

November 17, 2014

Marc Rutten, P.Eng.  
 General Manager of Engineering Services  
 Comox Valley Regional District  
 600 Comox Road  
 Courtenay, BC V9N 3P6

Dear Mr. Rutten:

**Re: Comox Pump Station No. 2 - Property Assessment**  
**Project No.: 60333483.501**

The Comox Valley Regional District (CVRD) retained AECOM to complete a desk top environmental site assessment and geotechnical assessment for a designated property (Site) located on Beech Street, Comox, BC with legal address: Lot A Plan VIP 82713 DL 110 LD 15. The CVRD's objective in undertaking the work is to identify whether there are any identifiable environmental and geotechnical issues from a high level screening perspective to ascertain the suitability of the site for construction of a future wastewater pump station.

AECOM undertook a desktop phase 1 environmental assessment (Appendix A) and retained Levelton Consultants to carry out a geotechnical desktop assessment (Appendix B). Copies of both of these documents are attached herein.

The Desktop Phase 1 ESA is comprised of historical record searches, an aerial photograph review, regulatory searches and a review of past reports. The following table summarizes the findings of the ESA:

Subject Site	
Address	No civic address. Site is near the intersection of Beech Street and Docliddle Road, Comox, BC
PID	026-997-266
Legal ID	Lot A, Plan VIP82713, District Lot 110, Comox Land District 15
Zoning	CR-1 - Country Residential 1
Approx. Size	0.156 hectares
Site Visit Conducted by	A site visit was not part of this scope of work
Date of Site Visit	A site visit was not part of this scope of work
Current Owner	[REDACTED]
Current Occupant	The Site is currently vacant and developed with one shed.
Current Use	The Site is currently vacant and developed with one shed.
Former Uses	The Site has been undeveloped since at least 1950.
Current ASTs/USTs	No known storage tanks currently occupy the Site.
Known Former ASTs/USTs	No known storage tanks formerly occupied the Site.
Current/Historical Conditions	Prior to 2004, the Site appeared to be undeveloped land. It is currently developed with one shed. Adjacent land use was historically undeveloped land and is currently rural residential properties. No current/historical environmental conditions were noted based on regulatory searches conducted.
Current/Historical Environmental Concerns	There are no known issues related to special attention items at the Site

Based on the findings of the ESA, the Site is considered as low-risk of having any environmental concerns or impacts.

The desktop geotechnical assessment conducted by Levelton provides a screening level review of potential geotechnical concerns with the proposed Site. In summary, the Site is considered geotechnically suitable for support of a proposed pump station. The dense natural deposits (i.e. hard till, Quadra sand) that are inferred to underlie the Site are considered resistant to liquefaction and favourable from a bearing and temporary excavation slope stability perspective.

We trust that the findings of the environmental and geotechnical screening assessments provides the CVRD with the information sought to complete its due diligence checks related to property acquisition for the purpose of constructing a future wastewater pump station.

Please contact the undersigned if you have any questions.

Sincerely,  
**AECOM Canada Ltd.**



Ken Moysiuk, P.Eng.  
Senior Engineer

Encl.

:KM

# **Appendix A**

**Environmental Site Assessment  
(AECOM Canada Ltd.)**

## **Desktop Phase I Environmental Site Assessment – PID 026997266, Comox, BC**

**Prepared by:**

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Burnaby, BC, Canada V5A 4R4  
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604 444 6400	tel
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**Project Number:**

60333483

**Date:**

November 2014

## Statement of Qualifications and Limitations

The attached Report (the “Report”) has been prepared by AECOM Canada Ltd. (“Consultant”) for the benefit of the client (“Client”) in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the “Agreement”).

The information, data, recommendations and conclusions contained in the Report (collectively, the “Information”):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the “Limitations”);
- represents Consultant’s professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to Consultant which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

Consultant shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. Consultant accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

Without in any way limiting the generality of the foregoing, any estimates or opinions regarding probable construction costs or construction schedule provided by Consultant represent Consultant’s professional judgement in light of its experience and the knowledge and information available to it at the time of preparation. Since Consultant has no control over market or economic conditions, prices for construction labour, equipment or materials or bidding procedures, Consultant, its directors, officers and employees are not able to, nor do they, make any representations, warranties or guarantees whatsoever, whether express or implied, with respect to such estimates or opinions, or their variance from actual construction costs or schedules, and accept no responsibility for any loss or damage arising therefrom or in any way related thereto. Persons relying on such estimates or opinions do so at their own risk.

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This Statement of Qualifications and Limitations is attached to and forms part of the Report and any use of the Report is subject to the terms hereof.

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November 14, 2014

Marc Rutten  
General Manager of Engineering Services  
Comox Valley Regional District  
600 Comox Road  
Courtenay, British Columbia  
V9N 3P6

Dear Mr. Rutten,

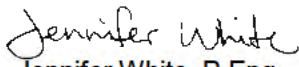
**Project No:** 60333483

**Regarding:** Desktop Phase I Environmental Site Assessment  
PID 026997266, Comox, British Columbia

We are pleased to submit our Desktop Phase I Environmental Site Assessment for PID 026997266, located in Comox, British Columbia.

We trust that this report and the information presented herein are consistent with your expectations. Please feel free to contact the undersigned if you have any questions.

Sincerely,  
**AECOM Canada Ltd.**

  
Jennifer White, P.Eng.  
Environmental Engineer  
jennifer.white@aecom.com

JW:iu

## Distribution List

# of Hard Copies	PDF Required	Association / Company Name
1	Yes	Comox Valley Regional District

## Revision Log

Revision #	Revised By	Date	Issue / Revision Description

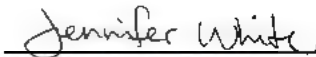
## AECOM Signatures

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Ian Urbanski, B.Sc., G.I.T.  
Hydrogeologist

Report Reviewed By:



\_\_\_\_\_  
Jennifer White, P.Eng.  
Environmental Engineer

## Executive Summary

AECOM Canada Limited (AECOM) was retained by the Comox Valley Regional District to conduct a Desktop Phase I Environmental Site Assessment (ESA) for a site comprising of PID 026-997-266 in Comox, British Columbia (the Site).

This Phase I ESA was undertaken as part of a 90-day due diligence check in advance of a purchase of property. The Site is being purchased by the Comox Valley Regional District in order to construct a wastewater pump station.

The Site is currently undeveloped and is bounded by Beech Street to the east and residential properties to the north, west and south.

The Desktop Phase I ESA was undertaken to identify and document current and historical conditions of the Site. This ESA is comprised of historical records searches, an aerial photograph review, regulatory searches and a review of past reports. No Site visit was performed as part of this scope of work. A summary of the findings presented in the ESA is outlined in Table 1, below.

**Table 1. Executive Summary**

<b>Subject Site</b>	
<b>Address</b>	No civic address. Site is near the intersection of Beech Street and Docliddle Road, Comox, BC
<b>PID</b>	026-997-266
<b>Legal ID</b>	Lot A, Plan VIP82713, District Lot 110, Comox Land District 15
<b>Zoning</b>	CR-1 - Country Residential 1
<b>Approx. Size</b>	0.156 hectares
<b>Site Visit Conducted by</b>	A site visit was not part of this scope of work
<b>Date of Site Visit</b>	A site visit was not part of this scope of work
<b>Current Owner</b>	[REDACTED]
<b>Current Occupant</b>	The Site is currently vacant and developed with one shed.
<b>Current Use</b>	The Site is currently vacant and developed with one shed.
<b>Former Uses</b>	The Site has been undeveloped since at least 1950.
<b>Current ASTs/USTs</b>	No known storage tanks currently occupy the Site.
<b>Known Former ASTs/USTs</b>	No known storage tanks formerly occupied the Site.
<b>Current/Historical Conditions</b>	Prior to 2004, the Site appeared to be undeveloped land. It is currently developed with one shed. Adjacent land use was historically undeveloped land and is currently rural residential properties. No current/historical environmental conditions were noted based on regulatory searches conducted.
<b>Current/Historical Environmental Concerns</b>	There are no known issues related to special attention items at the Site
<b>Summary of Findings</b>	Following the historical records review, the Site appears to be at low risk of having any environmental concerns or impacts. However, it is recommended that the results of the desktop review be confirmed with a site visit.

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- Appendix C: Ecolog ERIS Search Results
- Appendix D: Historical Aerial Photographs

# 1. Introduction

AECOM Canada Limited (AECOM) was retained by the Comox Valley Regional District to conduct a Desktop Phase I Environmental Site Assessment (ESA) at the property identified as PID 026997266 in Comox, British Columbia. The assessment was undertaken to identify and document current and historical conditions of the Site. No Site visit was conducted as part of this scope of work.

This Phase I ESA was undertaken as part of a 90-day due diligence check in advance of a purchase of property by the Comox Valley Regional District, in order to construct a wastewater pump station.

## 2. Scope of Work

The scope of the work for the Phase I ESA included the following:

- A review of available current and historical information (regulatory agency files, geological data, Land Assessments, historical aerial photographs, etc);
- Review of previous environmental reports pertaining to the Site, if available; and
- Evaluation and reporting of information.

A site visit was not required as part of this ESA as per client direction. Interviews with past owners, operators, and occupants of the Site/Property were not conducted due to the lack of knowledgeable people available for interview and the confidential nature of the property transaction.

## 3. Desktop Phase I ESA

### 3.1 Site Location

The Site (PID 026997266) is comprised of a vacant tract of land near the intersection of Beech Street and Docliddle Road in Comox, British Columbia. The area of the property is approximately 0.156 ha (1,560 m<sup>2</sup>). The site does not have a municipal address. The legal description for the Site is Lot: A, Plan: VIP 82713, District Lot: 110, LD: 15.

The property is currently zoned as CR-1 - Country Residential 1. The geographic location (UTM) is 362568.98 m east, and 5503771.89 m north in UTM Zone 10. The property is bounded by the residential areas to the north, east and south and by Beech Street to the west. The Site is accessible via a gated gravel driveway off Beech Street. The location of the Site is provided on Figure 1.

### 3.2 Site Characterization

The Site is currently developed with a small shed, located near the northeast corner of the Site. No paved areas are visible in aerial photographs or Google Street View. The Site is surrounded by tall vegetation and the main access point is via a gated driveway off Beech Street. A variety of vegetation can be found on Site and no indication of vegetation distress was observed from aerial photos and Google Street View.

The Site is surrounded by rural developed land, consisting of residential houses and some partially cleared, vegetated areas. No standing water appears to be present on the Site.

### 3.3 Regulatory Structure

Soil, surface water and groundwater quality standards that apply to this site are specified in the *BC Contaminated Sites Regulation* (BC Regulation 375/96) (CSR). The use of this site is currently classified as country residential land, therefore Residential (RL) soil standards apply to this site. In accordance with Technical Guidance 6, drinking water standards would apply to groundwater at this site.

### 3.4 Physical Environment

#### 3.4.1 Bedrock Geology

A review of the Vancouver Island Bedrock Geology Map indicated that the property is underlain by Nanaimo Group Undivided Sedimentary Rocks, which consists of relatively soft sedimentary rocks approximately 6 km thick overlying more resistant crystalline rocks. The Nanaimo Group is characterized by an alternating conglomerate of sandstone and shale with coal seams.

#### 3.4.2 Surficial Geology

A review of the Vancouver Island Surficial Geology Map indicated that surficial sediments include marine and glaciomarine sediments, including clayey silt deposits and intertidal deposits of sand and gravel.

#### 3.4.3 Topography and Drainage

Topography on the Site is generally flat but slopes slightly towards the Strait of Georgia, approximately 220 m to the south.

Silt and clay material dominating the regional site geology possess a low permeability and restrict groundwater flow. However, lenses of sand and silts may create preferential flow pathways. Generally, regional groundwater flow velocity is expected to be quite high. Based on regional topography, local groundwater is expected to flow southward towards the Strait of Georgia. Groundwater levels are anecdotally near sea level.

Contaminant transport mechanisms associated with groundwater flow pathways will follow the groundwater flow and prevailing hydraulic gradient. “Down-gradient” properties represent potential recipients. Similarly, the Site would be a recipient of “Up-gradient” migrations of contaminants. “Cross-gradient” transport is considered less likely to contribute to contamination at the Site. Generally, the Site is vulnerable to up-gradient contamination releases from properties located to the north.

Potable water is supplied to the neighboring residential areas through water wells. There is no water provided to the Site or neighboring areas by the Comox Valley Regional District (CVRD) piped water supply distribution system.

### 3.5 Records Review

#### 3.5.1 Land Title Search

A land title search was conducted in BC Assessment’s property database through BC Online using the Site’s PID number. The records indicate the site has been owned since February 28, 2007 by [REDACTED] of Courtenay, BC. The site is noted as vacant residential use, and has a 2014 assessed value of \$299,000. No information prior to 2007 was available. A copy of the BC Online search is included in Appendix A.

### 3.5.2 Site Registry

A site registry was performed using the BC Online service. The site registry contains information regarding land titles, property assessments, BC companies, registrations under the Personal Property Security Act, and various other information services. A search was conducted using both the Site's PID number and latitude and longitude coordinates.

Search results as of November 6, 2014 indicate no records for this Site based on the PID. The area search results indicated one record, however the site is located in Courtenay, BC and would therefore have no impact on the subject Site. A copy of the BC Online search is included in Appendix A.

### 3.5.3 Federal Contaminated Sites Inventory

The Federal Contaminated Sites Inventory includes information on all known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated. The inventory also includes non-federal sites for which the Government of Canada has assumed some or all financial responsibility.

The Federal Contaminated Sites Registry was searched to locate any federally contaminated sites either at, or within 0.5 km of the Site. The Site was not contained within the registry, nor were there any properties within 0.5 km of the Site contained within the registry.

### 3.5.4 BC Water Well Registry

The British Columbia Well Registry is a searchable database of groundwater wells and monitoring sites. The registry is searchable through the British Columbia Water Resources Atlas, which displays information related to the water resources of British Columbia, such as watersheds, water quantity and quality monitoring sites, aquifers, water wells and flood protection works.

A review of the BC water well database shows that there are 26 wells within the immediate (250 m radius) vicinity of the Site. Records indicate groundwater levels are approximately 3.6-7.6 m (12-25 ft) below the top of pipe based on the three wells closest to the Site. One of these wells is noted as a drinking water well, however, information is not provided for the other two wells. A map of the results, including well records for the three closest wells to the Site are provided in Appendix B.

### 3.5.5 Ecolog ERIS Agency Searches

A radial area search of 0.5 km was performed by the Environmental Risk Information Service (ERIS) Ltd Ecolog group for 43 environment databases. The search indicated mappable records within the search radius around the Site within one database. The results of the Ecolog ERIS search are provided in Appendix C, and discussed below.

#### Water Well Information System

The water well database contains over 90,000 records compiled by the Groundwater Information Center of the BC Ministry of Water, Land & Air Protection. ERIS reported 26 wells within a 250 m radius of Site. The majority of these wells are listed as private domestic use wells. These records do not indicate any potential impacts to the Site.

### 3.5.6 Aerial Photographs

An historical aerial photograph review was conducted using air photos obtained from the UBC Library and via Google Earth Pro. Photographs covering the years 1950 to 2012 were available for the Site area and adjacent properties. An overview of the information noted in the photos is listed below:

- 1950:** Site and adjacent land appear undeveloped. A road in the vicinity of present-day Docliddle Road is visible.
- 1957:** No change to the Site and adjacent property since 1950.
- 1964:** No change to the subject site since 1957. Some clearing and development of adjacent land is visible.
- 1968:** No change to the subject site since 1964. Additional clearing and development of streets around adjacent land is visible.
- 1975:** No change to the subject site since 1968. The surrounding land appears to have undergone significant development and some adjacent properties appear to be landscaped.
- 1979:** No change to the subject site since 1975. The residential area to the south of the Site has undergone development.
- 1984:** No change to the subject site since 1979. The residential areas to the east and north of the Site have undergone development.
- 1992:** No change to the subject site since 1984. Housing to the west of the Site is visible.
- 1996:** No change to the Site and adjacent property since 1992.
- 2004:** The Site appears to be partially cleared, and the shed is visible. No change to adjacent property since 1996.
- 2012:** No change to the Site and adjacent property since 2004.

Historical aerial photographs are provided as Appendix D.

### 3.5.7 Neighbouring Properties

Consolidating data from aerial photographs, city directories and Google Street View, the following table summarizes the Site's neighbouring properties. No environmental issues relate to adjacent land use were noted based on this review.

**Table 1. Adjacent Land Use**

Direction	Residential Address	Land Use
North	106 Beech Street	Residential
East	71, 101, 105 Stafford Street	Residential
South	72 Beech Street	Residential
West	1259, 1260 Docliddle Road (across Beech Street)	Residential

### 3.5.8 Previous Environmental Site Reports

No previous environmental Site reports were made available to AECOM while researching this Desktop Phase I ESA.

### 3.5.9 Tax Report

A tax report search was conducted using the Site PID number. No results were provided, and a copy of the search request is provided in Appendix A.

## 3.6 Special Attention Items

### 3.6.1 Asbestos Containing Materials

Asbestos must be inhaled in order to cause health risks. Asbestos containing material (ACM) that is intact and undisturbed presents no direct health hazard providing the fibres are not released and inhaled. ACM that is in good condition in an inaccessible location and protected from damage is considered to be minimal for health risks. The use of AMCs stopped in Canada in the late 1970s to the early 1980s. As the Site is undeveloped, it is unlikely that ACM are present.

### 3.6.2 Lead Based Paint

Canadian regulations did not limit the amount of lead in interior paint until 1976. In 1976, the level of lead in interior paint is limited to 0.5% by weight. In 1977, the United States prohibited the intentional addition of lead to consumer paints, whereby the maximum total lead level in the U.S. was set to 600 mg/kg. In 1991, the Canadian Paint and Coatings Association adopted this value for all Canadian consumer paints. Since this more stringent maximum concentration of total lead was adopted for Canadian consumer paints, the Surface Coating Material Regulations of the *Hazardous Products Act (SOR/2005-109)* have also been amended to reflect the reduction in the maximum total lead content requirement from 0.5% by weight to 0.06% by weight.

In the past, lead was often used as a pigment in shades of white, although its use decreased starting in the 1950s as other pigments were substituted. Presently under the *Hazardous Products Act*, paints containing less than 0.06% by weight of lead are not considered to be lead-containing paints. The most common health risk for lead exposure is via inhalation of airborne lead dust or fumes. Lead is not normally absorbed through skin contact, unless through a break in the skin. Lead-based paint (LBP) does not normally pose a health hazard if it remains in good condition. The hazard of LBP would begin after the paint begins to chip or peel. If the LBP flakes turn into dust, anything the dust contacts will be contaminated. Removing LBP can create a greater health hazard than if it were to be left as is.

As the Site is undeveloped, it is unlikely that LBM are present on the Site.

### 3.6.3 Mould

Mould is a filamentous fungus that is commonly found both outdoors and indoors. A variety of health effects including allergies, infection or irritation may be associated with the exposure to mould. Mould is often associated with cellulose-based surfaces that have been wet for an extended period of time. A mould contaminated surface may appear discoloured with raised, fuzzy appearance. No reports were found indicating that mould contaminated surfaces were present on the Site.

### 3.6.4 Polychlorinated Biphenyl (PCB)

PCBs are regulated by the federal government under the *Canadian Environmental Protection Act (CEPA)*. PCBs are generally associated with electrical equipment such as transformers and capacitors. Between 1977 and 1981, manufacturers of this type of equipment in Canada discontinued the use of PCBs in production. As no Site visit was conducted as part of this Desktop Phase I ESA, it is unknown if any transformers containing PCBs were installed on power poles in the vicinity of the site. However, observations based on Google Earth street view did not indicate any transformers in the vicinity of the Site.

### 3.6.5 Urea-formaldehyde Foam Insulation (UFFI)

Urea-formaldehyde foam insulation (UFFI) was developed in Europe in the 1950s as a means to improve insulation in difficult to reach cavities in house walls. In the 1970s, UFFI became an important insulation product for houses due to energy efficiency concerns. Most insulations occurred between 1977 and 1980. UFFI was banned for use in Canada in 1980 under the *Hazardous Products Act* due to its potential to release formaldehyde gas into indoor air.

As the Site is undeveloped, it is unlikely that UFFI are present on the Site.

### 3.6.6 Odour, Noise and Vibration

Odour, noise and vibration are typical for light industrial operations and do not appear to represent environmental concern at this site based on current land use.

### 3.6.7 Ozone Depleting Substances

No sources of ozone depleting substances were identified during the desktop review. No significant environmental issues are anticipated with respect to ozone depleting substances on the Site.

### 3.6.8 Radon Gas

Radon is formed by the natural breakdown of uranium in soil, rock and water. Radon is typically a concern in areas underlain by granitic bedrock as radon can escape from the ground into the outdoor air and is known to accumulate in basements. Given the geology of the site, and the lack of development, radon does not pose a significant environmental risk to the Site.

### 3.6.9 Mercury

No sources of mercury were identified during the desktop review. No significant environmental issues are anticipated with respect to mercury on the Site.

## 4. Evaluation of Findings

### 4.1 On-Site Issues

Based on the results of the desktop information review, no areas of potential environmental concern are anticipated with the Site. However, a site visit was not conducted as this was outside the scope of work.

### 4.2 Off-Site Issues

Based on the results of the desktop information review, no off-site issues were identified that could impact the site.

## 5. Conclusions

Based on review of the historical aerial photos, regulatory database searches and historical records search, the Site has been residential land since at least the 1950s. Following the historical records review, the Site appears to be at low risk of having any environmental concerns or impacts. However, it is recommended that the results of the desktop review be confirmed with a site visit.

## 6. References

British Columbia Ministry of Environment, 2014:

Bedrock Geology of Vancouver Island, website located at: <http://www.env.gov.bc.ca/van-island/maps/bedrock.jpg>

British Columbia Ministry of Environment, 2014:

Surficial Geology of Vancouver Island, website located at: <http://www.env.gov.bc.ca/van-island/maps/surfical.jpg>

British Columbia Online portal:

<https://www.bconline.gov.bc.ca/main.html>

Canadian Standards Association (CSA), 2012:

Z768-01, Phase I Environmental Site Assessment, Reaffirmed 2012.

Comox Valley Regional District, 2014:

Geographical Information System (GIS) Map, website located at <http://www.comoxvalleyrd.ca/EN/main/community/about-the-cvrd/imap.html>

Environment Canada (EC), 2010:

CEPA Environmental Registry, website located at: <http://www.ec.gc.ca/CEPARegistry/default.cfm>.

Environment Canada (EC), 1991:

Environmental Protection Series, Identification of Lamp Ballasts Containing PCBs, Report EPS 2/CC/2 (revised) August 1991.

Environment Act, Contaminated Sites Regulation, Schedule 2, Oct 4, 2010

ERIS, *Ecolog*, Detailed search of environmental databases, Order number 20141107081.

[www.eris.ca](http://www.eris.ca).

Google Earth Pro, version 7.0.2.8415, used under license.

Aerial Photographs from 2004 and 2012, Street View accessed November 6, 2014.

Government of Canada (GC), 2010:

Minister of Justice, *Hazardous Products Act*, (R.S., 1985, c. H-3) <http://laws.justice.gc.ca/en/H-3/>

Government of British Columbia, 2010:

Water Resources Atlas. Database prepared by the Government of British Columbia, Department of Environment, last updated: April 2010. [http://www.env.gov.bc.ca/wsd/data\\_searches/wrbc/index.html](http://www.env.gov.bc.ca/wsd/data_searches/wrbc/index.html)

University of British Columbia

Aerial Photos provided by UBC Library from 1950, 1957, 1964, 1968, 1975, 1979, 1984, 1992 and 1996.

# Figures

- Figure 1: Site Map

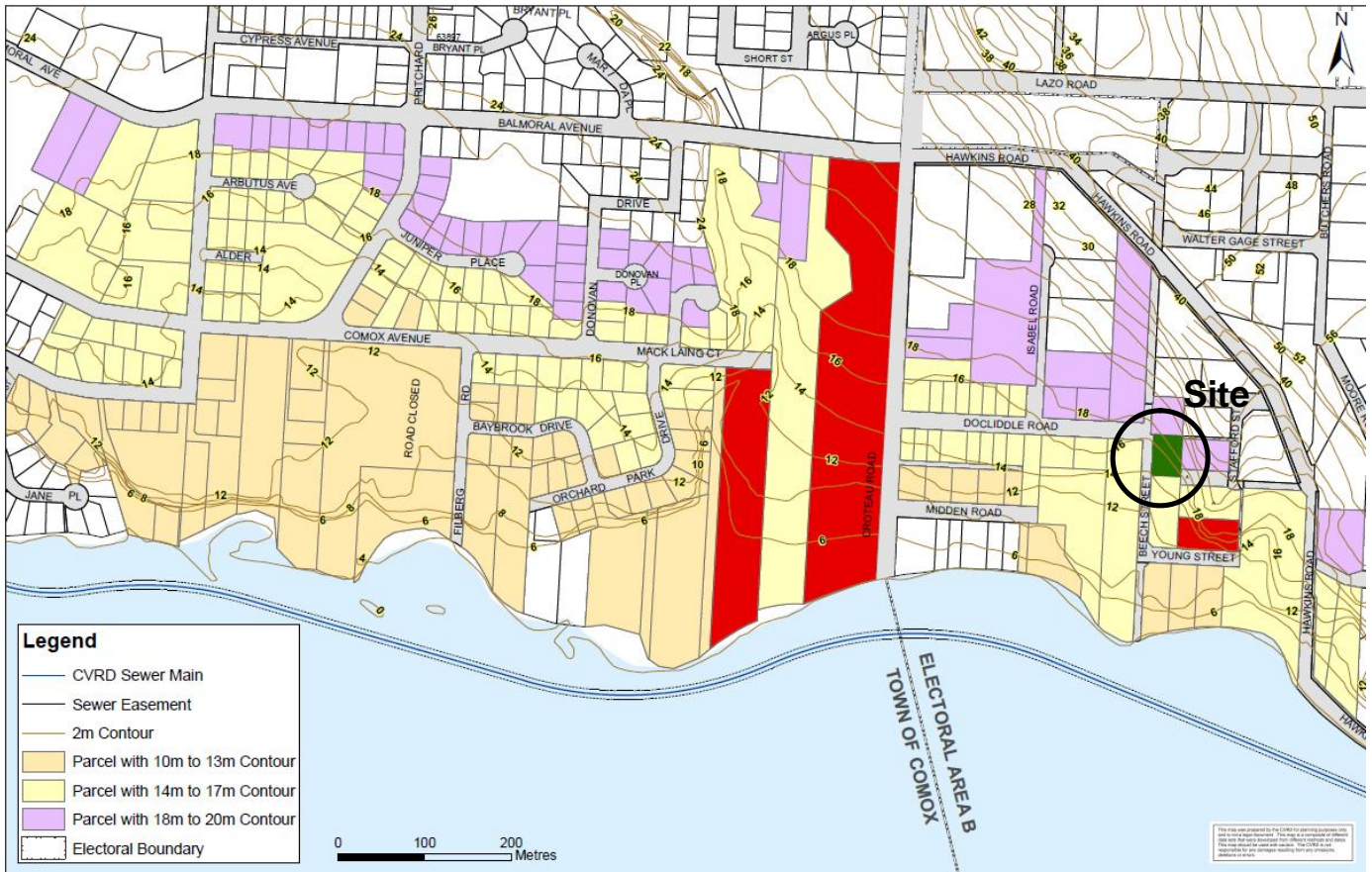


Figure 1. Site Map

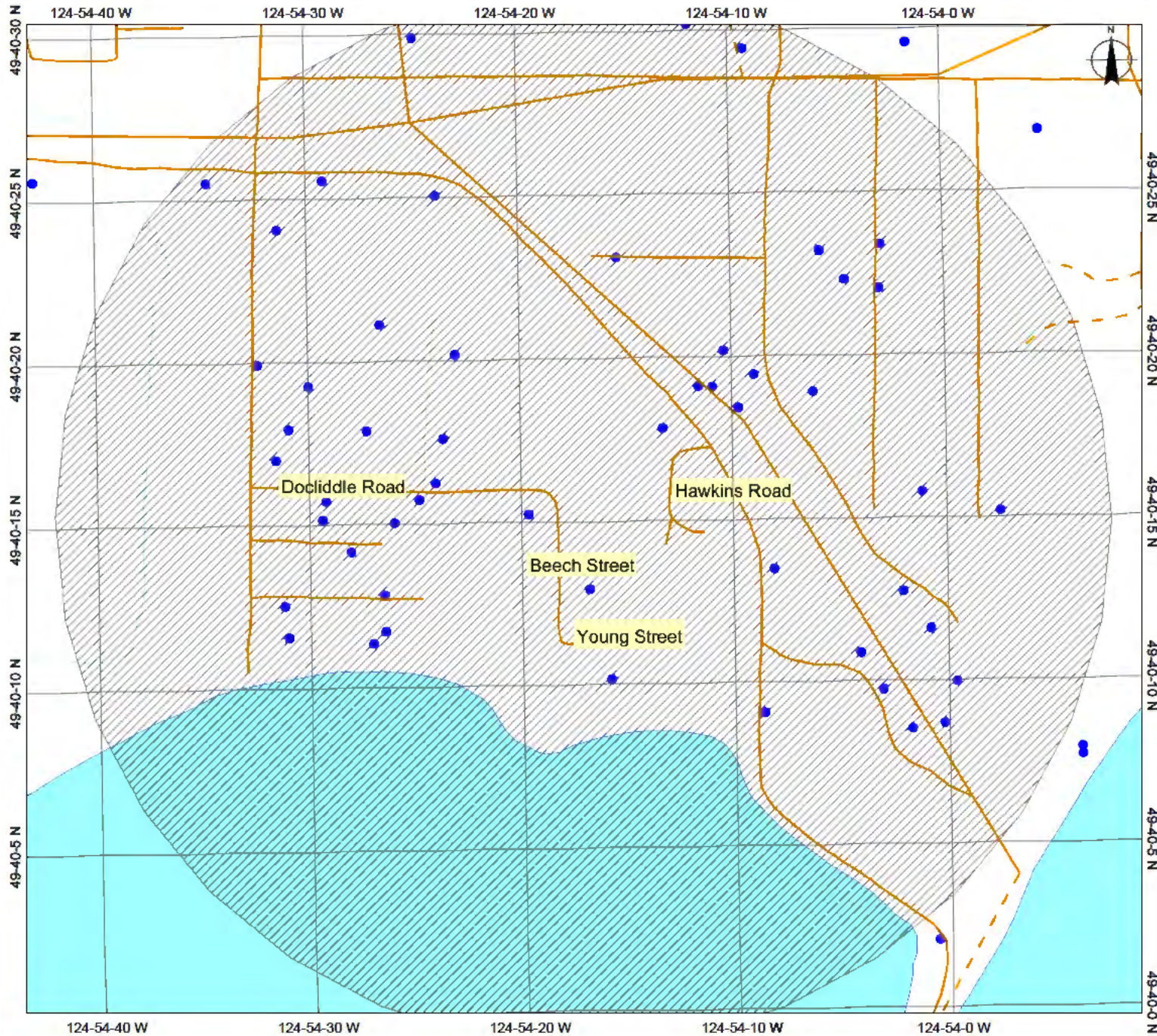
# Appendix A

## BC Online Search Results

- Land Titles
- Site Registry
- Tax Certificate

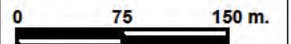
# Appendix B

## BC Water Well Registry



**Water Wells - Comox BC**

Legend



Scale: 1:5,410

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Datum/Projection: NAD83, Albers Equal Area Conic

Key Map of British Columbia





## Report 1 - Detailed Well Record

Well Tag Number: 49756	Construction Date: 1981-12-31 00:00:00
Owner: [REDACTED]	Driller: J. B. Caswell Drilling
Address: HAWKINS RD GOOSE SPIT	Well Identification Plate Number:
Area: COMOX	Plate Attached By:
WELL LOCATION:	Where Plate Attached:
COMOX Land District	PRODUCTION DATA AT TIME OF DRILLING:
District Lot: 110 Plan: 32797 Lot: B	Well Yield: 6 (Driller's Estimate) Gallons per Minute (U.S./Imperial)
Township: Section: Range:	Development Method:
Indian Reserve: Meridian: Block:	Pump Test Info Flag:
Quarter:	Artesian Flow:
Island:	Artesian Pressure (ft):
BCGS Number (NAD 83): 092F066324 Well: 24	Static Level: 12 feet
Class of Well:	WATER QUALITY:
Subclass of Well:	Character:
Orientation of Well:	Colour:
Status of Well: New	Odour:
Well Use: Private Domestic	Well Disinfected: N
Observation Well Number:	EMS ID:
Observation Well Status:	Water Chemistry Info Flag:
Construction Method: Drilled	Field Chemistry Info Flag:
Diameter: 5.0 inches	Site Info (SEAM):
Casing drive shoe:	Water Utility:
Well Depth: 130 feet	Water Supply System Name:
Elevation: 0 feet (ASL)	Water Supply System Well Name:
Final Casing Stick Up: inches	SURFACE SEAL:
Well Cap Type:	Flag:
Bedrock Depth: feet	Material:
Lithology Info Flag:	Method:
File Info Flag:	Depth (ft):
	Thickness (in):

Sieve Info Flag:	
Screen Info Flag:	WELL CLOSURE INFORMATION:
	Reason For Closure:
Site Info Details:	Method of Closure:
Other Info Flag:	Closure Sealant Material:
Other Info Details:	Closure Backfill Material:
	Details of Closure:

Screen from	to feet	Type	Slot Size
-------------	---------	------	-----------

Casing from	to feet	Diameter	Material	Drive Shoe
-------------	---------	----------	----------	------------

GENERAL REMARKS:  
GOOD QUALITY AND QUANTITY.

LITHOLOGY INFORMATION:

From 0 to 10 Ft. surface till  
 From 10 to 30 Ft. sand / 20 % gravel  
 From 30 to 45 Ft. 75 % angular gravel / sand  
 From 45 to 100 Ft. angular gravel/sand/ grey clay  
 From 100 to 120 Ft. 30 % round gravel/some angular fine  
 From 0 to 0 Ft. white sand

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- [Return to Search Criteria](#)

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**Report 1 - Detailed Well Record**

<p>Well Tag Number: 96248</p> <p>Owner: ██████████</p> <p>Address: 72 BEECH STREET</p> <p>Area: COMOX</p> <p>WELL LOCATION:</p> <p>COMOX Land District</p> <p>District Lot: 110 Plan: 32797 Lot: A</p> <p>Township: Section: Range:</p> <p>Indian Reserve: Meridian: Block:</p> <p>Quarter:</p> <p>Island:</p> <p>BCGS Number (NAD 83): 092F066324 Well:</p> <p>Class of Well: Water supply</p> <p>Subclass of Well: Domestic</p> <p>Orientation of Well: Vertical</p> <p>Status of Well: New</p> <p>Well Use: Private Domestic</p> <p>Observation Well Number:</p> <p>Observation Well Status:</p> <p>Construction Method:</p> <p>Diameter: inches</p> <p>Casing drive shoe: Y</p> <p>Well Depth: 60.5 feet</p> <p>Elevation: feet (ASL)</p> <p>Final Casing Stick Up: 5 inches</p> <p>Well Cap Type: WELDED CAP ON CASING TOP</p> <p>Bedrock Depth: feat</p> <p>Lithology Info Flag: Y</p> <p>File Info Flag: N</p> <p>Sieve Info Flag: N</p> <p>Screen Info Flag: Y</p> <p>Site Info Details:</p> <p>Other Info Flag:</p> <p>Other Info Details:</p>	<p>Construction Date: 1992-03-30 00:00:00</p> <p>Driller: Anderson Water Wells</p> <p>Well Identification Plate Number:</p> <p>Plate Attached By:</p> <p>Where Plate Attached:</p> <p>PRODUCTION DATA AT TIME OF DRILLING:</p> <p>Well Yield: 7 (Driller's Estimate) U.S. Gallons per Minute</p> <p>Development Method: Bailing</p> <p>Pump Test Info Flag: N</p> <p>Artesian Flow:</p> <p>Artesian Pressure (ft):</p> <p>Static Level: 25 feet</p> <p>WATER QUALITY:</p> <p>Character:</p> <p>Colour:</p> <p>Odour:</p> <p>Well Disinfected: N</p> <p>EMS ID:</p> <p>Water Chemistry Info Flag: N</p> <p>Field Chemistry Info Flag:</p> <p>Site Info (SEAM):</p> <p>Water Utility:</p> <p>Water Supply System Name:</p> <p>Water Supply System Well Name:</p> <p>SURFACE SEAL:</p> <p>Flag: N</p> <p>Material:</p> <p>Method:</p> <p>Depth (ft):</p> <p>Thickness (in):</p> <p>Liner from To: feet</p> <p>WELL CLOSURE INFORMATION:</p> <p>Reason For Closure:</p> <p>Method of Closure:</p> <p>Closure Sealant Material:</p> <p>Closure Backfill Material:</p> <p>Details of Closure:</p>										
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20%;">Screen from</td> <td style="width:20%;">to feet</td> <td style="width:20%;">Type</td> <td style="width:20%;">Slot Size</td> <td style="width:20%;"></td> </tr> <tr> <td>56.5</td> <td>60.5</td> <td></td> <td>10</td> <td></td> </tr> </table>	Screen from	to feet	Type	Slot Size		56.5	60.5		10		
Screen from	to feet	Type	Slot Size								
56.5	60.5		10								
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20%;">Casing from</td> <td style="width:20%;">to feet</td> <td style="width:20%;">Diameter</td> <td style="width:20%;">Material</td> <td style="width:20%;">Drive Shoe</td> </tr> <tr> <td>0</td> <td>6</td> <td>6</td> <td>Steel</td> <td>Y</td> </tr> </table>	Casing from	to feet	Diameter	Material	Drive Shoe	0	6	6	Steel	Y	
Casing from	to feet	Diameter	Material	Drive Shoe							
0	6	6	Steel	Y							
GENERAL REMARKS:											

MEASUREMENTS FROM TOP OF CASING. PITLESS UNIT: WELDED, NEW. SHOE: STEEL. FITTINGS: TOP K-PACKER, BOTTOM THREADED. RECOMMENDED PUMPING RATE: 7 USGPM.

LITHOLOGY INFORMATION:

From	0	to	12 Ft.	dark sand-gravel streaks loam
From	12	to	20 Ft.	SAND & GRAVEL YELLOW-BROWN vari-coloured
From	20	to	45 Ft.	grey gravelly till
From	45	to	61 Ft.	SAND & GRAVEL YELLOW-BROWN vari-coloured

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## Report 1 - Detailed Well Record

Well Tag Number: 24101	Construction Date: 1970-10-20 00:00:00
Owner: [REDACTED]	Driller: Jay Dee Drilling
Address: CROTEAU BEACH	Well Identification Plate Number:
Area: COMOX	Plate Attached By:
WELL LOCATION:	Where Plate Attached:
COMOX Land District	PRODUCTION DATA AT TIME OF DRILLING:
District Lot: 87 Plan: 2657 Lot: 24	Well Yield: 5 (Driller's Estimate) Gallons per Minute (U.S./Imperial)
Township: Section: Range:	Development Method:
Indian Reserve: Meridian: Block:	Pump Test Info Flag:
Quarter:	Artesian Flow:
Island:	Artesian Pressure (ft):
BCGS Number (NAD 83): 092F066324 Well: 15	Static Level: 13 feet
Class of Well:	WATER QUALITY:
Subclass of Well:	Character:
Orientation of Well:	Colour:
Status of Well: New	Odour:
Well Use: Unknown Well Use	Well Disinfected: N
Observation Well Number:	EMS ID:
Observation Well Status:	Water Chemistry Info Flag:
Construction Method: Drilled	Field Chemistry Info Flag:
Diameter: 6.0 inches	Site Info (SEAM):
Casing drive shoe:	Water Utility:
Well Depth: 62.5 feet	Water Supply System Name:
Elevation: 0 feet (ASL)	Water Supply System Well Name:
Final Casing Stick Up: inches	SURFACE SEAL:
Well Cap Type:	Flag:
Bedrock Depth: feet	Material:
Lithology Info Flag:	Method:
File Info Flag:	Depth (ft):
	Thickness (in):

Sieve Info Flag:	
Screen Info Flag:	WELL CLOSURE INFORMATION:
	Reason For Closure:
Site Info Details:	Method of Closure:
Other Info Flag:	Closure Sealant Material:
Other Info Details:	Closure Backfill Material:
	Details of Closure:

Screen from	to feet	Type	Slot Size
-------------	---------	------	-----------

Casing from	to feet	Diameter	Material	Drive Shoe
-------------	---------	----------	----------	------------

GENERAL REMARKS:

LITHOLOGY INFORMATION:

From 0 to 0 Ft. From 0 to 18" topsoil

From 0 to 0 Ft. From 18" to 17' brown clay hardpan

From 17 to 60 Ft. gravely hardpan

From 60 to 62.6 Ft. (gravel and sand) coarse, water-bearing

From 62.6 to 65 Ft. gravely hardpan

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# Appendix C

## Ecolog ERIS Search Results

# DATABASE REPORT

**Project Property:** *Comox Phase I ESA  
Beech Street And Docliddle Road  
Comox BC  
60333483*

**P.O. Number:** *60333483*

**Report Type:** *Standard Express Report*

**Order #:** *20141107081*

**Requested by:** *Aecom*

**Date:** *November 7, 2014*

**Ecolog ERIS Ltd.**  
Environmental Risk Information  
Service Ltd. (ERIS)  
A division of Glacier Media Inc.  
P: 1.866.517.5204  
E: info@erisinfo.com  
[www.erisinfo.com](http://www.erisinfo.com)

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# Executive Summary

## Property Information:

**Project Property:** *Comox Phase I ESA  
Beech Street And Docliddle Road Comox BC*

**P.O. Number:** *60333483*

## **Coordinates:**

**Latitude:** *49.670907*  
**Longitude:** *-124.904792*  
**UTM Northing:** *5,503,783.60*  
**UTM Easting:** *362,563.63*  
**UTM Zone:** *UTM Zone 10U*

**Elevation:** *62 FT  
18.86 M*

## Order Information:

**Order No.:** *20141107081*  
**Date Requested:** *07/11/2014*  
**Requested by:** *Aecom*  
**Report Type:** *Standard Express Report*

## Additional Products:

# Executive Summary: Report Summary

<b>Database</b>	<b>Name</b>	<b>Searched</b>	<b>Project Property</b>	<b>Within 0.25 km</b>	<b>Total</b>
AMS	Authorization Management System (formerly WASTE)	Y	0	0	0
ARIS	Assessment Report Indexing System	Y	0	0	0
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
BOGW	BC Oil and Gas Wells	Y	0	0	0
CHEM	Chemical Register	Y	0	0	0
COAL	Coal Tar Sites	Y	0	0	0
CONV	Compliance and Enforcement Summary	Y	0	0	0
DIS	Wastewater Discharge Inventory	Y	0	0	0
EEM	Environmental Effects Monitoring	Y	0	0	0
EHS	ERIS Historical Searches	Y	0	0	0
EIIS	Environmental Issues Inventory System	Y	0	0	0
FCON	Federal Convictions	Y	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	0	0
FISH	Commercial Fisheries	Y	0	0	0
FOFT	Fisheries & Oceans Fuel Tanks	Y	0	0	0
GEN	Waste Generators Summary	Y	0	0	0
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0
LUM	Lumber Mills	Y	0	0	0
MINE	Canadian Mine Locations	Y	0	0	0
MNR	Minerals Deposits Database	Y	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0
NCPL	Non-Compliance Reports	Y	0	0	0
NDFT	National Defence & Canadian Forces Fuel Tanks	Y	0	0	0
NDSP	National Defence & Canadian Forces Spills	Y	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0
NEBW	National Energy Board Wells	Y	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	0	0	0
NPCB	National PCB Inventory	Y	0	0	0
NPRI	National Pollutant Release Inventory	Y	0	0	0
OGW	Oil and Gas Wells	Y	0	0	0
PAP	Canadian Pulp and Paper	Y	0	0	0
PCB	Inventory of PCB Storage Sites	Y	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0
PES	Pesticide Register	Y	0	0	0
PRAI	Private Aggregate Inventory	Y	0	0	0
PUAI	Public Aggregate Inventory	Y	0	0	0
REC	Waste Receivers Summary	Y	0	0	0

<i>Database</i>	<i>Name</i>	<i>Searched</i>	<i>Project Property</i>	<i>Within 0.25 km</i>	<i>Total</i>
RST	<i>Retail Fuel Storage Tanks</i>	Y	0	0	0
SCT	<i>Scott's Manufacturing Directory</i>	Y	0	0	0
SREG	<i>Site Registry</i>	Y	0	0	0
TCFT	<i>Transport Canada Fuel Storage Tanks</i>	Y	0	0	0
WDS	<i>Waste Disposal Site Inventory</i>	Y	0	0	0
WWIS	<i>Water Well Information System</i>	Y	0	26	26
		<hr/>			
		<b>Total:</b>	0	26	26

# Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist m</i>	<i>Elev diff m</i>	<i>Page Number</i>
--------------------	-----------	--------------------------	----------------	-------------------	------------------------	------------------------

No records found in the selected databases for the project property.

# Executive Summary: Site Report Summary - Surrounding Properties

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist m</i>	<i>Elev Diff m</i>	<i>Page Number</i>
<a href="#">1</a>	WWIS		CROTEAU BEACH COMOX BC	W/48.6	-1.90	<a href="#">12</a>
<a href="#">2</a>	WWIS		HAWKINS RD GOOSE SPIT COMOX BC	SE/60.8	1.14	<a href="#">12</a>
<a href="#">3</a>	WWIS		72 BEECH STREET COMOX BC	S/72.9	-5.25	<a href="#">13</a>
<a href="#">4</a>	WWIS		127 HAWKINS ROAD COMOX BC	NE/112.3	14.56	<a href="#">14</a>
<a href="#">5</a>	WWIS		Docliddle Rd Comox BC	WNW/139.7	-0.86	<a href="#">15</a>
<a href="#">6</a>	WWIS		BC	WNW/147.4	0.92	<a href="#">16</a>
<a href="#">7</a>	WWIS		BC	W/152.7	-1.10	<a href="#">17</a>
<a href="#">8</a>	WWIS		YOUNG ST BC	S/160.3	-5.15	<a href="#">17</a>
<a href="#">9</a>	WWIS		130 HAWKINS ROAD COMOX BC	NE/163.9	25.16	<a href="#">18</a>
<a href="#">10</a>	WWIS		MCCONNEL ST BC	NE/172.7	28.14	<a href="#">19</a>
<a href="#">11</a>	WWIS		1303 DOCLIDDLE RD COMOX BC	W/175.6	-2.43	<a href="#">20</a>
<a href="#">12</a>	WWIS		DOCLIDDLE ROAD COMOX BC	W/177.8	-1.17	<a href="#">21</a>
<a href="#">13</a>	WWIS		GAGE ST BC	ENE/179.6	29.74	<a href="#">22</a>
<a href="#">14</a>	WWIS		MORRIS RD COMOX BC	ESE/190.9	7.21	<a href="#">23</a>
<a href="#">15</a>	WWIS		136 ISABEL ROAD COMOX BC	NW/191.2	6.49	<a href="#">24</a>
<a href="#">16</a>	WWIS		BC	WSW/200.4	-5.86	<a href="#">25</a>
<a href="#">17</a>	WWIS		BUTCHER RD COMOX BC	NE/205.0	35.06	<a href="#">26</a>
<a href="#">18</a>	WWIS		135 MCCONNELL RD. COMOX BC	NE/210.1	36.39	<a href="#">27</a>
<a href="#">19</a>	WWIS		1305 MIDDEN RD. COMOX BC	WSW/214.8	-9.05	<a href="#">28</a>
<a href="#">20</a>	WWIS		BC	WNW/216.3	0.14	<a href="#">29</a>
<a href="#">21</a>	WWIS		BC	W/219.5	-4.64	<a href="#">29</a>
<a href="#">22</a>	WWIS		1307 MIDDEN RD COMOX BC	WSW/230.7	-11.43	<a href="#">30</a>

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist m</i>	<i>Elev Diff m</i>	<i>Page Number</i>
<a href="#">23</a>	WWIS		BC	W/240.5	-2.64	<a href="#">31</a>
<a href="#">24</a>	WWIS		1319 DOCLIDDEL RD DOCLIDDEL RD BC	W/243.7	-3.72	<a href="#">32</a>
<a href="#">25</a>	WWIS		1237 WALTER GAGE ST. COMOX BC	N/244.2	29.48	<a href="#">33</a>
<a href="#">26</a>	WWIS		BC	ENE/248.3	38.87	<a href="#">34</a>

# Executive Summary: Summary By Data Source

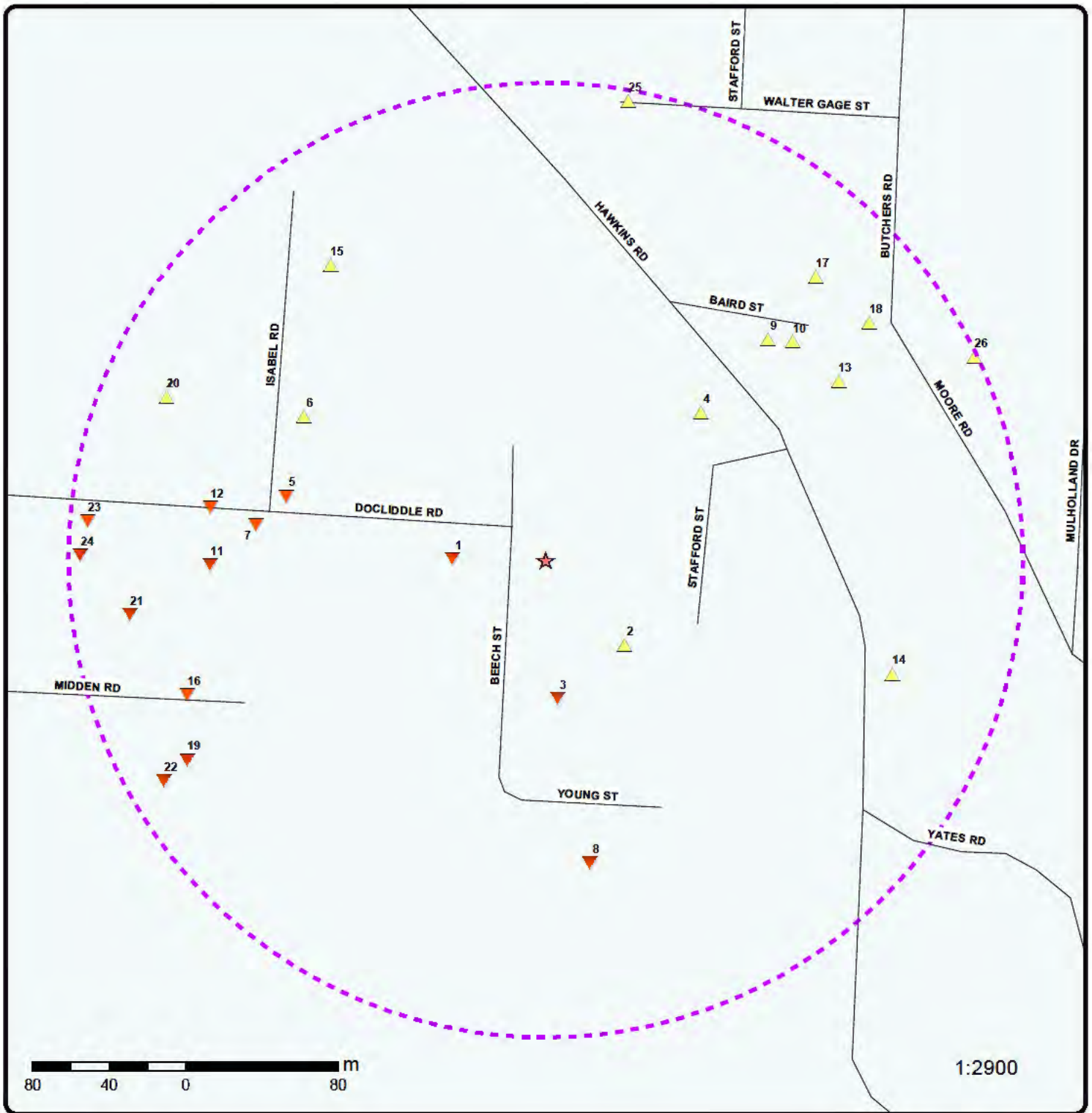
## WWIS - Water Well Information System

A search of the WWIS database, dated 1880-Jul 2014 has found that there are 26 WWIS site(s) within approximately 0.25 kilometers of the project property.

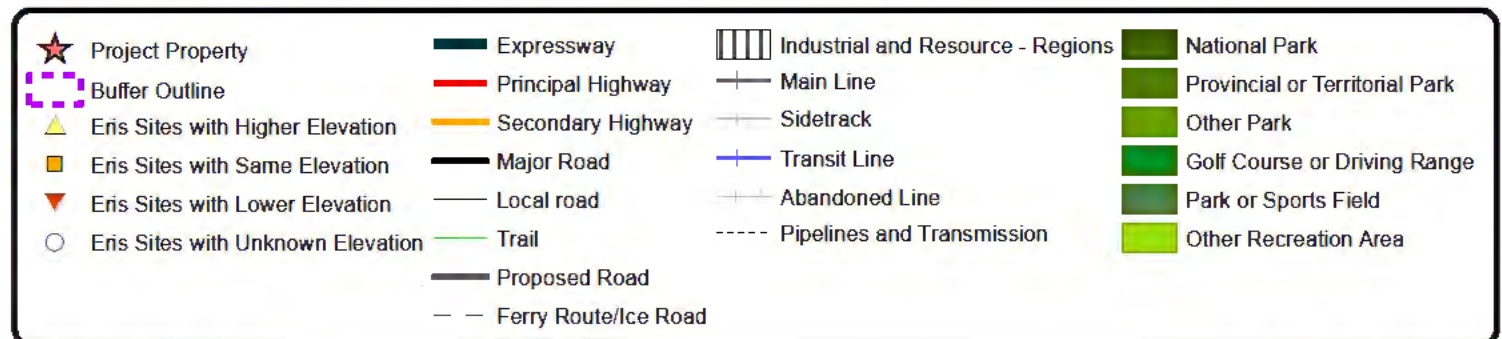
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance m</u>	<u>Map Key</u>
	HAWKINS RD GOOSE SPIT COMOX BC	SE	60.79	<a href="#"><u>2</u></a>
	127 HAWKINS ROAD COMOX BC	NE	112.35	<a href="#"><u>4</u></a>
	BC	WNW	147.38	<a href="#"><u>6</u></a>
	130 HAWKINS ROAD COMOX BC	NE	163.86	<a href="#"><u>9</u></a>
	MCCONNEL ST BC	NE	172.70	<a href="#"><u>10</u></a>
	GAGE ST BC	ENE	179.55	<a href="#"><u>13</u></a>
	MORRIS RD COMOX BC	ESE	190.91	<a href="#"><u>14</u></a>
	136 ISABEL ROAD COMOX BC	NW	191.17	<a href="#"><u>15</u></a>
	BUTCHER RD COMOX BC	NE	205.00	<a href="#"><u>17</u></a>
	135 MCCONNELL RD. COMOX BC	NE	210.12	<a href="#"><u>18</u></a>
	BC	WNW	216.25	<a href="#"><u>20</u></a>
	1237 WALTER GAGE ST. COMOX BC	N	244.25	<a href="#"><u>25</u></a>
	BC	ENE	248.30	<a href="#"><u>26</u></a>

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance m</u>	<u>Map Key</u>
	CROTEAU BEACH COMOX BC	W	48.64	<a href="#"><u>1</u></a>
	72 BEECH STREET COMOX BC	S	72.89	<a href="#"><u>3</u></a>
	Docliddle Rd Comox BC	WNW	139.72	<a href="#"><u>5</u></a>
	BC	W	152.74	<a href="#"><u>7</u></a>

YOUNG ST BC	S	160.30	<u>8</u>
1303 DOCLIDDLE RD COMOX BC	W	175.65	<u>11</u>
DOCLIDDLE ROAD COMOX BC	W	177.79	<u>12</u>
BC	WSW	200.45	<u>16</u>
1305 MIDDEN RD. COMOX BC	WSW	214.81	<u>19</u>
BC	W	219.52	<u>21</u>
1307 MIDDEN RD COMOX BC	WSW	230.68	<u>22</u>
BC	W	240.53	<u>23</u>
1319 DOCLIDDEL RD DOCLIDDEL RD BC	W	243.67	<u>24</u>



**Map** Order No: 20141107081  
 Address: Beech Street And Docliddle Road Comox BC CA





# Aerial

Order No: 20141107081

**Address: Beech Street And Docliddle Road Comox BC CA**

# Detail Report

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<p><u>1</u></p> <p><b>Well Tag No.:</b> 24101  <b>Owner's Well No.:</b>  <b>Land District:</b> COMOX  <b>Lot:</b> 24  <b>District Lot:</b> 87  <b>Township:</b>  <b>Legal Misc:</b>  <b>PID:</b>  <b>Longitude:</b> 124.905466  <b>Northing:</b> 5503784  <b>Location Accuracy:</b> D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps  <b>Observ. Well No.:</b>  <b>Chemistry Site Id:</b>  <b>Construction Start Dt:</b> 1970-10-20 00:00:00.0  <b>Construction Method:</b> DRI  <b>Orientation of Well:</b>  <b>Sub-Class of Well:</b>  <b>Yield Units:</b> GPM  <b>Artesian Units:</b>  <b>Aquifer Lithology:</b> Unconsolidated  <b>Water Depth:</b> 13  <b>Final Well Depth:</b> 62.5  <b>Surf Seal Flag:</b>  <b>Surf Seal Material:</b>  <b>Surf Seal Depth:</b>  <b>General Remarks:</b></p> <p>--- Details ---</p> <p><b>Depth:</b> From 0 To 0 Ft.  <b>Material:</b> From 0 to 18" topsoil</p> <p><b>+</b>  <b>Depth:</b> From 0 To 0 Ft.  <b>Material:</b> From 18" to 17' brown clay hardpan</p> <p><b>+</b>  <b>Depth:</b> From 17 To 60 Ft.  <b>Material:</b> gravely hardpan</p> <p><b>+</b>  <b>Depth:</b> From 60 To 62.6 Ft.  <b>Material:</b> (gravel and sand) coarse, water-bearing</p> <p><b>+</b>  <b>Depth:</b> From 62.6 To 65 Ft.  <b>Material:</b> gravely hardpan</p>	<p>1 of 1</p> <p>W/48.6</p> <p>17.0</p> <p><b>CROTEAU BEACH COMOX BC</b></p> <p><b>Seq No.:</b> 15  <b>BCGS Mapsheet:</b> 092F066324  <b>Well Owner:</b> ██████████  <b>Plan:</b> 2657  <b>Section:</b>  <b>Range:</b>  <b>Island:</b>  <b>Latitude:</b> 49.6709  <b>Easting:</b> 362515  <b>Zone:</b> 10  <b>Well Status:</b> New</p> <p><b>Observ. Well Status:</b>  <b>Other Chemistry Data:</b>  <b>Construction End Dt:</b>  <b>Use:</b> Unknown Well Use</p> <p><b>Class of Well:</b>  <b>Est. Yield:</b> 5  <b>Artesian Flow:</b>  <b>Artesian Pressure:</b>  <b>Bedrock Depth:</b>  <b>Depth Well Drilled:</b>  <b>Well Diameter:</b> 6.0  <b>Surf Seal Method:</b>  <b>Surf Seal Thickness:</b>  <b>Aquifer No.:</b></p>	<p>WWIS</p>			

<p><u>2</u></p> <p>12</p>	<p>1 of 1</p> <p>SE/60.8</p> <p>20.0</p> <p><b>HAWKINS RD GOOSE SPIT</b></p>	<p>WWIS</p>
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Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>COMOX BC</b>					
<b>Well Tag No.:</b>	49756			<b>Seq No.:</b>	24
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	██████████
<b>Lot:</b>	B			<b>Plan:</b>	32797
<b>District Lot:</b>	110			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.670516
<b>Longitude:</b>	124.904204			<b>Easting:</b>	362605
<b>Northing:</b>	5503739			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1981-12-31 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DRI			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	6
<b>Yield Units:</b>	GPM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	12			<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	130			<b>Well Diameter:</b>	5.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>	GOOD QUALITY AND QUANTITY.				
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 10 Ft.			<b>Material:</b>	surface till
<b>+</b>					
<b>Depth:</b>	From 10 To 30 Ft.			<b>Material:</b>	sand / 20 % gravel
<b>+</b>					
<b>Depth:</b>	From 30 To 45 Ft.			<b>Material:</b>	75 % angular gravel / sand
<b>+</b>					
<b>Depth:</b>	From 45 To 100 Ft.			<b>Material:</b>	angular gravel/sand/ grey clay
<b>+</b>					
<b>Depth:</b>	From 100 To 120 Ft.			<b>Material:</b>	30 % round gravel/some angular fine
<b>+</b>					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	white sand

<b>3</b>	1 of 1	<b>S/72.9</b>	<b>13.6</b>	<b>72 BEECH STREET COMOX BC</b>	<b>WWIS</b>
<b>COMOX BC</b>					
<b>Well Tag No.:</b>	96248			<b>Seq No.:</b>	
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	A			<b>Plan:</b>	32797
<b>District Lot:</b>	110			<b>Section:</b>	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Township:</b> <b>Legal Misc:</b> <b>PID:</b> 000192384 <b>Longitude:</b> 124.904679 <b>Northing:</b> 5503711 <b>Location Accuracy:</b> J (unknown, accuracy based on parcel size) ICF cadastre, poor or no location sketch, arbitrarily located in center of parcel  <b>Observ. Well No.:</b>  <b>Chemistry Site Id:</b>  <b>Construction Start Dt:</b> 1992-03-30 00:00:00.0 <b>Construction Method:</b> <b>Orientation of Well:</b> Vertical <b>Sub-Class of Well:</b> Domestic <b>Yield Units:</b> USGM <b>Artesian Units:</b> <b>Aquifer Lithology:</b> Bedrock <b>Water Depth:</b> 25 <b>Final Well Depth:</b> 60.5 <b>Surf Seal Flag:</b> N <b>Surf Seal Material:</b>  <b>Surf Seal Depth:</b> <b>General Remarks:</b>  <b>--- Details ---</b> <b>Depth:</b> From 0 To 12 Ft. + <b>Depth:</b> From 12 To 20 Ft. + <b>Depth:</b> From 20 To 45 Ft. + <b>Depth:</b> From 45 To 61 Ft.				<b>Range:</b> <b>Island:</b> <b>Latitude:</b> 49.670256 <b>Easting:</b> 362570 <b>Zone:</b> 10 <b>Well Status:</b> New  <b>Observ. Well Status:</b> <b>Other Chemistry Data:</b> <b>Construction End Dt:</b> 1992-03-30 00:00:00.0 <b>Use:</b> Private Domestic  <b>Class of Well:</b> Water supply <b>Est. Yield:</b> 7 <b>Artesian Flow:</b> <b>Artesian Pressure:</b> <b>Bedrock Depth:</b> <b>Depth Well Drilled:</b> 61 <b>Well Diameter:</b> <b>Surf Seal Method:</b> <b>Surf Seal Thickness:</b> <b>Aquifer No.:</b>  <b>Material:</b> sand-gravel streaks dark loam <b>Material:</b> SAND & GRAVEL vari-coloured YELLOW-BROWN <b>Material:</b> gravelly grey till <b>Material:</b> SAND & GRAVEL vari-coloured YELLOW-BROWN	

4

1 of 1

NE/112.3

33.4

127 HAWKINS ROAD  
COMOX BC

WWIS

**Well Tag No.:** 93528  
**Owner's Well No.:**  
**Land District:** CAMERON  
**Lot:** A  
**District Lot:** 110  
**Township:**  
**Legal Misc:**  
**PID:** 018085580  
**Longitude:** 124.903692  
**Northing:** 5503861  
**Location Accuracy:** J (unknown, accuracy based on parcel size) ICF cadastre, poor or no location sketch, arbitrarily located in center of parcel  
  
**Observ. Well No.:**

**Seq No.:**  
**BCGS Mapsheet:** 092F066324  
**Well Owner:** XXXXXXXXXX  
**Plan:** VIP 55834  
**Section:**  
**Range:**  
**Island:** VANCOUVER ISLAND  
**Latitude:** 49.671622  
**Easting:** 362645  
**Zone:** 10  
**Well Status:** New  
  
**Observ. Well Status:**

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1993-10-30 00:00:00.0			<b>Construction End Dt:</b>	1993-10-30 00:00:00.0
<b>Construction Method:</b>				<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>	Vertical			<b>Class of Well:</b>	Water supply
<b>Sub-Class of Well:</b>	Domestic			<b>Est. Yield:</b>	15
<b>Yield Units:</b>	USGM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	90			<b>Depth Well Drilled:</b>	122
<b>Final Well Depth:</b>	121			<b>Well Diameter:</b>	
<b>Surf Seal Flag:</b>	N			<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>	MEASUREMENTS FROM TOP OF CASING. PITLESS UNIT: WELDED, NEW. RECOMMENDED PUMP TYPE: SUBMERSIBLE. RECOMMENDED PUMPING RATE: 15 USGPM.				
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 45 Ft.			<b>Material:</b>	YELLOW & BROWN sand COMPACT
+					
<b>Depth:</b>	From 45 To 100 Ft.			<b>Material:</b>	GRAVEL sand COMPACT
+					
<b>Depth:</b>	From 100 To 122 Ft.			<b>Material:</b>	water-bearing fine sand

<u>5</u>	1 of 1	WNW/139.7	18.0	Docliddle Rd Comox BC	WWIS
<b>Well Tag No.:</b>	106069			<b>Seq No.:</b>	
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	5			<b>Plan:</b>	16564
<b>District Lot:</b>	87			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	VANCOUVER ISLAND
<b>PID:</b>				<b>Latitude:</b>	49.671177
<b>Longitude:</b>	124.906683			<b>Easting:</b>	362428
<b>Northing:</b>	5503817			<b>Zone:</b>	10
<b>Location Accuracy:</b>	H (10 m) Handheld GPS with accuracy of +/- 10 metres			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	2011-11-24 00:00:00.0			<b>Construction End Dt:</b>	2011-11-25 00:00:00.0
<b>Construction Method:</b>				<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>	Vertical			<b>Class of Well:</b>	Water supply
<b>Sub-Class of Well:</b>	Domestic			<b>Est. Yield:</b>	8
<b>Yield Units:</b>	GPM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Aquifer Lithology:</b>				<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	21			<b>Depth Well Drilled:</b>	58
<b>Final Well Depth:</b>	58			<b>Well Diameter:</b>	
<b>Surf Seal Flag:</b>	N			<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>	Bentonite clay			<b>Surf Seal Thickness:</b>	2
<b>Surf Seal Depth:</b>	15			<b>Aquifer No.:</b>	
<b>General Remarks:</b>					
--- Details ---					
<b>Depth:</b>	From 0 To 1 Ft.			<b>Material:</b>	silt and soil brown Soft
+					
<b>Depth:</b>	From 1 To 44 Ft.			<b>Material:</b>	till, gravelly with cobbles brown Hard
+					
<b>Depth:</b>	From 44 To 58 Ft.			<b>Material:</b>	gravel, very sandy brown Medium WB
<u>6</u>	1 of 1	WNW/147.4	19.8	BC	WWIS
<b>Well Tag No.:</b>	12225			<b>Seq No.:</b>	5
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	87			<b>Plan:</b>	
<b>District Lot:</b>				<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.671556
<b>Longitude:</b>	124.906573			<b>Easting:</b>	362437
<b>Northing:</b>	5503859			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1950-01-01 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DUG			<b>Use:</b>	Unknown Well Use
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	0
<b>Yield Units:</b>				<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	23			<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	27			<b>Well Diameter:</b>	4.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b> AMPLE WATER.					
--- Details ---					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	Aquifer data: (Till with ?)Sand and
+					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	gravel at the bottom

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<a href="#">7</a>	1 of 1	W/152.7	17.8	BC	WWIS
<b>Well Tag No.:</b>	12043			<b>Seq No.:</b>	6
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	██████████
<b>Lot:</b>	87			<b>Plan:</b>	
<b>District Lot:</b>				<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.671038
<b>Longitude:</b>	124.906899			<b>Easting:</b>	362412
<b>Northing:</b>	5503802			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1950-01-01 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DUG			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	0
<b>Yield Units:</b>				<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	21			<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	26			<b>Well Diameter:</b>	0.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>					
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	Aquifer data: hardpan with sand at the
<b>+ Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	bottom

<a href="#">8</a>	1 of 1	S/160.3	13.7	YOUNG ST BC	WWIS
<b>Well Tag No.:</b>	49586			<b>Seq No.:</b>	23
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	██████████
<b>Lot:</b>	B			<b>Plan:</b>	32593
<b>District Lot:</b>	110			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.669487
<b>Longitude:</b>	124.904413			<b>Easting:</b>	362587
<b>Northing:</b>	5503625			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry</b>	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Construction Start Dt:</b>	1981-11-23 00:00:00.0			<b>Data:</b>	
<b>Construction Method:</b>	DRI			<b>Construction End Dt:</b>	
<b>Orientation of Well:</b>				<b>Use:</b>	Private Domestic
<b>Sub-Class of Well:</b>				<b>Class of Well:</b>	
<b>Yield Units:</b>	GPM			<b>Est. Yield:</b>	6
<b>Artesian Units:</b>				<b>Artesian Flow:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Artesian Pressure:</b>	
<b>Water Depth:</b>	20			<b>Bedrock Depth:</b>	
<b>Final Well Depth:</b>	252			<b>Depth Well Drilled:</b>	
<b>Surf Seal Flag:</b>				<b>Well Diameter:</b>	7.0
<b>Surf Seal Material:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Depth:</b>				<b>Surf Seal Thickness:</b>	
<b>General Remarks:</b>				<b>Aquifer No.:</b>	
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 2 Ft.			<b>Material:</b>	brown topsoil
+					
<b>Depth:</b>	From 2 To 32 Ft.			<b>Material:</b>	brown clay and broken gravel
+					
<b>Depth:</b>	From 32 To 61 Ft.			<b>Material:</b>	brown sand with some gravel
+					
<b>Depth:</b>	From 61 To 66 Ft.			<b>Material:</b>	water-bearing gravel (blue)
+					
<b>Depth:</b>	From 66 To 88 Ft.			<b>Material:</b>	blue loose sand
+					
<b>Depth:</b>	From 88 To 90 Ft.			<b>Material:</b>	dry tight hardpan
+					
<b>Depth:</b>	From 90 To 97 Ft.			<b>Material:</b>	blue water-bearing sand and gravel
+					
<b>Depth:</b>	From 97 To 101 Ft.			<b>Material:</b>	blue fine water-bearing sand
+					
<b>Depth:</b>	From 101 To 142 Ft.			<b>Material:</b>	fine silt
+					
<b>Depth:</b>	From 142 To 225 Ft.			<b>Material:</b>	blue clay
+					
<b>Depth:</b>	From 225 To 237 Ft.			<b>Material:</b>	fine silty sand
+					
<b>Depth:</b>	From 237 To 252 Ft.			<b>Material:</b>	blue hardpan and gravel

<a href="#">9</a>	1 of 1	NE/163.9	44.0	130 HAWKINS ROAD COMOX BC	WWIS
<b>Well Tag No.:</b>	96220			<b>Seq No.:</b>	
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	0			<b>Plan:</b>	35133
<b>District Lot:</b>	110			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	VANCOUVER ISLAND
<b>PID:</b>	000325040			<b>Latitude:</b>	49.671971

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Longitude:</b>	124.903221			<b>Easting:</b>	362680
<b>Northing:</b>	5503899			<b>Zone:</b>	10
<b>Location Accuracy:</b>	J (unknown, accuracy based on parcel size) ICF cadastre, poor or no location sketch, arbitrarily located in center of parcel			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1992-02-03 00:00:00.0			<b>Construction End Dt:</b>	1992-02-03 00:00:00.0
<b>Construction Method:</b>				<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>	Vertical			<b>Class of Well:</b>	Water supply
<b>Sub-Class of Well:</b>	Domestic			<b>Est. Yield:</b>	15
<b>Yield Units:</b>	USGM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	160			<b>Depth Well Drilled:</b>	200
<b>Final Well Depth:</b>	200			<b>Well Diameter:</b>	
<b>Surf Seal Flag:</b>	N			<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>					
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 25 Ft.			<b>Material:</b>	COMPACT SAND & GRAVEL
+					
<b>Depth:</b>	From 25 To 40 Ft.			<b>Material:</b>	COMPACT SAND & GRAVEL
+					
<b>Depth:</b>	From 40 To 80 Ft.			<b>Material:</b>	COMPACT sand
+					
<b>Depth:</b>	From 80 To 110 Ft.			<b>Material:</b>	COMPACT sand
+					
<b>Depth:</b>	From 110 To 160 Ft.			<b>Material:</b>	COMPACT sand
+					
<b>Depth:</b>	From 160 To 200 Ft.			<b>Material:</b>	
+					
<b>Depth:</b>	From null To null Ft.			<b>Material:</b>	water-bearing FINE sand

<a href="#">10</a>	1 of 1	NE/172.7	47.0	MCCONNEL ST BC	WWIS
<b>Well Tag No.:</b>	50220			<b>Seq No.:</b>	25
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	K			<b>Plan:</b>	35133
<b>District Lot:</b>	110			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.671965
<b>Longitude:</b>	124.90304			<b>Easting:</b>	362693
<b>Northing:</b>	5503898			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1982-05-03 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DRI			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	25
<b>Yield Units:</b>	GPM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	154			<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	201			<b>Well Diameter:</b>	6.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>					
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 6 Ft.			<b>Material:</b>	brown topsoil
+					
<b>Depth:</b>	From 6 To 8 Ft.			<b>Material:</b>	light brown sand, some gravel
+					
<b>Depth:</b>	From 8 To 47 Ft.			<b>Material:</b>	grey gravel and sand
+					
<b>Depth:</b>	From 47 To 76 Ft.			<b>Material:</b>	grey sand
+					
<b>Depth:</b>	From 76 To 101 Ft.			<b>Material:</b>	brown sand
+					
<b>Depth:</b>	From 101 To 112 Ft.			<b>Material:</b>	light blue sand, some mica
+					
<b>Depth:</b>	From 112 To 154 Ft.			<b>Material:</b>	brown sand
+					
<b>Depth:</b>	From 154 To 162 Ft.			<b>Material:</b>	blue sand
+					
<b>Depth:</b>	From 162 To 168 Ft.			<b>Material:</b>	blue tight fine silt
+					
<b>Depth:</b>	From 168 To 176 Ft.			<b>Material:</b>	silty, water-bearing sand
+					
<b>Depth:</b>	From 176 To 197 Ft.			<b>Material:</b>	clean uniform water-bearing sand
+					
<b>Depth:</b>	From 197 To 201 Ft.			<b>Material:</b>	fine dark blue, water-bearing sand
<b>11</b>	1 of 1	W/175.6	16.4	1303 DOCLIDDLE RD COMOX BC	WWIS
<b>Well Tag No.:</b>	74232			<b>Seq No.:</b>	
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>				<b>Well Owner:</b>	
<b>Lot:</b>				<b>Plan:</b>	
<b>District Lot:</b>				<b>Section:</b>	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Township:</b> <b>Legal Misc:</b> <b>PID:</b> <b>Longitude:</b> 124.907224 <b>Northing:</b> 5503781 <b>Location Accuracy:</b> J (unknown, accuracy based on parcel size) ICF cadastre, poor or no location sketch, arbitrarily located in center of parcel				<b>Range:</b> <b>Island:</b> <b>Latitude:</b> 49.670844 <b>Easting:</b> 362388 <b>Zone:</b> 10 <b>Well Status:</b> New	
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b> 1990-03-02 00:00:00.0				<b>Construction End Dt:</b>	
<b>Construction Method:</b> DRI				<b>Use:</b> Private Domestic	
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b> 2	
<b>Yield Units:</b> USGM				<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>				<b>Bedrock Depth:</b>	
<b>Water Depth:</b> 25				<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b> 69				<b>Well Diameter:</b> 6.0	
<b>Surf Seal Flag:</b> N				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b> STEEL CASING,0.0 TO 69.0,.250 THICK, CONTINUOUS,STAINLESS STEEL,PUMP TEST RATE 2 USGM,25 FT AFTER 4 HRS					
<b>--- Details ---</b>					
<b>Depth:</b> From 60 To 69 Ft.				<b>Material:</b> LENSED WATERBEARING SAND & GRAVEL	
+					
<b>Depth:</b> From 25 To 60 Ft.				<b>Material:</b> TIGHT SAND & GRAVEL	
+					
<b>Depth:</b> From 0 To 25 Ft.				<b>Material:</b> TIGHT SAND & GRAVEL	

<a href="#">12</a>	1 of 1	W/177.8	17.7	DOCLIDDLE ROAD COMOX BC	WWIS
<b>Well Tag No.:</b> 65601				<b>Seq No.:</b> 37	
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b> 092F066324	
<b>Land District:</b> COMOX				<b>Well Owner:</b> [REDACTED]	
<b>Lot:</b>				<b>Plan:</b>	
<b>District Lot:</b> 87				<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b> 49.671114	
<b>Longitude:</b> 124.907235				<b>Easting:</b> 362388	
<b>Northing:</b> 5503811				<b>Zone:</b> 10	
<b>Location Accuracy:</b> G (unknown, accuracy based on parcel size) No ICF cadastre, poor or no location sketch; site located in center of primary parcel				<b>Well Status:</b> New	
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry</b>	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
				<b>Data:</b>	
<b>Construction Start Dt:</b>				<b>Construction End Dt:</b>	
<b>Construction Method:</b>				<b>Use:</b>	
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	0
<b>Yield Units:</b>				<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>				<b>Bedrock Depth:</b>	
<b>Water Depth:</b>				<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	41			<b>Well Diameter:</b>	0.0
<b>Surf Seal Flag:</b>	N			<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>	CASING 0.0 TO 21.0,				
<b>--- Details ---</b>					
<b>Depth:</b>		From 0 To 0 Ft.		<b>Material:</b>	DEEPENING OF EXISTING
+					
<b>Depth:</b>		From 0 To 41 Ft.		<b>Material:</b>	
+					
<b>Depth:</b>		From 0 To 0 Ft.		<b>Material:</b>	WELL
<b>13</b>	<b>1 of 1</b>	<b>ENE/179.6</b>	<b>48.6</b>	<b>GAGE ST BC</b>	<b>WWIS</b>
<b>Well Tag No.:</b>	48482			<b>Seq No.:</b>	20
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	4			<b>Plan:</b>	35133
<b>District Lot:</b>	110			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.671782
<b>Longitude:</b>	124.902701			<b>Easting:</b>	362717
<b>Northing:</b>	5503877			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1981-07-04 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DRI			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	0
<b>Yield Units:</b>				<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>				<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	163			<b>Well Diameter:</b>	5.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b> SINGLE DOMESTIC USE. POOL USE AS WELL.					
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 7 Ft.			<b>Material:</b>	brown sand
+					
<b>Depth:</b>	From 7 To 89 Ft.			<b>Material:</b>	light brown sand
+					
<b>Depth:</b>	From 89 To 118 Ft.			<b>Material:</b>	dry tight sand and fine gravel
+					
<b>Depth:</b>	From 118 To 118.5 Ft.			<b>Material:</b>	granite boulders
+					
<b>Depth:</b>	From 118.5 To 132 Ft.			<b>Material:</b>	sandstone
+					
<b>Depth:</b>	From 132 To 149 Ft.			<b>Material:</b>	gravel and sand
+					
<b>Depth:</b>	From 149 To 157 Ft.			<b>Material:</b>	brown water-bearing sand
+					
<b>Depth:</b>	From 157 To 163 Ft.			<b>Material:</b>	blue water-bearing sand
<b>14</b>	<b>1 of 1</b>	<b>ESE/190.9</b>	<b>26.1</b>	<b>MORRIS RD COMOX BC</b>	<b>WWIS</b>
<b>Well Tag No.:</b>	44153			<b>Seq No.:</b>	19
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	19			<b>Plan:</b>	328R
<b>District Lot:</b>	115			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.670413
<b>Longitude:</b>	124.902259			<b>Easting:</b>	362745
<b>Northing:</b>	5503724			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1980-01-01 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DRI			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	10
<b>Yield Units:</b>	GPM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	173			<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	190			<b>Well Diameter:</b>	6.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>	IRON AND SULPHUR IN WATER -				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
				OWNER HAS INSTALLED A PURIFIER. DOMESTIC USE ONLY.	
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 40 Ft.			<b>Material:</b>	gravel
+					
<b>Depth:</b>	From 110 To 140 Ft.			<b>Material:</b>	cobbles
+					
<b>Depth:</b>	From 140 To 175 Ft.			<b>Material:</b>	sand
+					
<b>Depth:</b>	From 175 To 190 Ft.			<b>Material:</b>	tight water-bearing sand
<a href="#">15</a>	1 of 1	NW/191.2	25.4	136 ISABEL ROAD COMOX BC	WWIS
<b>Well Tag No.:</b>	98101			<b>Seq No.:</b>	
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	2			<b>Plan:</b>	16564
<b>District Lot:</b>	87			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	VANCOUVER ISLAND
<b>PID:</b>	004453409			<b>Latitude:</b>	49.67227
<b>Longitude:</b>	124.906407			<b>Easting:</b>	362451
<b>Northing:</b>	5503938			<b>Zone:</b>	10
<b>Location Accuracy:</b>	H (10 m) Handheld GPS with accuracy of +/- 10 metres			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	2009-08-27 00:00:00.0			<b>Construction End Dt:</b>	2009-08-28 00:00:00.0
<b>Construction Method:</b>				<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>	Vertical			<b>Class of Well:</b>	Water supply
<b>Sub-Class of Well:</b>	Domestic			<b>Est. Yield:</b>	2.5
<b>Yield Units:</b>	USGM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	46			<b>Depth Well Drilled:</b>	79
<b>Final Well Depth:</b>	66			<b>Well Diameter:</b>	
<b>Surf Seal Flag:</b>	Y			<b>Surf Seal Method:</b>	Poured
<b>Surf Seal Material:</b>	Bentonite clay and cement mixture			<b>Surf Seal Thickness:</b>	1
<b>Surf Seal Depth:</b>	16			<b>Aquifer No.:</b>	
<b>General Remarks:</b>					
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 1 Ft.			<b>Material:</b>	ORGANIC brown
+					
<b>Depth:</b>	From 1 To 32 Ft.			<b>Material:</b>	SILTY SAND & GRAVEL brown
+					
<b>Depth:</b>	From 32 To 46 Ft.			<b>Material:</b>	SILTY SAND & GRAVEL grey
+					
<b>Depth:</b>	From 46 To 48 Ft.			<b>Material:</b>	COARSE SAND & SEMI

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
					CEMENTED GRAVEL POSSIBLY WB
+					
<b>Depth:</b>	From 48 To 54 Ft.			<b>Material:</b>	CEMENTED SAND & GRAVEL grey
+					
<b>Depth:</b>	From 54 To 56 Ft.			<b>Material:</b>	MEDIUM GRAINED SAND & SEMI-CEMENTED GRAVEL POSSIBLY WB
+					
<b>Depth:</b>	From 56 To 61 Ft.			<b>Material:</b>	CEMENTED MEDIUM GRAINED SAND & GRAVEL grey
+					
<b>Depth:</b>	From 61 To 66 Ft.			<b>Material:</b>	SEMI CEMENTED COARSE GRAINED SAND & GRAVEL grey WB
+					
<b>Depth:</b>	From 66 To 72 Ft.			<b>Material:</b>	SILT & GRAVEL grey
+					
<b>Depth:</b>	From 72 To 77 Ft.			<b>Material:</b>	SEMI CEMENTED SILTY SAND & GRAVEL WB
+					
<b>Depth:</b>	From 77 To 79 Ft.			<b>Material:</b>	SILT & GRAVEL grey

16

1 of 1

WSW/200.4

13.0

WWIS

BC

**Well Tag No.:** 12118  
**Owner's Well No.:**  
**Land District:** COMOX  
**Lot:** 87  
**District Lot:**  
**Township:**  
**Legal Misc:**  
**PID:**  
**Longitude:** 124.907366  
**Northing:** 5503713  
**Location Accuracy:** D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps  
**Observ. Well No.:**  
**Chemistry Site Id:**  
**Construction Start Dt:** 1950-01-01 00:00:00.0  
**Construction Method:** DUG  
**Orientation of Well:**  
**Sub-Class of Well:**  
**Yield Units:**  
**Artesian Units:**  
**Aquifer Lithology:** Unconsolidated  
**Water Depth:** 10  
**Final Well Depth:** 12  
**Surf Seal Flag:**  
**Surf Seal Material:**  
**Surf Seal Depth:**  
**General Remarks:**

**Seq No.:** 10  
**BCGS Mapsheet:** 092F066324  
**Well Owner:** XXXXXXXXXX  
**Plan:**  
**Section:**  
**Range:**  
**Island:**  
**Latitude:** 49.67023  
**Easting:** 362376  
**Zone:** 10  
**Well Status:** New  
**Observ. Well Status:**  
**Other Chemistry Data:**  
**Construction End Dt:**  
**Use:** Private Domestic  
**Class of Well:**  
**Est. Yield:** 0  
**Artesian Flow:**  
**Artesian Pressure:**  
**Bedrock Depth:**  
**Depth Well Drilled:**  
**Well Diameter:** 0.0  
**Surf Seal Method:**  
**Surf Seal Thickness:**  
**Aquifer No.:**

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	Aquifer data: glacial hardpan
<a href="#">17</a>	1 of 1	NE/205.0	53.9	BUTCHER RD COMOX BC	WWIS
<b>Well Tag No.:</b>	49521			<b>Seq No.:</b>	21
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	[REDACTED]
<b>Lot:</b>	1			<b>Plan:</b>	35133
<b>District Lot:</b>	110			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.672274
<b>Longitude:</b>	124.902886			<b>Easting:</b>	362705
<b>Northing:</b>	5503932			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1981-11-08 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DRI			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	20
<b>Yield Units:</b>	GPM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	110			<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	150			<b>Well Diameter:</b>	0.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>	SINGLE DOMESTIC USE. SURFICIAL GRAVEL AND SAND DEPOSITS				
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 1 Ft.			<b>Material:</b>	brown silty sand
+					
<b>Depth:</b>	From 1 To 3 Ft.			<b>Material:</b>	brown sand
+					
<b>Depth:</b>	From 3 To 19 Ft.			<b>Material:</b>	white sand
+					
<b>Depth:</b>	From 19 To 38 Ft.			<b>Material:</b>	blue silt
+					
<b>Depth:</b>	From 38 To 80 Ft.			<b>Material:</b>	brown sand
+					
<b>Depth:</b>	From 80 To 105 Ft.			<b>Material:</b>	brown tight sand
+					
<b>Depth:</b>	From 105 To 136 Ft.			<b>Material:</b>	white sand
+					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Depth:</b>	From 136 To 150 Ft.			<b>Material:</b>	blue water-bearing sand

[18](#)      1 of 1      **NE/210.1**      **55.3**      **135 MCCONNELL RD.  
COMOX BC**      **WWIS**

**Well Tag No.:** 53327  
**Owner's Well No.:**  
**Land District:** COMOX  
**Lot:** P  
**District Lot:** 110  
**Township:**  
**Legal Misc:**  
**PID:**  
**Longitude:** 124.90249  
**Northing:** 5503908  
**Location Accuracy:** D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps

**Seq No.:** 29  
**BCGS Mapsheet:** 092F066324  
**Well Owner:** [REDACTED]  
**Plan:** 35133  
**Section:**  
**Range:**  
**Island:**  
**Latitude:** 49.672064  
**Easting:** 362733  
**Zone:** 10  
**Well Status:** New

**Observ. Well No.:**

**Observ. Well Status:**

**Chemistry Site Id:**

**Other Chemistry Data:**

**Construction Start Dt:** 1984-02-26 00:00:00.0

**Construction End Dt:**

**Construction Method:** DRI

**Use:** Private Domestic

**Orientation of Well:**

**Class of Well:**

**Sub-Class of Well:**

**Est. Yield:** 10

**Yield Units:** GPM

**Artesian Flow:**

**Artesian Units:**

**Artesian Pressure:**

**Aquifer Lithology:** Unconsolidated

**Bedrock Depth:**

**Water Depth:** 156

**Depth Well Drilled:**

**Final Well Depth:** 179.5

**Well Diameter:** 6.0

**Surf Seal Flag:**

**Surf Seal Method:**

**Surf Seal Material:**

**Surf Seal Thickness:**

**Surf Seal Depth:**

**Aquifer No.:**

**General Remarks:**

--- Details ---

<b>Depth:</b>	From 0 To 1 Ft.	<b>Material:</b>	brown topsoil
+			
<b>Depth:</b>	From 1 To 3 Ft.	<b>Material:</b>	brown sand
+			
<b>Depth:</b>	From 3 To 18 Ft.	<b>Material:</b>	light brown sand and gravel
+			
<b>Depth:</b>	From 18 To 20 Ft.	<b>Material:</b>	light brown sand
+			
<b>Depth:</b>	From 20 To 38 Ft.	<b>Material:</b>	gravel and sand
+			
<b>Depth:</b>	From 38 To 65 Ft.	<b>Material:</b>	brown silty sand
+			
<b>Depth:</b>	From 65 To 68 Ft.	<b>Material:</b>	light sandy hardpan
+			
<b>Depth:</b>	From 68 To 93 Ft.	<b>Material:</b>	silty sand, brown, tight
+			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Depth:		From 93 To 114 Ft.		Material:	white sand, clean
+					
Depth:		From 114 To 118 Ft.		Material:	brown silty sand
+					
Depth:		From 118 To 161 Ft.		Material:	white silty sand
+					
Depth:		From 161 To 163 Ft.		Material:	coarse white sand, almost gravel
+					
Depth:		From 163 To 171 Ft.		Material:	very fine blue sand, almost silt
+					
Depth:		From 171 To 182 Ft.		Material:	fine blue water-bearing sand
+					
Depth:		From 182 To 0 Ft.		Material:	fine blue silty sand (dry)

[19](#)

1 of 1

WSW/214.8

9.8

1305 MIDDEN RD.  
COMOX BC

WWIS

<b>Well Tag No.:</b>	55131	<b>Seq No.:</b>	27
<b>Owner's Well No.:</b>		<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX	<b>Well Owner:</b>	██████████
<b>Lot:</b>	6	<b>Plan:</b>	6180
<b>District Lot:</b>	87	<b>Section:</b>	
<b>Township:</b>		<b>Range:</b>	
<b>Legal Misc:</b>		<b>Island:</b>	
<b>PID:</b>		<b>Latitude:</b>	49.669924
<b>Longitude:</b>	124.907354	<b>Easting:</b>	362376
<b>Northing:</b>	5503679	<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps	<b>Well Status:</b>	New
<b>Observ. Well No.:</b>		<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>		<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1985-08-10 00:00:00.0	<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DRI	<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>		<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>		<b>Est. Yield:</b>	5
<b>Yield Units:</b>	GPM	<b>Artesian Flow:</b>	
<b>Artesian Units:</b>		<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated	<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	14	<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	61	<b>Well Diameter:</b>	6.0
<b>Surf Seal Flag:</b>		<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>		<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>		<b>Aquifer No.:</b>	
<b>General Remarks:</b>	# 12 SLOT SCREEN. OWNER REPORTED WATER TASTED GOOD.		

--- Details ---

Depth:	From 0 To 15 Ft.	Material:	brown gravel and hardpan
+			
Depth:	From 15 To 55 Ft.	Material:	grey hardpan and gravel

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<hr/>					
<b>+</b>					
<b>Depth:</b>	From 55 To 61 Ft.			<b>Material:</b>	loose water-bearing gravel
<hr/>					
<a href="#">20</a>	1 of 1	WNW/216.3	19.0		WWIS
				BC	
<b>Well Tag No.:</b>	12025			<b>Seq No.:</b>	4
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	██████████
<b>Lot:</b>	87			<b>Plan:</b>	
<b>District Lot:</b>				<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.67163
<b>Longitude:</b>	124.907574			<b>Easting:</b>	362365
<b>Northing:</b>	5503869			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1950-01-01 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DUG			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	0
<b>Yield Units:</b>				<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>				<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	24			<b>Well Diameter:</b>	0.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>					
<hr/>					
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	Aquifer data: glacial hardpan
<hr/>					

<a href="#">21</a>	1 of 1	W/219.5	14.2		WWIS
				BC	
<b>Well Tag No.:</b>	12479			<b>Seq No.:</b>	8
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	██████████
<b>Lot:</b>	87			<b>Plan:</b>	
<b>District Lot:</b>				<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.670601
<b>Longitude:</b>	124.907797			<b>Easting:</b>	362346
<b>Northing:</b>	5503755			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well</b>	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Chemistry Site Id:</b>				<b>Status:</b> <b>Other Chemistry</b>	
<b>Construction Start Dt:</b>	1950-01-01 00:00:00.0			<b>Data:</b> <b>Construction End Dt:</b>	
<b>Construction Method:</b>	DUG			<b>Use:</b>	Unknown Well Use
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	0
<b>Yield Units:</b>				<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>				<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	26			<b>Well Diameter:</b>	0.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>					
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	Aquifer data: hardpan - sandy till at
<b>+</b>					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	the bottom

<a href="#">22</a>	1 of 1	WSW/230.7	7.4	1307 MIDDEN RD COMOX BC	WWIS
<b>Well Tag No.:</b>	74262			<b>Seq No.:</b>	
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>				<b>Well Owner:</b>	
<b>Lot:</b>				<b>Plan:</b>	
<b>District Lot:</b>				<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.669823
<b>Longitude:</b>	124.907517			<b>Easting:</b>	362364
<b>Northing:</b>	5503668			<b>Zone:</b>	10
<b>Location Accuracy:</b>	J (unknown, accuracy based on parcel size) ICF cadastre, poor or no location sketch, arbitrarily located in center of parcel			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1991-05-10 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DRI			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	8
<b>Yield Units:</b>	USGM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>				<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	20			<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	66			<b>Well Diameter:</b>	6.0
<b>Surf Seal Flag:</b>	N			<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal</b>	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<b>Surf Seal Depth:</b>				<b>Thickness:</b>	
<b>General Remarks:</b> STEEL CASING,0.0 TO 66.4,.250 THICK, CONTINUOUS,STAINLESS STEEL,PUMP TEST RATE 8 USGM,20 FT AFTER 4 HRS				<b>Aquifer No.:</b>	
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 2 Ft.			<b>Material:</b>	TOPSOIL
+					
<b>Depth:</b>	From 30 To 50 Ft.			<b>Material:</b>	GRAVELLY TILL BOULDERS AT 40 FOOT LEVEL
+					
<b>Depth:</b>	From 50 To 61 Ft.			<b>Material:</b>	GRAVELLY TILL
+					
<b>Depth:</b>	From 61 To 66.5 Ft.			<b>Material:</b>	WATER BEARING SAND & GRAVEL
+					
<b>Depth:</b>	From 2 To 30 Ft.			<b>Material:</b>	GRAVELLY TILL

<a href="#">23</a>	1 of 1	W/240.5	16.2	BC	WWIS
<b>Well Tag No.:</b>	12103			<b>Seq No.:</b>	7
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	87			<b>Plan:</b>	
<b>District Lot:</b>				<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.671036
<b>Longitude:</b>	124.908119			<b>Easting:</b>	362324
<b>Northing:</b>	5503804			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1950-01-01 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DUG			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	0
<b>Yield Units:</b>				<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>				<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	35			<b>Well Diameter:</b>	0.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>					
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	Aquifer data: glacial hardpan

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<a href="#">24</a>	1 of 1	W/243.7	15.1	1319 DOCLIDDEL RD DOCLIDDEL RD BC	WWIS
<b>Well Tag No.:</b>	67553			<b>Seq No.:</b>	32
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	[REDACTED]
<b>Lot:</b>	5			<b>Plan:</b>	5689
<b>District Lot:</b>	87			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.670873
<b>Longitude:</b>	124.908168			<b>Easting:</b>	362320
<b>Northing:</b>	5503786			<b>Zone:</b>	10
<b>Location Accuracy:</b>	J (unknown, accuracy based on parcel size) ICF cadastre, poor or no location sketch, arbitrarily located in center of parcel			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1994-10-24 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DRI			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	2
<b>Yield Units:</b>	GPM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>				<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	25			<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	99			<b>Well Diameter:</b>	6.0
<b>Surf Seal Flag:</b>	N			<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>	STEEL CASING, 0 TO 95.25 DRILLER: FRESH, CLEAR WATER				
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 20 Ft.			<b>Material:</b>	BROWN COMPACT SAND & GRAVEL
+					
<b>Depth:</b>	From 20 To 35 Ft.			<b>Material:</b>	GREY, COMPACT, GRAVELLY TILL
+					
<b>Depth:</b>	From 35 To 50 Ft.			<b>Material:</b>	BROWN, COMPACT SAND & GRAVEL
+					
<b>Depth:</b>	From 50 To 61 Ft.			<b>Material:</b>	GREY, GRAVELLY TILL, WITH SAND
+					
<b>Depth:</b>	From 61 To 94 Ft.			<b>Material:</b>	GRAVELLY TILL WITH SAND LENSES
+					
<b>Depth:</b>	From 94 To 99 Ft.			<b>Material:</b>	COARSE SAND WITH SILT LENSES
+					
<b>Depth:</b>	From 99 To 102 Ft.			<b>Material:</b>	GREY SILTY CLAY

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<a href="#">25</a>	1 of 1	N/244.2	48.3	1237 WALTER GAGE ST. COMOX BC	WWIS
<b>Well Tag No.:</b>	52693			<b>Seq No.:</b>	28
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	G			<b>Plan:</b>	35133
<b>District Lot:</b>	110			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.673078
<b>Longitude:</b>	124.904276			<b>Easting:</b>	362607
<b>Northing:</b>	5504024			<b>Zone:</b>	10
<b>Location Accuracy:</b>	D (100 m) Digitized from old Dept. of Lands, Forests and Water Resources maps			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1983-09-02 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DRI			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	0
<b>Yield Units:</b>				<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>	Unconsolidated			<b>Bedrock Depth:</b>	
<b>Water Depth:</b>				<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	265			<b>Well Diameter:</b>	6.0
<b>Surf Seal Flag:</b>				<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>	NO WATER.(NO.1 WELL). GOOD TASTE, GOOD QUANTITY. SINGLE DOMESTIC USE. ?HOW COULD A DRY WELL HAVE "GOOD Q.?" PERHAPS THE WELL LOCATOR FND A SECOND W. ON THE PROP.				
<b>--- Details ---</b>					
<b>Depth:</b>	From 0 To 60 Ft.			<b>Material:</b>	dry sand
+					
<b>Depth:</b>	From 60 To 90 Ft.			<b>Material:</b>	sand hardpan
+					
<b>Depth:</b>	From 90 To 160 Ft.			<b>Material:</b>	clay sand hardpan
+					
<b>Depth:</b>	From 160 To 190 Ft.			<b>Material:</b>	dry sand
+					
<b>Depth:</b>	From 190 To 240 Ft.			<b>Material:</b>	very fine sand and water clay
+					
<b>Depth:</b>	From 240 To 265 Ft.			<b>Material:</b>	clay sand hardpan
+					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	
+					
<b>Depth:</b>	From 0 To 0 Ft.			<b>Material:</b>	sand is too fine to screen

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
+					
<b>Depth:</b>		From 0 To 0 Ft.		<b>Material:</b>	40 % clay
+					
<b>Depth:</b>		From 0 To 0 Ft.		<b>Material:</b>	no water
<a href="#">26</a>	1 of 1	<b>ENE/248.3</b>	<b>57.7</b>	<b>BC</b>	<b>WWIS</b>
<b>Well Tag No.:</b>	73721			<b>Seq No.:</b>	31
<b>Owner's Well No.:</b>				<b>BCGS Mapsheet:</b>	092F066324
<b>Land District:</b>	COMOX			<b>Well Owner:</b>	
<b>Lot:</b>	B			<b>Plan:</b>	44174
<b>District Lot:</b>	115			<b>Section:</b>	
<b>Township:</b>				<b>Range:</b>	
<b>Legal Misc:</b>				<b>Island:</b>	
<b>PID:</b>				<b>Latitude:</b>	49.671915
<b>Longitude:</b>	124.901722			<b>Easting:</b>	362788
<b>Northing:</b>	5503890			<b>Zone:</b>	10
<b>Location Accuracy:</b>	J (unknown, accuracy based on parcel size) ICF cadastre, poor or no location sketch, arbitrarily located in center of parcel			<b>Well Status:</b>	New
<b>Observ. Well No.:</b>				<b>Observ. Well Status:</b>	
<b>Chemistry Site Id:</b>				<b>Other Chemistry Data:</b>	
<b>Construction Start Dt:</b>	1986-09-25 00:00:00.0			<b>Construction End Dt:</b>	
<b>Construction Method:</b>	DRI			<b>Use:</b>	Private Domestic
<b>Orientation of Well:</b>				<b>Class of Well:</b>	
<b>Sub-Class of Well:</b>				<b>Est. Yield:</b>	15
<b>Yield Units:</b>	USGM			<b>Artesian Flow:</b>	
<b>Artesian Units:</b>				<b>Artesian Pressure:</b>	
<b>Aquifer Lithology:</b>				<b>Bedrock Depth:</b>	
<b>Water Depth:</b>	160			<b>Depth Well Drilled:</b>	
<b>Final Well Depth:</b>	191			<b>Well Diameter:</b>	6.0
<b>Surf Seal Flag:</b>	N			<b>Surf Seal Method:</b>	
<b>Surf Seal Material:</b>				<b>Surf Seal Thickness:</b>	
<b>Surf Seal Depth:</b>				<b>Aquifer No.:</b>	
<b>General Remarks:</b>	STEEL CASING,0.0 TO 182.0, .250 THICK,A53 LBS, CONTINUOUS,STAINLESS STEEL,PUMP TEST RATE 15 USGM,130 FT AFTER 1 HRS				
<b>--- Details ---</b>					
<b>Depth:</b>		From 0 To 6 Ft.		<b>Material:</b>	BROWN TOP SOIL
+					
<b>Depth:</b>		From 6 To 30 Ft.		<b>Material:</b>	BROWN SAND & GRAVEL
+					
<b>Depth:</b>		From 30 To 40 Ft.		<b>Material:</b>	TIGHT BROWN SAND
+					
<b>Depth:</b>		From 40 To 70 Ft.		<b>Material:</b>	TIGHT YELLOW BROWN SAND
+					
<b>Depth:</b>		From 160 To 191 Ft.		<b>Material:</b>	BLUE & WHITE QUADRA SANDS WATER BEARING

<i>Map Key</i>	<i>Number of Records</i>	<i>Direction/ Distance m</i>	<i>Elevation m</i>	<i>Site</i>	<i>DB</i>
+					
<i>Depth:</i>		From 80 To 90 Ft.		<i>Material:</i>	TIGHT BROWN SILTY SAND
+					
<i>Depth:</i>		From 90 To 100 Ft.		<i>Material:</i>	TIGHT BROWN SILTY SAND
+					
<i>Depth:</i>		From 100 To 120 Ft.		<i>Material:</i>	TIGHT BROWN SILTY SAND
+					
<i>Depth:</i>		From 120 To 160 Ft.		<i>Material:</i>	YELLOWISH SAND TIGHT
+					
<i>Depth:</i>		From 70 To 80 Ft.		<i>Material:</i>	TIGHT GRAY SILTY SAND

# Unplottable Summary

DB	Company Name/Site Name	Address	City	Postal
----	------------------------	---------	------	--------

No unplottable records were found that may be relevant for the search criteria.

# Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

## Appendix: Database Descriptions

*Ecolog Environmental Risk Information Services Ltd (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. **Note:** Databases denoted with " \* " indicates that the database will no longer be updated. See the individual database description for more information.*

### **Authorization Management System (formerly WASTE):**

Provincial [AMS](#)

AMS is the Ministry of Environment's waste permit administration system. It maintains data related to the administration of permits issued under the Environmental Management Act and registrations under various regulations where the regulation requires a discharger to register. It will include information such as companies or individuals permitted to discharge waste; type of business and locations at which waste disposal is permitted; the types, amounts and frequency of waste products that are permitted to be discharged at given locations; issue date and more. This was previously referred to as the "WASTE" database.

*Government Publication Date: 1957-Jan 2012*

### **Assessment Report Indexing System:**

Provincial [ARIS](#)

Within British Columbia, the "Mineral Tenure Act Regulation", requires that all results of mineral exploration and development programs be submitted to the British Columbia Ministry of Employment and Investment, where they are then maintained and housed by the Geological Survey Branch. The assessment reports provided by the Geological Survey Branch contain summary information for reports approved to November 1998; on geology, geophysics, geochemistry, drilling, prospecting and physical work.

*Government Publication Date: 1947-Jan 2014*

### **Automobile Wrecking & Supplies:**

Private [AUWR](#)

This database provides an inventory of all known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

*Government Publication Date: 2001-Jul 2014*

### **BC Oil and Gas Wells:**

Provincial [BOGW](#)

The BC Oil and Gas Wells database was collected from the BC Oil and Gas Commission and is a comprehensive database that includes information regarding well number, well name, operator name, location, depth, status, as well as drill date and type. Please note that this database will not be updated, information on wells drilled after January 2006 can be found in the Oil and Gas Wells (OGW) database under the 'Private Source Database' section.

*Government Publication Date: 1918-Jan 2006\**

### **Chemical Register:**

Private [CHEM](#)

This database includes a listing of locations of facilities within the Province or Territory that either manufacture and/or distributes chemicals.

*Government Publication Date: 1999-Jul 2014*

### **Coal Tar Sites:**

Provincial [COAL](#)

This one-time study is an inventory of all known and historical coal tar sites, identifying sites that produced coal tar and other related tars during the mid 1800's to the mid 1900's.

*Government Publication Date: 1992\**

**Compliance and Enforcement Summary:**

Provincial [CONV](#)

This database summarizes orders, tickets and convictions issued by the Ministry of the Environment under applicable ministry and federal legislation. Orders are issued when action is required to prevent or stop actual or potential impact to the environment. Tickets apply to all tickets paid, deemed guilty by non-payment or expiry, or contested in court and found guilty by a judge. Convictions apply to all court convictions of ministry legislation as well as federal legislation where the ministry has taken action. This reporting summary began in January 2006, replacing Non-Compliance Reports by the former Ministry of Water, Land & Air Protection. See the Non-Compliance Reports (NCPL) database below for more information. This database is part of a larger COORS (Conservation Officer On-Line Reporting System) database controlled by the Ministry of Environment in BC.

*Government Publication Date: 1990-Sep 2013*

**Wastewater Discharge Inventory:**

Provincial [DIS](#)

This inventory contains information regarding direct dischargers of toxic pollutants for the following operations: Industrial; Commercial; Agricultural; Mining; Municipal; Urban; Aquaculture; and Pulp & Paper, operating under provincial permits. Please note that this program was discontinued and therefore the database will not be updated.

*Government Publication Date: 1957-1995\**

**Environmental Effects Monitoring:**

Federal [EEM](#)

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

*Government Publication Date: 1992-2007\**

**ERIS Historical Searches:**

Private [EHS](#)

EcoLog ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

*Government Publication Date: 1999-Aug 2014*

**Environmental Issues Inventory System:**

Federal [EIS](#)

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

*Government Publication Date: 1992-2001\**

**Federal Convictions:**

Federal [FCON](#)

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

*Government Publication Date: 1988-Jun 2007\**

**Contaminated Sites on Federal Land:**

Federal [FCS](#)

The Federal Contaminated Sites Inventory includes information on all known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government.

*Government Publication Date: June 2000-Sep 2014*

**Commercial Fisheries:**

Provincial [FISH](#)

The Fisheries, Aquaculture & Commercial Fisheries Branch of the Ministry of Water, Land & Air Protection maintains a database of fish processing plant approvals, licenses and activities. Each year, licenses need to be renewed.

*Government Publication Date: 1993-2012*

**Fisheries & Oceans Fuel Tanks:**

Federal [FOFT](#)

Fisheries & Oceans Canada maintains an inventory of all aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

*Government Publication Date: 1964-Sept 2003*

**Waste Generators Summary:**

Provincial [GEN](#)

Within British Columbia, the Special Waste Regulation defines a waste generator as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number (BCG#), company name and address of registered generators; including the types of hazardous wastes generated and the form of treatment used in the handling of the waste. This information is a summary of all years from June 1993 to March 2006. Please note that a British Columbia Generator number (BCG#) are not unique to a company. This database is part of a larger SWIS (Special Waste Information System) database controlled by the Ministry of Environment in BC.

*Government Publication Date: 1993-2010*

**Indian & Northern Affairs Fuel Tanks:**

Federal [IAFT](#)

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of all aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

*Government Publication Date: 1950-Aug 2003\**

**Lumber Mills:**

Provincial [LUM](#)

This database provides information regarding the general location and estimated annual output capacity of major timber processing facilities within the province of British Columbia.

*Government Publication Date: 1997-2011*

**Canadian Mine Locations:**

Private [MINE](#)

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

*Government Publication Date: 1998-2009\**

**Minerals Deposits Database:**

Provincial [MNR](#)

The Ministry of Energy and Mines maintains a database of more than 12,000 metallic mineral, industrial mineral and coal deposits and occurrences within British Columbia. Information within our report pertains to primary name, elevation, mining division, commodities, and status. Please note that as of January 27, 1999, information included within this database was divided into 2 categories: released and unreleased areas. Records for unreleased areas may contain incomplete, unedited, and/or inaccurate data.

*Government Publication Date: 1852-May 2014*

**National Analysis of Trends in Emergencies System (NATES):**

Federal [NATE](#)

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

*Government Publication Date: 1974-1994\**

**Non-Compliance Reports:**

Provincial [NCPL](#)

From 1990 to March 2001 the Ministry of Water, Land & Air Protection maintained a reporting system that identified any reported concern that pertained to compliance with authorized waste management permits or plans, approvals, orders, operational certificates and regulations, or any other activity under the Waste Management Act. This reporting system was discontinued in April of 2001; therefore there will be no updates to this database. However, beginning in January 2006 the Ministry of the Environment began publishing Compliance and Enforcement Summaries. See the Compliance and Enforcement Summary (CPL) database above for more information.

*Government Publication Date: 1990-Mar 2001\**

**National Defence & Canadian Forces Fuel Tanks:**

Federal [NDFT](#)

The Department of National Defence and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

*Government Publication Date: Up to May 2001\**

**National Defence & Canadian Forces Spills:**

Federal [NDSP](#)

The Department of National Defence and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

*Government Publication Date: Mar 1999-Aug 2010*

**National Defence & Canadian Forces Waste Disposal Sites:**

Federal [NDWD](#)

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

*Government Publication Date: 2001-Apr 2007\**

**National Energy Board Wells:**

Federal [NEBW](#)

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

*Government Publication Date: 1920-Feb 2003\**

**National Environmental Emergencies System (NEES):**

Federal [NEES](#)

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for all previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

**National PCB Inventory:**

Federal [NPCB](#)

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. All federal out-of-service PCB containing equipment and all PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008\*

**National Pollutant Release Inventory:**

Federal [NPRI](#)

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-2012

**Oil and Gas Wells:**

Private [OGW](#)

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at [www.nickles.com](http://www.nickles.com).

Government Publication Date: 1988-Sep 2014

**Canadian Pulp and Paper:**

Private [PAP](#)

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009

**Inventory of PCB Storage Sites:**

Provincial [PCB](#)

The Ministry of Water, Land & Air Protection maintains a database of all active Polychlorinated Biphenyls (PCB) waste storage sites within the Special Waste Information System. Please note that there is no requirement to maintain an accurate listing of all inactive PCB waste storage equipment and/or disposal sites. The records within this database provide information regarding site name, location, an inventory of stored wastes and quantities, and status date (when site first active/inactive). Previous to May 1993, data was collected from a different source and is only available for 1989.

Government Publication Date: 1989, May 1993-2010

**Parks Canada Fuel Storage Tanks:**

Federal [PCFT](#)

Canadian Heritage maintains an inventory of all known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005\*

**Pesticide Register:**

Provincial [PES](#)

This is a database of individuals who apply for a service or vendor license for the use of registered pesticides. A service license is denoted by an "S" in the license number, likewise, a vendor license by a "V" in the license number.

Government Publication Date: 1989-Apr 2010

**Private Aggregate Inventory:**

Provincial PRAI

Within British Columbia, aggregate pits are designated as mines; and as such, the Ministry of Energy and Mines is responsible for their planning, management and regulation, including permitting, health, safety and reclamation. Owners or operators of all private aggregate pits must file Notices of Work as part of the permitting and reclamation process. In 1994, the Geological Survey Branch initiated the Aggregate Program, in order to establish an inventory of natural and crushed aggregate pits. Information about each pit in the database file includes its location, NTS map sheet number, Notice of Work file number and status (active/inactive) and the type of landform hosting the pit. This database was a one-time inventory and will not be updated.

*Government Publication Date: 1975-1996\**

**Public Aggregate Inventory:**

Provincial PUIA

Information about public aggregate pits in British Columbia is collected and managed by the Ministry of Transportation and Highways. Data has been gathered on more than 2000 pits, in respect to pit name, type and geographical location.

*Government Publication Date: 1960-2001\**

**Waste Receivers Summary:**

Provincial REC

The Special Waste Regulation defines the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. A waste receiving location is any site or facility to which waste is transferred through a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address. This database is part of a larger SWIS (Special Waste Information System) database controlled by the Ministry of Environment in BC.

*Government Publication Date: 1992-2010*

**Retail Fuel Storage Tanks:**

Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

*Government Publication Date: 1999-Jul 2014*

**Scott's Manufacturing Directory:**

Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

*Government Publication Date: 1992-Mar 2011*

**Site Registry:**

Provincial SREG

This information is collected from the Ministry of Environment's Site Registry. It is not a registry of contaminated sites, although some sites on the registry are contaminated. Most sites have already been investigated and require minor remediation, or have already been cleaned up to government requirements. The Registry also stores environmentally relevant historic information about sites including: names of participants, legal and administrative notations, references to pertinent documents submitted to the ministry, associations with other sites, and much more.

1 Please note the information provided in the Detail Reports have been updated to the best of our ability as provided by the source, BC Government. For more information, please contact your ERIS sales representative.

*Government Publication Date: 1985-Aug 2014, Detail Rpt Up to Oct 2012*

**Transport Canada Fuel Storage Tanks:**

Federal TCFT

With the provinces of BC, MB, NB, NF, ON, PE, and QC; Transport Canada currently owns and operates 90 fuel storage tanks. Our inventory provides information on the site name, location, tank age, capacity and fuel type.

*Government Publication Date: 1970-Mar 2007*

**Waste Disposal Site Inventory:**

Provincial WDS

This inventory pertains to active, regulated waste disposal sites within the province of British Columbia. Registered companies may hold a permit or certificate for release of the following waste types: Effluent, Refuse, Air and Special Waste Storage. Information on Waste Disposal Sites after 1998 is contained within the Authorizations (AUTH) database.

**Water Well Information System:**

Provincial [WWIS](#)

This database was collected from the Groundwater Information Center of the Ministry of Water, Land & Air Protection and contains over 90,000 records. Comprehensive information is available for each well including: well location (address/site area), latitude/longitude, legal description (section, lot, plan, district lot, range, township), BCGS Mapsheet No., depth of well, construction dates, well status and lithology. The accuracy of well locations is also provided, as well as the reference source for obtaining geographic coordinates.

Government Publication Date: 1880-Jul 2014

# Definitions

**Database Descriptions:** This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

**Detail Report:** This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

**Distance:** The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries". All values are an approximation.

**Direction:** The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

**Elevation:** The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

**Executive Summary:** This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

**Map Key:** The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

**Unplottables:** These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and were included as reference.

# Appendix D

## Historical Aerial Photographs



Aerial Photograph – 1950



Aerial Photograph - 1957



Aerial Photograph - 1964



Aerial Photograph – 1968



Aerial Photograph - 1975



Aerial Photograph - 1979



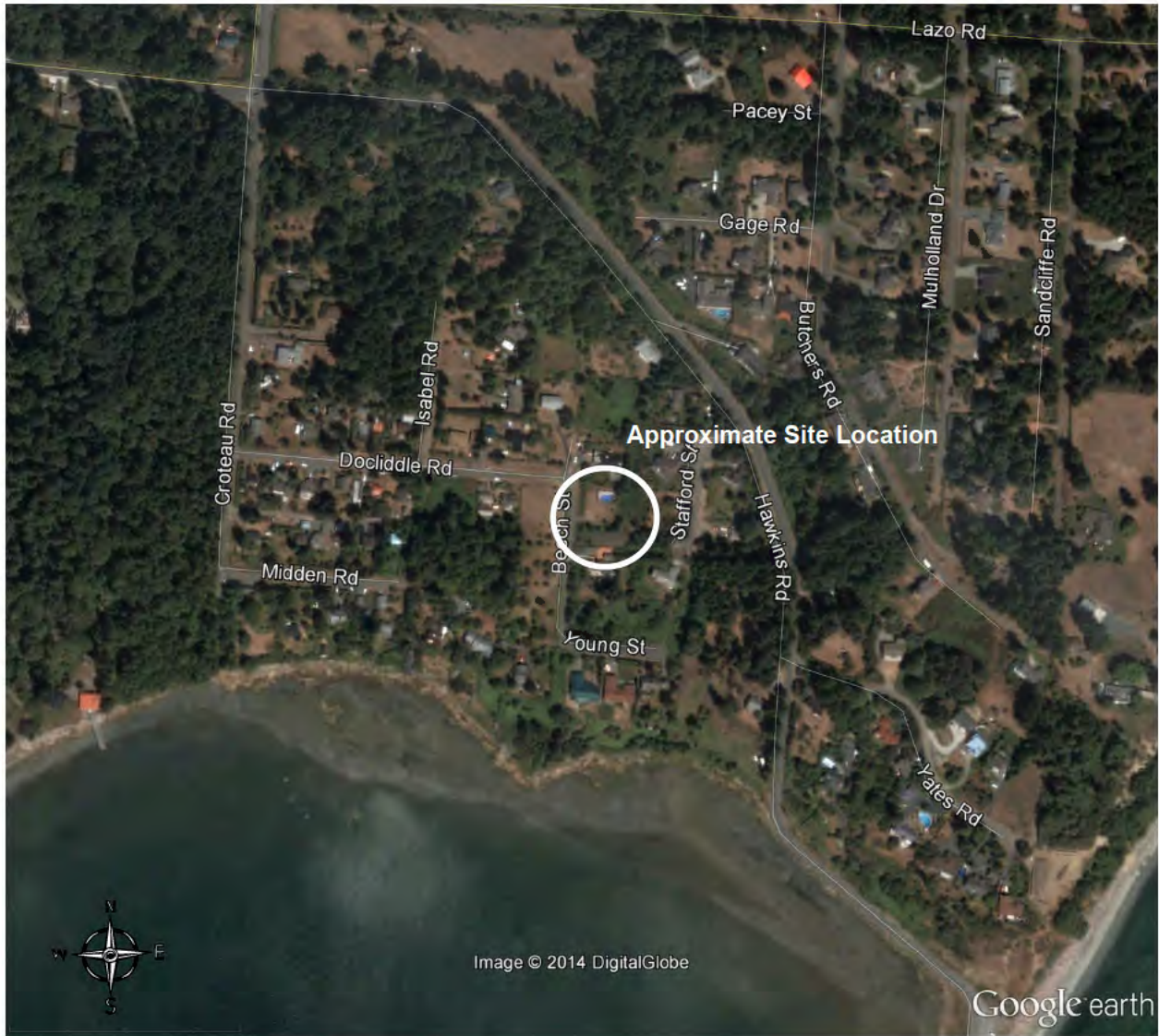
Aerial Photograph – 1984



Aerial Photograph – 1992



Aerial Photograph – 1996



Aerial Photograph – 2004



Aerial Photograph - 2012

# **Appendix B**

**Geotechnical Assessment  
(Levelton Consultants Ltd.)**



**LEVELTON CONSULTANTS LTD.**

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www.levelton.com

14 November 2014

Levelton File # R714-1749-00

AECOM

Fourth Floor, 3292 Production Way  
Burnaby, BC V5A 4R4

**Attention: Mr. Ken Moysiuk, M.Eng., P. Eng.**

**Project: Comox Pump Station No. 2 – Docliddle Road Site**

**Subject: Geotechnical Desktop Assessment**

## **1.0 INTRODUCTION**

As requested, Levelton Consultants Ltd. (Levelton) has completed a geotechnical desktop assessment for a proposed sewage pump station on Docliddle Road in Comox, BC (Figure 1). This report incorporates some typographical corrections and supersedes our report dated 7 November 2014. The work was completed in general accordance with our proposal dated 6 October 2014 (File Ref: P714-2362) for which written authorization was received on 9 October 2014. We understand that the assessment is a component of a due diligence review being completed by the Comox Valley Regional District (CVRD) in consideration of a potential purchase of the subject lot.

The assessment is intended to provide a screening level review of potential geotechnical elements that could introduce cost premiums to the design and construction of the proposed pump station. As requested, review activity was limited to minimize disturbance to the existing land owner. Further geotechnical input is anticipated during the detailed design and tender document preparation phase and in the form of field reviews and quality assurance testing during construction.

Outlined below is a summary of the geotechnical site characterization based on our review of background information and a site reconnaissance. Geotechnical discussion is provided in the context of a conceptual pump station design described by AECOM. A Site Location Plan (Figure 1), Site Specific Seismic Hazard Calculation and annotated photographs are appended.

## 2.0 PROJECT DESCRIPTION AND SITE CHARACTERIZATION

Conceptual design information provided by AECOM indicates that a single storey, concrete block structure about 10 m x 20 m in plan is proposed at the lower (south) part of the site. The underside of the structure is contemplated to be about 7 m below existing grade with reinforced concrete perimeter walls.

Based on surficial geology mapping and corroborated with local experience, the area is inferred to be underlain by a veneer of glacio marine deposits over hard till-like soils underlain by very dense Quadra Sand deposits. The site is located near a mapped transition in ground conditions where the till-like veneer disappears or is expected to be relatively thin. Hard, till-like silt and sand with some gravel was encountered near ground surface in hand excavated test holes advanced on the east side of the site and at the base of a ditch on the west side of the site. The south (low) part of the site appears to contain variable fill inferred to be in the order of 1 to 2 m thick.

In general, our experience has demonstrated that the groundwater table tends to be relatively deep (i.e., closer to sea level). Notwithstanding, near surface water perches on the hard, finer grained surficial soils. In this part of Comox, it is common for the perched water to have been historically managed through "French" drains and ditches, some of which collect water from sites further upslope and / or have been buried.

The site is located in an area of grade transition with the ground surface sloping down to the south / southwest towards Comox Harbour and an approximate 3 to 4 m elevation change exists across the site. Grade increases to the northeast towards the top of Nob Hill with residential homes built into the slope. Vegetation on this slope consisted of bushes and alders and maples typically less than 0.1 m diameter. A steep 15 m high foreshore slope was present about 150 m south of the site.

At the time of the assessment in early October, the site was vegetated with grass and fruit trees and thick blackberries were present around the perimeter. Wet surface conditions with pockets of ponded water were present in a low area to the south of the site.

## 3.0 GEOTECHNICAL DISCUSSION

The site is considered geotechnically suitable for support of the proposed pump station. In general, the dense natural deposits (hard till, Quadra Sand) that are inferred to underlie the site are considered resistant to liquefaction and favourable from a bearing and temporary excavation slope stability perspective. Temporary excavation side walls are not anticipated to be restrictively flat, and subject to review, could possibly be steeper than what is governed by WorkSafeBC.

Notwithstanding the generally favourable conditions, some challenges can be encountered that should be considered in the planning and design of the pump station:

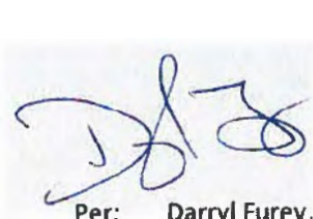
- Slopes, such as the one located to the east of the site, are susceptible to veneer type slides and movements. Our initial opinion is that the slope has a low potential to adversely affect the proposed development. The potential for off-site slope movements in relation to the proposed structure should be reviewed during structure siting and detailed design;
- Hard digging conditions and / or boulders that require hydraulic breaking and / or blasting can sometimes be encountered in the till-like deposits;
- The natural soils are not likely to be suitable for reuse as engineered fill on the site due to their anticipated high fines content and potential to excavate in blocks;
- Variable fill present on the south side of the site is not expected to be of high quality and will need to be replaced within load carrying and settlement sensitive areas; and,
- Perched groundwater should be considered in terms of long term stormwater management and can also pose challenges during construction.

#### 4.0 CLOSURE

This summary report has been prepared for AECOM for application to the construction of a new pump station on Docliddle Road in accordance with the attached Terms of Reference for Geotechnical Reports. The Comox Valley Regional District is an approved user of the report subject to the terms under which it was prepared. Geotechnical input during design and field review during construction will be important components of the project as it develops.

We trust that this information meets your immediate needs. Please do not hesitate to contact the undersigned for clarification or further assistance.

#### LEVELTON CONSULTANTS LTD.



Per: Darryl Furey, M.Eng., P.Eng.  
Senior Geotechnical Engineer



Reviewed by:

Don Kaluza, P.Eng.  
Senior Geotechnical Engineer

Attachments: Figure 1 – Site Location Plan  
Photographs 1 to 4  
Site Specific Seismic Hazard Calculation  
Terms of Reference for Geotechnical Reports



**PROJECT:**  
**GEOTECHNICAL DESKTOP ASSESSMENT  
 PROPOSED PUMP STATION – DOCLIDDLE ROAD, COMOX**

**TITLE:**  
**SITE LOCATION PLAN**

**CLIENT:**  
**AECOM**

**FIGURE NO.:**  
**1**

**DATE:**  
**NOV 2014**

**FILE NO.:**  
**R714-1749-00**

**SCALE:**  
**NTS**

**DRAWN BY:**  
**KAM**

**REV NO.:**  
**A**



**Photo 1:** General view of the site looking northeast from near Beech Street. Note the increase in grade to the north (left) and northeast (background). Shallow till-like soils were encountered in a hand excavated test pit on the east side of the site.



**Photo 2:** General view of lower (south) part of site looking west towards Beech Street. Note the grade change with possible cut conditions to the north (right) and fill conditions to the south (left).



**Photo 3:** General view of site from Docliddle Road looking southeast illustrating the general grade change across the site. Note that dense till-like deposits are present at the base of the ditch downslope of the blackberries.



**Photo 4:** Close-up view of the existing grade change at the north property line with inferred fill on the upslope neighbour's property.

# 2010 National Building Code Seismic Hazard Calculation

INFORMATION: Eastern Canada English (613) 995-5548 français (613) 995-0600 Facsimile (613) 992-8836  
Western Canada English (250) 363-6500 Facsimile (250) 363-6565

Requested by: , Levelton Consultants Ltd.

November 07, 2014

Site Coordinates: 49.6706 North 124.9048 West

User File Reference: Docliddle Road, Comox

## National Building Code ground motions:

**2% probability of exceedance in 50 years (0.000404 per annum)**

Sa(0.2)	Sa(0.5)	Sa(1.0)	Sa(2.0)	PGA (g)
0.660	0.488	0.286	0.158	0.302

**Notes.** Spectral and peak hazard values are determined for firm ground (NBCC 2010 soil class C - average shear wave velocity 360-750 m/s). Median (50th percentile) values are given in units of g. 5% damped spectral acceleration (Sa(T), where T is the period in seconds) and peak ground acceleration (PGA) values are tabulated. Only 2 significant figures are to be used. **These values have been interpolated from a 10 km spaced grid of points. Depending on the gradient of the nearby points, values at this location calculated directly from the hazard program may vary. More than 95 percent of interpolated values are within 2 percent of the calculated values.** Warning: You are in a region which considers the hazard from a deterministic Cascadia subduction event for the National Building Code. Values determined for high probabilities (0.01 per annum) in this region do not consider the hazard from this type of earthquake.

## Ground motions for other probabilities:

Probability of exceedance per annum	0.010	0.0021	0.001
Probability of exceedance in 50 years	40%	10%	5%
Sa(0.2)	0.164	0.343	0.466
Sa(0.5)	0.113	0.247	0.339
Sa(1.0)	0.062	0.140	0.195
Sa(2.0)	0.034	0.077	0.108
PGA	0.082	0.165	0.219

## References

**National Building Code of Canada 2010 NRCC no. 53301;** sections 4.1.8, 9.20.1.2, 9.23.10.2, 9.31.6.2, and 6.2.1.3

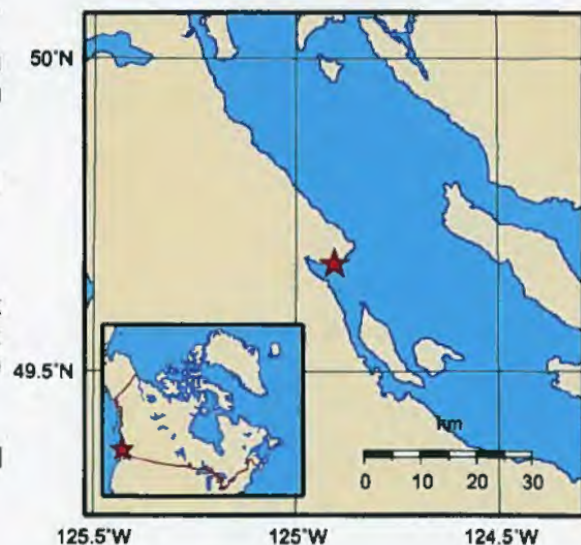
**Appendix C:** Climatic Information for Building Design in Canada - table in Appendix C starting on page C-11 of Division B, volume 2

**User's Guide - NBC 2010, Structural Commentaries NRCC no. 53543** (in preparation)  
**Commentary J:** Design for Seismic Effects

**Geological Survey of Canada Open File xxxx**  
Fourth generation seismic hazard maps of Canada: Maps and grid values to be used with the 2010 National Building Code of Canada (in preparation)

See the websites [www.EarthquakesCanada.ca](http://www.EarthquakesCanada.ca) and [www.nationalcodes.ca](http://www.nationalcodes.ca) for more information

Aussi disponible en français





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