



THURBER ENGINEERING LTD.

January 14, 2025

File No.: 65669

Ministry of Transportation and Transit
4C – 940 Blanshard Street
PO Box 9850 Stn Prov Govt
Victoria, BC V8W 9T5

Attention: Paul Savinkoff, P.Geo.

STEP A SCREENING SUMMARY MINI ROAD SLIDE, COWICHAN BAY, BC

Dear Paul,

The Ministry of Transportation and Transit (MOTT) provided a framework for identifying and characterizing potentially contaminated soil in its Technical Circular document T-03/20 dated August 4, 2020. In accordance with MOTT's document, Thurber completed a "Step A – Screening Summary" for the Mini Road Slide in Cowichan Bay, BC (the Project) and properties within a 100 m radius, shown on the attached Figure 1.

This summary was prepared for the exclusive use of MOTT, and Authorized Users as defined by contract 860CS5299. Any use which a third party makes of this report, or any reliance on decisions based on it are the responsibility of such third parties. Thurber accepts no responsibility for damage incurred by third parties as a result of decisions made or actions taken based on this report. It is a condition of this report that Thurber's performance of its professional services is subject to the attached Statement of Limitations and Conditions.

1. BACKGROUND

The Project area consists of a 160 m section of slopeside above Cowichan Bay. The Project area is located approximately 3.2 km southeast of the Village of Cowichan Bay, BC.

2. RECORDS REVIEWED

The Project area is based on Google Earth kmz file entitled, *mini*, and design drawings titled *PROJECT NO. 18122-0000 MINI ROAD SLIDE, COWICHAN BAY SLOPE FAILURE REMEDIATION AND DRAINAGE IMPROVEMENTS* provided by MOTT to Thurber via email on November 28, 2024.

3. SCOPE OF SERVICES

In accordance with our proposed scope, we completed the following:



- A desktop review of available current and historical information concerning the activities conducted in the project area and on nearby lands.
- Preparation of this summary report.

4. DESKTOP REVIEW

4.1 Site Registry

The Site Registry is a database maintained by the Ministry of Environment and Climate Change Strategy (ENV) that contains information on the contaminant status of listed properties. The Registry was searched using a 500 m radius area search procedure.

One property was identified within a 500 m radius of the Project area. Due to the proximity and gradient, the following property was reviewed in more detail:

- Site ID 22235: This listing is located at 941 Cherry Point Road, Cowichan Bay, 30 m southeast of the Site. The listing pertains to the notification of independent remediation (NIR) for a residential underground storage tank (UST) at this address. A NIR initiation and completion was submitted to ENV in December 2018. Since the listing was for a residential UST only which is not a Schedule 2 activity and completion of remediation was submitted to ENV, this listing has a low potential to impact the Site.

The search results are attached.

4.2 Federal Contaminated Sites Inventory

The Federal Contaminated Sites Inventory is a database maintained by the Federal government that contains information on the contaminant status of Federal land across Canada. The inventory was searched using the Project coordinates on the Online Map Navigator to identify properties within a 100 m radius of the Project.

No properties were identified within a 100 m radius of the Project area. The search results are attached.

4.3 Air Photographs

Historical aerial photographs for the Project area and the adjacent properties were obtained from the UBC Geographic Information Centre. Aerial photographs from 1937, 1946, 1950, 1957, 1962, 1968, 1972, 1976, 1981, 1993, and 2007 were reviewed. Additionally, Google Earth Imagery was reviewed from 2004 to 2024.



A summary of observations of the Project area and surrounding area is provided below.

YEAR(S)	PROJECT
1937, 1946, 1950, 1957, 1962, 1968, 1984, 1972, 1976, 1981, 1984, 1989, 1993, 2004, 2005, 2006, 2007, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2022, 2024	The Project area appears to be undeveloped forested land.

YEAR(S)	NORTH	EAST	SOUTH	WEST
1937, 1946,	Undeveloped forested land.	Cowichan Bay.	Undeveloped forested land.	Undeveloped forested land.
1950			Vacant land being cleared for development.	Mini Road followed by undeveloped forested land.
1957				Residential dwellings.
1962, 1968			Residential dwellings.	
1972, 1976				
1981, 1984, 1989, 1993, 1995, 2001, 2004, 2005, 2006, 2007, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2022, 2024				

4.4 Street Level Imagery

Web-based images of the Project area and surrounding area were reviewed for the years 2009, 2012, and 2014.

YEARS	PROJECT AREA
2009, 2012, 2014	The Site is obscured by vegetation.
YEARS	NORTH
2009, 2012, 2014	Residential dwellings.
YEARS	EAST
2009, 2012, 2014	Cowichan Bay.



YEARS	SOUTH
2009, 2012, 2014	Residential dwellings.
YEARS	WEST
2007, 2009	Mini Road.

5. DISCUSSION

The historical review indicated that the Project area was undeveloped vegetated land since at least 1937. The area surrounding the Project began to be developed in 1962 with single family residential dwellings. Before this, the area surrounding the Project area was undeveloped forested land.

5.1 Schedule 2 Activities

Schedule 2 of the CSR is a list of commercial and industrial activities that ENV considers a potential risk to the environment. Based on our historical review and observations, no Schedule 2 Use activities were identified at or within 100 m of the Project area.

5.2 High Risk Sites

Based on our historical review, no high-risk sites were identified at or within 100 m of the Project area.

6. RECOMMENDATIONS

As no Schedule 2 activities or high-risk sites were identified at or within 100 m of the Project area, a Step B Soil Characterization Report is not required for any cut soils to be relocated within the Project area or to a MOTT property as per the Technical Circular T- 03/20.

If any cut soils cannot be relocated within the Project area or to a MOTT property, a Step B Soil Characterization Report is recommended prior to any soils being disposed of at a third-party receiving facility.

If soils suspected to be contaminated or hazardous are identified during project works, soil must be handled in accordance with SS165.14.03 and Appendix 165-A of MOTT's "2020 Standard Specifications for Highway Construction" dated November 1, 2020. Suspect soils require segregating, testing, handling, and disposal at an approved disposal site or licensed disposal facility.



THURBER ENGINEERING LTD.

7. CLOSURE

We trust this information meets your present needs. If you have any questions, please contact the undersigned at your convenience.

Yours truly,
Thurber Engineering Ltd.

Kalum Skipper, GIT
Environmental Geoscientist

Lora Paul, P.Eng., CSAP
Review Engineer

Attachments

- Statement of Limitations and Conditions
- Figure
- Site Registry
- Federal Contaminated Sites Inventory Findings

Thurber Engineering Ltd. Permit to Practice #1001319



STATEMENT OF LIMITATIONS AND CONDITIONS

1. STANDARD OF CARE

This Report has been prepared in accordance with generally accepted engineering or environmental consulting practices in the applicable jurisdiction. No other warranty, expressed or implied, is intended or made.

2. COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report, which is of a summary nature and is not intended to stand alone without reference to the instructions given to Thurber by the Client, communications between Thurber and the Client, and any other reports, proposals or documents prepared by Thurber for the Client relative to the specific site described herein, all of which together constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. THURBER IS NOT RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3. BASIS OF REPORT

The Report has been prepared for the specific site, development, design objectives and purposes that were described to Thurber by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the Report, subject to the limitations provided herein, are only valid to the extent that the Report expressly addresses proposed development, design objectives and purposes, and then only to the extent that there has been no material alteration to or variation from any of the said descriptions provided to Thurber, unless Thurber is specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client, the BC Ministry of Transportation and Transit (MOTT) and Authorized Users as defined in the MOTT Special Conditions Form H0461d. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT THURBER'S WRITTEN CONSENT AND SUCH USE SHALL BE ON SUCH TERMS AND CONDITIONS AS THURBER MAY EXPRESSLY APPROVE. Any use which an unauthorized third party makes of the Report, is the sole responsibility of such third party. Thurber accepts no responsibility whatsoever for damages suffered by any unauthorized third party resulting from use of the Report without Thurber's express written permission.

5. INTERPRETATION OF THE REPORT

- a) Nature and Exactness of Soil and Contaminant Description: Classification and identification of soils, rocks, geological units, contaminant materials and quantities have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature. Comprehensive sampling and testing programs implemented with the appropriate equipment by experienced personnel may fail to locate some conditions. All investigations utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarizing such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and the Client and all other persons making use of such documents or records with our express written consent should be aware of this risk and the Report is delivered subject to the express condition that such risk is accepted by the Client and such other persons. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. If special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.
- b) Reliance on Provided Information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to Thurber. Thurber has relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, Thurber does not accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other persons providing information relied on by Thurber. Thurber is entitled to rely on such representations, information and instructions and is not required to carry out investigations to determine the truth or accuracy of such representations, information and instructions.
- c) Design Services: The Report may form part of design and construction documents for information purposes even though it may have been issued prior to final design being completed. Thurber should be retained to review final design, project plans and related documents prior to construction to confirm that they are consistent with the intent of the Report. Any differences that may exist between the Report's recommendations and the final design detailed in the contract documents should be reported to Thurber immediately so that Thurber can address potential conflicts.
- d) Construction Services: During construction Thurber should be retained to provide field reviews. Field reviews consist of performing sufficient and timely observations of encountered conditions in order to confirm and document that the site conditions do not materially differ from those interpreted conditions considered in the preparation of the report. Adequate field reviews are necessary for Thurber to provide letters of assurance, in accordance with the requirements of many regulatory authorities.

6. RELEASE OF POLLUTANTS OR HAZARDOUS SUBSTANCES

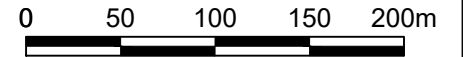
Geotechnical engineering and environmental consulting projects often have the potential to encounter pollutants or hazardous substances and the potential to cause the escape, release or dispersal of those substances. Thurber shall have no liability to the Client under any circumstances, for the escape, release or dispersal of pollutants or hazardous substances, unless such pollutants or hazardous substances have been specifically and accurately identified to Thurber by the Client prior to the commencement of Thurber's professional services.


7. INDEPENDENT JUDGEMENTS OF CLIENT

The information, interpretations and conclusions in the Report are based on Thurber's interpretation of conditions revealed through limited investigation conducted within a defined scope of services. Thurber does not accept responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or others who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report. This restriction of liability includes but is not limited to decisions made to develop, purchase or sell land.



- NOTES:
 1. AERIAL IMAGE TAKEN FROM GOOGLE.
 2. PARCEL LINES TAKEN FROM IMAPBC.



LEGEND:
 SITE BOUNDARY



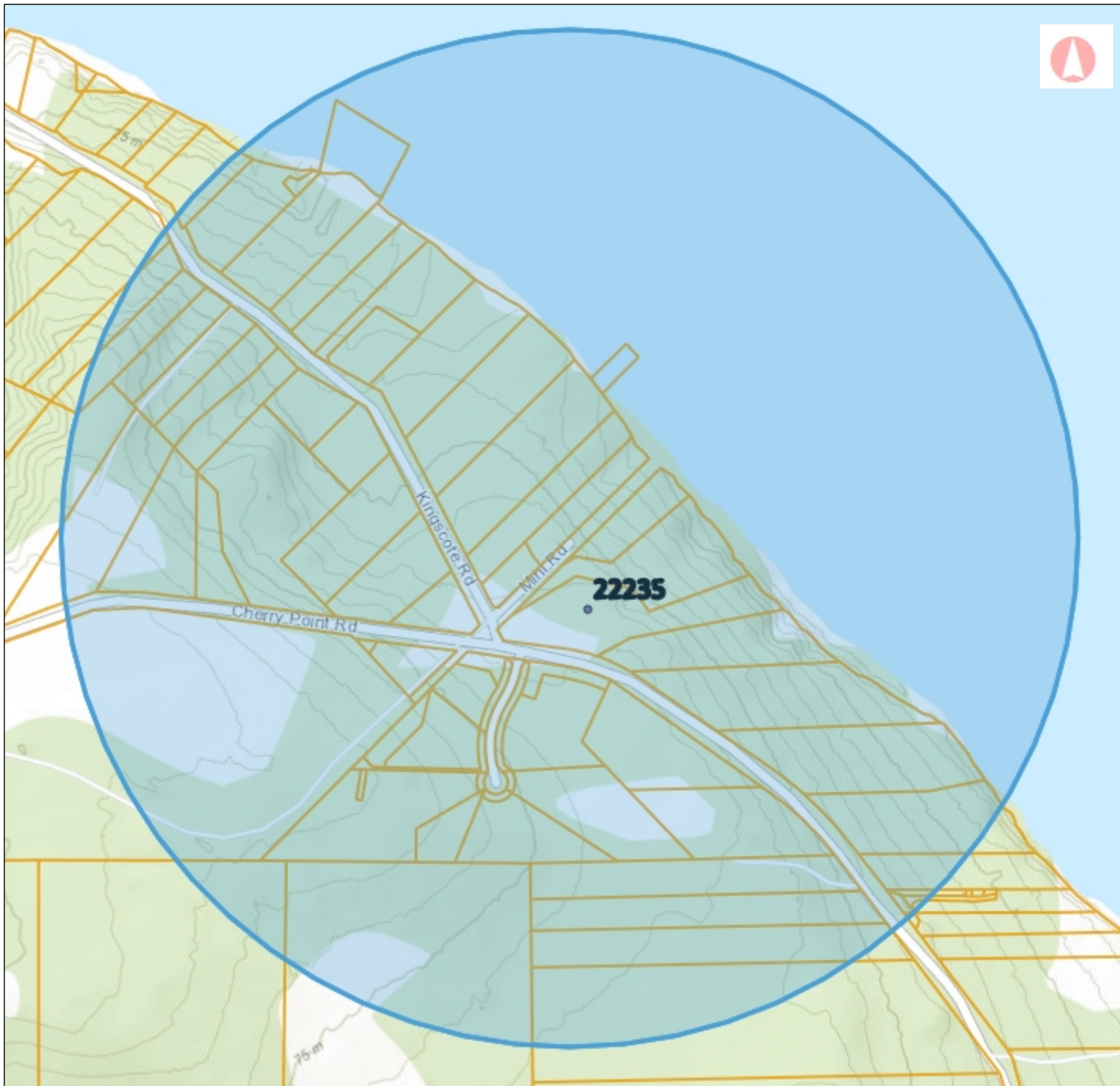
MINISTRY OF TRANSPORTATION AND TRANSIT

SITE AND SURROUNDING LAND USE

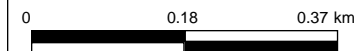
MINI ROAD PROJECT

SHAWNIGAN DISTRICT, BC

DESIGNED KSK	DRAWN MOM	APPROVED LP	DATE JAN. 14, 2024	SCALE 1:4000	PROJECT No. 65669	FIGURE NO. 1	REV. -
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Legend



1: 9,028

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Datum: NAD83
Projection: WGS_1984_Web_Mercator_Auxiliary_Sphere

Key Map of British Columbia

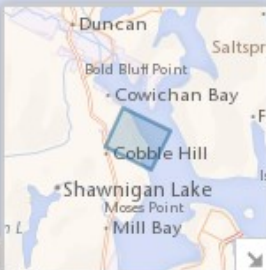
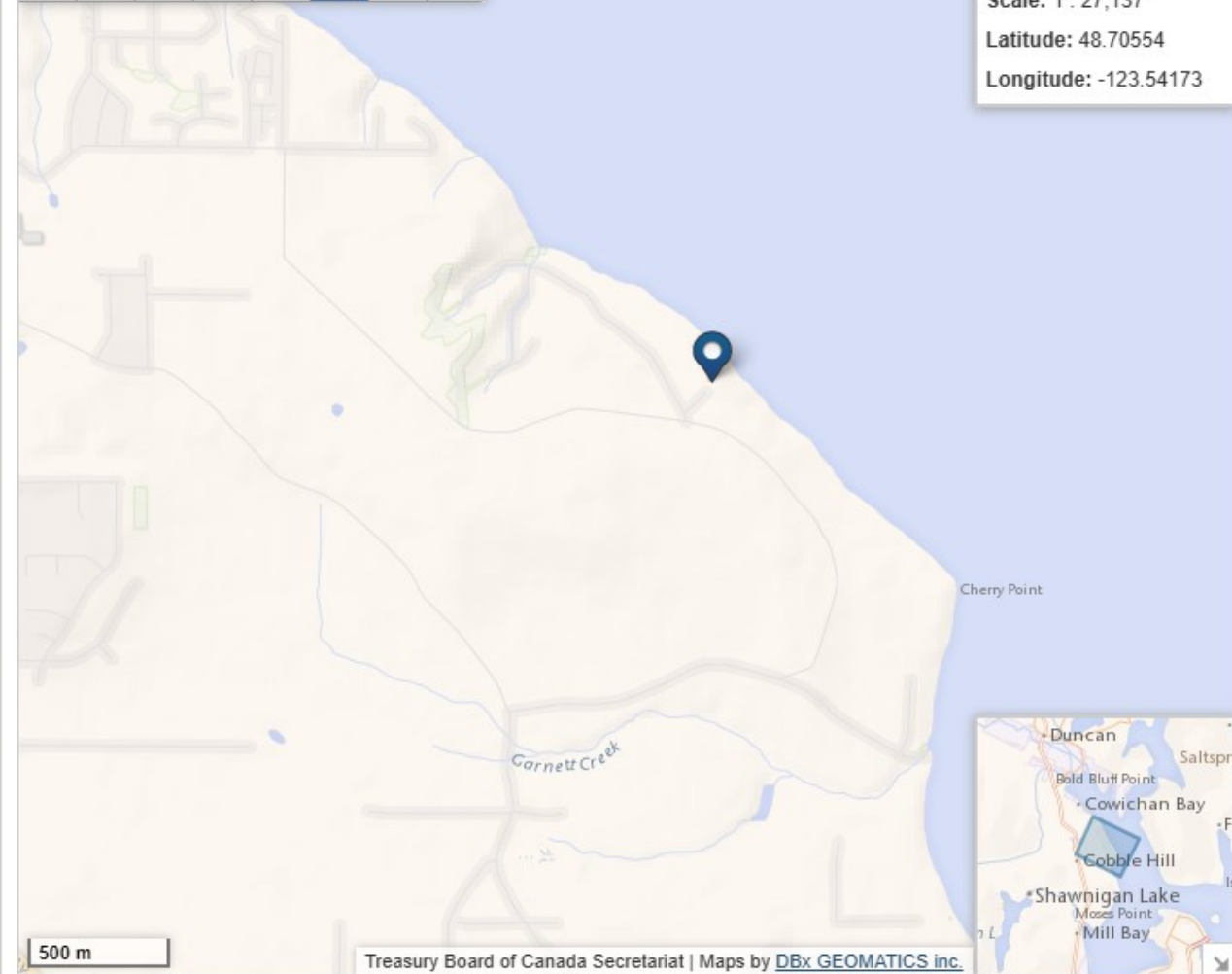


DFRP/FCSI - Map Navigator

Area: Cowichan Valley C, Cowichan Valley D Content: 0 Federal Property, 0 Federal Building, 0 Federal Contaminated Site



▼ Guide
Scale: 1 : 27,137
Latitude: 48.70554
Longitude: -123.54173



Control layers and labels visibility with the checkboxes. Control the base map with the select list. Actions will automatically update the map.

<input checked="" type="checkbox"/>	Federal Properties	<input type="checkbox"/> Visibility ¹	<input type="checkbox"/> Labels
<input checked="" type="checkbox"/>	Federal Buildings	<input type="checkbox"/> Visibility ¹	<input type="checkbox"/> Labels
<input checked="" type="checkbox"/>	Active Federal Contaminated Sites	<input checked="" type="checkbox"/> Visibility ^{1 2}	<input type="checkbox"/> Labels
<input checked="" type="checkbox"/>	Suspected Federal Contaminated Sites	<input checked="" type="checkbox"/> Visibility ^{1 2}	<input type="checkbox"/> Labels
<input checked="" type="checkbox"/>	Closed Federal Contaminated Sites	<input checked="" type="checkbox"/> Visibility ^{1 2}	<input type="checkbox"/> Labels
<input type="checkbox"/>	Economic Region	<input type="checkbox"/> Visibility	<input type="checkbox"/> Labels
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<input type="checkbox"/>	Census Subdivisions	<input type="checkbox"/> Visibility	<input type="checkbox"/> Labels
<input type="checkbox"/>	Metropolitan Areas	<input type="checkbox"/> Visibility	<input type="checkbox"/> Labels
<input type="checkbox"/>	Federal Electoral Districts	<input type="checkbox"/> Visibility	<input type="checkbox"/> Labels
<input type="checkbox"/>	Treaty Areas	<input type="checkbox"/> Visibility	<input type="checkbox"/> Labels

Base map: Standard ³

¹ This layer is visible only when the map scale is smaller than 1:3,000,000.
² Suspected Active Closed
³ Google base maps are only available when the map scale is smaller than 1:60,000.