PLYMOUTH (County), MA

MINES MRDS 1025566793
N/A

Relative:
Higher
Actual:
23 ft.

MINES MRDS:

Name:	WHITEHEAD BROTHERS INC
Address:	Not reported
Deposit identification Number:	10073924
City, State, Zip:	MASSACHUSETTS
URL:	https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10073924
MRDS Identification Number:	W020107
MAS/MILS Identification Number:	Not reported
Region:	NA
Country:	United States
Primary Commodities:	Sand and Gravel, Construction
Secondary Commodities:	Not reported
Tertiary Commodities:	Not reported
Operation Type:	Unknown
Deposit Type:	Sedimentary
Production Size:	S - Small amount of material produced (we do not know what criteria are used to make this determination)
Development Status:	Past Producer
Ore Minerals or Materials:	Sand and Gravel
Gangue Minerals or Materials:	Not reported
Other Minerals or Materials:	Not reported
Ore Body Form:	Not reported
Workings Type:	Not reported
Mineral Deposit Model:	Not reported
Alteration Processes:	Not reported
Concentration Processes:	Not reported
Previous Names:	Not reported
Ore Controls:	Not reported
Reporter:	Unknown
Host Rock Unit Name:	Not reported
Host Rock Type:	Not reported
Associated Rock Unit Name:	Not reported
Associated Rock Type Code:	Not reported
Structural Characteristics:	Not reported
Tectonic Setting:	Not reported
References:	Not reported
First Production Year:	Not reported
Began Before/After FPY:	Not reported
Last Production Year:	Not reported
Ended Before/After LPY:	Not reported
Year Discovered:	Not reported
Found Before/After YD:	Not reported
Production History:	Not reported
Discovery Information:	Not reported
Latitude:	41.75581
Longitude:	-70.76835

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

2
SW
1/4-1/2
0.301 mi.
1591 ft.

RESIDENTIAL PROPERTY
365 COUNTY ROAD
MARION, MA 02738

LAST **S118562904**
RELEASE **N/A**

Relative:
Higher
Actual:
32 ft.

LAST:

Name: RESIDENTIAL PROPERTY
Address: 365 COUNTY ROAD
City,State,Zip: MARION, MA 027380000
Release Tracking Number/Current Status: 4-0025950 / PSNC
Source Type: AST
Release Town: MARION
Notification Date: 01/19/2016
Category: TWO HR
Associated ID: Not reported
Status Date: 04/29/2016
Phase: Not reported
Response Action Outcome: PN - PN
Oil Or Haz Material: Not reported

Chemicals:

Chemical: Not reported
Quantity: Not reported
Location Type: RESIDENTIAL
Source: AST

Actions:

Action Type: RLFA
Action Status: FLDD1A
Action Date: 1/19/2016
Response Action Outcome: PN

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/19/2016
Response Action Outcome: PN

Action Type: RLFA
Action Status: FLDRAN
Action Date: 1/22/2016
Response Action Outcome: PN

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 1/29/2016
Response Action Outcome: PN

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.)
Action Date: 2/17/2016
Response Action Outcome: PN

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 3/18/2016
Response Action Outcome: PN

Action Type: BOL
Action Status: SHPFAC

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

RESIDENTIAL PROPERTY (Continued)

S118562904

Action Date: 3/18/2016
Response Action Outcome: PN

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/18/2016
Response Action Outcome: PN

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 3/25/2016
Response Action Outcome: PN

Action Type: Response Action Outcome - RAO
Action Status: PSNRCD
Action Date: 4/29/2016
Response Action Outcome: PN

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 5/19/2016
Response Action Outcome: PN

Release:

Name: RESIDENTIAL PROPERTY
Address: 365 COUNTY ROAD
City,State,Zip: MARION, MA 027380000
Release Tracking Number/Current Status: 4-0025950 / PSNC
Primary ID: Not reported
Official City: MARION
Notification: 01/19/2016
Category: TWO HR
Status Date: 04/29/2016
Phase: Not reported
Response Action Outcome: PN - PN
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Actions:

Action Type: RLFA
Action Status: FLDD1A
Action Date: 1/19/2016
Response Action Outcome: PN

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/19/2016
Response Action Outcome: PN

Action Type: RLFA
Action Status: FLDRAN
Action Date: 1/22/2016
Response Action Outcome: PN

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

RESIDENTIAL PROPERTY (Continued)

S118562904

Action Type: BOL
 Action Status: Transmittal, Notice, or Notification Received
 Action Date: 1/29/2016
 Response Action Outcome: PN

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
 Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.)
 Action Date: 2/17/2016
 Response Action Outcome: PN

Action Type: Immediate Response Action
 Action Status: Written Plan Received
 Action Date: 3/18/2016
 Response Action Outcome: PN

Action Type: BOL
 Action Status: SHPFAC
 Action Date: 3/18/2016
 Response Action Outcome: PN

Action Type: RNFE
 Action Status: Transmittal, Notice, or Notification Received
 Action Date: 3/18/2016
 Response Action Outcome: PN

Action Type: Immediate Response Action
 Action Status: Level I - Technical Screen Audit
 Action Date: 3/25/2016
 Response Action Outcome: PN

Action Type: Response Action Outcome - RAO
 Action Status: PSNRCD
 Action Date: 4/29/2016
 Response Action Outcome: PN

Action Type: Response Action Outcome - RAO
 Action Status: Level I - Technical Screen Audit
 Action Date: 5/19/2016
 Response Action Outcome: PN

Chemicals:
 Chemical: Not reported
 Quantity: Not reported
 Location Type: RESIDENTIAL
 Source: AST

3
SSW
1/4-1/2
0.380 mi.
2007 ft.

NEAR 240 COUNTY RD
240 COUNTY ROAD
MARION, MA

SHWS **S111022540**
RELEASE **N/A**

Relative:
Lower
Actual:
20 ft.

SHWS:
 Name: NEAR 240 COUNTY RD
 Address: 240 COUNTY ROAD
 City,State,Zip: MARION, MA
 Facility ID: 4-0023231

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NEAR 240 COUNTY RD (Continued)

S111022540

Source Type: FUEL TANK
Release Town: MARION
Notification Date: 05/05/2011
Category: TWO HR
Associated ID: Not reported
Current Status: RAO
Status Date: 06/08/2011
Phase: Not reported
Response Action Outcome: A2
Oil Or Haz Material: Oil

Release:

Name: NEAR 240 COUNTY RD
Address: 240 COUNTY ROAD
City, State, Zip: MARION, MA
Release Tracking Number/Current Status: 4-0023231 / RAO
Primary ID: Not reported
Official City: MARION
Notification: 05/05/2011
Category: TWO HR
Status Date: 06/08/2011
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

[Click here to access the MA DEP site for this facility:](#)

Actions:

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 1/10/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 5/16/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.)
Action Date: 5/19/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 5/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 5/5/2011

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NEAR 240 COUNTY RD (Continued)

S111022540

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)

Action Status: FLDISS

Action Date: 5/5/2011

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action

Action Status: Oral Approval of Plan or Action

Action Date: 5/5/2011

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNFE

Action Status: Transmittal, Notice, or Notification Received

Action Date: 6/8/2011

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO

Action Status: RAO Statement Received

Action Date: 6/8/2011

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Chemicals:

Chemical: DIESEL FUEL

Quantity: 10 gallons

Location Type: OPENSOURCE

Location Type: ROADWAY

Source: FUELTANK

4
NW
1/4-1/2
0.440 mi.
2322 ft.

ROADWAY
583 MARY'S POND ROAD
ROCHESTER, MA

SHWS S118643447
RELEASE N/A

Relative:
Higher
Actual:
40 ft.

SHWS:
Name: ROADWAY
Address: 583 MARY'S POND ROAD
City, State, Zip: ROCHESTER, MA
Facility ID: 4-0026158
Source Type: FUELTANK
Release Town: ROCHESTER
Notification Date: 06/16/2016
Category: TWO HR
Associated ID: Not reported
Current Status: PSNC
Status Date: 07/19/2016
Phase: Not reported
Response Action Outcome: PN
Oil Or Haz Material: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ROADWAY (Continued)

S118643447

Release:

Name: ROADWAY
Address: 583 MARY'S POND ROAD
City,State,Zip: ROCHESTER, MA
Release Tracking Number/Current Status: 4-0026158 / PSNC
Primary ID: Not reported
Official City: ROCHESTER
Notification: 06/16/2016
Category: TWO HR
Status Date: 07/19/2016
Phase: Not reported
Response Action Outcome: PN - PN
Oil / Haz Material Type: Not reported

[Click here to access the MA DEP site for this facility:](#)

Actions:

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/16/2016
Response Action Outcome: PN

Action Type: Immediate Response Action
Action Status: NOAPP
Action Date: 6/16/2016
Response Action Outcome: PN

Action Type: RLFA
Action Status: FOLFLD
Action Date: 6/16/2016
Response Action Outcome: PN

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/19/2016
Response Action Outcome: PN

Action Type: Response Action Outcome - RAO
Action Status: PSNRCD
Action Date: 7/19/2016
Response Action Outcome: PN

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 8/4/2016
Response Action Outcome: PN

Chemicals:

Chemical: Not reported
Quantity: Not reported
Location Type: ROADWAY
Source: FUEL TANK

Count: 3 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ROCHESTER	S103812404	WEST OF WALNUT PLAIN	MARYS POND RD	02770	SHWS, RELEASE
WAREHAM	S113411836	TRANSFORMER RELEASE - BLIZZARD	INTERSECTION BARLOW AVE AND	02571	SHWS, RELEASE
WAREHAM	S101696616	WHIBCO PLANT	SQUIRREL ISLAND RD	02571	SHWS, RELEASE

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/19/2023	Source: EPA
Date Data Arrived at EDR: 10/03/2023	Telephone: N/A
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/01/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 01/08/2024
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/19/2023	Source: EPA
Date Data Arrived at EDR: 10/03/2023	Telephone: N/A
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/01/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 01/08/2024
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/23/2023
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 09/26/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/19/2023	Source: EPA
Date Data Arrived at EDR: 10/03/2023	Telephone: 800-424-9346
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/02/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 01/22/2024
	Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 07/24/2023	Source: EPA
Date Data Arrived at EDR: 07/31/2023	Telephone: 800-424-9346
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 07/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/31/2023	Telephone: (888) 372-7341
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/31/2023	Telephone: (888) 372-7341
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/31/2023	Telephone: (888) 372-7341
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/31/2023	Telephone: (888) 372-7341
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/03/2023	Source: Department of the Navy
Date Data Arrived at EDR: 08/07/2023	Telephone: 843-820-7326
Date Made Active in Reports: 10/10/2023	Last EDR Contact: 11/02/2023
Number of Days to Update: 64	Next Scheduled EDR Contact: 02/19/2024
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/22/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/23/2023	Telephone: 703-603-0695
Date Made Active in Reports: 07/24/2023	Last EDR Contact: 08/21/2023
Number of Days to Update: 62	Next Scheduled EDR Contact: 12/04/2023
	Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/22/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/23/2023	Telephone: 703-603-0695
Date Made Active in Reports: 07/24/2023	Last EDR Contact: 08/21/2023
Number of Days to Update: 62	Next Scheduled EDR Contact: 12/04/2023
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/12/2023

Date Data Arrived at EDR: 06/20/2023

Date Made Active in Reports: 08/14/2023

Number of Days to Update: 55

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 09/20/2023

Next Scheduled EDR Contact: 01/01/2024

Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SHWS: Site Transition List

Contains information on releases of oil and hazardous materials that have been reported to DEP.

Date of Government Version: 07/06/2023

Date Data Arrived at EDR: 07/07/2023

Date Made Active in Reports: 09/25/2023

Number of Days to Update: 80

Source: Department of Environmental Protection

Telephone: 617-292-5990

Last EDR Contact: 10/05/2023

Next Scheduled EDR Contact: 01/15/2024

Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Solid Waste Facility Database/Transfer Stations

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 06/09/2023

Date Data Arrived at EDR: 06/26/2023

Date Made Active in Reports: 09/14/2023

Number of Days to Update: 80

Source: Department of Environmental Protection

Telephone: 617-292-5989

Last EDR Contact: 09/28/2023

Next Scheduled EDR Contact: 01/08/2024

Data Release Frequency: Annually

LF PROFILES: Landfill Profiles Listing

This spreadsheet describes landfills that have actively accepted waste or have closed under MassDEP Solid Waste Regulations first adopted in 1971 (310 CMR 16.00 and 310 CMR 19.00). The list does not include landfills that closed before 1971 (and which never had a MassDEP permit or approval), or for which agency data is incomplete.

Date of Government Version: 07/01/2015

Date Data Arrived at EDR: 10/27/2015

Date Made Active in Reports: 12/14/2015

Number of Days to Update: 48

Source: Department of Environmental Protection

Telephone: 617-292-5868

Last EDR Contact: 09/28/2023

Next Scheduled EDR Contact: 01/08/2024

Data Release Frequency: Varies

Lists of state and tribal leaking storage tanks

LAST: Leaking Aboveground Storage Tank Sites

Sites within the Releases Database that have a AST listed as its source.

Date of Government Version: 07/06/2023

Date Data Arrived at EDR: 07/07/2023

Date Made Active in Reports: 09/25/2023

Number of Days to Update: 80

Source: Department of Environmental Protection

Telephone: 617-292-5500

Last EDR Contact: 10/05/2023

Next Scheduled EDR Contact: 01/15/2024

Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Leaking Underground Storage Tank Listing

Sites within the Leaking Underground Storage Tank Listing that have a UST listed as its source.

Date of Government Version: 07/06/2023	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/07/2023	Telephone: 617-292-5990
Date Made Active in Reports: 09/25/2023	Last EDR Contact: 10/05/2023
Number of Days to Update: 80	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/20/2023	Source: EPA Region 1
Date Data Arrived at EDR: 05/09/2023	Telephone: 617-918-1313
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/20/2023	Source: EPA Region 4
Date Data Arrived at EDR: 05/09/2023	Telephone: 404-562-8677
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/19/2023	Source: EPA Region 8
Date Data Arrived at EDR: 05/09/2023	Telephone: 303-312-6271
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/25/2023	Source: EPA Region 7
Date Data Arrived at EDR: 05/09/2023	Telephone: 913-551-7003
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/19/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/09/2023	Telephone: 415-972-3372
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2023	Source: EPA, Region 5
Date Data Arrived at EDR: 05/09/2023	Telephone: 312-886-7439
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/26/2023	Source: EPA Region 6
Date Data Arrived at EDR: 05/09/2023	Telephone: 214-665-6597
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/20/2023	Source: EPA Region 10
Date Data Arrived at EDR: 05/09/2023	Telephone: 206-553-2857
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 03/08/2023	Source: FEMA
Date Data Arrived at EDR: 03/09/2023	Telephone: 202-646-5797
Date Made Active in Reports: 05/30/2023	Last EDR Contact: 10/10/2023
Number of Days to Update: 82	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

UST: Summary Listing of all the Tanks Registered in the State of Massachusetts
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 07/06/2023	Source: Department of Fire Services, Office of the Public Safety
Date Data Arrived at EDR: 07/10/2023	Telephone: 617-556-1035
Date Made Active in Reports: 08/31/2023	Last EDR Contact: 10/04/2023
Number of Days to Update: 52	Next Scheduled EDR Contact: 01/22/2024
	Data Release Frequency: Quarterly

AST: Aboveground Storage Tank Database
Registered Aboveground Storage Tanks.

Date of Government Version: 03/24/2023	Source: Department of Public Safety
Date Data Arrived at EDR: 04/13/2023	Telephone: 617-556-1035
Date Made Active in Reports: 06/30/2023	Last EDR Contact: 10/10/2023
Number of Days to Update: 78	Next Scheduled EDR Contact: 01/22/2024
	Data Release Frequency: No Update Planned

AST 2: Aboveground Storage Tanks
Aboveground storage tanks

Date of Government Version: 07/07/2023	Source: Department of Fire Services
Date Data Arrived at EDR: 07/10/2023	Telephone: 978-567-3181
Date Made Active in Reports: 09/29/2023	Last EDR Contact: 10/04/2023
Number of Days to Update: 81	Next Scheduled EDR Contact: 01/22/2024
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

INST CONTROL: Sites With Activity and Use Limitation

Activity and Use Limitations establish limits and conditions on the future use of contaminated property, and therefore allow cleanups to be tailored to these uses.

Date of Government Version: 07/06/2023
Date Data Arrived at EDR: 07/07/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 80

Source: Department of Environmental Protection
Telephone: 617-292-5990
Last EDR Contact: 10/05/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Quarterly

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS 2: Potential Brownfields Listing

A listing of potential brownfields site locations in the state.

Date of Government Version: 07/11/2023
Date Data Arrived at EDR: 07/27/2023
Date Made Active in Reports: 10/16/2023
Number of Days to Update: 81

Source: Department of Environmental Protection
Telephone: 617-556-1007
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

BROWNFIELDS: Completed Brownfields Covenants Listing

Under Massachusetts law, M.G.L. c. 21E is the statute that governs the cleanup of releases of oil and/or hazardous material to the environment. The Brownfields Act of 1998 amended M.G.L. c. 21E by establishing significant liability relief and financial incentives to spur the redevelopment of brownfields, while ensuring that the Commonwealth's environmental standards are met. Most brownfields are redeveloped with the benefit of liability protections that operate automatically under M.G.L. c. 21E.

Date of Government Version: 04/05/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/10/2017
Number of Days to Update: 68

Source: Office of the Attorney General
Telephone: 617-963-2423
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 04/06/2023
Date Data Arrived at EDR: 04/13/2023
Date Made Active in Reports: 04/19/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 08/30/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014	Source: Department of Health & Human Services, Indian Health Service
Date Data Arrived at EDR: 08/06/2014	Telephone: 301-443-1452
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 10/28/2023
Number of Days to Update: 176	Next Scheduled EDR Contact: 02/05/2024
	Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/22/2023	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 05/23/2023	Telephone: 202-307-1000
Date Made Active in Reports: 07/10/2023	Last EDR Contact: 08/21/2023
Number of Days to Update: 48	Next Scheduled EDR Contact: 12/04/2023
	Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/22/2023	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 05/23/2023	Telephone: 202-307-1000
Date Made Active in Reports: 07/10/2023	Last EDR Contact: 08/21/2023
Number of Days to Update: 48	Next Scheduled EDR Contact: 12/04/2023
	Data Release Frequency: Quarterly

Local Land Records

LIENS: Liens Information Listing

A listing of environmental liens.

Date of Government Version: 03/07/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 03/09/2018	Telephone: 617-292-5628
Date Made Active in Reports: 06/21/2018	Last EDR Contact: 08/09/2023
Number of Days to Update: 104	Next Scheduled EDR Contact: 11/27/2023
	Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/19/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/03/2023	Telephone: 202-564-6023
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/01/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 01/08/2024
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/19/2023	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 06/23/2023	Telephone: 202-366-4555
Date Made Active in Reports: 09/20/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

RELEASE: Reportable Releases

Contains information on all releases of oil and hazardous materials that have been reported to DEP

Date of Government Version: 07/06/2023	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/07/2023	Telephone: 617-292-5990
Date Made Active in Reports: 09/25/2023	Last EDR Contact: 10/05/2023
Number of Days to Update: 80	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Quarterly

MA SPILLS: Historical Spill List

The Spills Database was the release notification tracking system for spills that occurred prior to October 1, 1993. This information should be considered to be primarily of historical interest since all of the listed spills have either been cleaned up or assigned new tracking numbers and moved to the Reportable Releases or Sites Transition List databases.

Date of Government Version: 09/30/1993	Source: Department of Environmental Protection
Date Data Arrived at EDR: 12/03/2003	Telephone: 617-292-5720
Date Made Active in Reports: 12/31/2003	Last EDR Contact: 12/03/2003
Number of Days to Update: 28	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 12/11/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 02/08/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 36	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

Date of Government Version: 03/10/1998	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 03/05/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 61	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (888) 372-7341
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/15/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 56

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/09/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/01/2023
Next Scheduled EDR Contact: 11/20/2023
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/19/2023
Date Data Arrived at EDR: 06/20/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 10/31/2023
Number of Days to Update: 88	Next Scheduled EDR Contact: 02/12/2024
	Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/08/2018	Telephone: 703-308-4044
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 11/03/2023
Number of Days to Update: 73	Next Scheduled EDR Contact: 02/12/2024
	Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020	Source: EPA
Date Data Arrived at EDR: 06/14/2022	Telephone: 202-260-5521
Date Made Active in Reports: 03/24/2023	Last EDR Contact: 09/15/2023
Number of Days to Update: 283	Next Scheduled EDR Contact: 12/25/2023
	Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2021	Source: EPA
Date Data Arrived at EDR: 02/16/2023	Telephone: 202-566-0250
Date Made Active in Reports: 05/02/2023	Last EDR Contact: 08/18/2023
Number of Days to Update: 75	Next Scheduled EDR Contact: 11/27/2023
	Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/17/2023	Source: EPA
Date Data Arrived at EDR: 07/18/2023	Telephone: 202-564-4203
Date Made Active in Reports: 10/10/2023	Last EDR Contact: 10/20/2023
Number of Days to Update: 84	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/19/2023	Source: EPA
Date Data Arrived at EDR: 10/03/2023	Telephone: 703-416-0223
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/01/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 12/11/2023
	Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/09/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/29/2023	Telephone: 202-564-8600
Date Made Active in Reports: 09/25/2023	Last EDR Contact: 09/26/2023
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023	Source: EPA
Date Data Arrived at EDR: 10/03/2023	Telephone: 202-564-6023
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/01/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 02/12/2024
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2023	Source: EPA
Date Data Arrived at EDR: 04/04/2023	Telephone: 202-566-0500
Date Made Active in Reports: 06/09/2023	Last EDR Contact: 10/06/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 09/27/2023
Number of Days to Update: 79	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/20/2023	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 09/01/2023	Telephone: 301-415-0717
Date Made Active in Reports: 09/20/2023	Last EDR Contact: 10/10/2023
Number of Days to Update: 19	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2021	Source: Department of Energy
Date Data Arrived at EDR: 04/14/2023	Telephone: 202-586-8719
Date Made Active in Reports: 07/10/2023	Last EDR Contact: 09/01/2023
Number of Days to Update: 87	Next Scheduled EDR Contact: 12/11/2023
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/05/2019	Telephone: N/A
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 08/28/2023
Number of Days to Update: 251	Next Scheduled EDR Contact: 12/11/2023
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/06/2019	Telephone: 202-566-0517
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 11/03/2023
Number of Days to Update: 96	Next Scheduled EDR Contact: 02/12/2024
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2019	Telephone: 202-343-9775
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 09/22/2023
Number of Days to Update: 84	Next Scheduled EDR Contact: 01/08/2024
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 01/28/2020	Telephone: 202-366-4595
Date Made Active in Reports: 04/17/2020	Last EDR Contact: 10/04/2023
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/05/2024
	Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/30/2023
Date Data Arrived at EDR: 07/19/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 83

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/02/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/10/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 11/20/2023
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/01/2023
Date Data Arrived at EDR: 05/24/2023
Date Made Active in Reports: 07/24/2023
Number of Days to Update: 61

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 01/07/2022
Date Data Arrived at EDR: 02/24/2023
Date Made Active in Reports: 05/17/2023
Number of Days to Update: 82

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/24/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011	Source: USGS
Date Data Arrived at EDR: 06/08/2011	Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 08/24/2023
Number of Days to Update: 97	Next Scheduled EDR Contact: 12/04/2023
	Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/13/2023	Source: Department of Interior
Date Data Arrived at EDR: 06/14/2023	Telephone: 202-208-2609
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/12/2023
Number of Days to Update: 61	Next Scheduled EDR Contact: 12/18/2023
	Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System Mineral Resources Data System

Date of Government Version: 08/23/2022	Source: USGS
Date Data Arrived at EDR: 11/22/2022	Telephone: 703-648-6533
Date Made Active in Reports: 02/28/2023	Last EDR Contact: 08/24/2023
Number of Days to Update: 98	Next Scheduled EDR Contact: 12/04/2023
	Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/04/2023	Source: EPA
Date Data Arrived at EDR: 05/25/2023	Telephone: (617) 918-1111
Date Made Active in Reports: 07/24/2023	Last EDR Contact: 09/28/2023
Number of Days to Update: 60	Next Scheduled EDR Contact: 12/11/2023
	Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/29/2023	Telephone: 202-564-2280
Date Made Active in Reports: 09/25/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 11/09/2021
Date Data Arrived at EDR: 10/20/2022
Date Made Active in Reports: 01/10/2023
Number of Days to Update: 82

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 09/13/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/14/2023
Date Data Arrived at EDR: 08/15/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 65

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 202-566-0250
Date Made Active in Reports: 10/02/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 202-272-0167
Date Made Active in Reports: 10/02/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020	Source: Department of Health & Human Services
Date Data Arrived at EDR: 03/17/2021	Telephone: 202-741-5770
Date Made Active in Reports: 11/08/2022	Last EDR Contact: 10/23/2023
Number of Days to Update: 601	Next Scheduled EDR Contact: 02/05/2024
	Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 09/23/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/03/2023	Telephone: 202-272-0167
Date Made Active in Reports: 10/10/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 7	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facility's name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration's document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/06/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 07/16/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

PFAS: PFAS Contaminated Sites Listing

Detection of Per- and Polyfluoroalkyl Substances (PFAS) in drinking water.

Date of Government Version: 06/01/2023
Date Data Arrived at EDR: 06/26/2023
Date Made Active in Reports: 07/11/2023
Number of Days to Update: 15

Source: Department of Environmental Protection
Telephone: 617-292-6770
Last EDR Contact: 09/21/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

AIRS: Permitted Facilities Listing

A listing of Air Quality permit applications.

Date of Government Version: 07/11/2023
Date Data Arrived at EDR: 07/12/2023
Date Made Active in Reports: 10/03/2023
Number of Days to Update: 83

Source: Department of Environmental Protection
Telephone: 617-292-5789
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

ASBESTOS: Asbestos Notification Listing

Asbestos sites

Date of Government Version: 08/15/2023
Date Data Arrived at EDR: 08/16/2023
Date Made Active in Reports: 11/02/2023
Number of Days to Update: 78

Source: Department of Environmental Protection
Telephone: 617-292-5982
Last EDR Contact: 08/09/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Varies

DRYCLEANERS: Regulated Drycleaning Facilities

A listing of Department of Environmental Protection regulated drycleaning facilities that use perchloroethylene under the Environmental Results Program.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/07/2023
Date Data Arrived at EDR: 07/10/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 84

Source: Department of Environmental Protection
Telephone: 617-292-5633
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

ENFORCEMENT: Enforcement Action Cases

A listing of enforcement action cases tracked by Department of Environmental Protection programs, including Solid Waste and Hazardous Waste.

Date of Government Version: 07/07/2023
Date Data Arrived at EDR: 07/10/2023
Date Made Active in Reports: 09/29/2023
Number of Days to Update: 81

Source: Department of Environmental Quality
Telephone: 617-292-5979
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Information for hazardous waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 12/01/2010
Date Data Arrived at EDR: 12/23/2010
Date Made Active in Reports: 02/03/2011
Number of Days to Update: 42

Source: Department of Environmental Protection
Telephone: 617-292-5970
Last EDR Contact: 08/30/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for underground storage tanks. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 07/06/2023
Date Data Arrived at EDR: 07/10/2023
Date Made Active in Reports: 08/31/2023
Number of Days to Update: 52

Source: Office of State Fire Marshal
Telephone: 978-567-3100
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

Financial Assurance 3: Financial Assurance Information listing

Information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 10/24/2022
Date Data Arrived at EDR: 01/12/2023
Date Made Active in Reports: 03/07/2023
Number of Days to Update: 54

Source: Department of Environmental Protection
Telephone: 617-292-5970
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

GWDP: Ground Water Discharge Permits

The Ground Water Discharge Permits datalayer (formerly known as Groundwater Discharge Points) is a statewide point dataset containing approximate locations of permitted discharges to groundwater.

Date of Government Version: 03/30/2023
Date Data Arrived at EDR: 04/25/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 80

Source: MassGIS
Telephone: 617-556-1150
Last EDR Contact: 10/24/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HW GEN: List of Massachusetts Hazardous Waste Generators

Permanent generator identification numbers for all Massachusetts generators of hazardous waste and waste oil that have registered with or notified MassDEP of their hazardous waste activities.

Date of Government Version: 06/09/2023	Source: Department of Environmental Protection
Date Data Arrived at EDR: 06/15/2023	Telephone: 617-292-5500
Date Made Active in Reports: 09/07/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 84	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Semi-Annually

MERCURY: Mercury Product Recycling Drop-Off Locations Listing

A listing of locations, collecting and recycling for mercury-added products. Mercury is toxic to the human nervous system, as well as fish and animals. Mercury can enter the body either through skin absorption or through inhalation of mercury vapors. At room temperature, small beads of mercury will vaporize.

Date of Government Version: 07/12/2023	Source: Department of Environmental Protection
Date Data Arrived at EDR: 08/10/2023	Telephone: 617-292-5632
Date Made Active in Reports: 10/27/2023	Last EDR Contact: 08/09/2023
Number of Days to Update: 78	Next Scheduled EDR Contact: 11/27/2023
	Data Release Frequency: Varies

NPDES: NPDES Permit Listing

Listing of treatment plants in Massachusetts that hold permits to discharge to groundwater.

Date of Government Version: 12/16/2022	Source: Department of Environmental Protection
Date Data Arrived at EDR: 02/07/2023	Telephone: 508-767-2781
Date Made Active in Reports: 02/14/2023	Last EDR Contact: 08/10/2023
Number of Days to Update: 7	Next Scheduled EDR Contact: 11/20/2023
	Data Release Frequency: Varies

TIER 2: Tier 2 Information Listing

A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report

Date of Government Version: 12/31/2019	Source: Massachusetts Emergency Management Agency
Date Data Arrived at EDR: 07/19/2021	Telephone: 508-820-2019
Date Made Active in Reports: 08/17/2021	Last EDR Contact: 11/02/2023
Number of Days to Update: 29	Next Scheduled EDR Contact: 01/22/2024
	Data Release Frequency: Annually

TSD: TSD Facility

List of Licensed Hazardous Waste Treatment, Storage Disposal Facilities (TSDFs) in Massachusetts.

Date of Government Version: 06/09/2023	Source: Department of Environmental Protection
Date Data Arrived at EDR: 06/15/2023	Telephone: 617-292-5580
Date Made Active in Reports: 09/07/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 84	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Varies

UIC: Underground Injection Control Listing

A list of UIC registration data and their locations

Date of Government Version: 02/13/2023	Source: Department of Environmental Protection
Date Data Arrived at EDR: 02/15/2023	Telephone: 617-566-1172
Date Made Active in Reports: 05/11/2023	Last EDR Contact: 11/02/2023
Number of Days to Update: 85	Next Scheduled EDR Contact: 02/19/2024
	Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Protection in Massachusetts.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Protection in Massachusetts.

Date of Government Version: N/A

Date Data Arrived at EDR: 07/01/2013

Date Made Active in Reports: 12/24/2013

Number of Days to Update: 176

Source: Department of Environmental Protection

Telephone: N/A

Last EDR Contact: 06/01/2012

Next Scheduled EDR Contact: N/A

Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/07/2023

Date Data Arrived at EDR: 08/08/2023

Date Made Active in Reports: 10/24/2023

Number of Days to Update: 77

Source: Department of Energy & Environmental Protection

Telephone: 860-424-3375

Last EDR Contact: 08/08/2023

Next Scheduled EDR Contact: 11/20/2023

Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018

Date Data Arrived at EDR: 04/10/2019

Date Made Active in Reports: 05/16/2019

Number of Days to Update: 36

Source: Department of Environmental Protection

Telephone: N/A

Last EDR Contact: 09/28/2023

Next Scheduled EDR Contact: 01/15/2024

Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019

Date Data Arrived at EDR: 10/29/2021

Date Made Active in Reports: 01/19/2022

Number of Days to Update: 82

Source: Department of Environmental Conservation

Telephone: 518-402-8651

Last EDR Contact: 10/28/2023

Next Scheduled EDR Contact: 02/05/2024

Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018

Date Data Arrived at EDR: 07/19/2019

Date Made Active in Reports: 09/10/2019

Number of Days to Update: 53

Source: Department of Environmental Protection

Telephone: 717-783-8990

Last EDR Contact: 10/05/2023

Next Scheduled EDR Contact: 01/22/2024

Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/10/2022
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data Hazardous waste manifest information.

Date of Government Version: 10/28/2019
Date Data Arrived at EDR: 10/29/2019
Date Made Active in Reports: 01/09/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 10/05/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Annually

WI MANIFEST: Manifest Information Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 08/30/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: MassDEP

Telephone: 617-292-5907

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

UNDEVELOPED PROPERTY
COUNTY ROAD
WEST WAREHAM, MA 02576

TARGET PROPERTY COORDINATES

Latitude (North): 41.754641 - 41° 45' 16.71"
Longitude (West): 70.773211 - 70° 46' 23.56"
Universal Transverse Mercator: Zone 19
UTM X (Meters): 352577.3
UTM Y (Meters): 4623841.0
Elevation: 22 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: Version Date:	11711328 SNIPATUIT POND, MA 2018
Northeast Map: Version Date:	11711338 WAREHAM, MA 2018
Southeast Map: Version Date:	11711308 ONSET, MA 2018
Southwest Map: Version Date:	11730677 MARION, MA 2018

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

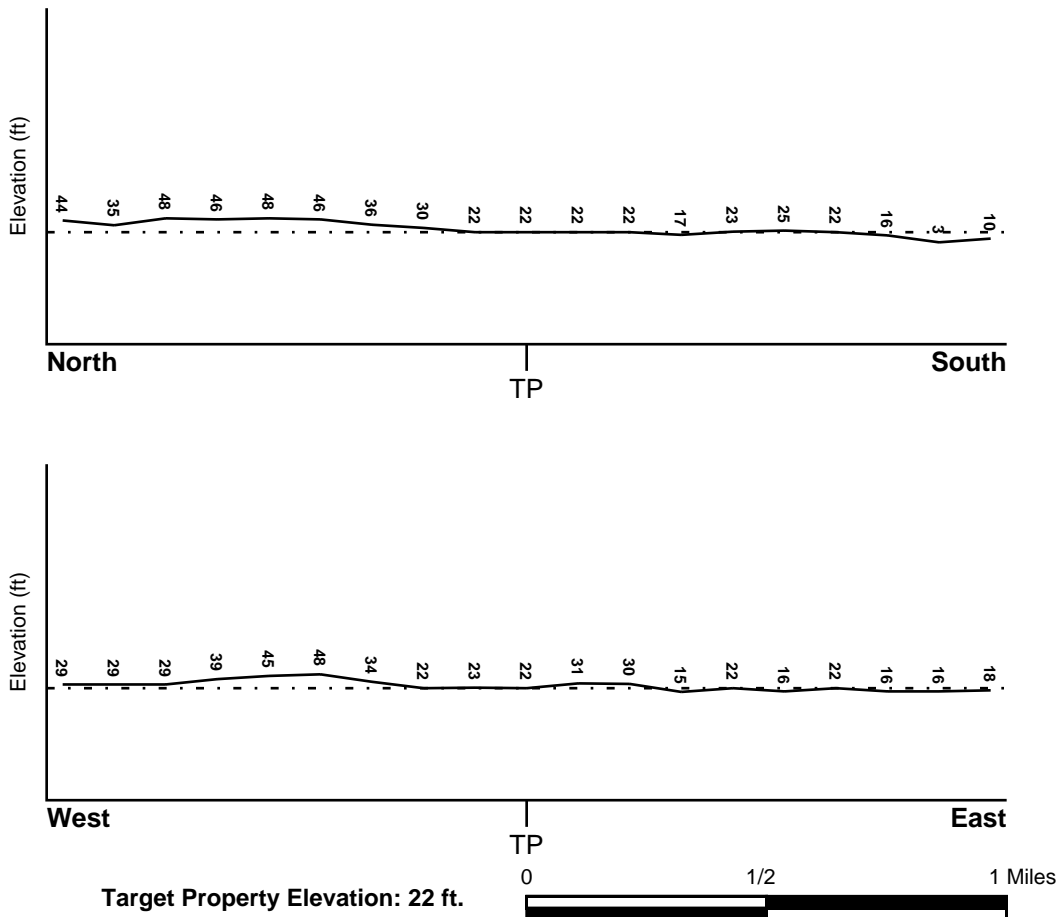
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
25023C0469J	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
25023C0468J	FEMA FIRM Flood data
25005C0425F	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
SNIPATUIT POND	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: Precambrian
System: Precambrian
Series: Z ganitic rocks
Code: Zg (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: CARVER

Soil Surface Texture: coarse sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively. Soils have very high and high hydraulic conductivity and low water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: LOW

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Permeability Rate (in/hr)	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	coarse sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 20.00	Max: 6.00 Min: 3.60
2	7 inches	29 inches	coarse sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 20.00	Max: 5.50 Min: 3.60
3	29 inches	50 inches	coarse sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 20.00	Max: 5.50 Min: 3.60

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: fine sand
loamy fine sand
loamy sand

Surficial Soil Types: fine sand
loamy fine sand
loamy sand

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: very fine sand
sand

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	USGS40000459872	1/8 - 1/4 Mile NNW
2	USGS40000459881	1/8 - 1/4 Mile North
3	USGS40000459899	1/4 - 1/2 Mile NE
4	USGS40000459882	1/4 - 1/2 Mile WNW
5	USGS40000459769	1/4 - 1/2 Mile ESE
A6	USGS40000459804	1/4 - 1/2 Mile West
A7	USGS40000459790	1/4 - 1/2 Mile WSW
8	USGS40000459909	1/4 - 1/2 Mile WNW
9	USGS40000459928	1/2 - 1 Mile NW
10	USGS40000459945	1/2 - 1 Mile NW
B11	USGS40000459740	1/2 - 1 Mile WSW
B12	USGS40000459741	1/2 - 1 Mile WSW
B13	USGS40000459742	1/2 - 1 Mile WSW
14	USGS40000459749	1/2 - 1 Mile WSW
15	USGS40000459840	1/2 - 1 Mile West
C16	USGS40000459922	1/2 - 1 Mile WNW
C17	USGS40000459937	1/2 - 1 Mile WNW
18	USGS40000459910	1/2 - 1 Mile WNW
19	USGS40000459631	1/2 - 1 Mile SSW
20	USGS40000459597	1/2 - 1 Mile SSW
21	USGS40000460016	1/2 - 1 Mile NE
22	USGS40000460110	1/2 - 1 Mile North
D23	USGS40000460121	1/2 - 1 Mile NNE
24	USGS40000460109	1/2 - 1 Mile NNE
D25	USGS40000460132	1/2 - 1 Mile NNE
26	USGS40000459876	1/2 - 1 Mile East
E27	USGS40000459778	1/2 - 1 Mile WSW
28	USGS40000459943	1/2 - 1 Mile WNW
F29	USGS40000460102	1/2 - 1 Mile NNE
F30	USGS40000460092	1/2 - 1 Mile NE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID

E31

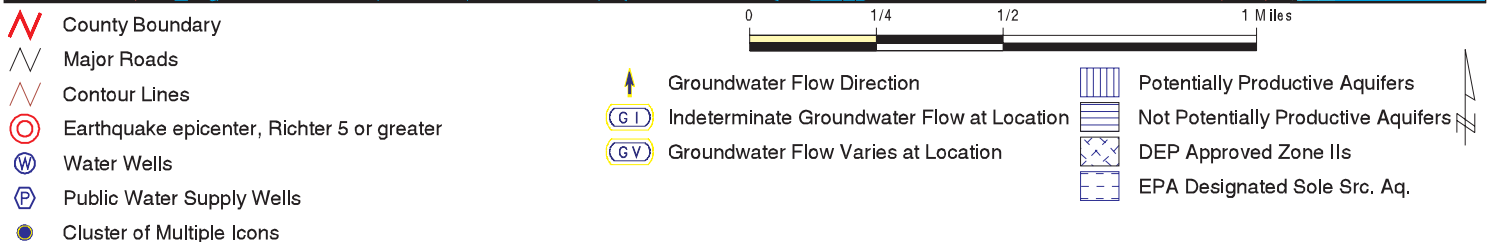
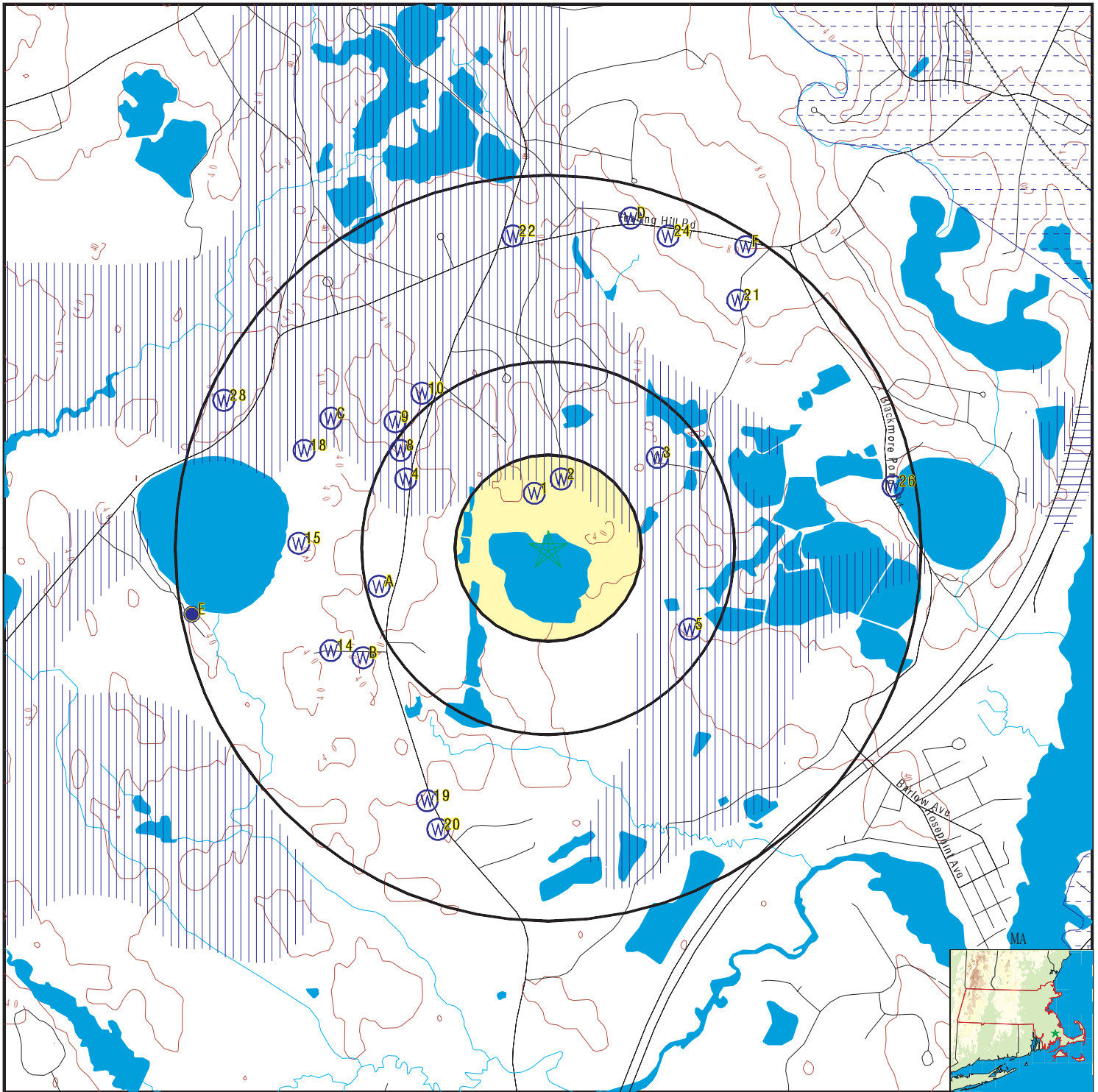
WELL ID

MA1100000000025

LOCATION
FROM TP

1/2 - 1 Mile West

PHYSICAL SETTING SOURCE MAP - 7489270.2s



SITE NAME: Undeveloped Property
ADDRESS: County Road
 West Wareham MA 02576
LAT/LONG: 41.754641 / 70.773211

CLIENT: Lightship Engineering
CONTACT: Kristin Maloney
INQUIRY #: 7489270.2s
DATE: November 06, 2023 12:56 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

1
NNW
1/8 - 1/4 Mile
Higher

FED USGS USGS40000459872

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFW 172	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1969
Well Depth:	53	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1969-08-01
Feet below surface:	11.00	Feet to sea level:	Not Reported
Note:	Not Reported		

2
North
1/8 - 1/4 Mile
Higher

FED USGS USGS40000459881

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFW 171	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1969
Well Depth:	58	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1969-08-01
Feet below surface:	6.00	Feet to sea level:	Not Reported
Note:	Not Reported		

3
NE
1/4 - 1/2 Mile
Higher

FED USGS USGS40000459899

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFW 161	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	23	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

4
WNW
1/4 - 1/2 Mile
Higher **FED USGS** **USGS40000459882**

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFW 31	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Not Reported	Construction Date:	1963
Well Depth:	94	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1963-11-01
Feet below surface:	15.00	Feet to sea level:	Not Reported
Note:	Not Reported		

5
ESE
1/4 - 1/2 Mile
Lower **FED USGS** **USGS40000459769**

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFA 6	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1959
Well Depth:	49	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1959-10-01
Feet below surface:	10.00	Feet to sea level:	Not Reported
Note:	Not Reported		

A6
West
1/4 - 1/2 Mile
Higher **FED USGS** **USGS40000459804**

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFW 24	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1940
Well Depth:	36	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

A7
WSW
1/4 - 1/2 Mile
Higher

FED USGS USGS40000459790

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFW 38	Type:	Well
Description:	419 COUNTY RD.	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Unconfined single aquifer	Construction Date:	19750909
Well Depth:	110	Well Depth Units:	ft
Well Hole Depth:	110	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	1	Level reading date:	1975-09-09
Feet below surface:	13.0	Feet to sea level:	Not Reported
Note:	Not Reported		

8
WNW
1/4 - 1/2 Mile
Higher

FED USGS USGS40000459909

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFW 23	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1940
Well Depth:	50	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

9
NW
1/2 - 1 Mile
Higher

FED USGS USGS40000459928

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFW 22	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1940
Well Depth:	36	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

10
NW
1/2 - 1 Mile
Higher

FED USGS USGS40000459945

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFA 3	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1959
Well Depth:	73	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1959-10-01
Feet below surface:	10.00	Feet to sea level:	Not Reported
Note:	Not Reported		

B11
WSW
1/2 - 1 Mile
Higher

FED USGS USGS40000459740

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFW 39	Type:	Well
Description:	2 TUCKER LN.	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Unconfined single aquifer	Construction Date:	19910807
Well Depth:	320	Well Depth Units:	ft
Well Hole Depth:	320	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	1	Level reading date:	1991-08-07
Feet below surface:	30.0	Feet to sea level:	Not Reported
Note:	Not Reported		

B12
WSW
1/2 - 1 Mile
Higher

FED USGS USGS40000459741

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFW 40	Type:	Well
Description:	12 TUCKER LN.	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Unconfined single aquifer	Construction Date:	19890921
Well Depth:	260	Well Depth Units:	ft
Well Hole Depth:	260	Well Hole Depth Units:	ft

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground water levels,Number of Measurements:	1	Level reading date:	1989-09-21
Feet below surface:	10.0	Feet to sea level:	Not Reported
Note:	Not Reported		

B13
WSW
1/2 - 1 Mile
Higher

FED USGS USGS40000459742

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFW 41	Type:	Well
Description:	TUCKER LN.	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Unconfined single aquifer	Construction Date:	19890920
Well Depth:	220	Well Depth Units:	ft
Well Hole Depth:	220	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	1	Level reading date:	1989-09-20
Feet below surface:	10.0	Feet to sea level:	Not Reported
Note:	Not Reported		

14
WSW
1/2 - 1 Mile
Higher

FED USGS USGS40000459749

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFW 42	Type:	Well
Description:	TUCKER LN	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Unconfined single aquifer	Construction Date:	19910226
Well Depth:	320	Well Depth Units:	ft
Well Hole Depth:	320	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	1	Level reading date:	1991-02-26
Feet below surface:	20.0	Feet to sea level:	Not Reported
Note:	Not Reported		

15
West
1/2 - 1 Mile
Higher

FED USGS USGS40000459840

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFW 33	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1964

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Well Depth:	63	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported
Ground water levels,Number of Measurements:		1	Level reading date:
Feet below surface:	2.00		1964-11-01
Note:	Not Reported	Feet to sea level:	Not Reported

C16
WNW
1/2 - 1 Mile
Higher

FED USGS USGS40000459922

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-RFW 62	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1964
Well Depth:	57	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1964-06-01
Feet below surface:	3.00	Feet to sea level:	Not Reported
Note:	Not Reported		

C17
WNW
1/2 - 1 Mile
Higher

FED USGS USGS40000459937

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-RFW 61	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1964
Well Depth:	76	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1964-06-01
Feet below surface:	4.00	Feet to sea level:	Not Reported
Note:	Not Reported		

18
WNW
1/2 - 1 Mile
Higher

FED USGS USGS40000459910

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-RFW 60	Type:	Well
Description:	Not Reported	HUC:	01090002

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1964
Well Depth:	76	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1964-06-01
Feet below surface:	2.00	Feet to sea level:	Not Reported
Note:	Not Reported		

19
SSW
1/2 - 1 Mile
Lower

FED USGS USGS40000459631

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFA 1	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1959
Well Depth:	64	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1959-09-01
Feet below surface:	7.00	Feet to sea level:	Not Reported
Note:	Not Reported		

20
SSW
1/2 - 1 Mile
Lower

FED USGS USGS40000459597

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-MFA 2	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1960
Well Depth:	72	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1960-10-01
Feet below surface:	5.00	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

21
NE
1/2 - 1 Mile
Higher

FED USGS USGS40000460016

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFA 5	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1959
Well Depth:	14	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1959-10-01
Feet below surface:	5.00	Feet to sea level:	Not Reported
Note:	Not Reported		

22
North
1/2 - 1 Mile
Higher

FED USGS USGS40000460110

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFW 151	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Not Reported	Construction Date:	1967
Well Depth:	310	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1967-10-01
Feet below surface:	15.00	Feet to sea level:	Not Reported
Note:	Not Reported		

D23
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40000460121

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFW 481	Type:	Well
Description:	FEARING HILL RD.	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Unconfined single aquifer	Construction Date:	19820715
Well Depth:	200	Well Depth Units:	ft
Well Hole Depth:	200	Well Hole Depth Units:	ft

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground water levels,Number of Measurements:	1	Level reading date:	1982-07-15
Feet below surface:	12.0	Feet to sea level:	Not Reported
Note:	Not Reported		

24
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40000460109

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFW 482	Type:	Well
Description:	116 FEARING HILL RD.	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Unconfined single aquifer	Construction Date:	19900410
Well Depth:	300	Well Depth Units:	ft
Well Hole Depth:	300	Well Hole Depth Units:	ft

D25
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40000460132

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFW 480	Type:	Well
Description:	121 FEARING HILL RD.	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Unconfined single aquifer	Construction Date:	19890327
Well Depth:	225	Well Depth Units:	ft
Well Hole Depth:	225	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	1	Level reading date:	1989-03-30
Feet below surface:	4.0	Feet to sea level:	Not Reported
Note:	Not Reported		

26
East
1/2 - 1 Mile
Higher

FED USGS USGS40000459876

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFW 143	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Not Reported	Construction Date:	1964
Well Depth:	127	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground water levels,Number of Measurements:	1	Level reading date:	1964-05-01
Feet below surface:	3.00	Feet to sea level:	Not Reported
Note:	Not Reported		

E27
WSW
1/2 - 1 Mile
Higher

FED USGS USGS40000459778

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-RFW 411	Type:	Well
Description:	79 PERRY'S LN	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Unconfined single aquifer	Construction Date:	198609
Well Depth:	400	Well Depth Units:	ft
Well Hole Depth:	400	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	1	Level reading date:	1986-09
Feet below surface:	2.0	Feet to sea level:	Not Reported
Note:	Not Reported		

28
WNW
1/2 - 1 Mile
Higher

FED USGS USGS40000459943

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-RFW 84	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	26	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1959-07-01
Feet below surface:	22.00	Feet to sea level:	Not Reported
Note:	Not Reported		

F29
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40000460102

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFW 153	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Not Reported	Construction Date:	1964

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Well Depth:	78	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

**F30
NE
1/2 - 1 Mile
Higher**

FED USGS USGS40000460092

Organization ID:	USGS-MA		
Organization Name:	USGS Massachusetts Water Science Center		
Monitor Location:	MA-WFW 154	Type:	Well
Description:	Not Reported	HUC:	01090002
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Bedrock
Aquifer Type:	Not Reported	Construction Date:	1969
Well Depth:	80	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1969-01-01
Feet below surface:	14.00	Feet to sea level:	Not Reported
Note:	Not Reported		

**E31
West
1/2 - 1 Mile
Higher**

MA WELLS MA1100000000025

WELLS:

PWS Source ID:	4250010-01G
Site Name:	PERRYS CAMPGROUND
PWS Type:	Transient Non-Community
DEP Region:	4
Zone II #:	0

DWP Water Quality Testing System (WQTS) Information:

Water Supplier Name:	PERRYS CAMPGROUND
Source Name:	WELL 1
Water Supplier Status:	Inactive
Source Status:	Inactive
Source Classification:	Transient Non Community
Source Availability:	Inactive

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: MA Radon

Radon Test Results

County	% of sites > 4 pCi/L	Median
PLYMOUTH	12	1.4

Federal EPA Radon Zone for PLYMOUTH County: 2

- Note: Zone 1 indoor average level > 4 pCi/L.
- : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
- : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for PLYMOUTH COUNTY, MA

Number of sites tested: 113

Area	Average Activity	% < 4 pCi/L	% 4-20 pCi/L	% > 20 pCi/L
Living Area - 1st Floor	1.032 pCi/L	95%	5%	0%
Living Area - 2nd Floor	0.700 pCi/L	100%	0%	0%
Basement	3.990 pCi/L	87%	12%	1%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: MassDEP

Telephone: 617-292-5907

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Massachusetts Geographic Information System (MassGIS) Datalayers

Source: Executive Office of Environmental Affairs

Telephone:

Public Water Supply Database

Telephone:

The Public Water Supply datalayer contains the locations of public community surface and groundwater supply sources and public non-community supply sources as defined in 310 CMR 22.00.

Areas of Critical Environmental Concern

Telephone:

The Areas of Critical Environmental Concern (ACEC) datalayer shows the location of areas that have been designated ACECs by the Secretary of Environmental Affairs. ACEC designation requires greater environmental review of certain kinds of proposed development under state jurisdiction within the ACEC boundaries. The ACEC Program is administered by the Department of Environmental Management (DEM) on behalf of the Secretary of Environmental Affairs. The Massachusetts Coastal Zone Management (MCZM) Office managed the original Coastal ACEC Program from 1978 to 1993, and continues to play a key role in monitoring coastal ACECs. Procedures for ACEC designation and the general policies governing the effects of designation are contained in the ACEC regulations (301 CMR 12.00). The ACEC datalayer has been compiled by MCZM and DEM and includes both coastal and inland areas.

EPA Designated Sole Source Aquifers

Telephone:

The Sole Source Aquifer datalayer was compiled by the Department of Environmental Protection (DEP) Division of Water Supply (DWS). Seven Sole Source Aquifers have been designated by the US Environmental Protection Agency (EPA) for Massachusetts. A Sole Source Aquifer (SSA) is an aquifer designated by US EPA as the sole or principal source of drinking water for a given aquifer service area; that is, an aquifer which is needed to supply 50% or more of the drinking water for that area and for which there are no reasonably available alternative sources should that aquifer become contaminated. The aquifers were defined by an EPA hydrogeologist.

Aquifers

Telephone:

MassGIS produced an aquifer datalayer composed of 20 individual panels, generally based on the boundaries of the major drainage basins. Areas of high and medium yield were mapped. This datalayer includes polygon attribute coding to help in the identification of areas in which cleanup of hazardous waste sites must meet drinking water standards, as defined in the Massachusetts Contingency Plan (MCP) (310 CMR 40.00000).

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Non-Potential Drinking Water Source Areas

Telephone:

Non-Potential Drinking Water Source Areas (NPDWSA) are regulatory in nature representing one of many considerations used in determining the standards to which ground water must be cleaned in the event of a release of oil or hazardous material. NPDWSAs are not based on existing water quality and do not indicate poor ambient conditions.

DEP Approved Zone IIs

Telephone:

The Department of Environmental Protection (DEP) approved Zone IIs datalayer was compiled by the DEP Division of Water Supply (DWS). The database contains 281 approved Zone IIs statewide. As stated in 310 CMR 22.02, a Zone II is 'that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at safe yield, with no recharge from precipitation.) It is bounded by the groundwater divides which result from pumping the well and by the contact of the aquifer with less permeable materials such as till or bedrock. In some cases, streams or lakes may act as recharge boundaries. In all cases, Zone IIs shall extend up gradient to its point of intersection with prevailing hydrogeologic boundaries (a groundwater flow divide, a contact with till or bedrock, or a recharge boundary).' These data are used in association with the Public Water Supplies datalayer. The following describes certain unique features of this association.\n - Any proposed new well which will pump at least 100,000 gallons per day must have a Zone II delineation completed and approved by DEP prior to the well coming on line. \n- Additionally, a new source may not be on-line yet, but other, older wells may fall within its Zone II boundary.\n - Further, existing wells must have a Zone II delineated as a condition of receiving a water withdrawal permit under the Water Management Act.

OTHER STATE DATABASE INFORMATION

RADON

State Database: MA Radon

Source: Department of Health

Telephone: 413-586-7525

Radon Test Results

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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APPENDIX C

CERTIFIED SANBORN® MAP REPORT

Undeveloped Property

County Road

West Wareham, MA 02576

Inquiry Number: 7489270.3

November 06, 2023

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/06/23

Site Name:

Undeveloped Property
County Road
West Wareham, MA 02576
EDR Inquiry # 7489270.3

Client Name:

Lightship Engineering
39 Industrial Park Road
Plymouth, MA 02360
Contact: Kristin Maloney



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Lightship Engineering were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 6DB2-42D3-A0AB

PO # 1075.1

Project West Wareham

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: 6DB2-42D3-A0AB

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

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APPENDIX D

THE EDR AERIAL PHOTO DECADE PACKAGE



Undeveloped Property

County Road

West Wareham, MA 02576

Inquiry Number: 7489270.8

November 06, 2023

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

11/06/23

Site Name:

Undeveloped Property
County Road
West Wareham, MA 02576
EDR Inquiry # 7489270.8

Client Name:

Lightship Engineering
39 Industrial Park Road
Plymouth, MA 02360
Contact: Kristin Maloney



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2018	1"=750'	Flight Year: 2018	USDA/NAIP
2014	1"=750'	Flight Year: 2014	USDA/NAIP
2010	1"=750'	Flight Year: 2010	USDA/NAIP
2006	1"=750'	Flight Year: 2006	USDA/NAIP
1995	1"=750'	Acquisition Date: March 29, 1995	USGS/DOQQ
1985	1"=750'	Flight Date: March 26, 1985	USDA
1980	1"=750'	Flight Date: September 09, 1980	USDA
1970	1"=750'	Flight Date: September 20, 1970	USDA
1961	1"=750'	Flight Date: March 31, 1961	USGS
1952	1"=750'	Flight Date: August 20, 1952	USDA

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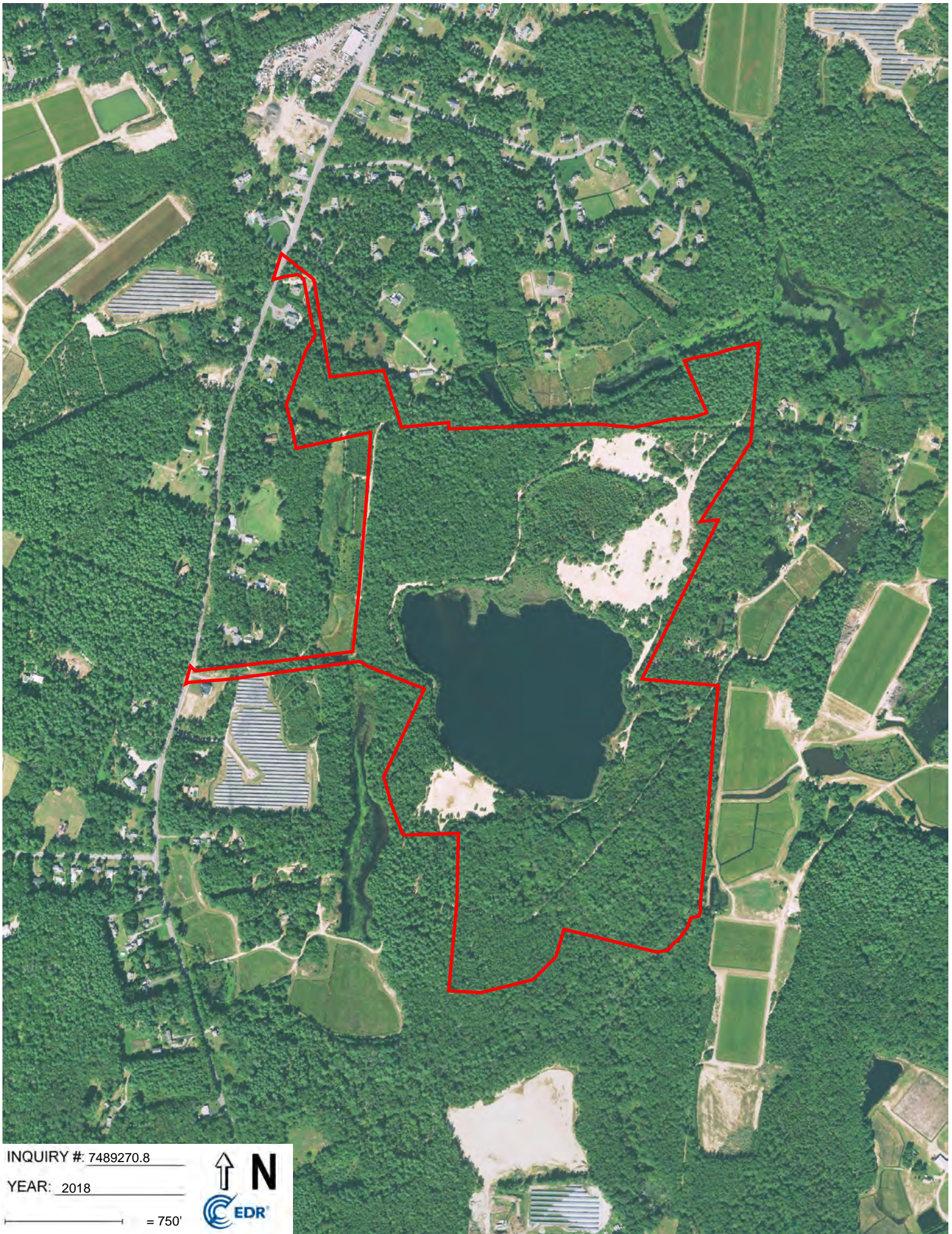
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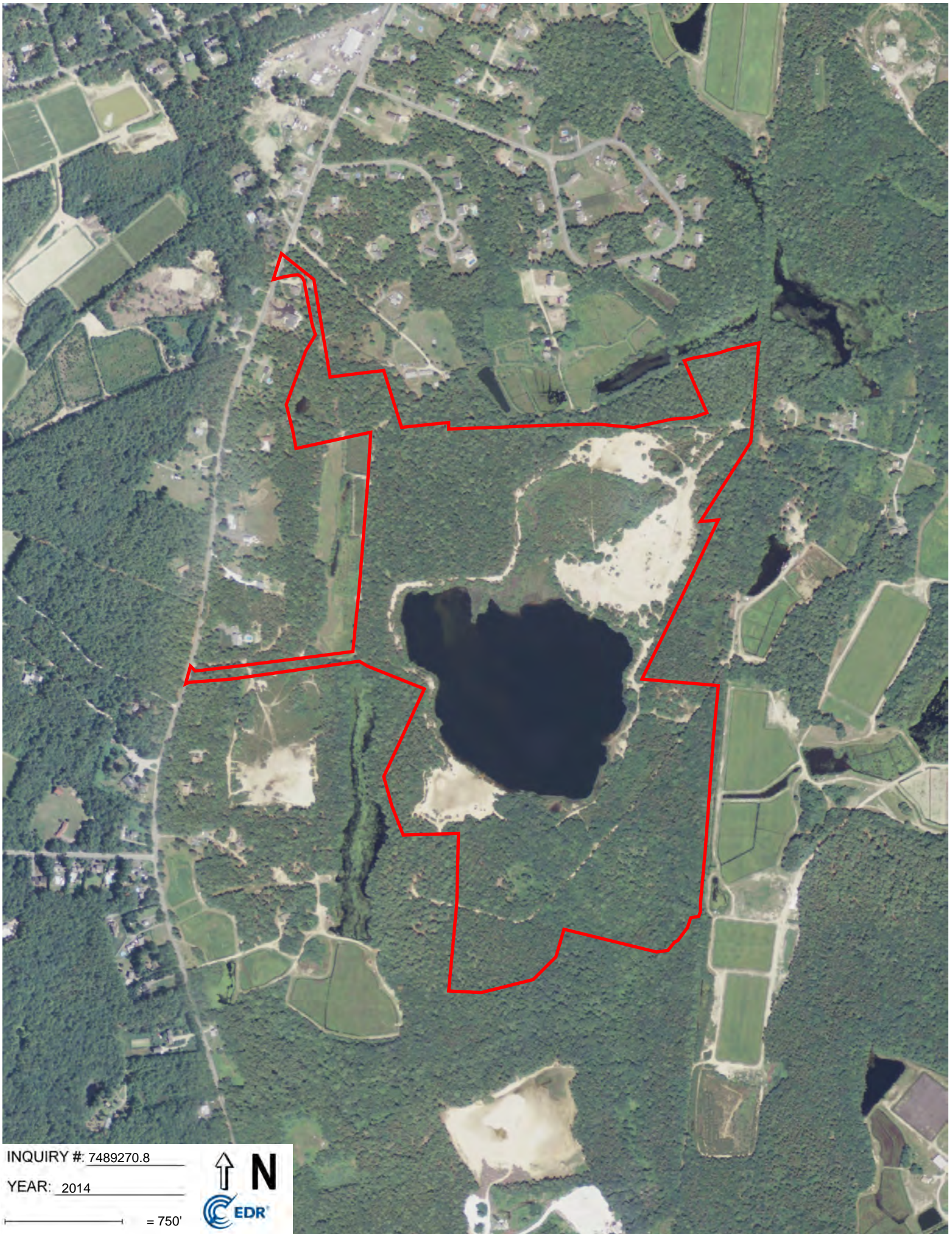


INQUIRY #: 7489270.8

YEAR: 2018

— = 750'



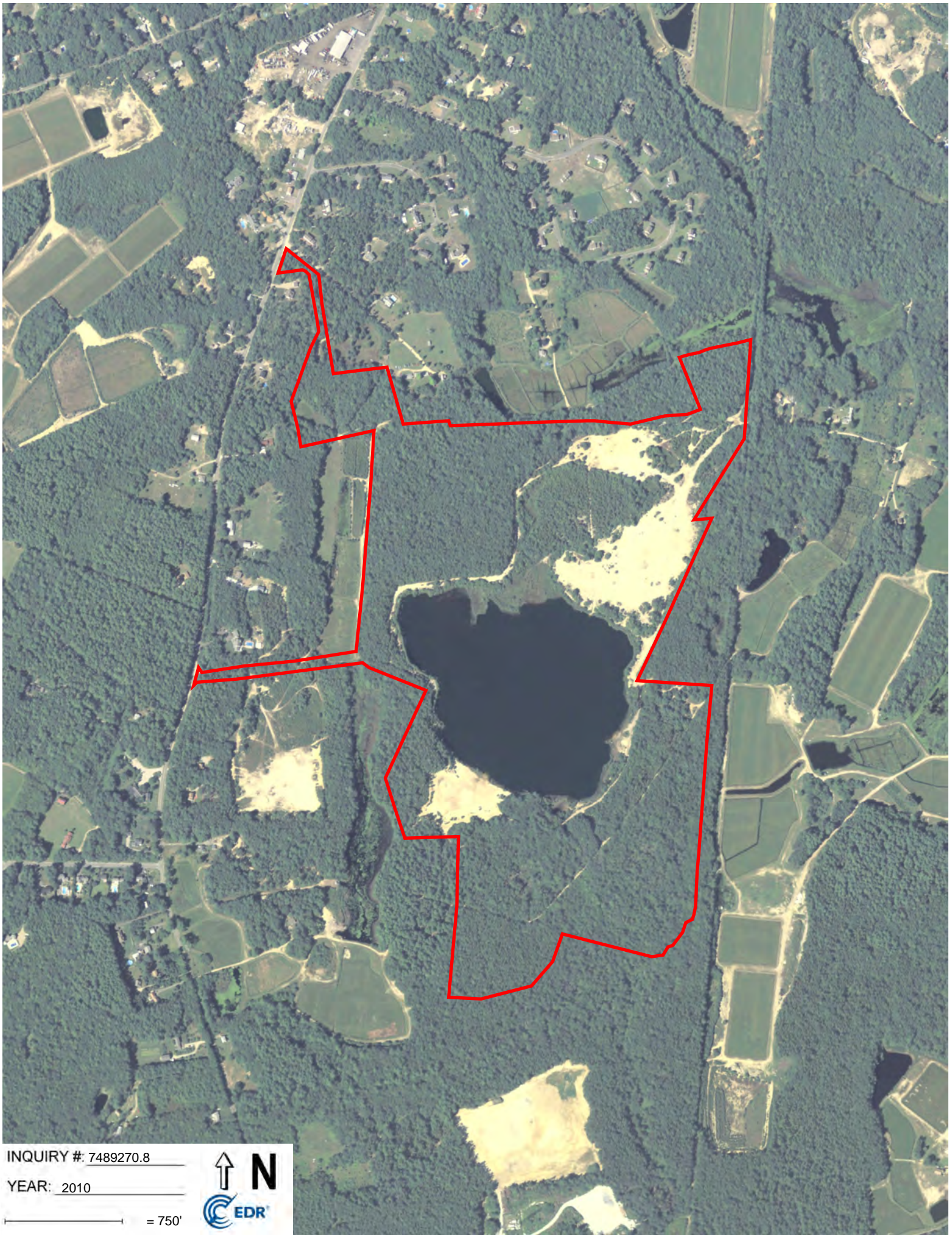


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YEAR: 2014

— = 750'



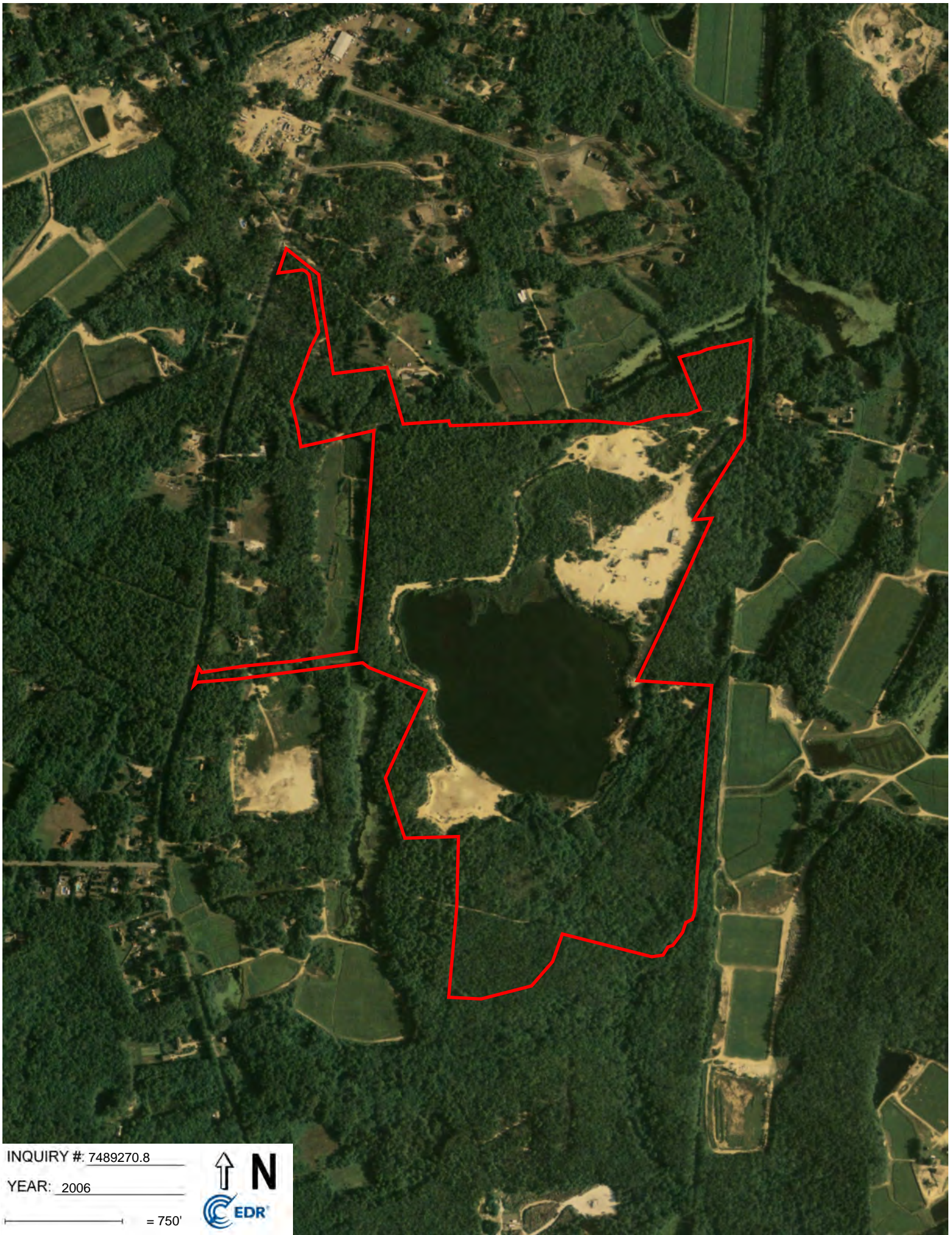


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YEAR: 2010

— = 750'



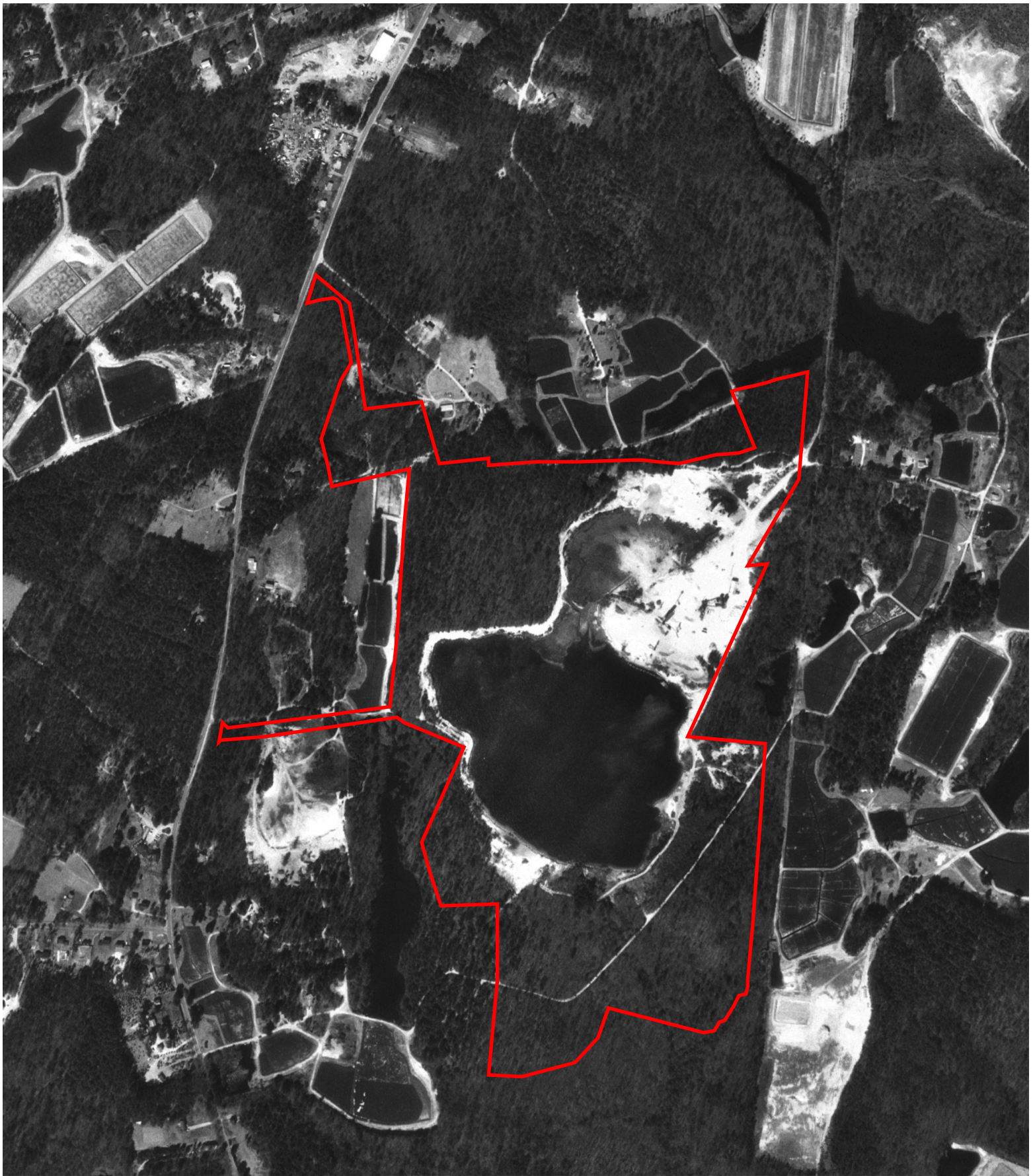


INQUIRY #: 7489270.8

YEAR: 2006

— = 750'





INQUIRY #: 7489270.8

YEAR: 1995

— = 750'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.

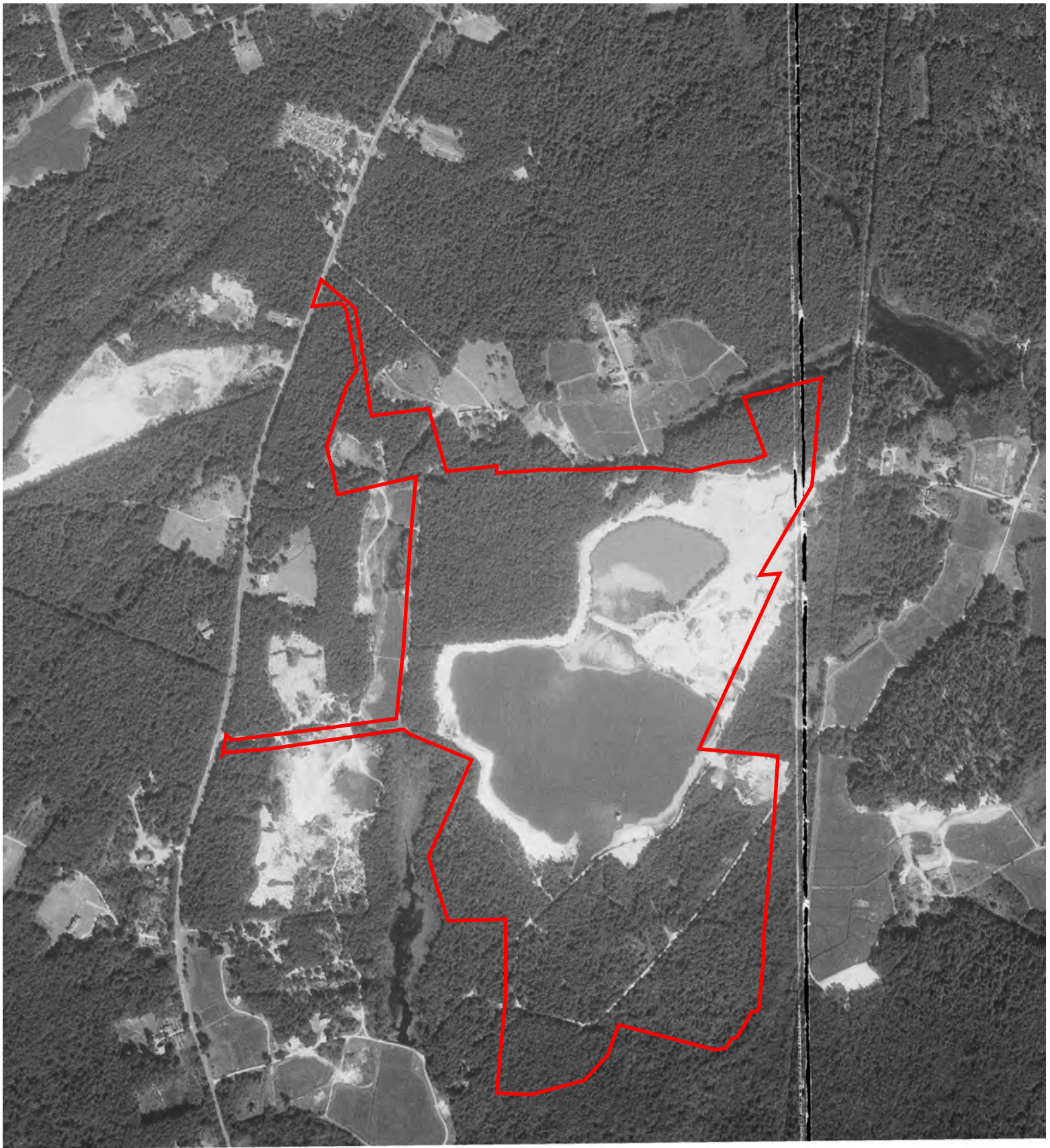


INQUIRY #: 7489270.8

YEAR: 1985

— = 750'



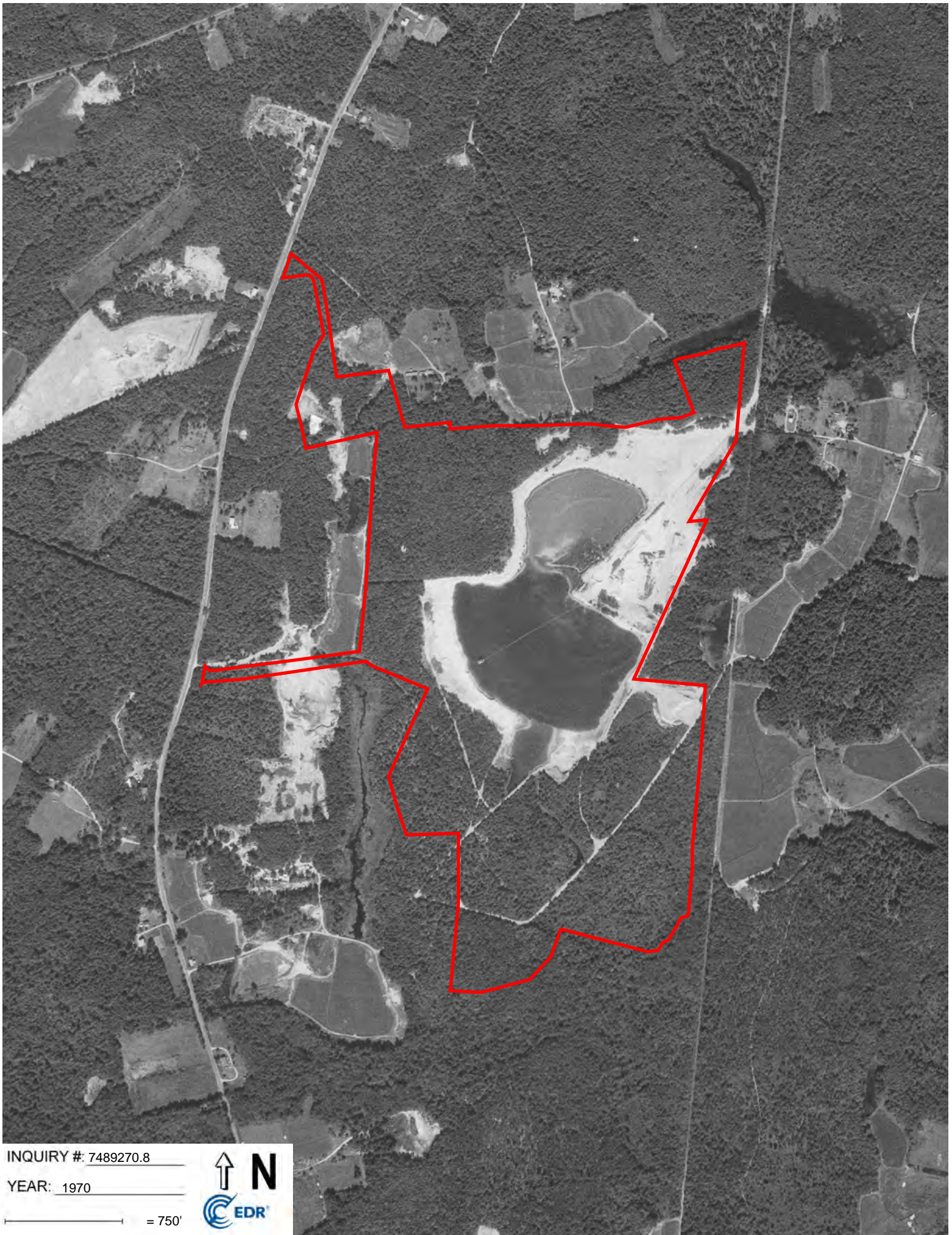


INQUIRY #: 7489270.8

YEAR: 1980

— = 750'





INQUIRY # 7489270.8

YEAR: 1970

— = 750'



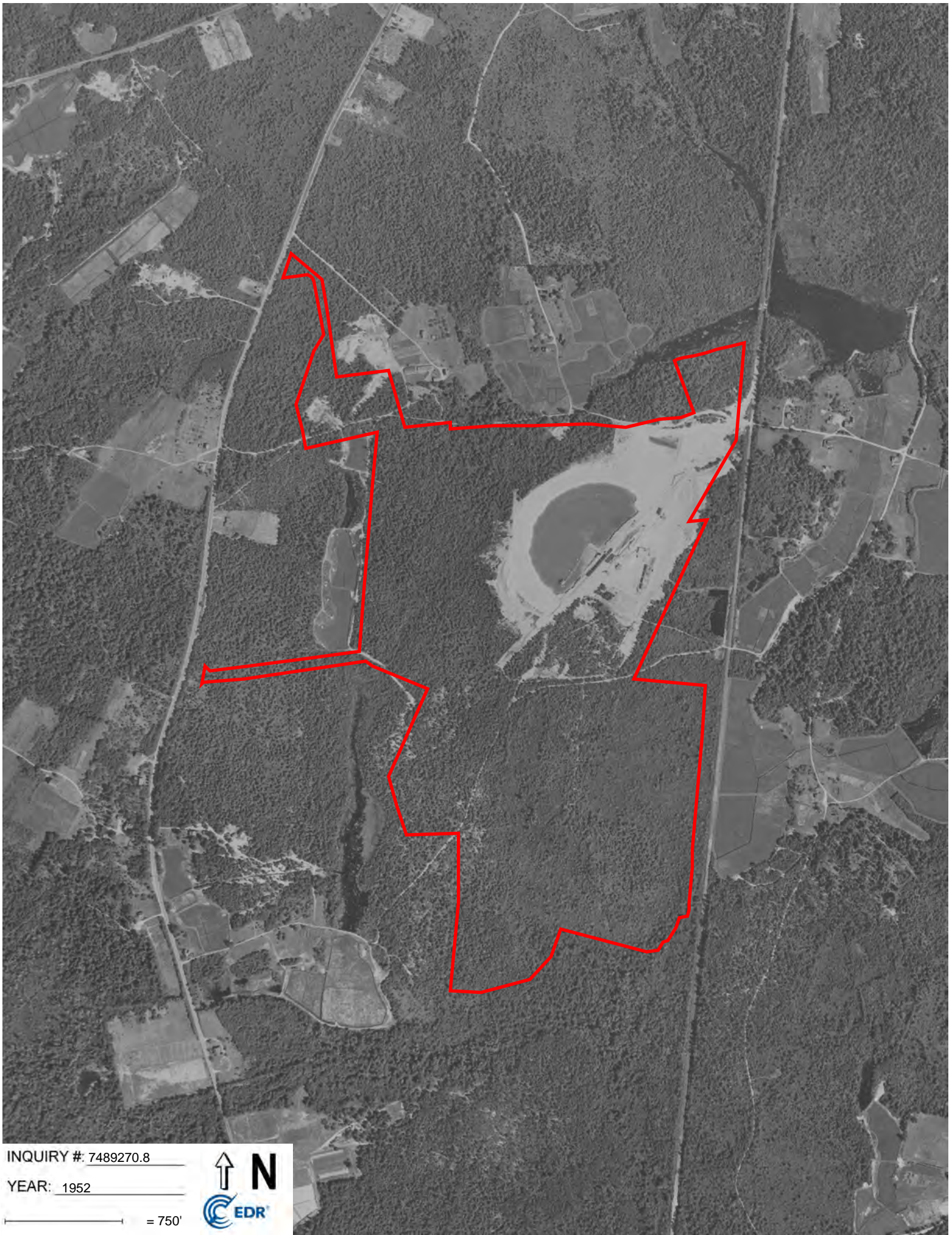


INQUIRY #: 7489270.8

YEAR: 1961

— = 750'





INQUIRY #: 7489270.8

YEAR: 1952

— = 750'



APPENDIX E

EDR HISTORICAL TOPO MAP REPORT WITH QUADMATCH

Undeveloped Property

County Road

West Wareham, MA 02576

Inquiry Number: 7489270.4

November 06, 2023

EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

11/06/23

Site Name:

Undeveloped Property
County Road
West Wareham, MA 02576
EDR Inquiry # 7489270.4

Client Name:

Lightship Engineering
39 Industrial Park Road
Plymouth, MA 02360
Contact: Kristin Maloney



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Lightship Engineering were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:**Coordinates:**

P.O.#	1075.1	Latitude:	41.754641 41° 45' 17" North
Project:	West Wareham	Longitude:	-70.773211 -70° 46' 24" West
		UTM Zone:	Zone 19 North
		UTM X Meters:	352581.39
		UTM Y Meters:	4624054.27
		Elevation:	22.00' above sea level

Maps Provided:

2018	1944, 1947, 1948
2015	1943
2012	1939, 1941, 1942
1985	1935, 1936, 1938
1977	1916, 1918
1957, 1962	1915
1949, 1953	1893
1946, 1949	1888, 1889

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2018 Source Sheets



Snipatuit Pond
2018
7.5-minute, 24000



Marion
2018
7.5-minute, 24000



Wareham
2018
7.5-minute, 24000



Onset
2018
7.5-minute, 24000

2015 Source Sheets



Snipatuit Pond
2015
7.5-minute, 24000



Marion
2015
7.5-minute, 24000



Wareham
2015
7.5-minute, 24000



Onset
2015
7.5-minute, 24000

2012 Source Sheets



Snipatuit Pond
2012
7.5-minute, 24000



Marion
2012
7.5-minute, 24000



Wareham
2012
7.5-minute, 24000



Onset
2012
7.5-minute, 24000

1985 Source Sheets



BRIDGEWATER
1985
15-minute, 50000



NEW BEDFORD
1985
15-minute, 50000

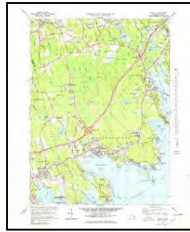
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1977 Source Sheets



Onset
1977
7.5-minute, 25000
Aerial Photo Revised 1977



Marion
1977
7.5-minute, 25000
Aerial Photo Revised 1974



Snipatuit Pond
1977
7.5-minute, 25000
Aerial Photo Revised 1974



Wareham
1977
7.5-minute, 25000
Aerial Photo Revised 1977

1957, 1962 Source Sheets



Wareham
1957
7.5-minute, 24000

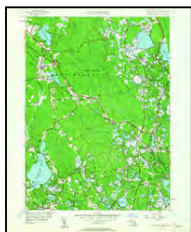


Snipatuit Pond
1962
7.5-minute, 24000



Marion
1962
7.5-minute, 24000

1949, 1953 Source Sheets



Snipatuit Pond
1949
7.5-minute, 24000



Onset
1953
7.5-minute, 24000

1946, 1949 Source Sheets



Wareham
1946
7.5-minute, 31680

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1944, 1947, 1948 Source Sheets



MARION
1944
7.5-minute, 25000



SNIPATUIT POND
1947
7.5-minute, 25000



WAREHAM
1948
7.5-minute, 25000

1943 Source Sheets

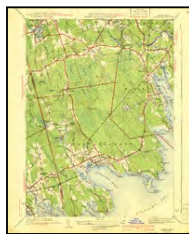


Marion
1943
7.5-minute, 24000

1939, 1941, 1942 Source Sheets



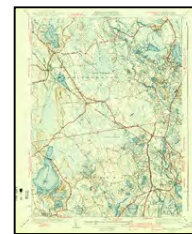
Wareham
1939
7.5-minute, 31680



Marion
1941
7.5-minute, 31680



Onset
1941
7.5-minute, 31680



Snipatuit Pond
1942
7.5-minute, 31680

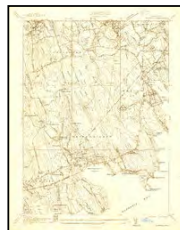
1935, 1936, 1938 Source Sheets



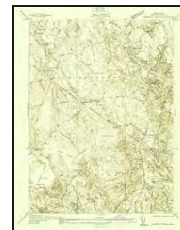
Wareham
1935
7.5-minute, 24000



Onset
1936
7.5-minute, 24000



Marion
1936
7.5-minute, 24000



Snipatuit Pond
1938
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1916, 1918 Source Sheets



Middleboro
1916
15-minute, 62500



New Bedford
1918
15-minute, 62500

1915 Source Sheets



Falmouth
1915
15-minute, 62500



PLYMOUTH
1915
15-minute, 62500

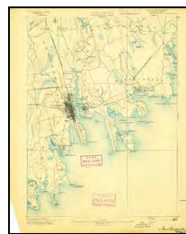


MIDDLEBORO
1915
15-minute, 62500

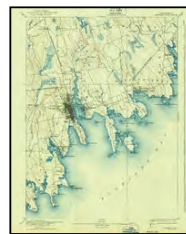
1893 Source Sheets



Falmouth
1893
15-minute, 62500



New Bedford
1893
15-minute, 62500



Fairhaven
1893
15-minute, 62500



Middleboro
1893
15-minute, 62500

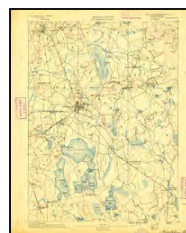
1888, 1889 Source Sheets



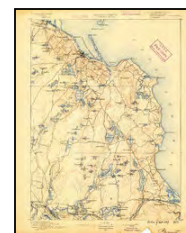
New Bedford
1888
15-minute, 62500



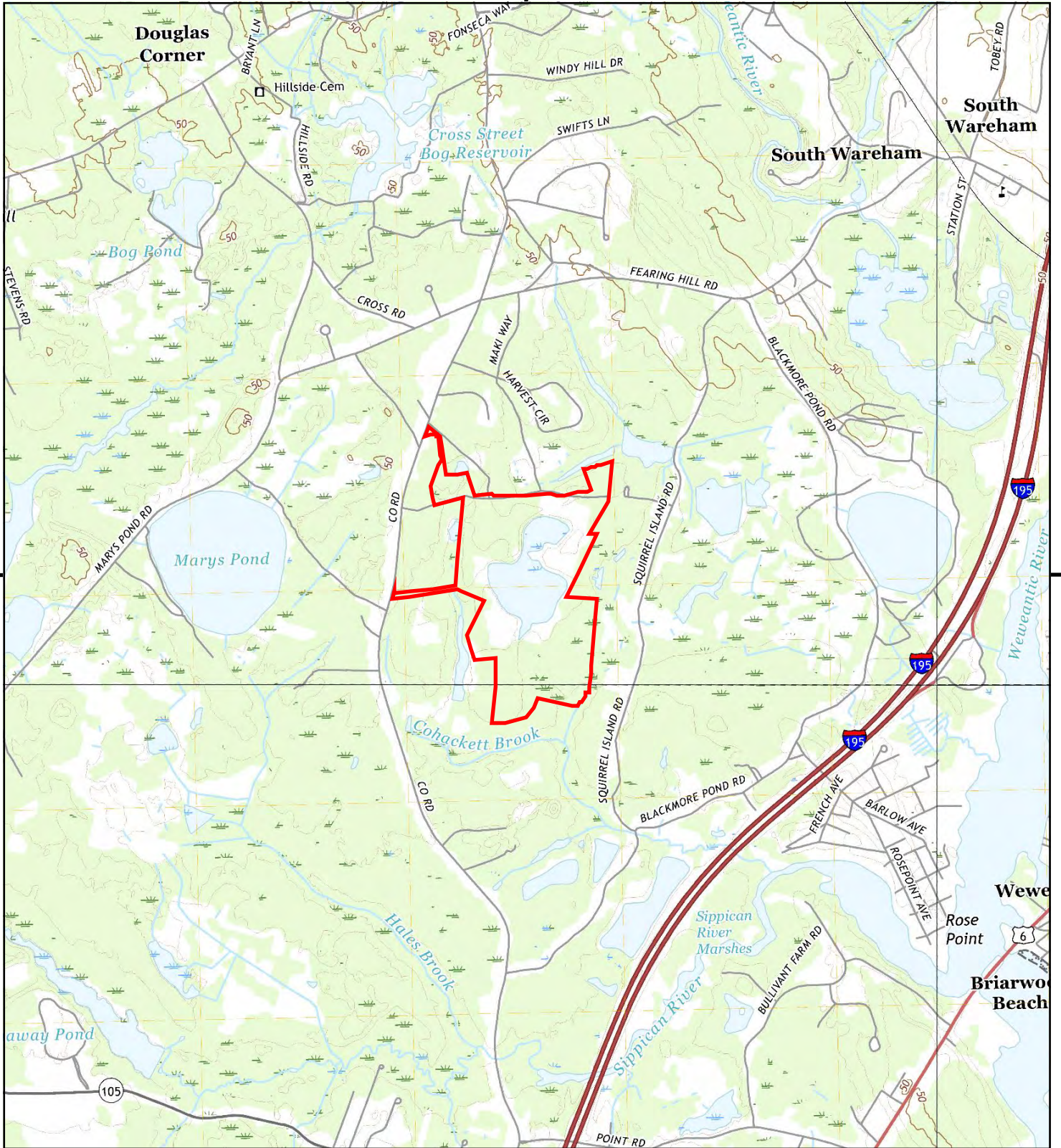
Falmouth
1888
15-minute, 62500



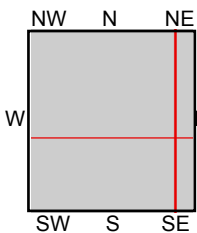
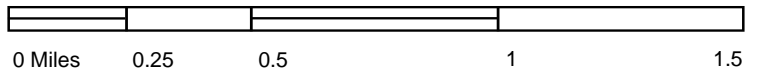
Middleboro
1888
15-minute, 62500



Plymouth
1889
15-minute, 62500



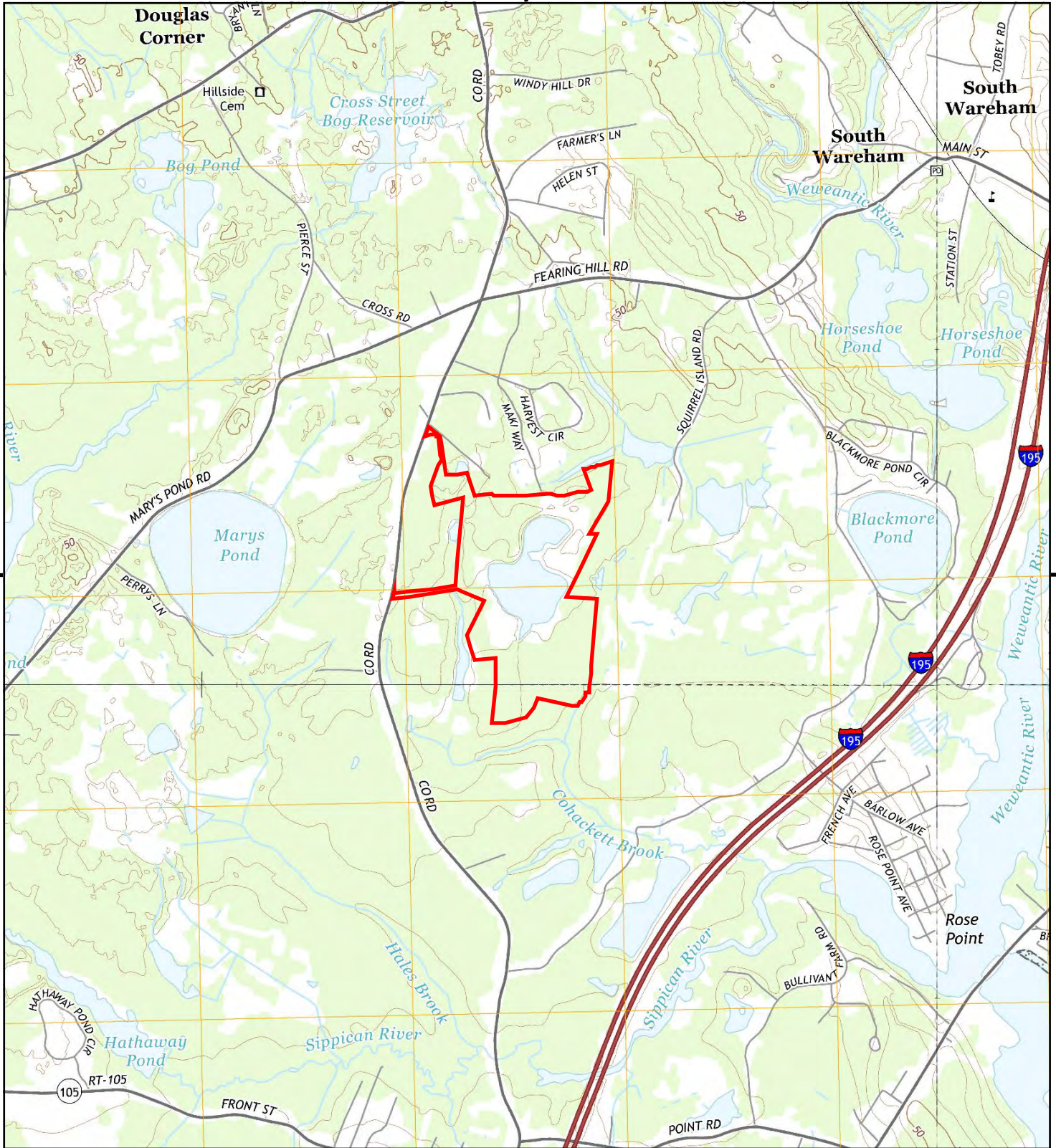
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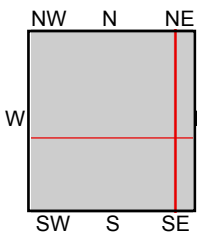
TP, Snipatuit Pond, 2018, 7.5-minute
 NE, Wareham, 2018, 7.5-minute
 SE, Onset, 2018, 7.5-minute
 SW, Marion, 2018, 7.5-minute

SITE NAME: Undeveloped Property
ADDRESS: County Road
 West Wareham, MA 02576
CLIENT: Lightship Engineering





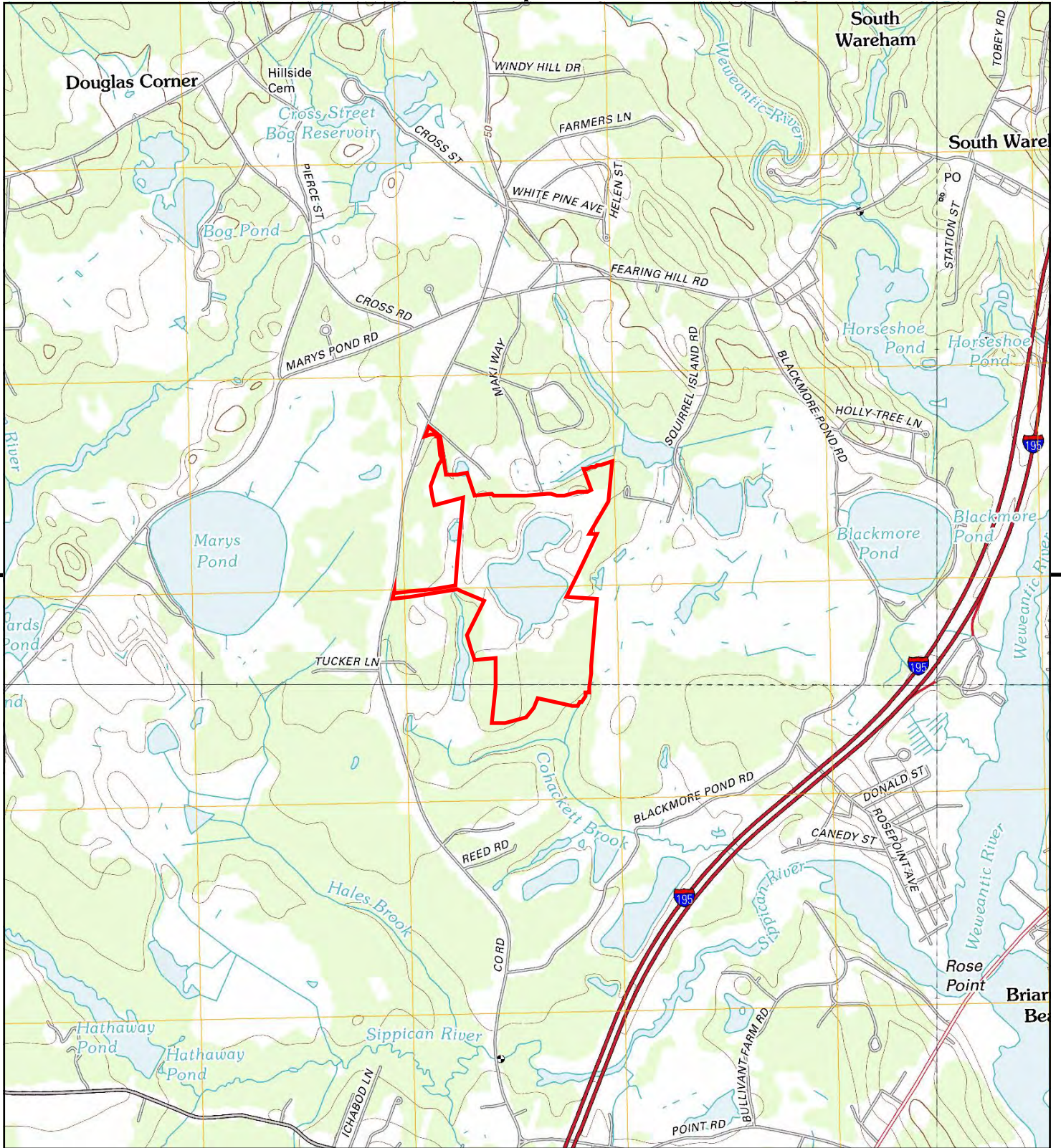
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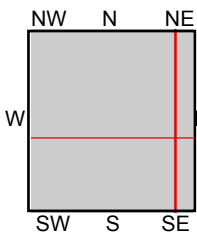
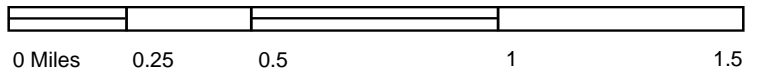
TP, Snipatuit Pond, 2015, 7.5-minute
 NE, Wareham, 2015, 7.5-minute
 SE, Onset, 2015, 7.5-minute
 SW, Marion, 2015, 7.5-minute

SITE NAME: Undeveloped Property
ADDRESS: County Road
 West Wareham, MA 02576
CLIENT: Lightship Engineering





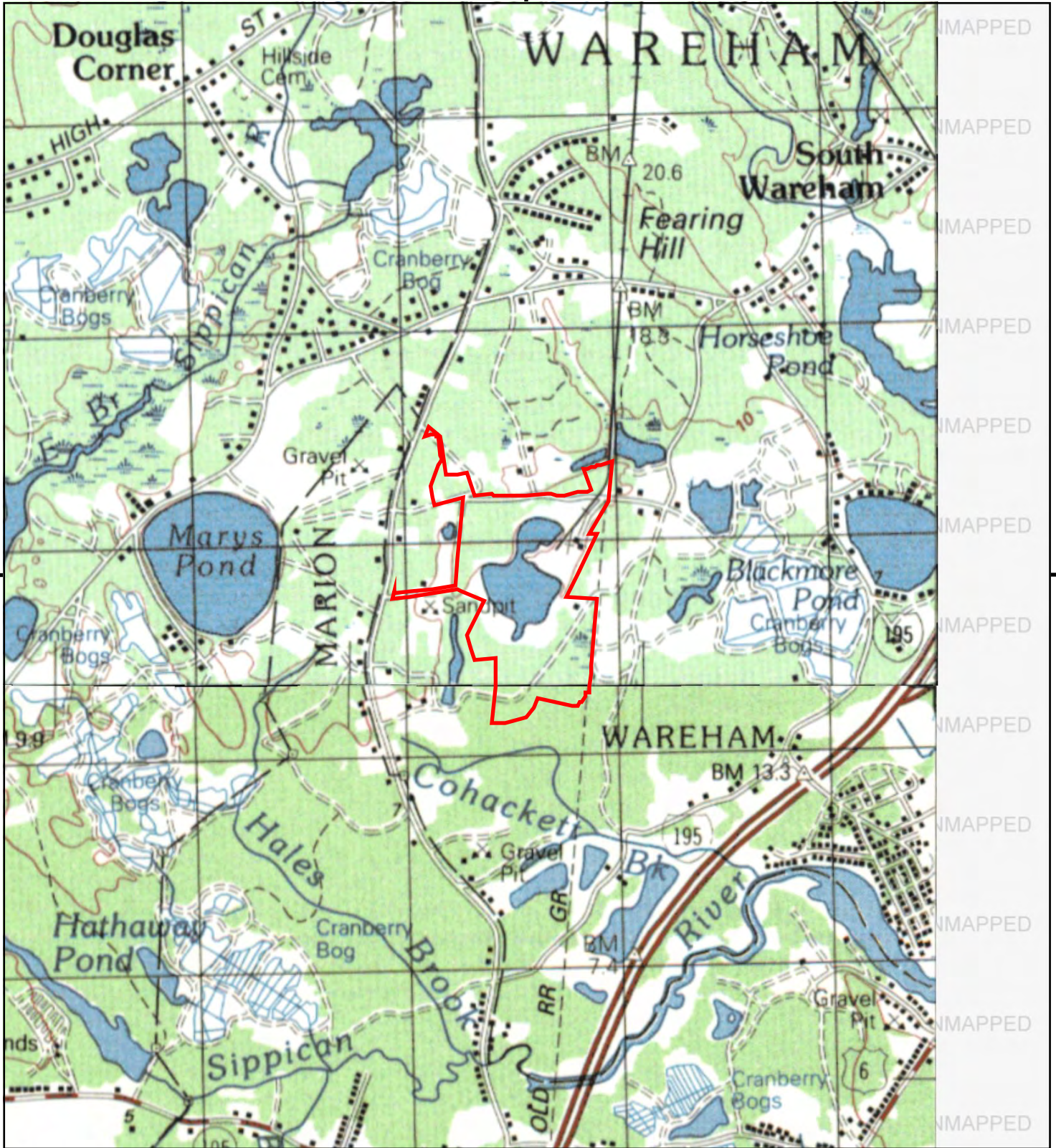
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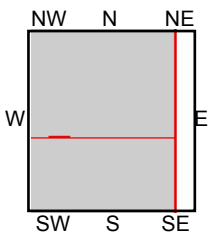
TP, Snipatuit Pond, 2012, 7.5-minute
 NE, Wareham, 2012, 7.5-minute
 SE, Onset, 2012, 7.5-minute
 SW, Marion, 2012, 7.5-minute

SITE NAME: Undeveloped Property
 ADDRESS: County Road
 West Wareham, MA 02576
 CLIENT: Lightship Engineering





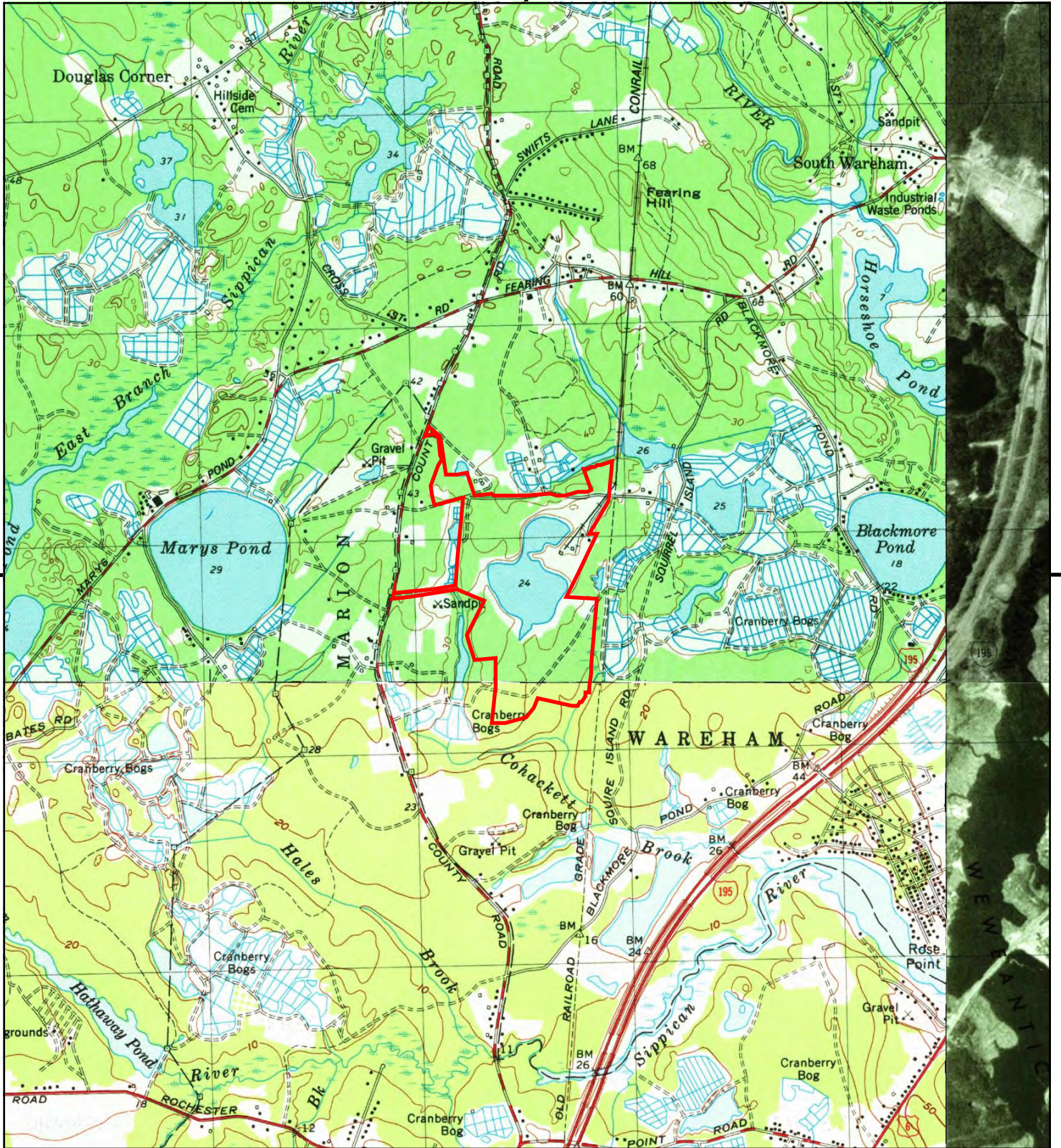
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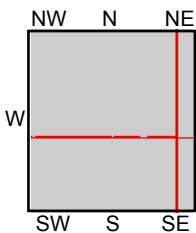
TP, BRIDGEWATER, 1985, 15-minute
SW, NEW BEDFORD, 1985, 15-minute

SITE NAME: Undeveloped Property
ADDRESS: County Road
West Wareham, MA 02576
CLIENT: Lightship Engineering





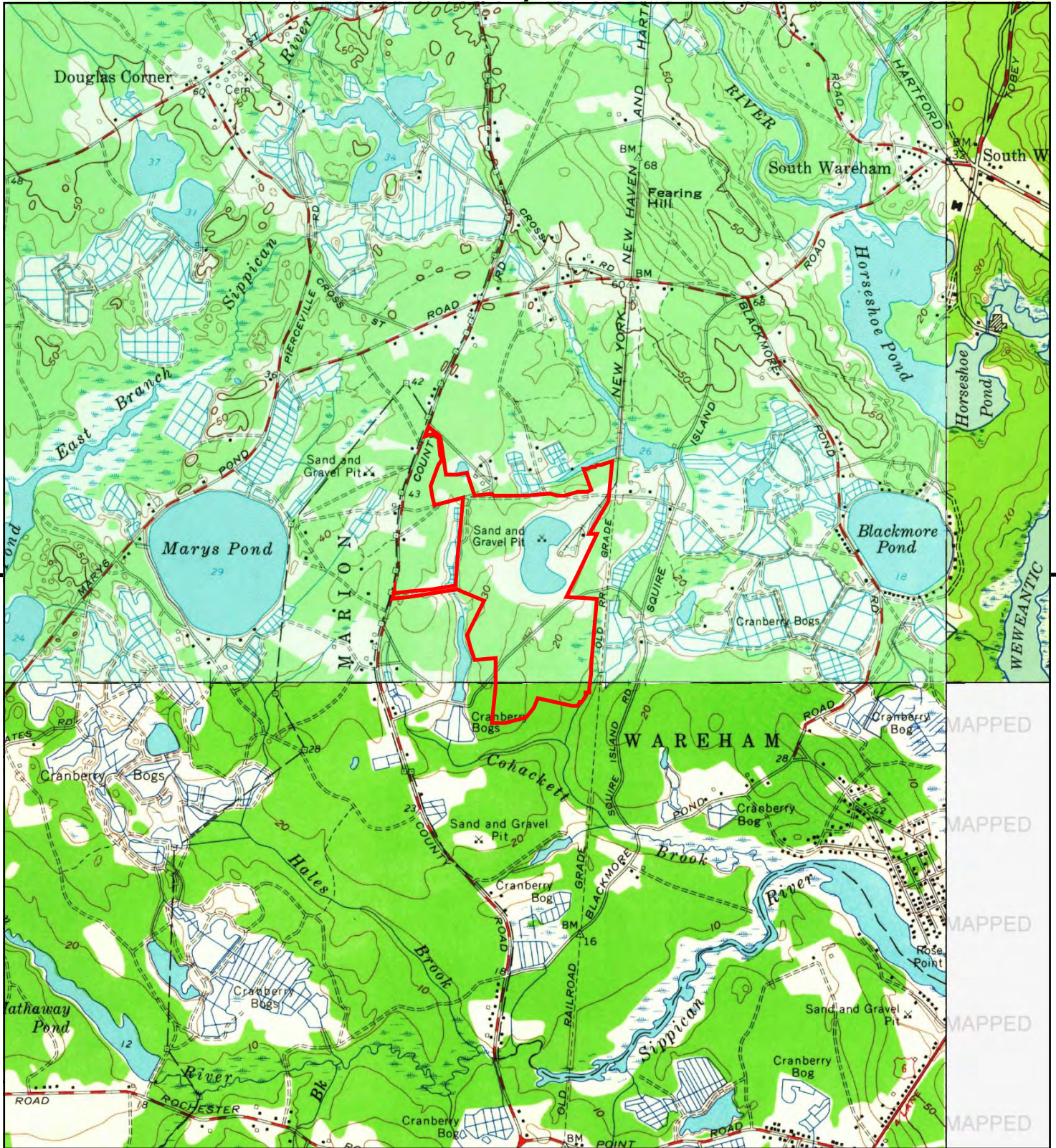
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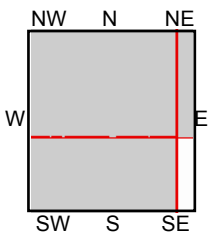
TP, Snipatuit Pond, 1977, 7.5-minute
 NE, Wareham, 1977, 7.5-minute
 SE, Onset, 1977, 7.5-minute
 SW, Marion, 1977, 7.5-minute

SITE NAME: Undeveloped Property
ADDRESS: County Road
 West Wareham, MA 02576
CLIENT: Lightship Engineering





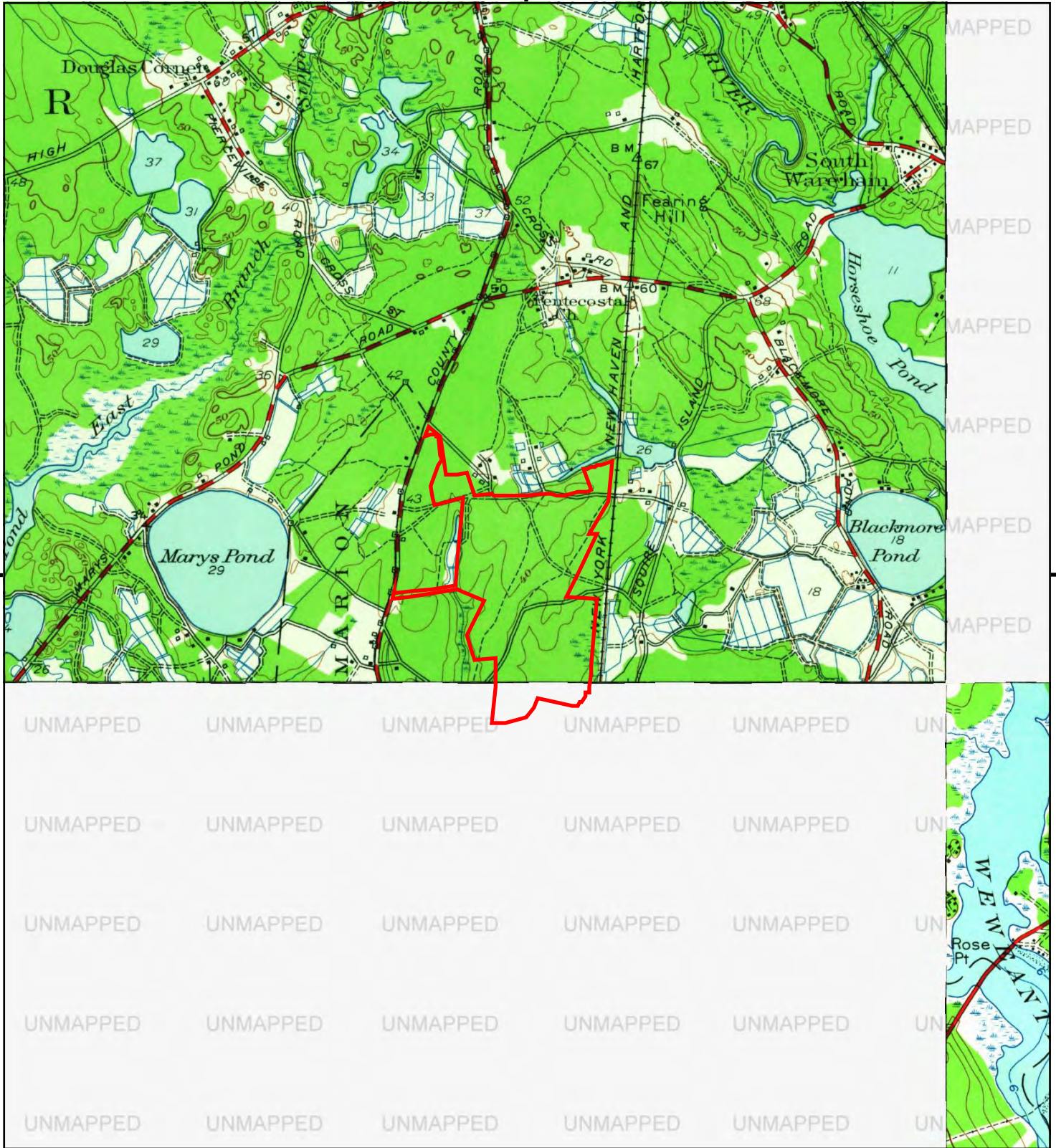
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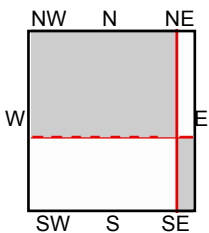
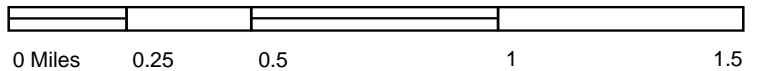
TP, Snipatuit Pond, 1962, 7.5-minute
 NE, Wareham, 1957, 7.5-minute
 SW, Marion, 1962, 7.5-minute

SITE NAME: Undeveloped Property
ADDRESS: County Road
 West Wareham, MA 02576
CLIENT: Lightship Engineering





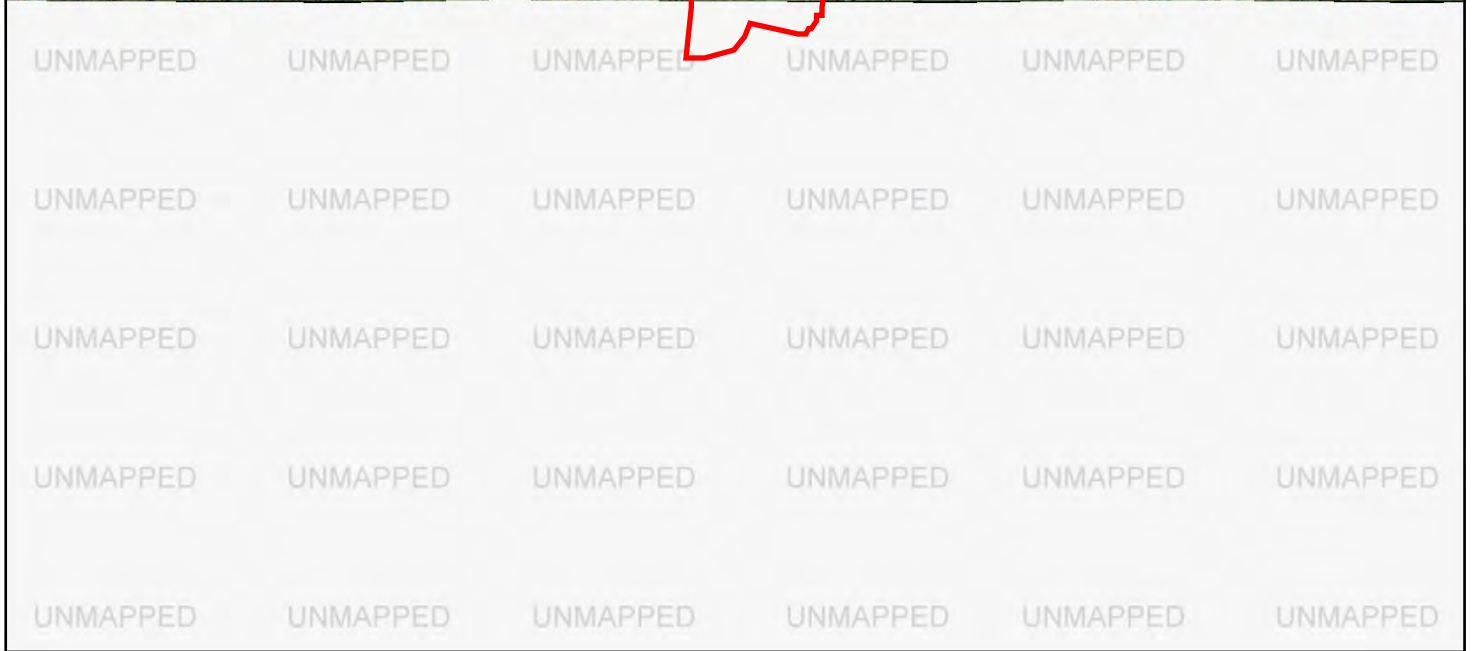
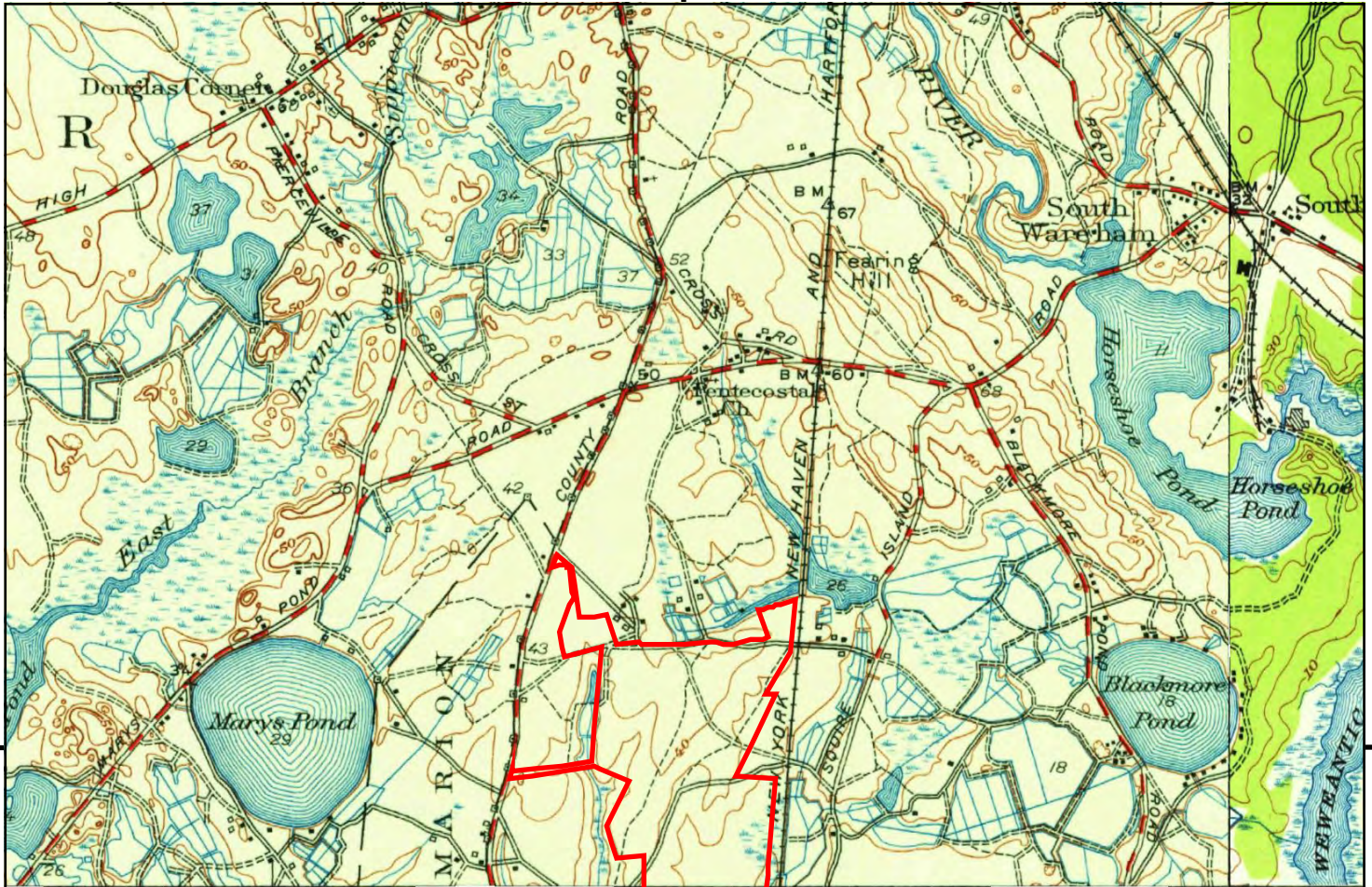
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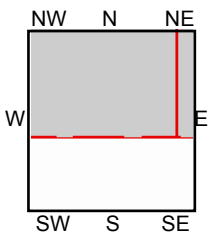
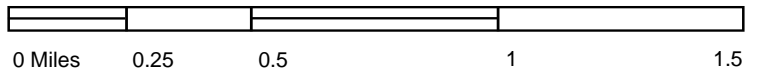
TP, Snipatuit Pond, 1949, 7.5-minute
SE, Onset, 1953, 7.5-minute

SITE NAME: Undeveloped Property
ADDRESS: County Road
West Wareham, MA 02576
CLIENT: Lightship Engineering





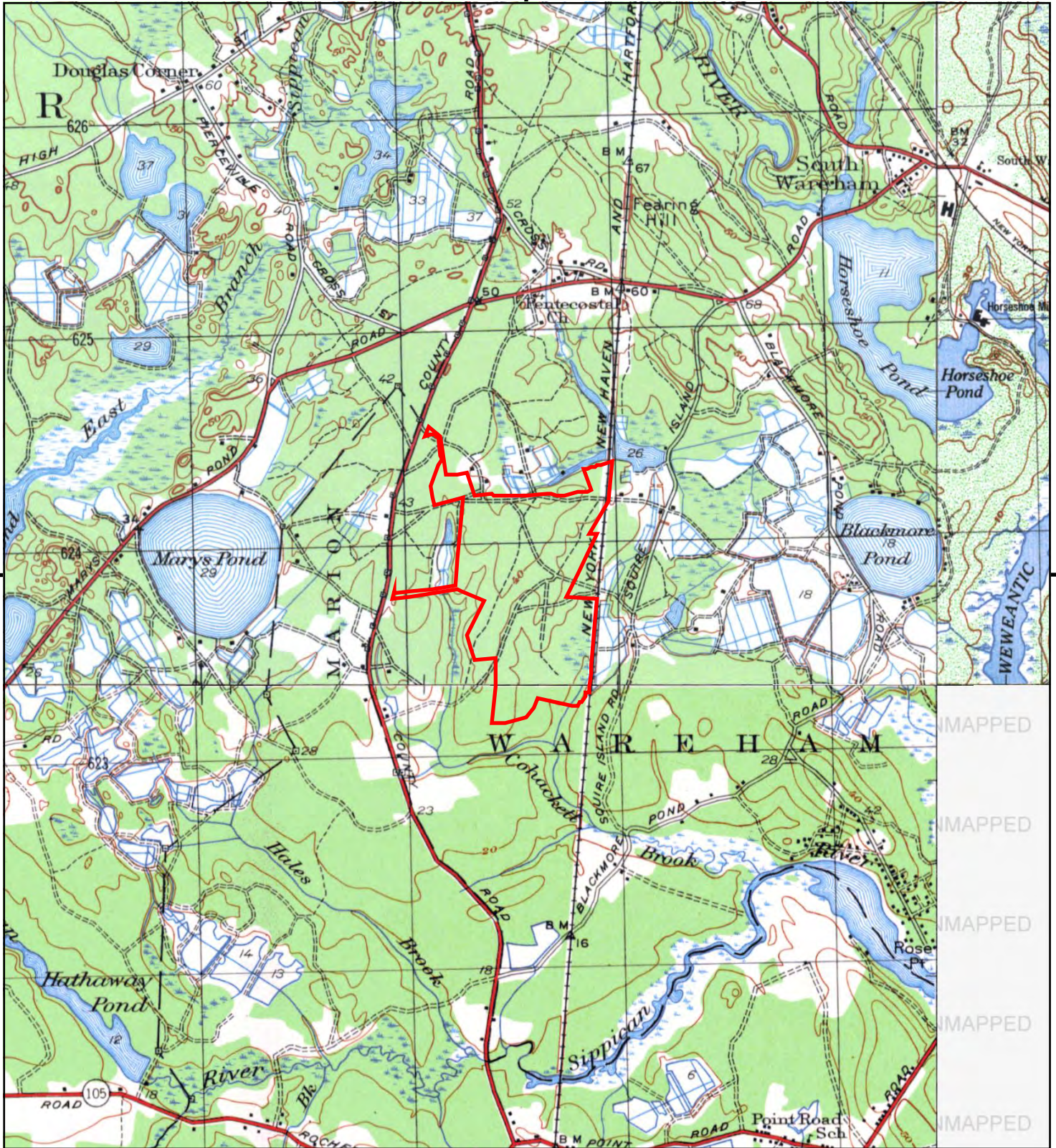
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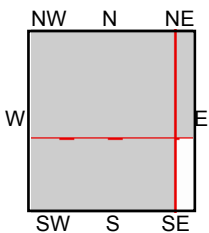
TP, Snipatuit Pond, 1949, 7.5-minute
NE, Wareham, 1946, 7.5-minute

SITE NAME: Undeveloped Property
ADDRESS: County Road
West Wareham, MA 02576
CLIENT: Lightship Engineering





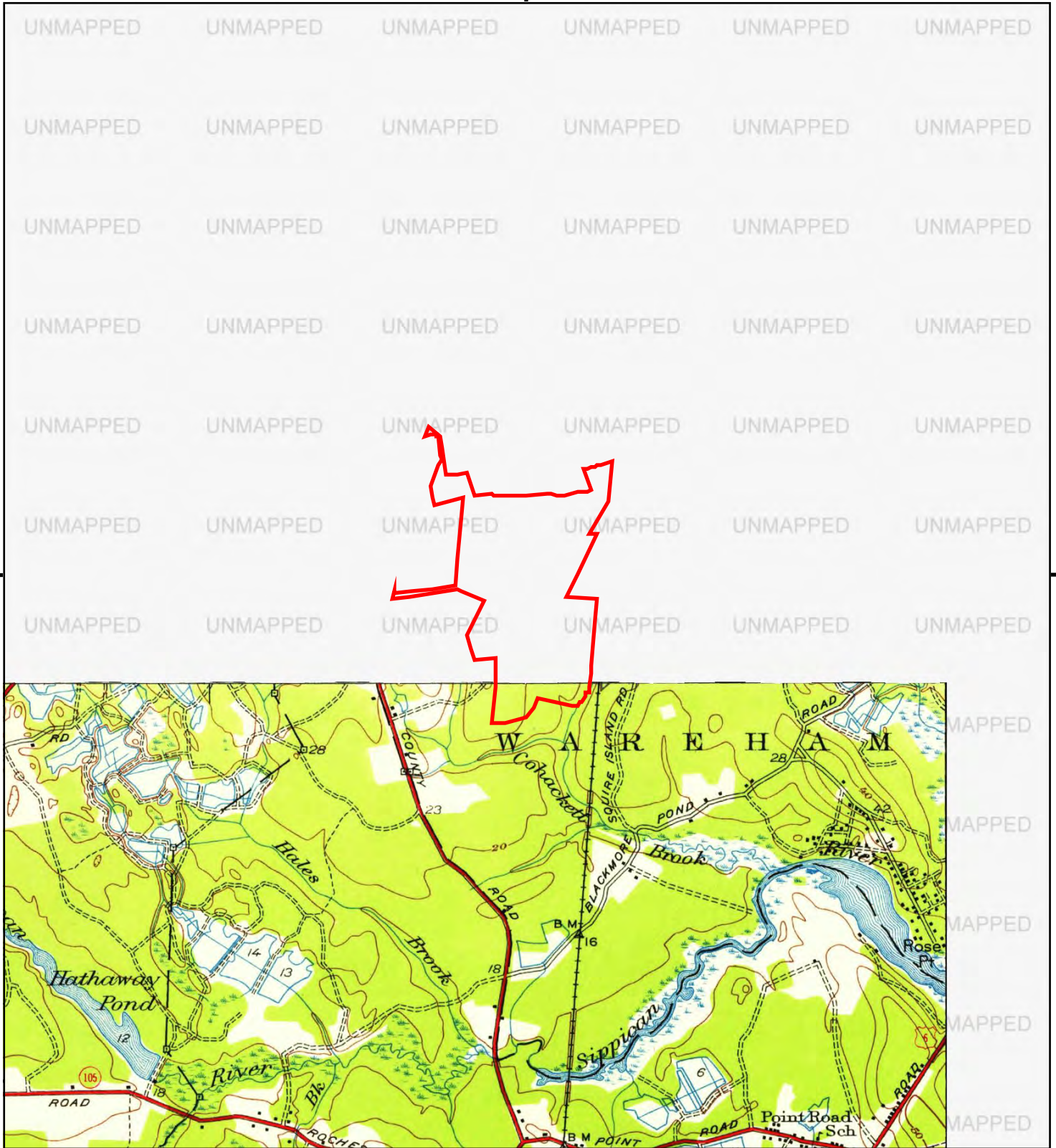
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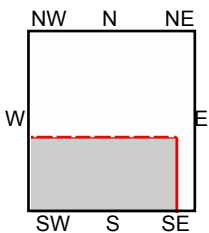
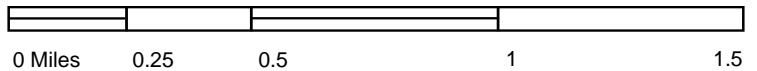
TP, SNIPATUIT POND, 1947, 7.5-minute
 NE, WAREHAM, 1948, 7.5-minute
 SW, MARION, 1944, 7.5-minute

SITE NAME: Undeveloped Property
 ADDRESS: County Road
 West Wareham, MA 02576
 CLIENT: Lightship Engineering





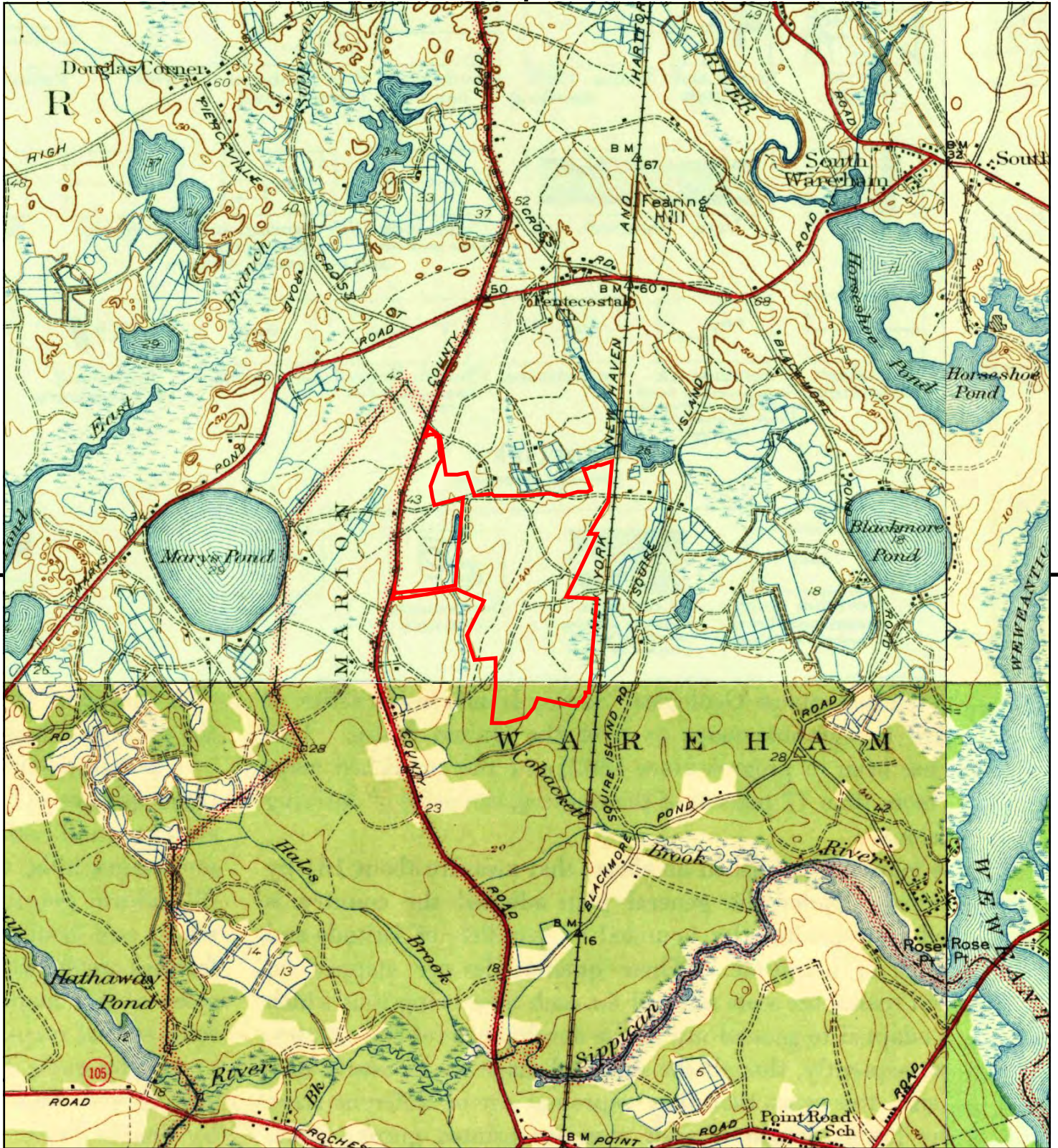
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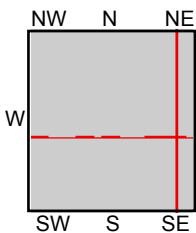
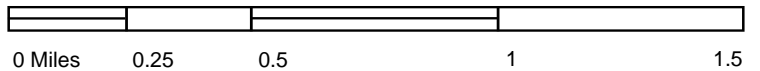
SW, Marion, 1943, 7.5-minute

SITE NAME: Undeveloped Property
 ADDRESS: County Road
 West Wareham, MA 02576
 CLIENT: Lightship Engineering





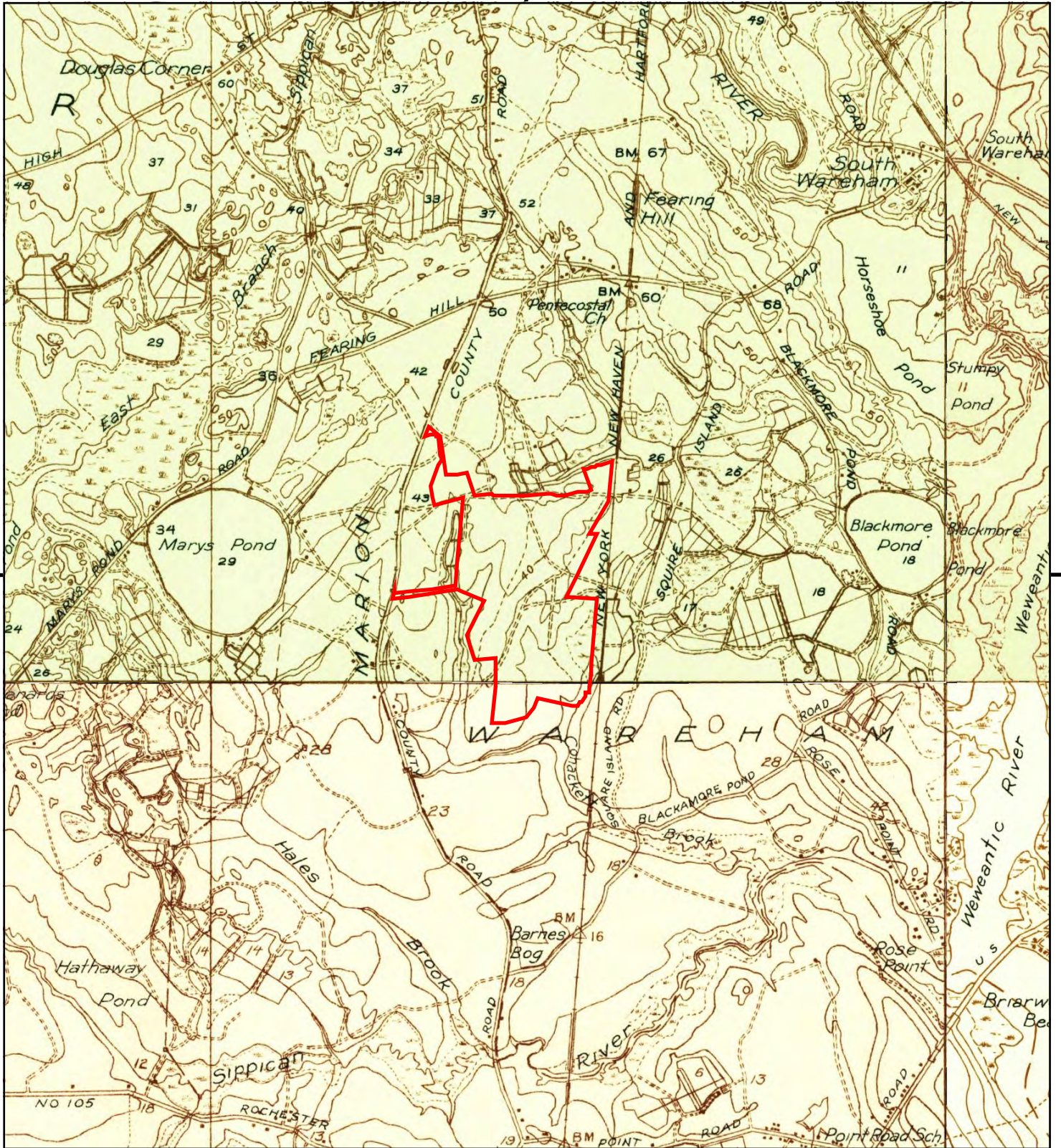
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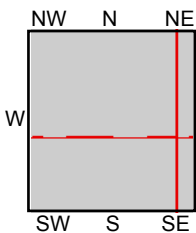
TP, Snipatuit Pond, 1942, 7.5-minute
 NE, Wareham, 1939, 7.5-minute
 SE, Onset, 1941, 7.5-minute
 SW, Marion, 1941, 7.5-minute

SITE NAME: Undeveloped Property
 ADDRESS: County Road
 West Wareham, MA 02576
 CLIENT: Lightship Engineering





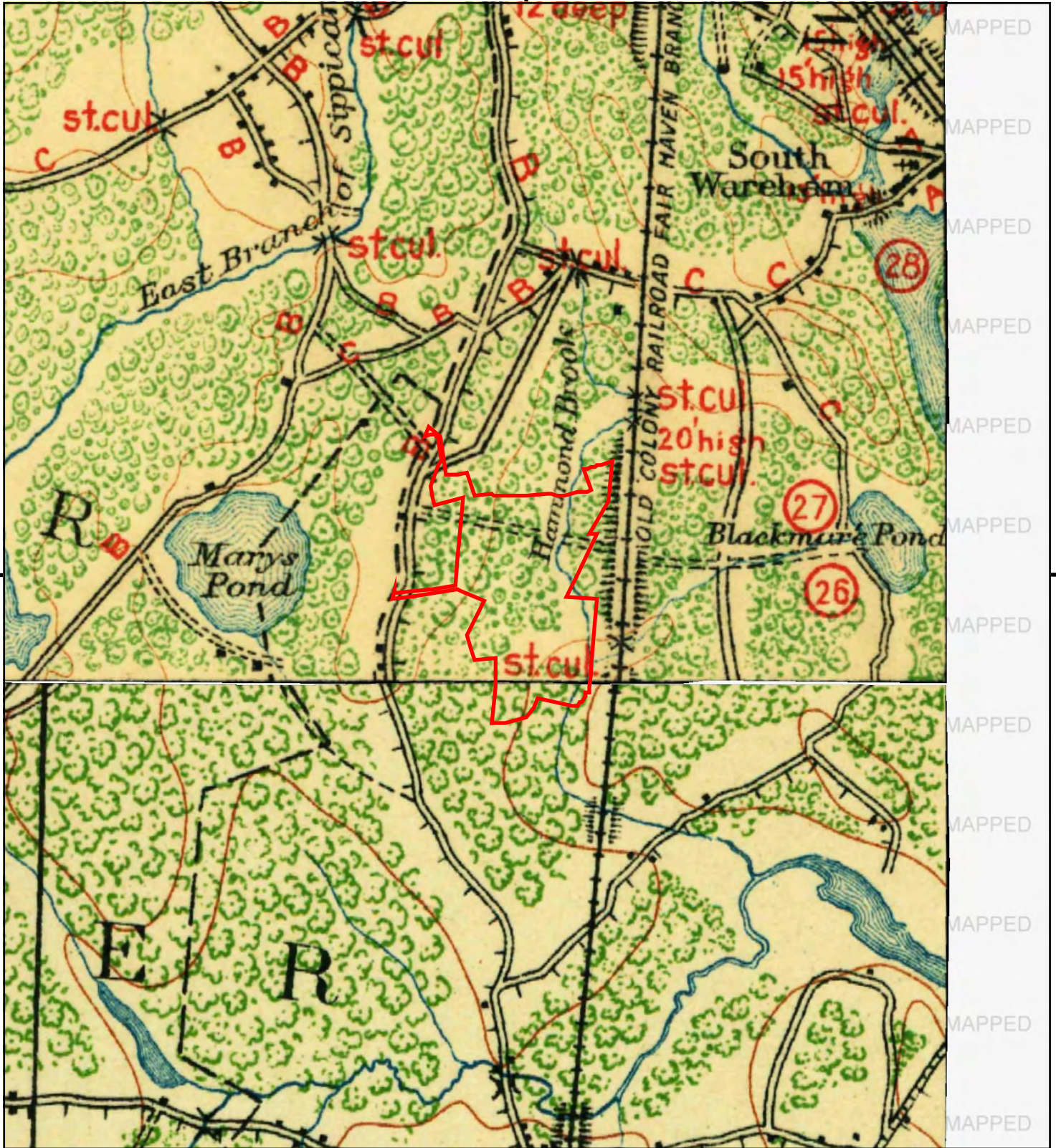
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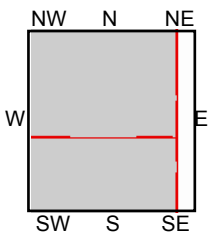
TP, Snipatuit Pond, 1938, 7.5-minute
 NE, Wareham, 1935, 7.5-minute
 SE, Onset, 1936, 7.5-minute
 SW, Marion, 1936, 7.5-minute

SITE NAME: Undeveloped Property
 ADDRESS: County Road
 West Wareham, MA 02576
 CLIENT: Lightship Engineering





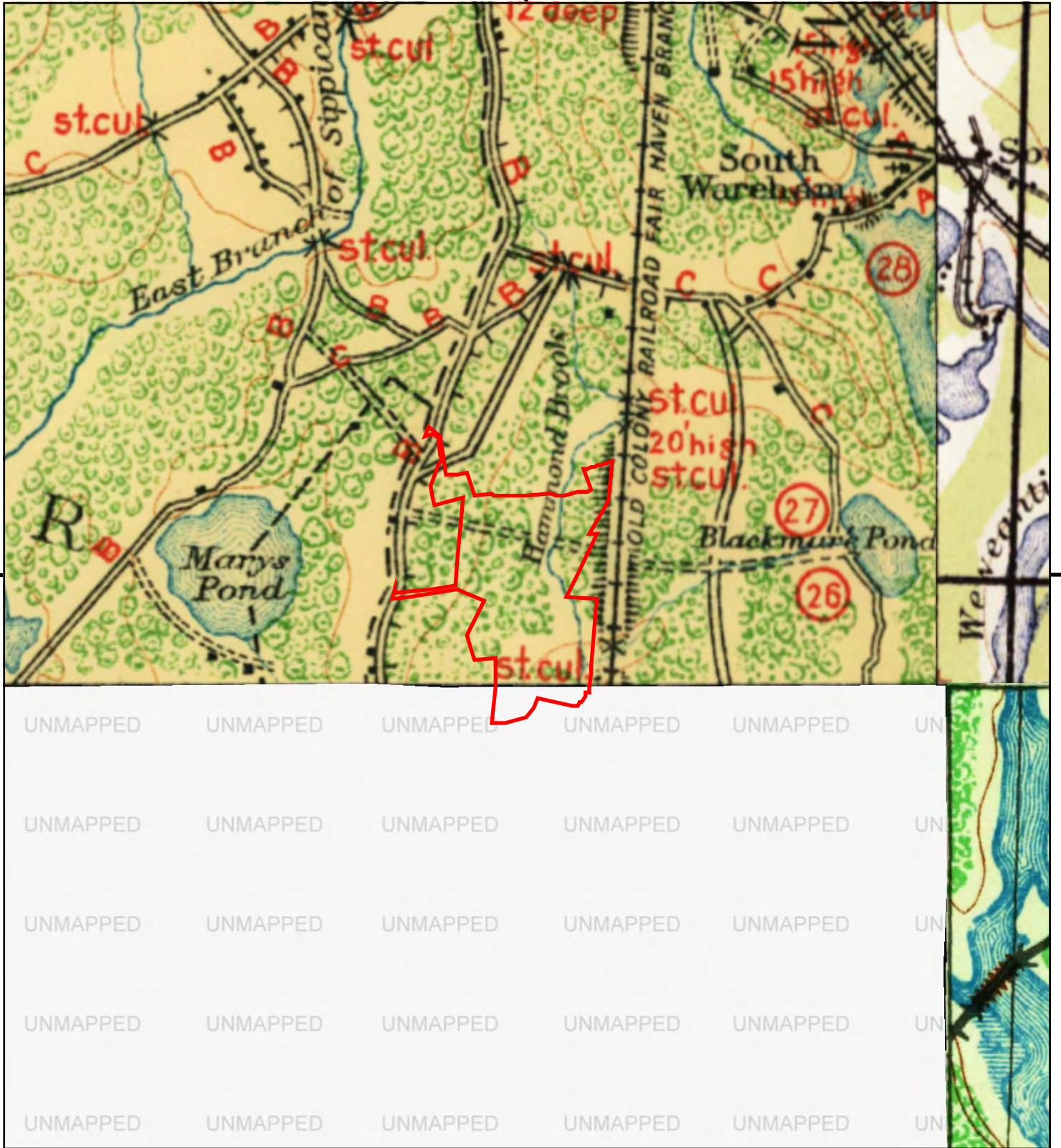
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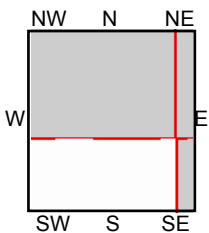
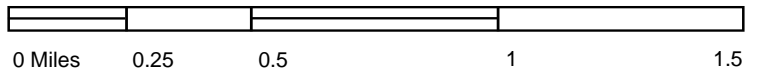
TP, Middleboro, 1916, 15-minute
 SW, New Bedford, 1918, 15-minute

SITE NAME: Undeveloped Property
 ADDRESS: County Road
 West Wareham, MA 02576
 CLIENT: Lightship Engineering





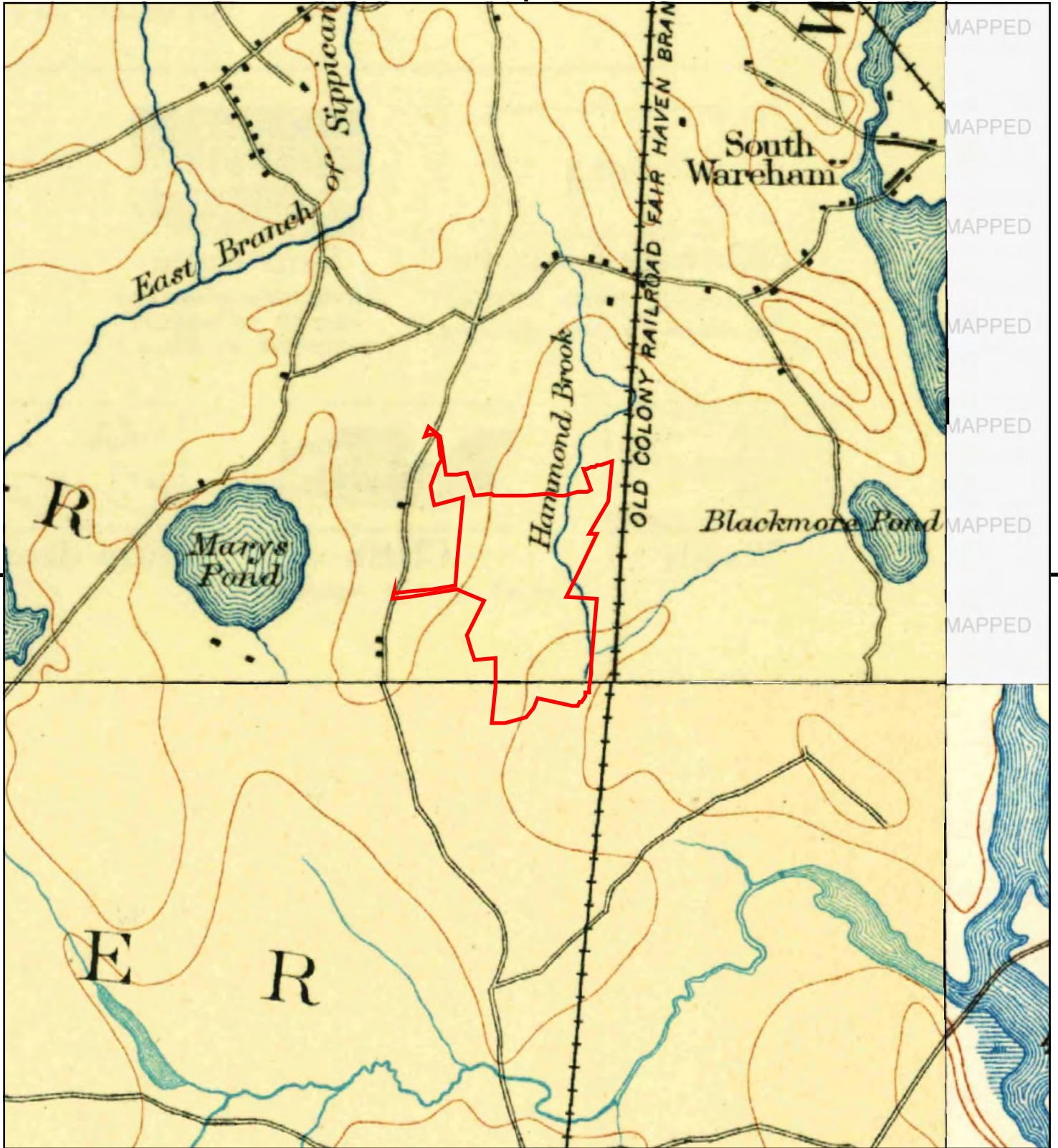
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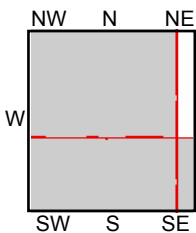
TP, MIDDLEBORO, 1915, 15-minute
 NE, PLYMOUTH, 1915, 15-minute
 SE, Falmouth, 1915, 15-minute

SITE NAME: Undeveloped Property
 ADDRESS: County Road
 West Wareham, MA 02576
 CLIENT: Lightship Engineering





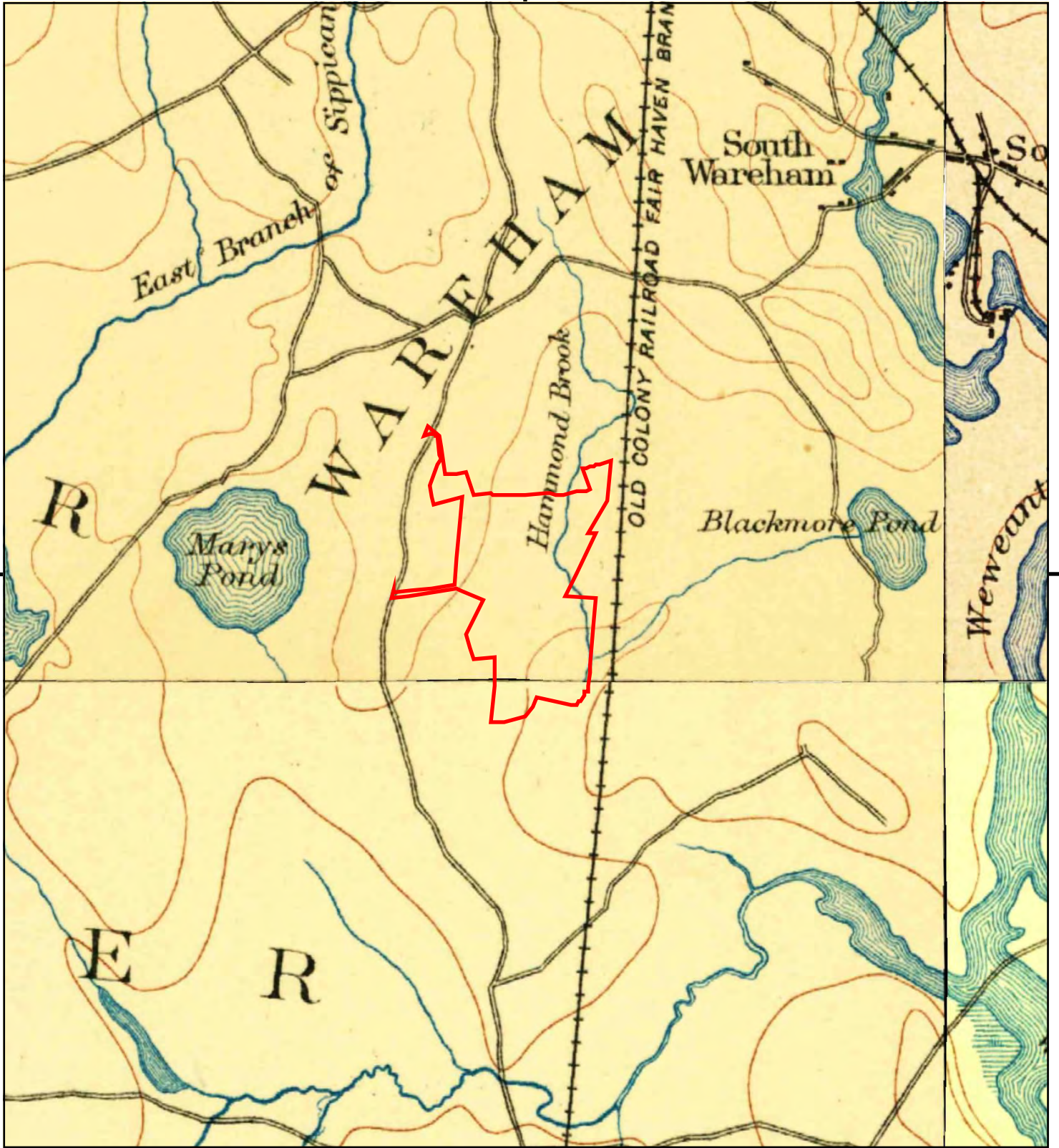
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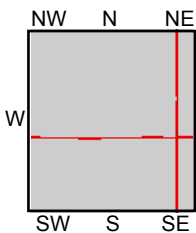
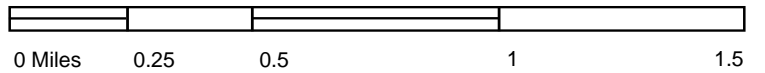
TP, Middleboro, 1893, 15-minute
 SE, Falmouth, 1893, 15-minute
 SW, New Bedford, 1893, 15-minute
 SW, Fairhaven, 1893, 15-minute

SITE NAME: Undeveloped Property
 ADDRESS: County Road
 West Wareham, MA 02576
 CLIENT: Lightship Engineering





This report includes information from the following map sheet(s).



TP, Middleboro, 1888, 15-minute
 NE, Plymouth, 1889, 15-minute
 SE, Falmouth, 1888, 15-minute
 SW, New Bedford, 1888, 15-minute

SITE NAME: Undeveloped Property
ADDRESS: County Road
 West Wareham, MA 02576
CLIENT: Lightship Engineering



APPENDIX F

THE EDR-CITY DIRECTORY IMAGE REPORT

Undeveloped Property

County Road
West Wareham, MA 02576

Inquiry Number: 7489270.5
November 07, 2023

The EDR-City Directory Image Report

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City Directory Images

Thank you for your business.

Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EDR Digital Archive
2017	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information
2014	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information
2010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information
2005	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information
2000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information
1995	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information
1992	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information

FINDINGS

TARGET PROPERTY STREET

County Road
West Wareham, MA 02576

<u>Year</u>	<u>CD Image</u>	<u>Source</u>	
<u>ALLIE'S LN</u>			
2020	-	EDR Digital Archive	Street not listed in Source
2017	-	Cole Information	Street not listed in Source
2014	-	Cole Information	Street not listed in Source
2010	-	Cole Information	Street not listed in Source
2005	-	Cole Information	Street not listed in Source
2000	-	Cole Information	Street not listed in Source
1995	-	Cole Information	Street not listed in Source
1992	-	Cole Information	Street not listed in Source

COUNTY RD

2020	pg A2	EDR Digital Archive	
2017	pg A8	Cole Information	
2014	pg A9	Cole Information	
2010	pg A13	Cole Information	
2005	pg A16	Cole Information	
2000	pg A19	Cole Information	
1995	pg A21	Cole Information	
1992	pg A23	Cole Information	

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

COUNTY RD 2020

9	Jessica Lynch Max Debord
15	Jeannette Barboza Scot MacHos
19	David Murphy Deborah Stapel Jacob Stapel Michael Murphy
26	BARNICOAT ASSOCIATED MEMORIALS
35	Michael Murphy MURPHY'S AUTO SALVAGE INC
95	Raymond Green
103	Harry Smith Jason Smith
111	Haily Saccone Jeremy Saccone Kristin Saccone
134	Janet Raymond
138	Grady Connor Samantha Connor Thomas Connor
146	William Loughman
153	Barbara Dziuba Joseph Dziuba Robert Sundby Ruth Sundby
173	Haley Chandler
186	Dorothy Malinoski
196	Doris Cobb
197	Kerstin Santos Michael Santos Steven Santos
202	David Pajunen Robert Pajunen Wendi Pajunen
203	Andrea Laing Annette Laing Douglas Conlon Maryellen Conlon
213	Joann Drabble
223	Carol Morris Earl Almeida
240	Marjorie Reed Michael Reed Ralph Reed
253	Bethany Riggs Danielle Riggs Edward Riggs Pauline Brunelle
260	Victor Brier

COUNTY RD 2020 (Cont'd)

261	Deborah Prince Heather Prince Lanny Prince Nolan Prince
307	David Menard Kathleen Menard
333	Gary Florindo
336	Brian Belli Cassi Belli
341	Marguerite McCormack Robert McCormack
362	Daniel Miller Katherine Zimmer Patricia Zimmer
370	Patricia Zimmer
373	Antonio Carneiro Laurie Carneiro
375	Christine Hebert
377	Debra Gifford Patricia Kloster
379	Amber Nunes Michael Mealey
397	David Ivester
402	Jessica Brodeur Jessica Casey Joshua Casey
404	Michael Healy
405	Joann Oliveira Jonathan Rezendes
418	Alaina Landry Melody Landry Thomas Hurrie
421	Gregory Sousa Marian Sousa
435	Alex Wheeler ALEX'S PET SALON & LODGING
437	Douglas Tiernan Erik Tiernan Lillian Tiernan
439	Stephen Bancroft Tricia Lemieux
440	Autumn Roy Christopher Roy Colleen Roy Sheldon Roy
445	Janice Pavao Lisa Brown
448	Andrew Morss Angela Butler Kathleen Brum

COUNTY RD 2020 (Cont'd)

454	Henry Pennington
461	Alfred Hamer
	MY PRIVATE PRACTICE THRPTC
	Sally Hamer
473	Paula Johnson
489	Christopher Roach
	Melinda Roach
	Thomas Roach
	Timothy Roach
490	Janice Ellis
494	Gary Germoni
	Germoni Gery
	Jessica Germoni
518	Linda Wolcott
	Melissa Doran
	Pamela Michaelis
519	Amy Pistone
520	Donna Wolcott
	Walter Wolcott
528	Clarence Ripley
	Laurie Ripley
	Matt Ripley
531	Melissa Easton
	Nicholas Bessey
539	Jan Cote
552	Donald Nunes
	Dvaughn Nunes
	Naomi Nunes
	Nichole Nunes
	Ross Pires
553	Richard Ambroult
558	Alice Godbout
	Alice Rathbun
	Jonathan Rathbun
	Nicholas Ieronimo
	Richard Paulino
	Ronald Godbout
559	Alice Halunen
560	David Leroux
562	Andrea Campos
	Andrea Compos
	Andrea Dossantos
	Antonio Campos
	Jose Dossantos
	Magda Dossantos
563	Aarron Baptiste
	Heather Hanby
	Stephenie MacKerron
564	Andrew Carroll
	Luke Carroll

COUNTY RD 2020 (Cont'd)

564 Michael Carroll

583 Charles Knudsen
CHURCH IN THE PINES PARSONAGE
Corey Knudsen
Joel Knudsen
Linda Knudsen
Mary Anderson

585 Kevin Feaster
Linda Feaster

590 Catherine Murphy
Paula Ladoucer
Paula Ventura
Scott Ladoucer
Troy Ladoucer

592 Charles Steffy
John Carter
Susan Bachinger

596 Cynthia Pires
Kevin Pires
Taryn Pires

617 Jacqueline Hebert
Jennifer Hebert
Louise Hebert
Timothy Hebert

619 Adelina Jadlowic

628 BARBOZA TOM CONSTRUCTION
Shirley Barboza
Thomas Barboza

631 Carol Clemishaw
Charles Clemishaw

634 BARBOZA JOSEPH E & SONS TRUCKG
Joseph Barboza
Lorraine Barboza
SANITARY ENG INC
Todd Barboza

637 Kelly Baker

638 Frederick Bates
Sara Bates
Sara Sanders

644 Andrew Salmeri

648 Jason Gonneville
Marie Frehulfer

658 Alicia King
Daniel King
Danl King
Lucia King
Nate King

660 Ian Searles
Pauline Searles
Richard Searles

COUNTY RD 2020 (Cont'd)

661	Catherine Alves
667	Jennifer Condon
672	Stephen Beranger Theresa Beranger
676	John Barboza
680	Henrietta Semedo Kenneth Semedo
684	Deborah Andrade Jessica Andrade Kristin Andrade Manuel Andrade
692	JEHOVAH'S WITNESSES
702	Brenda Leighton John Leighton Terri Leighton
706	Cynthia Gonsalves David Gonsalves John Gonsalves T Gonsalves Yvonne Gonsalves
712	Hailie Prien Samantha Pierce
714	Virginia Mattos
715	Evan Butler
718	Sherry Miller
738	Robert Krystofolski Rosemary Krystofolski
742	David Griffin
744	John Iannuzzo Kimberly Ranieri
748	Elizabeth Bessey Francis Bessey
750	Danielle Lavoie
754	Lisa Heleen Peter Heleen
756	Barbara Mobilia Guy Mobilia
766	Deirdre Halpin Robert Halpin
768	Judith Gibbs
774	Lamaile Williams Loraine Williams
776	Barry Violette Jenna Gosson John Holmes
778	Nicole Moore Thomas Bancroft
780	David Shea
782	Kenneth Barrows Pearl Barrows

COUNTY RD 2020 (Cont'd)

786	Timothy Berriault
802	Nancy Andrews Richard Andrews
806	Anthony Tantillo Mary Steffanson Sueellen Tantillo
808	Paul Baker
836	James Peirce Michael MacHicote Michaela Silva Tyrell Silva
838	Megan Boutin Michael Boutin
840	Graham Gertridge Joan Carol
842	David Blanchette Linda Blanchette
844	Sally Davis
846	Allison Rutledge Ashley Rutledge Derek Rutledge Wayne Rutledge
850	Angela Monaghan Christopher Bell Jason Tassi Mark Monaghan
852	Debra Boudreau Gerard Boudreau
856	Gail Deehan Waldo Roby
866	James Saintgermaine
872	Germaine Saint Logan Stgermaine Randy St. Germaine
878	ROBY'S PROPANE GAS INC
906	Patricia Sample Ronald Monteiro Susan Knute
910	Robert Monteiro

COUNTY RD 2017

26	BARNICOAT ASSOCIATED MEMORIALS INC
111	SACCONE, JEREMY T
153	SUNDBY, ROBERT J
197	SANTOS, MICHAEL C
203	CONLON, DOUGLAS F
213	DRABBLE, JOANN M
223	ALMEIDA, EARL J
253	RIGGS, EDWARD J
307	MENARD, DAVID M
317	BUCKLEY, KERRY J
333	FLORINDO, GARY F
351	TOBIN, JASON M
373	CARNEIRO, ANTONIO P
377	KLOSTER, PATRICIA A
381	ZWICKER, DONALD E
389	THEARLE, SARAH J
397	IVESTERS, DAVID A
405	REZENDES, JONATHAN W
417	WALKER, AMANDA
421	SOUSA, GREGORY M
437	TIERNAN, ERIK R
439	WAINIO, GERALD J
445	PAVAO, LISA H
461	HAMER, ALFRED L
	MY PRIVATE PRACTICE THERAPEUTIC MASS
473	JOHNSON, PAULA A
489	ROACH, TOM E
498	SEVEN HILLS FOUNDATION
519	WOODWARD, MARK
531	BESSEY, NICK A
539	COTE, JAN E
559	HALUNEN, ALICEO D
569	CHADWICK, HARTLAND A
577	GRIMSLEY, ANDREA C
583	KNUDSEN, CHARLES
585	FEASTER, KEVIN P
628	TOM BARBOZA CONSTRUCTION INC
634	BARBOZA JOSEPH E & SONS
	BARBOZA SANITARY ENGINEERING
692	JEHOVAHS WITNESS
850	STANDAD LIGH COMPANY
878	TRUCK CAP UNLIMITED

COUNTY RD 2014

3	BAPTISTE, AMY
9	MURPHY, ADAM
15	BARBOZA, VINCENT J
19	HARRINGTON, TIM
20	STGERMAINE, RICHARD C
26	BARNICOAT ASSOCIATED MEMORIALS INC
35	MURPHYS AUTOMOBILE SALVAGE INC
44	PEIRCE, ANNE T
95	GREEN, RAYMOND A
103	SMITH, JASON M
111	SACCONE, THOMAS G
138	CONNOR, THOMAS J
142	BUNKER, JAMES A
146	DEANE, JEROME J
153	SUNDBY, ROBERT J
170	NOLAN, JOHN J
173	OCCUPANT UNKNOWN,
182	SHIPPEY, SCOTT C
196	COBB, DORIS L
197	SANTOS, MICHAEL C
202	PAJUNEN, ROBERT F
203	LAING, DONALD J
213	DRABBLE, JOANN M
223	OCCUPANT UNKNOWN,
240	REED, MICHAEL J
253	MOYER, JOSEPH T
260	OCCUPANT UNKNOWN,
261	OCCUPANT UNKNOWN,
295	BARROWS, DWAYNE
302	MALINOSKI, DOROTHY B
304	BRIGGS, DAVID A
307	MENARD, DAVID M
317	OCCUPANT UNKNOWN,
333	FLORINDO, GARY F
336	BELLI, BRIAN A
341	HARRINGTON, JUSTIN
351	TOBIN, JASON M
362	ZIMMER, KATHERINE I
367	MACNEILL, GARY R
370	ZIMMER, PATRICIA H
373	CARNEIRO, ANTONIO P
375	HEBERT, STEVEN
377	OCCUPANT UNKNOWN,
381	MUNSELL, EVA J
389	THEARLE, SARAH
390	OCCUPANT UNKNOWN,
397	IVESTERS, DAVID A
402	CASEY, JOSHUA J
404	HEALY, MICHAEL E
405	MCGAFFEY, MICHELE L

COUNTY RD 2014 (Cont'd)

405	OCCUPANT UNKNOWN,
417	WALKER, AMANDA
418	BURNETT, CHARLES E
419	OCCUPANT UNKNOWN,
421	SOUSA, GREGORY M
435	LEONHARDT, DEE
437	TIERNAN, DOUGLAS D
439	BANCROFT, DEBORAH A
440	ROY, CHRISTOPHER J
445	PAVAO, LISA
448	MORSS, ANDREW J
454	PENNINGTON, HENRY B
461	HAMER, ALFRED L
	MY PRIVATE PRACTICE THERAPEUTIC MASS
473	JOHNSON, ALLAN S
489	ROACH, TOM E
490	ELLIS, JANICE L
492	BRAGA, MARIO A
494	GERMONI, GARY
498	INGRAM, CLIFFORD B
500	GAYDOU, MICHAEL W
508	POLCARO, B J
518	MCDARBY, PAULA
	WOLCOTT, WALTER S
519	CROOKER, TIM
520	WOLCOTT, WALTER S
528	RIPLEY, CLARENCE W
531	BESSEY, NICK A
539	COTE, JAN E
540	OCCUPANT UNKNOWN,
544	OCCUPANT UNKNOWN,
547	OCCUPANT UNKNOWN,
552	NUNES, DONALD N
553	OCCUPANT UNKNOWN,
558	RATHBUN, JON M
559	OCCUPANT UNKNOWN,
560	LEROUX, DAVID A
562	PAIM, ANTONIO R
563	HANBY, HEATHER J
564	CARROLL, MICHAEL J
569	CHADWICK, HARTLAND A
577	GUSTAFSON, JEAN D
583	KNUDSEN, JOEL R
585	FEASTER, KEVIN P
590	VENTURA, PAULA J
592	GREENLAW, JUDITH A
596	PIRES, CINDY L
611	COPELAND, KENNETH H
617	HEBERT, LOUISE A
621	ZORA, ROBERT J

COUNTY RD 2014 (Cont'd)

628	TOM BARBOZA CONSTRUCTION INC
631	CLEMISHAW, CHARLES W
634	BARBOZA JOSEPH E & SONS TRUCKG BARBOZA SANITARY ENGINEERING BARBOZA, JOSEPH E
638	BATES, FREDERICK
644	REGAN, MICHAEL D
648	PATTEN, SHAWN
655	RINTA, LILLIAN J
656	FINK, WENKUN C
658	KING, DANIEL P
660	SEARLES, RICHARD B
661	FERRO, CATHERINE R
667	DETRANI, KAREN P
672	BERANGER, STEPHEN D
676	BARBOZA, JOSEPH E
680	SEMEDO, KENNETH J
684	ANDRADE, MANUEL D
692	JEHOVAHS WITNESS
702	LEIGHTON, JOHN S
706	GONSALVES, RYAN C
712	ALVES, RANAE M
714	OCCUPANT UNKNOWN,
718	MILLER, JEFFREY N
720	OCCUPANT UNKNOWN,
726	SEMEDO, DOROTHY R
738	KRYSTOFOLSKI, ROBERT J
742	WILLIAMS, GAVIN J
744	OCCUPANT UNKNOWN,
748	BESSEY, FRANCIS W
750	FISHER, DENISE E
754	HELEEN, LISA M
756	MOBILIA, GUY M
766	AKINS, DEIRDRE M
768	GIBBS, ALVIN P
774	WILLIAMS, LORRAINE M
778	BANCROFT, ELIZABETH M
780	REED, JENNIFER L
782	BARROWS, KENNETH P
786	NOLAND, JAMES E
802	ANDREWS, RICHARD H
806	OCCUPANT UNKNOWN,
808	BAKER, PAUL S
836	SILVA, MARC SOUZA, T TUCY, SHAWNA
838	BOUTIN, MICHAEL J
840	OCCUPANT UNKNOWN,
842	BLANCHETTE, DAVID H
844	DAVIS, SALLY A

COUNTY RD 2014 (Cont'd)

846	RUTLEDGE, WAYNE H
848	BITHER, PATTY A
850	BELL, ROBERT T
	COSTA, MANUEL E
	OCCUPANT UNKNOWN,
	ROBY, WALDO N
	STANDARD LIGHT COMPANY
	TASSI, JASON
852	BOUDREAU, JERRY T
856	OCCUPANT UNKNOWN,
866	GERMAINE, JAMES L
872	STGERMAINE, RANDY
878	TRUCK CAP UNLIMITED
906	MONTEIRO, RONALD
910	OCCUPANT UNKNOWN,

COUNTY RD 2010

9	MURPHY, ADAM
15	BARBOZA, VINCENT J
20	STGERMAINE, RICHARD C
34	ROBY, J
35	MURPHYS AUTO SALVAGE INC USED TIRE WAREHOUSE INC
78	BANCROFT, STEPHEN P
94	ENZIAN, BARBARA A
100	IANNUZZO, PETER T
116	MILLER, SHERRY
148	CAPOZZI, MARY
153	SUNDBY, ROBERT J
170	NOLAN, JOHN J
173	WHITTAKER, MARC
182	SHIPPEY, SCOTT C
196	COBB, DORIS L
197	SANTOS, MICHAEL C
202	PAJUNEN, ROBERT F
203	LAING, DONALD J
213	DRABBLE, JOANN M
240	REED, MICHAEL J
244	FLORINDO, GARY F
253	MOYER, JOSEPH T
266	BELLI, BRIAN A
295	BARROWS, DWAYNE
304	BRIGGS, DAVID A
307	MENARD, DAVID M
317	BUCKLEY, ELAINE M
333	FLORINDO, GARY F
336	BELLI, BRIAN
341	SWEENEY, MATHEW K
351	DEMERS, PATRICK
370	HARJU-ZIMMER, PATRICIA H
373	CARNEIRO, ANTONIO P
375	HAMMOND, LORI
377	WESTGATE, CHARLES S
379	TORRES, MARIA
381	ZWICKER, DONOVAN
389	BLAKE, BRUCE A
397	IVESTERS, DAVID A
402	FLORINDA, GARY F
404	HEALY, MICHAEL E
405	MCGAFFEY, DAN A
418	BURNETT, CHARLES E
421	SOUSA, GREGORY M
435	WHEELER, LEWIS A
437	TIERNAN, DOUGLAS D
439	WAINIO, GERALD J
440	ROY, CHRISTOPHER J
445	PAVAO, JANICE

COUNTY RD 2010 (Cont'd)

448	MORSS, ANDREW J
454	PENNINGTON, HENRY B
461	HAMER, ALFRED L MY PRIVATE PRACTICE THRPTC
473	JOHNSON, ALLAN S
489	ROACH, TOM A
490	ELLIS, JANICE L
492	BRAGA, MARIO A
494	PETRONELLI, C M
498	INGRAM, CLIFFORD B
500	GAYDOU, MICHAEL W
508	POLCARO, B J
516	GUARD, JOSEPH M
518	WOLCOTT, WALTER S
519	CUNNINGHAM, ANDREW J
528	RIPLEY, MATT
531	BESSEY, NICK A
539	COTE, JAN E
547	PROFFIT, JENNIFER
552	SILVA, JOHN J
558	GODBOUT, ALICE R
559	HALUNEN, ERNEST T
560	LEROUX, DAVID A
562	PAIM, ANTONIO R
563	MORRISON, H G
564	CARROLL, MICHAEL J
577	GUSTAFSON, PHILIP C
583	KNUDSEN, JOEL D
585	FEASTER, KEVIN P
590	VENTURA, PAULA
592	TAYLOR, LINDA F
596	PIRES, CHALON L
611	COPELAND, KENNETH H
617	HEBERT, LOUISE A
619	LUKENS, WILLIAM H
621	ZORA, ROBIN J
628	BARBOZA, THOMAS H TOM BARBOZA CONSTRUCTION
631	CLEMISHAW, CHARLES W
634	BARBOZA SANITARY ENGINEERING
637	HELEEN, RICHARD A RINTA, PAUL
638	BATES, FREDERICK
644	REGAN, MICHAEL D
656	FINK, WENKUN C
658	KING, DANIEL P
660	SEARLES, RICHARD B
661	FERRO, CATHERINE R
667	BORGES, JAMES
672	BERANGER, STEPHEN D

COUNTY RD 2010 (Cont'd)

676 BARBOZA, JOSEPH E
680 SEMEDO, KENNETH J
684 ANDRADE, MANUEL D
692 JEHOVAHS WITNESSES
702 LEIGHTON, JOHN S
706 GONSALVES, DAVID A
712 PINA, ERIKA
715 BANNO, STEPHEN A
718 MILLER, JEFFREY N
726 SEMEDO, ANTONE J
738 KRYSTOFOLSKI, ROBERT J
742 WILLIAMS, GAVIN J
744 IANNUZZO, PETER T
748 BESSEY, FRANCIS W
754 HELEEN, PETER C
756 MOBILIA, GUY M
766 HALPIN, ROBERT
768 GIBBS, ALVIN P
774 HONKONEN, HENRY E
776 GOSSON, JENNA
778 BANCROFT, THOMAS E
780 REED, JOYCE L
SWIFT SCRIPTS
782 BARROWS, KENNETH P
786 NOLAND, JAMES E
802 ANDREWS, RICHARD H
806 TANTILLO, ANTHONY A
808 BAKER, PAUL S
836 GONSALVES, JOSIE E
PEIRCE, JAMES E
838 BOUTIN, MICHAEL J
840 DELONG, DALE R
842 BLANCHETTE, DAVID H
844 DAVIS, SALLY A
846 RUTLEDGE, DERRICK
848 BITHER, PATTY A
850 BELL, MICHELE
852 BOUDREAU, JERRY T
856 ROBY, WALDO N
866 STGERMAINE, JAMES L
872 STGERMAINE, RANDY J
906 MONTEIRO, RONALD

COUNTY RD 2005

3	MOTT, MARION L
6	MONTEIRO, ROBERT D
19	MURPHY, MICHAEL C PAULS AUTOMOTIVE
20	STGERMAINE, JAMES L
26	BARNICOAT ASSOCIATED MEMORIALS INC
35	MURPHY, CHESLEY T MURPHYS AUTO SALVAGE INC
36	DAVIS, SALLY A
38	DAVID BLANCHETTE
78	BANCROFT, STEPHEN P
80	HOLMES, JOHN E
84	GIBBS, ALVIN P
86	AKINS, DEIRDRE
92	HELEEN, PETER C
94	ENZIAN, BARBARA A
100	IANNUZZO, PETER T
103	SMITH, JASON M
116	MILLER, JEFFREY
130	JEHOVAHS WITNESSES
148	CAPOZZI, JOHN J
150	REGAN, MICHAEL D
162	BARBOZA, THOMAS H
182	BRIGGS, DAVID A
202	DELUCA, PAUL N
203	LAING, DONALD J
240	REED, MICHAEL J
244	FLORINDO, GARY F
253	MOYER, JOSEPH T
260	ZIMMER, PHILIP T
266	BELLI, BRIAN A
292	REED, MIKE
296	PAJUNEN, ROBERT F
300	COBB, DORIS L
302	MALINOSKI, DOROTHY
304	BRIGGS, DAVID A
307	MENARD, DAVID M
317	BUCKLEY, KERRY J BUTLER, RICHARD L
333	FLORINDO, GARY F
336	BELLI, BRIAN
341	PITCHER, MARION E
351	PECK, GEORGE E
362	PATRICIA HARJU ZIMMER SIMON, THOMAS
367	MACNEILL, GARY
373	CARNEIRO, ANTONIO P
375	PEIRCE, A
377	WESTGATE, CHARLES E
381	MUNSELL, WILLIAM J

COUNTY RD 2005 (Cont'd)

402	FLORINDA, GARY F
404	HEALY, MICHAEL E
405	MCGAFFEY, DAN A
419	ASHLEY, JAMES E
421	SOUSA, MARIAN
435	WHEELER, LEWIS A
437	TIERNAN, LILLIAN E
440	ROY, CHRISTOPHER J
445	BROWN, LISA P
448	MORSS, MICHAEL S
454	PENNINGTON, HENRY B
473	JOHNSON, ALLAN S
489	ROACH, TOM A
490	ELLIS, JANICE L
508	POLCARO, B J
516	GUARD, JOSEPH M
519	BOHLKEN, JO A
531	GILMORE, GARY
539	COTE, JAN E
540	DELUCA, PAUL N
552	SILVA, JOHN J
553	TOMASIK, STEVEN J
558	GODBOUT, ALICE R
559	HALUNEN, ERNEST T
560	LEROUX, DAVID A
564	CARROLL, MICHAEL J
569	WAINIO, MELISSA E
577	GUSTAFSON, PHILIP C
583	CHURCH IN THE PINES PARSONAGE KNUDSEN, JOEL D
585	FEASTER, KEVIN
590	AYS SOLUTIONS LADOU CER, SCOTT M
592	GREENLAW, JUDITH A
611	SHURTLEFF, RICHARD A
617	HEBERT, ALBERT R
619	LUKENS, WILLIAM H
621	ZORA, ROBIN J
628	BARBOZA, THOMAS H TOM BARBOZA CONSTRUCTION INC
631	CLEMISHAW, CHARLES W
634	BARBOZA SANITARY ENGINEERING
648	DECARLOS PIZZA
656	FINK, GLENDA S
658	KING, DANIEL P
660	SEARLES, RICHARD B
661	FERRO, CATHERINE R
667	DETRANI, JOSEPH R
672	BERANGER, STEPHEN D
676	BARBOZA, JOSEPH E

COUNTY RD 2005 (Cont'd)

680	SEMEDO, KENNETH J
702	LEIGHTON, JOHN S
706	NELSON, ELLEN M
712	HORSFORD, LEONARD L
714	SCECINA, ALISON L
718	MILLER, JEFFREY N
726	SEMEDO, ANTONE J
738	KRYSTOFOLSKI, ROBERT J
742	WILLIAMS, GAVIN J
744	IANNUZZO, PETER T
748	BESSEY, FRANCIS W
766	HALPIN, ROBERT
774	HONKONEN, HENRY E
778	BANCROFT, THOMAS E
780	REED, JOYCE L
782	BARROWS, KENNETH P
786	NOLAND, JAMES E
802	ANDREWS, RICHARD H
806	TANTILLO, ANTHONY A
808	BAKER, PAUL S
836	RICCELLI, RACHEL M
838	BOUTIN, MICHAEL J
840	DELONG, DALE R
842	BLANCHETTE, DAVID H
844	DAVIS, SALLY
846	RUTLEDGE, WAYNE H
848	BITHER, PATTY A
850	BARITEAU, CHAD F
	BELL, CHRISTOPHER R
852	BOUDREAU, JERRY T
856	ROBY, WALDO N
866	STGERMAINE, RICHARD C
872	STGERMAINE, RANDY A
906	VALKIO, ULLA M
910	MORRELL, BRENDA L

COUNTY RD 2000

3	MOTT, M L
9	MURPHY, DAVID C
16	STGERMAINE, RANDY
19	MURPHY, AMY
20	CLICKNER, JACOB
26	ATWOOD C E SONS INCORPORATED
28	BOUDREAU, JERRY T
30	SILVIA, M V
34	RUTLEDGE, WAYNE
38	BLANCHETTE, DAVID H
44	PEIRCE, A
	RICCELLI, R
56	BAKER, PAUL S
58	DECOSTA, K
	MENOR, YVONNE
60	ANDREWS, RICHARD
73	MONIZ, SHERI L
74	BARROWS, RONDA L
84	GIBBS, ALVIN P
95	GREEN, RAYMOND
110	SEMEDO, ANTONE
111	DELANO, TRACY J
120	HORSFORD, LEONARD
126	GONSALVES, DAVID A
128	LEIGHTON, JOHN S
134	BARBOZA, J
138	PINA, R J
140	LANCZYCKI, J
142	KING, DANIEL P
144	FINK, W C
172	LADOUER, SCOTT
190	LEROUX, DAVID
192	GODBOUT, ALICE R
204	RIPLEY, L
220	ELLIS, KENNETH L
224	PENNINGTON, HENRY B
266	BELLI, BRIAN A
295	SHEEHAN, CAROL M
317	BUTLER, R
	BUTLER, RICHARD L
322	DEANE, JEROME R
333	FLORINDO, GARY
341	PITCHER, MARION E
367	DUSTIN, HERBERT E
373	ZIEMBA, RICHARD
375	METCALF, JESSE F
377	WESTGATE, CHARLES
379	PIERCE, EMILY J
381	PAQUIN, DAVID
389	DEMERS, JOY

COUNTY RD 2000 (Cont'd)

402	ERIQUEZZO, J J
405	MCGAFFEY, DAN A
417	CATUNTO, SERAFIM M
419	ASHLEY, JAS E
421	GIBBSWEST, CHARLES
437	TIERNAN, DOUGLAS
439	BANCROFT, STEPHEN P
473	JOHNSON, DANA C
497	JOHNSON, ROSANNE A
510	DWYER, M
531	BESSEY, KATHY A
539	COTE, JANICE E
559	HALUNEN, ERNEST T
569	WAINIO, MELISSA E
577	GUSTAFSON, PHILIP C
583	CHURCH, I
585	FERREIRA, ROBERT
621	ZORA, F L
631	CLEMISHAW, CHARLES W
637	HELEEN, VILJO E
661	FERRO, C R
738	KRYSTOFOLSKI, ROBERT J
856	TERRY, MELANIE A
860	SEMEDO, KENNETH
910	MONTEIRO, ROBERT

COUNTY RD 1995

3	MOTT, M L
6	MORRELL, BRENDA
9	PARADIS, ROLAND A
11	MALONEY, DALE
16	ST GERMAINE, RANDY
18	MORRILL, WENDY
19	MURPHY'S AUTO SALVAGE
	MURPHY, AMELIA
20	CLICKNER, JACOB
26	HARRIS, JULIE
	ROBY, WALDO N
28	BLANCHETTE, DAVID H, COML ARTST
	BOUDREAU, JERRY T & DEBRA
30	SILVIA, MADELINE V
32	BITHER, P
34	RUTLEDGE, WAYNE
38	BLANCHETTE, DAVID H, COML ARTST-RES
42	MC MULLEN, THOS, SR
44	PERRY, ANITA L
	RICCELLI, R
56	BAKER, PAUL S
58	MENOR, YVONNE
60	ANDREWS, RICHARD
73	SWIDER, C R
74	BARROWS, RONDA L
78	DESLAURIERS, ALBERT R
80	GRASSI, EDW B
84	GIBBS, ALVIN P
92	HELEEN, PETER
110	SEMEDO, ANTONE, JR
111	VINAL, THEODORE T
114	BARBOZA SANITARY ENGINEERING
128	LEIGHTON, JOHN S
130	JEHOVAH'S, WITNESSES
132	ANDRADE, MANUEL & DEBORAH
	SEMEDO, KENNETH
138	GOMES, JOS G
140	LANCZYCKI, J
	SEARLES, RICHARD B
142	KING, DANL P & LUCIA
144	FINK, W COLMAN
148	NOYCE, KURT & ALISON
162	BARBOZA TOM CONSTRUCTION
	TOM BARBOZA CONSTRUCTION INC
168	PIRES, C L
172	LADOU CER, SCOTT & PAULA
192	GODBOUT, ALICE R
206	WOLCOTT, L
220	ELLIS, KENNETH L
224	PENNINGTON, HENRY B

COUNTY RD 1995 (Cont'd)

256	HARJU, EINO
260	ZIMMER, K ZIMMER, P
266	BELLI, BRIAN A
333	FLORINDO, GARY
341	PITCHER, M E
367	DUSTIN, HERBERT E
373	STRONG, CHARLOTTE
379	PIERCE T V SERVICE PIERCE, WALTER A
381	PAQUIN, DAVID
389	DEMERS, JOY WELLER, RUDLOPH C & JOYCE C
405	MCGAFFEY, DAN A & KATHRYN MCGAFFEY, DAN A & KATHRYN-FAX NUMBER MCGAFFEY, DAN J
417	PERRY, MERRILL A
419	ASHLEY, JAS E
437	TIERNAN, DOUGLAS TIERNAN, LILLIAN & DOUGLAS
439	BANCROFT, STEPHEN PAUL
473	JOHNSON, DANA C
510	GATES, ERNIE W
539	COTE, CHRISTOPHER COTE, J
553	GOMES, PATRICIA
559	HALUNEN, ERNEST T
577	GUSTAFSON, PHILIP C
583	CHURCH, IN THE PINES PARSONAGE KNUDSEN, JOEL
585	ROCHA, D
617	HEBERT, ALBERT R
619	LUKENS, WM MARTIN, ROLAND, JR
631	CLEMISHAW, CHAS W & CAROL
637	HELEEN, AILIE
661	ALVES, C R
667	HOWES, JOSHUA



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COUNTY RD 1992

3	MOTT, M L
9	MURPHY, MICHAEL
16	STGERMAINE, D & M STGERMAINE, RANDY
19	MURPHY'S AUTO SALVAGE
26	ROBY, WALDO N
28	BOUDREAU, JERRY T & DEBRA
30	SILVIA, MADELINE V
34	RUTLEDGE, WAYNE
38	BLANCHETTE, DAVID H, COML ARTST-RES
42	MC MULLEN, THOS, SR
44	COUTO, GILBERT MORRELL, RICHARD A
58	MENOR, YVONNE
60	ANDREWS, RICHARD
74	CLEMINSHAW, WALLACE
78	DESLAURIERS, ALBERT R
84	GIBBS, ALVIN P
102	ATWOOD, B I
110	SEMEDO, ANTONE, JR
114	SANITARY ENGINEERING
128	LEIGHTON, JOHN S
130	JEHOVAH'S, WITNESSES
132	SEMEDO, KENNETH
138	GOMES, JOS G
140	LANCZYCKI, J
142	KING, DANL P & LUCIA
148	NOYCE, KURT & ALISON
162	BARBOZA TOM CONSTRUCTION TOM BARBOZA CONSTRUCTION INC
192	ALLEN, GEORGIANNA
224	PENNINGTON, HENRY B
295	BARROWS, RONDA L
333	CAIRNS, JONATHAN D & SARAH
341	PITCHER, M E
367	MACNEILL, CRAIG
379	PIERCE, WALTER A
381	PAQUIN, DAVID ZWICKER, JOHN E SR & MILDRED E
389	DEMERS, JOY WELLER, RUDLOPH C & JOYCE C
392	PIERCE, RALPH R
405	MCGAFFEY, DAN A & KATHRYN
437	TIERNAN, DOUGLAS TIERNAN, LILLIAN & DOUGLAS
439	SEARLES, RICHARD B
553	GOMES, PATRICIA
577	GUSTAFSON, PHILIP C
583	CHURCH, IN THE PINES PARSONAGE KNUDSEN, JOEL

Target Street

Cross Street

Source

✓

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Cole Information

COUNTY RD 1992 (Cont'd)

619	LUKENS, WM
	MARTIN, ROLAND, JR
631	CLEMINSHAW, CHAS W
637	HELEEN, AILIE
661	ALVES, C R

APPENDIX G

TEST PIT AND GROUNDWATER MONITORING WELL CONSTRUCTION LOGS



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP1</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 14, 2023</u>	End Date: <u>December 14, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP1-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan, medium to coarse SAND. Dry.
2	4	LE-TP1-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan, medium to coarse SAND. Dry.
4	6	LE-TP1-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan, medium to coarse SAND. Dry.
6	8	LE-TP1-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan, medium to coarse SAND, some gravel. Dry.
8	10	LE-TP1-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan, medium to coarse SAND. Dry.
10	11	LE-TP1-10/11	N/A	N/A	N/A	N/A	<0.1	N/A	SW	Tan, medium to coarse SAND. Dry.

Test Pit completed at 11 feet below grade.

Notes:

bgs - Below Ground Surface	USCS - Unified Soil Classification System	TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.
ppmv - Parts Per Million by Volume	GW Elev - Groundwater Elevation	
N/A - Not applicable	WL - Water Level	
	NR - No Recovery	



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP3</u>	Page 1 of 1
Monitoring	
Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 14, 2023</u>	End Date: <u>December 14, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP3-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SW	Brown to tan, medium SAND. Dry.
2	4	LE-TP3-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
4	6	LE-TP3-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
6	8	LE-TP3-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
8	10	LE-TP3-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
10	12	LE-TP3-10/12	N/A	N/A	N/A	N/A	0.2	SM	Tan, fine to medium SAND. Dry.	

Test Pit completed at 12 feet below grade.

Notes:
<p>bgs - Below Ground Surface ppmv - Parts Per Million by Volume N/A - Not applicable</p> <p>USCS - Unified Soil Classification System GW Elev - Groundwater Elevation WL - Water Level NR - No Recovery</p> <p>TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.</p>



Boring ID: <u>LE-TP4</u>	Page 1 of 1
Monitoring Well ID: <u>LE-TMW1</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 14, 2023</u>	End Date: <u>December 14, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
<u>Wareham</u>	State: <u>Massachusetts</u>
	Lightship Rep.: <u>Kristin Maloney</u>

Casing	Sampler	Groundwater	Core	Survey
Type: <u>N/A</u>	Type: <u>N/A</u>	Date: <u>12/15/2023</u>	Type: <u>N/A</u>	Lat. <u>N/A</u>
Size: <u>N/A</u>	Size: <u>N/A</u>	Well Elev.: <u>N/A</u>	Size: <u>N/A</u>	Long. <u>N/A</u>
Hammer: <u>N/A</u>	Hammer: <u>N/A</u>	WL (bgs): <u>8.68</u>	Length: <u>N/A</u>	Elev. <u>N/A</u>
Fall: <u>N/A</u>	Fall: <u>N/A</u>	GW Elev.: <u>N/A</u>		

Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description	Well Const.
0	2	LE-TP4-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SW	Brown medium to coarse SAND. Dry.	
2	4	LE-TP4-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan medium to coarse SAND. Dry.	
4	6	LE-TP4-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.	
6	8	LE-TP4-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Moist.	
8	10	LE-TP4-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Wet.	
10	12	LE-TP4-10/12	N/A	N/A	N/A	N/A	0.3	N/A	SM	Tan fine to medium SAND. Wet.	
12	14	LE-TP4-12/14	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Wet.	

Test Pit completed at 14 feet below grade.

Notes:

Monitoring Well Construction Specifications: 10 feet of 2" Schedule 40 0.010" Slot Screen PVC from 14 to 4 feet below grade, 2" Schedule 40 PVC riser from 4 feet to 3 feet above grade. The annular space between the borehole and the well was filled with native sand.

bgs - Below Ground Surface USCS - Unified Soil Classification System TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.

ppm - Parts Per Million GW Elev - Groundwater Elevation

N/A - Not Applicable WL - Water Level



Boring ID: LE-TP5	Page 1 of 1
Monitoring	
Well ID: LE-TMW2	Project #: 1075.1.2
Start Date: December 14, 2023	End Date: December 14, 2023

Client Name: Sarajon Realty, LLC	Drilling Co.: JC Engineering
Project Name: Proposed Hidden Trails Residential Subdivision	Drilling Method: Excavator
Site Address: 2854 Cranberry Highway	Driller:
Wareham	State: Massachusetts
	Lightship Rep.: Kristin Maloney

Casing	Sampler	Groundwater	Core	Survey
Type: N/A	Type: N/A	Date: 12/15/2023	Type: N/A	Lat. N/A
Size: N/A	Size: N/A	Well Elev.: N/A	Size: N/A	Long. N/A
Hammer: N/A	Hammer: N/A	WL (bgs): 9.73	Length: N/A	Elev. N/A
Fall: N/A	Fall: N/A	GW Elev.: N/A		

Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description	Well Const.
0	2	LE-TP5-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.	
2	4	LE-TP5-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.	
4	6	LE-TP5-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.	
6	8	LE-TP5-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.	
8	10	LE-TP5-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Moist.	
10	12	LE-TP5-10/12	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Wet.	
12	14	LE-TP5-12/14	N/A	N/A	N/A	N/A	0.2	N/A	SM	Tan fine to medium SAND. Wet.	

Test Pit completed at 14 feet below grade.

Notes:

Monitoring Well Construction Specifications: 10 feet of 2" Schedule 40 0.010" Slot Screen PVC from 14 to 4 feet below grade, 2" Schedule 40 PVC riser from 4 feet to 3 feet above grade. The annular space between the borehole and the well was filled with native sand.

bgs - Below Ground Surface USCS - Unified Soil Classification System TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.

ppm - Parts Per Million GW Elev - Groundwater Elevation

N/A - Not Applicable WL - Water Level



Boring ID: LE-TP6 Page 1 of 1
 Monitoring _____
 Well ID: LE-TMW3 Project #: 1075.1.2
 Start Date: December 14, 2023 End Date: December 14, 2023

Client Name: Sarajon Realty, LLC Drilling Co.: JC Engineering
 Project Name: Proposed Hidden Trails Residential Subdivision Drilling Method: Excavator
 Site Address: 2854 Cranberry Highway Driller: _____
 Wareham State: Massachusetts Lightship Rep.: Kristin Maloney

Casing Type: N/A Size: N/A Hammer: N/A Fall: N/A	Sampler Type: N/A Size: N/A Hammer: N/A Fall: N/A	Groundwater Date: 12/15/2023 Well Elev.: N/A WL (bgs): 14.04 GW Elev.: N/A	Core Type: N/A Size: N/A Length: N/A	Survey Lat: N/A Long: N/A Elev: N/A
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description	Well Const.		
0	2	LE-TP6-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan fine to coarse SAND. Dry.			
2	4	LE-TP6-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.			
4	6	LE-TP6-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.			
6	8	LE-TP6-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.			
8	10	LE-TP6-8/10	N/A	N/A	N/A	N/A	N/A	0.2	SM	Tan fine to medium SAND with a layer of black to tan SILT and SAND. Dry.			
10	12	LE-TP6-10/12	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Moist.			
12	14	LE-TP6-12/14	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Wet.			
14	16	LE-TP6-14/16	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan fine to medium SAND. Wet.			

Test Pit completed at 16 feet below grade.

Notes:

Monitoring Well Construction Specifications: 10 feet of 2" Schedule 40 0.010" Slot Screen PVC from 16 to 6 feet below grade, 2" Schedule 40 PVC riser from 6 feet to 3 feet above grade. The annular space between the borehole and the well was filled with native sand.

Bold indicates soil sample LE-TP6-8/10 was submitted for laboratory analysis.

bgs - Below Ground Surface

ppm - Parts Per Million

N/A - Not Applicable

USCS - Unified Soil Classification System

GW Elev - Groundwater Elevation

WL - Water Level

TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.



Boring ID: <u>LE-TP7</u>	Page 1 of 1
Monitoring _____	
Well ID: <u>LE-TMW3</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 14, 2023</u>	End Date: <u>December 14, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
<u>Wareham</u>	State: <u>Massachusetts</u>
	Lightship Rep.: <u>Kristin Maloney</u>

<u>Casing</u>	<u>Sampler</u>	<u>Groundwater</u>	<u>Core</u>	<u>Survey</u>
Type: <u>N/A</u>	Type: <u>N/A</u>	Date: <u>12/15/2023</u>	Type: <u>N/A</u>	Lat. <u>N/A</u>
Size: <u>N/A</u>	Size: <u>N/A</u>	Well Elev.: <u>N/A</u>	Size: <u>N/A</u>	Long. <u>N/A</u>
Hammer: <u>N/A</u>	Hammer: <u>N/A</u>	WL (bgs): <u>14.04</u>	Length: <u>N/A</u>	Elev. <u>N/A</u>
Fall: <u>N/A</u>	Fall: <u>N/A</u>	GW Elev.: <u>N/A</u>		

Start Depth	Finish Depth	Sample ID	Blow Count	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description	Well Const.
0	2	LE-TP7-0/2	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.	
2	4	LE-TP7-2/4	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.	
4	6	LE-TP7-4/6	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.	
6	8	LE-TP7-6/8	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.	
8	10	LE-TP7-8/10	N/A	N/A	N/A	SM	Tan fine to medium SAND. Dry.	
10	12	LE-TP7-10/12	N/A	N/A	N/A	SM	Tan fine to medium SAND. Moist.	
12	14	LE-TP7-12/14	N/A	N/A	0.3	SM	Tan fine to medium SAND. Wet.	

Test Pit completed at 14 feet below grade.

Notes:

Monitoring Well Construction Specifications: 10 feet of 2" Schedule 40 0.010" Slot Screen PVC from 14 to 4 feet below grade, 2" Schedule 40 PVC riser from 4 feet to 3 feet above grade. The annular space between the borehole and the well was filled with native sand.

bgs - Below Ground Surface USCS - Unified Soil Classification System TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.

ppm - Parts Per Million GW Elev - Groundwater Elevation

N/A - Not Applicable WL - Water Level



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP8</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 14, 2023</u>	End Date: <u>December 14, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP8-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
2	4	LE-TP8-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
4	6	LE-TP8-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
6	8	LE-TP8-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND, some gravel. Dry.
8	10	LE-TP8-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
10	12	LE-TP8-10/12	N/A	N/A	N/A	N/A	0.2	N/A	SM	Tan, fine to medium SAND. Dry.

Test Pit completed at 12 feet below grade.

Notes:
<p>bgs - Below Ground Surface ppmv - Parts Per Million by Volume N/A - Not applicable</p> <p>USCS - Unified Soil Classification System GW Elev - Groundwater Elevation WL - Water Level NR - No Recovery</p> <p>TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.</p>



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP10</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP10-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan, fine to medium SAND. Dry.
2	4	LE-TP10-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
4	6	LE-TP10-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND, some gravel. Dry.
6	8	LE-TP10-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
8	10	LE-TP10-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND, some gravel. Dry.
10	12	LE-TP10-10/12	N/A	N/A	N/A	N/A	0.2	N/A	SM	Tan, fine to medium SAND, some gravel. Dry.

Test Pit completed at 12 feet below grade.

Notes:

bgs - Below Ground Surface
ppmv - Parts Per Million by Volume
N/A - Not applicable

USCS - Unified Soil Classification System
GW Elev - Groundwater Elevation
WL - Water Level
NR - No Recovery

TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP11</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP11-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan medium to coarse SAND, some gravel. Dry.
2	4	LE-TP11-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan medium to coarse SAND, some gravel. Dry.
4	6	LE-TP11-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND, some gravel. Dry.
6	8	LE-TP11-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
8	10	LE-TP11-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
10	12	LE-TP11-10/12	N/A	N/A	N/A	N/A	0.3	N/A	SM	Tan, fine to medium SAND. Dry.

Test Pit completed at 12 feet below grade.

Notes:		
bgs - Below Ground Surface	USCS - Unified Soil Classification System	TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.
ppmv - Parts Per Million by Volume	GW Elev - Groundwater Elevation	
N/A - Not applicable	WL - Water Level	
	NR - No Recovery	



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP12</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP12-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
2	4	LE-TP12-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
4	6	LE-TP12-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
6	8	LE-TP12-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
8	10	LE-TP12-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
10	12	LE-TP12-10/12	N/A	N/A	N/A	N/A	N/A	0.1	SM	Tan, fine to medium SAND. Dry.

Test Pit completed at 12 feet below grade.

Notes:	Bold indicates soil sample LE-TP12-10/12 was submitted for laboratory analysis.
bgs - Below Ground Surface	USCS - Unified Soil Classification System
ppmv - Parts Per Million by Volume	GW Elev - Groundwater Elevation
N/A - Not applicable	WL - Water Level
	NR - No Recovery
	TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP13</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP13-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
2	4	LE-TP13-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
4	6	LE-TP13-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
6	8	LE-TP13-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
8	10	LE-TP13-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
10	12	LE-TP13-10/12	N/A	N/A	N/A	N/A	<0.1	N/A	SM	Tan, fine to medium SAND. Dry.

Test Pit completed at 12 feet below grade.

Notes:

bgs - Below Ground Surface	USCS - Unified Soil Classification System	TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.
ppmv - Parts Per Million by Volume	GW Elev - Groundwater Elevation	
N/A - Not applicable	WL - Water Level	
	NR - No Recovery	



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP14</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP14-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
2	4	LE-TP14-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
4	6	LE-TP14-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
6	8	LE-TP14-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
8	10	LE-TP14-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
10	12	LE-TP14-10/12	N/A	N/A	N/A	N/A	0.1	SM	Tan, fine to medium SAND. Dry.	

Test Pit completed at 12 feet below grade.

Notes:

bgs - Below Ground Surface
 ppmv - Parts Per Million by Volume
 N/A - Not applicable

USCS - Unified Soil Classification System
 GW Elev - Groundwater Elevation
 WL - Water Level
 NR - No Recovery

TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP15</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP15-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
2	4	LE-TP15-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
4	6	LE-TP15-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
6	8	LE-TP15-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
8	10	LE-TP15-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
10	12	LE-TP15-10/12	N/A	N/A	N/A	N/A	0.2	N/A	SM	Tan, fine to medium SAND. Dry.

Test Pit completed at 12 feet below grade.

Notes:

bgs - Below Ground Surface
ppmv - Parts Per Million by Volume
N/A - Not applicable

USCS - Unified Soil Classification System
GW Elev - Groundwater Elevation
WL - Water Level
NR - No Recovery

TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP16</u>	Page 1 of 1
Monitoring	
Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing	Sampler	Groundwater	Core	Survey
Type: <u>N/A</u>	Type: <u>N/A</u>	Date: <u>N/A</u>	Type: <u>N/A</u>	Lat. <u>N/A</u>
Size: <u>N/A</u>	Size: <u>N/A</u>	Well Elev.: <u>N/A</u>	Size: <u>N/A</u>	Long. <u>N/A</u>
Hammer: <u>N/A</u>	Hammer: <u>N/A</u>	WL (bgs): <u>N/A</u>	Length: <u>N/A</u>	Elev. <u>N/A</u>
Fall: <u>N/A</u>	Fall: <u>N/A</u>	GW Elev.: <u>N/A</u>		

Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP16-0/2	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.	
2	4	LE-TP16-2/4	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.	
4	6	LE-TP16-4/6	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.	
6	8	LE-TP16-6/8	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.	
8	10	LE-TP16-8/10	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.	
10	12	LE-TP16-10/12	N/A	N/A	N/A	N/A	0.2	SM	Tan, fine to medium SAND. Dry.	

Test Pit completed at 12 feet below grade.

Notes:

bgs - Below Ground Surface	USCS - Unified Soil Classification System	TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.
ppmv - Parts Per Million by Volume	GW Elev - Groundwater Elevation	
N/A - Not applicable	WL - Water Level	
	NR - No Recovery	



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP17</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing	Sampler	Groundwater	Core	Survey
Type: <u>N/A</u>	Type: <u>N/A</u>	Date: <u>N/A</u>	Type: <u>N/A</u>	Lat. <u>N/A</u>
Size: <u>N/A</u>	Size: <u>N/A</u>	Well Elev.: <u>N/A</u>	Size: <u>N/A</u>	Long. <u>N/A</u>
Hammer: <u>N/A</u>	Hammer: <u>N/A</u>	WL (bgs): <u>N/A</u>	Length: <u>N/A</u>	Elev. <u>N/A</u>
Fall: <u>N/A</u>	Fall: <u>N/A</u>	GW Elev.: <u>N/A</u>		

Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP17-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
2	4	LE-TP17-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
4	6	LE-TP17-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
6	8	LE-TP17-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
8	10	LE-TP17-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
10	12	LE-TP17-10/12	N/A	N/A	N/A	N/A	N/A	0.1	SM	Tan, fine to medium SAND. Dry.

Test Pit completed at 12 feet below grade.

Notes:

bgs - Below Ground Surface
 ppmv - Parts Per Million by Volume
 N/A - Not applicable

USCS - Unified Soil Classification System
 GW Elev - Groundwater Elevation
 WL - Water Level
 NR - No Recovery

TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP18</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP18-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SW	Brown to tan, medium to coarse SAND, some SILT. Dry.
2	4	LE-TP18-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan, medium to coarse SAND, some gravel. Dry.
4	6	LE-TP18-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan, medium to coarse SAND, some gravel. Dry.
6	8	LE-TP18-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan, medium to coarse SAND, some gravel. Dry.
8	10	LE-TP18-8/10	N/A	N/A	N/A	N/A	N/A	N/A	SW	Tan, medium to coarse SAND, some gravel. Dry.
10	12	LE-TP18-10/12	N/A	N/A	N/A	N/A	0.1	N/A	SW	Tan, medium to coarse SAND, some gravel. Dry.

Test Pit completed at 12 feet below grade.

Notes:

bgs - Below Ground Surface	USCS - Unified Soil Classification System	TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.
ppmv - Parts Per Million by Volume	GW Elev - Groundwater Elevation	
N/A - Not applicable	WL - Water Level	
	NR - No Recovery	



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP19</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP19-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
2	4	LE-TP19-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
4	6	LE-TP19-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Moist.
6	8	LE-TP19-6/8	N/A	N/A	N/A	N/A	N/A	0.2	SM	Tan, fine to medium SAND. Wet.

Test Pit completed at 8 feet below grade.

Notes:

bgs - Below Ground Surface	USCS - Unified Soil Classification System	TOVs: total organic vapors as measured using jar
ppmv - Parts Per Million by Volume	GW Elev - Groundwater Elevation	headspace with photo-ionization detector using a 10.6
N/A - Not applicable	WL - Water Level	electron volt bulb with a benzene response factor of 0.6.
	NR - No Recovery	



ENVIRONMENTAL & LAND-USE CONSULTANTS

Boring ID: <u>LE-TP20</u>	Page 1 of 1
Monitoring Well ID: <u>N/A</u>	Project #: <u>1075.1.2</u>
Start Date: <u>December 19, 2023</u>	End Date: <u>December 19, 2023</u>

Client Name: <u>Sarajon Realty, LLC</u>	Drilling Co.: <u>JC Engineering</u>
Project Name: <u>Proposed Hidden Trails Residential Subdivision</u>	Drilling Method: <u>Excavator</u>
Site Address: <u>2854 Cranberry Highway</u>	Driller: _____
City: <u>Wareham</u> State: <u>Massachusetts</u>	Lightship Rep.: <u>Kristin Maloney</u>

Casing Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Sampler Type: <u>N/A</u> Size: <u>N/A</u> Hammer: <u>N/A</u> Fall: <u>N/A</u>	Groundwater Date: <u>N/A</u> Well Elev.: <u>N/A</u> WL (bgs): <u>N/A</u> GW Elev.: <u>N/A</u>	Core Type: <u>N/A</u> Size: <u>N/A</u> Length: <u>N/A</u>	Survey Lat. <u>N/A</u> Long. <u>N/A</u> Elev. <u>N/A</u>
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Start Depth	Finish Depth	Sample ID	Blow Count				Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Description
0	2	LE-TP20-0/2	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
2	4	LE-TP20-2/4	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
4	6	LE-TP20-4/6	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
6	8	LE-TP20-6/8	N/A	N/A	N/A	N/A	N/A	N/A	SM	Tan, fine to medium SAND. Dry.
8	10	LE-TP20-8/10	N/A	N/A	N/A	N/A	0.1	SM	Tan, fine to medium SAND. Dry.	

Test Pit completed at 10 feet below grade.

Notes:

bgs - Below Ground Surface	USCS - Unified Soil Classification System	TOVs: total organic vapors as measured using jar headspace with photo-ionization detector using a 10.6 electron volt bulb with a benzene response factor of 0.6.
ppmv - Parts Per Million by Volume	GW Elev - Groundwater Elevation	
N/A - Not applicable	WL - Water Level	
	NR - No Recovery	

APPENDIX H

ANALYTICAL SUMMARY TABLES

Table 10-1	Volatile Petroleum Hydrocarbons and Volatile Organic Compounds in Soil
Table 10-2	Extractable Petroleum Hydrocarbons and Polynuclear Aromatic Hydrocarbons in Soil
Table 10-3	Volatile Organic Compounds in Groundwater
Table 10-4	PFAS in Groundwater Compounds

Table 10-1
Volatile Petroleum Hydrocarbons and Volatile Organic Compounds in Soil
Proposed Hidden Trails Residential Subdivision
Off County Road
Wareham, Massachusetts
(mg/Kg)

Sample ID.	Sample Date	Sample Depth (Feet Below Ground Surface)	Volatile Petroleum Hydrocarbons		
			C5-C8 Aliphatics	C9-C12 Aliphatics	C9-C10 Aromatics
LE-TP2 (4-6)	12/14/2023	4-6	60.3	60.3	75.4
LE-TP6 (8-10)	12/14/2023	8-10	BRL<38.4	BRL<48	BRL<48
LE-TP12 (10-12)	12/19/2023	10-12	BRL<29.1	BRL<36.4	BRL<36.4
Reportable Concentrations (310 CMR 40.1600); May 23, 2014					
RCS-1			100	1,000	100

Notes:

mg/Kg - milligrams per kilogram, dry weight.

BRL<0.552 indicates concentration, if any, is below reporting limit for analyte (reporting limit = 0.552).

NS - No Standard.

RCS-1 - Reportable Concentrations ("RC") for soil in Reporting Category RCS-1 under the Massachusetts Contingency Plan ("MCP").

Table 10-2
Extractable Petroleum Hydrocarbons and Polynuclear Aromatic Hydrocarbons in Soil
Proposed Hidden Trails Residential Subdivision
Off County Road
Wareham, Massachusetts
(mg/Kg)

Sample ID.	Sample Date	Sample Depth (Feet Below Ground Surface)	Extractable Petroleum Hydrocarbons			Polynuclear Aromatic Hydrocarbons								
			C9-C18 Aliphatics	C19-C36 Aliphatics	C11-C22 Aromatics	Fluoranthene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Benzo(g,h,i) perylene	Indeno(1,2,3-cd)pyrene	Pyrene
LE-TP2 (4-6)	12/14/2023	4-6	BRL<14.9	BRL<19.5	BRL<15.2	1.14	0.68	0.48	0.71	0.66	0.75	0.37	0.40	0.87
LE-TP6 (8-10)	12/14/2023	8-10	BRL<14.9	32.1	BRL<15.2	BRL<0.48	BRL<0.48	BRL<0.48	BRL<0.48	BRL<0.48	BRL<0.48	BRL<0.48	BRL<0.48	BRL<0.48
LE-TP12 (10-12)	12/19/2023	10-12	BRL<7.47	14.9	BRL<7.64	BRL<0.38	BRL<0.38	BRL<0.38	BRL<0.38	BRL<0.38	BRL<0.38	BRL<0.38	BRL<0.38	BRL<0.38
Reportable Concentrations (310 CMR 40.1600); May 23, 2014														
RCS-1			1,000	3,000	1,000	1,000	7	2	7	70	70	1,000	7	1,000

Notes:
mg/Kg - milligrams per kilogram, dry weight.
BRL<0.552 indicates concentration, if any, is below reporting limit for analyte (reporting limit = 0.552).
NS - No Standard.
RCS-1 - Reportable Concentrations ("RC") for soil in Reporting Category S-1 under the Massachusetts Contingency Plan ("MCP").

Table 10-3
Volatile Organic Compounds in Groundwater
Proposed Hidden Trails Residential Subdivision
Off County Road
Wareham, Massachusetts
(ug/L)

Sample ID.	Sample Date	Groundwater Reporting Category Sample is Subject to	Volatile Organic Compounds		
			1,1,2,2-Tetrachloroethane	2-Butanone	Tetrahydrofuran
December 2023					
LE-TMW1	12/15/2023	RCGW-2	BRL<20	3,200	1,360
LE-TMW2	12/15/2023	RCGW-2	BRL<20	2,590	1,020
LE-TMW3	12/15/2023	RCGW-1	BRL<50	6,340	4,620
LE-TMW4	12/15/2023	RCGW-1	<i>67</i>	12,100	9,990
January 2024					
LE-TMW1	1/12/2024	RCGW-2	BRL<1	BRL<100	BRL<5
LE-TMW2	1/12/2024	RCGW-2	BRL<1	BRL<100	6
LE-TMW3	1/12/2024	RCGW-1	BRL<1	BRL<100	BRL<5
LE-TMW4	1/12/2024	RCGW-1	BRL<1	BRL<100	BRL<5
Reportable Concentrations (310 CMR 40.1600); May 23, 2014					
RCGW-1			2	4,000	5,000
RCGW-2			9	50,000	50,000

Notes:

µg/L - micrograms per liter.

BRL<0.552 indicates concentration, if any, is below reporting limit for analyte (reporting limit = 0.552).

NS - No Standard.

RCGW-1 - Reportable Concentrations ("RC") for groundwater in Reporting Category GW-1 under the Massachusetts Contingency Plan ("MCP").

RCGW-2 - RC for groundwater in Reporting Category GW-2 under the MCP.

Bold indicates concentration meets or exceeds applicable MCP RC for groundwater in Reporting Category RCGW-1.

Italicize indicates concentration meets or exceeds applicable MCP RC for groundwater in Reporting Category RCGW-2.

**Table 10-4
PFAS in Groundwater
Proposed Hidden Trails Residential Subdivision
Off County Road
Wareham, Massachusetts
(ng/L)**

Sample ID.	Sample Date	Groundwater Reporting Category Sample is Subject to	MCP regulated Perfluorinated Alkyl Acids by EPA 537.1					Perfluorinated Alkyl Acids by EPA 537.1			
			Total MCP-Regulated PFAS (6)*	Perfluoroheptanoic Acid (PFHpA)	Perfluorooctanoic Acid (PFOA)	Perfluorononanoic Acid (PFNA)	Perfluorooctanesulfonic Acid (PFOS)	Perfluorobutanoic Acid (PFBA)	Perfluoropentanoic Acid (PFPeA)	Perfluorobutanesulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)
Surface Water Sample											
LE-SW1	12/14/2023	Not Applicable	BRL	BRL<1.48	BRL<1.48	BRL<1.48	BRL<1.48	BRL<5.91	BRL<2.96	BRL<1.48	BRL<1.48
Groundwater Samples											
LE-TMW1	12/15/2023	RCGW-2	34.7	8.19	18.9	5.50	2.14	20.8	7.22	BRL<1.60	5.75
LE-TMW2	12/15/2023	RCGW-2	16.6	8.51	6.57	BRL<1.42	1.56	16.3	6.81	1.89	9.18
LE-TMW3	12/15/2023	RCGW-1	BRL	BRL<1.41	BRL<1.41	BRL<1.41	BRL<1.41	BRL<5.66	BRL<2.83	BRL<1.41	BRL<1.41
LE-TMW4	12/15/2023	RCGW-1	15.3	7.61	7.64	BRL<1.41	BRL<1.41	14.90	6.03	BRL<1.41	7.37
Reportable Concentrations (310 CMR 40.1600); May 23, 2014¹											
RCGW-1			20	20	20	20	20	NS	NS	NS	NS
RCGW-2			NS	40,000	40,000	40,000	500	NS	NS	NS	NS

Notes:

ng/L - nanograms per liter.

NA - Not Analyzed/Not Applicable.

NA¹ - Sample submitted for analysis but not Analyzed by laboratory due to a QA/QC failure.

BRL<0.552 indicates concentration, if any, is below reporting limit for analyte (reporting limit = 0.552).

NS - No Standard.

PFAS - Per- and Polyfluoroalkyl Substances

RCGW-1 - Reportable Concentrations ("RC") for groundwater in Reporting Category GW-1 under the Massachusetts Contingency Plan ("MCP").

RCGW-2 - RC for groundwater in Reporting Category GW-2 under the MCP.

Bold indicates concentration meets or exceeds applicable MCP RC for groundwater in Reporting Category RCGW-1.

1 - DEP's Final PFAS-related Amendments to the MCP, December 13, 2019.

* The Per- and Polyfluoroalkyl Substances (PFAS) standard for GW-1 is for the sum of the concentrations of the following PFAS compounds:

perfluorodecanoic acid (PFDA), perfluoroheptanoic acid (PFHpA), perfluorohexanesulfonic acid (PFHxS),

perfluorononanoic acid (PFNA), perfluorooctanesulfonic acid (PFOS), and perfluorooctanoic acid (PFOA).

APPENDIX I

ANALYTICAL DATA PACKAGES



New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 3L18035

Client Project: 1075 - Wareham

Report Date: 26-December-2023

Prepared for:

Kevin Paradise
Lightship Engineering
6 Resnik Raod, Suite 207
Plymouth, MA 02360

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
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Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 12/18/23. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 3L18035. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
3L18035-01	LE-TMW1	Water	12/15/2023	12/18/2023
3L18035-02	LE-TMW2	Water	12/15/2023	12/18/2023
3L18035-03	LE-TMW3	Water	12/15/2023	12/18/2023
3L18035-04	LE-TMW4	Water	12/15/2023	12/18/2023

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

LE-TMW1 (Lab Number: 3L18035-01)

Analysis

Volatile Organic Compounds

Method

EPA 8260C

LE-TMW2 (Lab Number: 3L18035-02)

Analysis

Volatile Organic Compounds

Method

EPA 8260C

LE-TMW3 (Lab Number: 3L18035-03)

Analysis

Volatile Organic Compounds

Method

EPA 8260C

LE-TMW4 (Lab Number: 3L18035-04)

Analysis

Volatile Organic Compounds

Method

EPA 8260C

Method References

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: Volatile Organic Compounds

Sample: LE-TMW1

Lab Number: 3L18035-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		2000	ug/l	12/21/23	12/21/23
Benzene	ND		20	ug/l	12/21/23	12/21/23
Bromobenzene	ND		20	ug/l	12/21/23	12/21/23
Bromochloromethane	ND		20	ug/l	12/21/23	12/21/23
Bromodichloromethane	ND		20	ug/l	12/21/23	12/21/23
Bromoform	ND		20	ug/l	12/21/23	12/21/23
Bromomethane	ND		20	ug/l	12/21/23	12/21/23
2-Butanone	3200		2000	ug/l	12/21/23	12/21/23
tert-Butyl alcohol	ND		100	ug/l	12/21/23	12/21/23
sec-Butylbenzene	ND		20	ug/l	12/21/23	12/21/23
n-Butylbenzene	ND		20	ug/l	12/21/23	12/21/23
tert-Butylbenzene	ND		20	ug/l	12/21/23	12/21/23
Methyl t-butyl ether (MTBE)	ND		20	ug/l	12/21/23	12/21/23
Carbon Disulfide	ND		20	ug/l	12/21/23	12/21/23
Carbon Tetrachloride	ND		20	ug/l	12/21/23	12/21/23
Chlorobenzene	ND		20	ug/l	12/21/23	12/21/23
Chloroethane	ND		20	ug/l	12/21/23	12/21/23
Chloroform	ND		20	ug/l	12/21/23	12/21/23
Chloromethane	ND		20	ug/l	12/21/23	12/21/23
4-Chlorotoluene	ND		20	ug/l	12/21/23	12/21/23
2-Chlorotoluene	ND		20	ug/l	12/21/23	12/21/23
1,2-Dibromo-3-chloropropane (DBCP)	ND		20	ug/l	12/21/23	12/21/23
Dibromochloromethane	ND		20	ug/l	12/21/23	12/21/23
1,2-Dibromoethane (EDB)	ND		20	ug/l	12/21/23	12/21/23
Dibromomethane	ND		20	ug/l	12/21/23	12/21/23
1,2-Dichlorobenzene	ND		20	ug/l	12/21/23	12/21/23
1,3-Dichlorobenzene	ND		20	ug/l	12/21/23	12/21/23
1,4-Dichlorobenzene	ND		20	ug/l	12/21/23	12/21/23
1,1-Dichloroethane	ND		20	ug/l	12/21/23	12/21/23
1,2-Dichloroethane	ND		20	ug/l	12/21/23	12/21/23
1,2 Dichloroethene, Total	ND		20	ug/l	12/21/23	12/21/23
trans-1,2-Dichloroethene	ND		20	ug/l	12/21/23	12/21/23
cis-1,2-Dichloroethene	ND		20	ug/l	12/21/23	12/21/23
1,1-Dichloroethene	ND		20	ug/l	12/21/23	12/21/23
1,2-Dichloropropane	ND		20	ug/l	12/21/23	12/21/23
2,2-Dichloropropane	ND		20	ug/l	12/21/23	12/21/23
cis-1,3-Dichloropropene	ND		20	ug/l	12/21/23	12/21/23
trans-1,3-Dichloropropene	ND		20	ug/l	12/21/23	12/21/23
1,1-Dichloropropene	ND		20	ug/l	12/21/23	12/21/23
1,3-Dichloropropene (cis + trans)	ND		40	ug/l	12/21/23	12/21/23
Diethyl ether	ND		100	ug/l	12/21/23	12/21/23
1,4-Dioxane	ND		2000	ug/l	12/21/23	12/21/23
Ethylbenzene	ND		20	ug/l	12/21/23	12/21/23
Hexachlorobutadiene	ND		20	ug/l	12/21/23	12/21/23
2-Hexanone	ND		2000	ug/l	12/21/23	12/21/23
Isopropylbenzene	ND		20	ug/l	12/21/23	12/21/23
p-Isopropyltoluene	ND		20	ug/l	12/21/23	12/21/23
Methylene Chloride	ND		20	ug/l	12/21/23	12/21/23

Results: Volatile Organic Compounds (Continued)

Sample: LE-TMW1 (Continued)

Lab Number: 3L18035-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
4-Methyl-2-pentanone	ND		2000	ug/l	12/21/23	12/21/23
Naphthalene	ND		20	ug/l	12/21/23	12/21/23
n-Propylbenzene	ND		20	ug/l	12/21/23	12/21/23
Styrene	ND		20	ug/l	12/21/23	12/21/23
1,1,1,2-Tetrachloroethane	ND		20	ug/l	12/21/23	12/21/23
Tetrachloroethene	ND		20	ug/l	12/21/23	12/21/23
Tetrahydrofuran	1360		100	ug/l	12/21/23	12/21/23
Toluene	ND		20	ug/l	12/21/23	12/21/23
1,2,4-Trichlorobenzene	ND		20	ug/l	12/21/23	12/21/23
1,2,3-Trichlorobenzene	ND		20	ug/l	12/21/23	12/21/23
1,1,2-Trichloroethane	ND		20	ug/l	12/21/23	12/21/23
1,1,1-Trichloroethane	ND		20	ug/l	12/21/23	12/21/23
Trichloroethene	ND		20	ug/l	12/21/23	12/21/23
1,2,3-Trichloropropane	ND		20	ug/l	12/21/23	12/21/23
1,3,5-Trimethylbenzene	ND		20	ug/l	12/21/23	12/21/23
1,2,4-Trimethylbenzene	ND		20	ug/l	12/21/23	12/21/23
Vinyl Chloride	ND		20	ug/l	12/21/23	12/21/23
o-Xylene	ND		20	ug/l	12/21/23	12/21/23
m&p-Xylene	ND		40	ug/l	12/21/23	12/21/23
Total xylenes	ND		20	ug/l	12/21/23	12/21/23
1,1,1,2-Tetrachloroethane	ND		20	ug/l	12/21/23	12/21/23
tert-Amyl methyl ether	ND		20	ug/l	12/21/23	12/21/23
1,3-Dichloropropane	ND		20	ug/l	12/21/23	12/21/23
Ethyl tert-butyl ether	ND		20	ug/l	12/21/23	12/21/23
Diisopropyl ether	ND		20	ug/l	12/21/23	12/21/23
Trichlorofluoromethane	ND		20	ug/l	12/21/23	12/21/23
Dichlorodifluoromethane	ND		20	ug/l	12/21/23	12/21/23
Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	97.0%		70-130		12/21/23	12/21/23
<i>1,2-Dichloroethane-d4</i>	102%		70-130		12/21/23	12/21/23
<i>Toluene-d8</i>	96.7%		70-130		12/21/23	12/21/23

Results: Volatile Organic Compounds

Sample: LE-TMW2

Lab Number: 3L18035-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		2000	ug/l	12/21/23	12/21/23
Benzene	ND		20	ug/l	12/21/23	12/21/23
Bromobenzene	ND		20	ug/l	12/21/23	12/21/23
Bromochloromethane	ND		20	ug/l	12/21/23	12/21/23
Bromodichloromethane	ND		20	ug/l	12/21/23	12/21/23
Bromoform	ND		20	ug/l	12/21/23	12/21/23
Bromomethane	ND		20	ug/l	12/21/23	12/21/23
2-Butanone	2590		2000	ug/l	12/21/23	12/21/23
tert-Butyl alcohol	ND		100	ug/l	12/21/23	12/21/23
sec-Butylbenzene	ND		20	ug/l	12/21/23	12/21/23
n-Butylbenzene	ND		20	ug/l	12/21/23	12/21/23
tert-Butylbenzene	ND		20	ug/l	12/21/23	12/21/23
Methyl t-butyl ether (MTBE)	ND		20	ug/l	12/21/23	12/21/23
Carbon Disulfide	ND		20	ug/l	12/21/23	12/21/23
Carbon Tetrachloride	ND		20	ug/l	12/21/23	12/21/23
Chlorobenzene	ND		20	ug/l	12/21/23	12/21/23
Chloroethane	ND		20	ug/l	12/21/23	12/21/23
Chloroform	ND		20	ug/l	12/21/23	12/21/23
Chloromethane	ND		20	ug/l	12/21/23	12/21/23
4-Chlorotoluene	ND		20	ug/l	12/21/23	12/21/23
2-Chlorotoluene	ND		20	ug/l	12/21/23	12/21/23
1,2-Dibromo-3-chloropropane (DBCP)	ND		20	ug/l	12/21/23	12/21/23
Dibromochloromethane	ND		20	ug/l	12/21/23	12/21/23
1,2-Dibromoethane (EDB)	ND		20	ug/l	12/21/23	12/21/23
Dibromomethane	ND		20	ug/l	12/21/23	12/21/23
1,2-Dichlorobenzene	ND		20	ug/l	12/21/23	12/21/23
1,3-Dichlorobenzene	ND		20	ug/l	12/21/23	12/21/23
1,4-Dichlorobenzene	ND		20	ug/l	12/21/23	12/21/23
1,1-Dichloroethane	ND		20	ug/l	12/21/23	12/21/23
1,2-Dichloroethane	ND		20	ug/l	12/21/23	12/21/23
1,2 Dichloroethene, Total	ND		20	ug/l	12/21/23	12/21/23
trans-1,2-Dichloroethene	ND		20	ug/l	12/21/23	12/21/23
cis-1,2-Dichloroethene	ND		20	ug/l	12/21/23	12/21/23
1,1-Dichloroethene	ND		20	ug/l	12/21/23	12/21/23
1,2-Dichloropropane	ND		20	ug/l	12/21/23	12/21/23
2,2-Dichloropropane	ND		20	ug/l	12/21/23	12/21/23
cis-1,3-Dichloropropene	ND		20	ug/l	12/21/23	12/21/23
trans-1,3-Dichloropropene	ND		20	ug/l	12/21/23	12/21/23
1,1-Dichloropropene	ND		20	ug/l	12/21/23	12/21/23
1,3-Dichloropropene (cis + trans)	ND		40	ug/l	12/21/23	12/21/23
Diethyl ether	ND		100	ug/l	12/21/23	12/21/23
1,4-Dioxane	ND		2000	ug/l	12/21/23	12/21/23
Ethylbenzene	ND		20	ug/l	12/21/23	12/21/23
Hexachlorobutadiene	ND		20	ug/l	12/21/23	12/21/23
2-Hexanone	ND		2000	ug/l	12/21/23	12/21/23
Isopropylbenzene	ND		20	ug/l	12/21/23	12/21/23
p-Isopropyltoluene	ND		20	ug/l	12/21/23	12/21/23
Methylene Chloride	ND		20	ug/l	12/21/23	12/21/23

Results: Volatile Organic Compounds (Continued)

Sample: LE-TMW2 (Continued)

Lab Number: 3L18035-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
4-Methyl-2-pentanone	ND		2000	ug/l	12/21/23	12/21/23
Naphthalene	ND		20	ug/l	12/21/23	12/21/23
n-Propylbenzene	ND		20	ug/l	12/21/23	12/21/23
Styrene	ND		20	ug/l	12/21/23	12/21/23
1,1,1,2-Tetrachloroethane	ND		20	ug/l	12/21/23	12/21/23
Tetrachloroethene	ND		20	ug/l	12/21/23	12/21/23
Tetrahydrofuran	1020		100	ug/l	12/21/23	12/21/23
Toluene	ND		20	ug/l	12/21/23	12/21/23
1,2,4-Trichlorobenzene	ND		20	ug/l	12/21/23	12/21/23
1,2,3-Trichlorobenzene	ND		20	ug/l	12/21/23	12/21/23
1,1,2-Trichloroethane	ND		20	ug/l	12/21/23	12/21/23
1,1,1-Trichloroethane	ND		20	ug/l	12/21/23	12/21/23
Trichloroethene	ND		20	ug/l	12/21/23	12/21/23
1,2,3-Trichloropropane	ND		20	ug/l	12/21/23	12/21/23
1,3,5-Trimethylbenzene	ND		20	ug/l	12/21/23	12/21/23
1,2,4-Trimethylbenzene	ND		20	ug/l	12/21/23	12/21/23
Vinyl Chloride	ND		20	ug/l	12/21/23	12/21/23
o-Xylene	ND		20	ug/l	12/21/23	12/21/23
m&p-Xylene	ND		40	ug/l	12/21/23	12/21/23
Total xylenes	ND		20	ug/l	12/21/23	12/21/23
1,1,1,2-Tetrachloroethane	ND		20	ug/l	12/21/23	12/21/23
tert-Amyl methyl ether	ND		20	ug/l	12/21/23	12/21/23
1,3-Dichloropropane	ND		20	ug/l	12/21/23	12/21/23
Ethyl tert-butyl ether	ND		20	ug/l	12/21/23	12/21/23
Diisopropyl ether	ND		20	ug/l	12/21/23	12/21/23
Trichlorofluoromethane	ND		20	ug/l	12/21/23	12/21/23
Dichlorodifluoromethane	ND		20	ug/l	12/21/23	12/21/23
Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	98.7%		70-130		12/21/23	12/21/23
<i>1,2-Dichloroethane-d4</i>	104%		70-130		12/21/23	12/21/23
<i>Toluene-d8</i>	91.2%		70-130		12/21/23	12/21/23

Results: Volatile Organic Compounds

Sample: LE-TMW3

Lab Number: 3L18035-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		5000	ug/l	12/21/23	12/21/23
Benzene	ND		50	ug/l	12/21/23	12/21/23
Bromobenzene	ND		50	ug/l	12/21/23	12/21/23
Bromochloromethane	ND		50	ug/l	12/21/23	12/21/23
Bromodichloromethane	ND		50	ug/l	12/21/23	12/21/23
Bromoform	ND		50	ug/l	12/21/23	12/21/23
Bromomethane	ND		50	ug/l	12/21/23	12/21/23
2-Butanone	6340		5000	ug/l	12/21/23	12/21/23
tert-Butyl alcohol	ND		250	ug/l	12/21/23	12/21/23
sec-Butylbenzene	ND		50	ug/l	12/21/23	12/21/23
n-Butylbenzene	ND		50	ug/l	12/21/23	12/21/23
tert-Butylbenzene	ND		50	ug/l	12/21/23	12/21/23
Methyl t-butyl ether (MTBE)	ND		50	ug/l	12/21/23	12/21/23
Carbon Disulfide	ND		50	ug/l	12/21/23	12/21/23
Carbon Tetrachloride	ND		50	ug/l	12/21/23	12/21/23
Chlorobenzene	ND		50	ug/l	12/21/23	12/21/23
Chloroethane	ND		50	ug/l	12/21/23	12/21/23
Chloroform	ND		50	ug/l	12/21/23	12/21/23
Chloromethane	ND		50	ug/l	12/21/23	12/21/23
4-Chlorotoluene	ND		50	ug/l	12/21/23	12/21/23
2-Chlorotoluene	ND		50	ug/l	12/21/23	12/21/23
1,2-Dibromo-3-chloropropane (DBCP)	ND		50	ug/l	12/21/23	12/21/23
Dibromochloromethane	ND		50	ug/l	12/21/23	12/21/23
1,2-Dibromoethane (EDB)	ND		50	ug/l	12/21/23	12/21/23
Dibromomethane	ND		50	ug/l	12/21/23	12/21/23
1,2-Dichlorobenzene	ND		50	ug/l	12/21/23	12/21/23
1,3-Dichlorobenzene	ND		50	ug/l	12/21/23	12/21/23
1,4-Dichlorobenzene	ND		50	ug/l	12/21/23	12/21/23
1,1-Dichloroethane	ND		50	ug/l	12/21/23	12/21/23
1,2-Dichloroethane	ND		50	ug/l	12/21/23	12/21/23
1,2 Dichloroethene, Total	ND		50	ug/l	12/21/23	12/21/23
trans-1,2-Dichloroethene	ND		50	ug/l	12/21/23	12/21/23
cis-1,2-Dichloroethene	ND		50	ug/l	12/21/23	12/21/23
1,1-Dichloroethene	ND		50	ug/l	12/21/23	12/21/23
1,2-Dichloropropane	ND		50	ug/l	12/21/23	12/21/23
2,2-Dichloropropane	ND		50	ug/l	12/21/23	12/21/23
cis-1,3-Dichloropropene	ND		50	ug/l	12/21/23	12/21/23
trans-1,3-Dichloropropene	ND		50	ug/l	12/21/23	12/21/23
1,1-Dichloropropene	ND		50	ug/l	12/21/23	12/21/23
1,3-Dichloropropene (cis + trans)	ND		100	ug/l	12/21/23	12/21/23
Diethyl ether	ND		250	ug/l	12/21/23	12/21/23
1,4-Dioxane	ND		5000	ug/l	12/21/23	12/21/23
Ethylbenzene	ND		50	ug/l	12/21/23	12/21/23
Hexachlorobutadiene	ND		50	ug/l	12/21/23	12/21/23
2-Hexanone	ND		5000	ug/l	12/21/23	12/21/23
Isopropylbenzene	ND		50	ug/l	12/21/23	12/21/23
p-Isopropyltoluene	ND		50	ug/l	12/21/23	12/21/23
Methylene Chloride	ND		50	ug/l	12/21/23	12/21/23

Results: Volatile Organic Compounds (Continued)

Sample: LE-TMW3 (Continued)

Lab Number: 3L18035-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
4-Methyl-2-pentanone	ND		5000	ug/l	12/21/23	12/21/23
Naphthalene	ND		50	ug/l	12/21/23	12/21/23
n-Propylbenzene	ND		50	ug/l	12/21/23	12/21/23
Styrene	ND		50	ug/l	12/21/23	12/21/23
1,1,1,2-Tetrachloroethane	ND		50	ug/l	12/21/23	12/21/23
Tetrachloroethene	ND		50	ug/l	12/21/23	12/21/23
Tetrahydrofuran	4620		250	ug/l	12/21/23	12/21/23
Toluene	ND		50	ug/l	12/21/23	12/21/23
1,2,4-Trichlorobenzene	ND		50	ug/l	12/21/23	12/21/23
1,2,3-Trichlorobenzene	ND		50	ug/l	12/21/23	12/21/23
1,1,2-Trichloroethane	ND		50	ug/l	12/21/23	12/21/23
1,1,1-Trichloroethane	ND		50	ug/l	12/21/23	12/21/23
Trichloroethene	ND		50	ug/l	12/21/23	12/21/23
1,2,3-Trichloropropane	ND		50	ug/l	12/21/23	12/21/23
1,3,5-Trimethylbenzene	ND		50	ug/l	12/21/23	12/21/23
1,2,4-Trimethylbenzene	ND		50	ug/l	12/21/23	12/21/23
Vinyl Chloride	ND		50	ug/l	12/21/23	12/21/23
o-Xylene	ND		50	ug/l	12/21/23	12/21/23
m&p-Xylene	ND		100	ug/l	12/21/23	12/21/23
Total xylenes	ND		50	ug/l	12/21/23	12/21/23
1,1,1,2-Tetrachloroethane	ND		50	ug/l	12/21/23	12/21/23
tert-Amyl methyl ether	ND		50	ug/l	12/21/23	12/21/23
1,3-Dichloropropane	ND		50	ug/l	12/21/23	12/21/23
Ethyl tert-butyl ether	ND		50	ug/l	12/21/23	12/21/23
Diisopropyl ether	ND		50	ug/l	12/21/23	12/21/23
Trichlorofluoromethane	ND		50	ug/l	12/21/23	12/21/23
Dichlorodifluoromethane	ND		50	ug/l	12/21/23	12/21/23
Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	96.9%		70-130		12/21/23	12/21/23
<i>1,2-Dichloroethane-d4</i>	105%		70-130		12/21/23	12/21/23
<i>Toluene-d8</i>	94.4%		70-130		12/21/23	12/21/23

Results: Volatile Organic Compounds

Sample: LE-TMW4

Lab Number: 3L18035-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		5000	ug/l	12/21/23	12/21/23
Benzene	ND		50	ug/l	12/21/23	12/21/23
Bromobenzene	ND		50	ug/l	12/21/23	12/21/23
Bromochloromethane	ND		50	ug/l	12/21/23	12/21/23
Bromodichloromethane	ND		50	ug/l	12/21/23	12/21/23
Bromoform	ND		50	ug/l	12/21/23	12/21/23
Bromomethane	ND		50	ug/l	12/21/23	12/21/23
2-Butanone	12100		5000	ug/l	12/21/23	12/21/23
tert-Butyl alcohol	ND		250	ug/l	12/21/23	12/21/23
sec-Butylbenzene	ND		50	ug/l	12/21/23	12/21/23
n-Butylbenzene	ND		50	ug/l	12/21/23	12/21/23
tert-Butylbenzene	ND		50	ug/l	12/21/23	12/21/23
Methyl t-butyl ether (MTBE)	ND		50	ug/l	12/21/23	12/21/23
Carbon Disulfide	ND		50	ug/l	12/21/23	12/21/23
Carbon Tetrachloride	ND		50	ug/l	12/21/23	12/21/23
Chlorobenzene	ND		50	ug/l	12/21/23	12/21/23
Chloroethane	ND		50	ug/l	12/21/23	12/21/23
Chloroform	ND		50	ug/l	12/21/23	12/21/23
Chloromethane	ND		50	ug/l	12/21/23	12/21/23
4-Chlorotoluene	ND		50	ug/l	12/21/23	12/21/23
2-Chlorotoluene	ND		50	ug/l	12/21/23	12/21/23
1,2-Dibromo-3-chloropropane (DBCP)	ND		50	ug/l	12/21/23	12/21/23
Dibromochloromethane	ND		50	ug/l	12/21/23	12/21/23
1,2-Dibromoethane (EDB)	ND		50	ug/l	12/21/23	12/21/23
Dibromomethane	ND		50	ug/l	12/21/23	12/21/23
1,2-Dichlorobenzene	ND		50	ug/l	12/21/23	12/21/23
1,3-Dichlorobenzene	ND		50	ug/l	12/21/23	12/21/23
1,4-Dichlorobenzene	ND		50	ug/l	12/21/23	12/21/23
1,1-Dichloroethane	ND		50	ug/l	12/21/23	12/21/23
1,2-Dichloroethane	ND		50	ug/l	12/21/23	12/21/23
1,2 Dichloroethene, Total	ND		50	ug/l	12/21/23	12/21/23
trans-1,2-Dichloroethene	ND		50	ug/l	12/21/23	12/21/23
cis-1,2-Dichloroethene	ND		50	ug/l	12/21/23	12/21/23
1,1-Dichloroethene	ND		50	ug/l	12/21/23	12/21/23
1,2-Dichloropropane	ND		50	ug/l	12/21/23	12/21/23
2,2-Dichloropropane	ND		50	ug/l	12/21/23	12/21/23
cis-1,3-Dichloropropene	ND		50	ug/l	12/21/23	12/21/23
trans-1,3-Dichloropropene	ND		50	ug/l	12/21/23	12/21/23
1,1-Dichloropropene	ND		50	ug/l	12/21/23	12/21/23
1,3-Dichloropropene (cis + trans)	ND		100	ug/l	12/21/23	12/21/23
Diethyl ether	ND		250	ug/l	12/21/23	12/21/23
1,4-Dioxane	ND		5000	ug/l	12/21/23	12/21/23
Ethylbenzene	ND		50	ug/l	12/21/23	12/21/23
Hexachlorobutadiene	ND		50	ug/l	12/21/23	12/21/23
2-Hexanone	ND		5000	ug/l	12/21/23	12/21/23
Isopropylbenzene	ND		50	ug/l	12/21/23	12/21/23
p-Isopropyltoluene	ND		50	ug/l	12/21/23	12/21/23
Methylene Chloride	ND		50	ug/l	12/21/23	12/21/23

Results: Volatile Organic Compounds (Continued)

Sample: LE-TMW4 (Continued)

Lab Number: 3L18035-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
4-Methyl-2-pentanone	ND		5000	ug/l	12/21/23	12/21/23
Naphthalene	ND		50	ug/l	12/21/23	12/21/23
n-Propylbenzene	ND		50	ug/l	12/21/23	12/21/23
Styrene	ND		50	ug/l	12/21/23	12/21/23
1,1,1,2-Tetrachloroethane	ND		50	ug/l	12/21/23	12/21/23
Tetrachloroethene	ND		50	ug/l	12/21/23	12/21/23
Tetrahydrofuran	9990		250	ug/l	12/21/23	12/21/23
Toluene	ND		50	ug/l	12/21/23	12/21/23
1,2,4-Trichlorobenzene	ND		50	ug/l	12/21/23	12/21/23
1,2,3-Trichlorobenzene	ND		50	ug/l	12/21/23	12/21/23
1,1,2-Trichloroethane	ND		50	ug/l	12/21/23	12/21/23
1,1,1-Trichloroethane	ND		50	ug/l	12/21/23	12/21/23
Trichloroethene	ND		50	ug/l	12/21/23	12/21/23
1,2,3-Trichloropropane	ND		50	ug/l	12/21/23	12/21/23
1,3,5-Trimethylbenzene	ND		50	ug/l	12/21/23	12/21/23
1,2,4-Trimethylbenzene	ND		50	ug/l	12/21/23	12/21/23
Vinyl Chloride	ND		50	ug/l	12/21/23	12/21/23
o-Xylene	ND		50	ug/l	12/21/23	12/21/23
m&p-Xylene	ND		100	ug/l	12/21/23	12/21/23
Total xylenes	ND		50	ug/l	12/21/23	12/21/23
1,1,2,2-Tetrachloroethane	67		50	ug/l	12/21/23	12/21/23
tert-Amyl methyl ether	ND		50	ug/l	12/21/23	12/21/23
1,3-Dichloropropane	ND		50	ug/l	12/21/23	12/21/23
Ethyl tert-butyl ether	ND		50	ug/l	12/21/23	12/21/23
Diisopropyl ether	ND		50	ug/l	12/21/23	12/21/23
Trichlorofluoromethane	ND		50	ug/l	12/21/23	12/21/23
Dichlorodifluoromethane	ND		50	ug/l	12/21/23	12/21/23
Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	97.8%		70-130		12/21/23	12/21/23
<i>1,2-Dichloroethane-d4</i>	104%		70-130		12/21/23	12/21/23
<i>Toluene-d8</i>	91.6%		70-130		12/21/23	12/21/23

Quality Control

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1016 - Purge-Trap										
Blank (B3L1016-BLK1)					Prepared & Analyzed: 12/21/23					
Acetone	ND		100	ug/l						
Benzene	ND		1	ug/l						
Bromobenzene	ND		1	ug/l						
Bromochloromethane	ND		1	ug/l						
Bromodichloromethane	ND		1	ug/l						
Bromoform	ND		1	ug/l						
Bromomethane	ND		1	ug/l						
2-Butanone	ND		100	ug/l						
tert-Butyl alcohol	ND		5	ug/l						
sec-Butylbenzene	ND		1	ug/l						
n-Butylbenzene	ND		1	ug/l						
tert-Butylbenzene	ND		1	ug/l						
Methyl t-butyl ether (MTBE)	ND		1	ug/l						
Carbon Disulfide	ND		1	ug/l						
Carbon Tetrachloride	ND		1	ug/l						
Chlorobenzene	ND		1	ug/l						
Chloroethane	ND		1	ug/l						
Chloroform	ND		1	ug/l						
Chloromethane	ND		1	ug/l						
4-Chlorotoluene	ND		1	ug/l						
2-Chlorotoluene	ND		1	ug/l						
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l						
Dibromochloromethane	ND		1	ug/l						
1,2-Dibromoethane (EDB)	ND		1	ug/l						
Dibromomethane	ND		1	ug/l						
1,2-Dichlorobenzene	ND		1	ug/l						
1,3-Dichlorobenzene	ND		1	ug/l						
1,4-Dichlorobenzene	ND		1	ug/l						
1,1-Dichloroethane	ND		1	ug/l						
1,2-Dichloroethane	ND		1	ug/l						
trans-1,2-Dichloroethene	ND		1	ug/l						
1,2 Dichloroethene, Total	ND		1	ug/l						
cis-1,2-Dichloroethene	ND		1	ug/l						
1,1-Dichloroethene	ND		1	ug/l						
1,2-Dichloropropane	ND		1	ug/l						
2,2-Dichloropropane	ND		1	ug/l						
cis-1,3-Dichloropropene	ND		1	ug/l						
trans-1,3-Dichloropropene	ND		1	ug/l						
1,1-Dichloropropene	ND		1	ug/l						
1,3-Dichloropropene (cis + trans)	ND		2	ug/l						
Diethyl ether	ND		5	ug/l						
1,4-Dioxane	ND		100	ug/l						
Ethylbenzene	ND		1	ug/l						
Hexachlorobutadiene	ND		1	ug/l						
2-Hexanone	ND		100	ug/l						
Isopropylbenzene	ND		1	ug/l						
p-Isopropyltoluene	ND		1	ug/l						
Methylene Chloride	ND		1	ug/l						
4-Methyl-2-pentanone	ND		100	ug/l						
Naphthalene	ND		1	ug/l						
n-Propylbenzene	ND		1	ug/l						
Styrene	ND		1	ug/l						
1,1,1,2-Tetrachloroethane	ND		1	ug/l						
Tetrachloroethene	ND		1	ug/l						

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1016 - Purge-Trap (Continued)										
Blank (B3L1016-BLK1)					Prepared & Analyzed: 12/21/23					
Tetrahydrofuran	ND		5	ug/l						
Toluene	ND		1	ug/l						
1,2,4-Trichlorobenzene	ND		1	ug/l						
1,2,3-Trichlorobenzene	ND		1	ug/l						
1,1,2-Trichloroethane	ND		1	ug/l						
1,1,1-Trichloroethane	ND		1	ug/l						
Trichloroethene	ND		1	ug/l						
1,2,3-Trichloropropane	ND		1	ug/l						
1,3,5-Trimethylbenzene	ND		1	ug/l						
1,2,4-Trimethylbenzene	ND		1	ug/l						
Vinyl Chloride	ND		1	ug/l						
o-Xylene	ND		1	ug/l						
m&p-Xylene	ND		2	ug/l						
Total xylenes	ND		1	ug/l						
1,1,2,2-Tetrachloroethane	ND		1	ug/l						
tert-Amyl methyl ether	ND		1	ug/l						
1,3-Dichloropropane	ND		1	ug/l						
Ethyl tert-butyl ether	ND		1	ug/l						
Diisopropyl ether	ND		1	ug/l						
Trichlorofluoromethane	ND		1	ug/l						
Dichlorodifluoromethane	ND		1	ug/l						
<i>Surrogate: 4-Bromofluorobenzene</i>			48.4	ug/l	50.0		96.9	70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			50.6	ug/l	50.0		101	70-130		
<i>Surrogate: Toluene-d8</i>			48.0	ug/l	50.0		96.0	70-130		
LCS (B3L1016-BS1)					Prepared & Analyzed: 12/21/23					
Acetone	28		5	ug/l	50.0		55.1	50-150		
Benzene	48		1	ug/l	50.0		95.1	70-130		
Bromobenzene	47		1	ug/l	50.0		93.0	70-130		
Bromochloromethane	45		1	ug/l	50.0		90.3	70-130		
Bromodichloromethane	48		1	ug/l	50.0		96.5	70-130		
Bromoform	41		1	ug/l	50.0		81.4	70-130		
Bromomethane	66		1	ug/l	50.0		133	50-150		
2-Butanone	34		5	ug/l	50.0		68.9	50-150		
tert-Butyl alcohol	51		5	ug/l	50.0		103	70-130		
sec-Butylbenzene	49		1	ug/l	50.0		98.1	70-130		
n-Butylbenzene	54		1	ug/l	50.0		107	70-130		
tert-Butylbenzene	49		1	ug/l	50.0		97.4	70-130		
Methyl t-butyl ether (MTBE)	51		1	ug/l	50.0		101	70-130		
Carbon Disulfide	53		1	ug/l	50.0		106	50-150		
Carbon Tetrachloride	50		1	ug/l	50.0		100	70-130		
Chlorobenzene	48		1	ug/l	50.0		96.3	70-130		
Chloroethane	58		1	ug/l	50.0		116	50-150		
Chloroform	51		1	ug/l	50.0		102	70-130		
Chloromethane	42		1	ug/l	50.0		83.2	50-150		
4-Chlorotoluene	51		1	ug/l	50.0		102	70-130		
2-Chlorotoluene	48		1	ug/l	50.0		96.1	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	39		1	ug/l	50.0		77.9	70-130		
Dibromochloromethane	44		1	ug/l	50.0		89.0	70-130		
1,2-Dibromoethane (EDB)	46		1	ug/l	50.0		91.5	70-130		
Dibromomethane	47		1	ug/l	50.0		93.9	70-130		
1,2-Dichlorobenzene	50		1	ug/l	50.0		101	70-130		
1,3-Dichlorobenzene	51		1	ug/l	50.0		102	70-130		
1,4-Dichlorobenzene	46		1	ug/l	50.0		92.3	70-130		
1,1-Dichloroethane	52		1	ug/l	50.0		103	70-130		
1,2-Dichloroethane	54		1	ug/l	50.0		109	70-130		
trans-1,2-Dichloroethene	50		1	ug/l	50.0		100	70-130		

**Quality Control
(Continued)**

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1016 - Purge-Trap (Continued)					Prepared & Analyzed: 12/21/23					
LCS (B3L1016-BS1)										
cis-1,2-Dichloroethene	42		1	ug/l	50.0		84.4	70-130		
1,1-Dichloroethene	48		1	ug/l	50.0		96.1	70-130		
1,2-Dichloropropane	50		1	ug/l	50.0		101	70-130		
2,2-Dichloropropane	50		1	ug/l	50.0		99.3	70-130		
cis-1,3-Dichloropropene	47		1	ug/l	50.0		93.9	70-130		
trans-1,3-Dichloropropene	51		1	ug/l	50.0		102	70-130		
1,1-Dichloropropene	48		1	ug/l	50.0		95.1	70-130		
Diethyl ether	58		5	ug/l	50.0		116	70-130		
1,4-Dioxane	201		100	ug/l	250		80.4	50-150		
Ethylbenzene	50		1	ug/l	50.0		100	70-130		
Hexachlorobutadiene	50		1	ug/l	50.0		99.0	70-130		
2-Hexanone	37		5	ug/l	50.0		73.5	50-150		
Isopropylbenzene	49		1	ug/l	50.0		98.1	70-130		
p-Isopropyltoluene	50		1	ug/l	50.0		101	70-130		
Methylene Chloride	52		1	ug/l	50.0		104	70-130		
4-Methyl-2-pentanone	48		5	ug/l	50.0		96.4	50-150		
Naphthalene	45		1	ug/l	50.0		89.1	70-130		
n-Propylbenzene	52		1	ug/l	50.0		103	70-130		
Styrene	49		1	ug/l	50.0		97.5	70-130		
1,1,1,2-Tetrachloroethane	47		1	ug/l	50.0		93.3	70-130		
Tetrachloroethene	45		1	ug/l	50.0		90.6	70-130		
Tetrahydrofuran	45		5	ug/l	50.0		90.4	50-150		
Toluene	47		1	ug/l	50.0		94.5	70-130		
1,2,4-Trichlorobenzene	52		1	ug/l	50.0		103	70-130		
1,2,3-Trichlorobenzene	50		1	ug/l	50.0		100	70-130		
1,1,2-Trichloroethane	48		1	ug/l	50.0		96.0	70-130		
1,1,1-Trichloroethane	52		1	ug/l	50.0		104	70-130		
Trichloroethene	43		1	ug/l	50.0		86.3	70-130		
1,2,3-Trichloropropane	51		1	ug/l	50.0		102	70-130		
1,3,5-Trimethylbenzene	50		1	ug/l	50.0		99.5	70-130		
1,2,4-Trimethylbenzene	50		1	ug/l	50.0		99.9	70-130		
Vinyl Chloride	44		1	ug/l	50.0		87.7	50-150		
o-Xylene	47		1	ug/l	50.0		94.0	70-130		
m&p-Xylene	96		2	ug/l	100		96.5	70-130		
1,1,2,2-Tetrachloroethane	48		1	ug/l	50.0		95.8	70-130		
tert-Amyl methyl ether	48		1	ug/l	50.0		96.7	70-130		
1,3-Dichloropropane	49		1	ug/l	50.0		98.3	70-130		
Ethyl tert-butyl ether	51		1	ug/l	50.0		101	70-130		
Trichlorofluoromethane	55		1	ug/l	50.0		109	50-150		
Dichlorodifluoromethane	33		1	ug/l	50.0		66.5	50-150		
<i>Surrogate: 4-Bromofluorobenzene</i>			50.2	ug/l	50.0		100	70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			49.4	ug/l	50.0		98.7	70-130		
<i>Surrogate: Toluene-d8</i>			49.7	ug/l	50.0		99.5	70-130		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1016 - Purge-Trap (Continued)					Prepared & Analyzed: 12/21/23					
LCS Dup (B3L1016-BSD1)										
Acetone	27		5	ug/l	50.0		53.4	50-150	3.06	20
Benzene	48		1	ug/l	50.0		96.1	70-130	1.03	20
Bromobenzene	47		1	ug/l	50.0		94.1	70-130	1.13	20
Bromochloromethane	47		1	ug/l	50.0		93.2	70-130	3.23	20
Bromodichloromethane	47		1	ug/l	50.0		93.3	70-130	3.37	20
Bromoform	41		1	ug/l	50.0		82.4	70-130	1.22	20
Bromomethane	67		1	ug/l	50.0		134	50-150	1.35	20
2-Butanone	33		5	ug/l	50.0		66.9	50-150	2.91	20
tert-Butyl alcohol	52		5	ug/l	50.0		104	70-130	0.969	20
sec-Butylbenzene	50		1	ug/l	50.0		100	70-130	2.16	20
n-Butylbenzene	55		1	ug/l	50.0		110	70-130	2.43	20
tert-Butylbenzene	50		1	ug/l	50.0		99.1	70-130	1.73	20
Methyl t-butyl ether (MTBE)	50		1	ug/l	50.0		99.9	70-130	1.47	20
Carbon Disulfide	54		1	ug/l	50.0		108	50-150	2.07	20
Carbon Tetrachloride	51		1	ug/l	50.0		102	70-130	1.53	20
Chlorobenzene	49		1	ug/l	50.0		98.2	70-130	1.91	20
Chloroethane	59		1	ug/l	50.0		118	50-150	1.56	20
Chloroform	51		1	ug/l	50.0		102	70-130	0.314	20
Chloromethane	41		1	ug/l	50.0		82.1	50-150	1.31	20
4-Chlorotoluene	52		1	ug/l	50.0		104	70-130	2.01	20
2-Chlorotoluene	48		1	ug/l	50.0		96.8	70-130	0.726	20
1,2-Dibromo-3-chloropropane (DBCP)	41		1	ug/l	50.0		81.6	70-130	4.64	20
Dibromochloromethane	44		1	ug/l	50.0		87.3	70-130	1.88	20
1,2-Dibromoethane (EDB)	44		1	ug/l	50.0		87.6	70-130	4.33	20
Dibromomethane	46		1	ug/l	50.0		92.2	70-130	1.74	20
1,2-Dichlorobenzene	51		1	ug/l	50.0		101	70-130	0.792	20
1,3-Dichlorobenzene	51		1	ug/l	50.0		103	70-130	0.763	20
1,4-Dichlorobenzene	47		1	ug/l	50.0		93.5	70-130	1.33	20
1,1-Dichloroethane	51		1	ug/l	50.0		101	70-130	1.84	20
1,2-Dichloroethane	54		1	ug/l	50.0		108	70-130	0.925	20
trans-1,2-Dichloroethene	49		1	ug/l	50.0		98.4	70-130	2.11	20
cis-1,2-Dichloroethene	45		1	ug/l	50.0		90.9	70-130	7.48	20
1,1-Dichloroethene	49		1	ug/l	50.0		98.7	70-130	2.73	20
1,2-Dichloropropane	50		1	ug/l	50.0		101	70-130	0.0397	20
2,2-Dichloropropane	50		1	ug/l	50.0		99.9	70-130	0.642	20
cis-1,3-Dichloropropene	47		1	ug/l	50.0		93.8	70-130	0.170	20
trans-1,3-Dichloropropene	48		1	ug/l	50.0		95.2	70-130	6.40	20
1,1-Dichloropropene	49		1	ug/l	50.0		98.1	70-130	3.11	20
Diethyl ether	57		5	ug/l	50.0		114	70-130	1.74	20
1,4-Dioxane	200		100	ug/l	250		79.9	50-150	0.574	20
Ethylbenzene	51		1	ug/l	50.0		102	70-130	1.78	20
Hexachlorobutadiene	53		1	ug/l	50.0		107	70-130	7.33	20
2-Hexanone	36		5	ug/l	50.0		71.5	50-150	2.68	20
Isopropylbenzene	50		1	ug/l	50.0		101	70-130	2.75	20
p-Isopropyltoluene	51		1	ug/l	50.0		103	70-130	2.12	20
Methylene Chloride	51		1	ug/l	50.0		102	70-130	2.11	20
4-Methyl-2-pentanone	49		5	ug/l	50.0		98.9	50-150	2.56	20
Naphthalene	52		1	ug/l	50.0		105	70-130	16.3	20
n-Propylbenzene	53		1	ug/l	50.0		106	70-130	2.95	20
Styrene	49		1	ug/l	50.0		97.5	70-130	0.0205	20
1,1,1,2-Tetrachloroethane	48		1	ug/l	50.0		95.1	70-130	1.97	20
Tetrachloroethene	46		1	ug/l	50.0		92.0	70-130	1.60	20
Tetrahydrofuran	46		5	ug/l	50.0		91.8	50-150	1.49	20
Toluene	47		1	ug/l	50.0		93.6	70-130	0.936	20
1,2,4-Trichlorobenzene	57		1	ug/l	50.0		113	70-130	9.28	20
1,2,3-Trichlorobenzene	60		1	ug/l	50.0		120	70-130	17.9	20
1,1,2-Trichloroethane	48		1	ug/l	50.0		95.0	70-130	1.63	20

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1016 - Purge-Trap (Continued)										
LCS Dup (B3L1016-BSD1)					Prepared & Analyzed: 12/21/23					
1,1,1-Trichloroethane	53		1	ug/l	50.0		106	70-130	2.04	20
Trichloroethene	46		1	ug/l	50.0		91.8	70-130	6.18	20
1,2,3-Trichloropropane	51		1	ug/l	50.0		101	70-130	0.668	20
1,3,5-Trimethylbenzene	51		1	ug/l	50.0		102	70-130	2.79	20
1,2,4-Trimethylbenzene	51		1	ug/l	50.0		101	70-130	1.39	20
Vinyl Chloride	44		1	ug/l	50.0		88.7	50-150	1.13	20
o-Xylene	49		1	ug/l	50.0		97.2	70-130	3.33	20
m&p-Xylene	99		2	ug/l	100		98.8	70-130	2.33	20
1,1,2,2-Tetrachloroethane	49		1	ug/l	50.0		97.3	70-130	1.62	20
tert-Amyl methyl ether	48		1	ug/l	50.0		95.9	70-130	0.872	20
1,3-Dichloropropane	50		1	ug/l	50.0		99.7	70-130	1.45	20
Ethyl tert-butyl ether	51		1	ug/l	50.0		101	70-130	0.0593	20
Trichlorofluoromethane	55		1	ug/l	50.0		109	50-150	0.238	20
Dichlorodifluoromethane	33		1	ug/l	50.0		66.0	50-150	0.664	20
<hr/>										
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>50.1</i>	<i>ug/l</i>	<i>50.0</i>		<i>100</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>53.5</i>	<i>ug/l</i>	<i>50.0</i>		<i>107</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>			<i>48.6</i>	<i>ug/l</i>	<i>50.0</i>		<i>97.2</i>	<i>70-130</i>		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

New England Testing Laboratory

59 Greenhill Street
West Warwick, RI 02893

1-888-863-8522

Chain of Custody Record



3 L 1 8035 @

Project No. 1075-1-2		Project Name/Location: Wareham				Matrix			Preservative	Tests**										
Client: Lightship Engineering		Report To: Kevin Paradise kparadise@lightshipengineering.com				Invoiced To: Kevin Paradise				No. of Containers	VOCs (8260)									
Date	Time	Comp	Grab	Sample I.D.	Aqueous	Soil	Other													
12/15/23	9:45		X	LE-TMW1 ●●	X			2	HCl	+										
	10:00		X	LE-TMW2 ●●	X			2		+										
	9:00		X	LE-TMW3 ●●	X			2		+										
	8:45		X	LE-TMW4 ●●	X			2		+										
Sampled By: K. Maloney		Date/Time 12/18/23 1430	Received By: 			Date/Time 12/18 1430	Laboratory Remarks:			Special Instructions:										
Relinquished By: 		Date/Time 12/18 1400	Received By: Gryenne Terenzi			Date/Time 12/18/23 1800	on ice Temp. Received: 5													
**Netlab Subcontracts the following tests: Radiologicals, Radon, TOC, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates										Turnaround Time (Business Days): 5 Days										

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.

Project #: 1075.1.2

Project Location: Wareham, MA

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
3L18035

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH (GC/PID/FID) CAM IV A <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP VPH (GC/MS) CAM IV C <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 12/26/2023



New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 3L20029

Client Project: 1075 - Wareham

Report Date: 28-December-2023

Prepared for:

Kevin Paradise
Lightship Engineering
6 Resnik Raod, Suite 207
Plymouth, MA 02360

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 12/20/23. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 3L20029. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
3L20029-01	LE-TP2 (4-6)	Soil	12/14/2023	12/20/2023
3L20029-02	LE-TP6 (8-10)	Soil	12/14/2023	12/20/2023
3L20029-03	LE-TP12 (10-12)	Soil	12/19/2023	12/20/2023

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

LE-TP12 (10-12) (Lab Number: 3L20029-03)

Analysis

MADEP EPH
MADEP VPH
Volatile Organic Compounds

Method

MADEP EPH
MADEP VPH
EPA 8260C

LE-TP2 (4-6) (Lab Number: 3L20029-01)

Analysis

MADEP EPH
MADEP VPH
Volatile Organic Compounds

Method

MADEP EPH
MADEP VPH
EPA 8260C

LE-TP6 (8-10) (Lab Number: 3L20029-02)

Analysis

MADEP EPH
MADEP VPH
Volatile Organic Compounds

Method

MADEP EPH
MADEP VPH
EPA 8260C

Method References

Method for the Determination of Extractable Petroleum Hydrocarbons, Rev. 2.1, Massachusetts Department of Environmental Protection, 2004

Method for the Determination of Volatile Petroleum Hydrocarbons, Rev. 2.1, Massachusetts Department of Environmental Protection, 2018

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: Volatile Organic Compounds 8260C (5035-LL)**Sample: LE-TP2 (4-6)****Lab Number: 3L20029-01 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		101	ug/kg	12/26/23	12/26/23
Benzene	ND		5	ug/kg	12/26/23	12/26/23
Bromobenzene	ND		5	ug/kg	12/26/23	12/26/23
Bromochloromethane	ND		5	ug/kg	12/26/23	12/26/23
Bromodichloromethane	ND		5	ug/kg	12/26/23	12/26/23
Bromoform	ND		5	ug/kg	12/26/23	12/26/23
Bromomethane	ND		5	ug/kg	12/26/23	12/26/23
2-Butanone	ND		101	ug/kg	12/26/23	12/26/23
tert-Butyl alcohol	ND		5	ug/kg	12/26/23	12/26/23
sec-Butylbenzene	ND		5	ug/kg	12/26/23	12/26/23
n-Butylbenzene	ND		5	ug/kg	12/26/23	12/26/23
tert-Butylbenzene	ND		5	ug/kg	12/26/23	12/26/23
Methyl t-butyl ether (MTBE)	ND		5	ug/kg	12/26/23	12/26/23
Carbon Disulfide	ND		5	ug/kg	12/26/23	12/26/23
Carbon Tetrachloride	ND		5	ug/kg	12/26/23	12/26/23
Chlorobenzene	ND		5	ug/kg	12/26/23	12/26/23
Chloroethane	ND		5	ug/kg	12/26/23	12/26/23
Chloroform	ND		5	ug/kg	12/26/23	12/26/23
Chloromethane	ND		5	ug/kg	12/26/23	12/26/23
4-Chlorotoluene	ND		5	ug/kg	12/26/23	12/26/23
2-Chlorotoluene	ND		5	ug/kg	12/26/23	12/26/23
1,2-Dibromo-3-chloropropane (DBCP)	ND		5	ug/kg	12/26/23	12/26/23
Dibromochloromethane	ND		5	ug/kg	12/26/23	12/26/23
1,2-Dibromoethane (EDB)	ND		5	ug/kg	12/26/23	12/26/23
Dibromomethane	ND		5	ug/kg	12/26/23	12/26/23
1,2-Dichlorobenzene	ND		5	ug/kg	12/26/23	12/26/23
1,3-Dichlorobenzene	ND		5	ug/kg	12/26/23	12/26/23
1,4-Dichlorobenzene	ND		5	ug/kg	12/26/23	12/26/23
1,1-Dichloroethane	ND		5	ug/kg	12/26/23	12/26/23
1,2-Dichloroethane	ND		5	ug/kg	12/26/23	12/26/23
1,2 Dichloroethene, Total	ND		5	ug/kg	12/26/23	12/26/23
trans-1,2-Dichloroethene	ND		5	ug/kg	12/26/23	12/26/23
cis-1,2-Dichloroethene	ND		5	ug/kg	12/26/23	12/26/23
1,1-Dichloroethene	ND		5	ug/kg	12/26/23	12/26/23
1,2-Dichloropropane	ND		5	ug/kg	12/26/23	12/26/23
2,2-Dichloropropane	ND		5	ug/kg	12/26/23	12/26/23
cis-1,3-Dichloropropene	ND		5	ug/kg	12/26/23	12/26/23
trans-1,3-Dichloropropene	ND		5	ug/kg	12/26/23	12/26/23
1,1-Dichloropropene	ND		5	ug/kg	12/26/23	12/26/23
1,3-Dichloropropene (cis + trans)	ND		5	ug/kg	12/26/23	12/26/23
Diethyl ether	ND		5	ug/kg	12/26/23	12/26/23
1,4-Dioxane	ND		101	ug/kg	12/26/23	12/26/23
Ethylbenzene	ND		5	ug/kg	12/26/23	12/26/23
Hexachlorobutadiene	ND		5	ug/kg	12/26/23	12/26/23
2-Hexanone	ND		101	ug/kg	12/26/23	12/26/23
Isopropylbenzene	ND		5	ug/kg	12/26/23	12/26/23
p-Isopropyltoluene	ND		5	ug/kg	12/26/23	12/26/23

Results: Volatile Organic Compounds 8260C (5035-LL) (Continued)

Sample: LE-TP2 (4-6) (Continued)

Lab Number: 3L20029-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Methylene Chloride	ND		15	ug/kg	12/26/23	12/26/23
4-Methyl-2-pentanone	ND		101	ug/kg	12/26/23	12/26/23
Naphthalene	ND		5	ug/kg	12/26/23	12/26/23
n-Propylbenzene	ND		5	ug/kg	12/26/23	12/26/23
Styrene	ND		5	ug/kg	12/26/23	12/26/23
1,1,1,2-Tetrachloroethane	ND		5	ug/kg	12/26/23	12/26/23
Tetrachloroethene	ND		5	ug/kg	12/26/23	12/26/23
Tetrahydrofuran	ND		5	ug/kg	12/26/23	12/26/23
Toluene	ND		5	ug/kg	12/26/23	12/26/23
1,2,4-Trichlorobenzene	ND		5	ug/kg	12/26/23	12/26/23
1,2,3-Trichlorobenzene	ND		5	ug/kg	12/26/23	12/26/23
1,1,2-Trichloroethane	ND		5	ug/kg	12/26/23	12/26/23
1,1,1-Trichloroethane	ND		5	ug/kg	12/26/23	12/26/23
Trichloroethene	ND		5	ug/kg	12/26/23	12/26/23
1,2,3-Trichloropropane	ND		5	ug/kg	12/26/23	12/26/23
1,3,5-Trimethylbenzene	ND		5	ug/kg	12/26/23	12/26/23
1,2,4-Trimethylbenzene	ND		5	ug/kg	12/26/23	12/26/23
Vinyl Chloride	ND		5	ug/kg	12/26/23	12/26/23
o-Xylene	ND		5	ug/kg	12/26/23	12/26/23
m&p-Xylene	ND		10	ug/kg	12/26/23	12/26/23
Total xylenes	ND		5	ug/kg	12/26/23	12/26/23
1,1,2,2-Tetrachloroethane	ND		5	ug/kg	12/26/23	12/26/23
tert-Amyl methyl ether	ND		5	ug/kg	12/26/23	12/26/23
1,3-Dichloropropane	ND		5	ug/kg	12/26/23	12/26/23
Ethyl tert-butyl ether	ND		5	ug/kg	12/26/23	12/26/23
Diisopropyl ether	ND		5	ug/kg	12/26/23	12/26/23
Trichlorofluoromethane	ND		5	ug/kg	12/26/23	12/26/23
Dichlorodifluoromethane	ND		5	ug/kg	12/26/23	12/26/23
<hr/>						
Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	<i>102%</i>		<i>70-130</i>		<i>12/26/23</i>	<i>12/26/23</i>
<i>1,2-Dichloroethane-d4</i>	<i>109%</i>		<i>70-130</i>		<i>12/26/23</i>	<i>12/26/23</i>
<i>Toluene-d8</i>	<i>102%</i>		<i>70-130</i>		<i>12/26/23</i>	<i>12/26/23</i>

Results: Volatile Organic Compounds 8260C (5035-LL)**Sample: LE-TP6 (8-10)****Lab Number: 3L20029-02 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		130	ug/kg	12/28/23	12/28/23
Benzene	ND		7	ug/kg	12/28/23	12/28/23
Bromobenzene	ND		7	ug/kg	12/28/23	12/28/23
Bromochloromethane	ND		7	ug/kg	12/28/23	12/28/23
Bromodichloromethane	ND		7	ug/kg	12/28/23	12/28/23
Bromoform	ND		7	ug/kg	12/28/23	12/28/23
Bromomethane	ND		7	ug/kg	12/28/23	12/28/23
2-Butanone	ND		130	ug/kg	12/28/23	12/28/23
tert-Butyl alcohol	ND		7	ug/kg	12/28/23	12/28/23
sec-Butylbenzene	ND		7	ug/kg	12/28/23	12/28/23
n-Butylbenzene	ND		7	ug/kg	12/28/23	12/28/23
tert-Butylbenzene	ND		7	ug/kg	12/28/23	12/28/23
Methyl t-butyl ether (MTBE)	ND		7	ug/kg	12/28/23	12/28/23
Carbon Disulfide	ND		7	ug/kg	12/28/23	12/28/23
Carbon Tetrachloride	ND		7	ug/kg	12/28/23	12/28/23
Chlorobenzene	ND		7	ug/kg	12/28/23	12/28/23
Chloroethane	ND		7	ug/kg	12/28/23	12/28/23
Chloroform	ND		7	ug/kg	12/28/23	12/28/23
Chloromethane	ND		7	ug/kg	12/28/23	12/28/23
4-Chlorotoluene	ND		7	ug/kg	12/28/23	12/28/23
2-Chlorotoluene	ND		7	ug/kg	12/28/23	12/28/23
1,2-Dibromo-3-chloropropane (DBCP)	ND		7	ug/kg	12/28/23	12/28/23
Dibromochloromethane	ND		7	ug/kg	12/28/23	12/28/23
1,2-Dibromoethane (EDB)	ND		7	ug/kg	12/28/23	12/28/23
Dibromomethane	ND		7	ug/kg	12/28/23	12/28/23
1,2-Dichlorobenzene	ND		7	ug/kg	12/28/23	12/28/23
1,3-Dichlorobenzene	ND		7	ug/kg	12/28/23	12/28/23
1,4-Dichlorobenzene	ND		7	ug/kg	12/28/23	12/28/23
1,1-Dichloroethane	ND		7	ug/kg	12/28/23	12/28/23
1,2-Dichloroethane	ND		7	ug/kg	12/28/23	12/28/23
1,2 Dichloroethene, Total	ND		7	ug/kg	12/28/23	12/28/23
trans-1,2-Dichloroethene	ND		7	ug/kg	12/28/23	12/28/23
cis-1,2-Dichloroethene	ND		7	ug/kg	12/28/23	12/28/23
1,1-Dichloroethene	ND		7	ug/kg	12/28/23	12/28/23
1,2-Dichloropropane	ND		7	ug/kg	12/28/23	12/28/23
2,2-Dichloropropane	ND		7	ug/kg	12/28/23	12/28/23
cis-1,3-Dichloropropene	ND		7	ug/kg	12/28/23	12/28/23
trans-1,3-Dichloropropene	ND		7	ug/kg	12/28/23	12/28/23
1,1-Dichloropropene	ND		7	ug/kg	12/28/23	12/28/23
1,3-Dichloropropene (cis + trans)	ND		7	ug/kg	12/28/23	12/28/23
Diethyl ether	ND		7	ug/kg	12/28/23	12/28/23
1,4-Dioxane	ND		130	ug/kg	12/28/23	12/28/23
Ethylbenzene	ND		7	ug/kg	12/28/23	12/28/23
Hexachlorobutadiene	ND		7	ug/kg	12/28/23	12/28/23
2-Hexanone	ND		130	ug/kg	12/28/23	12/28/23
Isopropylbenzene	ND		7	ug/kg	12/28/23	12/28/23
p-Isopropyltoluene	ND		7	ug/kg	12/28/23	12/28/23

Results: Volatile Organic Compounds 8260C (5035-LL) (Continued)

Sample: LE-TP6 (8-10) (Continued)

Lab Number: 3L20029-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Methylene Chloride	ND		13	ug/kg	12/28/23	12/28/23
4-Methyl-2-pentanone	ND		130	ug/kg	12/28/23	12/28/23
Naphthalene	ND		7	ug/kg	12/28/23	12/28/23
n-Propylbenzene	ND		7	ug/kg	12/28/23	12/28/23
Styrene	ND		7	ug/kg	12/28/23	12/28/23
1,1,1,2-Tetrachloroethane	ND		7	ug/kg	12/28/23	12/28/23
Tetrachloroethene	ND		7	ug/kg	12/28/23	12/28/23
Tetrahydrofuran	ND		7	ug/kg	12/28/23	12/28/23
Toluene	ND		7	ug/kg	12/28/23	12/28/23
1,2,4-Trichlorobenzene	ND		7	ug/kg	12/28/23	12/28/23
1,2,3-Trichlorobenzene	ND		7	ug/kg	12/28/23	12/28/23
1,1,2-Trichloroethane	ND		7	ug/kg	12/28/23	12/28/23
1,1,1-Trichloroethane	ND		7	ug/kg	12/28/23	12/28/23
Trichloroethene	ND		7	ug/kg	12/28/23	12/28/23
1,2,3-Trichloropropane	ND		7	ug/kg	12/28/23	12/28/23
1,3,5-Trimethylbenzene	ND		7	ug/kg	12/28/23	12/28/23
1,2,4-Trimethylbenzene	ND		7	ug/kg	12/28/23	12/28/23
Vinyl Chloride	ND		7	ug/kg	12/28/23	12/28/23
o-Xylene	ND		7	ug/kg	12/28/23	12/28/23
m&p-Xylene	ND		13	ug/kg	12/28/23	12/28/23
Total xylenes	ND		7	ug/kg	12/28/23	12/28/23
1,1,2,2-Tetrachloroethane	ND		7	ug/kg	12/28/23	12/28/23
tert-Amyl methyl ether	ND		7	ug/kg	12/28/23	12/28/23
1,3-Dichloropropane	ND		7	ug/kg	12/28/23	12/28/23
Ethyl tert-butyl ether	ND		7	ug/kg	12/28/23	12/28/23
Diisopropyl ether	ND		7	ug/kg	12/28/23	12/28/23
Trichlorofluoromethane	ND		7	ug/kg	12/28/23	12/28/23
Dichlorodifluoromethane	ND		7	ug/kg	12/28/23	12/28/23
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Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	<i>95.8%</i>		<i>70-130</i>		<i>12/28/23</i>	<i>12/28/23</i>
<i>1,2-Dichloroethane-d4</i>	<i>108%</i>		<i>70-130</i>		<i>12/28/23</i>	<i>12/28/23</i>
<i>Toluene-d8</i>	<i>101%</i>		<i>70-130</i>		<i>12/28/23</i>	<i>12/28/23</i>

Results: Volatile Organic Compounds 8260C (5035-LL)**Sample: LE-TP12 (10-12)****Lab Number: 3L20029-03 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		161	ug/kg	12/26/23	12/26/23
Benzene	ND		8	ug/kg	12/26/23	12/26/23
Bromobenzene	ND		8	ug/kg	12/26/23	12/26/23
Bromochloromethane	ND		8	ug/kg	12/26/23	12/26/23
Bromodichloromethane	ND		8	ug/kg	12/26/23	12/26/23
Bromoform	ND		8	ug/kg	12/26/23	12/26/23
Bromomethane	ND		8	ug/kg	12/26/23	12/26/23
2-Butanone	ND		161	ug/kg	12/26/23	12/26/23
tert-Butyl alcohol	ND		8	ug/kg	12/26/23	12/26/23
sec-Butylbenzene	ND		8	ug/kg	12/26/23	12/26/23
n-Butylbenzene	ND		8	ug/kg	12/26/23	12/26/23
tert-Butylbenzene	ND		8	ug/kg	12/26/23	12/26/23
Methyl t-butyl ether (MTBE)	ND		8	ug/kg	12/26/23	12/26/23
Carbon Disulfide	ND		8	ug/kg	12/26/23	12/26/23
Carbon Tetrachloride	ND		8	ug/kg	12/26/23	12/26/23
Chlorobenzene	ND		8	ug/kg	12/26/23	12/26/23
Chloroethane	ND		8	ug/kg	12/26/23	12/26/23
Chloroform	ND		8	ug/kg	12/26/23	12/26/23
Chloromethane	ND		8	ug/kg	12/26/23	12/26/23
4-Chlorotoluene	ND		8	ug/kg	12/26/23	12/26/23
2-Chlorotoluene	ND		8	ug/kg	12/26/23	12/26/23
1,2-Dibromo-3-chloropropane (DBCP)	ND		8	ug/kg	12/26/23	12/26/23
Dibromochloromethane	ND		8	ug/kg	12/26/23	12/26/23
1,2-Dibromoethane (EDB)	ND		8	ug/kg	12/26/23	12/26/23
Dibromomethane	ND		8	ug/kg	12/26/23	12/26/23
1,2-Dichlorobenzene	ND		8	ug/kg	12/26/23	12/26/23
1,3-Dichlorobenzene	ND		8	ug/kg	12/26/23	12/26/23
1,4-Dichlorobenzene	ND		8	ug/kg	12/26/23	12/26/23
1,1-Dichloroethane	ND		8	ug/kg	12/26/23	12/26/23
1,2-Dichloroethane	ND		8	ug/kg	12/26/23	12/26/23
1,2 Dichloroethene, Total	ND		8	ug/kg	12/26/23	12/26/23
trans-1,2-Dichloroethene	ND		8	ug/kg	12/26/23	12/26/23
cis-1,2-Dichloroethene	ND		8	ug/kg	12/26/23	12/26/23
1,1-Dichloroethene	ND		8	ug/kg	12/26/23	12/26/23
1,2-Dichloropropane	ND		8	ug/kg	12/26/23	12/26/23
2,2-Dichloropropane	ND		8	ug/kg	12/26/23	12/26/23
cis-1,3-Dichloropropene	ND		8	ug/kg	12/26/23	12/26/23
trans-1,3-Dichloropropene	ND		8	ug/kg	12/26/23	12/26/23
1,1-Dichloropropene	ND		8	ug/kg	12/26/23	12/26/23
1,3-Dichloropropene (cis + trans)	ND		8	ug/kg	12/26/23	12/26/23
Diethyl ether	ND		8	ug/kg	12/26/23	12/26/23
1,4-Dioxane	ND		161	ug/kg	12/26/23	12/26/23
Ethylbenzene	ND		8	ug/kg	12/26/23	12/26/23
Hexachlorobutadiene	ND		8	ug/kg	12/26/23	12/26/23
2-Hexanone	ND		161	ug/kg	12/26/23	12/26/23
Isopropylbenzene	ND		8	ug/kg	12/26/23	12/26/23
p-Isopropyltoluene	ND		8	ug/kg	12/26/23	12/26/23

Results: Volatile Organic Compounds 8260C (5035-LL) (Continued)

Sample: LE-TP12 (10-12) (Continued)

Lab Number: 3L20029-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Methylene Chloride	ND		24	ug/kg	12/26/23	12/26/23
4-Methyl-2-pentanone	ND		161	ug/kg	12/26/23	12/26/23
Naphthalene	ND		8	ug/kg	12/26/23	12/26/23
n-Propylbenzene	ND		8	ug/kg	12/26/23	12/26/23
Styrene	ND		8	ug/kg	12/26/23	12/26/23
1,1,1,2-Tetrachloroethane	ND		8	ug/kg	12/26/23	12/26/23
Tetrachloroethene	ND		8	ug/kg	12/26/23	12/26/23
Tetrahydrofuran	ND		8	ug/kg	12/26/23	12/26/23
Toluene	ND		8	ug/kg	12/26/23	12/26/23
1,2,4-Trichlorobenzene	ND		8	ug/kg	12/26/23	12/26/23
1,2,3-Trichlorobenzene	ND		8	ug/kg	12/26/23	12/26/23
1,1,2-Trichloroethane	ND		8	ug/kg	12/26/23	12/26/23
1,1,1-Trichloroethane	ND		8	ug/kg	12/26/23	12/26/23
Trichloroethene	ND		8	ug/kg	12/26/23	12/26/23
1,2,3-Trichloropropane	ND		8	ug/kg	12/26/23	12/26/23
1,3,5-Trimethylbenzene	ND		8	ug/kg	12/26/23	12/26/23
1,2,4-Trimethylbenzene	ND		8	ug/kg	12/26/23	12/26/23
Vinyl Chloride	ND		8	ug/kg	12/26/23	12/26/23
o-Xylene	ND		8	ug/kg	12/26/23	12/26/23
m&p-Xylene	ND		16	ug/kg	12/26/23	12/26/23
Total xylenes	ND		8	ug/kg	12/26/23	12/26/23
1,1,2,2-Tetrachloroethane	ND		8	ug/kg	12/26/23	12/26/23
tert-Amyl methyl ether	ND		8	ug/kg	12/26/23	12/26/23
1,3-Dichloropropane	ND		8	ug/kg	12/26/23	12/26/23
Ethyl tert-butyl ether	ND		8	ug/kg	12/26/23	12/26/23
Diisopropyl ether	ND		8	ug/kg	12/26/23	12/26/23
Trichlorofluoromethane	ND		8	ug/kg	12/26/23	12/26/23
Dichlorodifluoromethane	ND		8	ug/kg	12/26/23	12/26/23
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Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	<i>98.6%</i>		<i>70-130</i>		<i>12/26/23</i>	<i>12/26/23</i>
<i>1,2-Dichloroethane-d4</i>	<i>105%</i>		<i>70-130</i>		<i>12/26/23</i>	<i>12/26/23</i>
<i>Toluene-d8</i>	<i>101%</i>		<i>70-130</i>		<i>12/26/23</i>	<i>12/26/23</i>

Volatile Petroleum Hydrocarbons
Sample: LE-TP2 (4-6) (3L20029-01)

SAMPLE INFORMATION

Matrix	Soil		
Containers	Satisfactory		
Sample Preservation	Aqueous	NA	
	Soil or Sediment	Preserved with methanol and/or in an air-tight container	
		Methanol preserved (covering sample)	
		Received in air-tight container	
Temperature	Received on Ice Received at: 4+/-2 C°		
		ml methanol per gram soil: 1:1 +/- 25%	

VPH ANALYTICAL RESULTS

Method for Ranges: MADEP VPH-18-2.1	Client ID			LE-TP2 (4-6)		
Method for Target Analytes: MADEP VPH-18-2.1	Lab ID			3L20029-01		
VPH Surrogate Standards: PID: 2,5-Dibromotoluene FID: 2,5-Dibromotoluene	Date Collected			12/14/23		
	Date Received			12/20/23		
	% Moisture			11.30		
RANGE/TARGET ANALYTE	Elution Range	Dilution	RL	Units	Result	Analyzed
Unadjusted C5-C8 Aliphatic Hydrocarbons [1]	NA	50X	60.3	mg/kg	<60.3	12/27/23 03:54
C5-C8 Aliphatic Hydrocarbons [1,2]	NA	50X	60.3	mg/kg	<60.3	12/27/23 03:54
C9-C12 Aliphatic Hydrocarbons [1,3]	NA	50X	75.4	mg/kg	<75.4	12/27/23 03:54
C9-C10 Aromatic Hydrocarbons [1]	NA	50X	75.4	mg/kg	<75.4	12/27/23 03:54
2,5-Dibromotoluene-PID				%	81.0	12/27/23 03:54
2,5-Dibromotoluene-FID				%	80.8	12/27/23 03:54
Surrogate Acceptance Range				%	70-130	

[1] Hydrocarbon Range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range

[2] C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

[3] C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C9-C10 Aromatic Hydrocarbons

Volatile Petroleum Hydrocarbons
Sample: LE-TP6 (8-10) (3L20029-02)

SAMPLE INFORMATION

Matrix	Soil		
Containers	Satisfactory		
Sample Preservation	Aqueous	NA	
	Soil or Sediment	Preserved with methanol and/or in an air-tight container	
		Methanol preserved (covering sample)	
		Received in air-tight container	
Temperature	Received on Ice Received at: 4+/-2 C°		
		ml methanol per gram soil: 1:1 +/- 25%	

VPH ANALYTICAL RESULTS

Method for Ranges: MADEP VPH-18-2.1	Client ID			LE-TP6 (8-10)		
Method for Target Analytes: MADEP VPH-18-2.1	Lab ID			3L20029-02		
VPH Surrogate Standards: PID: 2,5-Dibromotoluene FID: 2,5-Dibromotoluene	Date Collected			12/14/23		
	Date Received			12/20/23		
	% Moisture			32.20		
RANGE/TARGET ANALYTE	Elution Range	Dilution	RL	Units	Result	Analyzed
Unadjusted C5-C8 Aliphatic Hydrocarbons [1]	NA	50X	38.4	mg/kg	<38.4	12/27/23 04:29
C5-C8 Aliphatic Hydrocarbons [1,2]	NA	50X	38.4	mg/kg	<38.4	12/27/23 04:29
C9-C12 Aliphatic Hydrocarbons [1,3]	NA	50X	48.0	mg/kg	<48.0	12/27/23 04:29
C9-C10 Aromatic Hydrocarbons [1]	NA	50X	48.0	mg/kg	<48.0	12/27/23 04:29
2,5-Dibromotoluene-PID				%	86.7	12/27/23 04:29
2,5-Dibromotoluene-FID				%	86.1	12/27/23 04:29
Surrogate Acceptance Range				%	70-130	

[1] Hydrocarbon Range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range

[2] C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

[3] C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C9-C10 Aromatic Hydrocarbons

Volatile Petroleum Hydrocarbons
Sample: LE-TP12 (10-12) (3L20029-03)

SAMPLE INFORMATION

Matrix	Soil		
Containers	Satisfactory		
Sample Preservation	Aqueous	NA	
	Soil or Sediment	Preserved with methanol and/or in an air-tight container	
		Methanol preserved (covering sample)	
		Received in air-tight container	
Temperature	Received on Ice Received at: 4+/-2 C°		
		ml methanol per gram soil: 1:1 +/- 25%	

VPH ANALYTICAL RESULTS

Method for Ranges: MADEP VPH-18-2.1	Client ID			LE-TP12 (10-12)		
Method for Target Analytes: MADEP VPH-18-2.1	Lab ID			3L20029-03		
VPH Surrogate Standards: PID: 2,5-Dibromotoluene FID: 2,5-Dibromotoluene	Date Collected			12/19/23		
	Date Received			12/20/23		
	% Moisture			13.30		
RANGE/TARGET ANALYTE	Elution Range	Dilution	RL	Units	Result	Analyzed
Unadjusted C5-C8 Aliphatic Hydrocarbons [1]	NA	50X	29.1	mg/kg	<29.1	12/27/23 05:01
C5-C8 Aliphatic Hydrocarbons [1,2]	NA	50X	29.1	mg/kg	<29.1	12/27/23 05:01
C9-C12 Aliphatic Hydrocarbons [1,3]	NA	50X	36.4	mg/kg	<36.4	12/27/23 05:01
C9-C10 Aromatic Hydrocarbons [1]	NA	50X	36.4	mg/kg	<36.4	12/27/23 05:01
2,5-Dibromotoluene-PID				%	100	12/27/23 05:01
2,5-Dibromotoluene-FID				%	97.7	12/27/23 05:01
Surrogate Acceptance Range				%	70-130	

[1] Hydrocarbon Range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range

[2] C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

[3] C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C9-C10 Aromatic Hydrocarbons

**Extractable Petroleum Hydrocarbons
Sample: LE-TP2 (4-6) (3L20029-01)**

SAMPLE INFORMATION

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 4-1.1		Client ID		LE-TP2 (4-6)		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		3L20029-01		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		12/14/23		
		Date Received		12/20/23		
		Date Thawed		NA		
		Date Extracted		12/20/23		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		11.30		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	7.47	mg/kg	10.3	12/22/23 18:54
Diesel PAH Analytes	Naphthalene	1X	0.37	mg/kg	<0.37	12/22/23 18:54
	2-Methylnaphthalene	1X	0.37	mg/kg	<0.37	12/22/23 18:54
	Phenanthrene	1X	0.37	mg/kg	<0.37	12/22/23 18:54
	Acenaphthene	1X	0.37	mg/kg	<0.37	12/22/23 18:54
Other Target PAH Analytes	Acenaphthylene	1X	0.37	mg/kg	<0.37	12/22/23 18:54
	Fluorene	1X	0.37	mg/kg	<0.37	12/22/23 18:54
	Anthracene	1X	0.37	mg/kg	<0.37	12/22/23 18:54
	Fluoranthene	1X	0.37	mg/kg	1.14	12/22/23 18:54
	Pyrene	1X	0.37	mg/kg	0.87	12/22/23 18:54
	Benzo(a)anthracene	1X	0.37	mg/kg	0.68	12/22/23 18:54
	Chrysene	1X	0.37	mg/kg	0.75	12/22/23 18:54
	Benzo(b)fluoranthene	1X	0.37	mg/kg	0.71	12/22/23 18:54
	Benzo(k)fluoranthene	1X	0.37	mg/kg	0.66	12/22/23 18:54
	Benzo(a)pyrene	1X	0.37	mg/kg	0.48	12/22/23 18:54
	Indeno(1,2,3-cd)pyrene	1X	0.37	mg/kg	0.40	12/22/23 18:54
	Dibenz(a,h)anthracene	1X	0.37	mg/kg	<0.37	12/22/23 18:54
Benzo(g,h,i)perylene	1X	0.37	mg/kg	0.37	12/22/23 18:54	
C9-C18 Aliphatic Hydrocarbons [1]		1X	14.9	mg/kg	<14.9	12/22/23 18:01
C19-C36 Aliphatic Hydrocarbons [1]		1X	14.9	mg/kg	<14.9	12/22/23 18:01
C11-C22 Aromatic Hydrocarbons [1,2]		1X	7.47	mg/kg	<7.47	12/22/23 18:54
Chlorooctadecane (Sample Surrogate)				%	42.8	12/22/23 18:01
o-Terphenyl (Sample Surrogate)				%	55.5	12/22/23 18:54
2-Fluorobiphenyl (Fractionation Surrogate)				%	76.9	12/22/23 18:54
2-Bromonaphthalene (Fractionation Surrogate)				%	74.2	12/22/23 18:54
Surrogate Acceptance Range [3]				%	40 - 140	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

Extractable Petroleum Hydrocarbons
Sample: LE-TP6 (8-10) (3L20029-02)

SAMPLE INFORMATION

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 4-1.1		Client ID		LE-TP6 (8-10)		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		3L20029-02		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		12/14/23		
		Date Received		12/20/23		
		Date Thawed		NA		
		Date Extracted		12/20/23		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		32.20		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	9.77	mg/kg	14.9	12/27/23 15:53
Diesel PAH Analytes	Naphthalene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	2-Methylnaphthalene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Phenanthrene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Acenaphthene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
Other Target PAH Analytes	Acenaphthylene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Fluorene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Anthracene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Fluoranthene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Pyrene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Benzo(a)anthracene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Chrysene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Benzo(b)fluoranthene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Benzo(k)fluoranthene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Benzo(a)pyrene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Indeno(1,2,3-cd)pyrene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
	Dibenz(a,h)anthracene	1X	0.48	mg/kg	<0.48	12/27/23 15:53
Benzo(g,h,i)perylene	1X	0.48	mg/kg	<0.48	12/27/23 15:53	
C9-C18 Aliphatic Hydrocarbons [1]		1X	19.5	mg/kg	<19.5	12/27/23 12:47
C19-C36 Aliphatic Hydrocarbons [1]		1X	19.5	mg/kg	32.1	12/27/23 12:47
C11-C22 Aromatic Hydrocarbons [1,2]		1X	9.77	mg/kg	14.9	12/27/23 15:53
Chlorooctadecane (Sample Surrogate)				%	42.2	12/27/23 12:47
o-Terphenyl (Sample Surrogate)				%	43.8	12/27/23 15:53
2-Fluorobiphenyl (Fractionation Surrogate)				%	80.2	12/27/23 15:53
2-Bromonaphthalene (Fractionation Surrogate)				%	78.7	12/27/23 15:53
Surrogate Acceptance Range [3]				%	40 - 140	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

Extractable Petroleum Hydrocarbons
Sample: LE-TP12 (10-12) (3L20029-03)

SAMPLE INFORMATION

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 4-1.1		Client ID		LE-TP12 (10-12)		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		3L20029-03		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		12/19/23		
		Date Received		12/20/23		
		Date Thawed		NA		
		Date Extracted		12/20/23		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		13.30		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	7.64	mg/kg	<7.64	12/27/23 14:59
Diesel PAH Analytes	Naphthalene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	2-Methylnaphthalene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Phenanthrene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Acenaphthene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
Other Target PAH Analytes	Acenaphthylene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Fluorene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Anthracene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Fluoranthene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Pyrene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Benzo(a)anthracene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Chrysene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Benzo(b)fluoranthene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Benzo(k)fluoranthene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Benzo(a)pyrene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Indeno(1,2,3-cd)pyrene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
	Dibenz(a,h)anthracene	1X	0.38	mg/kg	<0.38	12/27/23 14:59
Benzo(g,h,i)perylene	1X	0.38	mg/kg	<0.38	12/27/23 14:59	
C9-C18 Aliphatic Hydrocarbons [1]		1X	15.2	mg/kg	<15.2	12/27/23 13:11
C19-C36 Aliphatic Hydrocarbons [1]		1X	15.2	mg/kg	<15.2	12/27/23 13:11
C11-C22 Aromatic Hydrocarbons [1,2]		1X	7.64	mg/kg	<7.64	12/27/23 14:59
Chlorooctadecane (Sample Surrogate)				%	42.4	12/27/23 13:11
o-Terphenyl (Sample Surrogate)				%	58.7	12/27/23 14:59
2-Fluorobiphenyl (Fractionation Surrogate)				%	95.6	12/27/23 14:59
2-Bromonaphthalene (Fractionation Surrogate)				%	92.6	12/27/23 14:59
Surrogate Acceptance Range [3]				%	40 - 140	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

Quality Control

Volatile Organic Compounds 8260C (5035-LL)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1124 - EPA 5035										
Blank (B3L1124-BLK1)										
					Prepared: 12/27/23 Analyzed: 12/26/23					
Acetone	ND		5	ug/kg						
Benzene	ND		5	ug/kg						
Bromobenzene	ND		5	ug/kg						
Bromochloromethane	ND		5	ug/kg						
Bromodichloromethane	ND		5	ug/kg						
Bromoform	ND		5	ug/kg						
Bromomethane	ND		5	ug/kg						
2-Butanone	ND		5	ug/kg						
tert-Butyl alcohol	ND		5	ug/kg						
sec-Butylbenzene	ND		5	ug/kg						
n-Butylbenzene	ND		5	ug/kg						
tert-Butylbenzene	ND		5	ug/kg						
Methyl t-butyl ether (MTBE)	ND		5	ug/kg						
Carbon Disulfide	ND		5	ug/kg						
Carbon Tetrachloride	ND		5	ug/kg						
Chlorobenzene	ND		5	ug/kg						
Chloroethane	ND		5	ug/kg						
Chloroform	ND		5	ug/kg						
Chloromethane	ND		5	ug/kg						
4-Chlorotoluene	ND		5	ug/kg						
2-Chlorotoluene	ND		5	ug/kg						
1,2-Dibromo-3-chloropropane (DBCP)	ND		5	ug/kg						
Dibromochloromethane	ND		5	ug/kg						
1,2-Dibromoethane (EDB)	ND		5	ug/kg						
Dibromomethane	ND		5	ug/kg						
1,2-Dichlorobenzene	ND		5	ug/kg						
1,3-Dichlorobenzene	ND		5	ug/kg						
1,4-Dichlorobenzene	ND		5	ug/kg						
1,1-Dichloroethane	ND		5	ug/kg						
1,2-Dichloroethane	ND		5	ug/kg						
trans-1,2-Dichloroethene	ND		5	ug/kg						
1,2 Dichloroethene, Total	ND		5	ug/kg						
cis-1,2-Dichloroethene	ND		5	ug/kg						
1,1-Dichloroethene	ND		5	ug/kg						
1,2-Dichloropropane	ND		5	ug/kg						
2,2-Dichloropropane	ND		5	ug/kg						
cis-1,3-Dichloropropene	ND		5	ug/kg						
trans-1,3-Dichloropropene	ND		5	ug/kg						
1,1-Dichloropropene	ND		5	ug/kg						
1,3-Dichloropropene (cis + trans)	ND		5	ug/kg						
Diethyl ether	ND		5	ug/kg						
1,4-Dioxane	ND		100	ug/kg						
Ethylbenzene	ND		5	ug/kg						
Hexachlorobutadiene	ND		5	ug/kg						
2-Hexanone	ND		5	ug/kg						
Isopropylbenzene	ND		5	ug/kg						
p-Isopropyltoluene	ND		5	ug/kg						
Methylene Chloride	ND		15	ug/kg						
4-Methyl-2-pentanone	ND		5	ug/kg						
Naphthalene	ND		5	ug/kg						
n-Propylbenzene	ND		5	ug/kg						
Styrene	ND		5	ug/kg						
1,1,1,2-Tetrachloroethane	ND		5	ug/kg						
Tetrachloroethene	ND		5	ug/kg						

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1124 - EPA 5035 (Continued)										
Blank (B3L1124-BLK1)										
					Prepared: 12/27/23 Analyzed: 12/26/23					
Tetrahydrofuran	ND		5	ug/kg						
Toluene	ND		5	ug/kg						
1,2,4-Trichlorobenzene	ND		5	ug/kg						
1,2,3-Trichlorobenzene	ND		5	ug/kg						
1,1,2-Trichloroethane	ND		5	ug/kg						
1,1,1-Trichloroethane	ND		5	ug/kg						
Trichloroethene	ND		5	ug/kg						
1,2,3-Trichloropropane	ND		5	ug/kg						
1,3,5-Trimethylbenzene	ND		5	ug/kg						
1,2,4-Trimethylbenzene	ND		5	ug/kg						
Vinyl Chloride	ND		5	ug/kg						
o-Xylene	ND		5	ug/kg						
m&p-Xylene	ND		10	ug/kg						
Total xylenes	ND		5	ug/kg						
1,1,2,2-Tetrachloroethane	ND		5	ug/kg						
tert-Amyl methyl ether	ND		5	ug/kg						
1,3-Dichloropropane	ND		5	ug/kg						
Ethyl tert-butyl ether	ND		5	ug/kg						
Diisopropyl ether	ND		5	ug/kg						
Trichlorofluoromethane	ND		5	ug/kg						
Dichlorodifluoromethane	ND		5	ug/kg						
<hr/>										
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>49.9</i>	ug/kg	<i>50.0</i>		<i>99.9</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>51.0</i>	ug/kg	<i>50.0</i>		<i>102</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>			<i>49.7</i>	ug/kg	<i>50.0</i>		<i>99.4</i>	<i>70-130</i>		
<hr/>										
LCS (B3L1124-BS1)										
					Prepared: 12/27/23 Analyzed: 12/26/23					
Acetone	49		5	ug/kg	50.0		98.0	50-150		
Benzene	46		5	ug/kg	50.0		92.9	70-130		
Bromobenzene	45		5	ug/kg	50.0		89.8	70-130		
Bromochloromethane	47		5	ug/kg	50.0		93.3	70-130		
Bromodichloromethane	45		5	ug/kg	50.0		90.4	70-130		
Bromoform	45		5	ug/kg	50.0		90.9	70-130		
Bromomethane	58		5	ug/kg	50.0		117	50-150		
2-Butanone	41		5	ug/kg	50.0		81.5	50-150		
tert-Butyl alcohol	43		5	ug/kg	50.0		85.9	70-130		
sec-Butylbenzene	49		5	ug/kg	50.0		97.1	70-130		
n-Butylbenzene	50		5	ug/kg	50.0		99.8	70-130		
tert-Butylbenzene	48		5	ug/kg	50.0		95.0	70-130		
Methyl t-butyl ether (MTBE)	43		5	ug/kg	50.0		85.6	70-130		
Carbon Disulfide	49		5	ug/kg	50.0		98.1	50-150		
Carbon Tetrachloride	50		5	ug/kg	50.0		100	70-130		
Chlorobenzene	46		5	ug/kg	50.0		91.9	70-130		
Chloroethane	59		5	ug/kg	50.0		118	50-150		
Chloroform	47		5	ug/kg	50.0		93.8	70-130		
Chloromethane	55		5	ug/kg	50.0		111	50-150		
4-Chlorotoluene	47		5	ug/kg	50.0		94.0	70-130		
2-Chlorotoluene	47		5	ug/kg	50.0		94.0	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	46		5	ug/kg	50.0		92.4	70-130		
Dibromochloromethane	46		5	ug/kg	50.0		91.7	70-130		
1,2-Dibromoethane (EDB)	46		5	ug/kg	50.0		92.2	70-130		
Dibromomethane	47		5	ug/kg	50.0		94.5	60-140		
1,2-Dichlorobenzene	46		5	ug/kg	50.0		92.5	70-130		
1,3-Dichlorobenzene	46		5	ug/kg	50.0		91.4	70-130		
1,4-Dichlorobenzene	45		5	ug/kg	50.0		90.2	70-130		
1,1-Dichloroethane	47		5	ug/kg	50.0		93.8	70-130		
1,2-Dichloroethane	47		5	ug/kg	50.0		93.0	70-130		
trans-1,2-Dichloroethene	48		5	ug/kg	50.0		95.4	70-130		

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1124 - EPA 5035 (Continued)										
LCS (B3L1124-BS1)										
					Prepared: 12/27/23 Analyzed: 12/26/23					
cis-1,2-Dichloroethene	45		5	ug/kg	50.0		89.9	70-130		
1,1-Dichloroethene	46		5	ug/kg	50.0		93.0	70-130		
1,2-Dichloropropane	47		5	ug/kg	50.0		94.7	70-130		
2,2-Dichloropropane	47		5	ug/kg	50.0		94.1	70-130		
cis-1,3-Dichloropropene	46		5	ug/kg	50.0		92.5	70-130		
trans-1,3-Dichloropropene	46		5	ug/kg	50.0		92.5	70-130		
1,1-Dichloropropene	49		5	ug/kg	50.0		97.2	70-130		
Diethyl ether	42		5	ug/kg	50.0		83.7	60-140		
1,4-Dioxane	265		100	ug/kg	250		106	0-200		
Ethylbenzene	47		5	ug/kg	50.0		94.1	70-130		
Hexachlorobutadiene	46		5	ug/kg	50.0		92.3	70-130		
2-Hexanone	44		5	ug/kg	50.0		88.1	50-150		
Isopropylbenzene	48		5	ug/kg	50.0		95.9	70-130		
p-Isopropyltoluene	48		5	ug/kg	50.0		96.9	70-130		
Methylene Chloride	53		15	ug/kg	50.0		106	60-140		
4-Methyl-2-pentanone	45		5	ug/kg	50.0		89.4	50-150		
Naphthalene	45		5	ug/kg	50.0		90.8	70-130		
n-Propylbenzene	49		5	ug/kg	50.0		97.3	70-130		
Styrene	46		5	ug/kg	50.0		92.1	70-130		
1,1,1,2-Tetrachloroethane	46		5	ug/kg	50.0		91.7	70-130		
Tetrachloroethene	46		5	ug/kg	50.0		92.6	70-130		
Tetrahydrofuran	49		5	ug/kg	50.0		97.5	50-150		
Toluene	46		5	ug/kg	50.0		92.7	70-130		
1,2,4-Trichlorobenzene	45		5	ug/kg	50.0		89.5	70-130		
1,2,3-Trichlorobenzene	44		5	ug/kg	50.0		88.6	70-130		
1,1,2-Trichloroethane	48		5	ug/kg	50.0		95.8	70-130		
1,1,1-Trichloroethane	47		5	ug/kg	50.0		93.6	70-130		
Trichloroethene	47		5	ug/kg	50.0		94.6	70-130		
1,2,3-Trichloropropane	49		5	ug/kg	50.0		97.8	70-130		
1,3,5-Trimethylbenzene	49		5	ug/kg	50.0		97.3	70-130		
1,2,4-Trimethylbenzene	48		5	ug/kg	50.0		95.0	70-130		
Vinyl Chloride	54		5	ug/kg	50.0		108	50-150		
o-Xylene	47		5	ug/kg	50.0		93.1	70-130		
m&p-Xylene	94		10	ug/kg	100		93.8	70-130		
1,1,2,2-Tetrachloroethane	47		5	ug/kg	50.0		94.1	70-130		
tert-Amyl methyl ether	42		5	ug/kg	50.0		83.8	70-130		
1,3-Dichloropropane	46		5	ug/kg	50.0		93.0	70-130		
Ethyl tert-butyl ether	43		5	ug/kg	50.0		85.9	70-130		
Trichlorofluoromethane	53		5	ug/kg	50.0		106	50-150		
Dichlorodifluoromethane	57		5	ug/kg	50.0		114	50-150		
<hr/>										
Surrogate: 4-Bromofluorobenzene			49.9	ug/kg	50.0		99.8	70-130		
Surrogate: 1,2-Dichloroethane-d4			49.2	ug/kg	50.0		98.3	70-130		
Surrogate: Toluene-d8			49.6	ug/kg	50.0		99.2	70-130		

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1124 - EPA 5035 (Continued)										
LCS Dup (B3L1124-BSD1)										
					Prepared: 12/27/23 Analyzed: 12/26/23					
Acetone	42		5	ug/kg	50.0		84.5	50-150	14.7	30
Benzene	50		5	ug/kg	50.0		100	70-130	7.74	20
Bromobenzene	48		5	ug/kg	50.0		96.3	70-130	7.03	20
Bromochloromethane	50		5	ug/kg	50.0		99.6	70-130	6.51	20
Bromodichloromethane	49		5	ug/kg	50.0		98.5	70-130	8.51	20
Bromoform	47		5	ug/kg	50.0		93.8	70-130	3.12	20
Bromomethane	65		5	ug/kg	50.0		129	50-150	10.3	30
2-Butanone	38		5	ug/kg	50.0		76.5	50-150	6.30	30
tert-Butyl alcohol	47		5	ug/kg	50.0		94.0	70-130	8.99	20
sec-Butylbenzene	53		5	ug/kg	50.0		105	70-130	8.16	20
n-Butylbenzene	54		5	ug/kg	50.0		108	70-130	8.28	20
tert-Butylbenzene	51		5	ug/kg	50.0		102	70-130	7.22	20
Methyl t-butyl ether (MTBE)	46		5	ug/kg	50.0		91.1	70-130	6.18	20
Carbon Disulfide	53		5	ug/kg	50.0		107	50-150	8.53	40
Carbon Tetrachloride	54		5	ug/kg	50.0		108	70-130	7.27	20
Chlorobenzene	49		5	ug/kg	50.0		98.5	70-130	6.91	20
Chloroethane	65		5	ug/kg	50.0		130	50-150	9.51	30
Chloroform	51		5	ug/kg	50.0		102	70-130	8.30	20
Chloromethane	60		5	ug/kg	50.0		119	50-150	7.43	30
4-Chlorotoluene	51		5	ug/kg	50.0		101	70-130	7.46	20
2-Chlorotoluene	51		5	ug/kg	50.0		101	70-130	7.46	20
1,2-Dibromo-3-chloropropane (DBCP)	47		5	ug/kg	50.0		94.5	70-130	2.29	20
Dibromochloromethane	48		5	ug/kg	50.0		96.8	70-130	5.45	20
1,2-Dibromoethane (EDB)	48		5	ug/kg	50.0		96.1	70-130	4.18	20
Dibromomethane	49		5	ug/kg	50.0		97.6	60-140	3.21	30
1,2-Dichlorobenzene	50		5	ug/kg	50.0		101	70-130	8.39	20
1,3-Dichlorobenzene	49		5	ug/kg	50.0		98.3	70-130	7.29	20
1,4-Dichlorobenzene	49		5	ug/kg	50.0		98.8	70-130	9.12	20
1,1-Dichloroethane	51		5	ug/kg	50.0		103	70-130	8.94	20
1,2-Dichloroethane	50		5	ug/kg	50.0		100	70-130	7.23	20
trans-1,2-Dichloroethene	52		5	ug/kg	50.0		105	70-130	9.52	20
cis-1,2-Dichloroethene	49		5	ug/kg	50.0		97.3	70-130	7.93	20
1,1-Dichloroethene	51		5	ug/kg	50.0		103	70-130	9.90	20
1,2-Dichloropropane	50		5	ug/kg	50.0		101	70-130	6.42	20
2,2-Dichloropropane	51		5	ug/kg	50.0		101	70-130	7.27	20
cis-1,3-Dichloropropene	49		5	ug/kg	50.0		98.0	70-130	5.84	20
trans-1,3-Dichloropropene	49		5	ug/kg	50.0		97.6	70-130	5.39	20
1,1-Dichloropropene	51		5	ug/kg	50.0		103	70-130	5.66	20
Diethyl ether	47		5	ug/kg	50.0		93.5	60-140	11.2	30
1,4-Dioxane	265		100	ug/kg	250		106	0-200	0.0603	50
Ethylbenzene	51		5	ug/kg	50.0		101	70-130	7.45	20
Hexachlorobutadiene	52		5	ug/kg	50.0		104	70-130	12.3	20
2-Hexanone	41		5	ug/kg	50.0		81.0	50-150	8.37	20
Isopropylbenzene	51		5	ug/kg	50.0		101	70-130	5.49	20
p-Isopropyltoluene	52		5	ug/kg	50.0		104	70-130	7.05	20
Methylene Chloride	58		15	ug/kg	50.0		116	60-140	9.05	30
4-Methyl-2-pentanone	44		5	ug/kg	50.0		87.9	50-150	1.71	20
Naphthalene	49		5	ug/kg	50.0		97.3	70-130	6.91	20
n-Propylbenzene	52		5	ug/kg	50.0		104	70-130	6.83	20
Styrene	50		5	ug/kg	50.0		99.7	70-130	7.92	20
1,1,1,2-Tetrachloroethane	49		5	ug/kg	50.0		98.6	70-130	7.27	20
Tetrachloroethene	50		5	ug/kg	50.0		99.2	70-130	6.91	20
Tetrahydrofuran	47		5	ug/kg	50.0		93.1	50-150	4.62	40
Toluene	50		5	ug/kg	50.0		100	70-130	7.87	20
1,2,4-Trichlorobenzene	48		5	ug/kg	50.0		96.7	70-130	7.76	20
1,2,3-Trichlorobenzene	48		5	ug/kg	50.0		96.3	70-130	8.31	20
1,1,2-Trichloroethane	51		5	ug/kg	50.0		101	70-130	5.54	20

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1124 - EPA 5035 (Continued)										
LCS Dup (B3L1124-BSD1)										
					Prepared: 12/27/23 Analyzed: 12/26/23					
1,1,1-Trichloroethane	51		5	ug/kg	50.0		103	70-130	9.45	20
Trichloroethene	50		5	ug/kg	50.0		101	70-130	6.09	20
1,2,3-Trichloropropane	46		5	ug/kg	50.0		91.7	70-130	6.37	20
1,3,5-Trimethylbenzene	52		5	ug/kg	50.0		105	70-130	7.37	20
1,2,4-Trimethylbenzene	51		5	ug/kg	50.0		102	70-130	6.67	20
Vinyl Chloride	59		5	ug/kg	50.0		119	50-150	9.78	30
o-Xylene	50		5	ug/kg	50.0		100	70-130	7.50	20
m&p-Xylene	100		10	ug/kg	100		100	70-130	6.65	20
1,1,2,2-Tetrachloroethane	49		5	ug/kg	50.0		97.4	70-130	3.51	20
tert-Amyl methyl ether	45		5	ug/kg	50.0		90.3	70-130	7.40	20
1,3-Dichloropropane	49		5	ug/kg	50.0		98.1	70-130	5.40	20
Ethyl tert-butyl ether	46		5	ug/kg	50.0		92.9	70-130	7.85	20
Trichlorofluoromethane	58		5	ug/kg	50.0		115	50-150	7.88	20
Dichlorodifluoromethane	63		5	ug/kg	50.0		126	50-150	10.1	30
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>50.4</i>	<i>ug/kg</i>	<i>50.0</i>		<i>101</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>48.5</i>	<i>ug/kg</i>	<i>50.0</i>		<i>97.0</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>			<i>50.1</i>	<i>ug/kg</i>	<i>50.0</i>		<i>100</i>	<i>70-130</i>		

Batch: B3L1193 - EPA 5035

Blank (B3L1193-BLK1)

Prepared & Analyzed: 12/28/23

Acetone	ND		5	ug/kg						
Benzene	ND		5	ug/kg						
Bromobenzene	ND		5	ug/kg						
Bromochloromethane	ND		5	ug/kg						
Bromodichloromethane	ND		5	ug/kg						
Bromoform	ND		5	ug/kg						
Bromomethane	ND		5	ug/kg						
2-Butanone	ND		5	ug/kg						
tert-Butyl alcohol	ND		5	ug/kg						
sec-Butylbenzene	ND		5	ug/kg						
n-Butylbenzene	ND		5	ug/kg						
tert-Butylbenzene	ND		5	ug/kg						
Methyl t-butyl ether (MTBE)	ND		5	ug/kg						
Carbon Disulfide	ND		5	ug/kg						
Carbon Tetrachloride	ND		5	ug/kg						
Chlorobenzene	ND		5	ug/kg						
Chloroethane	ND		5	ug/kg						
Chloroform	ND		5	ug/kg						
Chloromethane	ND		5	ug/kg						
4-Chlorotoluene	ND		5	ug/kg						
2-Chlorotoluene	ND		5	ug/kg						
1,2-Dibromo-3-chloropropane (DBCP)	ND		5	ug/kg						
Dibromochloromethane	ND		5	ug/kg						
1,2-Dibromoethane (EDB)	ND		5	ug/kg						
Dibromomethane	ND		5	ug/kg						
1,2-Dichlorobenzene	ND		5	ug/kg						
1,3-Dichlorobenzene	ND		5	ug/kg						
1,4-Dichlorobenzene	ND		5	ug/kg						
1,1-Dichloroethane	ND		5	ug/kg						
1,2-Dichloroethane	ND		5	ug/kg						
trans-1,2-Dichloroethene	ND		5	ug/kg						
1,2 Dichloroethene, Total	ND		5	ug/kg						
cis-1,2-Dichloroethene	ND		5	ug/kg						
1,1-Dichloroethene	ND		5	ug/kg						
1,2-Dichloropropane	ND		5	ug/kg						
2,2-Dichloropropane	ND		5	ug/kg						
cis-1,3-Dichloropropene	ND		5	ug/kg						

Quality Control

(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1193 - EPA 5035 (Continued)										
Blank (B3L1193-BLK1)					Prepared & Analyzed: 12/28/23					
trans-1,3-Dichloropropene	ND		5	ug/kg						
1,1-Dichloropropene	ND		5	ug/kg						
1,3-Dichloropropene (cis + trans)	ND		5	ug/kg						
Diethyl ether	ND		5	ug/kg						
1,4-Dioxane	ND		100	ug/kg						
Ethylbenzene	ND		5	ug/kg						
Hexachlorobutadiene	ND		5	ug/kg						
2-Hexanone	ND		5	ug/kg						
Isopropylbenzene	ND		5	ug/kg						
p-Isopropyltoluene	ND		5	ug/kg						
Methylene Chloride	ND		10	ug/kg						
4-Methyl-2-pentanone	ND		5	ug/kg						
Naphthalene	ND		5	ug/kg						
n-Propylbenzene	ND		5	ug/kg						
Styrene	ND		5	ug/kg						
1,1,1,2-Tetrachloroethane	ND		5	ug/kg						
Tetrachloroethene	ND		5	ug/kg						
Tetrahydrofuran	ND		5	ug/kg						
Toluene	ND		5	ug/kg						
1,2,4-Trichlorobenzene	ND		5	ug/kg						
1,2,3-Trichlorobenzene	ND		5	ug/kg						
1,1,2-Trichloroethane	ND		5	ug/kg						
1,1,1-Trichloroethane	ND		5	ug/kg						
Trichloroethene	ND		5	ug/kg						
1,2,3-Trichloropropane	ND		5	ug/kg						
1,3,5-Trimethylbenzene	ND		5	ug/kg						
1,2,4-Trimethylbenzene	ND		5	ug/kg						
Vinyl Chloride	ND		5	ug/kg						
o-Xylene	ND		5	ug/kg						
m&p-Xylene	ND		10	ug/kg						
Total xylenes	ND		5	ug/kg						
1,1,2,2-Tetrachloroethane	ND		5	ug/kg						
tert-Amyl methyl ether	ND		5	ug/kg						
1,3-Dichloropropane	ND		5	ug/kg						
Ethyl tert-butyl ether	ND		5	ug/kg						
Diisopropyl ether	ND		5	ug/kg						
Trichlorofluoromethane	ND		5	ug/kg						
Dichlorodifluoromethane	ND		5	ug/kg						
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Surrogate: 4-Bromofluorobenzene			50.4	ug/kg	50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4			51.9	ug/kg	50.0		104	70-130		
Surrogate: Toluene-d8			51.1	ug/kg	50.0		102	70-130		

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1193 - EPA 5035 (Continued)										
LCS (B3L1193-BS1)					Prepared & Analyzed: 12/28/23					
Acetone	51		5	ug/kg	50.0		103	50-150		
Benzene	51		5	ug/kg	50.0		102	70-130		
Bromobenzene	47		5	ug/kg	50.0		93.9	70-130		
Bromochloromethane	51		5	ug/kg	50.0		102	70-130		
Bromodichloromethane	50		5	ug/kg	50.0		99.4	70-130		
Bromoform	45		5	ug/kg	50.0		90.2	70-130		
Bromomethane	79		5	ug/kg	50.0		158	50-150		
2-Butanone	42		5	ug/kg	50.0		84.5	50-150		
tert-Butyl alcohol	56		5	ug/kg	50.0		112	70-130		
sec-Butylbenzene	52		5	ug/kg	50.0		104	70-130		
n-Butylbenzene	53		5	ug/kg	50.0		105	70-130		
tert-Butylbenzene	49		5	ug/kg	50.0		98.7	70-130		
Methyl t-butyl ether (MTBE)	48		5	ug/kg	50.0		97.0	70-130		
Carbon Disulfide	59		5	ug/kg	50.0		118	50-150		
Carbon Tetrachloride	51		5	ug/kg	50.0		101	70-130		
Chlorobenzene	49		5	ug/kg	50.0		98.0	70-130		
Chloroethane	78		5	ug/kg	50.0		156	50-150		
Chloroform	52		5	ug/kg	50.0		104	70-130		
Chloromethane	68		5	ug/kg	50.0		136	50-150		
4-Chlorotoluene	51		5	ug/kg	50.0		102	70-130		
2-Chlorotoluene	51		5	ug/kg	50.0		102	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	47		5	ug/kg	50.0		94.2	70-130		
Dibromochloromethane	48		5	ug/kg	50.0		96.3	70-130		
1,2-Dibromoethane (EDB)	50		5	ug/kg	50.0		100	70-130		
Dibromomethane	52		5	ug/kg	50.0		103	60-140		
1,2-Dichlorobenzene	48		5	ug/kg	50.0		96.7	70-130		
1,3-Dichlorobenzene	47		5	ug/kg	50.0		94.3	70-130		
1,4-Dichlorobenzene	47		5	ug/kg	50.0		93.3	70-130		
1,1-Dichloroethane	54		5	ug/kg	50.0		108	70-130		
1,2-Dichloroethane	53		5	ug/kg	50.0		107	70-130		
trans-1,2-Dichloroethene	54		5	ug/kg	50.0		108	70-130		
cis-1,2-Dichloroethene	50		5	ug/kg	50.0		99.4	70-130		
1,1-Dichloroethene	57		5	ug/kg	50.0		114	70-130		
1,2-Dichloropropane	53		5	ug/kg	50.0		106	70-130		
2,2-Dichloropropane	51		5	ug/kg	50.0		102	70-130		
cis-1,3-Dichloropropene	50		5	ug/kg	50.0		99.9	70-130		
trans-1,3-Dichloropropene	50		5	ug/kg	50.0		100	70-130		
1,1-Dichloropropene	50		5	ug/kg	50.0		99.7	70-130		
Diethyl ether	53		5	ug/kg	50.0		107	60-140		
1,4-Dioxane	271		100	ug/kg	250		108	0-200		
Ethylbenzene	50		5	ug/kg	50.0		100	70-130		
Hexachlorobutadiene	45		5	ug/kg	50.0		90.2	70-130		
2-Hexanone	45		5	ug/kg	50.0		90.0	50-150		
Isopropylbenzene	50		5	ug/kg	50.0		99.5	70-130		
p-Isopropyltoluene	51		5	ug/kg	50.0		102	70-130		
Methylene Chloride	58		10	ug/kg	50.0		116	60-140		
4-Methyl-2-pentanone	48		5	ug/kg	50.0		95.5	50-150		
Naphthalene	47		5	ug/kg	50.0		93.4	70-130		
n-Propylbenzene	52		5	ug/kg	50.0		103	70-130		
Styrene	50		5	ug/kg	50.0		99.4	70-130		
1,1,1,2-Tetrachloroethane	48		5	ug/kg	50.0		95.3	70-130		
Tetrachloroethene	48		5	ug/kg	50.0		95.0	70-130		
Tetrahydrofuran	49		5	ug/kg	50.0		97.2	50-150		
Toluene	50		5	ug/kg	50.0		100	70-130		
1,2,4-Trichlorobenzene	44		5	ug/kg	50.0		88.6	70-130		
1,2,3-Trichlorobenzene	45		5	ug/kg	50.0		89.9	70-130		
1,1,2-Trichloroethane	53		5	ug/kg	50.0		106	70-130		

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1193 - EPA 5035 (Continued)										
LCS (B3L1193-BS1)					Prepared & Analyzed: 12/28/23					
1,1,1-Trichloroethane	51		5	ug/kg	50.0		102	70-130		
Trichloroethene	50		5	ug/kg	50.0		99.7	70-130		
1,2,3-Trichloropropane	53		5	ug/kg	50.0		106	70-130		
1,3,5-Trimethylbenzene	52		5	ug/kg	50.0		103	70-130		
1,2,4-Trimethylbenzene	50		5	ug/kg	50.0		99.6	70-130		
Vinyl Chloride	67		5	ug/kg	50.0		134	50-150		
o-Xylene	50		5	ug/kg	50.0		101	70-130		
m&p-Xylene	99		10	ug/kg	100		99.2	70-130		
1,1,2,2-Tetrachloroethane	52		5	ug/kg	50.0		103	70-130		
tert-Amyl methyl ether	45		5	ug/kg	50.0		91.0	70-130		
1,3-Dichloropropane	52		5	ug/kg	50.0		104	70-130		
Ethyl tert-butyl ether	49		5	ug/kg	50.0		97.0	70-130		
Trichlorofluoromethane	65		5	ug/kg	50.0		129	50-150		
Dichlorodifluoromethane	67		5	ug/kg	50.0		134	50-150		
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<i>Surrogate: 4-Bromofluorobenzene</i>			<i>51.4</i>	<i>ug/kg</i>	<i>50.0</i>		<i>103</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>49.9</i>	<i>ug/kg</i>	<i>50.0</i>		<i>99.7</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>			<i>50.5</i>	<i>ug/kg</i>	<i>50.0</i>		<i>101</i>	<i>70-130</i>		
LCS Dup (B3L1193-BSD1)					Prepared & Analyzed: 12/28/23					
Acetone	51		5	ug/kg	50.0		101	50-150	1.12	30
Benzene	47		5	ug/kg	50.0		94.1	70-130	7.63	20
Bromobenzene	43		5	ug/kg	50.0		86.1	70-130	8.71	20
Bromochloromethane	47		5	ug/kg	50.0		93.8	70-130	8.33	20
Bromodichloromethane	46		5	ug/kg	50.0		92.1	70-130	7.64	20
Bromoform	41		5	ug/kg	50.0		81.2	70-130	10.5	20
Bromomethane	71		5	ug/kg	50.0		142	50-150	10.3	30
2-Butanone	42		5	ug/kg	50.0		83.6	50-150	1.12	30
tert-Butyl alcohol	50		5	ug/kg	50.0		99.2	70-130	12.2	20
sec-Butylbenzene	48		5	ug/kg	50.0		96.2	70-130	7.39	20
n-Butylbenzene	48		5	ug/kg	50.0		96.2	70-130	8.90	20
tert-Butylbenzene	46		5	ug/kg	50.0		91.9	70-130	7.09	20
Methyl t-butyl ether (MTBE)	46		5	ug/kg	50.0		91.2	70-130	6.12	20
Carbon Disulfide	52		5	ug/kg	50.0		105	50-150	11.5	40
Carbon Tetrachloride	46		5	ug/kg	50.0		92.8	70-130	8.62	20
Chlorobenzene	44		5	ug/kg	50.0		88.3	70-130	10.3	20
Chloroethane	69		5	ug/kg	50.0		138	50-150	12.3	30
Chloroform	48		5	ug/kg	50.0		95.4	70-130	8.55	20
Chloromethane	61		5	ug/kg	50.0		122	50-150	10.2	30
4-Chlorotoluene	47		5	ug/kg	50.0		93.5	70-130	8.54	20
2-Chlorotoluene	47		5	ug/kg	50.0		93.5	70-130	8.54	20
1,2-Dibromo-3-chloropropane (DBCP)	44		5	ug/kg	50.0		88.6	70-130	6.13	20
Dibromochloromethane	45		5	ug/kg	50.0		89.5	70-130	7.30	20
1,2-Dibromoethane (EDB)	47		5	ug/kg	50.0		93.2	70-130	7.08	20
Dibromomethane	49		5	ug/kg	50.0		97.9	60-140	5.17	30
1,2-Dichlorobenzene	44		5	ug/kg	50.0		87.4	70-130	10.1	20
1,3-Dichlorobenzene	44		5	ug/kg	50.0		88.6	70-130	6.19	20
1,4-Dichlorobenzene	43		5	ug/kg	50.0		85.0	70-130	9.24	20
1,1-Dichloroethane	49		5	ug/kg	50.0		97.4	70-130	10.2	20
1,2-Dichloroethane	50		5	ug/kg	50.0		99.3	70-130	7.22	20
trans-1,2-Dichloroethene	49		5	ug/kg	50.0		97.7	70-130	9.71	20
cis-1,2-Dichloroethene	45		5	ug/kg	50.0		90.5	70-130	9.29	20
1,1-Dichloroethene	52		5	ug/kg	50.0		104	70-130	9.04	20
1,2-Dichloropropane	48		5	ug/kg	50.0		96.1	70-130	10.1	20
2,2-Dichloropropane	46		5	ug/kg	50.0		92.4	70-130	9.97	20
cis-1,3-Dichloropropene	46		5	ug/kg	50.0		91.6	70-130	8.62	20
trans-1,3-Dichloropropene	46		5	ug/kg	50.0		92.6	70-130	7.68	20
1,1-Dichloropropene	47		5	ug/kg	50.0		94.4	70-130	5.50	20

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1193 - EPA 5035 (Continued)					Prepared & Analyzed: 12/28/23					
LCS Dup (B3L1193-BSD1)										
Diethyl ether	50		5	ug/kg	50.0		101	60-140	6.02	30
1,4-Dioxane	253		100	ug/kg	250		101	0-200	6.93	50
Ethylbenzene	45		5	ug/kg	50.0		90.9	70-130	9.79	20
Hexachlorobutadiene	41		5	ug/kg	50.0		81.4	70-130	10.3	20
2-Hexanone	44		5	ug/kg	50.0		88.0	50-150	2.20	20
Isopropylbenzene	46		5	ug/kg	50.0		92.0	70-130	7.79	20
p-Isopropyltoluene	48		5	ug/kg	50.0		95.1	70-130	6.63	20
Methylene Chloride	54		10	ug/kg	50.0		107	60-140	7.47	30
4-Methyl-2-pentanone	47		5	ug/kg	50.0		93.9	50-150	1.69	20
Naphthalene	45		5	ug/kg	50.0		90.1	70-130	3.58	20
n-Propylbenzene	48		5	ug/kg	50.0		95.4	70-130	7.70	20
Styrene	45		5	ug/kg	50.0		90.9	70-130	9.00	20
1,1,1,2-Tetrachloroethane	42		5	ug/kg	50.0		85.0	70-130	11.4	20
Tetrachloroethene	44		5	ug/kg	50.0		88.1	70-130	7.56	20
Tetrahydrofuran	47		5	ug/kg	50.0		94.0	50-150	3.33	40
Toluene	46		5	ug/kg	50.0		92.8	70-130	7.49	20
1,2,4-Trichlorobenzene	41		5	ug/kg	50.0		82.7	70-130	6.91	20
1,2,3-Trichlorobenzene	42		5	ug/kg	50.0		84.3	70-130	6.40	20
1,1,2-Trichloroethane	48		5	ug/kg	50.0		96.4	70-130	9.68	20
1,1,1-Trichloroethane	46		5	ug/kg	50.0		92.0	70-130	9.98	20
Trichloroethene	46		5	ug/kg	50.0		91.9	70-130	8.18	20
1,2,3-Trichloropropane	50		5	ug/kg	50.0		100	70-130	5.34	20
1,3,5-Trimethylbenzene	48		5	ug/kg	50.0		95.8	70-130	7.69	20
1,2,4-Trimethylbenzene	47		5	ug/kg	50.0		93.1	70-130	6.81	20
Vinyl Chloride	61		5	ug/kg	50.0		123	50-150	8.62	30
o-Xylene	46		5	ug/kg	50.0		91.0	70-130	9.94	20
m&p-Xylene	91		10	ug/kg	100		90.8	70-130	8.86	20
1,1,2,2-Tetrachloroethane	48		5	ug/kg	50.0		96.8	70-130	6.32	20
tert-Amyl methyl ether	43		5	ug/kg	50.0		85.1	70-130	6.68	20
1,3-Dichloropropane	49		5	ug/kg	50.0		98.1	70-130	5.55	20
Ethyl tert-butyl ether	46		5	ug/kg	50.0		91.1	70-130	6.31	20
Trichlorofluoromethane	59		5	ug/kg	50.0		117	50-150	9.75	20
Dichlorodifluoromethane	60		5	ug/kg	50.0		119	50-150	11.4	30
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Surrogate: 4-Bromofluorobenzene			52.2	ug/kg	50.0		104	70-130		
Surrogate: 1,2-Dichloroethane-d4			51.9	ug/kg	50.0		104	70-130		
Surrogate: Toluene-d8			51.4	ug/kg	50.0		103	70-130		

Quality Control
(Continued)

Volatile Petroleum Hydrocarbons (MADEP-VPH)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L1080 - MADEP VPH										
Blank (B3L1080-BLK1)					Prepared & Analyzed: 12/26/23					
Unadjusted C5-C8 Aliphatic Hydrocarbons	ND		10.0	mg/kg						
C5-C8 Aliphatic Hydrocarbons	ND		10.0	mg/kg						
C9-C12 Aliphatic Hydrocarbons	ND		12.5	mg/kg						
C9-C10 Aromatic Hydrocarbons	ND		12.5	mg/kg						
<i>Surrogate: 2,5- Dibromotoluene-PID</i>			<i>64.1</i>	<i>ug/l</i>	<i>50.0</i>		<i>128</i>	<i>70-130</i>		
<i>Surrogate: 2,5- Dibromotoluene-FID</i>			<i>64.2</i>	<i>ug/l</i>	<i>50.0</i>		<i>128</i>	<i>70-130</i>		
LCS (B3L1080-BS1)					Prepared & Analyzed: 12/26/23					
n-Butylcyclohexane	2.3		250	mg/kg	2.50		93.9	70-130		
n-Pentane	2.4		250	mg/kg	2.50		94.8	70-130		
1,2,4-Trimethylbenzene	2.3		0.5	mg/kg	2.50		90.9	70-130		
VPH_LCS_Aliphatic_C5-C8	7.0		0.5	mg/kg	7.50		93.0	70-130		
VPH_LCS_Aliphatic_C9-C12	5.1		0.5	mg/kg	5.00		102	70-130		
2,2,4-Trimethylpentane	2.3		0.2	mg/kg	2.50		92.0	70-130		
VPH_LCS_Aromatic_C9-C10	2.3		0.5	mg/kg	2.50		90.9	70-130		
<i>Surrogate: 2,5- Dibromotoluene-PID</i>			<i>59.5</i>	<i>ug/l</i>	<i>50.0</i>		<i>119</i>	<i>70-130</i>		
<i>Surrogate: 2,5- Dibromotoluene-FID</i>			<i>59.7</i>	<i>ug/l</i>	<i>50.0</i>		<i>119</i>	<i>70-130</i>		
LCS Dup (B3L1080-BSD1)					Prepared & Analyzed: 12/26/23					
n-Butylcyclohexane	2.1		250	mg/kg	2.50		84.4	70-130	10.6	25
n-Pentane	2.2		250	mg/kg	2.50		87.7	70-130	7.87	25
1,2,4-Trimethylbenzene	2.2		0.5	mg/kg	2.50		89.5	70-130	1.46	25
VPH_LCS_Aliphatic_C5-C8	6.4		0.5	mg/kg	7.50		85.7	70-130	8.12	25
VPH_LCS_Aliphatic_C9-C12	4.6		0.5	mg/kg	5.00		92.1	70-130	10.3	25
2,2,4-Trimethylpentane	2.1		0.2	mg/kg	2.50		84.4	70-130	8.60	25
VPH_LCS_Aromatic_C9-C10	2.2		0.5	mg/kg	2.50		89.5	70-130	1.46	25
<i>Surrogate: 2,5- Dibromotoluene-PID</i>			<i>62.6</i>	<i>ug/l</i>	<i>50.0</i>		<i>125</i>	<i>70-130</i>		
<i>Surrogate: 2,5- Dibromotoluene-FID</i>			<i>62.0</i>	<i>ug/l</i>	<i>50.0</i>		<i>124</i>	<i>70-130</i>		

Quality Control
(Continued)

Extractable Petroleum Hydrocarbons (MADEP-EPH)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0897 - 1_Semivolatiles Extractions										
Blank (B3L0897-BLK1)					Prepared: 12/20/23 Analyzed: 12/21/23					
Unadjusted C11-C22 Aromatic Hydrocarbons	ND		6.63	mg/kg						
Naphthalene	ND		0.33	mg/kg						
2-Methylnaphthalene	ND		0.33	mg/kg						
Phenanthrene	ND		0.33	mg/kg						
Acenaphthene	ND		0.33	mg/kg						
Acenaphthylene	ND		0.33	mg/kg						
Fluorene	ND		0.33	mg/kg						
Anthracene	ND		0.33	mg/kg						
Fluoranthene	ND		0.33	mg/kg						
Pyrene	ND		0.33	mg/kg						
Benzo(a)anthracene	ND		0.33	mg/kg						
Chrysene	ND		0.33	mg/kg						
Benzo(b)fluoranthene	ND		0.33	mg/kg						
Benzo(k)fluoranthene	ND		0.33	mg/kg						
Benzo(a)pyrene	ND		0.33	mg/kg						
Indeno(1,2,3-cd)pyrene	ND		0.33	mg/kg						
Dibenz(a,h)anthracene	ND		0.33	mg/kg						
Benzo(g,h,i)perylene	ND		0.33	mg/kg						
C9-C18 Aliphatic Hydrocarbons	ND		13.2	mg/kg						
C19-C36 Aliphatic Hydrocarbons	ND		13.2	mg/kg						
C11-C22 Aromatic Hydrocarbons	ND		6.63	mg/kg						
<hr/>										
<i>Surrogate: Chlorooctadecane</i>			3.44	mg/kg	8.28		41.5	40-140		
<i>Surrogate: o-Terphenyl</i>			3.36	mg/kg	8.28		40.6	40-140		
<i>Surrogate: 2-Fluorobiphenyl</i>			2.32	mg/kg	3.31		70.1	40-140		
<i>Surrogate: 2-Bromonaphthalene</i>			2.31	mg/kg	3.31		69.8	40-140		
LCS (B3L0897-BS1)					Prepared: 12/20/23 Analyzed: 12/21/23					
Naphthalene	1.62		0.33	mg/kg	2.65		61.0	40-140		
2-Methylnaphthalene	1.61		0.33	mg/kg	2.65		60.6	40-140		
Phenanthrene	1.67		0.33	mg/kg	2.65		63.0	40-140		
Acenaphthene	1.64		0.33	mg/kg	2.65		61.9	40-140		
Acenaphthylene	1.62		0.33	mg/kg	2.65		61.3	40-140		
Fluorene	1.66		0.33	mg/kg	2.65		62.7	40-140		
Anthracene	1.71		0.33	mg/kg	2.65		64.4	40-140		
Fluoranthene	1.67		0.33	mg/kg	2.65		63.0	40-140		
Pyrene	1.79		0.33	mg/kg	2.65		67.6	40-140		
Benzo(a)anthracene	1.84		0.33	mg/kg	2.65		69.5	40-140		
Chrysene	1.98		0.33	mg/kg	2.65		74.6	40-140		
Benzo(b)fluoranthene	1.96		0.33	mg/kg	2.65		74.2	40-140		
Benzo(k)fluoranthene	1.92		0.33	mg/kg	2.65		72.3	40-140		
Benzo(a)pyrene	1.82		0.33	mg/kg	2.65		68.7	40-140		
Indeno(1,2,3-cd)pyrene	1.76		0.33	mg/kg	2.65		66.5	40-140		
Dibenz(a,h)anthracene	1.87		0.33	mg/kg	2.65		70.6	40-140		
Benzo(g,h,i)perylene	1.96		0.33	mg/kg	2.65		73.9	40-140		
EPH_LCS_Aliphatic_C19-C36	10.8		0.00	mg/kg	21.2		51.1	40-140		
EPH_LCS_Aliphatic_C9-C18	6.51		0.00	mg/kg	15.9		41.0	40-140		
EPH_LCS_Aromatic_C11-C22	30.1		0.00	mg/kg	45.0		66.8	40-140		
Nonane	0.85		0.33	mg/kg	2.65		32.3	30-140		
Decane	1.06		0.33	mg/kg	2.65		40.1	40-140		
Dodecane	1.13		0.33	mg/kg	2.65		42.5	40-140		
Tetradecane	1.08		0.33	mg/kg	2.65		40.7	40-140		
Hexadecane	1.15		0.33	mg/kg	2.65		43.3	40-140		
Octadecane	1.24		0.33	mg/kg	2.65		46.8	40-140		
Nonadecane	1.26		0.33	mg/kg	2.65		47.8	40-140		
Eicosane	1.30		0.33	mg/kg	2.65		49.2	40-140		
Docosane	1.36		0.33	mg/kg	2.65		51.4	40-140		
Tetracosane	1.41		0.33	mg/kg	2.65		53.1	40-140		

Quality Control

(Continued)

Extractable Petroleum Hydrocarbons (MADEP-EPH) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0897 - 1_Semivolatiles Extractions (Continued)										
LCS (B3L0897-BS1)										
					Prepared: 12/20/23		Analyzed: 12/21/23			
Hexacosane	1.43		0.33	mg/kg	2.65		54.0	40-140		
Octacosane	1.42		0.33	mg/kg	2.65		53.5	40-140		
Triacotane	1.40		0.33	mg/kg	2.65		52.7	40-140		
Hexatriacontane	1.25		0.33	mg/kg	2.65		47.1	40-140		
<hr/>										
<i>Surrogate: Chlorooctadecane</i>			<i>3.96</i>	mg/kg	<i>8.28</i>		<i>47.8</i>	<i>40-140</i>		
<i>Surrogate: o-Terphenyl</i>			<i>5.21</i>	mg/kg	<i>8.28</i>		<i>62.9</i>	<i>40-140</i>		
<i>Surrogate: 2-Fluorobiphenyl</i>			<i>3.03</i>	mg/kg	<i>3.31</i>		<i>91.6</i>	<i>40-140</i>		
<i>Surrogate: 2-Bromonaphthalene</i>			<i>3.04</i>	mg/kg	<i>3.31</i>		<i>91.7</i>	<i>40-140</i>		
<hr/>										
LCS Dup (B3L0897-BSD1)										
					Prepared: 12/20/23		Analyzed: 12/21/23			
Naphthalene	1.40		0.33	mg/kg	2.65		53.0	40-140	14.0	25
2-Methylnaphthalene	1.54		0.33	mg/kg	2.65		58.2	40-140	4.12	25
Phenanthrene	1.60		0.33	mg/kg	2.65		60.2	40-140	4.50	25
Acenaphthene	1.58		0.33	mg/kg	2.65		59.6	40-140	3.79	25
Acenaphthylene	1.55		0.33	mg/kg	2.65		58.5	40-140	4.63	25
Fluorene	1.56		0.33	mg/kg	2.65		58.8	40-140	6.42	25
Anthracene	1.72		0.33	mg/kg	2.65		64.9	40-140	0.774	25
Fluoranthene	1.61		0.33	mg/kg	2.65		60.8	40-140	3.55	25
Pyrene	1.73		0.33	mg/kg	2.65		65.4	40-140	3.42	25
Benzo(a)anthracene	1.75		0.33	mg/kg	2.65		66.2	40-140	4.75	25
Chrysene	1.88		0.33	mg/kg	2.65		71.1	40-140	4.84	25
Benzo(b)fluoranthene	1.90		0.33	mg/kg	2.65		71.7	40-140	3.36	25
Benzo(k)fluoranthene	1.85		0.33	mg/kg	2.65		69.9	40-140	3.38	25
Benzo(a)pyrene	1.72		0.33	mg/kg	2.65		64.8	40-140	5.80	25
Indeno(1,2,3-cd)pyrene	1.67		0.33	mg/kg	2.65		63.2	40-140	5.16	25
Dibenz(a,h)anthracene	1.74		0.33	mg/kg	2.65		65.6	40-140	7.41	25
Benzo(g,h,i)perylene	1.84		0.33	mg/kg	2.65		69.3	40-140	6.53	25
EPH_LCS_Aliphatic_C19-C36	10.0		0.00	mg/kg	21.2		47.3	40-140	7.73	25
EPH_LCS_Aliphatic_C9-C18	6.48		0.00	mg/kg	15.9		40.8	40-140	0.387	25
EPH_LCS_Aromatic_C11-C22	28.6		0.00	mg/kg	45.0		63.6	40-140	4.94	25
Nonane	0.92		0.33	mg/kg	2.65		34.8	30-140	7.60	25
Decane	1.09		0.33	mg/kg	2.65		41.1	40-140	2.34	25
Dodecane	1.10		0.33	mg/kg	2.65		41.4	40-140	2.80	25
Tetradecane	1.09		0.33	mg/kg	2.65		41.3	40-140	1.28	25
Hexadecane	1.14		0.33	mg/kg	2.65		43.0	40-140	0.696	25
Octadecane	1.15		0.33	mg/kg	2.65		43.2	40-140	7.78	25
Nonadecane	1.17		0.33	mg/kg	2.65		44.0	40-140	8.17	25
Eicosane	1.21		0.33	mg/kg	2.65		45.6	40-140	7.65	25
Docosane	1.26		0.33	mg/kg	2.65		47.5	40-140	7.88	25
Tetracosane	1.29		0.33	mg/kg	2.65		48.8	40-140	8.44	25
Hexacosane	1.31		0.33	mg/kg	2.65		49.6	40-140	8.40	25
Octacosane	1.30		0.33	mg/kg	2.65		49.1	40-140	8.63	25
Triacotane	1.29		0.33	mg/kg	2.65		48.7	40-140	7.89	25
Hexatriacontane	1.19		0.33	mg/kg	2.65		45.0	40-140	4.45	25
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<i>Surrogate: Chlorooctadecane</i>			<i>3.60</i>	mg/kg	<i>8.28</i>		<i>43.5</i>	<i>40-140</i>		
<i>Surrogate: o-Terphenyl</i>			<i>4.66</i>	mg/kg	<i>8.28</i>		<i>56.4</i>	<i>40-140</i>		
<i>Surrogate: 2-Fluorobiphenyl</i>			<i>3.20</i>	mg/kg	<i>3.31</i>		<i>96.6</i>	<i>40-140</i>		
<i>Surrogate: 2-Bromonaphthalene</i>			<i>3.18</i>	mg/kg	<i>3.31</i>		<i>96.1</i>	<i>40-140</i>		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

New England Testing Laboratory

59 Greenhill Street
West Warwick, RI 02893

1-888-863-8522



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Chain of Custody Record

Project No. 1075.1.2		Project Name/Location: Wareham				Matrix			Preservative	Tests**									
Client: Lightship Engineering, LLC		Report To: Kevin Paradise, Kristin Maloney				Aqueous	Soil	Other		No. of Containers	VOCs (8260)	VPH (fractions only)	EPH (target PAHs)						
Invoice To: Kevin Paradise		Date	Time	Comp	Grab				Sample I.D.										
12/14/2023	9:00		X			LE-TP2 (4-6)		X		4	MeOH	X	X	X					
12/14/2023	12:00		X			LE-TP6 (8-10)		X		4	MeOH	X	X	X					
12/19/2023	10:00		X			LE-TP12 (10-12)		X		4	MeOH	X	X	X					
Sampled By: K. Maloney		Date/Time 12/14/23, 12/19/23	Received By:				Date/Time	Laboratory Remarks:				Special Instructions:							
Relinquished By: <i>K. Maloney</i>		Date/Time 12/20/23 1255	Received By: <i>[Signature]</i>				Date/Time 12/20 1255	Temp. Received: 3											
**Netlab Subcontracts the following tests: Radiologicals, Radon, TOC, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates												Turnaround Time [Business Days]: 5 Days							

[Handwritten signatures and dates]
 12/20/23 1555
 12/20 655

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MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.

Project #: 1075.1.2

Project Location: Wareham, MA

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
3L20029

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH (GC/PID/FID) CAM IV A <input checked="" type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP VPH (GC/MS) CAM IV C <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	MassDEP EPH CAM IV B <input checked="" type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
----------	---	--

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 12/28/2023



ANALYTICAL REPORT

Lab Number:	L2374188
Client:	Lightship Engineering 6 Resnik Road Suite 207 Plymouth, MA 02360
ATTN:	Kevin Paradise
Phone:	(508) 830-3344
Project Name:	WAREHAM
Project Number:	1075-1-2
Report Date:	01/02/24

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (99110), NJ (MA015), NY (11627), NC (685), OH (CL106), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2374188-01	LE-SW1	WATER	WAREHAM	12/14/23 09:15	12/15/23
L2374188-02	LE-TMW1	WATER	WAREHAM	12/14/23 09:45	12/15/23
L2374188-03	LE-TMW2	WATER	WAREHAM	12/14/23 10:00	12/15/23
L2374188-04	LE-TMW3	WATER	WAREHAM	12/14/23 09:00	12/15/23
L2374188-05	LE-TMW4	WATER	WAREHAM	12/14/23 08:45	12/15/23

Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

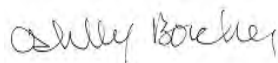
Case Narrative (continued)

Perfluorinated Alkyl Acids by 1633

L2374188-02: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Ashley Boucher

Title: Technical Director/Representative

Date: 01/02/24

ORGANICS

SEMIVOLATILES

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-01

Date Collected: 12/14/23 09:15

Client ID: LE-SW1

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: EPA 1633

Analytical Method: 144,1633

Extraction Date: 12/21/23 14:55

Analytical Date: 12/23/23 12:39

Analyst: ANH

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.91	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.96	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.48	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.91	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.48	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.48	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.48	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.48	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.48	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.91	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.48	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.48	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.48	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.48	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.91	--	1
Perfluoronanesulfonic Acid (PFNS)	ND		ng/l	1.48	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.48	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.48	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.48	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.48	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.48	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.48	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.48	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.48	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.91	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.91	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.48	--	1

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-01

Date Collected: 12/14/23 09:15

Client ID: LE-SW1

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.91	--	1
11-Chloroeicosafuoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.91	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.48	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.48	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.8	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.8	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.96	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.96	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEEESA)	ND		ng/l	2.96	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.96	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.39	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	36.9	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	36.9	--	1

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-01

Date Collected: 12/14/23 09:15

Client ID: LE-SW1

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	81		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	89		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	89		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	95		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	77		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	82		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	75		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	73		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	66		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	74		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	61		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	58		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	44		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	51		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	61		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	42		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	53		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	54		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	47		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	70		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	43		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	41		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	55		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	62		20-150

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-02

Date Collected: 12/14/23 09:45

Client ID: LE-TMW1

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: EPA 1633

Analytical Method: 144,1633

Extraction Date: 12/21/23 14:55

Analytical Date: 12/23/23 12:52

Analyst: ANH

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	20.8		ng/l	6.42	--	1
Perfluoropentanoic Acid (PFPeA)	7.22		ng/l	3.21	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.42	--	1
Perfluorohexanoic Acid (PFHxA)	5.75		ng/l	1.60	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--	1
Perfluoroheptanoic Acid (PFHpA)	8.19		ng/l	1.60	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--	1
Perfluorooctanoic Acid (PFOA)	18.9		ng/l	1.60	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.42	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--	1
Perfluorononanoic Acid (PFNA)	5.50		ng/l	1.60	--	1
Perfluorooctanesulfonic Acid (PFOS)	2.14		ng/l	1.60	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.42	--	1
Perfluoronanesulfonic Acid (PFNS)	ND		ng/l	1.60	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.42	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.42	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--	1

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-02

Date Collected: 12/14/23 09:45

Client ID: LE-TMW1

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.42	--	1
11-Chloroeicosafuoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.42	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.21	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.21	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEEESA)	ND		ng/l	3.21	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.21	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.03	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.1	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.1	--	1

Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-02
 Client ID: LE-TMW1
 Sample Location: WAREHAM

Date Collected: 12/14/23 09:45
 Date Received: 12/15/23
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	81		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	88		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	83		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	174	Q	20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	86		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	85		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	82		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	79		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	74		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	73		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	73		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	67		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	60		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	53		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	58		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	39		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	53		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	46		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	30		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	71		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	38		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	41		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	50		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	57		20-150

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-03

Date Collected: 12/14/23 10:00

Client ID: LE-TMW2

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: EPA 1633

Analytical Method: 144,1633

Extraction Date: 12/21/23 14:55

Analytical Date: 12/23/23 13:05

Analyst: ANH

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	16.3		ng/l	5.66	--	1
Perfluoropentanoic Acid (PFPeA)	6.81		ng/l	2.83	--	1
Perfluorobutanesulfonic Acid (PFBS)	1.89		ng/l	1.42	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.66	--	1
Perfluorohexanoic Acid (PFHxA)	9.18		ng/l	1.42	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.42	--	1
Perfluoroheptanoic Acid (PFHpA)	8.51		ng/l	1.42	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.42	--	1
Perfluorooctanoic Acid (PFOA)	6.57		ng/l	1.42	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.66	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.42	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.42	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.56		ng/l	1.42	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.42	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.66	--	1
Perfluoronanesulfonic Acid (PFNS)	ND		ng/l	1.42	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.42	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.42	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.42	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.42	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.42	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.42	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.42	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.42	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.66	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.66	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.42	--	1

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-03

Date Collected: 12/14/23 10:00

Client ID: LE-TMW2

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.66	--	1
11-Chloroeicosafuoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.66	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.42	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.42	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.2	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.2	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.83	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.83	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEEESA)	ND		ng/l	2.83	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.83	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.08	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	35.4	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	35.4	--	1

Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-03
 Client ID: LE-TMW2
 Sample Location: WAREHAM

Date Collected: 12/14/23 10:00
 Date Received: 12/15/23
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	81		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	96		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	92		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	81		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	84		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	78		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	77		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	66		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	76		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	74		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	75		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	44		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	58		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	65		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	46		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	49		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	58		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	46		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	76		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	44		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	51		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	61		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	72		20-150

Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-04
 Client ID: LE-TMW3
 Sample Location: WAREHAM

Date Collected: 12/14/23 09:00
 Date Received: 12/15/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 144,1633
 Analytical Date: 12/23/23 13:18
 Analyst: ANH

Extraction Method: EPA 1633
 Extraction Date: 12/21/23 14:55

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.66	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.83	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.41	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.66	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.41	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.41	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.41	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.41	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.41	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.66	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.41	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.41	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.41	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.41	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.66	--	1
Perfluoronanesulfonic Acid (PFNS)	ND		ng/l	1.41	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.41	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.41	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.41	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.41	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.41	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.41	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.41	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.41	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.66	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.66	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.41	--	1

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-04

Date Collected: 12/14/23 09:00

Client ID: LE-TMW3

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.66	--	1
11-Chloroeicosafuoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.66	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.41	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.41	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.1	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.1	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.83	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.83	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEEESA)	ND		ng/l	2.83	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.83	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.07	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	35.4	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	35.4	--	1

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-04

Date Collected: 12/14/23 09:00

Client ID: LE-TMW3

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	86		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	99		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	97		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	95		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	85		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	83		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	82		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	78		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	71		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	70		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	54		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	58		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	36		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	42		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	56		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	38		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	39		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	59		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	45		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	74		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	35		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	41		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	50		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	56		20-150

Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-05
 Client ID: LE-TMW4
 Sample Location: WAREHAM

Date Collected: 12/14/23 08:45
 Date Received: 12/15/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 144,1633
 Analytical Date: 12/23/23 13:30
 Analyst: ANH

Extraction Method: EPA 1633
 Extraction Date: 12/21/23 14:55

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	14.9		ng/l	5.63	--	1
Perfluoropentanoic Acid (PFPeA)	6.03		ng/l	2.82	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.41	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.63	--	1
Perfluorohexanoic Acid (PFHxA)	7.37		ng/l	1.41	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.41	--	1
Perfluoroheptanoic Acid (PFHpA)	7.61		ng/l	1.41	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.41	--	1
Perfluorooctanoic Acid (PFOA)	7.64		ng/l	1.41	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.63	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.41	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.41	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.41	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.41	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.63	--	1
Perfluoronanesulfonic Acid (PFNS)	ND		ng/l	1.41	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.41	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.41	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.41	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.41	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.41	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.41	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.41	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.41	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.63	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.63	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.41	--	1

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-05

Date Collected: 12/14/23 08:45

Client ID: LE-TMW4

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.63	--	1
11-Chloroeicosafuoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.63	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.41	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.41	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.1	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.1	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.82	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.82	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEEESA)	ND		ng/l	2.82	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.82	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.04	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	35.2	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	35.2	--	1

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

SAMPLE RESULTS

Lab ID: L2374188-05

Date Collected: 12/14/23 08:45

Client ID: LE-TMW4

Date Received: 12/15/23

Sample Location: WAREHAM

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	81		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	99		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	83		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	108		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	82		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	82		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	80		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	81		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	71		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	82		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	76		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	73		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	51		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	59		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	73		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	49		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	49		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	62		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	56		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	70		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	43		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	43		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	61		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	68		20-150

Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 12/23/23 11:48
Analyst: ANH

Extraction Method: EPA 1633
Extraction Date: 12/21/23 14:55

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-05 Batch: WG1866942-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

Method Blank Analysis Batch Quality Control

Analytical Method: 144,1633
 Analytical Date: 12/23/23 11:48
 Analyst: ANH

Extraction Method: EPA 1633
 Extraction Date: 12/21/23 14:55

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-05 Batch: WG1866942-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 144,1633
Analytical Date: 12/23/23 11:48
Analyst: ANH

Extraction Method: EPA 1633
Extraction Date: 12/21/23 14:55

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-05 Batch: WG1866942-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	85		20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	102		20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	91		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	85		20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	92		20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	87		20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	85		20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	85		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	71		20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	94		20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	87		20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	86		20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	57		20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	63		20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	80		20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	57		20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	61		20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	71		20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	66		20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	84		20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	46		20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	48		20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	73		20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	80		20-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

Parameter	Low Level	Qual	Low Level	Qual	%Recovery Limits	RPD	Qual	RPD Limits
	LCS %Recovery		LCSD %Recovery					
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05 Batch: WG1866942-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	104		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	107		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	119		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	102		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	118		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	103		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	109		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	100		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	110		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	96		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	107		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	118		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	115		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	112		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	94		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	83		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	117		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	95		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	82		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	98		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	128		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	97		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

Parameter	Low Level	Qual	Low Level	Qual	%Recovery	RPD	Qual	RPD
	LCS		LCS		Limits			Limits
	%Recovery		%Recovery					
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05 Batch: WG1866942-2 LOW LEVEL								
Perfluorotridecanoic Acid (PFTTrDA)	104		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	115		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	112		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	108		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	88		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	108		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUS)	95		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	113		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	90		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	103		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	106		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	89		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	93		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	136		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	128		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	97		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	74		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	52		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

Parameter	Low Level LCS		Low Level LCSD		%Recovery Limits		RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05 Batch: WG1866942-2 LOW LEVEL								

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	88				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	103				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	95				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	81				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	86				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	86				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	84				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	72				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	85				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	83				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	81				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	67				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	72				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	82				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	57				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	56				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	76				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	59				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	41				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	50				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	64				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	75				20-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

Parameter	LCS	Qual	LCSD	Qual	%Recovery	RPD	Qual	RPD
	%Recovery		%Recovery		Limits			Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05 Batch: WG1866942-3								
Perfluorobutanoic Acid (PFBA)	100		-		40-150	-		30
Perfluoropentanoic Acid (PFPeA)	108		-		40-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	105		-		40-150	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	90		-		40-150	-		30
Perfluorohexanoic Acid (PFHxA)	111		-		40-150	-		30
Perfluoropentanesulfonic Acid (PFPeS)	102		-		40-150	-		30
Perfluoroheptanoic Acid (PFHpA)	98		-		40-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	102		-		40-150	-		30
Perfluorooctanoic Acid (PFOA)	108		-		40-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	93		-		40-150	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	104		-		40-150	-		30
Perfluorononanoic Acid (PFNA)	107		-		40-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	99		-		40-150	-		30
Perfluorodecanoic Acid (PFDA)	94		-		40-150	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	116		-		40-150	-		30
Perfluorononanesulfonic Acid (PFNS)	81		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	124		-		40-150	-		30
Perfluoroundecanoic Acid (PFUnA)	106		-		40-150	-		30
Perfluorodecanesulfonic Acid (PFDS)	82		-		40-150	-		30
Perfluorooctanesulfonamide (PFOSA)	96		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	124		-		40-150	-		30
Perfluorododecanoic Acid (PFDoA)	96		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

Parameter	LCS	Qual	LCS	Qual	%Recovery	RPD	Qual	RPD
	%Recovery		%Recovery		Limits			Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05 Batch: WG1866942-3								
Perfluorotridecanoic Acid (PFTTrDA)	109		-		40-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	115		-		40-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	110		-		40-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	113		-		40-150	-		30
Perfluorododecanesulfonic Acid (PFDoS)	87		-		40-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	102		-		40-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	104		-		40-150	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	109		-		40-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	108		-		40-150	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	111		-		40-150	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	110		-		40-150	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	92		-		40-150	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	93		-		40-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	132		-		40-150	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	123		-		40-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	92		-		40-150	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	81		-		40-150	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	67		-		40-150	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: WAREHAM

Lab Number: L2374188

Project Number: 1075-1-2

Report Date: 01/02/24

Parameter	LCS		LCSD		%Recovery		RPD	RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual		Limits	
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05 Batch: WG1866942-3									

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	87				20-150
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	105				20-150
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	88				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	90				20-150
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	83				20-150
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	88				20-150
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	85				20-150
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	82				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	74				20-150
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	94				20-150
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	96				20-150
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	97				20-150
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	60				20-150
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	79				20-150
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	92				20-150
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	65				20-150
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	71				20-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	88				20-150
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	74				20-150
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	80				20-150
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	55				20-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	57				20-150
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	76				20-150
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	88				20-150

Project Name: WAREHAM**Lab Number:** L2374188**Project Number:** 1075-1-2**Report Date:** 01/02/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2374188-01A	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-01B	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-01C	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-02A	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-02B	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-02C	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-03A	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-03B	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-03C	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-04A	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-04B	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-04C	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-05A	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-05B	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)
L2374188-05C	Plastic 500ml unpreserved	A	NA		5.7	Y	Absent		A2-1633-DRAFT(28)

Project Name: WAREHAM
Project Number: 1075-1-2

Serial_No:01022412:47
Lab Number: L2374188
Report Date: 01/02/24

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafuoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: WAREHAM
Project Number: 1075-1-2

Serial_No:01022412:47
Lab Number: L2374188
Report Date: 01/02/24

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report



Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report



Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

Data Qualifiers

- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: WAREHAM
Project Number: 1075-1-2

Lab Number: L2374188
Report Date: 01/02/24

REFERENCES

- 144 Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. Draft EPA Method 1633, EPA Document 821-D-22-001, June 2022.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility

SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/13/23

ALPHA Job #: L2374188

8 Walkup Drive
Westboro, MA 01581
Tel: 508-866-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: Wareham
Project Location: Wareham
Project #: 1075-1-2
Project Manager: Kevin Paradise
ALPHA Quote #:

Report Information - Data Deliverables

ADEX EMAIL

Billing Information

Same as Client Info PO #: 1075-1-2

Client Information

Client: Lightship Engineering
Address: 6 Resnik Rd.
Plymouth, MA
Phone: 781-223-6717
Email: kparadise@lightship
engineering.com
Additional Project Information:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
Date Due:

Regulatory Requirements & Project Information Requirements

Yes No MA MCP Analytical Methods Yes No CT RCP Analytical Methods
 Yes No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
 Yes No GW1 Standards (Info Required for Metals & EPH with Targets)
 Yes No NPDES RGP
 Other State /Fed Program _____ Criteria _____

ANALYSIS
VOC: 8260 624 534-2
SVOC: ABN PAH
METALS: MCP 13 MCP 14 RCP 15
METALS: RCRAS RCRAB PPT3
EPH: Ranges & Targets Ranges Only
VPH: Ranges & Targets Ranges Only
 PCB PEST
TPH: Quant Only Fingerprint
PFAS

SAMPLE INFO
Filtration:
 Field
 Lab to do
Preservation:
 Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
74188-01	LE-SW1	12/14/23	9:15	SW	KP
-02	LE-TMW1	12/15/23	9:45	GW	KM
-03	LE-TMW2	12/15/23	10:00	GW	KM
-04	LE-TMW3	12/15/23	9:00	GW	KM
-05	LE-TMW4	12/15/23	8:45	GW	KM

TOTAL # BOTTLES

3 ↓

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₈
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

Container Type: P
Preservative: A

Relinquished By: [Signature] Date/Time: 12/15/23 11:28
Received By: [Signature] Date/Time: 12/15/23 11:28

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.
FORM NO: 01-01 (rev. 12-Mar-2012)



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order: 042329204

Customer ID: LENG78

Customer PO: 1075.1.2

Project ID:

Attention: Kevin Paradise
Lightship Engineering, LLC
39 Industrial Park Road
Unit C
Plymouth, MA 02360

Phone: (508) 830-3344

Fax: (508) 830-3360

Received Date: 12/19/2023 10:00 AM

Analysis Date: 12/27/2023

Collected Date: 12/15/2023

Project: Wareham - 1075.1.2

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
LE-BM1 <small>042329204-0001 Inseparable paint / coating layer included in analysis</small>	Building Material	Gray/Blue Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
LE-BM2 <small>042329204-0002 Inseparable paint / coating layer included in analysis</small>	Building Material	Gray/Blue Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
LE-BM3 <small>042329204-0003 Inseparable paint / coating layer included in analysis</small>	Building Material	Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Brett Polumbo (2)

Michelle Quach (1)

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, NJ DEP 03036, PA ID# 68-00367, LA #04127

Initial report from: 12/27/2023 15:08:50



New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 3L14040
Client Project: 1075 - Wareham

Report Date: 21-December-2023

Prepared for:

Kevin Paradise
Lightship Engineering
6 Resnik Raod, Suite 207
Plymouth, MA 02360

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
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Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 12/14/23. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 3L14040. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
3L14040-01	LE-SW1	Water	12/14/2023	12/14/2023
3L14040-02	LE-SE01	Soil	12/14/2023	12/14/2023

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

LE-SE01 (Lab Number: 3L14040-02)

Analysis

MADEP EPH
MADEP VPH
Volatile Organic Compounds

Method

MADEP EPH
MADEP VPH
EPA 8260C

LE-SW1 (Lab Number: 3L14040-01)

Analysis

E. coli bacteria
MADEP EPH
MADEP VPH
Volatile Organic Compounds

Method

SM9223(04) COLertQT
MADEP EPH
MADEP VPH
EPA 8260C

Method References

Method for the Determination of Extractable Petroleum Hydrocarbons, Rev. 2.1, Massachusetts Department of Environmental Protection, 2004

Method for the Determination of Volatile Petroleum Hydrocarbons, Rev. 2.1, Massachusetts Department of Environmental Protection, 2018

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: Microbiology

Sample: LE-SW1
Lab Number: 3L14040-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
E. coli	<		1	MPN/100ml	12/14/23 16:15	12/14/23 16:15

Results: Volatile Organic Compounds 8260C (5035-LL)

Sample: LE-SE01

Lab Number: 3L14040-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		80	ug/kg	12/18/23	12/18/23
Benzene	ND		4	ug/kg	12/18/23	12/18/23
Bromobenzene	ND		4	ug/kg	12/18/23	12/18/23
Bromochloromethane	ND		4	ug/kg	12/18/23	12/18/23
Bromodichloromethane	ND		4	ug/kg	12/18/23	12/18/23
Bromoform	ND		4	ug/kg	12/18/23	12/18/23
Bromomethane	ND		4	ug/kg	12/18/23	12/18/23
2-Butanone	ND		80	ug/kg	12/18/23	12/18/23
tert-Butyl alcohol	ND		4	ug/kg	12/18/23	12/18/23
sec-Butylbenzene	ND		4	ug/kg	12/18/23	12/18/23
n-Butylbenzene	ND		4	ug/kg	12/18/23	12/18/23
tert-Butylbenzene	ND		4	ug/kg	12/18/23	12/18/23
Methyl t-butyl ether (MTBE)	ND		4	ug/kg	12/18/23	12/18/23
Carbon Disulfide	ND		4	ug/kg	12/18/23	12/18/23
Carbon Tetrachloride	ND		4	ug/kg	12/18/23	12/18/23
Chlorobenzene	ND		4	ug/kg	12/18/23	12/18/23
Chloroethane	ND		4	ug/kg	12/18/23	12/18/23
Chloroform	ND		4	ug/kg	12/18/23	12/18/23
Chloromethane	ND		4	ug/kg	12/18/23	12/18/23
4-Chlorotoluene	ND		4	ug/kg	12/18/23	12/18/23
2-Chlorotoluene	ND		4	ug/kg	12/18/23	12/18/23
1,2-Dibromo-3-chloropropane (DBCP)	ND		4	ug/kg	12/18/23	12/18/23
Dibromochloromethane	ND		4	ug/kg	12/18/23	12/18/23
1,2-Dibromoethane (EDB)	ND		4	ug/kg	12/18/23	12/18/23
Dibromomethane	ND		4	ug/kg	12/18/23	12/18/23
1,2-Dichlorobenzene	ND		4	ug/kg	12/18/23	12/18/23
1,3-Dichlorobenzene	ND		4	ug/kg	12/18/23	12/18/23
1,4-Dichlorobenzene	ND		4	ug/kg	12/18/23	12/18/23
1,1-Dichloroethane	ND		4	ug/kg	12/18/23	12/18/23
1,2-Dichloroethane	ND		4	ug/kg	12/18/23	12/18/23
1,2 Dichloroethene, Total	ND		4	ug/kg	12/18/23	12/18/23
trans-1,2-Dichloroethene	ND		4	ug/kg	12/18/23	12/18/23
cis-1,2-Dichloroethene	ND		4	ug/kg	12/18/23	12/18/23
1,1-Dichloroethene	ND		4	ug/kg	12/18/23	12/18/23
1,2-Dichloropropane	ND		4	ug/kg	12/18/23	12/18/23
2,2-Dichloropropane	ND		4	ug/kg	12/18/23	12/18/23
cis-1,3-Dichloropropene	ND		4	ug/kg	12/18/23	12/18/23
trans-1,3-Dichloropropene	ND		4	ug/kg	12/18/23	12/18/23
1,1-Dichloropropene	ND		4	ug/kg	12/18/23	12/18/23
1,3-Dichloropropene (cis + trans)	ND		4	ug/kg	12/18/23	12/18/23
Diethyl ether	ND		4	ug/kg	12/18/23	12/18/23
1,4-Dioxane	ND		80	ug/kg	12/18/23	12/18/23
Ethylbenzene	ND		4	ug/kg	12/18/23	12/18/23
Hexachlorobutadiene	ND		4	ug/kg	12/18/23	12/18/23
2-Hexanone	ND		80	ug/kg	12/18/23	12/18/23
Isopropylbenzene	ND		4	ug/kg	12/18/23	12/18/23
p-Isopropyltoluene	ND		4	ug/kg	12/18/23	12/18/23
Methylene Chloride	ND		16	ug/kg	12/18/23	12/18/23

Results: Volatile Organic Compounds 8260C (5035-LL) (Continued)

Sample: LE-SE01 (Continued)

Lab Number: 3L14040-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
4-Methyl-2-pentanone	ND		80	ug/kg	12/18/23	12/18/23
Naphthalene	ND		4	ug/kg	12/18/23	12/18/23
n-Propylbenzene	ND		4	ug/kg	12/18/23	12/18/23
Styrene	ND		4	ug/kg	12/18/23	12/18/23
1,1,1,2-Tetrachloroethane	ND		4	ug/kg	12/18/23	12/18/23
Tetrachloroethene	ND		4	ug/kg	12/18/23	12/18/23
Tetrahydrofuran	ND		4	ug/kg	12/18/23	12/18/23
Toluene	ND		4	ug/kg	12/18/23	12/18/23
1,2,4-Trichlorobenzene	ND		4	ug/kg	12/18/23	12/18/23
1,2,3-Trichlorobenzene	ND		4	ug/kg	12/18/23	12/18/23
1,1,2-Trichloroethane	ND		4	ug/kg	12/18/23	12/18/23
1,1,1-Trichloroethane	ND		4	ug/kg	12/18/23	12/18/23
Trichloroethene	ND		4	ug/kg	12/18/23	12/18/23
1,2,3-Trichloropropane	ND		4	ug/kg	12/18/23	12/18/23
1,3,5-Trimethylbenzene	ND		4	ug/kg	12/18/23	12/18/23
1,2,4-Trimethylbenzene	ND		4	ug/kg	12/18/23	12/18/23
Vinyl Chloride	ND		4	ug/kg	12/18/23	12/18/23
o-Xylene	ND		4	ug/kg	12/18/23	12/18/23
m&p-Xylene	ND		8	ug/kg	12/18/23	12/18/23
Total xylenes	ND		4	ug/kg	12/18/23	12/18/23
1,1,1,2-Tetrachloroethane	ND		4	ug/kg	12/18/23	12/18/23
tert-Amyl methyl ether	ND		4	ug/kg	12/18/23	12/18/23
1,3-Dichloropropane	ND		4	ug/kg	12/18/23	12/18/23
Ethyl tert-butyl ether	ND		4	ug/kg	12/18/23	12/18/23
Diisopropyl ether	ND		4	ug/kg	12/18/23	12/18/23
Trichlorofluoromethane	ND		4	ug/kg	12/18/23	12/18/23
Dichlorodifluoromethane	ND		4	ug/kg	12/18/23	12/18/23
<hr/>						
Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	<i>104%</i>		<i>70-130</i>		12/18/23	12/18/23
<i>1,2-Dichloroethane-d4</i>	<i>110%</i>		<i>70-130</i>		12/18/23	12/18/23
<i>Toluene-d8</i>	<i>100%</i>		<i>70-130</i>		12/18/23	12/18/23

Results: Volatile Organic Compounds

Sample: LE-SW1
Lab Number: 3L14040-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		100	ug/l	12/20/23	12/20/23
Benzene	ND		1	ug/l	12/20/23	12/20/23
Bromobenzene	ND		1	ug/l	12/20/23	12/20/23
Bromochloromethane	ND		1	ug/l	12/20/23	12/20/23
Bromodichloromethane	ND		1	ug/l	12/20/23	12/20/23
Bromoform	ND		1	ug/l	12/20/23	12/20/23
Bromomethane	ND		1	ug/l	12/20/23	12/20/23
2-Butanone	ND		100	ug/l	12/20/23	12/20/23
tert-Butyl alcohol	ND		5	ug/l	12/20/23	12/20/23
sec-Butylbenzene	ND		1	ug/l	12/20/23	12/20/23
n-Butylbenzene	ND		1	ug/l	12/20/23	12/20/23
tert-Butylbenzene	ND		1	ug/l	12/20/23	12/20/23
Methyl t-butyl ether (MTBE)	ND		1	ug/l	12/20/23	12/20/23
Carbon Disulfide	ND		1	ug/l	12/20/23	12/20/23
Carbon Tetrachloride	ND		1	ug/l	12/20/23	12/20/23
Chlorobenzene	ND		1	ug/l	12/20/23	12/20/23
Chloroethane	ND		1	ug/l	12/20/23	12/20/23
Chloroform	ND		1	ug/l	12/20/23	12/20/23
Chloromethane	ND		1	ug/l	12/20/23	12/20/23
4-Chlorotoluene	ND		1	ug/l	12/20/23	12/20/23
2-Chlorotoluene	ND		1	ug/l	12/20/23	12/20/23
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	12/20/23	12/20/23
Dibromochloromethane	ND		1	ug/l	12/20/23	12/20/23
1,2-Dibromoethane (EDB)	ND		1	ug/l	12/20/23	12/20/23
Dibromomethane	ND		1	ug/l	12/20/23	12/20/23
1,2-Dichlorobenzene	ND		1	ug/l	12/20/23	12/20/23
1,3-Dichlorobenzene	ND		1	ug/l	12/20/23	12/20/23
1,4-Dichlorobenzene	ND		1	ug/l	12/20/23	12/20/23
1,1-Dichloroethane	ND		1	ug/l	12/20/23	12/20/23
1,2-Dichloroethane	ND		1	ug/l	12/20/23	12/20/23
1,2 Dichloroethene, Total	ND		1	ug/l	12/20/23	12/20/23
trans-1,2-Dichloroethene	ND		1	ug/l	12/20/23	12/20/23
cis-1,2-Dichloroethene	ND		1	ug/l	12/20/23	12/20/23
1,1-Dichloroethene	ND		1	ug/l	12/20/23	12/20/23
1,2-Dichloropropane	ND		1	ug/l	12/20/23	12/20/23
2,2-Dichloropropane	ND		1	ug/l	12/20/23	12/20/23
cis-1,3-Dichloropropene	ND		1	ug/l	12/20/23	12/20/23
trans-1,3-Dichloropropene	ND		1	ug/l	12/20/23	12/20/23
1,1-Dichloropropene	ND		1	ug/l	12/20/23	12/20/23
1,3-Dichloropropene (cis + trans)	ND		2	ug/l	12/20/23	12/20/23
Diethyl ether	ND		5	ug/l	12/20/23	12/20/23
1,4-Dioxane	ND		100	ug/l	12/20/23	12/20/23
Ethylbenzene	ND		1	ug/l	12/20/23	12/20/23
Hexachlorobutadiene	ND		1	ug/l	12/20/23	12/20/23
2-Hexanone	ND		100	ug/l	12/20/23	12/20/23
Isopropylbenzene	ND		1	ug/l	12/20/23	12/20/23
p-Isopropyltoluene	ND		1	ug/l	12/20/23	12/20/23
Methylene Chloride	ND		1	ug/l	12/20/23	12/20/23

Results: Volatile Organic Compounds (Continued)

Sample: LE-SW1 (Continued)

Lab Number: 3L14040-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
4-Methyl-2-pentanone	ND		100	ug/l	12/20/23	12/20/23
Naphthalene	ND		1	ug/l	12/20/23	12/20/23
n-Propylbenzene	ND		1	ug/l	12/20/23	12/20/23
Styrene	ND		1	ug/l	12/20/23	12/20/23
1,1,1,2-Tetrachloroethane	ND		1	ug/l	12/20/23	12/20/23
Tetrachloroethene	ND		1	ug/l	12/20/23	12/20/23
Tetrahydrofuran	ND		5	ug/l	12/20/23	12/20/23
Toluene	ND		1	ug/l	12/20/23	12/20/23
1,2,4-Trichlorobenzene	ND		1	ug/l	12/20/23	12/20/23
1,2,3-Trichlorobenzene	ND		1	ug/l	12/20/23	12/20/23
1,1,2-Trichloroethane	ND		1	ug/l	12/20/23	12/20/23
1,1,1-Trichloroethane	ND		1	ug/l	12/20/23	12/20/23
Trichloroethene	ND		1	ug/l	12/20/23	12/20/23
1,2,3-Trichloropropane	ND		1	ug/l	12/20/23	12/20/23
1,3,5-Trimethylbenzene	ND		1	ug/l	12/20/23	12/20/23
1,2,4-Trimethylbenzene	ND		1	ug/l	12/20/23	12/20/23
Vinyl Chloride	ND		1	ug/l	12/20/23	12/20/23
o-Xylene	ND		1	ug/l	12/20/23	12/20/23
m&p-Xylene	ND		2	ug/l	12/20/23	12/20/23
Total xylenes	ND		1	ug/l	12/20/23	12/20/23
1,1,1,2-Tetrachloroethane	ND		1	ug/l	12/20/23	12/20/23
tert-Amyl methyl ether	ND		1	ug/l	12/20/23	12/20/23
1,3-Dichloropropane	ND		1	ug/l	12/20/23	12/20/23
Ethyl tert-butyl ether	ND		1	ug/l	12/20/23	12/20/23
Diisopropyl ether	ND		1	ug/l	12/20/23	12/20/23
Trichlorofluoromethane	ND		1	ug/l	12/20/23	12/20/23
Dichlorodifluoromethane	ND		1	ug/l	12/20/23	12/20/23
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Surrogate(s)	Recovery%		Limits			
<hr/>						
<i>4-Bromofluorobenzene</i>	<i>97.5%</i>		<i>70-130</i>		<i>12/20/23</i>	<i>12/20/23</i>
<i>1,2-Dichloroethane-d4</i>	<i>104%</i>		<i>70-130</i>		<i>12/20/23</i>	<i>12/20/23</i>
<i>Toluene-d8</i>	<i>96.4%</i>		<i>70-130</i>		<i>12/20/23</i>	<i>12/20/23</i>

Volatile Petroleum Hydrocarbons
Sample: LE-SW1 (3L14040-01)

SAMPLE INFORMATION

Matrix	Water		
Containers	Satisfactory		
Sample Preservation	Aqueous	pH<2	
	Soil or Sediment	NA	
		Received in air-tight container	
Temperature	Received on Ice Received at: 4+/-2 C°		

VPH ANALYTICAL RESULTS

Method for Ranges: MADEP VPH-18-2.1	Client ID			LE-SW1		
Method for Target Analytes: MADEP VPH-18-2.1	Lab ID			3L14040-01		
VPH Surrogate Standards: PID: 2,5-Dibromotoluene FID: 2,5-Dibromotoluene	Date Collected			12/14/23		
	Date Received			12/14/23		
	% Moisture			NA		
RANGE/TARGET ANALYTE	Elution Range	Dilution	RL	Units	Result	Analyzed
Unadjusted C5-C8 Aliphatic Hydrocarbons [1]	NA	1X	100	ug/l	<100	12/15/23 10:27
C5-C8 Aliphatic Hydrocarbons [1,2]	NA	1X	100	ug/l	<100	12/15/23 10:27
C9-C12 Aliphatic Hydrocarbons [1,3]	NA	1X	150	ug/l	<150	12/15/23 10:27
C9-C10 Aromatic Hydrocarbons [1]	NA	1X	150	ug/l	<150	12/15/23 10:27
2,5-Dibromotoluene-PID				%	116	12/15/23 10:27
2,5-Dibromotoluene-FID				%	110	12/15/23 10:27
Surrogate Acceptance Range				%	70-130	

[1] Hydrocarbon Range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range

[2] C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

[3] C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C9-C10 Aromatic Hydrocarbons

Volatile Petroleum Hydrocarbons
Sample: LE-SE01 (3L14040-02)

SAMPLE INFORMATION

Matrix	Soil		
Containers	Satisfactory		
Sample Preservation	Aqueous	NA	
	Soil or Sediment	Preserved with methanol and/or in an air-tight container	
		Methanol preserved (covering sample)	
		Received in air-tight container	
Temperature	Received on Ice Received at: 4+/-2 C°		
		ml methanol per gram soil: 1:1 +/- 25%	

VPH ANALYTICAL RESULTS

Method for Ranges: MADEP VPH-18-2.1	Client ID			LE-SE01		
Method for Target Analytes: MADEP VPH-18-2.1	Lab ID			3L14040-02		
VPH Surrogate Standards: PID: 2,5-Dibromotoluene FID: 2,5-Dibromotoluene	Date Collected			12/14/23		
	Date Received			12/14/23		
	% Moisture			25.30		
RANGE/TARGET ANALYTE	Elution Range	Dilution	RL	Units	Result	Analyzed
Unadjusted C5-C8 Aliphatic Hydrocarbons [1]	NA	50X	16.8	mg/kg	<16.8	12/14/23 21:31
C5-C8 Aliphatic Hydrocarbons [1,2]	NA	50X	16.8	mg/kg	<16.8	12/14/23 21:31
C9-C12 Aliphatic Hydrocarbons [1,3]	NA	50X	21.0	mg/kg	<21.0	12/14/23 21:31
C9-C10 Aromatic Hydrocarbons [1]	NA	50X	21.0	mg/kg	<21.0	12/14/23 21:31
2,5-Dibromotoluene-PID				%	106	12/14/23 21:31
2,5-Dibromotoluene-FID				%	104	12/14/23 21:31
Surrogate Acceptance Range				%	70-130	

[1] Hydrocarbon Range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range

[2] C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

[3] C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C9-C10 Aromatic Hydrocarbons

**Extractable Petroleum Hydrocarbons
Sample: LE-SW1 (3L14040-01)**

SAMPLE INFORMATION

Matrix	Water
Containers	Satisfactory
Aqueous Preservatives	pH<2
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3510C

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 4-1.1		Client ID		LE-SW1		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		3L14040-01		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		12/14/23		
		Date Received		12/14/23		
		Date Thawed		NA		
		Date Extracted		12/15/23		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		NA		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	100	ug/l	<100	12/20/23 16:05
Diesel PAH Analytes	Naphthalene	1X	1.0	ug/l	<1.0	12/20/23 16:05
	2-Methylnaphthalene	1X	1.0	ug/l	<1.0	12/20/23 16:05
	Phenanthrene	1X	1.0	ug/l	<1.0	12/20/23 16:05
	Acenaphthene	1X	5.0	ug/l	<5.0	12/20/23 16:05
Other Target PAH Analytes	Acenaphthylene	1X	1.0	ug/l	<1.0	12/20/23 16:05
	Fluorene	1X	5.0	ug/l	<5.0	12/20/23 16:05
	Anthracene	1X	5.0	ug/l	<5.0	12/20/23 16:05
	Fluoranthene	1X	5.0	ug/l	<5.0	12/20/23 16:05
	Pyrene	1X	5.0	ug/l	<5.0	12/20/23 16:05
	Benzo(a)anthracene	1X	1.0	ug/l	<1.0	12/20/23 16:05
	Chrysene	1X	2.0	ug/l	<2.0	12/20/23 16:05
	Benzo(b)fluoranthene	1X	1.0	ug/l	<1.0	12/20/23 16:05
	Benzo(k)fluoranthene	1X	1.0	ug/l	<1.0	12/20/23 16:05
	Benzo(a)pyrene	1X	0.2	ug/l	<0.2	12/20/23 16:05
	Indeno(1,2,3-cd)pyrene	1X	0.5	ug/l	<0.5	12/20/23 16:05
	Dibenz(a,h)anthracene	1X	0.5	ug/l	<0.5	12/20/23 16:05
Benzo(g,h,i)perylene	1X	5.0	ug/l	<5.0	12/20/23 16:05	
C9-C18 Aliphatic Hydrocarbons [1]		1X	200	ug/l	<200	12/20/23 15:03
C19-C36 Aliphatic Hydrocarbons [1]		1X	200	ug/l	<200	12/20/23 15:03
C11-C22 Aromatic Hydrocarbons [1,2]		1X	100	ug/l	<100	12/20/23 16:05
Chlorooctadecane (Sample Surrogate)				%	46.2	12/20/23 15:03
o-Terphenyl (Sample Surrogate)				%	60.3	12/20/23 16:05
2-Fluorobiphenyl (Fractionation Surrogate)				%	95.6	12/20/23 16:05
2-Bromonaphthalene (Fractionation Surrogate)				%	102	12/20/23 16:05
Surrogate Acceptance Range [3]				%	40 - 140	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

Extractable Petroleum Hydrocarbons
Sample: LE-SE01 (3L14040-02)

SAMPLE INFORMATION

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 4-1.1		Client ID		LE-SE01		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		3L14040-02		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		12/14/23		
		Date Received		12/14/23		
		Date Thawed		NA		
		Date Extracted		12/15/23		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		25.30		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	17.8	mg/kg	<17.8	12/20/23 16:32
Diesel PAH Analytes	Naphthalene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	2-Methylnaphthalene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Phenanthrene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Acenaphthene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
Other Target PAH Analytes	Acenaphthylene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Fluorene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Anthracene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Fluoranthene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Pyrene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Benzo(a)anthracene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Chrysene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Benzo(b)fluoranthene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Benzo(k)fluoranthene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Benzo(a)pyrene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Indeno(1,2,3-cd)pyrene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
	Dibenz(a,h)anthracene	1X	0.88	mg/kg	<0.88	12/20/23 16:32
Benzo(g,h,i)perylene	1X	0.88	mg/kg	<0.88	12/20/23 16:32	
C9-C18 Aliphatic Hydrocarbons [1]		1X	35.4	mg/kg	<35.4	12/20/23 15:27
C19-C36 Aliphatic Hydrocarbons [1]		1X	35.4	mg/kg	<35.4	12/20/23 15:27
C11-C22 Aromatic Hydrocarbons [1,2]		1X	17.8	mg/kg	<17.8	12/20/23 16:32
Chlorooctadecane (Sample Surrogate)				%	42.6	12/20/23 15:27
o-Terphenyl (Sample Surrogate)				%	44.7	12/20/23 16:32
2-Fluorobiphenyl (Fractionation Surrogate)				%	99.4	12/20/23 16:32
2-Bromonaphthalene (Fractionation Surrogate)				%	98.8	12/20/23 16:32
Surrogate Acceptance Range [3]				%	40 - 140	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

Quality Control

Microbiology

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0824 - Microbiology										
Blank (B3L0824-BLK1)										
E. coli	<		1	MPN/100ml						Prepared & Analyzed: 12/14/23

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0785 - EPA 5035										
Blank (B3L0785-BLK1)					Prepared & Analyzed: 12/18/23					
Acetone	ND		5	ug/kg						
Benzene	ND		5	ug/kg						
Bromobenzene	ND		5	ug/kg						
Bromochloromethane	ND		5	ug/kg						
Bromodichloromethane	ND		5	ug/kg						
Bromoform	ND		5	ug/kg						
Bromomethane	ND		5	ug/kg						
2-Butanone	ND		5	ug/kg						
tert-Butyl alcohol	ND		5	ug/kg						
sec-Butylbenzene	ND		5	ug/kg						
n-Butylbenzene	ND		5	ug/kg						
tert-Butylbenzene	ND		5	ug/kg						
Methyl t-butyl ether (MTBE)	ND		5	ug/kg						
Carbon Disulfide	ND		5	ug/kg						
Carbon Tetrachloride	ND		5	ug/kg						
Chlorobenzene	ND		5	ug/kg						
Chloroethane	ND		5	ug/kg						
Chloroform	ND		5	ug/kg						
Chloromethane	ND		5	ug/kg						
4-Chlorotoluene	ND		5	ug/kg						
2-Chlorotoluene	ND		5	ug/kg						
1,2-Dibromo-3-chloropropane (DBCP)	ND		5	ug/kg						
Dibromochloromethane	ND		5	ug/kg						
1,2-Dibromoethane (EDB)	ND		5	ug/kg						
Dibromomethane	ND		5	ug/kg						
1,2-Dichlorobenzene	ND		5	ug/kg						
1,3-Dichlorobenzene	ND		5	ug/kg						
1,4-Dichlorobenzene	ND		5	ug/kg						
1,1-Dichloroethane	ND		5	ug/kg						
1,2-Dichloroethane	ND		5	ug/kg						
trans-1,2-Dichloroethene	ND		5	ug/kg						
1,2 Dichloroethene, Total	ND		5	ug/kg						
cis-1,2-Dichloroethene	ND		5	ug/kg						
1,1-Dichloroethene	ND		5	ug/kg						
1,2-Dichloropropane	ND		5	ug/kg						
2,2-Dichloropropane	ND		5	ug/kg						
cis-1,3-Dichloropropene	ND		5	ug/kg						
trans-1,3-Dichloropropene	ND		5	ug/kg						
1,1-Dichloropropene	ND		5	ug/kg						
1,3-Dichloropropene (cis + trans)	ND		5	ug/kg						
Diethyl ether	ND		5	ug/kg						
1,4-Dioxane	ND		100	ug/kg						
Ethylbenzene	ND		5	ug/kg						
Hexachlorobutadiene	ND		5	ug/kg						
2-Hexanone	ND		5	ug/kg						
Isopropylbenzene	ND		5	ug/kg						
p-Isopropyltoluene	ND		5	ug/kg						
Methylene Chloride	ND		15	ug/kg						
4-Methyl-2-pentanone	ND		5	ug/kg						
Naphthalene	ND		5	ug/kg						
n-Propylbenzene	ND		5	ug/kg						
Styrene	ND		5	ug/kg						
1,1,1,2-Tetrachloroethane	ND		5	ug/kg						
Tetrachloroethene	ND		5	ug/kg						
Tetrahydrofuran	ND		5	ug/kg						
Toluene	ND		5	ug/kg						
1,2,4-Trichlorobenzene	ND		5	ug/kg						

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0785 - EPA 5035 (Continued)										
Blank (B3L0785-BLK1)					Prepared & Analyzed: 12/18/23					
1,2,3-Trichlorobenzene	ND		5	ug/kg						
1,1,2-Trichloroethane	ND		5	ug/kg						
1,1,1-Trichloroethane	ND		5	ug/kg						
Trichloroethene	ND		5	ug/kg						
1,2,3-Trichloropropane	ND		5	ug/kg						
1,3,5-Trimethylbenzene	ND		5	ug/kg						
1,2,4-Trimethylbenzene	ND		5	ug/kg						
Vinyl Chloride	ND		5	ug/kg						
o-Xylene	ND		5	ug/kg						
m&p-Xylene	ND		10	ug/kg						
Total xylenes	ND		5	ug/kg						
1,1,2,2-Tetrachloroethane	ND		5	ug/kg						
tert-Amyl methyl ether	ND		5	ug/kg						
1,3-Dichloropropane	ND		5	ug/kg						
Ethyl tert-butyl ether	ND		5	ug/kg						
Diisopropyl ether	ND		5	ug/kg						
Trichlorofluoromethane	ND		5	ug/kg						
Dichlorodifluoromethane	ND		5	ug/kg						
<hr/>										
Surrogate: 4-Bromofluorobenzene			52.4	ug/kg	50.0		105	70-130		
Surrogate: 1,2-Dichloroethane-d4			55.0	ug/kg	50.0		110	70-130		
Surrogate: Toluene-d8			49.0	ug/kg	50.0		98.0	70-130		
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LCS (B3L0785-BS1)					Prepared & Analyzed: 12/18/23					
Acetone	103		5	ug/kg	50.0		206	50-150		
Benzene	48		5	ug/kg	50.0		95.6	70-130		
Bromobenzene	52		5	ug/kg	50.0		103	70-130		
Bromochloromethane	54		5	ug/kg	50.0		107	70-130		
Bromodichloromethane	54		5	ug/kg	50.0		108	70-130		
Bromoform	58		5	ug/kg	50.0		116	70-130		
Bromomethane	63		5	ug/kg	50.0		127	50-150		
2-Butanone	65		5	ug/kg	50.0		129	50-150		
tert-Butyl alcohol	59		5	ug/kg	50.0		118	70-130		
sec-Butylbenzene	53		5	ug/kg	50.0		106	70-130		
n-Butylbenzene	51		5	ug/kg	50.0		103	70-130		
tert-Butylbenzene	52		5	ug/kg	50.0		105	70-130		
Methyl t-butyl ether (MTBE)	56		5	ug/kg	50.0		112	70-130		
Carbon Disulfide	56		5	ug/kg	50.0		112	50-150		
Carbon Tetrachloride	52		5	ug/kg	50.0		104	70-130		
Chlorobenzene	47		5	ug/kg	50.0		94.8	70-130		
Chloroethane	54		5	ug/kg	50.0		107	50-150		
Chloroform	52		5	ug/kg	50.0		103	70-130		
Chloromethane	43		5	ug/kg	50.0		85.7	50-150		
4-Chlorotoluene	52		5	ug/kg	50.0		103	70-130		
2-Chlorotoluene	52		5	ug/kg	50.0		103	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	64		5	ug/kg	50.0		129	70-130		
Dibromochloromethane	57		5	ug/kg	50.0		113	70-130		
1,2-Dibromoethane (EDB)	53		5	ug/kg	50.0		106	70-130		
Dibromomethane	55		5	ug/kg	50.0		110	60-140		
1,2-Dichlorobenzene	51		5	ug/kg	50.0		101	70-130		
1,3-Dichlorobenzene	53		5	ug/kg	50.0		106	70-130		
1,4-Dichlorobenzene	48		5	ug/kg	50.0		96.3	70-130		
1,1-Dichloroethane	50		5	ug/kg	50.0		99.3	70-130		
1,2-Dichloroethane	56		5	ug/kg	50.0		112	70-130		
trans-1,2-Dichloroethene	51		5	ug/kg	50.0		103	70-130		
cis-1,2-Dichloroethene	49		5	ug/kg	50.0		98.9	70-130		
1,1-Dichloroethene	48		5	ug/kg	50.0		96.6	70-130		
1,2-Dichloropropane	49		5	ug/kg	50.0		98.7	70-130		

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0785 - EPA 5035 (Continued)										
LCS (B3L0785-BS1)					Prepared & Analyzed: 12/18/23					
2,2-Dichloropropane	54		5	ug/kg	50.0		108	70-130		
cis-1,3-Dichloropropene	50		5	ug/kg	50.0		99.8	70-130		
trans-1,3-Dichloropropene	60		5	ug/kg	50.0		119	70-130		
1,1-Dichloropropene	48		5	ug/kg	50.0		96.3	70-130		
Diethyl ether	59		5	ug/kg	50.0		117	60-140		
1,4-Dioxane	235		100	ug/kg	250		94.0	0-200		
Ethylbenzene	48		5	ug/kg	50.0		95.9	70-130		
Hexachlorobutadiene	53		5	ug/kg	50.0		106	70-130		
2-Hexanone	59		5	ug/kg	50.0		118	50-150		
Isopropylbenzene	51		5	ug/kg	50.0		102	70-130		
p-Isopropyltoluene	54		5	ug/kg	50.0		109	70-130		
Methylene Chloride	79		15	ug/kg	50.0		158	60-140		
4-Methyl-2-pentanone	59		5	ug/kg	50.0		118	50-150		
Naphthalene	59		5	ug/kg	50.0		118	70-130		
n-Propylbenzene	52		5	ug/kg	50.0		104	70-130		
Styrene	52		5	ug/kg	50.0		104	70-130		
1,1,1,2-Tetrachloroethane	51		5	ug/kg	50.0		102	70-130		
Tetrachloroethene	48		5	ug/kg	50.0		95.8	70-130		
Tetrahydrofuran	49		5	ug/kg	50.0		98.0	50-150		
Toluene	48		5	ug/kg	50.0		95.1	70-130		
1,2,4-Trichlorobenzene	54		5	ug/kg	50.0		107	70-130		
1,2,3-Trichlorobenzene	56		5	ug/kg	50.0		112	70-130		
1,1,2-Trichloroethane	49		5	ug/kg	50.0		98.9	70-130		
1,1,1-Trichloroethane	53		5	ug/kg	50.0		106	70-130		
Trichloroethene	47		5	ug/kg	50.0		94.1	70-130		
1,2,3-Trichloropropane	54		5	ug/kg	50.0		107	70-130		
1,3,5-Trimethylbenzene	54		5	ug/kg	50.0		108	70-130		
1,2,4-Trimethylbenzene	52		5	ug/kg	50.0		103	70-130		
Vinyl Chloride	45		5	ug/kg	50.0		89.6	50-150		
o-Xylene	49		5	ug/kg	50.0		97.5	70-130		
m&p-Xylene	95		10	ug/kg	100		94.9	70-130		
1,1,2,2-Tetrachloroethane	59		5	ug/kg	50.0		118	70-130		
tert-Amyl methyl ether	53		5	ug/kg	50.0		105	70-130		
1,3-Dichloropropane	51		5	ug/kg	50.0		103	70-130		
Ethyl tert-butyl ether	52		5	ug/kg	50.0		105	70-130		
Trichlorofluoromethane	56		5	ug/kg	50.0		112	50-150		
Dichlorodifluoromethane	52		5	ug/kg	50.0		105	50-150		
<hr/>										
Surrogate: 4-Bromofluorobenzene			54.2	ug/kg	50.0		108	70-130		
Surrogate: 1,2-Dichloroethane-d4			52.0	ug/kg	50.0		104	70-130		
Surrogate: Toluene-d8			49.2	ug/kg	50.0		98.4	70-130		

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0785 - EPA 5035 (Continued)					Prepared & Analyzed: 12/18/23					
LCS Dup (B3L0785-BSD1)										
Acetone	78		5	ug/kg	50.0		156	50-150	27.7	30
Benzene	49		5	ug/kg	50.0		98.9	70-130	3.37	20
Bromobenzene	55		5	ug/kg	50.0		110	70-130	6.62	20
Bromochloromethane	56		5	ug/kg	50.0		111	70-130	3.68	20
Bromodichloromethane	55		5	ug/kg	50.0		110	70-130	1.56	20
Bromoform	60		5	ug/kg	50.0		120	70-130	3.19	20
Bromomethane	74		5	ug/kg	50.0		149	50-150	15.7	30
2-Butanone	59		5	ug/kg	50.0		119	50-150	8.40	30
tert-Butyl alcohol	54		5	ug/kg	50.0		109	70-130	7.60	20
sec-Butylbenzene	55		5	ug/kg	50.0		111	70-130	4.72	20
n-Butylbenzene	54		5	ug/kg	50.0		108	70-130	4.93	20
tert-Butylbenzene	55		5	ug/kg	50.0		110	70-130	4.56	20
Methyl t-butyl ether (MTBE)	58		5	ug/kg	50.0		116	70-130	3.40	20
Carbon Disulfide	59		5	ug/kg	50.0		119	50-150	5.90	40
Carbon Tetrachloride	52		5	ug/kg	50.0		104	70-130	0.249	20
Chlorobenzene	51		5	ug/kg	50.0		101	70-130	6.53	20
Chloroethane	58		5	ug/kg	50.0		115	50-150	7.04	30
Chloroform	53		5	ug/kg	50.0		107	70-130	3.38	20
Chloromethane	41		5	ug/kg	50.0		81.9	50-150	4.51	30
4-Chlorotoluene	54		5	ug/kg	50.0		108	70-130	4.55	20
2-Chlorotoluene	54		5	ug/kg	50.0		108	70-130	4.55	20
1,2-Dibromo-3-chloropropane (DBCP)	64		5	ug/kg	50.0		128	70-130	0.342	20
Dibromochloromethane	58		5	ug/kg	50.0		116	70-130	2.25	20
1,2-Dibromoethane (EDB)	53		5	ug/kg	50.0		107	70-130	0.451	20
Dibromomethane	56		5	ug/kg	50.0		112	60-140	2.25	30
1,2-Dichlorobenzene	53		5	ug/kg	50.0		106	70-130	4.75	20
1,3-Dichlorobenzene	56		5	ug/kg	50.0		111	70-130	4.87	20
1,4-Dichlorobenzene	51		5	ug/kg	50.0		102	70-130	5.48	20
1,1-Dichloroethane	51		5	ug/kg	50.0		102	70-130	2.72	20
1,2-Dichloroethane	59		5	ug/kg	50.0		119	70-130	6.19	20
trans-1,2-Dichloroethene	53		5	ug/kg	50.0		107	70-130	3.93	20
cis-1,2-Dichloroethene	51		5	ug/kg	50.0		103	70-130	3.87	20
1,1-Dichloroethene	51		5	ug/kg	50.0		102	70-130	5.79	20
1,2-Dichloropropane	51		5	ug/kg	50.0		103	70-130	4.07	20
2,2-Dichloropropane	53		5	ug/kg	50.0		106	70-130	1.85	20
cis-1,3-Dichloropropene	52		5	ug/kg	50.0		105	70-130	4.89	20
trans-1,3-Dichloropropene	59		5	ug/kg	50.0		119	70-130	0.168	20
1,1-Dichloropropene	50		5	ug/kg	50.0		100	70-130	3.69	20
Diethyl ether	60		5	ug/kg	50.0		119	60-140	1.55	30
1,4-Dioxane	280		100	ug/kg	250		112	0-200	17.4	50
Ethylbenzene	51		5	ug/kg	50.0		103	70-130	6.83	20
Hexachlorobutadiene	56		5	ug/kg	50.0		111	70-130	5.24	20
2-Hexanone	58		5	ug/kg	50.0		117	50-150	0.700	20
Isopropylbenzene	53		5	ug/kg	50.0		107	70-130	5.05	20
p-Isopropyltoluene	57		5	ug/kg	50.0		113	70-130	4.41	20
Methylene Chloride	81		15	ug/kg	50.0		162	60-140	2.36	30
4-Methyl-2-pentanone	58		5	ug/kg	50.0		116	50-150	1.56	20
Naphthalene	65		5	ug/kg	50.0		129	70-130	8.77	20
n-Propylbenzene	54		5	ug/kg	50.0		108	70-130	4.12	20
Styrene	55		5	ug/kg	50.0		109	70-130	4.92	20
1,1,1,2-Tetrachloroethane	55		5	ug/kg	50.0		110	70-130	7.84	20
Tetrachloroethene	50		5	ug/kg	50.0		100	70-130	4.21	20
Tetrahydrofuran	50		5	ug/kg	50.0		99.8	50-150	1.82	40
Toluene	49		5	ug/kg	50.0		98.7	70-130	3.74	20
1,2,4-Trichlorobenzene	57		5	ug/kg	50.0		114	70-130	6.19	20
1,2,3-Trichlorobenzene	60		5	ug/kg	50.0		120	70-130	6.89	20
1,1,2-Trichloroethane	52		5	ug/kg	50.0		103	70-130	4.38	20

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0785 - EPA 5035 (Continued)										
LCS Dup (B3L0785-BSD1)					Prepared & Analyzed: 12/18/23					
1,1,1-Trichloroethane	54		5	ug/kg	50.0		109	70-130	2.10	20
Trichloroethene	49		5	ug/kg	50.0		97.5	70-130	3.59	20
1,2,3-Trichloropropane	57		5	ug/kg	50.0		114	70-130	5.64	20
1,3,5-Trimethylbenzene	56		5	ug/kg	50.0		112	70-130	3.45	20
1,2,4-Trimethylbenzene	54		5	ug/kg	50.0		109	70-130	5.19	20
Vinyl Chloride	48		5	ug/kg	50.0		96.9	50-150	7.85	30
o-Xylene	52		5	ug/kg	50.0		104	70-130	6.34	20
m&p-Xylene	100		10	ug/kg	100		99.7	70-130	4.97	20
1,1,2,2-Tetrachloroethane	62		5	ug/kg	50.0		124	70-130	5.60	20
tert-Amyl methyl ether	54		5	ug/kg	50.0		108	70-130	2.86	20
1,3-Dichloropropane	54		5	ug/kg	50.0		107	70-130	4.13	20
Ethyl tert-butyl ether	55		5	ug/kg	50.0		110	70-130	4.73	20
Trichlorofluoromethane	60		5	ug/kg	50.0		120	50-150	6.66	20
Dichlorodifluoromethane	58		5	ug/kg	50.0		115	50-150	9.82	30
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<i>Surrogate: 4-Bromofluorobenzene</i>			<i>53.9</i>	<i>ug/kg</i>	<i>50.0</i>		<i>108</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>50.1</i>	<i>ug/kg</i>	<i>50.0</i>		<i>100</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>			<i>47.7</i>	<i>ug/kg</i>	<i>50.0</i>		<i>95.4</i>	<i>70-130</i>		

Quality Control
(Continued)

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0960 - Purge-Trap										
Blank (B3L0960-BLK1)					Prepared & Analyzed: 12/20/23					
Acetone	ND		100	ug/l						
Benzene	ND		1	ug/l						
Bromobenzene	ND		1	ug/l						
Bromochloromethane	ND		1	ug/l						
Bromodichloromethane	ND		1	ug/l						
Bromoform	ND		1	ug/l						
Bromomethane	ND		1	ug/l						
2-Butanone	ND		100	ug/l						
tert-Butyl alcohol	ND		5	ug/l						
sec-Butylbenzene	ND		1	ug/l						
n-Butylbenzene	ND		1	ug/l						
tert-Butylbenzene	ND		1	ug/l						
Methyl t-butyl ether (MTBE)	ND		1	ug/l						
Carbon Disulfide	ND		1	ug/l						
Carbon Tetrachloride	ND		1	ug/l						
Chlorobenzene	ND		1	ug/l						
Chloroethane	ND		1	ug/l						
Chloroform	ND		1	ug/l						
Chloromethane	ND		1	ug/l						
4-Chlorotoluene	ND		1	ug/l						
2-Chlorotoluene	ND		1	ug/l						
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l						
Dibromochloromethane	ND		1	ug/l						
1,2-Dibromoethane (EDB)	ND		1	ug/l						
Dibromomethane	ND		1	ug/l						
1,2-Dichlorobenzene	ND		1	ug/l						
1,3-Dichlorobenzene	ND		1	ug/l						
1,4-Dichlorobenzene	ND		1	ug/l						
1,1-Dichloroethane	ND		1	ug/l						
1,2-Dichloroethane	ND		1	ug/l						
trans-1,2-Dichloroethene	ND		1	ug/l						
1,2 Dichloroethene, Total	ND		1	ug/l						
cis-1,2-Dichloroethene	ND		1	ug/l						
1,1-Dichloroethene	ND		1	ug/l						
1,2-Dichloropropane	ND		1	ug/l						
2,2-Dichloropropane	ND		1	ug/l						
cis-1,3-Dichloropropene	ND		1	ug/l						
trans-1,3-Dichloropropene	ND		1	ug/l						
1,1-Dichloropropene	ND		1	ug/l						
1,3-Dichloropropene (cis + trans)	ND		2	ug/l						
Diethyl ether	ND		5	ug/l						
1,4-Dioxane	ND		100	ug/l						
Ethylbenzene	ND		1	ug/l						
Hexachlorobutadiene	ND		1	ug/l						
2-Hexanone	ND		100	ug/l						
Isopropylbenzene	ND		1	ug/l						
p-Isopropyltoluene	ND		1	ug/l						
Methylene Chloride	ND		1	ug/l						
4-Methyl-2-pentanone	ND		100	ug/l						
Naphthalene	ND		1	ug/l						
n-Propylbenzene	ND		1	ug/l						
Styrene	ND		1	ug/l						
1,1,1,2-Tetrachloroethane	ND		1	ug/l						
Tetrachloroethene	ND		1	ug/l						
Tetrahydrofuran	ND		5	ug/l						
Toluene	ND		1	ug/l						
1,2,4-Trichlorobenzene	ND		1	ug/l						

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0960 - Purge-Trap (Continued)										
Blank (B3L0960-BLK1)					Prepared & Analyzed: 12/20/23					
1,2,3-Trichlorobenzene	ND		1	ug/l						
1,1,2-Trichloroethane	ND		1	ug/l						
1,1,1-Trichloroethane	ND		1	ug/l						
Trichloroethene	ND		1	ug/l						
1,2,3-Trichloropropane	ND		1	ug/l						
1,3,5-Trimethylbenzene	ND		1	ug/l						
1,2,4-Trimethylbenzene	ND		1	ug/l						
Vinyl Chloride	ND		1	ug/l						
o-Xylene	ND		1	ug/l						
m&p-Xylene	ND		2	ug/l						
Total xylenes	ND		1	ug/l						
1,1,2,2-Tetrachloroethane	ND		1	ug/l						
tert-Amyl methyl ether	ND		1	ug/l						
1,3-Dichloropropane	ND		1	ug/l						
Ethyl tert-butyl ether	ND		1	ug/l						
Diisopropyl ether	ND		1	ug/l						
Trichlorofluoromethane	ND		1	ug/l						
Dichlorodifluoromethane	ND		1	ug/l						
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Surrogate: 4-Bromofluorobenzene			48.3	ug/l	50.0		96.6	70-130		
Surrogate: 1,2-Dichloroethane-d4			50.5	ug/l	50.0		101	70-130		
Surrogate: Toluene-d8			47.9	ug/l	50.0		95.7	70-130		
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LCS (B3L0960-BS1)					Prepared & Analyzed: 12/20/23					
Acetone	26		5	ug/l	50.0		52.8	50-150		
Benzene	46		1	ug/l	50.0		91.3	70-130		
Bromobenzene	47		1	ug/l	50.0		93.3	70-130		
Bromochloromethane	45		1	ug/l	50.0		90.2	70-130		
Bromodichloromethane	48		1	ug/l	50.0		96.0	70-130		
Bromoform	40		1	ug/l	50.0		79.1	70-130		
Bromomethane	70		1	ug/l	50.0		139	50-150		
2-Butanone	32		5	ug/l	50.0		63.1	50-150		
tert-Butyl alcohol	52		5	ug/l	50.0		104	70-130		
sec-Butylbenzene	50		1	ug/l	50.0		100	70-130		
n-Butylbenzene	54		1	ug/l	50.0		109	70-130		
tert-Butylbenzene	49		1	ug/l	50.0		98.5	70-130		
Methyl t-butyl ether (MTBE)	48		1	ug/l	50.0		96.0	70-130		
Carbon Disulfide	52		1	ug/l	50.0		104	50-150		
Carbon Tetrachloride	49		1	ug/l	50.0		97.5	70-130		
Chlorobenzene	49		1	ug/l	50.0		97.4	70-130		
Chloroethane	57		1	ug/l	50.0		114	50-150		
Chloroform	50		1	ug/l	50.0		99.2	70-130		
Chloromethane	43		1	ug/l	50.0		86.5	50-150		
4-Chlorotoluene	51		1	ug/l	50.0		102	70-130		
2-Chlorotoluene	49		1	ug/l	50.0		97.3	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	37		1	ug/l	50.0		74.5	70-130		
Dibromochloromethane	43		1	ug/l	50.0		85.2	70-130		
1,2-Dibromoethane (EDB)	46		1	ug/l	50.0		91.8	70-130		
Dibromomethane	46		1	ug/l	50.0		92.5	70-130		
1,2-Dichlorobenzene	50		1	ug/l	50.0		99.4	70-130		
1,3-Dichlorobenzene	51		1	ug/l	50.0		102	70-130		
1,4-Dichlorobenzene	47		1	ug/l	50.0		94.3	70-130		
1,1-Dichloroethane	51		1	ug/l	50.0		101	70-130		
1,2-Dichloroethane	54		1	ug/l	50.0		109	70-130		
trans-1,2-Dichloroethene	49		1	ug/l	50.0		97.6	70-130		
cis-1,2-Dichloroethene	44		1	ug/l	50.0		88.2	70-130		
1,1-Dichloroethene	47		1	ug/l	50.0		94.0	70-130		
1,2-Dichloropropane	48		1	ug/l	50.0		95.6	70-130		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0960 - Purge-Trap (Continued)					Prepared & Analyzed: 12/20/23					
LCS (B3L0960-BS1)										
2,2-Dichloropropane	49		1	ug/l	50.0		98.8	70-130		
cis-1,3-Dichloropropene	48		1	ug/l	50.0		95.1	70-130		
trans-1,3-Dichloropropene	49		1	ug/l	50.0		98.9	70-130		
1,1-Dichloropropene	48		1	ug/l	50.0		95.1	70-130		
Diethyl ether	55		5	ug/l	50.0		110	70-130		
1,4-Dioxane	164		100	ug/l	250		65.8	50-150		
Ethylbenzene	50		1	ug/l	50.0		100	70-130		
Hexachlorobutadiene	51		1	ug/l	50.0		102	70-130		
2-Hexanone	36		5	ug/l	50.0		71.4	50-150		
Isopropylbenzene	50		1	ug/l	50.0		99.4	70-130		
p-Isopropyltoluene	51		1	ug/l	50.0		101	70-130		
Methylene Chloride	49		1	ug/l	50.0		97.8	70-130		
4-Methyl-2-pentanone	48		5	ug/l	50.0		95.7	50-150		
Naphthalene	42		1	ug/l	50.0		84.4	70-130		
n-Propylbenzene	52		1	ug/l	50.0		105	70-130		
Styrene	49		1	ug/l	50.0		98.5	70-130		
1,1,1,2-Tetrachloroethane	47		1	ug/l	50.0		93.8	70-130		
Tetrachloroethene	45		1	ug/l	50.0		90.5	70-130		
Tetrahydrofuran	43		5	ug/l	50.0		86.6	50-150		
Toluene	45		1	ug/l	50.0		89.9	70-130		
1,2,4-Trichlorobenzene	52		1	ug/l	50.0		105	70-130		
1,2,3-Trichlorobenzene	52		1	ug/l	50.0		105	70-130		
1,1,2-Trichloroethane	43		1	ug/l	50.0		86.4	70-130		
1,1,1-Trichloroethane	50		1	ug/l	50.0		99.3	70-130		
Trichloroethene	44		1	ug/l	50.0		88.2	70-130		
1,2,3-Trichloropropane	51		1	ug/l	50.0		102	70-130		
1,3,5-Trimethylbenzene	51		1	ug/l	50.0		102	70-130		
1,2,4-Trimethylbenzene	50		1	ug/l	50.0		99.3	70-130		
Vinyl Chloride	46		1	ug/l	50.0		92.0	50-150		
o-Xylene	48		1	ug/l	50.0		96.2	70-130		
m&p-Xylene	97		2	ug/l	100		96.6	70-130		
1,1,2,2-Tetrachloroethane	48		1	ug/l	50.0		95.1	70-130		
tert-Amyl methyl ether	47		1	ug/l	50.0		93.1	70-130		
1,3-Dichloropropane	49		1	ug/l	50.0		97.1	70-130		
Ethyl tert-butyl ether	49		1	ug/l	50.0		97.5	70-130		
Trichlorofluoromethane	55		1	ug/l	50.0		110	50-150		
Dichlorodifluoromethane	36		1	ug/l	50.0		72.5	50-150		
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Surrogate: 4-Bromofluorobenzene			50.5	ug/l	50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4			51.6	ug/l	50.0		103	70-130		
Surrogate: Toluene-d8			48.4	ug/l	50.0		96.9	70-130		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0960 - Purge-Trap (Continued)					Prepared & Analyzed: 12/20/23					
LCS Dup (B3L0960-BSD1)										
Acetone	25		5	ug/l	50.0		50.6	50-150	4.26	20
Benzene	47		1	ug/l	50.0		93.7	70-130	2.57	20
Bromobenzene	48		1	ug/l	50.0		95.6	70-130	2.39	20
Bromochloromethane	46		1	ug/l	50.0		92.2	70-130	2.13	20
Bromodichloromethane	47		1	ug/l	50.0		93.6	70-130	2.51	20
Bromoform	41		1	ug/l	50.0		81.7	70-130	3.21	20
Bromomethane	71		1	ug/l	50.0		142	50-150	1.87	20
2-Butanone	34		5	ug/l	50.0		67.5	50-150	6.77	20
tert-Butyl alcohol	53		5	ug/l	50.0		107	70-130	3.19	20
sec-Butylbenzene	51		1	ug/l	50.0		102	70-130	1.82	20
n-Butylbenzene	55		1	ug/l	50.0		110	70-130	0.933	20
tert-Butylbenzene	50		1	ug/l	50.0		99.7	70-130	1.25	20
Methyl t-butyl ether (MTBE)	48		1	ug/l	50.0		96.5	70-130	0.499	20
Carbon Disulfide	53		1	ug/l	50.0		106	50-150	1.33	20
Carbon Tetrachloride	50		1	ug/l	50.0		99.2	70-130	1.65	20
Chlorobenzene	50		1	ug/l	50.0		99.1	70-130	1.71	20
Chloroethane	62		1	ug/l	50.0		124	50-150	8.63	20
Chloroform	52		1	ug/l	50.0		103	70-130	3.76	20
Chloromethane	44		1	ug/l	50.0		87.2	50-150	0.806	20
4-Chlorotoluene	53		1	ug/l	50.0		105	70-130	3.20	20
2-Chlorotoluene	50		1	ug/l	50.0		100	70-130	2.98	20
1,2-Dibromo-3-chloropropane (DBCP)	37		1	ug/l	50.0		73.0	70-130	2.01	20
Dibromochloromethane	44		1	ug/l	50.0		87.7	70-130	2.89	20
1,2-Dibromoethane (EDB)	46		1	ug/l	50.0		92.5	70-130	0.738	20
Dibromomethane	45		1	ug/l	50.0		91.0	70-130	1.70	20
1,2-Dichlorobenzene	51		1	ug/l	50.0		102	70-130	3.05	20
1,3-Dichlorobenzene	51		1	ug/l	50.0		102	70-130	0.489	20
1,4-Dichlorobenzene	47		1	ug/l	50.0		93.6	70-130	0.745	20
1,1-Dichloroethane	51		1	ug/l	50.0		102	70-130	0.926	20
1,2-Dichloroethane	54		1	ug/l	50.0		108	70-130	0.627	20
trans-1,2-Dichloroethene	49		1	ug/l	50.0		97.8	70-130	0.184	20
cis-1,2-Dichloroethene	46		1	ug/l	50.0		91.3	70-130	3.39	20
1,1-Dichloroethene	49		1	ug/l	50.0		97.3	70-130	3.43	20
1,2-Dichloropropane	50		1	ug/l	50.0		99.8	70-130	4.32	20
2,2-Dichloropropane	50		1	ug/l	50.0		99.8	70-130	0.987	20
cis-1,3-Dichloropropene	49		1	ug/l	50.0		98.5	70-130	3.49	20
trans-1,3-Dichloropropene	51		1	ug/l	50.0		101	70-130	2.22	20
1,1-Dichloropropene	49		1	ug/l	50.0		98.9	70-130	3.90	20
Diethyl ether	56		5	ug/l	50.0		111	70-130	0.739	20
1,4-Dioxane	178		100	ug/l	250		71.4	50-150	8.16	20
Ethylbenzene	51		1	ug/l	50.0		102	70-130	1.69	20
Hexachlorobutadiene	52		1	ug/l	50.0		103	70-130	1.50	20
2-Hexanone	37		5	ug/l	50.0		73.1	50-150	2.30	20
Isopropylbenzene	51		1	ug/l	50.0		102	70-130	2.72	20
p-Isopropyltoluene	51		1	ug/l	50.0		103	70-130	1.24	20
Methylene Chloride	49		1	ug/l	50.0		98.7	70-130	0.977	20
4-Methyl-2-pentanone	48		5	ug/l	50.0		95.8	50-150	0.146	20
Naphthalene	45		1	ug/l	50.0		89.9	70-130	6.36	20
n-Propylbenzene	54		1	ug/l	50.0		107	70-130	1.91	20
Styrene	50		1	ug/l	50.0		100	70-130	1.59	20
1,1,1,2-Tetrachloroethane	48		1	ug/l	50.0		96.4	70-130	2.71	20
Tetrachloroethene	47		1	ug/l	50.0		93.0	70-130	2.79	20
Tetrahydrofuran	45		5	ug/l	50.0		89.0	50-150	2.73	20
Toluene	48		1	ug/l	50.0		95.6	70-130	6.19	20
1,2,4-Trichlorobenzene	51		1	ug/l	50.0		102	70-130	2.45	20
1,2,3-Trichlorobenzene	54		1	ug/l	50.0		108	70-130	2.80	20
1,1,2-Trichloroethane	48		1	ug/l	50.0		96.7	70-130	11.2	20

**Quality Control
(Continued)**

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0960 - Purge-Trap (Continued)					Prepared & Analyzed: 12/20/23					
LCS Dup (B3L0960-BSD1)										
1,1,1-Trichloroethane	52		1	ug/l	50.0		104	70-130	4.93	20
Trichloroethene	45		1	ug/l	50.0		90.6	70-130	2.69	20
1,2,3-Trichloropropane	52		1	ug/l	50.0		104	70-130	1.51	20
1,3,5-Trimethylbenzene	52		1	ug/l	50.0		104	70-130	1.89	20
1,2,4-Trimethylbenzene	51		1	ug/l	50.0		101	70-130	1.84	20
Vinyl Chloride	47		1	ug/l	50.0		94.5	50-150	2.70	20
o-Xylene	49		1	ug/l	50.0		97.9	70-130	1.77	20
m&p-Xylene	99		2	ug/l	100		99.3	70-130	2.74	20
1,1,1,2-Tetrachloroethane	48		1	ug/l	50.0		96.2	70-130	1.19	20
tert-Amyl methyl ether	48		1	ug/l	50.0		96.1	70-130	3.17	20
1,3-Dichloropropane	50		1	ug/l	50.0		99.6	70-130	2.56	20
Ethyl tert-butyl ether	50		1	ug/l	50.0		99.8	70-130	2.29	20
Trichlorofluoromethane	57		1	ug/l	50.0		114	50-150	3.30	20
Dichlorodifluoromethane	37		1	ug/l	50.0		73.2	50-150	1.04	20
<hr/>										
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>51.2</i>	<i>ug/l</i>	<i>50.0</i>		<i>102</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>50.4</i>	<i>ug/l</i>	<i>50.0</i>		<i>101</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>			<i>48.6</i>	<i>ug/l</i>	<i>50.0</i>		<i>97.3</i>	<i>70-130</i>		

Quality Control
(Continued)

Volatile Petroleum Hydrocarbons (MADEP-VPH)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0673 - MADEP VPH										
Blank (B3L0673-BLK1)					Prepared & Analyzed: 12/14/23					
Unadjusted C5-C8 Aliphatic Hydrocarbons	ND		10.0	mg/kg						
C5-C8 Aliphatic Hydrocarbons	ND		10.0	mg/kg						
C9-C12 Aliphatic Hydrocarbons	ND		12.5	mg/kg						
C9-C10 Aromatic Hydrocarbons	ND		12.5	mg/kg						
<i>Surrogate: 2,5- Dibromotoluene-PID</i>			57.5	ug/l	50.0		115	70-130		
<i>Surrogate: 2,5- Dibromotoluene-FID</i>			52.8	ug/l	50.0		106	70-130		
LCS (B3L0673-BS1)					Prepared & Analyzed: 12/14/23					
n-Butylcyclohexane	2.1		250	mg/kg	2.50		83.0	70-130		
n-Pentane	2.3		250	mg/kg	2.50		92.4	70-130		
1,2,4-Trimethylbenzene	2.5		0.5	mg/kg	2.50		102	70-130		
VPH_LCS_Aliphatic_C5-C8	6.9		0.5	mg/kg	7.50		91.4	70-130		
VPH_LCS_Aliphatic_C9-C12	4.1		0.5	mg/kg	5.00		82.0	70-130		
VPH_LCS_Aromatic_C9-C10	2.5		0.5	mg/kg	2.50		102	70-130		
2,2,4-Trimethylpentane	2.4		0.2	mg/kg	2.50		94.2	70-130		
<i>Surrogate: 2,5- Dibromotoluene-PID</i>			56.8	ug/l	50.0		114	70-130		
<i>Surrogate: 2,5- Dibromotoluene-FID</i>			52.7	ug/l	50.0		105	70-130		
LCS Dup (B3L0673-BSD1)					Prepared & Analyzed: 12/14/23					
n-Butylcyclohexane	1.9		250	mg/kg	2.50		75.4	70-130	9.62	25
n-Pentane	2.2		250	mg/kg	2.50		86.2	70-130	6.92	25
1,2,4-Trimethylbenzene	2.6		0.5	mg/kg	2.50		103	70-130	0.861	25
VPH_LCS_Aliphatic_C5-C8	6.3		0.5	mg/kg	7.50		84.3	70-130	8.03	25
VPH_LCS_Aliphatic_C9-C12	3.7		0.5	mg/kg	5.00		73.5	70-130	10.9	25
VPH_LCS_Aromatic_C9-C10	2.6		0.5	mg/kg	2.50		103	70-130	0.861	25
2,2,4-Trimethylpentane	2.1		0.2	mg/kg	2.50		85.0	70-130	10.2	25
<i>Surrogate: 2,5- Dibromotoluene-PID</i>			58.6	ug/l	50.0		117	70-130		
<i>Surrogate: 2,5- Dibromotoluene-FID</i>			54.3	ug/l	50.0		109	70-130		

Quality Control
(Continued)

Volatile Petroleum Hydrocarbons (MADEP-VPH) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0674 - MADEP VPH										
Blank (B3L0674-BLK1)					Prepared & Analyzed: 12/15/23					
Unadjusted C5-C8 Aliphatic Hydrocarbons	ND		100	ug/l						
C5-C8 Aliphatic Hydrocarbons	ND		100	ug/l						
C9-C12 Aliphatic Hydrocarbons	ND		150	ug/l						
C9-C10 Aromatic Hydrocarbons	ND		150	ug/l						

<i>Surrogate: 2,5- Dibromotoluene-PID</i>			<i>59.4</i>	<i>ug/l</i>	<i>50.0</i>		<i>119</i>	<i>70-130</i>		
<i>Surrogate: 2,5- Dibromotoluene-FID</i>			<i>56.9</i>	<i>ug/l</i>	<i>50.0</i>		<i>114</i>	<i>70-130</i>		
LCS (B3L0674-BS1)					Prepared & Analyzed: 12/15/23					
n-Butylcyclohexane	42.1		5.0	ug/l	50.0		84.1	70-130		
n-Pentane	47.7		5.0	ug/l	50.0		95.3	70-130		
1,2,4-Trimethylbenzene	50.2		10.0	ug/l	50.0		100	70-130		
VPH_LCS_Aliphatic_C5-C8	140		5.0	ug/l	150		93.5	70-130		
VPH_LCS_Aliphatic_C9-C12	82.6		10.0	ug/l	100		82.6	70-130		
2,2,4-Trimethylpentane	47.7		5.0	ug/l	50.0		95.3	70-130		
VPH_LCS_Aromatic_C9-C10	50.2		10.0	ug/l	50.0		100	70-130		

<i>Surrogate: 2,5- Dibromotoluene-PID</i>			<i>58.2</i>	<i>ug/l</i>	<i>50.0</i>		<i>116</i>	<i>70-130</i>		
<i>Surrogate: 2,5- Dibromotoluene-FID</i>			<i>56.3</i>	<i>ug/l</i>	<i>50.0</i>		<i>113</i>	<i>70-130</i>		
LCS Dup (B3L0674-BSD1)					Prepared & Analyzed: 12/15/23					
n-Butylcyclohexane	37.6		5.0	ug/l	50.0		75.3	70-130	11.1	25
n-Pentane	43.8		5.0	ug/l	50.0		87.6	70-130	8.49	25
1,2,4-Trimethylbenzene	49.5		10.0	ug/l	50.0		98.9	70-130	1.56	25
VPH_LCS_Aliphatic_C5-C8	129		5.0	ug/l	150		85.7	70-130	8.65	25
VPH_LCS_Aliphatic_C9-C12	72.8		10.0	ug/l	100		72.8	70-130	12.6	25
VPH_LCS_Aromatic_C9-C10	49.5		10.0	ug/l	50.0		98.9	70-130	1.56	25
2,2,4-Trimethylpentane	43.4		5.0	ug/l	50.0		86.8	70-130	9.33	25

<i>Surrogate: 2,5- Dibromotoluene-PID</i>			<i>59.9</i>	<i>ug/l</i>	<i>50.0</i>		<i>120</i>	<i>70-130</i>		
<i>Surrogate: 2,5- Dibromotoluene-FID</i>			<i>56.5</i>	<i>ug/l</i>	<i>50.0</i>		<i>113</i>	<i>70-130</i>		

Quality Control
(Continued)

Extractable Petroleum Hydrocarbons (MADEP-EPH)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0678 - 2_Sep-Funnel-extraction (Aqueous)										
Blank (B3L0678-BLK1)										
					Prepared: 12/15/23 Analyzed: 12/18/23					
Unadjusted C11-C22 Aromatic Hydrocarbons	ND		100	ug/l						
Naphthalene	ND		1.0	ug/l						
2-Methylnaphthalene	ND		1.0	ug/l						
Phenanthrene	ND		1.0	ug/l						
Acenaphthene	ND		5.0	ug/l						
Acenaphthylene	ND		1.0	ug/l						
Fluorene	ND		5.0	ug/l						
Anthracene	ND		5.0	ug/l						
Fluoranthene	ND		5.0	ug/l						
Pyrene	ND		5.0	ug/l						
Benzo(a)anthracene	ND		1.0	ug/l						
Chrysene	ND		2.0	ug/l						
Benzo(b)fluoranthene	ND		1.0	ug/l						
Benzo(k)fluoranthene	ND		1.0	ug/l						
Benzo(a)pyrene	ND		0.2	ug/l						
Indeno(1,2,3-cd)pyrene	ND		0.5	ug/l						
Dibenz(a,h)anthracene	ND		0.5	ug/l						
Benzo(g,h,i)perylene	ND		5.0	ug/l						
C9-C18 Aliphatic Hydrocarbons	ND		200	ug/l						
C19-C36 Aliphatic Hydrocarbons	ND		200	ug/l						
C11-C22 Aromatic Hydrocarbons	ND		100	ug/l						
<hr/>										
<i>Surrogate: Chlorooctadecane</i>			56.3	ug/l	125		45.0	40-140		
<i>Surrogate: o-Terphenyl</i>			56.0	ug/l	125		44.8	40-140		
<i>Surrogate: 2-Fluorobiphenyl</i>			35.3	ug/l	50.0		70.6	40-140		
<i>Surrogate: 2-Bromonaphthalene</i>			36.4	ug/l	50.0		72.8	40-140		
<hr/>										
LCS (B3L0678-BS1)										
					Prepared: 12/15/23 Analyzed: 12/18/23					
Naphthalene	20.8		1.0	ug/l	40.0		52.1	40-140		
2-Methylnaphthalene	17.5		1.0	ug/l	40.0		43.8	40-140		
Phenanthrene	18.3		1.0	ug/l	40.0		45.7	40-140		
Acenaphthene	17.8		5.0	ug/l	40.0		44.5	40-140		
Acenaphthylene	17.0		1.0	ug/l	40.0		42.6	40-140		
Fluorene	17.6		5.0	ug/l	40.0		43.9	40-140		
Anthracene	21.1		5.0	ug/l	40.0		52.8	40-140		
Fluoranthene	23.4		5.0	ug/l	40.0		58.6	40-140		
Pyrene	22.9		5.0	ug/l	40.0		57.3	40-140		
Benzo(a)anthracene	31.3		1.0	ug/l	40.0		78.3	40-140		
Chrysene	27.5		2.0	ug/l	40.0		68.8	40-140		
Benzo(b)fluoranthene	32.8		1.0	ug/l	40.0		82.1	40-140		
Benzo(k)fluoranthene	36.3		1.0	ug/l	40.0		90.8	40-140		
Benzo(a)pyrene	27.8		0.2	ug/l	40.0		69.6	40-140		
Indeno(1,2,3-cd)pyrene	32.0		0.5	ug/l	40.0		79.9	40-140		
Dibenz(a,h)anthracene	30.8		0.5	ug/l	40.0		77.1	40-140		
Benzo(g,h,i)perylene	35.3		5.0	ug/l	40.0		88.3	40-140		
Nonane	12.8		5.0	ug/l	40.0		32.0	30-140		
Decane	17.9		5.0	ug/l	40.0		44.8	40-140		
Dodecane	16.4		5.0	ug/l	40.0		41.0	40-140		
Tetradecane	16.1		5.0	ug/l	40.0		40.2	40-140		
Hexadecane	17.4		5.0	ug/l	40.0		43.4	40-140		
Octadecane	16.9		5.0	ug/l	40.0		42.2	40-140		
Nonadecane	18.5		5.0	ug/l	40.0		46.2	40-140		
Eicosane	20.0		5.0	ug/l	40.0		50.1	40-140		
Docosane	21.7		5.0	ug/l	40.0		54.3	40-140		
Tetracosane	22.4		5.0	ug/l	40.0		56.1	40-140		
Hexacosane	22.7		5.0	ug/l	40.0		56.7	40-140		
Octacosane	22.1		5.0	ug/l	40.0		55.3	40-140		
triacontane	21.3		5.0	ug/l	40.0		53.2	40-140		

Quality Control
(Continued)

Extractable Petroleum Hydrocarbons (MADEP-EPH) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0678 - 2_Sep-Funnel-extraction (Aqueous) (Continued)										
LCS (B3L0678-BS1)					Prepared: 12/15/23 Analyzed: 12/18/23					
Hexatriacontane	16.2		5.0	ug/l	40.0		40.5	40-140		
EPH_LCS_Aliphatic_C19-C36	165		0.0	ug/l	320		51.6	40-140		
EPH_LCS_Aliphatic_C9-C18	97.4		0.0	ug/l	240		40.6	40-140		
EPH_LCS_Aromatic_C11-C22	430		0.0	ug/l	680		63.3	40-140		
<hr/>										
<i>Surrogate: Chlorooctadecane</i>			<i>64.8</i>	<i>ug/l</i>	<i>125</i>		<i>51.9</i>	<i>40-140</i>		
<i>Surrogate: o-Terphenyl</i>			<i>58.9</i>	<i>ug/l</i>	<i>125</i>		<i>47.1</i>	<i>40-140</i>		
<i>Surrogate: 2-Fluorobiphenyl</i>			<i>35.4</i>	<i>ug/l</i>	<i>50.0</i>		<i>70.8</i>	<i>40-140</i>		
<i>Surrogate: 2-Bromonaphthalene</i>			<i>35.4</i>	<i>ug/l</i>	<i>50.0</i>		<i>70.7</i>	<i>40-140</i>		
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LCS Dup (B3L0678-BSD1)					Prepared: 12/15/23 Analyzed: 12/18/23					
Naphthalene	17.5		1.0	ug/l	40.0		43.8	40-140	17.3	25
2-Methylnaphthalene	17.6		1.0	ug/l	40.0		44.0	40-140	0.228	25
Phenanthrene	22.9		1.0	ug/l	40.0		57.3	40-140	22.5	25
Acenaphthene	19.0		5.0	ug/l	40.0		47.5	40-140	6.52	25
Acenaphthylene	19.3		1.0	ug/l	40.0		48.2	40-140	12.3	25
Fluorene	20.4		5.0	ug/l	40.0		51.0	40-140	14.9	25
Anthracene	22.9		5.0	ug/l	40.0		57.3	40-140	8.27	25
Fluoranthene	27.8		5.0	ug/l	40.0		69.4	40-140	16.8	25
Pyrene	28.5		5.0	ug/l	40.0		71.3	40-140	21.7	25
Benzo(a)anthracene	33.1		1.0	ug/l	40.0		82.8	40-140	5.58	25
Chrysene	35.1		2.0	ug/l	40.0		87.8	40-140	24.3	25
Benzo(b)fluoranthene	34.0		1.0	ug/l	40.0		85.1	40-140	3.62	25
Benzo(k)fluoranthene	34.7		1.0	ug/l	40.0		86.7	40-140	4.65	25
Benzo(a)pyrene	33.9		0.2	ug/l	40.0		84.6	40-140	19.5	25
Indeno(1,2,3-cd)pyrene	32.4		0.5	ug/l	40.0		81.1	40-140	1.49	25
Dibenz(a,h)anthracene	30.6		0.5	ug/l	40.0		76.6	40-140	0.618	25
Benzo(g,h,i)perylene	34.4		5.0	ug/l	40.0		86.1	40-140	2.55	25
Nonane	12.3		5.0	ug/l	40.0		30.7	30-140	4.23	25
Decane	16.8		5.0	ug/l	40.0		42.0	40-140	6.34	25
Dodecane	16.6		5.0	ug/l	40.0		41.5	40-140	1.09	25
Tetradecane	17.7		5.0	ug/l	40.0		44.2	40-140	9.49	25
Hexadecane	18.4		5.0	ug/l	40.0		46.1	40-140	6.09	25
Octadecane	17.9		5.0	ug/l	40.0		44.8	40-140	5.97	25
Nonadecane	20.1		5.0	ug/l	40.0		50.3	40-140	8.56	25
Eicosane	21.7		5.0	ug/l	40.0		54.2	40-140	7.87	25
Docosane	23.3		5.0	ug/l	40.0		58.2	40-140	6.89	25
Tetracosane	24.1		5.0	ug/l	40.0		60.2	40-140	7.05	25
Hexacosane	24.3		5.0	ug/l	40.0		60.8	40-140	6.98	25
Octacosane	23.7		5.0	ug/l	40.0		59.3	40-140	6.98	25
triacontane	22.8		5.0	ug/l	40.0		57.0	40-140	6.89	25
Hexatriacontane	18.1		5.0	ug/l	40.0		45.2	40-140	11.0	25
EPH_LCS_Aliphatic_C19-C36	178		0.0	ug/l	320		55.7	40-140	7.65	25
EPH_LCS_Aliphatic_C9-C18	99.7		0.0	ug/l	240		41.5	40-140	2.31	25
EPH_LCS_Aromatic_C11-C22	464		0.0	ug/l	680		68.3	40-140	7.54	25
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<i>Surrogate: Chlorooctadecane</i>			<i>139</i>	<i>ug/l</i>	<i>125</i>		<i>111</i>	<i>40-140</i>		
<i>Surrogate: o-Terphenyl</i>			<i>152</i>	<i>ug/l</i>	<i>125</i>		<i>122</i>	<i>40-140</i>		
<i>Surrogate: 2-Fluorobiphenyl</i>			<i>42.2</i>	<i>ug/l</i>	<i>50.0</i>		<i>84.5</i>	<i>40-140</i>		
<i>Surrogate: 2-Bromonaphthalene</i>			<i>42.7</i>	<i>ug/l</i>	<i>50.0</i>		<i>85.4</i>	<i>40-140</i>		

Quality Control
(Continued)

Extractable Petroleum Hydrocarbons (MADEP-EPH) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0698 - 1_Semivolatiles Extractions										
Blank (B3L0698-BLK1)										
					Prepared: 12/15/23 Analyzed: 12/20/23					
Unadjusted C11-C22 Aromatic Hydrocarbons	ND		6.67	mg/kg						
Naphthalene	ND		0.33	mg/kg						
2-Methylnaphthalene	ND		0.33	mg/kg						
Phenanthrene	ND		0.33	mg/kg						
Acenaphthene	ND		0.33	mg/kg						
Acenaphthylene	ND		0.33	mg/kg						
Fluorene	ND		0.33	mg/kg						
Anthracene	ND		0.33	mg/kg						
Fluoranthene	ND		0.33	mg/kg						
Pyrene	ND		0.33	mg/kg						
Benzo(a)anthracene	ND		0.33	mg/kg						
Chrysene	ND		0.33	mg/kg						
Benzo(b)fluoranthene	ND		0.33	mg/kg						
Benzo(k)fluoranthene	ND		0.33	mg/kg						
Benzo(a)pyrene	ND		0.33	mg/kg						
Indeno(1,2,3-cd)pyrene	ND		0.33	mg/kg						
Dibenz(a,h)anthracene	ND		0.33	mg/kg						
Benzo(g,h,i)perylene	ND		0.33	mg/kg						
C9-C18 Aliphatic Hydrocarbons	ND		13.3	mg/kg						
C19-C36 Aliphatic Hydrocarbons	ND		13.3	mg/kg						
C11-C22 Aromatic Hydrocarbons	ND		6.67	mg/kg						
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<i>Surrogate: Chlorooctadecane</i>			<i>3.43</i>	mg/kg	<i>8.33</i>		<i>41.2</i>	<i>40-140</i>		
<i>Surrogate: o-Terphenyl</i>			<i>4.32</i>	mg/kg	<i>8.33</i>		<i>51.9</i>	<i>40-140</i>		
<i>Surrogate: 2-Fluorobiphenyl</i>			<i>3.72</i>	mg/kg	<i>3.33</i>		<i>112</i>	<i>40-140</i>		
<i>Surrogate: 2-Bromonaphthalene</i>			<i>3.73</i>	mg/kg	<i>3.33</i>		<i>112</i>	<i>40-140</i>		
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LCS (B3L0698-BS1)										
					Prepared: 12/15/23 Analyzed: 12/20/23					
Naphthalene	1.77		0.33	mg/kg	2.67		66.5	40-140		
2-Methylnaphthalene	1.61		0.33	mg/kg	2.67		60.3	40-140		
Phenanthrene	1.55		0.33	mg/kg	2.67		58.0	40-140		
Acenaphthene	1.59		0.33	mg/kg	2.67		59.8	40-140		
Acenaphthylene	1.53		0.33	mg/kg	2.67		57.3	40-140		
Fluorene	1.58		0.33	mg/kg	2.67		59.1	40-140		
Anthracene	1.77		0.33	mg/kg	2.67		66.3	40-140		
Fluoranthene	1.56		0.33	mg/kg	2.67		58.4	40-140		
Pyrene	1.72		0.33	mg/kg	2.67		64.4	40-140		
Benzo(a)anthracene	1.68		0.33	mg/kg	2.67		62.8	40-140		
Chrysene	1.91		0.33	mg/kg	2.67		71.7	40-140		
Benzo(b)fluoranthene	1.70		0.33	mg/kg	2.67		63.6	40-140		
Benzo(k)fluoranthene	1.83		0.33	mg/kg	2.67		68.8	40-140		
Benzo(a)pyrene	1.69		0.33	mg/kg	2.67		63.5	40-140		
Indeno(1,2,3-cd)pyrene	1.61		0.33	mg/kg	2.67		60.6	40-140		
Dibenz(a,h)anthracene	1.77		0.33	mg/kg	2.67		66.4	40-140		
Benzo(g,h,i)perylene	1.84		0.33	mg/kg	2.67		69.0	40-140		
EPH_LCS_Aliphatic_C19-C36	10.1		0.00	mg/kg	21.3		47.2	40-140		
EPH_LCS_Aliphatic_C9-C18	6.45		0.00	mg/kg	16.0		40.3	40-140		
EPH_LCS_Aromatic_C11-C22	28.7		0.00	mg/kg	45.3		63.3	40-140		
Nonane	0.84		0.33	mg/kg	2.67		31.5	30-140		
Decane	1.08		0.33	mg/kg	2.67		40.6	40-140		
Dodecane	1.11		0.33	mg/kg	2.67		41.5	40-140		
Tetradecane	1.11		0.33	mg/kg	2.67		41.7	40-140		
Hexadecane	1.09		0.33	mg/kg	2.67		40.9	40-140		
Octadecane	1.15		0.33	mg/kg	2.67		43.2	40-140		
Nonadecane	1.19		0.33	mg/kg	2.67		44.7	40-140		
Eicosane	1.21		0.33	mg/kg	2.67		45.5	40-140		
Docosane	1.24		0.33	mg/kg	2.67		46.7	40-140		
Tetracosane	1.28		0.33	mg/kg	2.67		47.9	40-140		

Quality Control
(Continued)

Extractable Petroleum Hydrocarbons (MADEP-EPH) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3L0698 - 1_Semivolatiles Extractions (Continued)										
LCS (B3L0698-BS1)										
					Prepared: 12/15/23 Analyzed: 12/20/23					
Hexacosane	1.30		0.33	mg/kg	2.67		48.6	40-140		
Octacosane	1.28		0.33	mg/kg	2.67		48.0	40-140		
Triacotane	1.27		0.33	mg/kg	2.67		47.6	40-140		
Hexatriacontane	1.30		0.33	mg/kg	2.67		48.7	40-140		

<i>Surrogate: Chlorooctadecane</i>			<i>3.86</i>	mg/kg	<i>8.33</i>		<i>46.3</i>	<i>40-140</i>		
<i>Surrogate: o-Terphenyl</i>			<i>5.04</i>	mg/kg	<i>8.33</i>		<i>60.4</i>	<i>40-140</i>		
<i>Surrogate: 2-Fluorobiphenyl</i>			<i>3.36</i>	mg/kg	<i>3.33</i>		<i>101</i>	<i>40-140</i>		
<i>Surrogate: 2-Bromonaphthalene</i>			<i>3.38</i>	mg/kg	<i>3.33</i>		<i>101</i>	<i>40-140</i>		
LCS Dup (B3L0698-BSD1)										
					Prepared: 12/15/23 Analyzed: 12/20/23					
Naphthalene	1.79		0.33	mg/kg	2.67		67.2	40-140	1.16	25
2-Methylnaphthalene	1.39		0.33	mg/kg	2.67		52.0	40-140	14.7	25
Phenanthrene	1.37		0.33	mg/kg	2.67		51.2	40-140	12.5	25
Acenaphthene	1.66		0.33	mg/kg	2.67		62.3	40-140	4.09	25
Acenaphthylene	1.53		0.33	mg/kg	2.67		57.4	40-140	0.305	25
Fluorene	1.57		0.33	mg/kg	2.67		58.7	40-140	0.679	25
Anthracene	1.59		0.33	mg/kg	2.67		59.5	40-140	10.8	25
Fluoranthene	1.51		0.33	mg/kg	2.67		56.4	40-140	3.40	25
Pyrene	1.57		0.33	mg/kg	2.67		58.8	40-140	9.01	25
Benzo(a)anthracene	1.50		0.33	mg/kg	2.67		56.2	40-140	11.1	25
Chrysene	1.73		0.33	mg/kg	2.67		64.9	40-140	9.92	25
Benzo(b)fluoranthene	1.44		0.33	mg/kg	2.67		53.9	40-140	16.6	25
Benzo(k)fluoranthene	1.84		0.33	mg/kg	2.67		69.1	40-140	0.507	25
Benzo(a)pyrene	1.68		0.33	mg/kg	2.67		63.1	40-140	0.632	25
Indeno(1,2,3-cd)pyrene	1.59		0.33	mg/kg	2.67		59.8	40-140	1.25	25
Dibenz(a,h)anthracene	1.75		0.33	mg/kg	2.67		65.7	40-140	1.06	25
Benzo(g,h,i)perylene	1.69		0.33	mg/kg	2.67		63.3	40-140	8.69	25
EPH_LCS_Aliphatic_C19-C36	9.33		0.00	mg/kg	21.3		43.7	40-140	7.67	25
EPH_LCS_Aliphatic_C9-C18	6.41		0.00	mg/kg	16.0		40.1	40-140	0.643	25
EPH_LCS_Aromatic_C11-C22	27.2		0.00	mg/kg	45.3		60.0	40-140	5.41	25
Nonane	0.84		0.33	mg/kg	2.67		31.6	30-140	0.317	25
Decane	1.11		0.33	mg/kg	2.67		41.6	40-140	2.55	25
Dodecane	1.12		0.33	mg/kg	2.67		41.8	40-140	0.840	25
Tetradecane	1.09		0.33	mg/kg	2.67		41.0	40-140	1.93	25
Hexadecane	1.12		0.33	mg/kg	2.67		42.1	40-140	3.07	25
Octadecane	1.13		0.33	mg/kg	2.67		42.2	40-140	2.40	25
Nonadecane	1.08		0.33	mg/kg	2.67		40.5	40-140	9.92	25
Eicosane	1.10		0.33	mg/kg	2.67		41.4	40-140	9.50	25
Docosane	1.15		0.33	mg/kg	2.67		43.2	40-140	7.85	25
Tetracosane	1.19		0.33	mg/kg	2.67		44.7	40-140	6.92	25
Hexacosane	1.21		0.33	mg/kg	2.67		45.5	40-140	6.59	25
Octacosane	1.20		0.33	mg/kg	2.67		45.1	40-140	6.12	25
Triacotane	1.20		0.33	mg/kg	2.67		44.8	40-140	5.90	25
Hexatriacontane	1.19		0.33	mg/kg	2.67		44.6	40-140	8.84	25

<i>Surrogate: Chlorooctadecane</i>			<i>3.48</i>	mg/kg	<i>8.33</i>		<i>41.8</i>	<i>40-140</i>		
<i>Surrogate: o-Terphenyl</i>			<i>3.43</i>	mg/kg	<i>8.33</i>		<i>41.2</i>	<i>40-140</i>		
<i>Surrogate: 2-Fluorobiphenyl</i>			<i>2.55</i>	mg/kg	<i>3.33</i>		<i>76.4</i>	<i>40-140</i>		
<i>Surrogate: 2-Bromonaphthalene</i>			<i>2.54</i>	mg/kg	<i>3.33</i>		<i>76.3</i>	<i>40-140</i>		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

New England Testing Laboratory

59 Greenhill Street
 West Warwick, RI 02893
 1-888-863-8522



Chain of Custody Record

Project No.		Project Name/Location:		Matrix			Preservative	Tests**						
Client:		Report To:		Aqueous	Soil	Other		No. of Containers						
Date	Time	Comp	Grab	Sample I.D.										
12/14/2023	0900		X	LE-SW1	X		8	Me	XX	XX	XX	X		
12/14/2023	0915		X	LE-SED1		X	4	MeOH	XX	XX	XX			
Sampled By: <i>KRL</i>		Date/Time: 12/14/2023 12:30	Received By: <i>[Signature]</i>		Date/Time: 12/14/23 12:30	Laboratory Remarks:			Special Instructions:					
Relinquished By: <i>[Signature]</i>		Date/Time: 12/14/23 1600	Received By: <i>[Signature]</i>		Date/Time: 12/14 1600	Temp. Received: 3								

**Netlab Subcontracts the following tests: Radiologicals, Radon, TOC, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates

Turnaround Time [Business Days]: 5 Days

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.

Project #: 1075.1.2

Project Location: Wareham, MA

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
3L14040

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH (GC/PID/FID) CAM IV A <input checked="" type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP VPH (GC/MS) CAM IV C <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	MassDEP EPH CAM IV B <input checked="" type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 12/21/2023



New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 4A15038
Client Project: 1075 - Wareham

Report Date: 22-January-2024

Prepared for:

Kevin Paradise
Lightship Engineering
6 Resnik Raod, Suite 207
Plymouth, MA 02360

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 01/15/24. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 4A15038. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
4A15038-01	LE-TMW1	Water	01/12/2024	01/15/2024
4A15038-02	LE-TMW2	Water	01/12/2024	01/15/2024
4A15038-03	LE-TMW3	Water	01/12/2024	01/15/2024
4A15038-04	LE-TMW4	Water	01/12/2024	01/15/2024

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

LE-TMW1 (Lab Number: 4A15038-01)

Volatile Organic Compounds

Method

EPA 8260C

LE-TMW2 (Lab Number: 4A15038-02)

Volatile Organic Compounds

Method

EPA 8260C

LE-TMW3 (Lab Number: 4A15038-03)

Volatile Organic Compounds

Method

EPA 8260C

LE-TMW4 (Lab Number: 4A15038-04)

Volatile Organic Compounds

Method

EPA 8260C

Method References

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: Volatile Organic Compounds

Sample: LE-TMW1

Lab Number: 4A15038-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		100	ug/l	01/17/24	01/17/24
Benzene	ND		1	ug/l	01/17/24	01/17/24
Bromobenzene	ND		1	ug/l	01/17/24	01/17/24
Bromochloromethane	ND		1	ug/l	01/17/24	01/17/24
Bromodichloromethane	ND		1	ug/l	01/17/24	01/17/24
Bromoform	ND		1	ug/l	01/17/24	01/17/24
Bromomethane	ND		1	ug/l	01/17/24	01/17/24
2-Butanone	ND		100	ug/l	01/17/24	01/17/24
tert-Butyl alcohol	ND		5	ug/l	01/17/24	01/17/24
sec-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
n-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
tert-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
Methyl t-butyl ether (MTBE)	ND		1	ug/l	01/17/24	01/17/24
Carbon Disulfide	ND		1	ug/l	01/17/24	01/17/24
Carbon Tetrachloride	ND		1	ug/l	01/17/24	01/17/24
Chlorobenzene	ND		1	ug/l	01/17/24	01/17/24
Chloroethane	ND		1	ug/l	01/17/24	01/17/24
Chloroform	ND		1	ug/l	01/17/24	01/17/24
Chloromethane	ND		1	ug/l	01/17/24	01/17/24
4-Chlorotoluene	ND		1	ug/l	01/17/24	01/17/24
2-Chlorotoluene	ND		1	ug/l	01/17/24	01/17/24
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	01/17/24	01/17/24
Dibromochloromethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dibromoethane (EDB)	ND		1	ug/l	01/17/24	01/17/24
Dibromomethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,4-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,2 Dichloroethene, Total	ND		1	ug/l	01/17/24	01/17/24
trans-1,2-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
cis-1,2-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
2,2-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
cis-1,3-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
trans-1,3-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichloropropene (cis + trans)	ND		2	ug/l	01/17/24	01/17/24
Diethyl ether	ND		5	ug/l	01/17/24	01/17/24
1,4-Dioxane	ND		100	ug/l	01/17/24	01/17/24
Ethylbenzene	ND		1	ug/l	01/17/24	01/17/24
Hexachlorobutadiene	ND		1	ug/l	01/17/24	01/17/24
2-Hexanone	ND		100	ug/l	01/17/24	01/17/24
Isopropylbenzene	ND		1	ug/l	01/17/24	01/17/24
p-Isopropyltoluene	ND		1	ug/l	01/17/24	01/17/24

Results: Volatile Organic Compounds (Continued)

Sample: LE-TMW1 (Continued)

Lab Number: 4A15038-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Methylene Chloride	ND		1	ug/l	01/17/24	01/17/24
4-Methyl-2-pentanone	ND		100	ug/l	01/17/24	01/17/24
Naphthalene	ND		1	ug/l	01/17/24	01/17/24
n-Propylbenzene	ND		1	ug/l	01/17/24	01/17/24
Styrene	ND		1	ug/l	01/17/24	01/17/24
1,1,1,2-Tetrachloroethane	ND		1	ug/l	01/17/24	01/17/24
Tetrachloroethene	ND		1	ug/l	01/17/24	01/17/24
Tetrahydrofuran	ND		5	ug/l	01/17/24	01/17/24
Toluene	ND		1	ug/l	01/17/24	01/17/24
1,2,4-Trichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,2,3-Trichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,1,2-Trichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,1,1-Trichloroethane	ND		1	ug/l	01/17/24	01/17/24
Trichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,2,3-Trichloropropane	ND		1	ug/l	01/17/24	01/17/24
1,3,5-Trimethylbenzene	ND		1	ug/l	01/17/24	01/17/24
1,2,4-Trimethylbenzene	ND		1	ug/l	01/17/24	01/17/24
Vinyl Chloride	ND		1	ug/l	01/17/24	01/17/24
o-Xylene	ND		1	ug/l	01/17/24	01/17/24
m&p-Xylene	ND		2	ug/l	01/17/24	01/17/24
Total xylenes	ND		1	ug/l	01/17/24	01/17/24
1,1,2,2-Tetrachloroethane	ND		1	ug/l	01/17/24	01/17/24
tert-Amyl methyl ether	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
Ethyl tert-butyl ether	ND		1	ug/l	01/17/24	01/17/24
Diisopropyl ether	ND		1	ug/l	01/17/24	01/17/24
Trichlorofluoromethane	ND		1	ug/l	01/17/24	01/17/24
Dichlorodifluoromethane	ND		1	ug/l	01/17/24	01/17/24
<hr/>						
Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	<i>96.1%</i>		<i>70-130</i>		01/17/24	01/17/24
<i>1,2-Dichloroethane-d4</i>	<i>104%</i>		<i>70-130</i>		01/17/24	01/17/24
<i>Toluene-d8</i>	<i>99.4%</i>		<i>70-130</i>		01/17/24	01/17/24

Results: Volatile Organic Compounds

Sample: LE-TMW2

Lab Number: 4A15038-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		100	ug/l	01/17/24	01/17/24
Benzene	ND		1	ug/l	01/17/24	01/17/24
Bromobenzene	ND		1	ug/l	01/17/24	01/17/24
Bromochloromethane	ND		1	ug/l	01/17/24	01/17/24
Bromodichloromethane	ND		1	ug/l	01/17/24	01/17/24
Bromoform	ND		1	ug/l	01/17/24	01/17/24
Bromomethane	ND		1	ug/l	01/17/24	01/17/24
2-Butanone	ND		100	ug/l	01/17/24	01/17/24
tert-Butyl alcohol	ND		5	ug/l	01/17/24	01/17/24
sec-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
n-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
tert-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
Methyl t-butyl ether (MTBE)	ND		1	ug/l	01/17/24	01/17/24
Carbon Disulfide	ND		1	ug/l	01/17/24	01/17/24
Carbon Tetrachloride	ND		1	ug/l	01/17/24	01/17/24
Chlorobenzene	ND		1	ug/l	01/17/24	01/17/24
Chloroethane	ND		1	ug/l	01/17/24	01/17/24
Chloroform	ND		1	ug/l	01/17/24	01/17/24
Chloromethane	ND		1	ug/l	01/17/24	01/17/24
4-Chlorotoluene	ND		1	ug/l	01/17/24	01/17/24
2-Chlorotoluene	ND		1	ug/l	01/17/24	01/17/24
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	01/17/24	01/17/24
Dibromochloromethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dibromoethane (EDB)	ND		1	ug/l	01/17/24	01/17/24
Dibromomethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,4-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,2 Dichloroethene, Total	ND		1	ug/l	01/17/24	01/17/24
trans-1,2-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
cis-1,2-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
2,2-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
cis-1,3-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
trans-1,3-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichloropropene (cis + trans)	ND		2	ug/l	01/17/24	01/17/24
Diethyl ether	ND		5	ug/l	01/17/24	01/17/24
1,4-Dioxane	ND		100	ug/l	01/17/24	01/17/24
Ethylbenzene	ND		1	ug/l	01/17/24	01/17/24
Hexachlorobutadiene	ND		1	ug/l	01/17/24	01/17/24
2-Hexanone	ND		100	ug/l	01/17/24	01/17/24
Isopropylbenzene	ND		1	ug/l	01/17/24	01/17/24
p-Isopropyltoluene	ND		1	ug/l	01/17/24	01/17/24

Results: Volatile Organic Compounds (Continued)

Sample: LE-TMW2 (Continued)

Lab Number: 4A15038-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Methylene Chloride	ND		1	ug/l	01/17/24	01/17/24
4-Methyl-2-pentanone	ND		100	ug/l	01/17/24	01/17/24
Naphthalene	ND		1	ug/l	01/17/24	01/17/24
n-Propylbenzene	ND		1	ug/l	01/17/24	01/17/24
Styrene	ND		1	ug/l	01/17/24	01/17/24
1,1,1,2-Tetrachloroethane	ND		1	ug/l	01/17/24	01/17/24
Tetrachloroethene	ND		1	ug/l	01/17/24	01/17/24
Tetrahydrofuran	6		5	ug/l	01/17/24	01/17/24
Toluene	ND		1	ug/l	01/17/24	01/17/24
1,2,4-Trichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,2,3-Trichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,1,2-Trichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,1,1-Trichloroethane	ND		1	ug/l	01/17/24	01/17/24
Trichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,2,3-Trichloropropane	ND		1	ug/l	01/17/24	01/17/24
1,3,5-Trimethylbenzene	ND		1	ug/l	01/17/24	01/17/24
1,2,4-Trimethylbenzene	ND		1	ug/l	01/17/24	01/17/24
Vinyl Chloride	ND		1	ug/l	01/17/24	01/17/24
o-Xylene	ND		1	ug/l	01/17/24	01/17/24
m&p-Xylene	ND		2	ug/l	01/17/24	01/17/24
Total xylenes	ND		1	ug/l	01/17/24	01/17/24
1,1,2,2-Tetrachloroethane	ND		1	ug/l	01/17/24	01/17/24
tert-Amyl methyl ether	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
Ethyl tert-butyl ether	ND		1	ug/l	01/17/24	01/17/24
Diisopropyl ether	ND		1	ug/l	01/17/24	01/17/24
Trichlorofluoromethane	ND		1	ug/l	01/17/24	01/17/24
Dichlorodifluoromethane	ND		1	ug/l	01/17/24	01/17/24
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Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	<i>98.1%</i>		<i>70-130</i>		01/17/24	01/17/24
<i>1,2-Dichloroethane-d4</i>	<i>104%</i>		<i>70-130</i>		01/17/24	01/17/24
<i>Toluene-d8</i>	<i>100%</i>		<i>70-130</i>		01/17/24	01/17/24

Results: Volatile Organic Compounds

Sample: LE-TMW3

Lab Number: 4A15038-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		100	ug/l	01/17/24	01/17/24
Benzene	ND		1	ug/l	01/17/24	01/17/24
Bromobenzene	ND		1	ug/l	01/17/24	01/17/24
Bromochloromethane	ND		1	ug/l	01/17/24	01/17/24
Bromodichloromethane	ND		1	ug/l	01/17/24	01/17/24
Bromoform	ND		1	ug/l	01/17/24	01/17/24
Bromomethane	ND		1	ug/l	01/17/24	01/17/24
2-Butanone	ND		100	ug/l	01/17/24	01/17/24
tert-Butyl alcohol	ND		5	ug/l	01/17/24	01/17/24
sec-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
n-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
tert-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
Methyl t-butyl ether (MTBE)	ND		1	ug/l	01/17/24	01/17/24
Carbon Disulfide	ND		1	ug/l	01/17/24	01/17/24
Carbon Tetrachloride	ND		1	ug/l	01/17/24	01/17/24
Chlorobenzene	ND		1	ug/l	01/17/24	01/17/24
Chloroethane	ND		1	ug/l	01/17/24	01/17/24
Chloroform	ND		1	ug/l	01/17/24	01/17/24
Chloromethane	ND		1	ug/l	01/17/24	01/17/24
4-Chlorotoluene	ND		1	ug/l	01/17/24	01/17/24
2-Chlorotoluene	ND		1	ug/l	01/17/24	01/17/24
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	01/17/24	01/17/24
Dibromochloromethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dibromoethane (EDB)	ND		1	ug/l	01/17/24	01/17/24
Dibromomethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,4-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,2 Dichloroethene, Total	ND		1	ug/l	01/17/24	01/17/24
trans-1,2-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
cis-1,2-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
2,2-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
cis-1,3-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
trans-1,3-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichloropropene (cis + trans)	ND		2	ug/l	01/17/24	01/17/24
Diethyl ether	ND		5	ug/l	01/17/24	01/17/24
1,4-Dioxane	ND		100	ug/l	01/17/24	01/17/24
Ethylbenzene	ND		1	ug/l	01/17/24	01/17/24
Hexachlorobutadiene	ND		1	ug/l	01/17/24	01/17/24
2-Hexanone	ND		100	ug/l	01/17/24	01/17/24
Isopropylbenzene	ND		1	ug/l	01/17/24	01/17/24
p-Isopropyltoluene	ND		1	ug/l	01/17/24	01/17/24

Results: Volatile Organic Compounds (Continued)

Sample: LE-TMW3 (Continued)

Lab Number: 4A15038-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Methylene Chloride	ND		1	ug/l	01/17/24	01/17/24
4-Methyl-2-pentanone	ND		100	ug/l	01/17/24	01/17/24
Naphthalene	ND		1	ug/l	01/17/24	01/17/24
n-Propylbenzene	ND		1	ug/l	01/17/24	01/17/24
Styrene	ND		1	ug/l	01/17/24	01/17/24
1,1,1,2-Tetrachloroethane	ND		1	ug/l	01/17/24	01/17/24
Tetrachloroethene	ND		1	ug/l	01/17/24	01/17/24
Tetrahydrofuran	ND		5	ug/l	01/17/24	01/17/24
Toluene	ND		1	ug/l	01/17/24	01/17/24
1,2,4-Trichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,2,3-Trichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,1,2-Trichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,1,1-Trichloroethane	ND		1	ug/l	01/17/24	01/17/24
Trichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,2,3-Trichloropropane	ND		1	ug/l	01/17/24	01/17/24
1,3,5-Trimethylbenzene	ND		1	ug/l	01/17/24	01/17/24
1,2,4-Trimethylbenzene	ND		1	ug/l	01/17/24	01/17/24
Vinyl Chloride	ND		1	ug/l	01/17/24	01/17/24
o-Xylene	ND		1	ug/l	01/17/24	01/17/24
m&p-Xylene	ND		2	ug/l	01/17/24	01/17/24
Total xylenes	ND		1	ug/l	01/17/24	01/17/24
1,1,2,2-Tetrachloroethane	ND		1	ug/l	01/17/24	01/17/24
tert-Amyl methyl ether	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
Ethyl tert-butyl ether	ND		1	ug/l	01/17/24	01/17/24
Diisopropyl ether	ND		1	ug/l	01/17/24	01/17/24
Trichlorofluoromethane	ND		1	ug/l	01/17/24	01/17/24
Dichlorodifluoromethane	ND		1	ug/l	01/17/24	01/17/24
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Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	<i>97.2%</i>		<i>70-130</i>		01/17/24	01/17/24
<i>1,2-Dichloroethane-d4</i>	<i>105%</i>		<i>70-130</i>		01/17/24	01/17/24
<i>Toluene-d8</i>	<i>99.9%</i>		<i>70-130</i>		01/17/24	01/17/24

Results: Volatile Organic Compounds

Sample: LE-TMW4

Lab Number: 4A15038-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		100	ug/l	01/17/24	01/17/24
Benzene	ND		1	ug/l	01/17/24	01/17/24
Bromobenzene	ND		1	ug/l	01/17/24	01/17/24
Bromochloromethane	ND		1	ug/l	01/17/24	01/17/24
Bromodichloromethane	ND		1	ug/l	01/17/24	01/17/24
Bromoform	ND		1	ug/l	01/17/24	01/17/24
Bromomethane	ND		1	ug/l	01/17/24	01/17/24
2-Butanone	ND		100	ug/l	01/17/24	01/17/24
tert-Butyl alcohol	ND		5	ug/l	01/17/24	01/17/24
sec-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
n-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
tert-Butylbenzene	ND		1	ug/l	01/17/24	01/17/24
Methyl t-butyl ether (MTBE)	ND		1	ug/l	01/17/24	01/17/24
Carbon Disulfide	ND		1	ug/l	01/17/24	01/17/24
Carbon Tetrachloride	ND		1	ug/l	01/17/24	01/17/24
Chlorobenzene	ND		1	ug/l	01/17/24	01/17/24
Chloroethane	ND		1	ug/l	01/17/24	01/17/24
Chloroform	ND		1	ug/l	01/17/24	01/17/24
Chloromethane	ND		1	ug/l	01/17/24	01/17/24
4-Chlorotoluene	ND		1	ug/l	01/17/24	01/17/24
2-Chlorotoluene	ND		1	ug/l	01/17/24	01/17/24
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	01/17/24	01/17/24
Dibromochloromethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dibromoethane (EDB)	ND		1	ug/l	01/17/24	01/17/24
Dibromomethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,4-Dichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,2 Dichloroethene, Total	ND		1	ug/l	01/17/24	01/17/24
trans-1,2-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
cis-1,2-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,2-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
2,2-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
cis-1,3-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
trans-1,3-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
1,1-Dichloropropene	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichloropropene (cis + trans)	ND		2	ug/l	01/17/24	01/17/24
Diethyl ether	ND		5	ug/l	01/17/24	01/17/24
1,4-Dioxane	ND		100	ug/l	01/17/24	01/17/24
Ethylbenzene	ND		1	ug/l	01/17/24	01/17/24
Hexachlorobutadiene	ND		1	ug/l	01/17/24	01/17/24
2-Hexanone	ND		100	ug/l	01/17/24	01/17/24
Isopropylbenzene	ND		1	ug/l	01/17/24	01/17/24
p-Isopropyltoluene	ND		1	ug/l	01/17/24	01/17/24

Results: Volatile Organic Compounds (Continued)

Sample: LE-TMW4 (Continued)

Lab Number: 4A15038-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Methylene Chloride	ND		1	ug/l	01/17/24	01/17/24
4-Methyl-2-pentanone	ND		100	ug/l	01/17/24	01/17/24
Naphthalene	ND		1	ug/l	01/17/24	01/17/24
n-Propylbenzene	ND		1	ug/l	01/17/24	01/17/24
Styrene	ND		1	ug/l	01/17/24	01/17/24
1,1,1,2-Tetrachloroethane	ND		1	ug/l	01/17/24	01/17/24
Tetrachloroethene	ND		1	ug/l	01/17/24	01/17/24
Tetrahydrofuran	ND		5	ug/l	01/17/24	01/17/24
Toluene	ND		1	ug/l	01/17/24	01/17/24
1,2,4-Trichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,2,3-Trichlorobenzene	ND		1	ug/l	01/17/24	01/17/24
1,1,2-Trichloroethane	ND		1	ug/l	01/17/24	01/17/24
1,1,1-Trichloroethane	ND		1	ug/l	01/17/24	01/17/24
Trichloroethene	ND		1	ug/l	01/17/24	01/17/24
1,2,3-Trichloropropane	ND		1	ug/l	01/17/24	01/17/24
1,3,5-Trimethylbenzene	ND		1	ug/l	01/17/24	01/17/24
1,2,4-Trimethylbenzene	ND		1	ug/l	01/17/24	01/17/24
Vinyl Chloride	ND		1	ug/l	01/17/24	01/17/24
o-Xylene	ND		1	ug/l	01/17/24	01/17/24
m&p-Xylene	ND		2	ug/l	01/17/24	01/17/24
Total xylenes	ND		1	ug/l	01/17/24	01/17/24
1,1,2,2-Tetrachloroethane	ND		1	ug/l	01/17/24	01/17/24
tert-Amyl methyl ether	ND		1	ug/l	01/17/24	01/17/24
1,3-Dichloropropane	ND		1	ug/l	01/17/24	01/17/24
Ethyl tert-butyl ether	ND		1	ug/l	01/17/24	01/17/24
Diisopropyl ether	ND		1	ug/l	01/17/24	01/17/24
Trichlorofluoromethane	ND		1	ug/l	01/17/24	01/17/24
Dichlorodifluoromethane	ND		1	ug/l	01/17/24	01/17/24
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Surrogate(s)	Recovery%		Limits			
<i>4-Bromofluorobenzene</i>	<i>96.4%</i>		<i>70-130</i>		01/17/24	01/17/24
<i>1,2-Dichloroethane-d4</i>	<i>102%</i>		<i>70-130</i>		01/17/24	01/17/24
<i>Toluene-d8</i>	<i>98.8%</i>		<i>70-130</i>		01/17/24	01/17/24

Quality Control

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4A0760 - Purge-Trap										
Blank (B4A0760-BLK1)					Prepared & Analyzed: 01/17/24					
Acetone	ND		5	ug/l						
Benzene	ND		1	ug/l						
Bromobenzene	ND		1	ug/l						
Bromochloromethane	ND		1	ug/l						
Bromodichloromethane	ND		1	ug/l						
Bromoform	ND		1	ug/l						
Bromomethane	ND		1	ug/l						
2-Butanone	ND		5	ug/l						
tert-Butyl alcohol	ND		5	ug/l						
sec-Butylbenzene	ND		1	ug/l						
n-Butylbenzene	ND		1	ug/l						
tert-Butylbenzene	ND		1	ug/l						
Methyl t-butyl ether (MTBE)	ND		1	ug/l						
Carbon Disulfide	ND		1	ug/l						
Carbon Tetrachloride	ND		1	ug/l						
Chlorobenzene	ND		1	ug/l						
Chloroethane	ND		1	ug/l						
Chloroform	ND		1	ug/l						
Chloromethane	ND		1	ug/l						
4-Chlorotoluene	ND		1	ug/l						
2-Chlorotoluene	ND		1	ug/l						
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l						
Dibromochloromethane	ND		1	ug/l						
1,2-Dibromoethane (EDB)	ND		1	ug/l						
Dibromomethane	ND		1	ug/l						
1,2-Dichlorobenzene	ND		1	ug/l						
1,3-Dichlorobenzene	ND		1	ug/l						
1,4-Dichlorobenzene	ND		1	ug/l						
1,1-Dichloroethane	ND		1	ug/l						
1,2-Dichloroethane	ND		1	ug/l						
trans-1,2-Dichloroethene	ND		1	ug/l						
1,2 Dichloroethene, Total	ND		1	ug/l						
cis-1,2-Dichloroethene	ND		1	ug/l						
1,1-Dichloroethene	ND		1	ug/l						
1,2-Dichloropropane	ND		1	ug/l						
2,2-Dichloropropane	ND		1	ug/l						
cis-1,3-Dichloropropene	ND		1	ug/l						
trans-1,3-Dichloropropene	ND		1	ug/l						
1,1-Dichloropropene	ND		1	ug/l						
1,3-Dichloropropene (cis + trans)	ND		2	ug/l						
Diethyl ether	ND		5	ug/l						
1,4-Dioxane	ND		100	ug/l						
Ethylbenzene	ND		1	ug/l						
Hexachlorobutadiene	ND		1	ug/l						
2-Hexanone	ND		5	ug/l						
Isopropylbenzene	ND		1	ug/l						
p-Isopropyltoluene	ND		1	ug/l						
Methylene Chloride	ND		5	ug/l						
4-Methyl-2-pentanone	ND		5	ug/l						
Naphthalene	ND		1	ug/l						
n-Propylbenzene	ND		1	ug/l						
Styrene	ND		1	ug/l						
1,1,1,2-Tetrachloroethane	ND		1	ug/l						
Tetrachloroethene	ND		1	ug/l						

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4A0760 - Purge-Trap (Continued)										
Blank (B4A0760-BLK1)					Prepared & Analyzed: 01/17/24					
Tetrahydrofuran	ND		5	ug/l						
Toluene	ND		1	ug/l						
1,2,4-Trichlorobenzene	ND		1	ug/l						
1,2,3-Trichlorobenzene	ND		1	ug/l						
1,1,2-Trichloroethane	ND		1	ug/l						
1,1,1-Trichloroethane	ND		1	ug/l						
Trichloroethene	ND		1	ug/l						
1,2,3-Trichloropropane	ND		1	ug/l						
1,3,5-Trimethylbenzene	ND		1	ug/l						
1,2,4-Trimethylbenzene	ND		1	ug/l						
Vinyl Chloride	ND		1	ug/l						
o-Xylene	ND		1	ug/l						
m&p-Xylene	ND		2	ug/l						
Total xylenes	ND		1	ug/l						
1,1,2,2-Tetrachloroethane	ND		1	ug/l						
tert-Amyl methyl ether	ND		1	ug/l						
1,3-Dichloropropane	ND		1	ug/l						
Ethyl tert-butyl ether	ND		1	ug/l						
Diisopropyl ether	ND		1	ug/l						
Trichlorofluoromethane	ND		1	ug/l						
Dichlorodifluoromethane	ND		1	ug/l						
<hr/>										
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>48.3</i>	<i>ug/l</i>	<i>50.0</i>		<i>96.7</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>51.9</i>	<i>ug/l</i>	<i>50.0</i>		<i>104</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>			<i>50.4</i>	<i>ug/l</i>	<i>50.0</i>		<i>101</i>	<i>70-130</i>		
<hr/>										
LCS (B4A0760-BS1)					Prepared & Analyzed: 01/17/24					
Acetone	49		5	ug/l	50.0		97.2	50-150		
Benzene	52		1	ug/l	50.0		103	70-130		
Bromobenzene	52		1	ug/l	50.0		104	70-130		
Bromochloromethane	55		1	ug/l	50.0		111	70-130		
Bromodichloromethane	56		1	ug/l	50.0		111	70-130		
Bromoform	44		1	ug/l	50.0		88.3	70-130		
Bromomethane	60		1	ug/l	50.0		120	50-150		
2-Butanone	52		5	ug/l	50.0		103	50-150		
tert-Butyl alcohol	48		5	ug/l	50.0		96.6	70-130		
sec-Butylbenzene	55		1	ug/l	50.0		110	70-130		
n-Butylbenzene	56		1	ug/l	50.0		112	70-130		
tert-Butylbenzene	55		1	ug/l	50.0		110	70-130		
Methyl t-butyl ether (MTBE)	54		1	ug/l	50.0		107	70-130		
Carbon Disulfide	58		1	ug/l	50.0		116	50-150		
Carbon Tetrachloride	55		1	ug/l	50.0		110	70-130		
Chlorobenzene	50		1	ug/l	50.0		99.8	70-130		
Chloroethane	63		1	ug/l	50.0		127	50-150		
Chloroform	51		1	ug/l	50.0		102	70-130		
Chloromethane	58		1	ug/l	50.0		116	50-150		
4-Chlorotoluene	52		1	ug/l	50.0		104	70-130		
2-Chlorotoluene	49		1	ug/l	50.0		97.5	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	43		1	ug/l	50.0		86.2	70-130		
Dibromochloromethane	56		1	ug/l	50.0		112	70-130		
1,2-Dibromoethane (EDB)	58		1	ug/l	50.0		115	70-130		
Dibromomethane	56		1	ug/l	50.0		113	70-130		
1,2-Dichlorobenzene	50		1	ug/l	50.0		99.4	70-130		
1,3-Dichlorobenzene	53		1	ug/l	50.0		105	70-130		
1,4-Dichlorobenzene	48		1	ug/l	50.0		95.8	70-130		
1,1-Dichloroethane	51		1	ug/l	50.0		102	70-130		
1,2-Dichloroethane	53		1	ug/l	50.0		106	70-130		
trans-1,2-Dichloroethene	51		1	ug/l	50.0		103	70-130		

**Quality Control
(Continued)**

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4A0760 - Purge-Trap (Continued)					Prepared & Analyzed: 01/17/24					
LCS (B4A0760-BS1)										
cis-1,2-Dichloroethene	51		1	ug/l	50.0		101	70-130		
1,1-Dichloroethene	53		1	ug/l	50.0		106	70-130		
1,2-Dichloropropane	54		1	ug/l	50.0		109	70-130		
2,2-Dichloropropane	53		1	ug/l	50.0		105	70-130		
cis-1,3-Dichloropropene	48		1	ug/l	50.0		95.7	70-130		
trans-1,3-Dichloropropene	49		1	ug/l	50.0		97.8	70-130		
1,1-Dichloropropene	57		1	ug/l	50.0		114	70-130		
Diethyl ether	51		5	ug/l	50.0		102	70-130		
1,4-Dioxane	296		100	ug/l	250		119	50-150		
Ethylbenzene	52		1	ug/l	50.0		105	70-130		
Hexachlorobutadiene	51		1	ug/l	50.0		102	70-130		
2-Hexanone	52		5	ug/l	50.0		105	50-150		
Isopropylbenzene	54		1	ug/l	50.0		109	70-130		
p-Isopropyltoluene	55		1	ug/l	50.0		110	70-130		
Methylene Chloride	56		1	ug/l	50.0		112	70-130		
4-Methyl-2-pentanone	47		5	ug/l	50.0		94.6	50-150		
Naphthalene	54		1	ug/l	50.0		108	70-130		
n-Propylbenzene	56		1	ug/l	50.0		112	70-130		
Styrene	55		1	ug/l	50.0		110	70-130		
1,1,1,2-Tetrachloroethane	53		1	ug/l	50.0		106	70-130		
Tetrachloroethene	54		1	ug/l	50.0		107	70-130		
Tetrahydrofuran	54		5	ug/l	50.0		108	50-150		
Toluene	53		1	ug/l	50.0		105	70-130		
1,2,4-Trichlorobenzene	52		1	ug/l	50.0		104	70-130		
1,2,3-Trichlorobenzene	50		1	ug/l	50.0		100	70-130		
1,1,2-Trichloroethane	59		1	ug/l	50.0		118	70-130		
1,1,1-Trichloroethane	53		1	ug/l	50.0		107	70-130		
Trichloroethene	53		1	ug/l	50.0		106	70-130		
1,2,3-Trichloropropane	50		1	ug/l	50.0		100	70-130		
1,3,5-Trimethylbenzene	55		1	ug/l	50.0		109	70-130		
1,2,4-Trimethylbenzene	54		1	ug/l	50.0		109	70-130		
Vinyl Chloride	57		1	ug/l	50.0		113	50-150		
o-Xylene	54		1	ug/l	50.0		108	70-130		
m&p-Xylene	106		2	ug/l	100		106	70-130		
1,1,2,2-Tetrachloroethane	53		1	ug/l	50.0		106	70-130		
tert-Amyl methyl ether	54		1	ug/l	50.0		108	70-130		
1,3-Dichloropropane	55		1	ug/l	50.0		110	70-130		
Ethyl tert-butyl ether	54		1	ug/l	50.0		108	70-130		
Trichlorofluoromethane	54		1	ug/l	50.0		109	50-150		
Dichlorodifluoromethane	48		1	ug/l	50.0		95.8	50-150		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>51.7</i>	<i>ug/l</i>	<i>50.0</i>		<i>103</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>48.8</i>	<i>ug/l</i>	<i>50.0</i>		<i>97.5</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>			<i>50.1</i>	<i>ug/l</i>	<i>50.0</i>		<i>100</i>	<i>70-130</i>		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4A0760 - Purge-Trap (Continued)					Prepared & Analyzed: 01/17/24					
LCS Dup (B4A0760-BSD1)										
Acetone	50		5	ug/l	50.0		99.2	50-150	2.06	20
Benzene	51		1	ug/l	50.0		102	70-130	0.721	20
Bromobenzene	52		1	ug/l	50.0		104	70-130	0.115	20
Bromochloromethane	56		1	ug/l	50.0		112	70-130	1.29	20
Bromodichloromethane	56		1	ug/l	50.0		112	70-130	0.645	20
Bromoform	45		1	ug/l	50.0		89.9	70-130	1.80	20
Bromomethane	58		1	ug/l	50.0		116	50-150	2.82	20
2-Butanone	53		5	ug/l	50.0		105	50-150	1.78	20
tert-Butyl alcohol	45		5	ug/l	50.0		90.1	70-130	6.94	20
sec-Butylbenzene	56		1	ug/l	50.0		111	70-130	0.850	20
n-Butylbenzene	57		1	ug/l	50.0		114	70-130	1.49	20
tert-Butylbenzene	55		1	ug/l	50.0		111	70-130	1.09	20
Methyl t-butyl ether (MTBE)	54		1	ug/l	50.0		108	70-130	0.874	20
Carbon Disulfide	57		1	ug/l	50.0		115	50-150	0.642	20
Carbon Tetrachloride	56		1	ug/l	50.0		113	70-130	2.53	20
Chlorobenzene	50		1	ug/l	50.0		100	70-130	0.220	20
Chloroethane	61		1	ug/l	50.0		122	50-150	3.78	20
Chloroform	51		1	ug/l	50.0		103	70-130	1.06	20
Chloromethane	58		1	ug/l	50.0		115	50-150	0.932	20
4-Chlorotoluene	52		1	ug/l	50.0		105	70-130	0.883	20
2-Chlorotoluene	49		1	ug/l	50.0		98.9	70-130	1.36	20
1,2-Dibromo-3-chloropropane (DBCP)	46		1	ug/l	50.0		91.8	70-130	6.29	20
Dibromochloromethane	57		1	ug/l	50.0		113	70-130	1.69	20
1,2-Dibromoethane (EDB)	58		1	ug/l	50.0		117	70-130	1.22	20
Dibromomethane	57		1	ug/l	50.0		113	70-130	0.477	20
1,2-Dichlorobenzene	51		1	ug/l	50.0		102	70-130	2.33	20
1,3-Dichlorobenzene	53		1	ug/l	50.0		105	70-130	0.0950	20
1,4-Dichlorobenzene	48		1	ug/l	50.0		96.3	70-130	0.541	20
1,1-Dichloroethane	52		1	ug/l	50.0		103	70-130	0.778	20
1,2-Dichloroethane	52		1	ug/l	50.0		103	70-130	3.03	20
trans-1,2-Dichloroethene	52		1	ug/l	50.0		104	70-130	0.951	20
cis-1,2-Dichloroethene	50		1	ug/l	50.0		99.5	70-130	1.85	20
1,1-Dichloroethene	53		1	ug/l	50.0		107	70-130	0.507	20
1,2-Dichloropropane	54		1	ug/l	50.0		109	70-130	0.00	20
2,2-Dichloropropane	53		1	ug/l	50.0		106	70-130	0.567	20
cis-1,3-Dichloropropene	50		1	ug/l	50.0		101	70-130	5.25	20
trans-1,3-Dichloropropene	50		1	ug/l	50.0		99.4	70-130	1.68	20
1,1-Dichloropropene	58		1	ug/l	50.0		117	70-130	1.96	20
Diethyl ether	51		5	ug/l	50.0		103	70-130	1.12	20
1,4-Dioxane	304		100	ug/l	250		122	50-150	2.63	20
Ethylbenzene	53		1	ug/l	50.0		106	70-130	0.647	20
Hexachlorobutadiene	54		1	ug/l	50.0		108	70-130	5.61	20
2-Hexanone	54		5	ug/l	50.0		107	50-150	2.43	20
Isopropylbenzene	54		1	ug/l	50.0		108	70-130	0.718	20
p-Isopropyltoluene	56		1	ug/l	50.0		111	70-130	0.865	20
Methylene Chloride	56		1	ug/l	50.0		112	70-130	0.464	20
4-Methyl-2-pentanone	48		5	ug/l	50.0		97.0	50-150	2.53	20
Naphthalene	57		1	ug/l	50.0		113	70-130	4.59	20
n-Propylbenzene	56		1	ug/l	50.0		113	70-130	0.676	20
Styrene	55		1	ug/l	50.0		111	70-130	1.16	20
1,1,1,2-Tetrachloroethane	53		1	ug/l	50.0		107	70-130	0.583	20
Tetrachloroethene	55		1	ug/l	50.0		109	70-130	1.70	20
Tetrahydrofuran	56		5	ug/l	50.0		111	50-150	2.75	20
Toluene	53		1	ug/l	50.0		106	70-130	0.285	20
1,2,4-Trichlorobenzene	56		1	ug/l	50.0		111	70-130	6.53	20
1,2,3-Trichlorobenzene	56		1	ug/l	50.0		112	70-130	11.5	20
1,1,2-Trichloroethane	52		1	ug/l	50.0		104	70-130	12.6	20

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4A0760 - Purge-Trap (Continued)					Prepared & Analyzed: 01/17/24					
LCS Dup (B4A0760-BSD1)										
1,1,1-Trichloroethane	55		1	ug/l	50.0		109	70-130	2.02	20
Trichloroethene	54		1	ug/l	50.0		108	70-130	2.05	20
1,2,3-Trichloropropane	50		1	ug/l	50.0		101	70-130	0.397	20
1,3,5-Trimethylbenzene	55		1	ug/l	50.0		110	70-130	0.657	20
1,2,4-Trimethylbenzene	55		1	ug/l	50.0		110	70-130	1.48	20
Vinyl Chloride	57		1	ug/l	50.0		113	50-150	0.124	20
o-Xylene	54		1	ug/l	50.0		107	70-130	0.223	20
m&p-Xylene	106		2	ug/l	100		106	70-130	0.198	20
1,1,1,2-Tetrachloroethane	53		1	ug/l	50.0		106	70-130	0.397	20
tert-Amyl methyl ether	55		1	ug/l	50.0		110	70-130	1.38	20
1,3-Dichloropropane	55		1	ug/l	50.0		111	70-130	0.598	20
Ethyl tert-butyl ether	55		1	ug/l	50.0		109	70-130	1.27	20
Trichlorofluoromethane	54		1	ug/l	50.0		108	50-150	0.646	20
Dichlorodifluoromethane	49		1	ug/l	50.0		98.9	50-150	3.25	20
<hr/>										
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>51.0</i>	<i>ug/l</i>	<i>50.0</i>		<i>102</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>47.8</i>	<i>ug/l</i>	<i>50.0</i>		<i>95.6</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>			<i>49.6</i>	<i>ug/l</i>	<i>50.0</i>		<i>99.1</i>	<i>70-130</i>		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.

Project #: 1075.1.2

Project Location: Wareham, MA

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
4A15038

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH (GC/PID/FID) CAM IV A <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP VPH (GC/MS) CAM IV C <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 1/22/2024