

Director's Order

Director's Order Number

1-20755483

Director's Order Issued To DAWSON ALEXANDER MASSEY 6 CAINTOWN RD , FRONT OF YONGE, ON, KOE 1R0 DONNA MAE AVERY 1376 COUNTY RD 2, LEEDS AND THE THOUSAND ISLANDS, ON, KOE 1R0 **GREGORY JOSEPH HAYES** 1376 COUNTY RD 2, LEEDS AND THE THOUSAND ISLANDS, ON, KOE 1R0 MOHIT GUPTA 163 KIMBER CRES, VAUGHAN, ON, L4L 9K3 PAUL CADIEUX 4 BALMORAL PL UNIT 3, BROCKVILLE, ON, RAJNI GUPTA 163 KIMBER CRES, VAUGHAN, ON, L4L 9K3 RAKESH KUMAR GUPTA 163 KIMBER CRES, VAUGHAN, ON, L4L 9K3 RICE LAKE DEVELOPMENTS INC. 163 KIMBER CRES, VAUGHAN, ON, L4L 9K3

Site

Refer to the Definitions section in Part B of this Director's Order, for the meaning of all the capitalized terms that are used in this Director's Order.

PART A - WORK ORDERED

This work is ordered pursuant to my authority under **EPA | 18 | (1), EPA | 197 | (1)**, I order you, jointly and severally, to do the following:

Item No. 1

I order the Orderees to jointly and severally do the following:

By seven (7) weeks after issuance of the Director's Order, submit written confirmation to the Director that a Qualified Person(s) has been retained to conduct the work required by this Director's Order. The written confirmation shall include but not necessarily be limited to the name of the individual or company, proof of retention and a description of the Qualified Person's/Qualified Persons' qualifications and experience.

Item No. 2



I order the Orderees to jointly and severally do the following:

Arrange for the Qualified Person(s) to prepare, by no later than four (4) months after issuance of the Director's Order, a detailed work plan, which will be prepared in accordance with the Ministry's document entitled 'Guide for Completing Phase Two Environmental Site Assessments under Ontario Regulation 153/04', which describes the steps that will be taken and the dates those steps will be taken, to fully delineate, horizontally and vertically, the Contaminants of Concern impacting groundwater which originates at and from the Site and which has migrated and may migrate from the Site and includes, but is not limited to, a sampling and analysis component which ensures that the areas of highest concentration of each Contaminant of Concern present in soil and/or groundwater on, in or under properties down gradient of the Site are identified and located (hereafter referred to as the 'Delineation Work Plan'). The Delineation Work Plan shall include a proposed implementation schedule that results in the work being completed by no later than eight (8) months after issuance of the Director's Order.

Item No. 3

I order the Orderees to jointly and severally do the following:

By four (4) months after issuance of the Director's Order submit to the Director, for review and acceptance, a paper and an electronic copy of the Delineation Work Plan referred to in Item No. 2 of the Director's Order.

Item No. 4

I order the Orderees to jointly and severally do the following:

Upon receipt of the Director's written acceptance of the Delineation Work Plan, arrange for the Qualified Person(s) to implement the accepted Delineation Work Plan in accordance with the accepted implementation schedule.

Item No. 5

I order the Orderees to jointly and severally do the following:

Before twelve (12) months after issuance of the Director's Order, arrange for the Qualified Person(s) to prepare a report, which includes but is not necessarily limited to: a) information collected through the implementation of the accepted Delineation Work Plan; and b) the steps, with a proposed implementation schedule, that will be taken to address soil and groundwater impacted by Contaminants of Concern which originates at and from the Site and has migrated and may migrate off the Site, as identified through the implementation of the accepted Delineation Work Plan (hereafter referred to



as the 'Delineation Report').

Item No. 6

I order the Orderees to jointly and severally do the following:

By twelve (12) months after issuance of the Director's Order, submit to the Director, for review and acceptance, a paper and an electronic copy of the Delineation Report referred to in Item No. 5 of the Director's Order.

Item No. 7

I order Donna Avery and Gregory Hayes to jointly and severally do the following:

Upon service of the Director's Order and before dealing with the Site in any way, provide a copy of the Director's Order to every person who will acquire an interest in the Site as a result of the dealing.

Item No. 8

I order Donna Avery and Gregory Hayes to jointly and severally do the following:

Within thirty (30) days of receipt of the Certificate of Requirement enclosed in Addendum B and issued pursuant to subsection 197(2) of the EPA, register the Certificate of Requirement on title to the Site in the appropriate land registry office.

Item No. 9

I order Donna Avery and Gregory Hayes to jointly and severally do the following:

Within seven (7) days of registration of the Certificate of Requirement, provide written verification to the Director that the Certificate of Requirement has been registered on title to the Site.

Item No. 10

I order the Orderees to jointly and severally do the following:

Where an item of the Director's Order requires a document or information to be submitted, it shall be submitted electronically by email to environment. kingston@ontario.ca and trevor.dagilis@ontario.ca and a printed copy shall be delivered to the Director, attention: Trevor Dagilis, District Manager, Ministry of the Environment, Conservation and Parks, 1259 Gardiners Road, Unit 3, Kingston, Ontario, K7P 3J6.



PART B - BACKGROUND AND REASONS

This Director's Order is being issued for the reasons set out below.

Definitions

For the purposes of this Director's Order, the following capitalized terms shall have the meanings set out below:

"2017 Order" means Provincial Officer's Order 8737-9LTS24 issued to Paul Cadieux by Provincial Officer Nathalie Matthews on March 30, 2017.

"Adverse Effect" has the same meaning as in subsection 1(1) of the EPA

"Contaminants of Concern" are: benzene, toluene, ethylbenzene, xylenes, petroleum hydrocarbons (F1 to F4 fractions) and polycyclic aromatic hydrocarbons.

"Director" means the undersigned, or any other person appointed for purposes of sections 18, 132, 196 and 197 of the EPA.

"Director's Order" means Director's Order 1-20755483 with the issue date of xxxx.

"EPA" means the Environmental Protection Act, R.S.O. 1990, c. E.19.

"January 2013 Report" means the report entitled Phase II Environmental Site Assessment (ESA) 1376 County Road 2 Escott, ON dated January 2013 and prepared by Genivar Inc.

"Ministry" means the Ontario Ministry of the Environment, Conservation and Parks.

"Orderees" means Paul Cadieux, Rajni Gupta, Rice Lake Developments Inc., Mohit Gupta, Rakesh Gupta, Dawson Massey, Donna Avery and Gregory Hayes.

"OWRA" means Ontario Water Resources Act, R.S.O. 1990, c. O. 40.

"Provincial Officer" means Nathalie Matthews, or in the event that she is unable to act, any other provincial officer authorised to act pursuant to the EPA.

"Qualified Person" means a person who has obtained the appropriate education and training and has demonstrated experience and expertise in the areas relating to the work required to be carried out by this Order. For the purposes of this Director's Order, the person shall also meet the qualifications set out in Section 5 of Ontario Regulation 153/04 made under the EPA.

"Regulation 903" means R.R.O. 1990, Regulation 903, passed pursuant to the OWRA.

"Site" means the property located at 1376 County Road 2 in the Township of Leeds and the



Thousand Islands, Ontario and legally described as: PT LT 17 CON 2 ESCOTT PT 5 TO 8 28R6613; S/T LR318370; LEEDS/THOUSAND ISLANDS with the Property Identifier Number (PIN) 44214-0244.

Description of Person(s) Subject to the Director's Order

Donna Avery and Gregory Hayes are the current owners of the Site and have been the owners since October 26, 2022. In this capacity, Donna Avery and Gregory Hayes currently have management and control of the Site and the Contaminants of Concern originating from the Site which may be migrating beyond the Site's property boundaries.

Donna Avery and Gregory Hayes purchased the Site from Dawson Massey, who had been the owner of the Site since October 1, 2020 and up until the sale to Donna Avery and Gregory Hayes on October 26, 2022.

Dawson Massey purchased the Site from Rice Lake Developments Inc. (hereafter referred to as 'RDL'), who was the owner of the Site from January 17, 2020 until the transfer to Dawson Massey on October 1, 2020. According to a corporate search, RDL is an active registered business and has been active since December 19, 2007. Its Ontario corporate number is 1758020. Mohit Gupta and Rakesh Gupta are the sole directors of RLD. Mohit Gupta has been a director of RDL since October 21, 2013 and Rakesh Gupta has been a director of RLD since May 31, 2018. As directors of RLD, both Mohit Gupta and Rakesh Gupta exercised a certain degree of management and control of the Site and the contaminants present on and beneath the Site.

RLD purchased the Site from Rajni Gupta, who became the owner of the Site on July 30, 2019. From July 30, 2019 to January 17, 2020, Rajni Gupta, in her personal capacity, exercised a certain degree of management and control of the Site and the contaminants present on and beneath the Site.

Paul Cadieux owned the Site in his personal capacity from February 1, 2002 to July 30, 2019 during which time he was in management and control of the Site and the contaminants present on and beneath the Site.

To the Director's knowledge, all owners of the Site prior to February 1, 2002 are deceased.

Description of the Site and/or System/Facility

The Site is located at 1376 County Road 2 in the Township of Leeds and the Thousand Islands.

The Site consists of a parcel of land covering approximately 0.5 hectares or 1.3 acres with a dwelling, a shed and a pasture field separated by an unpaved driveway. The Site is privately serviced with a drilled well and a septic system. A second unused drilled well is also located at the Site.

The Site is in a mixed residential and agricultural land use area. The Site and adjacent



properties are privately serviced and rely on local groundwater for their domestic and drinking water supplies.

According to the January 2013 Report, the Site had been occupied by a retail fuel service station starting in the 1950s and that the structures were demolished and the fuel storage tanks were removed in the 1980s.

Events Leading up to Director's Order

In and around April 4, 2017, the 2017 Order was served on Paul Cadieux, who was the owner of the Site at the time. A copy of the 2017 Order is attached in Addendum B to this Director's Order.

The 2017 Order includes a detailed summary of the background information since the Ministry's first involvement with the Site in February 2013. Briefly, the issuing Provincial Officer reasonably believed that the Site was contaminated with Contaminants of Concern during the operation of the retail gasoline service station at the Site and that those Contaminants of Concern have impacted the soil and groundwater at the Site and that there was good reason to believe that the contaminants had migrated off the Site, potentially causing an adverse effect, as defined by the EPA, to the natural environment. The information presented in the 2017 Order supports the issuance of this Director's Order.

The 2017 Order required Paul Cadieux to undertake certain environmental work in respect of the Site and lands potentially impacted by contamination originating from the Site including additional off-site groundwater impact delineation.

In October 2019, Paul Cadieux was charged and fined for not complying with the requirements of the 2017 Order.

To the Ministry's knowledge, soil impacted with Contaminants of Concern are present on the Site and the contaminated soil is an ongoing source of contamination to groundwater beneath the Site. According to the January 2013 Report, sampling results suggests that soil and groundwater impairment has migrated beyond the Site's south property line and beyond the Site's east property line.

To the Ministry's knowledge, a full delineation of the Contaminants of Concern originating from the Site as required by the 2017 Order has not been conducted and that it is still likely that the Contaminants of Concerns are continuing to extend beyond the Site's property boundaries beneath at least two adjacent properties.

Authority to Issue the Director's Order

I am issuing this Director's Order under my authority as a Director under the following legislation, which also includes the authority to take intermediate action and/or procedural steps:

- Section 18 of the EPA; and



- Section 197 of the EPA.

Therefore, based on the foregoing, I am of the opinion that the Orderees were previously or are currently the owners or persons in charge, management or control of the Site that is contaminated with Contaminants of Concern and that the requirements specified in the Director's Order are in the public interest to ensure the protection of public health and the natural environment.

Based on the foregoing, I am of the opinion that it is reasonable to believe that the Site is currently contaminated, and has been contaminated for some time, with Contaminants of Concern and that the Site is a source of Contaminants of Concern which have migrated and are likely continuing to migrate off the Site and onto adjacent properties. The extent of the contamination on and off the Site has not been fully delineated and, in the absence of an active groundwater remediation and/or containment program at and related to the Site and/or other appropriate remedial and/or monitoring programs, groundwater contaminated with Contaminants of Concern may have and may continue to migrate off the Site onto adjacent properties where adverse effects related to groundwater impacts may occur or have already occurred, posing a potential risk to human health and the natural environment as identified by impairment to drinking water supplies.

I reasonably believe that the requirements of this Director's Order are necessary and advisable to prevent, decrease or eliminate any adverse effects that may result from such a discharge or have resulted from such discharges that occurred in the past or from the presence or discharge of the Contaminants of Concern in, on or under the Site related to groundwater impacts.

I reasonably believe that a complete environmental subsurface investigation is necessary to: a) fully delineate all contaminants at and originating from the Site which have migrated and may continue to migrate beyond the Site's property boundaries; and b) develop a remediation plan to address the impacts associated with contaminants at and originating from the Site which have migrated and may migrate beyond the Site's property boundaries.

I am of the opinion that the requirements specified in the Director's Order are necessary to prevent or reduce the risk of any discharge of the Contaminants of Concern into the natural environment from the Site, or to prevent, decrease or eliminate an adverse effect, namely impairment of the quality of the natural environment for any use that can be made of it, that may result from the presence or the discharge of the Contaminants of Concern in, on or under the Site.

I reasonably believe that fully delineating the Contaminants of Concern originating from the Site which have or may migrate off the Site is necessary and advisable and in the public interest to ensure the protection of public health and the natural environment.

I am of the opinion that as the current owners of the Site, Donna Avery and Gregory Hayes are currently in charge and management of the wells at the Site and they are solely responsible for ensuring that all wells at the Site are either abandoned and/or maintained for future use and maintained in a manner to prevent the entry of foreign materials or surface water in accordance



with Regulation 903.

Attachments

The attachments listed below, if any, form part of this Director's Order:

Addendum A - 2017 Order

Addendum B - Acknowledgment and Direction AND Certificate of Requirement

Ministry of the Environment, Conservation and Parks Ministère de l'Environnement, de la Protection de la nature et des Parcs



ISSUING DIRECTOR

Name: Trevor Dagilis

Job Title: Director

Badge Number:

Address: 1259 GARDINERS RD UNIT 3, KINGSTON, ON, K7P 3J6

Director Email: trevor.dagilis@ontario.ca

Office Email: Environment.Kingston@ontario.ca

Date:

Signature:





APPEAL TO THE ONTARIO LAND TRIBUNAL INFORMATION

REQUEST FOR HEARING

You may require a hearing before the Ontario Land Tribunal if, within 15 days of service of this Director's Order, you serve written notice of your appeal on the Ontario Land Tribunal and the Director as indicated in the Contact Information below. Your notice of appeal must state the portions of this Director's Order for which a hearing is required and the grounds on which you intend to rely at the hearing. Unless you receive leave (permission) from the Ontario Land Tribunal, you are not entitled to appeal a portion of this Director's Order or to rely on grounds of appeal that are not stated in the notice of appeal.

CONTACT INFORMATION

The contact information for the Director and the Ontario Land Tribunal is the following:

RegistrarandDirectorOntario Land TribunalMinistry of the Environment,655 BAY STREET, SUITE 1500Conservation and ParksTORONTO, ON M5G 1E5Kingston District OfficeEmail: OLT.Registrar@ontario.ca1259 GARDINERS RD, UNIT 3KINGSTON, ON K7P 3J6Office Email: Environment.Kingston@ontario.caFax: (613) 548-6908

The contact information of the Ontario Land Tribunal and further information regarding its appeal requirements can be obtained directly from the Tribunal at:

Tel: (416) 212-6349, Toll Free: 1(866) 448-2248 or www.olt.gov.on.ca

SERVICE INFORMATION

Service of the documentation referred to above can be made personally, by mail, by fax (in the case of the Director only), by commercial courier or by email in accordance with the legislation under which this Director's Order is made and any corresponding Service Regulation.

Please note that where service is made by mail, it is deemed to be made on the fifth day after the date of mailing and choosing service by mail does not extend any of the above-mentioned timelines.



ADDITIONAL INFORMATION

Unless stayed by the Director or the Ontario Land Tribunal, this Director's Order is effective from the date of service.

Failure to comply with a requirement of this Director's Order constitutes an offence.

The requirements of this Director's Order are minimum requirements only and do not mean that you are not required to comply with any other applicable legal requirements, including any:

- statute, regulation, or by-law;
- federal, provincial, or municipal law; or
- applicable requirements that are not addressed in this Director's Order.

The requirements of this Director's Order are severable. If any requirement of this Director's Order, or the application of any requirement to any circumstance, is held invalid, such finding does not invalidate or render unenforceable the requirement in other circumstances. It also does not invalidate or render unenforceable the other requirements of this Director's Order.

Further orders may be issued in accordance with the legislation as circumstances require.

This Director's Order is binding upon any successors or assignees of the persons to whom this Director's Order is issued.

The procedures to request a hearing and an appeal of this Director's Order and other information provided above are intended as a guide. The legislation should be consulted for additional details and accurate reference. Further information can be obtained from e-Laws at <u>www.ontario.ca/laws</u>.

ADDENDUM A

2017 Order



Provincial Officer's Report

Order Number 8737-9LTS24

Paul Marcel Cadieux Unit 3 - 4 Balmoral Pl Brockville, Ontario, K6V 6K1 Canada

Site 1376 #2 County Rd Leeds and the Thousand Islands, United Counties of Leeds and Grenville

Observations

1. Authority to Issue Order

This Order is issued pursuant to subsections 157.1(1) and 197(1) of the EPA, section 16.1 of the OWRA and subsections 103(1) and 104(2) of the OWRA.

I reasonably believe that the requirements of the attached Provincial Officer's Order are necessary or advisable so as to prevent, or reduce the risk of any discharge of contaminants, namely petroleum hydrocarbons, into the natural environment from the Site, or to prevent, decrease or eliminate an adverse effect that may result from the presence or discharge of a contaminant in, on or under the Site and adjacent properties.

2. Definitions

For the purposes of this Order, the following terms shall have the meanings described below:

"Environmental Protection Act" means Environmental Protection Act, R.S.O. 1990, c. E.19.

"Ministry" means the Ontario Ministry of the Environment and Climate Change.

"Order" means this Provincial Officer's Order No. 8737-9LTS24, dated March 30, 2017, as it may be amended.

"Owner of the Site" means Mr. Paul Marcel Cadieux.

"OWRA" means Ontario Water Resources Act, R.S.O. 1990, chapter O.40.

"Provincial Officer" means the undersigned Provincial Officer or, in the event that the undersigned Provincial Officer is unable to act, any other provincial officer authorized to act pursuant to the EPA and the OWRA.

"Qualified Person" means a person who has obtained the appropriate education and training and has demonstrated experience and expertise in the areas relating to the work required to be carried out in this Order and a person meets the qualifications to be a qualified consultant if a) the person holds a licence, limited licence or temporary licence under the *Professional Engineers Act;* or b) the person holds a certificate of registration under the *Professional Geoscientists Act, 2000* and is a practising member, temporary member or limited member of the Association of Professional Geoscientists of Ontario.

"Regulation 903" means R.R.O. 1990, Regulation 903, passed pursuant to the OWRA.

"Site" means the property municipally known as 1376 County Road #2, in the Geographic Township of Escott, the Township of Leeds and the Thousand Islands, United Counties of Leeds and Grenville, Ontario and legally described as PT LT 17 CON 2 ESCOTT PT 5 TO 8 28R6613; S/T LR318370; LEEDS/THOUSAND ISLANDS

3. Site Description

The Site is located in a rural residential and agricultural area. The Site currently includes a single family dwelling. The Site is bounded by residential properties to the north, east and west. County Road #2 road allowance is located south of the Site and separates the Site from a fenced pasture field. The Site and adjacent properties rely on privately owned water wells to provide drinking water and water for domestic purposes.

According to a geowarehouse report, Mr. Paul Marcel Cadieux currently owns the Site and has been the owner of the Site since February 2, 2002. However in June 2013, the Ministry was advised that Veranova Properties Ltd. had been retained by the Bank of Nova Scotia to secure and maintain their properties, one of which was the Site.

4. Summary of Events Leading to Order

On February 4, 2013, the Ministry received a report named "Phase II Environmental Site Assessment (ESA) 1376 County Road 2 Escott, ON", dated January 2013 and prepared by Genivar (hereafter referred to as 'the Report'). A copy of the Report is attached to this Provincial Officer's Report (Addendum #1). The Report was reviewed by the Ministry and in summary the Report identified the following:

- Between the 1950's and 1980's the Site operated a petroleum hydrocarbon dispensing facility and convenience store. It is unknown when the fuel dispensing equipment was decommissioned from the Site.
- The Site is currently occupied by a single residence and a shed. Two drilled water wells and one dug well are presently located on the Site. At least one of the wells located on the Site is reportedly not being used.
- Laboratory results for soil and groundwater samples collected on the Site identified exceedances of the Ministry's criteria for petroleum hydrocarbon related contaminants. The results also indicate that there is a likelihood that the petroleum hydrocarbon impacts have extended beyond the Site's eastern and southern property boundaries.

A memorandum, dated March 23, 2013 and prepared by Provincial Officer Frank Crossley, was forwarded to the issuing Provincial Officer (Addendum #2). On April 2, 2013, I forwarded the Ministry's March 23, 2013 comments to Veranova Properties Limited and the following was requested to address the Ministry's concerns:

- 1. Retain the services of a Qualified Person to: a) delineate the off-site horizontal and vertical extent of soil and groundwater impacts; b) prepare, and submit to the issuing Provincial Officer, a report which includes a description of the extent of the off-site petroleum hydrocarbon contamination and a description of the proposed work, with details on the anticipated time lines, to fully remediate the off-site delineated area of contamination; and c) ensure that any further discharges of petroleum hydrocarbons to the natural environment from the above-noted site do not occur.
- 2. Unless maintained for future use, the on-site well (DW2) must be abandoned in accordance with Regulation 903.

In January 2014, the Ministry received a letter from Chaitons LLP, solicitors for Canadian Imperial Bank of Commerce (CIBC), advising that, on October 30, 2013, CIBC (the mortgagee) had discharged its mortgage security on the Site to the mortgagor, the Owner of the Site. Attached to this letter, was a copy of a letter to the Owner of the Site from Chaitons LLP and dated October 30, 2013 which advised that CIBC had discharged its mortgage security over the Site and that the Owner of the Site was the title owner of the Site.

I made arrangements with the Owner of the Site to meet in person on April 3, 2014 to discuss the Ministry's concerns, but, on the day of the meeting, the Owner of the Site left a voice mail message with the issuing Provincial Officer that he was unable to meet because he is 'going bankrupt and he does not own the house' located on the Site.

To assess the current groundwater conditions beneath the Site, on October 4, 2016, the issuing Provincial Officer and Provincial Officer Thomas Guo, the Ministry's hydrogeologist, collected groundwater samples from most of the monitoring wells and both private water wells located on

the Site and from the private well water supply servicing the property located north of the Site. Groundwater samples were not collected from the on Site monitoring well MW9 because the well was damaged nor were groundwater samples collected from the dug well located on the adjacent pasture, south of the Site because it was dry.

A memorandum, dated March 21, 2017 and prepared by Provincial Officer Guo, was forwarded to the issuing Provincial Officer's attention. A copy of the March 2017 memorandum is attached to this Provincial Officer's Report (Addendum #3). The memorandum summarized the recent groundwater monitoring results and recommended, among other things, that the impacts originating from the Site be fully delineated.

5. Conclusions:

To date, a full delineation of the petroleum hydrocarbon contamination originating from the Site has not been conducted. It is likely that petroleum hydrocarbon contamination has extended beyond the Site's property boundaries beneath at least two adjacent properties (ie. 1378 County Road #2 and the County Road #2 road allowance).

I reasonably believe, based on the information provided in this Provincial Officer's Report and the attached documents, that a complete environmental subsurface investigation is necessary in order to: a) fully delineate all contaminants originating from the Site which have or may migrate beyond the Site's property boundaries; and b) develop a remediation plan to address the impacts associated with contaminants originating from the Site which have migrate dor may migrate beyond the Site's property boundaries.

I am of the opinion that the requirements specified in the attached Provincial Officer's Order are necessary to prevent or reduce the risk of any discharge of contaminants, namely petroleum hydrocarbon into the natural environment from the Site, or to prevent, decrease or eliminate an adverse effect that may result from the presence or the discharge of a contaminant in, on or under the property located at the Site.

I am of the opinion that the Owner of the Site is the owner and in charge, management and control of the Site and that the requirements specified in the attached Provincial Officer's Order are necessary or advisable so as to prevent or reduce the risk of a discharge of a contaminant, namely petroleum hydrocarbon, into the natural environment from the Site, or to prevent, decrease or eliminate an adverse effect that may result from the presence or the discharge of petroleum hydrocarbon in, on or under the Site.

I reasonably believe, based on the information included in this Provincial Officer's Report that fully delineating all contaminants originating from the Site which have or may migrate off the Site is necessary and advisable and in the public interest to ensure the protection of public health and the natural environment.

I am of the opinion that the Owner of the Site is the owner and in charge, management and

control of the Site, including the wells located thereon, and that the requirements specified in the attached Provincial Officer's Order is in the public's interest to ensure that the groundwater at the Site is not impaired.

I also reasonably believe, based on the information included in this Provincial Officer's Report, that it is also necessary and advisable and in the public interest to ensure compliance with Regulation 903 as it relates to the maintenance and abandonment of the wells located on the Site.

Therefore, with the support of the ministry's Technical Support Section, the enclosed Order is issued under the EPA and the OWRA to ensure that preventative measures are implemented, to protect public health and to protect the local groundwater.

I am of the opinion that it is necessary or advisable to issue the attached Order to Mr. Paul Cadieux, as the current owner of the Site, and the person in charge, management and control of the Site to ensure that any persons having an interest in the property before dealing with the property in any way, are first provided with a copy of this Order including any amendments made thereto.

Offence(s)

Suspected Violation(s)/Offence(s): Act - Regulation - Section, Description {General Offence}

Nathalie Matthews Provincial Officer Badge Number: 612 Date: 2017/03/30 District Office: Kingston District Office



Ministry of the Environment and Climate Change Ministère de l'Environnement et de l'Action en matière de changement climatique

Provincial Officer's Order

Environmental Protection Act, R.S.O. 1990, c. E.19 (EPA) Ontario Water Resources Act, R.S.O. 1990, c. O.40 (OWRA) Pesticides Act, R.S.O. 1990, c. P.11 (PA) Safe Drinking Water Act, 2002, S.O. 2002, c.32 (SDWA) Nutrient Management Act, 2002, S.O. 2002, c.4 (NMA) Order Number 8737-9LTS24

Incident Report No. 2718-8ZYH54

To: Paul Marcel Cadieux Unit 3 - 4 Balmoral Pl Brockville, Ontario, K6V 6K1 Canada

Site: 1376 #2 County Rd Leeds and the Thousand Islands, United Counties of Leeds and Grenville

Pursuant to my authority under OWRA Section 16.1, OWRA Section 103, EPA Section 157.1, OWRA Section 104(2) and EPA Section 197, I order you to do the following:

Work Ordered

Item No. 3

Item No. 1	Compliance Date	2017/04/17
		(YYYY/MM/DD)
By April 17, 2017, the Owner of the S	Site shall retain the services of a Qualified	d Person to: a)
fully delineate the horizontal and verti	ical extent of soil and groundwater contar	ninants, namely
petroleum hydrocarbon. located on and	d beneath the Site and which have migrate	ed or may migrate
off the Site; and b) develop a work pla	an, with implementation schedule, to fully	remediate the
soil and groundwater contaminants, na	amely petroleum hydrocarbons, which ha	ve migrated or
may migrate beyond the Site's propert	ty boundaries.	

Item No. 2Compliance Date2017/04/24
(YYYY/MM/DD)By April 24, 2017, the Owner of the Site shall have the retained a Qualified Person prepare a
report on the work required by Item No. 1 this Order, which includes, but is not limited to: a) a
description of the nature and extent of the contamination, namely petroleum hydrocarbons,
located on and beneath the Site and which have migrated or may migrate off the Site; and b) a
description of the work, with implementation schedule, to fully remediate the soil and
groundwater contaminants which have migrated or may migrate beyond the Site's property
boundaries.

Compliance Date

2017/04/24

(YYYY/MM/DD)

By April 24, 2017, the Owner of the Site shall submit to the undersigned Provincial Officer written confirmation from the Qualified Person(s) that she/he has, or they have: a) received a copy of this Order; b) been retained to carry out the work specified in Work Ordered Item No. 1 and No. 2 of this Order; and c) the experience and qualifications to carry out the work.

Item No. 4	Compliance Date	2017/09/30
		(YYYY/MM/DD)
By September 30, 2017, the Owner o	f the Site shall submit to the undersigned	Provincial Officer
the report prepared by the Qualified F	Person as required in Work Ordered Item	No. 2 of this
Order.		

Item No. 5	Compliance Date	2017/04/24
		(YYYY/MM/DD)
By April 24, 2017, the Owner of the	Site shall provide written confirmation to	the issuing

By April 24, 2017, the Owner of the Site shall provide written confirmation to the issuing Provincial Officer that all monitoring wells and private water wells located on the Site will be maintained for future use or abandoned in accordance with Regulation 903.

Item No. 6	Compliance Date	2017/03/30
		(YYYY/MM/DD)
Upon service of this Order, and befo	re dealing with any person who, in any	way, has an interest

in the Site, provide a copy of the Order to all persons who acquire an interest in the Site as a result of the dealing.

- **A.** While this Order is in effect, a copy or copies of this order shall be posted in a conspicuous place.
- **B.** While this Order is in effect, report in writing, to the District or Area office, any significant changes of operation, emission, ownership, tenancy or other legal status of the facility or operation.
- **C.** Unless otherwise specified, all requirements of this Order are effective upon service of this Order.

This Order is being issued for the reasons set out in the annexed Provincial Officers Report which forms part of this Order.

Issued at Toronto this 30th day of March, 2017.

Nathalie Matthews Badge No: 612 Kingston District Office Tel: (613) 549-4000 Ext. 2674

REQUEST FOR REVIEW

You may request that this Order be reviewed by a Director.

Your request must be made (i) in writing (or if made orally, with written confirmation) and (ii) served on the Director at the address below within seven (7) calendar days after being served with a copy of this Order.

In the written request or written confirmation of an oral request, you must include:

(a) the portions of the Order in respect of which the review is requested;

(b) any submissions that you wish the Director to consider; and

(c) an address for service to be used by the Director.

In response to your request for review, the Director may confirm, alter or revoke this Order and will serve you with a copy of the Director's decision or Order.

A request for review does not automatically stay this Order. If you wish to have the Director stay the Order you must also include this in your request and the Order is not stayed unless the Director makes an order granting a stay.

DEEMED CONFIRMATION OF THIS ORDER

If you do not receive oral or written notice of the Director's decision on your request for review within (7) calendar days of receipt of your request, and the Director has not stayed the Order, this Order shall be deemed to be confirmed by order of the Director and deemed to be served upon you.

In the case of a deemed confirmation, you may require a hearing before the Environmental Review Tribunal (Tribunal), if, within fifteen (15) calendar days from the deemed date of service of the Director's order, you serve written notice of your appeal on the Tribunal and the Director. Your notice must state:

(a) the portion(s) of the Order in respect of which the hearing is required; and (b) the grounds on which you intend to rely at the hearing.

Except with leave of the Tribunal, you are not entitled to appeal a portion of the Order or to rely on a ground that is not stated in the notice requiring the hearing. Unless stayed by the Tribunal, the Order remains in effect from the date of service.

Written notice requiring a hearing can be served upon:

The Secretary	and	Director
Environmental Review Tribunal		Ministry of the Environment and Climate Change
655 Bay Street, 15th Floor		Kingston District Office
Toronto ON		1259 Gardiners Rd, Unit 3
M5G 1E5		PO Box 22032
Fax: (416) 314-4506		Kingston, ON
Email: ERTTribunalsecretary@ontario.ca		K7M 885
		Fax: (613) 548-6920
		Tel: (613) 549-4000

Further information on the Tribunal and requirements for an appeal can be obtained directly from the Tribunal by:

Tel: (416) 212-6349 or 1-866-448-2248	Fax: (416) 314-4506
TTY 1-800-855-1155 via Bell Relay	Web: www.ert.gov.on.ca

FOR YOUR INFORMATION

The following is for your information:

Service of the documentation referred to above can be made personally, by mail, by fax, by commercial courier or by email in accordance with the legislation under which the Order is made and any corresponding Service Regulation. Further information

can be obtained from e- Laws at www.e-laws.gov.on.ca. Please note that choosing service by mail does not extend any of the above mentioned timelines.

Unless stayed, this Order is effective from the date of service. Non-compliance with the requirements of this Order constitutes an offence.

The requirements of this Order are minimum requirements only and do not relieve you from complying with the following:

- (a) any applicable federal legislation,
- (b) any applicable provincial legislation or requirements that are not addressed in this Order, and
- (c) any applicable municipal law.

The requirements of this Order are severable. If any requirement of this Order or the application of any requirement to any circumstances is held invalid, the application of such requirement to other circumstances and the remainder of the Order are not affected.

Further orders may be issued in accordance with the legislation as circumstances require.

The procedures and other information provided above are intended as a guide. The legislation and/or regulations should be consulted for additional details and accurate reference.

Addendum #1

The Report

Phase II Environmental Site Assessment (ESA) 1376 County Road 2 Escott, ON

Project Number 121-21627-00

ORIGINAL

JANUARY 2013

FINAL REPORT

選 GENIVAR



ENVIRONMENT - ENVIRONMENTAL MANAGEMENT





Executive Summary

GENIVAR Inc. (GENIVAR) was retained by Veranova Properties Limited (Veranova) to conduct a Preliminary Phase Two Environmental Site Assessment (ESA) of the property described as 1376 County Road (CR) 2, in Escott, ON. hereafter described as the Site.

The Preliminary Phase Two ESA was completed in general accordance with *CSA Z769-00 Phase Two Environmental Site Assessment.* We understand that the report will be used for due diligence purposes and that it will not be used to support a Record of Site Condition (RSC) pursuant to O.Reg. 153/04.

The purpose of the Preliminary Phase Two ESA was to assess the potential environmental concerns (PECs) identified in the Phase One ESA reports previously conducted by GENIVAR INC. The Phase One ESA identified possible impairments to the soil and groundwater that could exceed the applicable Site condition standards (SCS) defined within the Ministry of the Environment's *Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*

The ESA included a geophysical survey, the excavation of four (4) testpits, the advancement of fourteen (14) boreholes, the instrumentation of four (4) monitoring wells and the collection of representative soil and groundwater samples. The relevant conclusions are listed below:

- The geophysical survey identified magnetic anomalies which could be attributed to an underground tank or other buried metallic features.
- The test-pit program discovered buried metallic piping; however; no underground tanks were discovered.
- Soil samples collected from (test-pit): TP1, TP2, TP3, TP4, BH7, BH8 and BH9 contain concentrations of volatile organic hydrocarbons, and petroleum hydrocarbons which exceed the MOE Table 2 Agricultural and Other Property Use (AOPU) SCS.
- Shallow groundwater samples collected from (monitoring well): MW9 and MW10 contain levels of volatile organic hydrocarbons, petroleum hydrocarbons and polynuclear aromatic hydrocarbons which exceed the MOE Table 2 All Types of Property Use (ATPU) SCS.
- Groundwater samples collected from the domestic well DW2 contain concentrations of petroleum hydrocarbons which exceed the MOE Table 2 All Types of Property Use (ATPU) SCS.
- Soil and groundwater samples collected from the remaining boreholes, monitoring wells and domestic wells comply with the MOE Table 2 SCS.
- The approximate volume of impaired soil proximate to boreholes BH1, BH2, BH3, BH5, BH9, BH8, BH13, BH11 and BH6 is approximately 3200 m³, however the full contaminant boundary has not been defined.
- The soil results obtained from boreholes BH7, BH9 and BH10, test-pit TP2, and groundwater results from monitoring well MW9, and MW10 suggest that the soil and groundwater impairment has moved beyond the south property line (under CR2) and beyond the east property line onto the neighbour's property.

It is recommended that:

- 1. Additional investigation be conducted to better delineate the horizontal and vertical extent of soil and groundwater impairment (including supply aquifers) on the Site and surrounding properties;
- 2. Veranova Properties provide this report to the Technical Standards & Safety Authority (TSSA), the Ministry of Environment (MOE), and the United Counties of Leeds and 1000 Islands for review and comment.

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1.0 Introduction

GENIVAR Inc. (GENIVAR) was retained by Veranova Properties Limited (Veranova) to conduct a Preliminary Phase Two Environmental Site Assessment (Phase Two ESA) of the residential property located at 1376 County Road 2 (CR2), Escott, Ontario, hereafter described as the Site.

The Preliminary Phase Two ESA was completed in general accordance with *CSA Z769-00 Phase Two Environmental Site Assessments.* We understand that the report will be used for due diligence purposes and that it will not be used to support a Record of Site Condition (RSC) pursuant to O.Reg. 153/04.

The purpose of the Preliminary Phase Two ESA was to assess the potential environmental concerns (PECs) identified in the Phase One ESA and Interim Subsurface Investigation reports previously conducted by GENIVAR. The Phase One ESA identified possible impairments to soil and groundwater to levels that could exceed the applicable Ontario Ministry of the Environment's (MOE) generic site condition standards (SCS) set out in MOE publication *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (April 15, 2011).

1.1 Site Description

1.1.1 Municipal Address

The municipal address of the Site is 1376 County Road 2, Escott, ON.

1.1.2 Legal Description

The legal description of the Site, as provided by Veranova, is Pt Lot 17, Concession 2, Former Township of Escott, Designated as Parts 5, 6, 7 and 8 on Plan PL 28R-6613 Township of Leeds and 1000 Islands, as illustrated on RP 52R-3194. The property is zoned as Rural under zoning bylaw 07-079

1.1.3 Property Size and Dimensions

The property is improved with a single storey bungalow, shed, pasture, 2 domestic drilled wells, a septic system and a gravel driveway. The Site area is approximately 5,200 m^2 and the footprint of the house is about 42 m^2 .

1.2 Property Ownership

1.2.1 Current Owner

We understand that the property is currently owned by CIBC.

1.2.2 Client

GENIVAR was retained by the following client to complete the Preliminary Phase Two ESA:

Client Name:	Veranova Properties Limited.
Address:	555 Consumers Road, Suite 812
Telephone No.:	416-701-1333
Contact Name:	Diana Hirboca
Email:	<u>dhirboca@veranova.ca</u>

1.3 Current and Proposed Future Uses

1.3.1 Current Use

The Site is currently a vacant, rural property occupied by a house, shed and pasture land. The site is currently zoned as rural by the zoning bylaw.

1.3.2 Proposed Use

We understand that the Site will continue in its current use.

1.3.3 Past Use

The Site and neighbouring property (1378 CR2) were reported to have been historically occupied by a service station, store and residential cabins commencing in the 1950s. We understand that the structures and appurtenances were demolished and it was indicated that the underground fuel tanks were removed in the 1980s.

1.4 Applicable Site Condition Standard

1.4.1 Background

In order to determine the applicable Site Condition Standards (SCS) for a subject Site under *O. Reg. 153/04* (as amended), one must first consider Sections 35, 41 and 43.1 of the Regulation.

Section 35 specifies that the potable groundwater SCS may be used to assess a Site if:

the property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the property, are supplied by a municipal drinking water system, and have no wells installed;

Non-potable standards may be used if the property is either not located in an area designated in a municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of ground water, or

- if it is located in such a designated area and the municipality has consented in writing to the application of the non-potable ground water site condition standards in preparing a record of site condition for the property;
- the record of site condition does not specify agricultural or other use as the type of property use for which the record of site condition is filed;
- the owner has given the clerk of the local municipality, and of any upper-tier municipality, in which the property is located written notice of intention to apply the non-potable ground water site condition standards in preparing a record of Site condition for the property; and
- within 30 days after receiving the notice described neither the local municipality nor the upper-tier municipality (if any) has given written notice (in this clause called a "notice of objection") to the owner that it objects to that application of the non-potable ground water site condition standards, or
- a local or upper-tier municipality has given a notice of objection to the owner, and the municipality, at any time after giving the notice of objection, has withdrawn the objection and given written consent to the owner for the application of the non-potable ground water site condition standards.

Section 41 states that the applicable full-depth generic SCS or stratified SCS may not be used in relation to a property if:

the property is:

- within an area of natural significance,
- > includes or is adjacent to an area of natural significance or part of such an area, or
- > includes land that is within 30 metres of an area of natural significance or part of such an area;

the soil at the property has a pH value as follows:

- > for surface soil, less than 5 or greater than 9,
- > for sub-surface soil, less than 5 or greater than 11
- > a qualified person is of the opinion that this section should apply

Section 43.1 specifies that the stratified SCS shall not be used for a property if:

- the property is a shallow soil property; or
- the property includes all or part of a water body or is adjacent to a water body or includes land that is within 30 m of a water body.
- where "shallow soil property" means a property of which 1/3 or more of the area consists of soil equal to or less than 2 metres in depth beneath the soil surface, excluding any non-soil surface treatment such as asphalt, concrete or aggregate.

1.4.2 Selection and Rationale

The following Agricultural and Other Property Use (AOPU) Site Condition Standards (SCS) were selected to assess the Site:

- > Table 1 Full Depth Background Site Condition Standards; and
- > Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition

The Table 1 SCS are used to assess properties that are classified as environmentally sensitive or those with soil pH below 5 or above 9 or 11. The Table 2 SCS may be used on generic Sites that are not environmentally sensitive and within the specified pH range.

The pH of soil samples collected from the testpits were below 5 however those collected from the boreholes complied with the generic criteria. The low pH appears to be localized and for this reason the results were compared to the Table 2 AOPU generic site condition standards (SCS).

2.0 Background

2.1 Physical Setting

2.1.1 Water Bodies

There are no surface water bodies on the Site; however, we understand that the groundwater table may be near the ground surface and may, at times, be above the ground surface.

2.1.2 Areas of Natural Significance

Maps provided by the Township of Leeds and the Thousand Islands identify a wetland approximately 550 m south of the subject property. The Ontario Ministry of Natural Resources (MNR) biodiversity explorer and Ecolog ERIS does not list the wetland as provincially significant.

2.1.3 Topography

The topography of the Site slopes gently southward toward CR2.

2.1.4 Surface Water Drainage Features

Surface water drainage appears to be conveyed southerly on the site and then westward along the roadside ditch on the north side of CR2.

2.1.5 Regional Geology and Hydrogeology

The site lies within the physiographic area known as the Clay Plains and the Leeds Knobs and Flats (Chapman and Putnam, 2007). The Soil Map of Leeds County Ontario also identifies the presence of Napanee clay, (calcareous clay, poorly-drained, and moderately rocky) proximate to the site. The site, which is located approximately 91 m above sea level slopes southward toward CR2.

The regional bedrock geology of the site consists of precambiran late felsic plutonic rocks, and granitic gneisses with metasedimentary xenoliths, migmatites, injection gneisses and pegmatites (Ontario Geological Survey 2011. 1:250 000 scale bedrock geology of Ontario; Ontario Geological Survey, Miscellaneous Release--Data 126-Revision 1).

The well records presented in the Ecolog ERIS report identify twelve wells within 250 m of the site. The well depths range from 13 m to 64 m and bedrock depths range between 0.3 m to 13 m. The logs report the overburden as sand, clay, gravel, and topsoil and the bedrock as limestone, sandstone, quartz and granite.

The shallow groundwater flow is expected to flow southward; however, buried utility corridors, seasonal fluctuations, road beds, and subsurface sand lenses may result in local variations to the groundwater movement.

2.2 Past Investigations

GENIVAR conducted a Phase One ESA of the subject property in July 2012. The Phase One ESA indicated potential contamination on the subject property attributed to:

- > A former gas station located on the south side of the subject property.
- > An automotive garage located east of the subject property.
- > The Township Garage located southwest of the subject property.
- > The use of road salt on County Road 2.

The report recommended that a Phase Two ESA be conducted to assess the subsurface conditions with an initial emphasis on the former gas station located on the Site.

2.3 Potential Environmental Concerns

Our review of the above-listed reports combined with our site reconnaissance has identified the following list of potential environmental concerns which could impair the subsurface conditions on the Site.

- Petroleum impairment attributed to abandoned underground fuel tanks on the Site and/or spills and leaks thereof from;
- Petroleum impairment attributed to leaks and spills of petroleum products on neighbouring properties;
- Inorganics and metals impairment attributed to the past storage of salt at a neighbouring public works yard; and
- Inorganic and metals impairment attributed to buried fill materials generated by the demolition of buildings that may have been buried on the Site.

The locations of these concerns are illustrated on Figure 3 and 4.

3.0 Scope of Investigation

3.1 Overview of Site Investigation

The objective of the Preliminary Phase Two ESA was to determine the presence/absence and the approximate extent of environmental impact at the Site, while focusing on the impacts attributed to the former service station.

An overview of the Preliminary Phase Two ESA scope of work is summarized below.

- Standard operating, health and safety, sampling, analyses and quality control plans were developed and reviewed;
- Underground utility clearances were obtained prior to commencement of subsurface activities;
- A geophysical survey was conducted to assist in indentifying the possible presence of underground tanks and piping;
- Boreholes and monitoring wells were advanced to facilitate the collection of soil and groundwater samples from areas of potential concern;
- Soil and groundwater samples were developed, screened, preserved and submitted to an environmental laboratory for analyses; and
- > A detailed report, summarizing the findings, conclusions and recommendations was prepared.

3.2 Media Investigated

3.2.1 Rationale

The potential environmental concerns (PECs) identified could impair the soil and groundwater on, in or under the Site. Sediments were not included in the sampling plan since there are no surface water bodies on the Site.

3.2.2 Overview of Field Investigation

3.2.2.1 Geophysical Survey

GENIVAR retained Notra Inc. to complete a geophysical survey of the Site in order to identify possible buried metallic anomalies and elevated conductivity signals. The instruments utilized to complete the survey included a Geonics EM-31 and a Scintrex Smart Mag.

3.2.2.2 Soil Sampling

Soil samples were collected from each of the four (4) testpits and fourteen (14) boreholes advanced at the Site, following standard operating procedures to assess subsurface conditions, contaminants of concern and compliance with applicable SCS.

3.2.2.3 Groundwater Sampling

A total of four (4) groundwater monitoring wells were installed and instrumented on the Site by an O. Reg. 903 licensed well contractor, following standard operating procedures, to assess subsurface conditions, contaminants of concern and compliance with applicable SCS. Samples were also collected from two (2) on-site domestic wells and from the northerly neighbour's domestic well (Civic Address – 1374 CR2). The dug well located on the south side of CR2 was observed to be dry at the time of sampling.

3.2.2.4 Sediment Sampling

No sediment sampling was conducted since there are no surface water courses on the Site.

3.3 Deviations from Sampling and Analysis Plan

Minor deviations were made to the proposed sampling and analysis plan presented in our proposal. The advancement of boreholes and monitoring wells and the collection of domestic well water samples from 1378 CR2 (adjacent property to the east) was not conducted since the owner refused Site access.

3.4 Impediments

There were no physical impediments or issues with respect to Site access. The owner of the property to the east did not permit access to his property, therefore environmental impact on soil and groundwater on the adjacent property to the east could not be investigated.

4.0 Investigation Method

4.1 General

The subsurface conditions beneath the Site were assessed utilizing the general investigative methods specified in GENIVAR's standard operating procedures (SOPs).

Prior to the subsurface investigation, buried utilities were located and marked through Loveland Utility Locates and Consultants.

4.2 Drilling and Excavating

4.2.1 Test-Pit Excavation

Four (4) test-pits were excavated with a small excavator on September 20, 2012 by Grier Excavation under the supervision of GENVAR staff.

4.2.2 Borehole Drilling

Fourteen (14) boreholes were drilled December 10 and 11, 2012, by Downing Estate Drilling (Downing), an Ontario licensed well driller, utilizing a track-mounted geoprobe drilling rig. All field work was completed under the supervision of GENIVAR staff.

4.3 Soil: Sampling

4.3.1 Sampling Equipment

Soil samples collected from the test-pits were collected at regular intervals directly from the excavator bucket, while taking care not to collect samples adhering to it. Disposable nitrile gloves were used during sample collection and changed between each sample to minimize the potential for cross-contamination.

Soil samples selected during the drilling program were collected utilizing a stainless steel split spoon sampling system equipped with a PVC liner. The split spoon was washed between samples with laboratory-grade soap and water to minimize cross-contamination.

The sample quantity recovered during each sampling event varied depending on the nature of the soil. Each soil sample retrieved was split into two portions, with one placed into a plastic bag and the other placed into a glass sampling jar provided by the laboratory.

Nitrile gloves were worn during sample collection and changed between samples to prevent cross contamination of the samples. Representative soil samples were stored on ice and delivered to the laboratory under chain-of-custody procedures. Samples collected for volatile organic or petroleum hydrocarbon analyses were preserved with methanol.

4.3.2 Geological Description of Soil Samples

Soil samples were described in the field by GENIVAR staff and observations were recorded in a dedicated field book. The geological descriptions of the soil samples provided in this report are based on the field logs for each test-pit, borehole and monitoring well. The soil descriptions are based on the technician's visual observations. Please refer to the attached test-pit and borehole logs in *Appendix B* for detailed soil descriptions within each borehole.

4.4 Field Screening Measurements

4.4.1 Volatile Organic Hydrocarbons

All soil samples collected during the drilling program were screened for total organic vapour (TOV) using an RKI Eagle Portable Multi-Gas Monitor, Model 71-0028RK. The unit reportedly can detect combustible gases ranging from 0 to 100% LEL or 5000 ppm with full scale accuracy of +/- 5%. The instrument was calibrated with hexane as per the manual and was utilized in the field as per the GENIVAR Standard Operating Procedures (SOP). The TVOC field readings for the soil samples are presented in **Section 5.4.1**.

4.4.2 Geophysical Anomalies

The geophysical survey was conducted to assess the possible presence of abandoned underground fuel tanks. The findings outlined several visible features including wells culverts and signs and fluctuations in apparent conductivity believed to be attributed to fill and shallow bedrock. Significant metal anomalies were identified just east of the "for sale" sign located south of the septic bed and north of CR2. The report suggested that these anomalies could represent a buried tank and debris. The locations of the significant metallic anomalies are illustrated on **Figure 2** and within the geophysical survey report presented in **Appendix C.**

4.5 Groundwater: Monitoring Well Installation

All monitoring wells were installed under the supervision of GENIVAR staff and by George Downing Estate Drilling of Calumet, Quebec.

	Porobolo	Wall Saroon	Sand Dook	Sool	Elevat	ion (m)
Well ID	ID	(mbg)	(mbg)	(mbg)	Ground	Top of Pipe
MW9	BH1	1.9-4.9	1.2-4.9	0-1.2	101.1	102.1
MW10	BH2	1.9-4.9	1.2-4.9	0-1.2	101.1	102.1
MW11	BH3	1.9-4.9	1.2-4.9	0-1.2	100.9	101.9
MW12	BH4	1.9-4.9	1.2-4.9	0-1.2	101.0	102.0
		Total Dopth			Elevati	ion (m)
Well ID	Location	(mbg)			Ground	Top of Pipe
DW1	1378 CR2	31.68			101.8	102.2
DW2	1378 CR2	28.78			101.5	102.2
DW-Lynch	1374 CR-2	Unknown- casing is buried.			Buried	Buried
Dug Well	Field south of CR2	1.75			Not surveyed	Not surveyed

The construction details of the four (4) monitoring wells and domestic wells are summarized in the following tabled:

The monitoring wells were constructed of 32 mm diameter schedule 40 PVC slotted screen and riser pipe, and completed with monument style protective casings. The seal was constructed of bentonite pellets and the well annulus was filled with fine silica sand.

On December 10, 2012, the domestic and monitoring wells were equipped with dedicated PVC bailers and Waterra piping to prevent cross-contamination during sampling. The wells were developed several times between December 10 and 11, 2012 to set the sand pack and remove stagnant water. Well development consisted of removing approximately 3 well volumes of water and monitoring the water conductivity. The monitoring wells were sampled on December 12, 2012.

4.6 Groundwater: Field Measurement of Water Quality Parameters

Water quality parameters pH, conductivity and temperature were measured in the field during the sampling of the monitoring wells. Parameters were measured using the following equipment.

- > conductivity using an Oakton ECTestr 11+ calibrated to 84 μ S/cm, 1413 μ S/cm and 12,880 μ S/cm;
- > pH using an Exstik 100 calibrated at pH 4.01, 7.00 and 10.00; and
- temperature and oxidation-reduction potential (ORP) using a YSI Ecosense ORP15 calibrated to 240 mV.

4.7 Groundwater: Sampling

Groundwater samples were collected as per the GENIVAR SOP on December 12, 2012. Following well development, representative groundwater samples were collected from each well for laboratory analyses. The samples were decanted into laboratory-prepared containers, stored on ice and delivered to the laboratory under chain-of-custody procedures. Samples analysed for metals were filtered in the field using a disposable in-line 0.45 micron filter prior to preservation.

4.8 Analytical Testing / Sample Analyses Plan

The soil and groundwater samples were submitted to Caduceon Environmental Laboratories of Ottawa for analysis. The sample and analyses plan is presented in **Appendix D**.

4.9 Elevation Survey

The top-of-pipe elevation at each monitoring well was surveyed by GENIVAR staff on December 12, 2012. Elevations were referenced to a local datum, defined as a nail on the telephone pole located on the north side of CR2. The local datum was assigned the arbitrary elevation of 100.00 m.

4.10 Field Handling

Prior to arriving at the Site, GENIVAR staff prepared all sampling materials. Samples were placed in coolers with bags of ice or freezer packs to maintain a sample temperature below 4°C Precautions were also taken to protect groundwater samples from freezing during extremely cold temperatures. Staff performing the sampling tasks also verified sample preparation and preservation requirement and where required assessed the need for pH adjustment, sample filtration, preservation and cooling.

4.11 Sample Labelling

The laboratory applied labels to each of the sample bottles/jars. GENIVAR staff labelled each sample bottle/jar in the field at each sampling location.

4.12 Sample Containers

All labelled soil and groundwater containers of appropriate size and containing the required preservatives were supplied to GENIVAR by the accredited laboratories conducting the soil and groundwater analyses. All samples were sent to the laboratories with the labels complete under a signed chain-of-custody protocol.

4.13 Equipment Cleaning

All equipment used to handle soil samples was thoroughly cleaned to minimize cross-contamination. The sampler utilized during the drilling program were brushed clean between boreholes. The stainless steel split spoon was washed with clean soap and water between each split spoon sample. All samples were handled with clean nitrile gloves.

All groundwater monitoring equipment such as the pH and conductivity meters were cleaned and rinsed with clean water between sampling events. All groundwater sampling equipment such as Waterra systems were dedicated to each well and as such did not require cleaning.

4.14 Field QA/QC

We have reviewed the plan requirements and confirmed that calibration checks on field instruments were conducted. All field instruments were calibrated as per the manufacturer's instructions. The qualified laboratories follow strict QA/QC procedures; internal blanks, spikes and duplicates were prepared and analyzed by the laboratories to ensure the accuracy and reliability of the data.

4.14.1 QA/QC Program

The quality assurance/quality control (QA/QC) measures for the investigation included a field and a laboratory component. The field component included the assurance of:

- > Strict adherence to cleaning procedures for all non-dedicated sampling and monitoring equipment;
- > Adherence to standard operating procedures and sample analyses plans; and

Proper sample labelling and completed chain of custody;.

The qualified laboratory has its own strict QA/QC procedures. Internal blanks, spikes and duplicates are also prepared and analyzed to ensure the accuracy and reliability of the data.

5.0 Review and Evaluation

5.1 Geology

The Site-specific geology encountered during this assessment is depicted on the borehole logs provided in *Appendix B* and described below.

The soil stratigraphy generally consisted of a 0.3 m layer of sandy gravel fill located at the surface, below which layers of brownish grey silty sand and clay were encountered between 1.2-3.6 m below grade. Sand was encountered beneath the silty sand and clay to a depth of 8.4 m. Sand lenses were also encountered within the silty sand layers. Black staining and odour characteristic of petroleum was observed in samples retrieved from borehole BH7, BH8, BH9, and BH10 and testpit TP1, TP2, and TP3. The petroleum impairment appeared to be the highest at a depth of between 2.4 - 3 m below grade.

5.2 Groundwater: Elevations and Flow Direction

5.2.1 Discussion & Rational For Locations & Screened Intervals Monitoring Wells

The rational for the monitoring well locations and screened intervals area as follows:

- In a triangular pattern to assess local groundwater flow direction;
- Proximate to potential environmental concerns to assess potential impact on groundwater quality;
- Along the perimeter to assess the boundary migration of contaminants; and
- Screens were set to intersect the groundwater table thus allowing the detection of any light, immiscible product (light non-aqueous-phase liquids, or LNAPL).

5.2.2 Groundwater Elevations

Groundwater elevations are based on water levels and survey information collected on December 12, 2012. The elevations are tabulated below.

Well ID	Groundwater Level (mbTOP)	Groundwater Level (mBG)	Top of Pipe Elevation (mASL)	Dec. 12, 2012 Groundwater Elevation (m)
MW-9	3.55	2.49	102.1	98.67
MW-10	3.59	2.57	102.1	98.5
MW-11	3.30	2.30	101.986	98.6
MW-12	3.38	2.35	102.0	98.7
DW-1	3.81	3.42	102.2	98.4
DW-2	3.59	3.08	102.2	98.4

mbTOP – metres below top of pipe

mBG - metres below grade

m – metres, referencing the 100.00 m Site benchmark

5.2.3 Interpreted Groundwater Flow Direction

The groundwater elevations in the monitoring wells suggest that the local, shallow groundwater flow is southward toward CR2. It is also noted that various utility corridors and the septic system may also affect the groundwater movement on the Site.

5.3 Fine-Medium Soil Texture

5.3.1 Rationale For Use of Coarse Soil Texture

The Table 2 SCS list standards for both coarse- and medium-fine textured soil were selected to assess the site. The rationale for use of the coarse-textured soils was based on the medium-textured sands identified on the Site beneath the layer of silty sand.

5.4 Soil: Field Screening

5.4.1 Hydrocarbon Surveyor Results

Each soil sample collected during this investigation was screened for petroleum vapours with a hydrocarbon surveyor (RKI Eagle and/or Gastech). The hydrocarbon surveyor measurements of the soil samples had total organic vapour (TOV) readings that ranged from 0 ppm (ND) to > 2500 ppm. The following table summarizes the TOV readings within each borehole/testpit. Select soil samples with elevated TOV readings were selected for VOC/PHC analyses. The individual TOV readings for each soil sample are presented in the borehole logs in *Appendix B*.

Sample Name	Depth of Greatest TOV Impairment (m)	TOV Readings (ppm)
TP1	2.5 - 3.0	ND - 2500
TP2	2.0-3.5	ND - >2500
TP3	2.0-3.5	ND - 6400
TP4	3.0	ND - 900
BH1	2.0	ND
BH2	3.6	ND - 70
BH3	2.4	ND - 45
BH4	-	0
BH5	4.9	ND - 40
BH6	2.4	ND - 10
BH7	2.4	20-370
BH8	2.0	ND - 1300
BH9	3.0	ND - 1300
BH10	2.0	ND - 1300
BH11	2.4	10-20
BH12	-	ND
BH13	-	ND
BH14	3.6	ND - 70

5.5 Soil Quality

5.5.1 Locations and Depths of Samples

The test-pit, borehole and monitoring well locations are illustrated on *Figure 2* appended to this report. The sample depths are provided on the analytical results tables and borehole logs.
5.5.2 Soil Analytical Results

5.5.2.1 Test-Pits

The analytical results of the soil samples collected from the four test-pits excavated in September 2012 are discussed below. The samples were analyzed for metals, inorganic compounds, benzene, toluene, ethylbenzene and xylene (BTEX), petroleum hydrocarbons (PHC), polynuclear aromatic hydrocarbons (PAH) and a composite sample was analysed for toxicity characteristic leachate procedure (TCLP). The parameters included in the TCLP composite analyses included lead, benzene, benzo(a)pyrene and flashpoint. The results are presented in *Table-1 in Appendix E-1*.

The pH in soil samples collected from TP-1-8 (3 m) and TP-3-4 (2.5 m) were below the SCS of pH 5 described in O.Reg. 153/04. This could classify the subject property as environmentally sensitive and thus require it to be characterized against the Table 1 Agricultural and Other Property Use (AOPU) Site Condition Standards (SCS). Subsequent pH readings of soil samples collected from the boreholes showed that the pH was between 5 and 9, suggesting that the generic site condition standards may also be applicable.

The concentrations VOCs, PHCs and select PAHs presented for the soil samples collected from each of the test-pits suggest that the subject property has been impaired with gasoline range organics. The following table summarizes exceedances of the selected SCS.

Sample Name	Depth (m)	Exceeds Table 1 AOPU SCS	Exceed Table 2 AOPU SCS
TP1-8	3.0	PHC (F-1,2), BTEX	PHC (F-1)
TP2-4	2.0	PHC (F-1,2), BTEX	PHC (F-1),
TP2-7	3.5	PHC(F-1)	PHC (F-1), BTEX
TP3-4	2.5	PHC (F-1,2), BTEX, PAH	PHC (F-1), BTEX, PAH
TP3-6	3.0	PHC (F-1,2), BTEX	PHC (F-1), BTEX
TP4-6	3.0	PHC (F-1,2), BTEX, PAH	PHC (F-1)

The results of the TCLP analyses indicated that the parameter concentrations of the sample of impaired soil did not exceed O. Reg. 558/00 Table 4 criteria and may be classified as non-hazardous waste as defined by O. Reg. 558/00. Slump testing may be required in the future to determine if the waste is classified as solid, prior to transportation to a waste disposal site.

5.5.2.2 Boreholes

The analytical results of the soil samples collected from the fourteen (14) boreholes advanced on December 10 and 11, 2012 are discussed below. Select samples were analyzed for BTEX, PHC, PAH, pH and lead. The results are presented in *Tables 2 in Appendix E-2*.

The lab analyses of eight (8) soil samples confirm that the soil pH is between 5-9. Accordingly, sample results were compared to the Table 2 AOPU SCS.

The concentrations BTEX, PHC and select PAH presented for the soil samples collected suggest that the subject property has been impaired with gasoline range organics. The following table summarizes exceedances of the SCS.

Sample Name	Depth (m)	Exceed Table 2 AOPU SCS
BH7-3A	2.4-3.0	PHC-F1, ethylbenzene, xylene
BH9-3A	2.4-3.0	PHC-F1
BH10-2B	1-8-2.4	PHC-F1
BH10-4A	3.6-4.2	PHC-F1, ethylbenzene, xylene

5.5.3 Discussion and Summary of Soil Results

A total of thirty-one (31) soil samples were collected from the Site and surrounding properties to define the extent of the petroleum impairment likely attributed to the former service station. Ten (10) of these soil samples contained levels of PHC-F1, ethylbenzene, toluene and xylene that exceed the MOE Table 2 AOPU SCS.

The preliminary results suggest that the petroleum contamination is proximate to BH1, BH2, BH3, BH5, BH6, BH8, BH11, BH13; however the exceedances at TP2 and BH9, confirm that the contaminant plume is moving eastward beyond the east property line. The exceedance at BH7 also suggests that the petroleum impairment has moved beneath CR2. The depth of impairment is approximately 4 m, although additional characterization is necessary to confirm the horizontal and vertical extent of contamination. Based on these preliminary results the approximate area of impairment is about 800 m². The approximate volume of impaired soil is 3200 m³, however the extent of contaminant movement to the east has not been defined.

5.6 Groundwater Quality

5.6.1 Locations and Depths of Samples

The monitoring well locations are illustrated on **Figure 2** appended to this report. The static groundwater elevations are presented in **Section 5.2.2**.

5.6.2 Analytical Results

5.6.2.1 Monitoring Wells

The analytical results of the groundwater samples collected from the four (4) monitoring wells installed on December 11, 2012 are discussed below. The samples were analyzed for BTEX, PHC, PAH and lead. The results are presented in *Table 5 in Appendix E-3.*

The concentrations BTEX, PHC and select PAHs presented for the groundwater samples collected from the monitoring wells suggest that the Site has been impaired with gasoline range organics. The following table summarizes exceedances of the SCS.

Sample Name	Exceed Table 2 AOPU SCS
MW9 MW10	PHC (F1, F2), ethylbenzene, xylene, methylnaphthalene, napthalene PHC (F1), ethylbenzene, xylene, methylnaphthalene, napthalene
MW9 (duplicate)	PHC (F1, F2), ethylbenzene, xylene, methylnaphthalene, napthalene

Parameter concentrations in the groundwater samples from MW11 and MW12 did not exceed Table 2 SCS for the parameters analysed.

5.6.2.2 Domestic Wells

The analytical results of the drilled domestic well samples collected from the two (2) on-Site and one (1) neigbouring well (1734 CR2) collected on December 11, 2012 are discussed below. The samples were analyzed for: BTEX, PHC, PAH and lead. The dug well was dry and was not sampled. The results are presented in *Table 5 in Appendix E-3*

The concentrations BTEX, PHC and select PAHs presented for the groundwater collected from the domestic wells suggest that the petroleum impairment in the shallow overburden has not measureably

affected the drinking water quality in the wells; except for the sample from DW2, which had concentrations of gasoline range organics (PHC F2) that exceed Table 2 SCS.

The following table summarizes exceedances of the SCS.

Sample Name	Location/Description)	Exceed Table 2 AOPU SCS
DW2	North of 1376 CR2 Water is disconnected	PHC (F2)

5.6.3 Discussion and Summary of Groundwater Results

The groundwater samples collected from monitoring well MW9 and MW10 contain levels of petroleum hydrocarbons that exceed the Table 2 SCS. The levels of ethylbenzene, xylene, methylnaphthalene, napthalene and petroleum hydrocarbons exceeded the **MOE Table 2 SCS**. Xylenes were detected in the groundwater sample collected from monitoring well MW11; however this contamination was below the MOE Table 2 SCS. The PHC concentrations in the groundwater sample collected from monitoring well MW12 were below the laboratory method detection limits. The source of the groundwater impairment is attributed to the contaminated soil at the Site related to the historical site use as a service station .

Groundwater samples were collected from three domestic drilled wells on the Site (DW1 and DW2) and the adjacent property to the north (DW-Lynch at 1374 CR2). The sample collected from DW2 had concentrations of petroleum hydrocarbons that exceeded the MOE Table 2 SCS. Concentrations of PHC in samples DW1 and DW-Lynch, were below laboratory method detection limits. The source of the groundwater impairment in the vicinity of DW2 is be attributed to the contaminated soil identified on the Site. We understand that the pump in the well at 1376 CR2 has been temporarily shut off and that no one is currently drinking the water from DW2. The abandoned well on this property should be decommissioned per O. Reg. 903.

5.7 Quality Assurance and Quality Control Results

The appropriate blanks and duplicates were completed by the laboratory. The results of the original and duplicate sample collected MW9 are within acceptable ranges. All field work was conducted as per GENIVAR's standard operating procedures (SOP).

6.0 Qualifier

This assignment is limited to the completion of a Phase Two ESA and analysis of potential contamination at the selected borehole locations. This report is prepared for Veranova Properties' sole use in the evaluation of the property at 1376 – 1378 County Road 2, Escott, Ontario.

The Phase Two ESA, sampling, and laboratory analyses were completed as documented in the report. Extrapolation of data beyond the borehole locations assumes that homogenous conditions exist beyond the sampling locations, which may not be the case. Therefore, it is not feasible to state conclusively, that the subsurface conditions encountered during this investigation exist beyond the sampled locations.

The conclusions provided in this report reflect our best judgment in light of the information available at the time of report preparation. Any use, which a third party makes of this report, or any reliance on or any decisions to be made based on it, is the responsibility of such third parties. GENIVAR accepts no responsibility for damages, if any, suffered by any third party as a result of decisions or actions taken, based on this report. Conclusions documented in this report do not apply to other land uses. It is understood that site conditions, environmental or otherwise, are not static and that this report documents Site conditions at the time of the investigation.

7.0 Conclusions and Recommendations

A Phase Two ESA was conducted to determine whether the former service station located at the southeast portion of the property at 1376 – 1378 County Road (CR) 2 had adversely affected the subsurface conditions to levels that exceed the applicable MOE Table 2 Site Condition Standards (SCS).

The Phase Two ESA included a geophysical survey, the excavation of four (4) testpits, the advancement of fourteen (14) boreholes, the instrumentation of four (4) monitoring wells and the collection of representative soil and groundwater samples. The relevant conclusions are listed below:

- The geophysical survey identified magnetic anomalies which could be attributed to an underground tank or other buried metallic features.
- The test-pit program discovered buried metallic piping; however; no underground tanks were discovered.
- Soil samples collected from (test-pit): TP1, TP2, TP3, TP4, BH7, BH8 and BH9 contained concentrations of volatile organic hydrocarbons, and petroleum hydrocarbons which exceed the applicable MOE Table SCS.
- Shallow groundwater samples collected from (monitoring well): MW9 and MW10 had concentrations of volatile organic hydrocarbons, petroleum hydrocarbons and polynuclear aromatic hydrocarbons which exceed the applicable MOE Table 2 SCS.
- Groundwater samples collected from the domestic well DW-2 contained concentrations of petroleum hydrocarbons which exceed the applicable MOE Table 2 SCS.
- Soil and groundwater samples collected from the remaining boreholes, monitoring wells and domestic wells comply with the MOE Table 2 SCS.
- The approximate volume of impaired soil proximate to boreholes BH1, BH2, BH3, BH5, BH9, BH8, BH13, BH11 and BH6 is approximately 3200 m³, however the full contaminant boundary has not been defined.
- The soil results obtained from boreholes BH7, BH9 and BH10, test-pit TP2, and groundwater results from monitoring well MW9, and MW10 suggest that the soil and groundwater impairment has moved beyond the south property line (under CR2) and beyond the east property line onto the neighbour's property.

It is recommended that:

- 1. Additional investigation be conducted to better delineate the horizontal and vertical extent of soil and groundwater impairment (including supply aquifers) on the Site and surrounding properties;
- 2. Veranova Properties provide this report to the Technical Standards & Safety Authority (TSSA), the MOE, and the United Counties of Leeds and 1000 Islands for review and comment.

Report prepared by **GENIVAR Inc.**

Lelacasselman

Lyle Casselman, B.Eng., C.E.T. Manager, Environmental Site Assessment

Bailev Walters MSc., P.Geo Project Geoscientist, Environme

Appendix A

Site Photographs

1376 County Road 2, Escott, ON Phase 2 Environmental Site Assessment Project No. 121-21627-00 Photo List



Photo 1 – Site of BH-14

Appendix B

Borehole and Test-pit Logs

	(GI	ENIVAR	BH-1 1376 County Road 2, Escott, Ontario					
	Cons 1345 Corn	sulting 5 Ros wall, (g Engineers Inc. emount Avenue Ontario K6J 3E5	Date Completed Hole Diameter Drilling Method Sampling Method	Date Completed : December 10 - 11, 2012 Location Hole Diameter : 83 mm			CR 2, opposit ne	te
	Pro	ject #	121-21627-00	Company Rep	: LC	Logged By	: CG		
Depth in Meters	Surf. Elev.	BRAPHIC	▼ <i>▼</i>	DES	CRIPTION		Sample	mdo	
0-	-	0							
-	-		VHLL, sandy gravel, brown, SILTY CLAY, brown, dry.	dry.			1A	0	
- - 1-	-								
	-		SILTY SAND, reddish brow	vn, moist.			2A	0	
2-	-		SILTY SAND, reddish brow	vn with grey seams, '	wet, slight petroleum odour.		2B	0	
	-		SAND, reddish brown, wet,	, slight petroleum od	our.		ЗА	0	
	-		SAND, reddish brown, wet.				3В	0	
627-00/Borehole Log:	- - - -						4A	0	
2013 X:2012/121-21	-						4B	0	
-52-1-52-			End of Borehole at 4.9 m.						

		(GI	ENIVAR	BH-2 1376 County Road 2, Escott, Ontario					
		Cons 1345 Corn	sulting 5 Ros wall, (g Engineers Inc. emount Avenue Ontario K6J 3E5	Date Completed Hole Diameter Drilling Method Sampling Method	: December 10 - 11, 2012 : 83 mm : Geoprobe : 1.2 m Splitspoon	Location Easting Northing	: South of (: address s : 0426448 : 4921792	CR 2, opp ign	ooiste
		Pro	ject #	121-21627-00	Company Rep	:LC	Logged By	: CG		
De	epth in eters	Surf. Elev.	GRAPHIC	▼ ▽	DES	CRIPTION		Sample	mdd	
	0-		+ + + +	FILL. sandv gravel. brown.	drv.]
	-		+++++++++++++++++++++++++++++++++++++++	SILTY CLAY, brownish gre	y, dry.			1A	0	
	- - 1							1B	0	
	-			SILTY SAND and CLAY, re	eddish brown, wet.			2A	0	
	2							2B	0	
				SILTY SAND and CLAY, g	rey, wet.			ЗА	10	
s/BH-2.bor	-			Moderate petroloum adour	ot 2.7 m			3В	0	
1627-00\Borehole Log	- - 4 -			woderate petroledini odour	a. 3.7 m.			4A	70	
-2013 X:\2012\121-2	-			SAND, reddish brown, wet.				4B	0	
01-25	5-			End of Borehole at 4.9 m.						1

		GE	ENIVAR	BH-3 1376 County Road 2, Escott, Ontario					
	Con 134 Corr	sulting 5 Rose wall, C	Engineers Inc. emount Avenue Ontario K6J 3E5	Date Completed Hole Diameter Drilling Method Sampling Method	: December 10 - 11, 2012 : 83 mm : Geoprobe : 1.2 m Splitspoon	Location Easting Northing	: South of 0 : rake and : 0426453 : 4921800	CR 2, opposite ha S.P. drive way	
Depth in Meters	Surf. Elev.	GRAPHIC	▼. .▽.	DESC	CRIPTION		Sample	mqq	
0-	-		FILL, sandy gravel, grey, dr	ry.			1A	0	
	-		SILTY SAND and CLAY, g	rey, dry. rown with seams of r	eddish brown sand, moist.		1B	0	
	-		SILTY SAND, reddish brow	<i>ı</i> n, wet.			2A	0	
2-	-		SILTY SAND, greyish brow	n, wet, moderate pet	troleum odour.		2B	0	
3-	-		SILTY SAND, reddish brow	<i>ı</i> n, wet.			ЗА	45	
Logs/BH-3.bor	-		End of Borehole at 3.7 m.				3В	0	
012\121-21627-00\Borehole									
01-25-2013 X:\2 - 2	-								

		G	ENIVAR	BH	BH-4 1376 County Road 2, Escott, Ontario				
	Con 134 Corn	sulting 5 Ros wall,	g Engineers Inc. emount Avenue Ontario K6J 3E5	Date Completed Hole Diameter Drilling Method Sampling Method	: December 10 - 11, 2012 : 83 mm : Geoprobe : 1.2 m Splitspoon	Location Easting Northing	: South of (: property l : 0426466 : 4921810	CR 2, opp ine of 137	oosite E 78 CR2
	Pro	ject #	± 121-21627-00	Company Rep	: LC	Logged By	: CG		
Depth in Meters	Surf. Elev.	BRAPHIC	▼ 	DES	CRIPTION		Sample	mdc	
0-	-						6,	<u>u</u>] 1
	-	+ + + + + + + + + + + + + + + + + + +	FILL, sandy gravel, brown,	ary.			1A	0	
1-	-		SILTY SAND and CLAY, b	rown, wet.			1B	0	
	-						2A	0	
2-							2B	0	
3-	-						ЗА	0	
s\BH-4.bor	- - - -						3В	0	
- 627-00\Borehole Log:			SAND, reddish brown, wet.				4A	0	
2013 X:/2012/121-2 ⁻	- - - -						4B	0	
-5- 01-52-	4		End of Borehole at 4.9 m.						1

		GI	ENIVAR	BH-5 1376 County Road 2, Escott, Ontario					
	Cor 134 Corr Pro	sulting 5 Ros nwall, 9	g Engineers Inc. emount Avenue Ontario K6J 3E5 121-21627-00	Date Completed Hole Diameter Drilling Method Sampling Method Company Rep	vate Completed : December 10 - 11, 2012 Location Iole Diameter : 83 mm			e of CR 2, 137 erty line	76
Depth in Meters	Surf. Elev.	GRAPHIC	▼ . ▼.	DESC	CRIPTION		Sample	mqq	
0-			FILL, sandy gravel with pier	dy gravel with pieces of brick, brown, dry.					
1-			SILTY SAND and CLAY, b	Y SAND and CLAY, brown, dry.					
-	-		SILTY SAND and CLAY, re	TY SAND and CLAY, reddish brown, wet.					
2-			SILTY SAND, brownish gre	ey, wet, slight petrole	um odour.		2B	0	
	-						3A	35	
-			SILTY SAND, reddish brow	/n, wet.			3В	0	
4-	-		SAND, brown, wet.				4A	0	
Logs\BH-5.bor	-						4B	0	
527-00\Borehole							5A	40	
9 X:\2012\121-21(9							5B	35	
01-25-2013			End of Borehole at 6.1 m.						

		Gł	ENIVAR	BH	-6 1376 County Ro	oad 2, Escott	, Ontario	1
	Consulting Engineers Inc. 1345 Rosemount Avenue Cornwall, Ontario K6J 3E5			Date Completed : December 10 - 11, 2012 Location Hole Diameter : 83 mm Easting Drilling Method : Geoprobe Easting Sampling Method : 1.2 m Splitspoon Northing			: North side : of Lynch : 0426424 : 4921784	e of CR 2, south Lane
	Pro	ject #	121-21627-00	Company Rep	: LC	Logged By	: CG	
Depth in Meters	Surf. Elev.	RAPHIC	▼ <i>▼</i>	DES			ample	Ę
		Ū					Š	đ
	-	++++++++++++++++++++++++++++++++++++	FILL, sandy gravel, brown,	dry.			1A	0
	-		SILTY SAND and CLAY, re	eddish brown, moist.			1B	0
-	-		SILTY SAND, reddish brow	<i>v</i> n, wet.			2A	0
2-							2B	0
	-		SAND, brown, wet.				ЗА	10
s/BH-6.Dor 	-						ЗВ	0
162/-00\Borehole Loc	- - - -						4A	5
-2013 X:\2012\12\12\12\12\12\12\12\12\12\12\12\12\1	- - - -						4B	5
5 - 5			End of Borehole at 4.9 m.					

		GI	ENIVAR	BH	BH-7 1376 County Road 2, Esco			
	Consulting Engineers Inc. 1345 Rosemount Avenue Cornwall, Ontario K6J 3E5			Date Completed Hole Diameter Drilling Method Sampling Method	: December 10 - 11, 2012 : 83 mm : Geoprobe : 1.2 m Splitspoon	Location Easting Northing	: North sid : address : 0426435 : 4921796	e of CR 2, sou sign
	Pro	oject #	ŧ 121-21627-00	Company Rep	: LC	Logged By	: CG	
Depth in Meters	Surf. Elev.	GRAPHIC	▼ 	DES	CRIPTION		Sample	щdo
0-				day				
-	- - - -	+++++	SILTY SAND and CLAY, b	rown, dry.			1A	20
-			SILTY SAND and CLAY, b	lack, dry, slight petro	oleum odour.			
- - 1	-						1B	30
-	-		SILTY SAND and CLAY, g	rey, moist, moderate	e petroleum odour.			
	-						2A	80
2 - -	-						2B	40
-			SILTY SAND and CLAY, b	rown, moderate pet	roleum odour.			
							ЗA	370
-	-		SILTY SAND, black, petrol	eum staining and oc	dour.			
-							3B	35
-			SAND, brown, wet.					
4	-						4A	25
-	-							
-	-						4B	35
			End of Borehole at 4.9 m.					
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	(GI	ENIVAR	BH	-8 1376 County R	oad 2, Escoti	t, Ontaric)
	Consulting Engineers Inc. 1345 Rosemount Avenue Cornwall, Ontario K6J 3E5			Consulting Engineers Inc. Date Completed : December 10 - 11, 2012 Location 1345 Rosemount Avenue Hole Diameter : 83 mm Dilling Method : Geoprobe Easting Cornwall, Ontario K6J 3E5 Drilling Method : Geoprobe Easting Sampling Method : 1.2 m Splitspoon Northing				CR 2, in 1376
	Pro	ject #	121-21627-00	Company Rep	: LC	Logged By	: CG	
Depth in Meters	Surf. Elev.	GRAPHIC	▼ ▽	DES	CRIPTION		Sample	шdc
0-	-							
		++++++++++++++++++++++++++++++++++++	FILL, sandy gravel, brown,	ary.			1A	0
- - - 1-			SILTY SAND and CLAY, b	rown, dry.			1B	0
-			SILTY SAND and CLAY wi	th sand seams, brov	vn, moist.		2A	15
-								
- 2— - -			SILTY SAND and CLAY wi	th sand seams, blac	k staining and petroleum odo	our.	2B	1300
- - - - 3_			SILTY SAND, brown, wet				ЗА	5
							3B	5
- - 4							4A	5
-							4B	5
- 5-			End of Borehole at 4.9 m.					

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		ENIVAR	BH-9 1376 County Road 2, Escott, Ontario								
	Con 134 Corr Pro	sulting 5 Ros wall, pject #	g Engineers Inc. emount Avenue Ontario K6J 3E5 121-21627-00	Date Complete Hole Diameter Drilling Method Sampling Meth Company Rep	d od	: December 10 - 11, 2012 : 83 mm : Geoprobe : 1.2 m Splitspoon : LC	Location Easting Northing Logged By		: North : corner : 04264 : 49218 : CG	of CR [•] of 13 45 08	2, southeast 76 CR 2
Depth in Meters 0-	Pro	BRAPHIC GRAPHIC	I21-21627-00 ✓ ✓ FILL, sandy gravel, brown, SILTY SAND, greyish brow SILTY SAND and CLAY, b SILTY SAND and CLAY, g	Company Rep DESCR dry. /n, moist. rownish grey, m	Not Elev bend	: LC e rations based on assumed chmark (100.000 m asl) ON	Logged By	0 0 0 0 30	CG	Well: M	W-9 — Casing — Bentonite
2-	-		SILTY SAND and CLAY wi and odour, wet.	ith sand seams,	ms, grey with black petroleum stainir	with black petroleum staining	28	290			
3-			SAND, brown with black pe	etroleum stainin	g and	odour.	3A	90			— Sand — Screen
21627-00/Borehole Logs/BH-9.bor			SAND, reddish brown, wet.				4A	0			
01-25-2013 X:\2012\121- כי	-		End of Borehole at 4.9 m.				4B	0			

			G	ENIVAR	E	3H-1	10 1376 County Ro	ad 2, Eso	cott, C	Ontai	rio	
-	Consulting Engineers Inc. 1345 Rosemount Avenue Cornwall, Ontario K6J 3E5 Project # 121-21627-00			g Engineers Inc. emount Avenue Ontario K6J 3E5 121-21627-00	Date Completed Hole Diameter Drilling Method Sampling Metho Company Rep	Date Completed: December 10 - 11, 2012LocalHole Diameter: 83 mm:Drilling Method: GeoprobeEastiSampling Method: 1.2 m SplitspoonNorthCompany Rep: LCLogg			ation : : ting : hing : ged By :		North side of CR 2, at the 1376 CR2 address sign 0426435 4921804 CG	
	Depth in Meters	Surf. Elev. 101.122	RAPHIC	⊻ ⊻	DESCR	Not Elev bend	e rations based on assumed chmark (100.000 m asl)	ample	E	We	II: MW-10	
-	0 		G	FILL, sandy gravel, brown,	dry.			1A	0		Casii	ng onite
	- - - 1 -	· · ·	SILTY SAND and CLAY, grey, moist, slight petroleum odour.									
	- - - -			SILTY SAND and CLAY, g	reyish brown wi	ith blad	ck petroleum staining.	2A	210			
	2 				ver unitable and a second			2B	1300			
	- - - 3-	· ·		and odour, wet.	rown with seam		lack, petroleum stained sand	ЗА	940		— Sanc	d en
gs\BH-10.bor	-	· · ·		SAND, reddish brown with	black petroleun	n stain	ied seams, wet.	3В	110			
21627-00\Borehole Lo	- - 4 -			SAND, brown, wet.				4A	130			
5-2013 X:\2012\121-3	-							4B	0			
01-ź	5-			End of Borehole at 4.9 m.								

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		(3]	ENIVAR	E	3H-11 1376 County Ro	oad 2, Esc	ott, C	Ontario
		Cons 1345 Corn Pro	sulting 5 Ros wall, ject #	g Engineers Inc. emount Avenue Ontario K6J 3E5 ± 121-21627-00	Date Completer Hole Diameter Drilling Method Sampling Methor Company Rep	d : December 10 - 11, 2012 : 83 mm : Geoprobe od : 1.2 m Splitspoon : LC	Location Easting Northing Logged By	:	North side of CR 2, west of Lynch Lane 0426425 4921787 CG
	Depth in Meters	Surf. Elev. 100.869	GRAPHIC	▼ <i>▼</i>	DESCR	Note Elevations based on assumed benchmark (100.000 m asl) IPTION	Sample	mdd	Well: MW-11
	0 			FILL, sandy gravel, brown, SILTY SAND and CLAY, b Becomes moist at 0.6 m.	dry. rown, dry.		/ 1A	10	Casing —Bentonite
	- - 1 -						1B	10	
				SILTY SAND and CLAY wi	th sand seams,	brown, dry.	2A	10	
	2 - - -			SAND, reddish brown, wet.			28	10	
	- - - 3-						ЗА	20	-Sand
Is\BH-11.bor	- - - -						3В	20	
1627-00\Borehole Log	- - 4						4A	10	
-2013 X:\2012\121-2	- - - -						4B		
01-25	- 5—			End of Borehole at 4.9 m.					

Г

			3]	ENIVAR	BH-12 1376 County Road 2, Escott, Ontario												
•		Cons 1345 Corn Pro	sulting 5 Ros wall, viect #	g Engineers Inc. emount Avenue Ontario K6J 3E5	Date Complete Hole Diameter Drilling Method Sampling Metho Company Rep	d od	: December 10 - 11, 2012 : 83 mm : Geoprobe : 1.2 m Splitspoon : LC	2 Location : North side : of Lynch L Easting : 0426425 Northing : 4921787			side c ch La 25 '87	of CR 2, west ne					
	Depth	Surf. Elev.	CHIC	▼ 		No Ele ber	ote evations based on assumed nchmark (100.000 m asl)		ple		w	ell: N	W-12				
	Meters	101.007	GRA		DESCR	IPT	ION		Sam	mdq		Π					
	0 - - -			SILTY CLAY, brown, moist	i.				1A	0		Casing Bentonite					
	- - - 1- -	- - - - -							1B	0							
	- - - -			Becomes wet at 1.2 m.					2A	0							
	- 2 - -							2B 0	0								
	- - - 3-			SILTY SAND and CLAY wi	ith seams of sar	nd, bi	rown, dry.		ЗA	0			-Sand				
s\BH-12.bor	- - - -	-							3B	0	_						
627-00\Borehole Logs	- - 4 -			SAND, brown, dry.					4A	0							
2013 X:\2012\121-21	-	- - - -							4B	0							
01-25-;	- 5-			End of Borehole at 4.9 m.				I		1	J						

		GI	ENIVAR	BH-	13 1376 County R	oad 2, Escott	, Ontario	D				
	Con 134 Corn	sulting 5 Ros wall, (g Engineers Inc. emount Avenue Ontario K6J 3E5	Date Completed Hole Diameter Drilling Method Sampling Method	: December 10 - 11, 2012 : 83 mm : Geoprobe : 1.2 m Splitspoon	Location Easting Northing	: North side of CR 2, west : of Lynch Lane : 0426425 : 4921787		west			
	Pro	ject #	121-21627-00	Company Rep	: LC	Logged By	: CG					
Depth in	Surf. Elev.	APHIC	▼ 				mple	E				
weters		GF		DESCRIPTION								
0-	-		SILTY SAND and CLAY, b	rown, moist.			1A	0				
1-	-		Becomes wet at 1.2 m.				1B	0				
	-											
2-	- - - -		SILTY SAND and CLAY W	th sand seams, brow	vn, wet.		2B	0				
3-	-						ЗА	0				
s/BH-13.bor	- - - -		SAND, brown, wet.				3В	0				
1627-00\Borehole Log	- - - -						4A	0				
-2013 X:\2012\121-2	- - - -						4B	0				
-5	-		End of Borehole at 4.9 m.				I					

		GI	ENIVAR	BH-	14 1376 County R	load 2, Escol	t, Ontario					
	Con 134 Corr	sulting 5 Ros wall, (g Engineers Inc. emount Avenue Ontario K6J 3E5	Date Completed Hole Diameter Drilling Method Sampling Method Company Ben	: December 10 - 11, 2012 : 83 mm : Geoprobe : 1.2 m Splitspoon	Location Easting Northing	: North side o : 1376 CR2 d : 0426430 : 4921833 : CG	f CR 2, along rive way				
			121-21027-00	Company ricp		Logged by						
Depth in Meters	Surf. Elev.	GRAPHIC	▼ 	DES	SCRIPTION		Sample	mqq				
0-		+ + + +	FILL, sandy gravel, brown,	., sandy gravel, brown, dry.								
			SILTY CLAY, brown, dry.				1A	0				
1-			Becomes wet at 1.2 m.				1B	0				
-												
2-			SILTY SAND, brown, wet.	n, wet.								
-			SAND, brown, wet.				34	15				
3-			SILTY CLAY, brown, wet.				0/1					
			SILTY SAND, brown, wet. SAND, medium, brown, we	ıt.			3B	5				
4-							4A	70				
-							4B	20				
5-							5A	15				
- - - - - - 0							5B	15				
ogs/BH-14.p							6A	5				
)/Borehole L							6B	5				
21-21627-00							7A	5				
X:/2012/1							7B	5				
			End of Borehole at 8.5 m.									

Appendix B - Test Pit Log 1376 County Road 2, Escott, ON

Test Pit ID: TP-1

UTM Coordinates: 18T 0246437, 4921810

Test Pit Location: Northeast of address sign (at major anomaly)

Sample #	Depth (mbgs)	ppm	Description
1-1	0	0	FILL, sandy gravel, brown, dry
1-2	0.5	0	SILTY CLAY, brown, dry
1-3	1.0	0	SILTY SAND, grey, moist, mixed with sandy gravel, black sand
	1.0	0	and gas tank pipes
1-4	1.5	0	SILTY SAND, brown, dry
1-5	2.0	900	SILTY SAND, black, wet with strong petroleum odour
1-6	2.5	>2,500	SAND, black, wet with strong petroleum odour
1-7	2.5	960	SAND, black, wet with strong petroleum odour
1-8	3.0	>2,500	SAND, black, wet with strong petroleum odour
1-9	3.0	790	SAND with traces of silty clay, black wet
1-10	3.5	0	SAND, reddish-brown, wet

Test Pit ID: TP-2 UTM Coordinates: 18T 0426441, 4921813 Test Pit Location: Eastern property line

Sample #	Depth (mbgs)	ppm	Description
2-1	0.5	0	FILL, sandy clay, brown, dry
2-2	1.0	0	FILL, sandy clay, brown, dry
2-3	1.5	0	FILL, sandy clay with seams of black sand, wet
2-4	2.0	>2,500	SAND, black, wet, strong petroleum odour
2-5	2.5	1,200	SAND, black, wet, strong petroleum odour
2-6	3.0	440	SAND, grey with black seams, wet, strong petroleum odour
2-7	3.5	2,300	Sand and silty sand, grey with black seams, strong petroleum odour

Test Pit ID: TP-3 UTM Coordinates: 18T 0426431, 4921800 Test Pit Location: Northwest of address sign

Sample #	Depth (mbgs)	ppm	Description
3-1	0.5	0	FILL, sandy gravel, brown, dry
3-2	1.0	500	SILTY SAND, grey, dry, strong petroleum odour
3-3	2.0	>2,500	SILTY SAND, grey, dry, strong petroleum odour
3-4	2.5	>2,500	SAND, brown, dry, strong petroleum odour
3-5	3.0	4,500	SILTY SAND, grey, wet, strong petroleum odour
3-6	3.5	6,400	Silty sand with trace clay, brown, wet, strong petroleum odour

Test Pit ID: TP-4

UTM Coordinates: 18T 0426425, 4921811

Test Pit Location: North of the address sign and west of the septic bed

Sample #	Depth (mbgs)	ppm	Description
4-1	0.5	0	FILL, silty sand, brown, dry
4-2	1.0	0	FILL, silty sand and pieces of concrete, brown, dry
4-3	1.5	0	FILL, silty sand and pieces of concrete, brown, dry
4-4	2.0	0	SILTY SAND, reddish-brown, dry
4-5	2.5	0	SILTY SAND, reddish-brown, dry
4-6	3.0	900	SILTY SAND, reddish-brown with black seams, wet, strong
	0.0		petroleum odour

el was approximately 2.5 m below grade

Appendix C

Geophysical Survey Report



SUMMARY OF THE GEOPHYSICAL SURVEYS CONDUCTED AT

1376 County Rd. 2 Escott, Ontario

Submitted To:

GENIVAR | Constructive People 1345 Rosemount Ave, Cornwall, Ontario, K6J 3E5

Date September 17, 2012

Prepared By:

NOTRA Inc. Dennis Gamble, P.Geo.

DISCLOSURE RESTRICTIONS

This document contains information which has been developed by NOTRA at its expense, and is subject to Section 19, 20 and 21 of the Access to Information Act of the Government of Canada. Any use or disclosure of this information, other than the specific purpose for which it is intended, is expressly prohibited, except as NOTRA may otherwise agree in writing.



EXECUTIVE SUMMARY

There are no formal records of the underground storage tanks being removed from a former service station at 1372 County Rd. 2 in Escott, Ontario.

In order to conduct a site characterisation and to verify if any UST were present, Genivar contracted NOTRA to conduct geophysical surveys at the site.

On 13 Sep 2012, NOTRA conducted a Geonics EM-31s apparent conductivity and a Scintrex Smart-Mag total magnetic field survey over the full 0.67 Ha lot at 1376 Country Rd. 2.

The magnetic field data outlined several visible features (well, culverts, signs) as well as the septic tank and one large magnetic field anomaly just east of the For Sale sign. This anomaly has a surface area of over 5m x 1.5m and with an amplitude of approximately 3000 nT.

The EM31 apparent conductivity outlined the extent of the raised portion of the building lot (lower conductivity) as well as an apparent conductivity low in the centre-south portion of the open field.

Over the magnetic anomaly the apparent conductivity showed a coincident decrease of approximately 7 mS/m. The In-Phase data of the EM31 outlined the septic tank as well as a small anomaly coincident with the large magnetic field anomaly.

One additional anomaly is present in both the EM31 and magnetic data near or under the old lane way, just north east of the large magnetic anomaly. It, however, does not appear to be due to an object such as a UST but shallow buried debris.

Digital data could not be collected in a portion of the property due to thick flora. This area was traversed with a hand held magnetic gradiometer and round to be void of significant metal – such as a UST.



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Annex A Maps

Total Magnetic Field Map EM-31 Apparent Conductivity Map EM-31 In-Phase Map



1.0 INTRODUCTION

On 13 September 2012, NOTRA conducted two (2) geophysical surveys to help provide a site characterization of the sub-surface to aid in defining the extent of buried metal and conductivity anomalies at 1372 County Rd 2, Escott, Ontario.

The 0.67 Ha lot consists of an open field used for grazing west of the central laneway and a raised area with a house and domestic utilities east of the central laneway. The Geophysical surveys included both the Geonics EM31 (short) apparent conductivity and the Scintrex Smartmag magnetometer in conjunction with a Trimble Pro XRS DGPS.

2.0 METHODOLOGY AND APPROACH

Geonics EM-31

The EM-31s is a horizontal loop EM instrument with a transmitter–receiver separation of 2m. This instrument can measure the apparent conductivity, which can be used to map variations in soils of different conductivities and conductive contamination plumes to a depth of at least 3 meters.

Changes in the sub surface conditions can be mapped with this instrument. Bedrock typically will have a low apparent conductivity near 0 mS/m while wet sand and silt may have higher values of 10 to 20 mS/m. Clay or contamination may have conductivities in the order of 20 to 100 mS/m. Although not sensitive to smaller pieces of metal, large objects such as barrels, piping or cables will result in a large amplitude response well in excess of that expected from contamination plumes.

The apparent conductivity is proportional to the out of phase measurement. Over natural conductivities, the In-phase measurement does not change; however, In-Phase will be sensitive to significant metal.



Example Geonics EM-31s and Trimble Pro XRS DGPS

Scintrex Smartmag

The Scintrex Smartmag is an optically pumper cesium vapor magnetometer that can record magnetic measurements at a rate of 10 readings per second with a 0.1 nT resolution. Due to the compact sensor cavity, the cesium vapor has an advantage over other digital





magnetometers in that it can make accurate measurements even in extremely high magnetic gradients such as expected when surveying over large amounts of metal.

Over natural soils and rock conditions, the magnetic field would only be expected to change slowly (0's of nT) over a site such as the one surveyed. Ferrous metal such as found in barrels, culverts, manhole covers and signs would change the local magnetic field in the vicinity by up to 10,000 nT. The shape of the magnetic anomaly combined with the surface area can be used to imply an objects size and depth.



Example -Scintrex Smart Mag Total Magnetic Field Magnetometer and Trimble Pro XRS DGPS

(Photo provided by J.S., Genivar)

Data Collection and Processing

Using a DGPS for position reference, each instrument was profiled along strait lines across the site. The line spacing for both instruments was approximately 3 meters.

Following the data collection the GPS data was merged with the geophysical data. The sample resolution was approximately 0.4m for the EM-31s and 0.2m for the magnetometer.

The GPS data was collected using the NAD83 format in Zone 18. The expected accuracy for the Trimble Pro XRS DGPS (real time differential correction via Omni-Star broadcast) is expected to be within 50 cm 90% of the time.





3.0 RESULTS

Refer to Annex A - Maps:

- EM-31s Apparent Conductivity Map
- EM-31s In-Phase Map
- Total Magnetic Field Map

The Background conductivity was found to be between around 20 mS/m. Around the raised building lot portion of the site the conductivity was found to decrease to around 6 mS/m, implying the fill material has low conductivity. A localized low within the open field portion of the site, along the southern edge of the property has a decrease of apparent conductivity down to 6 mS/m. This is coincident with a magnetic field increase of 1500 nT. This broad feature is likely due to a decrease over burden thickness as opposed to burial of materials.





Viewing South from Central Lane Way Corner

Viewing North East from South West

Both the magnetometer and EM31 detect the septic tank as well as other visible features, including two wells, fencing, signs and a culvert.



Flags Indicate Approximate Location of Septic Tank





One dominant magnetic anomaly is present just east of the *For Sale* sign between the two lane ways. The magnetic field is elevated by over 3000 nT and it has a surface area of over 5m x 1.5m. Careful inspection of the EM31 data shows that there is a coincident decrease in apparent conductivity of 7 mS/m over this area. There is buried metal at this location with the potential to be due to an underground storage tank.



Flags Indicate Location or Large Magnetic Anomaly

There is an additional magnetic and electromagnetic anomaly present within the old lane way approximately 7 meters north of this above mentioned anomaly. It however appears to be due to shallow metal distribution rather than an object such as a UST.

4.0 CONCLUSIONS

One large anomaly is present, with a subtle coincident EM31 anomaly is present just east of the *For Sale* sign that has the potential to be due to a large UST or equivalent metallic mass.

There is additional metal present north of this; however, it does not appear to be due to an item such as a UST.

The septic tank is evident in both the magnetic and electromagnetic data.

A prospect of the area within the thick flora (were data could not be collected) did not outline any anomalies.

A broad, coincident magnetic high, apparent conductivity low anomaly within the field area may be evidence of a decrease in the over burden thickness (up lift of the local Grenville Province rock).





5.0 STATEMENT OF LIMITATIONS

This Geophysical Survey Report has been prepared exclusively for Genivar. The purpose of this report is to provide an assessment of the potential for the presence of buried debris and conductivity variations within the survey area outlined at the 1372 County Rd. 2, Escott, Ontario. This report is neither an endorsement nor a condemnation of the subject property.

The geophysical techniques employed typically produce clear geophysical anomalies over a metallic anomalies or conductive contamination within there detection depths. However, each technique has limitations, especially in areas in which buried utilities or surface metal is present.

The results and conclusions documented in this report have been prepared for a specific application to this project and have been developed in a manner with that level of skill normally exercised by qualified professionals currently practicing in this area of geophysical surveying. No other warranty, expressed or implied, is made.

Reports or memoranda resulting from this assignment are not to be used in whole or in part outside Genivar without prior written permission.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. NOTRA Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report.

If new information is developed in future work (which may include excavations, boreholes, or other studies), NOTRA should be contacted to re-evaluate the conclusions of this report and to provide amendments as required.

Dennis Gamble, P.Geo, P.Geoph. Senior Geophysicist, NOTRA Inc. September 17, 2012



ANNEX A MAPS















Appendix D

Sample and Analyses Plan
Table D1 –	Sample	Name.	Depth.	Rational	and Anal	vses
		·····,	– – – – – – ,			,

Test-Pit	TP-1				
Location	North side of CR2 North of addres	s sian			
GPS Coord	18T0246437 / 4221810	Jo olgili.			
Rationale	To assess geophysical anomaly a	nd notential netr	oleum impairr	nent	
Sample Name	Sample Depth (m)			nom	
Cample Name		Metals/Inorg	BTEX/PHC	РАН	TCL P
TP-1-8	30	X	X	X	
TP-1-10	3.5	Λ	X	Λ	
Test-Pit	TP-2		Λ		
Location	North side of CB2 East side of the	Site			
GPS Coord	18T0426411 / 4921813	ono.			
Bationale	To assess migration of petroleum	contamination a	t the east pror	perty line	
Sample Name	Sample Depth (m)	Analytical			
oumpio Humo		Metals/Inorg	BTEX/PHC	РАН	TCLP
TP-2-4	20	X	X	X	
TP-2-7	3.5	~	X	~	
Test-Pit 3	TP-3		<i>,</i> , , , , , , , , , ,		
Location	North side of CR2. North west of the	ne address sign			
GPS Coord.	18T0426431 / 4921800	ie daal eee eign			
Rationale	To assess the migration of petrole	um west of the f	ormer tanks.		
Sample Name	Sample Depth (m)	Analytical			
oumpio numo		Metals/Inorg.	BTEX/PHC	PAH	TCLP
TP-3-4	2.5	X	X	X	
TP-3-6	3.0	X			
Test-Pit	TP-4				
Location	North side of CR2. North of TP3.				
GPS Coord.	18T0426425 / 4921811				
Rationale	To assess the migration of petrole	um toward the s	eptic bed.		
Sample	Sample Depth (m)	Analytical	·		
Name		Metals/Inorg.	BTEX/PHC	PAH	TCLP
TP-4-6	3.0	-	Х	Х	
Test-Pit	CompoSite				
Location	Samples of impaired soil				
GPS Coord.					
Rationale	To classify potential excess soil as	solid non-haza	rdous waste.		
Sample	Sample Depth (m)	Analytical			
Name		Metals	VOC/PHC	PAH	TCLP
TCLP	0-3.5 m				Х
Borehole	BH1				
Location	South side of CR2, opposite of the	e Lynch Farm Ia	ne		
GPS Coord.	18T 0426439 / 4921780				
Rationale	To assess the migration of petrole	um on the south	n side of CR2.		
Sample	Sample Depth (m)	Analytical			
Name		Lead	BTEX/PHC	PAH	рН
BH1-3A	2.4-3.0		Х		
BH1-4A	3.6-4.2	Х			Х
Borehole	BH2	1070			
Location	South side of CR2, opposite of the	e 1376 address	sıgn.		
GPS Coord.	181 0426448 / 4921792				
Kationale	I o assess the migration of petrole	um on the south	n side of CR2.		
Sample	Sample Depth (m)	Analytical			
Name		Lead	BTEX/PHC	PAH	рН
BH2-3B	3.0-3.6	Х			Х

BH2-4A BH2-4B Borehole	3.6-4.2 4.2-4.8 BH3		X X	Х						
Location GPS Coord.	South side of CR2, opposite of the h 18T 0426453 / 4921800	ay rake and t	he 1376 CR2	driveway d fuel tank ox	oovation					
Sample Name	Sample Depth (m)	Analytical	BTEX/PHC		bH					
BH3-3A	2.4-3.0		X							
Borehole	BH4									
Location GPS Coord. Rationale Sample	NCD – West of the building. 18T 0426466 / 4921810 To assess the migration of petroleur Sample Depth (m)	n on the sout Analytical	h side of CR2.							
Name		Lead	BTEX/PHC	PAH	рН					
BH4-4A	3.6-4.2		Х	Х						
Borehole Location GPS Coord. Rationale	BH5 North side of CR2, along 1376 east 18T0426449 / 4921804 To assess the migration of petroleur	property line.	2 and the east	property line.						
Sample	Sample Depth (m)	Analytical	DTEV/DUO	DALL						
	0400			РАН	рн					
	2.4-3.0 1 8-5 1	^	A X		^					
Borehole	BH6		Χ							
Location GPS Coord. Rationale	North side of CR2, south of the Lynch Farm lane. 18T 0426424 / 4921784 To assess the migration of petroleum southward toward CR2									
Name BH6-3A	2.4-3.0	Lead	BTEX/PHC X	РАН Х	рН					
BH6-4B	4.2-4.8	Х			Х					
Borehole	BH7									
Location GPS Coord.	North side of CR2, south of the 1376 18T 0426435 / 4921796	address sigi	n.							
Sample	Sample Depth (m)	Analytical Lead	BTEX/PHC	РАН	рН					
BH7-3A BH7-4A	2.4-3.0 3.6-4.2		X X	X	F					
Borehole	BH8									
Location GPS Coord. Rationale	North side of CR2 within the 1376 C 18T 0426428 / 4921825 To assess the migration of petroleur	R2 driveway.	east property	line.						
Sample Name	Sample Depth (m)	Analytical Lead	BTEX/PHC	PAH	Ph					
BH8-2B	1.8-2.4		Х	Х						
BH8-3A	2.4-3.0		Х							
Borehole	BH9 / MW-9									
Location	North side of CR2, approximate sou	theast corner	of 1376 CR2	property line.						
GPS Coord.	To access the migration of potrolour	n toward the	oact proporty	lino						
Sample	Sample Depth (m)		easi piopeity i							
Name		Lead	BTEX/PHC	РАН	рΗ					
BH9-3A	2.4-3.0		X	Х	P					
BH9-4A	36-42	Х	Х		Х					
	0.0 1.2									

Borehole	BH10 / MW-10								
Location GPS Coord.	North side of CR2, south of the 1376 18T 0426435 / 4921804	address sigr	٦.						
Rationale Sample	To assess the migration of petroleur Sample Depth (m)	n toward the s Analytical	south property	line.					
Name	• • • • •	Lead	BTEX/PHC	PAH	рН				
BH10-4A	3.6-4.2		Х						
BH10-2B	1.8-2.4	~	X	X					
Borehole	BH11 / MW11	^	~	^					
Location GPS Coord.	North side of CR2, west of the Lynch 18T 0426425 / 4921787	n Farm lane.							
Rationale Sample	To assess the migration of petroleun	n toward the s	south west pro	perty line.					
Name		Lead	BTEX/PHC	PAH	pН				
BH11-3A	2.4-3.0	Х	Х		x				
MW-11	-	Х	Х	Х					
Borehole	BH12 / MW-12								
Location GPS Coord. Rationale	North side of CR2, east of the Lynch Farm lane 18T 0426411 / 4921816 To assess background conditions on the Site.								
Sample Name	Sample Depth (m)	Analytical Lead	BTEX/PHC	PAH	pН				
BH12-3A	2.4-3.0	Х	Х		X				
MW-12	-	Х	Х	Х					
Borehole	BH13	-							
Location GPS Coord.	North side of CR2, south of the septi 18T 0426423 / 4921810	c system and	I north of the 1	376 address	sign.				
Rationale Sample	To assess the migration of petroleur Sample Depth (m)	n northward ii Analytical	nto the septic	system.					
Name		Lead	BTEX/PHC	PAH	рН				
BH13-3B	3.0-3.6	Х	Х		Х				
Borehole	BH14								
Location GPS Coord.	North side of CR2, along the 1376 C 18T 0426430 / 4921833	R2 driveway.							
Rationale Sample	To assess the migration of petroleur Sample Depth (m)	n toward the i Analytical	north and wes	t property line					
Name		Lead	BTEX/PHC	PAH	рН				
BH14-4A	3.6-4.2		Х	Х					
BH14-5A	4.8-5.4		Х						

Appendix E

Laboratory Results Tables

E1 – Test- Pit - Soil Chemistry Results

E2- Borehole – Soil Chemistry Results

E3 – Wells – Groundwater Chemistry Results

Table 1:	Test	Pit Soil - Chemistry Results
Dhaco II	EGV	1376 County Poad 2

Phase II ESA, 1376 County Road	12										
Parameter	Units	M.D.L.	Table 1 AO	Table 2 AO	TP-1-8	TP-1-10	TP-2-4	TP-2-7	TP-3-4	TP-3-6	TP-4-6
Depth (bgs):					3.0 m	3.5 m	2.0 m	3.5 m	2.5 m	3.0 m	3.0 m
Date Sampled:					20-Sep-12	20-Sep-12	20-Sep-12	20-Sep-12	20-Sep-12	20-Sep-12	20-Sep-12
Hq	pH Units				4.79*		5.99		4.81*		
Conductivity	mS/cm	0.001	0.47	07	0.068		0.043		0.019		
Sodium Adsorption Ratio	units		1	5	0 447		0 323		0 112		
Metals	dinto			0	0.111		0.020		0.112		
Antimony	ua/a	0.5	4	7.5	< 0.5		< 0.5		< 0.5		
Anumony	µg/g	0.5	1	7.5	< 0.5		< 0.5		< 0.5		
Arsenic	hð/ð	0.5	11	11	0.8		1.2		1.2		
Barium	hð/ð	1	210	390	27		29		29		
Beryllium	µg/g	0.2	2.5	(5)4	0.2		0.2		0.2		
Boron	µg/g	0.5	36	120	1.7		1.7		1.8		
Boron (HWS)	µg/g	0.02	N/A	1.5	0.16		0.11		0.13		
Cadmium	µg/g	0.5	1	1	< 0.5		< 0.5		< 0.5		
Chromium	µg/g	1	67	160	10		11		10		
Chromium (VI)	µq/q	0.5	0.66	(10)8	< 0.5		< 0.5		< 0.5		
Cobalt	ua/a	1	19	22	5		5		4		
Copper	ua/a	1	62	(180)140	10		10		10		
Cyanide (CN-)	P9/9	0.04	0.051	0.051	~0.04		~0.04		~0.04		
	ug/g	5	0.001	45	<0.04		<0.04		<0.04		
Lead	µg/g	0.005	45	40	< 0		< 0		< 0		
Mercury	µg/g	0.005	0.16	(1.8)0.25	0.011		0.012		0.013		
Molybdenum	hð\ð	1	2	6.9	< 1		< 1		< 1		
Nickel	hð\ð	1	37	(130)100	/		/		1		
Selenium	µg/g	0.5	1.2	2.4	< 0.5		< 0.5		< 0.5		
Silver	µg/g	0.2	0.5	(25)20	< 0.2		< 0.2		< 0.2		
Thallium	µg/g	0.1	1	1	< 0.1		< 0.1		< 0.1		
Uranium	µg/g	0.1	1.9	23	0.3		0.4		0.3		
Vanadium	µg/g	1	86	86	20		23		22		
Zinc	µg/g	3	290	340	22		17		21		
PHC's											
PHC F1 (C6-C10)	ua/a	10	17	(65) 55	2.660	10	450	160	7.000	1.000	310
PHC F2 (>C10-C16)	ha/a	5	10	(150) 98	76	< 5	31	8	51	50	79
PHC E3 (>C16-C34)	ug/g	10	240	(1,300),300	10	< 10	< 10	< 10	10	10	20
PHC E4 (>C34-C50)	ua/a	10	120	(5 600) 2 800	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOC's	P9'9		.20	(0,000) 2,000	110	110	110	110	110	1.0	4.10
Benzene	ua/a	0.02	0.02	(0 17) 0 21	<0.02	<0.02	<0.02	<0.02	<0.5	<0.5	<0.02
Ethylbonzono	μg/g	0.02	0.02	(0.17) 0.21	0.12	<0.02	0.24	1.65	07.4	<0.5 E6 6	0.12
Taluana	µg/g	0.03	0.05	(1.0) 1.1	0.12	<0.03	0.24	0.05	97.4	10.0	0.12
	μg/g	0.03	0.2	(0) 2.3	<0.03	<0.03	<0.03	0.05	9.20	10.0	<0.04
Xylene, m,p-	µg/g	0.04			0.08	<0.04	0.70	5.82	453	215	0.44
Xylene, o-	µg/g	0.03			<0.03	<0.03	0.23	0.68	141	64.3	0.13
Xylene, m, p, o-	µg/g	0.05	0.05	(25) 3.1	<u>0.08</u>	<0.05	<u>0.94</u>	<u>6.50</u>	<u>594</u>	<u>280</u>	<u>0.57</u>
SVOC's											
Acenaphthene	µg/g	0.005	0.05	(29) 7.9	< 0.005		< 0.005		< 0.005		< 0.005
Acenaphthylene	µg/g	0.005	0.093	(0.17) 0.15	< 0.005		< 0.005		< 0.005		< 0.005
Anthracene	µa/a	0.005	0.05	(0.74) 0.67	< 0.005		< 0.005		< 0.005		0.008
Benzo(a)anthracene	µq/q	0.005	0.095	(0.63) 0.5	< 0.005		< 0.005		< 0.005		< 0.005
Benzo(a)pyrene	ha/a	0.005	0.05	0.078	< 0.005		< 0.005		< 0.005		< 0.005
Benzo(b)fluoranthene	ug/g	0.005	0.3	0.78	< 0.005		< 0.005		< 0.005		< 0.005
Benzo(b+k)fluoranthene	ua/a	0.01			< 0.01		< 0.01		< 0.01		< 0.01
Benzo(a h i)pen/ene	µg/g	0.005	0.2	(78)66	< 0.005		< 0.005		< 0.005		< 0.005
Benzo(k)fluoranthene	м9/9 ца/а	0.005	0.05	0.78	< 0.005		< 0.005		< 0.005		< 0.005
Chrysona	µg/g	0.005	0.00	(7.8) 7	< 0.005		< 0.005		< 0.005		< 0.005
Dibonzo(a b)onthrocono	μg/g	0.005	0.10	(1.0) 1	< 0.005		< 0.005		< 0.005		< 0.005
	µg/g	0.005	0.1	0.1	< 0.005		< 0.005		< 0.005		< 0.005
	µg/g	0.005	0.24	0.69	< 0.005		< 0.005		0.005		0.011
	hð\ð	0.005	0.050	(69) 62	< 0.005		< 0.005		0.020		0.064
Indeno(1,2,3,-cd)pyrene	hð\ð	0.005	0.11	(0.48) 0.38	< 0.005		< 0.005		< 0.005		< 0.005
wetnyinaphthalene,1-	hð/ð	0.005			< 0.005		0.010		0.275		< 0.005
Methylnaphthalene,2-	hð/ð	0.005			< 0.005		0.025		0.516		0.008
Methylnaphthalene,1- + 2-	µg/g		0.05	(3.4) 0.99	<0.005		0.035		<u>0.791</u>		0.008
Naphthalene	µg/g	0.005	0.05	(0.75) 0.6	< 0.005		0.010		0.921		< 0.005
Phenanthrene	µg/g	0.005	0.19	(7.8) 6.2	< 0.005		< 0.005		0.025		0.068
Pyrene	µg/g	0.005	0.19	78	< 0.005		< 0.005		0.010		0.027

 indicates exceedance of Table 2 agricultural or other property use of the Full Depth Generic Site Condition Standards in a Potable Groundwater Conditon per MOE's Soil Groundwater and Sediment Standards for Use Under Par XV.1 of the EPA (July 2011)
 indicates exceedance of Table 2 agricultural or other property use of the Full Depth Generic Site Condition Standards in a Potable Groundwater Conditon per MOE's Soil Groundwater and Sediment Standards for Use Under Par XV.1 of the EPA (July 2011)
 indicates exceedance of Table 2 agricultural or other property use of the Full Depth Generic Site Condition Standards in a Potable Groundwater Conditon per MOE's Soil Groundwater and Sediment Standards for Use Under Par XV.1 of the EPA (July 2011)
 () Standard in bracket applies to medium and fine textured soils
 if pH lies outside of 5-11 then the site becomes environmentally sensitive 0.921

Table 1b: TCLP Analysis Phase II ESA, 1376 County Road 2

		Client ID:							
	Da	Date Collected:							
			Schedule 4						
Parameter	Units	M.D.L.	Limits						
Lead	mg/L	0.02	5	< 0.02					
Benzene	mg/L	5	0.5	< 0.005					
Benzo(a)pyrene	mg/L	0.00005	0.001	< 0.00005					
Flashpoint	°C	20		> 65.0					

Table 2: Boreholes-Soil Chemistry Results Phase II ESA - 1376 County Road 2, Escott Ontario

			MOE Table													
Parameter:	Units	M.D.L.	2 A.O (2011)	BH1-3A	BH1-4A	BH2-4A	BH2-4B	BH2-3B	BH3-3A	BH4-4A	BH5-3A	BH5-5A	BH6-3A	BH6-4B	BH7-3A	BH7-4A
Sample Depth (bgs):				2.4-3.0 m	3.6-4.2 m	3.6-4.2 m	4.2-4.8m	3.0-3.6 m	2.4-3.0 m	3.6-4.2 m	2.4-3.0 m	4.8-5.4 m	2.4-3.0 m	4.2-4.8 m	2.4-3.0 A	3.6-4.2 m
Date Sampled:				12-Dec-12	10-Dec-12											
% moisture	%	0.1		16.3		20.1	14.8		13.6	14.6	18.8	11.4	14.7		18.6	13.8
pH @25°C	pH Units				5.41			6.72			6.57			6.87		
PHC's																
PHC F1 (C6-C10)	µg/g	10	(65) 55	< 10		< 10	< 10		< 10	< 10	< 10	< 10	< 10		350	< 10
PHC F2 (>C10-C16)	µg/g	5	(150) 98	< 5		< 5	< 5		< 5	< 5	8	< 5	< 5		26	< 5
PHC F3 (>C16-C34)	µg/g	10	(1300) 300	< 10		< 10	< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10
PHC F4 (>C34-C50)	µg/g	10	(5600) 2800	< 10		< 10	< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10
VOC's and Lead																
Lead	hð/ð	5	45		< 5			< 5			< 5			< 5		
Benzene	µg/g	0.02	(0.17) 0.21	< 0.02		< 0.03	< 0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02		< 0.02	< 0.03
Toluene	µg/g	0.03	(6) 2.3	< 0.03		< 0.04	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		0.21	< 0.04
Ethylbenzene	µg/g	0.03	(1.6) 1.1	< 0.03		0.07	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		2.63	< 0.04
Xylene, m,p-	µg/g	0.04		0.06		0.19	< 0.04		< 0.04	< 0.04	< 0.04	< 0.05	< 0.04		10.2	< 0.05
Xylene, o-	µg/g	0.03		< 0.03		0.05	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		2.75	< 0.04
Xylene, m,p,o-	µg/g	0.05	(25) 3.1	0.06		0.24	< 0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		12.9	< 0.05
SVOCs																
Acenaphthene	µg/g	0.005	(29) 7.9			< 0.005				< 0.005			< 0.005		< 0.005	
Acenaphthylene	µg/g	0.005	(0.17) 0.15			< 0.005				< 0.005			< 0.005		< 0.005	
Anthracene	µg/g	0.005	(0.74) 0.67			< 0.005				< 0.005			< 0.005		< 0.005	
Benzo(a)anthracene	µg/g	0.005	(0.63) 0.5			< 0.005				< 0.005			< 0.005		< 0.005	
Benzo(a)pyrene	µg/g	0.005	0.078			< 0.005				< 0.005			< 0.005		< 0.005	
Benzo(b)fluoranthene	µg/g	0.005	0.78			< 0.005				< 0.005			< 0.005		< 0.005	
Benzo(b+k)fluoranthene	µg/g	0.01				< 0.01				< 0.01			< 0.01		< 0.01	
Benzo(g,h,i)perylene	µg/g	0.005	(7.8) 6.6			< 0.005				< 0.005			< 0.005		< 0.005	
Benzo(k)fluoranthene	µg/g	0.005	0.78			< 0.005				< 0.005			< 0.005		< 0.005	
Chrysene	µg/g	0.005	(7.8) 7			< 0.005				< 0.005			< 0.005		< 0.005	
Dibenzo(a,h)anthracene	µg/g	0.005	0.1			< 0.005				< 0.005			< 0.005		< 0.005	
Fluoranthene	µg/g	0.005	0.69			< 0.005				< 0.005			< 0.005		< 0.005	
Fluorene	µg/g	0.005	(69) 62			< 0.005				< 0.005			< 0.005		< 0.005	
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	(0.48) 0.38			< 0.005				< 0.005			< 0.005		< 0.005	
Methylnaphthalene,1-	µg/g	0.005	(3.4) 0.99			< 0.005				< 0.005			< 0.005		0.007	
Methylnaphthalene,2-	µg/g	0.005	(3.4) 0.99			< 0.005				< 0.005			< 0.005		0.012	
Methylnaphthalene 1- + 2-	ug/g		(3.4) 0.99			< 0.005				< 0.005			< 0.005		0.019	
Naphthalene	µg/g	0.005	(0.75) 0.6			< 0.005				< 0.005			< 0.005		0.027	
Phenanthrene	µg/g	0.005	(7.8) 6.2			< 0.005				< 0.005			< 0.005		< 0.005	
Pyrene	µg/g	0.005	78			< 0.005				< 0.005			< 0.005		< 0.005	
	- Indicates exceedance of Table 2 agricultural or other property use of the Full Depth Generic Site Condition Stardards in a Potable Groundwater Condition per MOE's Soil															

Groundwater and Sediment Standards for Use Under Part XV.1 of the EPA (July 2011) () - Standard in bracket applies to medium and fine textured soils

			MOE Table												
Parameter:	Units	M.D.L.	2 A.O	BH8-2B	BH8-3A	BH9-3A	BH9-4A	BH10-4A	BH11-3A	BH10-2B	BH12-3A	BH13-3B	BH14-4A	BH14-5A	Blank
Sample Depth (bgs):				1.8-2.4 m	2.4-3.0 m	2.4-3.0 m	3.6-4.2	3.6-4.2 m	2.4-3.0 m	1.8-2.4 m	2.4-3.0 m	3.0-3.6 m	3.6-4.2 m	4.8-5.4 m	
Date Sampled:				11-Dec-12											
% moisture	%	0.1		20.9	16.7	16.2	15.7	16.7	14.4	16.2	17.9	20.1	16.4	18.3	
pH @25°C	pH Units						6.78		6.90		7.21	7.16			
PHC's															
PHC F1 (C6-C10)	µg/g	10	(65) 55	40	< 10	90	< 10	90	< 10	990	< 10	< 10	< 10	< 10	
PHC F2 (>C10-C16)	hð/ð	5	(150) 98	11	< 5	9	< 5	< 5	< 5	94	< 5	< 5	< 5	< 5	
PHC F3 (>C16-C34)	µg/g	10	(1300) 300	< 10	< 10	< 10	< 10	< 10	< 10	20	< 10	< 10	< 10	< 10	
PHC F4 (>C34-C50)	hð\ð	10	(5600) 2800	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
VOC's and Lead															
Lead	hð/ð	5	45				< 5		< 5		< 5	< 5			
Benzene	hð/ð	0.02	(0.17) 0.21	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Toluene	hð/ð	0.03	(6) 2.3	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Ethylbenzene	hð/ð	0.03	(1.6) 1.1	0.07	< 0.04	0.16	< 0.03	1.39	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Xylene, m,p-	hð/ð	0.04		0.05	< 0.05	0.10	< 0.05	5.96	< 0.04	< 0.04	< 0.04	< 0.05	< 0.05	< 0.04	< 0.04
Xylene, o-	hð\ð	0.03		0.08	< 0.04	0.15	< 0.03	1.42	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Xylene, m,p,o-	µg/g	0.05	(25) 3.1	0.13	< 0.05	0.25	< 0.05	7.38	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
SVOCs															
Acenaphthene	hð/ð	0.005	(29) 7.9	< 0.005		< 0.005				0.007			< 0.005		
Acenaphthylene	hð/ð	0.005	(0.17) 0.15	< 0.005		< 0.005				0.005			< 0.005		
Anthracene	hð/ð	0.005	(0.74) 0.67	< 0.005		< 0.005				< 0.005			< 0.005		
Benzo(a)anthracene	hð/ð	0.005	(0.63) 0.5	< 0.005		< 0.005				< 0.005			< 0.005		
Benzo(a)pyrene	µg/g	0.005	0.078	< 0.005		< 0.005				< 0.005			< 0.005		
Benzo(b)fluoranthene	µg/g	0.005	0.78	< 0.005		< 0.005				< 0.005			< 0.005		
Benzo(b+k)fluoranthene	hð/ð	0.01		< 0.01		< 0.01				< 0.01			< 0.01		
Benzo(g,h,i)perylene	µg/g	0.005	(7.8) 6.6	< 0.005		< 0.005				< 0.005			< 0.005		
Benzo(k)fluoranthene	µg/g	0.005	0.78	< 0.005		< 0.005				< 0.005			< 0.005		
Chrysene	µg/g	0.005	(7.8) 7	< 0.005		< 0.005				< 0.005			< 0.005		
Dibenzo(a,h)anthracene	hð/ð	0.005	0.1	< 0.005		< 0.005				< 0.005			< 0.005		
Fluoranthene	µg/g	0.005	0.69	< 0.005		< 0.005				< 0.005			< 0.005		
Fluorene	µg/g	0.005	(69) 62	< 0.005		< 0.005				0.053			< 0.005		
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	(0.48) 0.38	< 0.005		< 0.005				< 0.005			< 0.005		
Methylnaphthalene,1-	µg/g	0.005	(3.4) 0.99	< 0.005		< 0.005				0.051			< 0.005		
Methylnaphthalene,2-	µg/g	0.005	(3.4) 0.99	0.009		< 0.005				0.139			< 0.005		
Methylnaphthalene 1- + 2-	ug/g		(3.4) 0.99	0.012		<0.005				0.190			< 0.005		
Naphthalene	µg/g	0.005	(0.75) 0.6	< 0.005		< 0.005				< 0.005			< 0.005		
Phenanthrene	µg/g	0.005	(7.8) 6.2	< 0.005		< 0.005				0.043			< 0.005		
Pyrene	ua/a	0.005	78	< 0.005		< 0.005				0.010			< 0.005		

Indicates exceedance of Table 2 agricultural or other property use of the Full Depth Generic Site Condition Stardards in a Potable Groundwater Condition per MOE's Soll Groundwater and Sediment Standards for Use Under Part XV.1 of the EPA (July 2011)
() - Standard in bracket applies to medium and fine textured soils

Table 3: Monitoring Wells - Groundwater Chemistry Results Phase II ESA - 1376 County Road 2, Escott Ontario

			MOE Table 2	0.014/0								
			All Types of Property	(2006)								
Parameter	Units	M.D.L.	Use (2011)	()	MW-9	MW-10	MW-11	MW-12	DW-1	DW-2	DW - Lynch	Duplicate
Date Collected:					12-Dec-12	12-Dec-12	12-Dec-12	12-Dec-12	12-Dec-12	12-Dec-12	11-Dec-12	12-Dec-12
PHC's												
PHC F1 (C6-C10)	µg/L	50	750		4190	10400	< 50	< 50	< 50	< 50	< 50	4730
PHC F2 (>C10-C16)	µg/L	50	150		210	150	< 50	< 50	< 50	300	< 50	230
PHC F3 (>C16-C34)	µg/L	500	500		< 500	< 500	< 500	< 500	< 500	< 500	< 500	< 500
PHC F4 (>C34-C50)	µg/L	500	500		< 500	< 500	< 500	< 500	< 500	< 500	< 500	< 500
VOC's and Lead												
Lead	µg/L	0.02	10	10	0.28	1.36	0.14	0.07	< 0.02	< 0.02	0.09	0.12
Benzene	µg/L	0.5	5	5	< 5	< 5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5
Toluene	µg/L	0.5	24	24	18.2	136	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	18.3
Ethylbenzene	µg/L	0.5	2.4	2.4	128	1060	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	141
Xylene, m,p-	µg/L	1.0			410	3810	1.3	< 1.0	< 1.0	< 1.0	< 1.0	445
Xylene, o-	µg/L	0.5			73.6	1380	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	79.0
Xylene, m,p,o-	µg/L	1.1	300	300	484	5190	1.7	< 1.1	< 1.1	< 1.1	< 1.1	524
SVOC's												
Acenaphthene	µg/L	0.05	4.1		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/L	0.05	1		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	µg/L	0.05	2.4		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/L	0.05	1		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	µg/L	0.01	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01
Benzo(b)fluoranthene	µg/L	0.05	0.1		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b+k)fluoranthene	µg/L	0.1			< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	µg/L	0.05	0.2		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	µg/L	0.05	0.1		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	µg/L	0.05	0.1		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	µg/L	0.05	0.2		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/L	0.05	0.41		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/L	0.05	120		0.07	0.41	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.08
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	0.2		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene,1-	µg/L	0.05	3.2		5.36	4.53	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	6.00
Methylnaphthalene,2-	µg/L	0.05	3.2		17.1	11.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	14.3
Methylnaphthalene 1-+2-	ug/L		3.2		22.5	15.7	<0.05	<0.05	<0.05	<0.05	<0.05	20.3
Naphthalene	µg/L	0.05	11		45.5	20.0	< 0.05	0.18	< 0.05	< 0.05	< 0.05	37.2
Phenanthrene	µg/L	0.05	1		0.07	0.22	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.09
Pyrene	µg/L	0.05	4.1		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

- Indicates exceedance of Table 2 All Types of Property Use of the Full Depth Generic Site Condition Stardards in a Potable Groundwater Condition per MOE's Soil Groundwater and Sediment Standards for Use Under Part XV.1 of the EPA (July 2011)

524

-Indicates an exceedance of the MOE's Ontario Drinking Water Standards, Objectives and Guidelines (2006)

Appendix F

Laboratory Certificates



Final Report

C.O.C.: G23865

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 22-Sep-12

DATE REPORTED: 01-Oct-12

SAMPLE MATRIX: Solid

REPORT No. B12-24186 (i)

Caduceon Environmental Laboratories 2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244 JOB/PROJECT NO.: 1376 CR2 P.O. NUMBER: 121-21627-00

WATERWORKS NO.

			Client I.D.		TP-1-8	TP-2-4	TP-3-4	
			Sample I.D.		B12-24186-1	B12-24186-3	B12-24186-5	
			Date Collect	ed	20-Sep-12	20-Sep-12	20-Sep-12	
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
рН	pH Units		SM 4500H	27-Sep-12/O	4.79	5.99	4.81	
Conductivity	mS/cm	0.001	SM 2510B	28-Sep-12/O	0.068	0.043	0.019	
Sodium Adsorption Ratio	units		SM 3120	28-Sep-12/O	0.447	0.323	0.112	
Antimony	μg/g	0.5	EPA 6020	26-Sep-12/O	< 0.5	< 0.5	< 0.5	
Arsenic	μg/g	0.5	EPA 6020	26-Sep-12/O	0.8	1.2	1.2	
Barium	μg/g	1	EPA 6010	27-Sep-12/O	27	29	29	
Beryllium	μg/g	0.2	EPA 6010	27-Sep-12/O	0.2	0.2	0.2	
Boron	μg/g	0.5	EPA 6010	27-Sep-12/O	1.7	1.7	1.8	
Boron (HWS)	μg/g	0.02	MOE3470	28-Sep-12/O	0.16	0.11	0.13	
Cadmium	μg/g	0.5	EPA 6010	27-Sep-12/O	< 0.5	< 0.5	< 0.5	
Chromium	μg/g	1	EPA 6010	27-Sep-12/O	10	11	10	
Chromium (VI)	μg/g	0.5	EPA7196A	27-Sep-12/O	< 0.5	< 0.5	< 0.5	
Cobalt	μg/g	1	EPA 6010	27-Sep-12/O	5	5	4	
Copper	μg/g	1	EPA 6010	27-Sep-12/O	10	10	10	
Cyanide (Free)	μg/g	0.040	N/A	01-Oct-12	< 0.040	< 0.040	/ < 0.040	1
Lead	μg/g	5	EPA 6010	27-Sep-12/O	< 5	< 5	< 5	
Mercury	μg/g	0.005	EPA 7471A	28-Sep-12/O	0.011	0.012	0.013	
Molybdenum	μg/g	1	EPA 6010	27-Sep-12/O	< 1	< 1	< 1	
Nickel	μg/g	1	EPA 6010	27-Sep-12/O	7	7	7	
Selenium	μg/g	0.5	EPA 6020	26-Sep-12/O	< 0.5	< 0.5	< 0.5	
Silver	μg/g	0.2	EPA 6010	27-Sep-12/O	< 0.2	< 0.2	< 0.2	
Thallium	μg/g	0.1	EPA 6020	26-Sep-12/O	< 0.1	< 0.1	< 0.1	
Uranium	μg/g	0.1	EPA 6020	26-Sep-12/O	0.3	0.4	0.3	
Vanadium	μg/g	1	EPA 6010	27-Sep-12/O	20	23	22	
Zinc	μg/g	3	EPA 6010	27-Sep-12/O	22	17	21	

1 Subcontracted to Agat Labs

M.D.L. = Method Detection Limit Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

Greg Clarkin, BSc., C. Chem

Lab Manager - Ottawa District



NVIRONMENTAL LABORATOR ES Client committed. Quality assured.

C.O.C.: G23865

Report To:

С

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 22-Sep-12

DATE REPORTED: 02-Oct-12

SAMPLE MATRIX: Solid

Final Report

REPORT No. B12-24186 (ii)

Caduceon Environmental Laboratories 2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244 JOB/PROJECT NO.: 1376 CR2

P.O. NUMBER: 121-21627-00

WATERWORKS NO.

			Client I.D.		TP-1-8	TP-1-10	TP-2-4	TP-2-7
			Sample I.D.		B12-24186-1	B12-24186-2	B12-24186-3	B12-24186-4
			Date Collecte	ed	20-Sep-12	20-Sep-12	20-Sep-12	20-Sep-12
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Benzene	µg/g	0.02	EPA 8260	26-Sep-12/O	< 0.02	< 0.02	< 0.02	< 0.02
Toluene	µg/g	0.03	EPA 8260	26-Sep-12/O	< 0.03	< 0.03	< 0.03	0.05
Ethylbenzene	µg/g	0.03	EPA 8260	26-Sep-12/O	0.12	< 0.03	0.24	1.65
Xylene, m,p-	µg/g	0.04	EPA 8260	26-Sep-12/O	0.08	< 0.04	0.70	5.82
Xylene, o-	µg/g	0.03	EPA 8260	26-Sep-12/O	< 0.03	< 0.03	0.23	0.68
Xylene, m,p,o-	µg/g	0.05	EPA 8260	26-Sep-12/O	0.08	< 0.05	0.94	6.50
Dichloroethane-d4,1,2-(SS)	%	10	EPA 8260	26-Sep-12/O	102	108	101	101
Toluene-d8 (SS)	%	10	EPA 8260	26-Sep-12/O	108	95	108	107
Bromofluorobenzene,4(SS)	%	10	EPA 8260	26-Sep-12/O	111	104	112	112
PHC F1 (C6-C10)	µg/g	10	MOE E3398	28-Sep-12/O	2660	10	450	160
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	26-Sep-12/K	76	< 5	31	8
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	26-Sep-12/K	10	< 10	< 10	< 10
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	26-Sep-12/K	< 10	< 10	< 10	< 10
Acenaphthene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Acenaphthylene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Anthracene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Benzo(a)anthracene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Benzo(a)pyrene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	

Cerkin

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District



NVIRONMENTAL LABORATOR ES Client committed. Quality assured.

C.O.C.: G23865

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 22-Sep-12

DATE REPORTED: 02-Oct-12

SAMPLE MATRIX: Solid

Final Report

REPORT No. B12-24186 (ii)

Caduceon Environmental Laboratories 2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244 JOB/PROJECT NO.: 1376 CR2

P.O. NUMBER: 121-21627-00 WATERWORKS NO.

		1	Client I.D.		TP-1-8	TP-1-10	TP-2-4	TP-2-7
			Sample I.D.		B12-24186-1	B12-24186-2	B12-24186-3	B12-24186-4
			Date Collect	ed	20-Sep-12	20-Sep-12	20-Sep-12	20-Sep-12
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	26-Sep-12/K	< 0.01		< 0.01	
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Chrysene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Fluoranthene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Fluorene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		0.010	
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		0.025	
Naphthalene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		0.010	
Phenanthrene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Pyrene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
2-Fluorobiphenyl (SS)	% rec.	10	EPA 8270	26-Sep-12/K	66		49	
Terphenyl-d14 (SS)	% rec.	10	EPA 8270	26-Sep-12/K	75		76	

1 NOTE: Elevated MDL's for select VOC's due to dilutions performed to bring results into the analytical range of instrument.

Verku

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District



Client committed. Quality assured.

C.O.C.: G23865

Report To:

С

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada Attention: Lyle Casselman

DATE RECEIVED: 22-Sep-12

DATE REPORTED: 02-Oct-12

SAMPLE MATRIX: Solid

Final Report

REPORT No. B12-24186 (ii)

Caduceon Environmental Laboratories 2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244 JOB/PROJECT NO .: 1376 CR2

P.O. NUMBER: 121-21627-00 WATERWORKS NO.

			Client I.D.		TP-3-4	TP-3-6	TP-4-6	
			Sample I.D.		B12-24186-5	B12-24186-6	B12-24186-7	
			Date Collecte	ed	20-Sep-12	20-Sep-12	20-Sep-12	
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Benzene	µg/g	0.02	EPA 8260	26-Sep-12/O	< 0.5	< 0.5	< 0.02	
Toluene	µg/g	0.03	EPA 8260	26-Sep-12/O	9.28	16.6	< 0.04	
Ethylbenzene	µg/g	0.03	EPA 8260	26-Sep-12/O	97.4	56.6	0.12	
Xylene, m,p-	µg/g	0.04	EPA 8260	26-Sep-12/O	453	215	0.44	
Xylene, o-	µg/g	0.03	EPA 8260	26-Sep-12/O	141	64.3	0.13	
Xylene, m,p,o-	µg/g	0.05	EPA 8260	26-Sep-12/O	594	280	0.57	
Dichloroethane-d4,1,2-(SS)	%	10	EPA 8260	26-Sep-12/O	98	101	110	
Toluene-d8 (SS)	%	10	EPA 8260	26-Sep-12/O	82	98	105	
Bromofluorobenzene,4(SS)	%	10	EPA 8260	26-Sep-12/O	112	101	106	
PHC F1 (C6-C10)	µg/g	10	MOE E3398	28-Sep-12/O	7000	1000	310	
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	26-Sep-12/K	51	50	79	
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	26-Sep-12/K	10	10	20	
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	26-Sep-12/K	< 10	< 10	< 10	
Acenaphthene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Acenaphthylene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Anthracene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		0.008	
Benzo(a)anthracene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Benzo(a)pyrene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	

Cerkin

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District



ENVIRONMENTAL LABORATORIES Client committed. Quality assured.

C.O.C.: G23865

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 22-Sep-12

DATE REPORTED: 02-Oct-12

SAMPLE MATRIX: Solid

Final Report

REPORT No. B12-24186 (ii)

Caduceon Environmental Laboratories 2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244 JOB/PROJECT NO.: 1376 CR2

P.O. NUMBER: 121-21627-00 WATERWORKS NO.

			Client I.D.		TP-3-4	TP-3-6	TP-4-6	
			Sample I.D.		B12-24186-5	B12-24186-6	B12-24186-7	
			Date Collect	ed	20-Sep-12 20-Sep-12 20-Sep-12		20-Sep-12	
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			_	
Benzo(b+k)fluoranthene	μg/g	0.01	EPA 8270	26-Sep-12/K	< 0.01		< 0.01	
Benzo(g,h,i)perylene	μg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Benzo(k)fluoranthene	μg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Chrysene	μg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Dibenzo(a,h)anthracene	μg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Fluoranthene	μg/g	0.005	EPA 8270	26-Sep-12/K	0.005		0.011	
Fluorene	μg/g	0.005	EPA 8270	26-Sep-12/K	0.020		0.064	
Indeno(1,2,3,-cd)pyrene	μg/g	0.005	EPA 8270	26-Sep-12/K	< 0.005		< 0.005	
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	26-Sep-12/K	0.275		< 0.005	
Methylnaphthalene,2-	μg/g	0.005	EPA 8270	26-Sep-12/K	0.516		0.008	
Naphthalene	μg/g	0.005	EPA 8270	26-Sep-12/K	0.921		< 0.005	
Phenanthrene	μg/g	0.005	EPA 8270	26-Sep-12/K	0.025		0.068	
Pyrene	μg/g	0.005	EPA 8270	26-Sep-12/K	0.010		0.027	
2-Fluorobiphenyl (SS)	% rec.	10	EPA 8270	26-Sep-12/K	64		63	
Terphenyl-d14 (SS)	% rec.	10	EPA 8270	26-Sep-12/K	81		75	

1 NOTE: Elevated MDL's for select VOC's due to dilutions performed to bring results into the analytical range of instrument.

 μ g/g = micrograms per gram (parts per million) and is equal to mg/Kg F1 C6-C10 hydrocarbons in μ g/g, (F1-btex if requested)

F1 C6-C10 hydrocarbons in $\mu g/g$, (F1-blex if requested) F2 C10-C16 hydrocarbons in $\mu g/g$, (F2-napth if requested)

F3 C16-C34 hydrocarbons in $\mu g/g$, (F3-pah if requested)

F4 C34-C50 hydrocarbons in $\mu g/g$

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met. If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District



Final Report

REPORT No. B12-24187

C.O.C.: G23865

Genivar Inc - Cornwall

Cornwall ON K6J 3E5 Canada

DATE RECEIVED: 22-Sep-12

DATE REPORTED: 28-Sep-12

SAMPLE MATRIX: Solid / Leach

Attention: Lyle Casselman

1345 Rosemont Ave.,

Report To:

Caduceon Environmental Laboratories 2378 Holly Lane Ottawa Ontario K1V 7P1

Tel: 613-526-0123 Fax: 613-526-1244 JOB/PROJECT NO.: 1376 CR2 P.O. NUMBER: 121-21627-00 WATERWORKS NO.

						1		
			Client I.D.		TCLP			
			Sample I.D.		B12-24187-1			
		Date Collect	ed	20-Sep-12				
			Reference	Date/Site				
Parameter	Units	M.D.L.	Method	Analyzed				
Lead	mg/L	0.02	SM 3120	27-Sep-12/O	< 0.02			
Benzene	μg/L	5	EPA 8260	25-Sep-12/O	< 5			
Benzo(a)pyrene	mg/L	0.00005	EPA 8270	28-Sep-12/K	< 0.00005			
Flashpoint	°C	20.0	ASTM D93	27-Sep-12/O	> 65.0			

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

M.D.L. = Method Detection Limit Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill



Final Report

C.O.C.: G27401,27400

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 12-Dec-12

DATE REPORTED: 20-Dec-12

SAMPLE MATRIX: Soil

REPORT No. B12-31316 (i)

Caduceon Environmental Laboratories

2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244

JOB/PROJECT NO.: Escott P.O. NUMBER: 121-21627-00 WATERWORKS NO.

			Client I.D.		BH1-3A	BH1-4A	BH2-4A	BH2-4B
			Sample I.D.		B12-31316-1	B12-31316-2	B12-31316-3	B12-31316-4
			Date Collecte	ed	12-Dec-12	12-Dec-12	12-Dec-12	12-Dec-12
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
% moisture	%	0.1		14-Dec-12/O	16.3		20.1	14.8
pH @25°C	pH Units		SM 4500H	17-Dec-12/O		5.41		
Lead	µg/g	5	EPA 6010	15-Dec-12/O		< 5		
Benzene	µg/g	0.02	EPA 8260	13-Dec-12/O	< 0.02		< 0.03	< 0.02
Toluene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03		< 0.04	< 0.03
Ethylbenzene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03		0.07	< 0.03
Xylene, m,p-	µg/g	0.04	EPA 8260	13-Dec-12/O	0.06		0.19	< 0.04
Xylene, o-	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03		0.05	< 0.03
Xylene, m,p,o-	µg/g	0.05	EPA 8260	13-Dec-12/O	0.06		0.24	< 0.05
Dichloroethane-d4,1,2-(SS)	%	10	EPA 8260	13-Dec-12/O	178		172	172
Toluene-d8 (SS)	%	10	EPA 8260	13-Dec-12/O	99		101	102
Bromofluorobenzene,4(SS)	%	10	EPA 8260	13-Dec-12/O	86		89.0	86
PHC F1 (C6-C10)	µg/g	10	MOE E3398	17-Dec-12/O	< 10		< 10	< 10
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	17-Dec-12/K	< 5		< 5	< 5
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	17-Dec-12/K	< 10		< 10	< 10
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	17-Dec-12/K	< 10		< 10	< 10

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill



Final Report

C.O.C.: G27401,27400

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada Attention: Lyle Casselman

DATE RECEIVED: 12-Dec-12

DATE REPORTED: 20-Dec-12

SAMPLE MATRIX: Soil

REPORT No. B12-31316 (i)

Caduceon Environmental Laboratories

2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244

JOB/PROJECT NO .: Escott 121-21627-00 P.O. NUMBER: WATERWORKS NO.

			Client I.D.		BH2-3B	BH3-3A	BH4-4A	BH5-3A
			Sample I.D.		B12-31316-5	B12-31316-6	B12-31316-7	B12-31316-8
			Date Collecte	ed	12-Dec-12	12-Dec-12	12-Dec-12	12-Dec-12
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
% moisture	%	0.1		14-Dec-12/O		13.6	14.6	18.8
pH @25°C	pH Units		SM 4500H	17-Dec-12/O	6.72			6.57
Lead	µg/g	5	EPA 6010	15-Dec-12/O	< 5			< 5
Benzene	µg/g	0.02	EPA 8260	13-Dec-12/O		< 0.02	< 0.02	< 0.02
Toluene	µg/g	0.03	EPA 8260	13-Dec-12/O		< 0.03	< 0.03	< 0.03
Ethylbenzene	µg/g	0.03	EPA 8260	13-Dec-12/O		< 0.03	< 0.03	< 0.03
Xylene, m,p-	µg/g	0.04	EPA 8260	13-Dec-12/O		< 0.04	< 0.04	< 0.04
Xylene, o-	µg/g	0.03	EPA 8260	13-Dec-12/O		< 0.03	< 0.03	< 0.03
Xylene, m,p,o-	µg/g	0.05	EPA 8260	13-Dec-12/O		< 0.05	< 0.05	< 0.05
Dichloroethane-d4,1,2-(SS)	%	10	EPA 8260	13-Dec-12/O		173	149	149
Toluene-d8 (SS)	%	10	EPA 8260	13-Dec-12/O		102	98	101
Bromofluorobenzene,4(SS)	%	10	EPA 8260	13-Dec-12/O		86	96	96
PHC F1 (C6-C10)	µg/g	10	MOE E3398	17-Dec-12/O		< 10	< 10	< 10
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	17-Dec-12/K		< 5	< 5	8
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	17-Dec-12/K		< 10	< 10	< 10
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	17-Dec-12/K		< 10	< 10	< 10

Greg Clarkin, BSc., C. Chem Lab Manager - Ottawa District

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill



Final Report

C.O.C.: G27401,27400

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 12-Dec-12

DATE REPORTED: 20-Dec-12

SAMPLE MATRIX: Soil

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REPORT No. B12-31316 (i)

Caduceon Environmental Laboratories

2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244

JOB/PROJECT NO.: Escott P.O. NUMBER: 121-21627-00 WATERWORKS NO.

			Client I.D.		BH5-5A	BH6-3A	BH6-4B	BH7-3A		
			Sample I.D.		B12-31316-9	B12-31316-10	B12-31316-11	B12-31316-12		
			Date Collecte	əd	12-Dec-12	12-Dec-12	2-Dec-12 12-Dec-12 12-Dec-12 14.7 18.6 6.87 < 5			
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed						
% moisture	%	0.1		14-Dec-12/O	11.4	14.7		18.6		
pH @25°C	pH Units		SM 4500H	17-Dec-12/O			6.87			
Lead	µg/g	5	EPA 6010	15-Dec-12/O			< 5			
Benzene	µg/g	0.02	EPA 8260	13-Dec-12/O	< 0.02	< 0.02		< 0.02		
Toluene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03	< 0.03		0.21		
Ethylbenzene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03	< 0.03		2.63		
Xylene, m,p-	µg/g	0.04	EPA 8260	13-Dec-12/O	< 0.05	< 0.04		10.2		
Xylene, o-	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03	< 0.03		2.75		
Xylene, m,p,o-	µg/g	0.05	EPA 8260	13-Dec-12/O	< 0.05	< 0.05		12.9		
Dichloroethane-d4,1,2-(SS)	%	10	EPA 8260	13-Dec-12/O	167	168		135		
Toluene-d8 (SS)	%	10	EPA 8260	13-Dec-12/O	101	102		105		
Bromofluorobenzene,4(SS)	%	10	EPA 8260	13-Dec-12/O	92.0	88		105		
PHC F1 (C6-C10)	µg/g	10	MOE E3398	17-Dec-12/O	< 10	< 10		350		
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	17-Dec-12/K	< 5	< 5		26		
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	17-Dec-12/K	< 10	< 10		< 10		
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	17-Dec-12/K	< 10	< 10		< 10		

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill



Final Report

C.O.C.: G27401,27400

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 12-Dec-12

DATE REPORTED: 20-Dec-12

SAMPLE MATRIX: Soil

REPORT No. B12-31316 (i)

Caduceon Environmental Laboratories

2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244

JOB/PROJECT NO.: Escott P.O. NUMBER: 121-21627-00 WATERWORKS NO.

			Client I.D.		BH7-4A	BH8-2B	BH8-3A	BH9-3A
			Sample I.D.		B12-31316-13	B12-31316-14	B12-31316-15	B12-31316-16
			Date Collecte	ed	10-Dec-12	11-Dec-12	11-Dec-12	11-Dec-12
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
% moisture	%	0.1		14-Dec-12/O	13.8	20.9	16.7	16.2
pH @25°C	pH Units		SM 4500H	17-Dec-12/O				
Lead	µg/g	5	EPA 6010	15-Dec-12/O				
Benzene	µg/g	0.02	EPA 8260	13-Dec-12/O	< 0.03	< 0.02	< 0.03	< 0.02
Toluene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.04	< 0.03	< 0.04	< 0.04
Ethylbenzene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.04	0.07	< 0.04	0.16
Xylene, m,p-	µg/g	0.04	EPA 8260	13-Dec-12/O	< 0.05	0.05	< 0.05	0.10
Xylene, o-	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.04	0.08	< 0.04	0.15
Xylene, m,p,o-	µg/g	0.05	EPA 8260	13-Dec-12/O	< 0.05	0.13	< 0.05	0.25
Dichloroethane-d4,1,2-(SS)	%	10	EPA 8260	13-Dec-12/O	161	135	127	119
Toluene-d8 (SS)	%	10	EPA 8260	13-Dec-12/O	99.0	128	97.0	153
Bromofluorobenzene,4(SS)	%	10	EPA 8260	13-Dec-12/O	90.0	110	107	120
PHC F1 (C6-C10)	µg/g	10	MOE E3398	17-Dec-12/O	< 10	40	< 10	90
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	17-Dec-12/K	< 5	11	< 5	9
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	17-Dec-12/K	< 10	< 10	< 10	< 10
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	17-Dec-12/K	< 10	< 10	< 10	< 10

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill



Final Report

C.O.C.: G27401,27400

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada Attention: Lyle Casselman

DATE RECEIVED: 12-Dec-12

DATE REPORTED: 20-Dec-12

SAMPLE MATRIX: Soil

REPORT No. B12-31316 (i)

Caduceon Environmental Laboratories

2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244

JOB/PROJECT NO .: Escott 121-21627-00 P.O. NUMBER: WATERWORKS NO.

			Client I.D.		BH9-4A	BH10-4A	BH11-3A	BH10-2B
			Sample I.D.		B12-31316-17	B12-31316-18	B12-31316-19	B12-31316-20
			Date Collecte	ed	11-Dec-12	11-Dec-12	11-Dec-12	11-Dec-12
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
% moisture	%	0.1		14-Dec-12/O	15.7	16.7	14.4	16.2
pH @25°C	pH Units		SM 4500H	17-Dec-12/O	6.78		6.90	
Lead	µg/g	5	EPA 6010	15-Dec-12/O	< 5		< 5	
Benzene	µg/g	0.02	EPA 8260	13-Dec-12/O	< 0.02	< 0.02	< 0.02	< 0.02
Toluene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03	< 0.03	< 0.03	< 0.03
Ethylbenzene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03	1.39	< 0.03	< 0.03
Xylene, m,p-	µg/g	0.04	EPA 8260	13-Dec-12/O	< 0.05	5.96	< 0.04	< 0.04
Xylene, o-	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03	1.42	< 0.03	< 0.03
Xylene, m,p,o-	µg/g	0.05	EPA 8260	13-Dec-12/O	< 0.05	7.38	< 0.05	< 0.05
Dichloroethane-d4,1,2-(SS)	%	10	EPA 8260	13-Dec-12/O	123	121	140	129
Toluene-d8 (SS)	%	10	EPA 8260	13-Dec-12/O	97	96	97	100
Bromofluorobenzene,4(SS)	%	10	EPA 8260	13-Dec-12/O	106	101	94	101
PHC F1 (C6-C10)	µg/g	10	MOE E3398	17-Dec-12/O	< 10	90	< 10	990
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	17-Dec-12/K	< 5	< 5	< 5	94
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	17-Dec-12/K	< 10	< 10	< 10	20
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	17-Dec-12/K	< 10	< 10	< 10	< 10

Greg Clarkin, BSc., C. Chem Lab Manager - Ottawa District

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill



Final Report

C.O.C.: G27401,27400

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 12-Dec-12

DATE REPORTED: 20-Dec-12

SAMPLE MATRIX: Soil

REPORT No. B12-31316 (i)

Caduceon Environmental Laboratories

2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244

JOB/PROJECT NO.: Escott P.O. NUMBER: 121-21627-00 WATERWORKS NO.

			Client I.D.		BH12-3A	BH12-3A BH13-3B BH14-4A BH14-		
			Sample I.D.		B12-31316-21	B12-31316-22	B12-31316-23	B12-31316-24
			Date Collecte	ed	11-Dec-12	11-Dec-12	11-Dec-12	11-Dec-12
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
% moisture	%	0.1		14-Dec-12/O	17.9	20.1	16.4	18.3
pH @25°C	pH Units		SM 4500H	17-Dec-12/O	7.21	7.16		
Lead	µg/g	5	EPA 6010	15-Dec-12/O	< 5	< 5		
Benzene	µg/g	0.02	EPA 8260	13-Dec-12/O	< 0.02	< 0.02	< 0.02	< 0.02
Toluene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03	< 0.03	< 0.04	< 0.03
Ethylbenzene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03	< 0.03	< 0.04	< 0.03
Xylene, m,p-	µg/g	0.04	EPA 8260	13-Dec-12/O	< 0.04	< 0.05	< 0.05	< 0.04
Xylene, o-	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03	< 0.03	< 0.04	< 0.03
Xylene, m,p,o-	µg/g	0.05	EPA 8260	13-Dec-12/O	< 0.05	< 0.05	< 0.05	< 0.05
Dichloroethane-d4,1,2-(SS)	%	10	EPA 8260	13-Dec-12/O	146	151	156	176
Toluene-d8 (SS)	%	10	EPA 8260	13-Dec-12/O	98	99	99.0	103
Bromofluorobenzene,4(SS)	%	10	EPA 8260	13-Dec-12/O	92	93	88.0	84
PHC F1 (C6-C10)	µg/g	10	MOE E3398	17-Dec-12/O	< 10	< 10	< 10	< 10
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	17-Dec-12/K	< 5	< 5	< 5	< 5
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	17-Dec-12/K	< 10	< 10	< 10	< 10
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	17-Dec-12/K	< 10	< 10	< 10	< 10

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill



Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G27401,27400

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 12-Dec-12

DATE REPORTED: 20-Dec-12

SAMPLE MATRIX: Soil

REPORT No. B12-31316 (i)

Caduceon Environmental Laboratories

2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244

JOB/PROJECT NO.: Escott P.O. NUMBER: 121-21627-00

WATERWORKS NO.

		1	Client I.D.		Blank		
			Sample I.D.		B12-31316-25		
			Date Collecte	əd	11-Dec-12		
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
% moisture	%	0.1		14-Dec-12/O			
pH @25°C	pH Units		SM 4500H	17-Dec-12/O			
Lead	µg/g	5	EPA 6010	15-Dec-12/O			
Benzene	µg/g	0.02	EPA 8260	13-Dec-12/O	< 0.02		
Toluene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03		
Ethylbenzene	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03		
Xylene, m,p-	µg/g	0.04	EPA 8260	13-Dec-12/O	< 0.04		
Xylene, o-	µg/g	0.03	EPA 8260	13-Dec-12/O	< 0.03		
Xylene, m,p,o-	µg/g	0.05	EPA 8260	13-Dec-12/O	< 0.05		
Dichloroethane-d4,1,2-(SS)	%	10	EPA 8260	13-Dec-12/O	175		
Toluene-d8 (SS)	%	10	EPA 8260	13-Dec-12/O	102		
Bromofluorobenzene,4(SS)	%	10	EPA 8260	13-Dec-12/O	83		
PHC F1 (C6-C10)	µg/g	10	MOE E3398	17-Dec-12/O			
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	17-Dec-12/K			
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	17-Dec-12/K			
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	17-Dec-12/K			

 $\mu g/g = micrograms$ per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in μ g/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-napth if requested) F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in $\mu g/g$

This method complies with the Reference Method for the CWS PHC and is

validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample. nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

M.D.L. = Method Detection Limit Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met. If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District



Final Report

C.O.C.: G27401,27400

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 12-Dec-12

DATE REPORTED: 20-Dec-12

SAMPLE MATRIX: Soil

REPORT No. B12-31316 (ii)

Caduceon Environmental Laboratories 2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244 JOB/PROJECT NO.: Escott P.O. NUMBER: 121-21627-00

WATERWORKS NO.

			Client I.D.		BH2-4A	BH4-4A	BH6-3A	BH7-3A
			Sample I.D.		B12-31316-3	B12-31316-7	B12-31316-10	B12-31316-12
			Date Collect	ed	12-Dec-12	12-Dec-12	12-Dec-12	12-Dec-12
			Reference	Date/Site				
Parameter	Units	M.D.L.	Method	Analyzed				
Acenaphthene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Acenaphthylene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Anthracene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(a)anthracene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(a)pyrene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	17-Dec-12/K	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Chrysene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Fluorene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	0.007
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	0.012
Naphthalene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	0.027
Phenanthrene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Pyrene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
2-Fluorobiphenyl (SS)	% rec.	10	EPA 8270	17-Dec-12/K	67	92	94	84.0
Terphenyl-d14 (SS)	% rec.	10	EPA 8270	17-Dec-12/K	91	91	110	97.0

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

M.D.L. = Method Detection Limit

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill



Final Report

C.O.C.: G27401,27400

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 12-Dec-12

DATE REPORTED: 20-Dec-12

SAMPLE MATRIX: Soil

REPORT No. B12-31316 (ii)

Caduceon Environmental Laboratories 2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244 JOB/PROJECT NO.: Escott P.O. NUMBER: 121-21627-00

WATERWORKS NO.

]			Client I.D.		BH8-2B	BH9-3A	BH10-2B	BH14-4A
			Sample I.D.		B12-31316-14	B12-31316-16	B12-31316-20	B12-31316-23
			Date Collect	ed	11-Dec-12	11-Dec-12	11-Dec-12	11-Dec-12
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed		-		-
Acenaphthene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	0.007	< 0.005
Acenaphthylene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	0.005	< 0.005
Anthracene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(a)anthracene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(a)pyrene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	17-Dec-12/K	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Chrysene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Fluorene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	0.053	< 0.005
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	0.051	< 0.005
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	17-Dec-12/K	0.009	< 0.005	0.139	< 0.005
Naphthalene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	< 0.005	< 0.005
Phenanthrene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	0.043	< 0.005
Pyrene	µg/g	0.005	EPA 8270	17-Dec-12/K	< 0.005	< 0.005	0.010	< 0.005
2-Fluorobiphenyl (SS)	% rec.	10	EPA 8270	17-Dec-12/K	89	90	93	81
Terphenyl-d14 (SS)	% rec.	10	EPA 8270	17-Dec-12/K	102	93	102	95

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

M.D.L. = Method Detection Limit

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill



Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G28234

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada Attention: Lyle Casselman

DATE RECEIVED: 13-Dec-12 DATE REPORTED: 28-Dec-12

SAMPLE MATRIX: Groundwater

REPORT No. B12-31568

Caduceon Environmental Laboratories 2378 Holly Lane Ottawa Ontario K1V 7P1 Tel: 613-526-0123 Fax: 613-526-1244 JOB/PROJECT NO.: Escott P.O. NUMBER: 121-21627-00

WATERWORKS NO.

			Client I.D.		MW-9	MW-10	MW-11	MW-12
			Sample I.D.		B12-31568-1	B12-31568-2	B12-31568-3	B12-31568-4
			Date Collect	ed	12-Dec-12	12-Dec-12	12-Dec-12	12-Dec-12
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Lead	µg/L	0.02	EPA 200.8	17-Dec-12/O	0.28	1.36	0.14	0.07
Benzene	µg/L	0.5	EPA 8260	14-Dec-12/O	< 5	< 5	< 0.5	< 0.5
Toluene	µg/L	0.5	EPA 8260	14-Dec-12/O	18.2	136	< 0.5	< 0.5
Ethylbenzene	µg/L	0.5	EPA 8260	14-Dec-12/O	128	1060	< 0.5	< 0.5
Xylene, m,p-	µg/L	1.0	EPA 8260	14-Dec-12/O	410	3810	1.3	< 1.0
Xylene, o-	µg/L	0.5	EPA 8260	14-Dec-12/O	73.6	1380	< 0.5	< 0.5
Xylene, m,p,o-	µg/L	1.1	EPA 8260	14-Dec-12/O	484	5190	1.7	< 1.1
Dichloroethane-d4,1,2-(SS)	%		EPA 8260	14-Dec-12/O	98.0	95.0	88.0	90.0
Toluene-d8 (SS)	%		EPA 8260	14-Dec-12/O	102	96.0	95.0	94.0
Bromofluorobenzene,4(SS)	%		EPA 8260	14-Dec-12/O	100	95.0	90.0	88.0
PHC F1 (C6-C10)	µg/L	50	MOE E3421	20-Dec-12/O	4190	10400	< 50	< 50
PHC F2 (>C10-C16)	µg/L	50	MOE PHC E3421	21-Dec-12/K	210	150	< 50	< 50
PHC F3 (>C16-C34)	µg/L	500	MOE PHC E3421	21-Dec-12/K	< 500	< 500	< 500	< 500
PHC F4 (>C34-C50)	µg/L	500	MOE PHC E3421	21-Dec-12/K	< 500	< 500	< 500	< 500
Acenaphthene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	µg/L	0.01	EPA 8270	20-Dec-12/K	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b+k)fluoranthene	µg/L	0.1	EPA 8270	20-Dec-12/K	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05

NOTE: Elevated MDL for Benzene due to dilution required to bring remaining VOC's into the analytical range of the instrument.

Dalarkin

Greg Clarkin, BSc., C. Chem

Lab Manager - Ottawa District

M.D.L. = Method Detection Limit

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill



Final Report

C.O.C.: G28234

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave.,

Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman DATE RECEIVED: 13-Dec-12 DATE REPORTED: 28-Dec-12 SAMPLE MATRIX: Groundwater

REPORT No. B12-31568

Caduceon Environmental Laboratories							
2378 Holly Lane							
Ottawa Ontario K1V 7P1							
Tel: 613-526-0123							
Fax: 613-526-1244							
JOB/PROJECT NO .: Escott							
P.O. NUMBER: 121-21627-00							
WATERWORKS NO.							

Clien			Client I.D.		MW-9	MW-10	MW-11	MW-12
			Sample I.D.		B12-31568-1	B12-31568-2	B12-31568-3	B12-31568-4
			Date Collect	ed	12-Dec-12	12-Dec-12	12-Dec-12	12-Dec-12
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Fluorene	µg/L	0.05	EPA 8270	20-Dec-12/K	0.07	0.41	< 0.05	< 0.05
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene,1-	µg/L	0.05	EPA 8270	20-Dec-12/K	5.36	4.53	< 0.05	< 0.05
Methylnaphthalene,2-	µg/L	0.05	EPA 8270	20-Dec-12/K	17.1	11.2	< 0.05	< 0.05
Naphthalene	µg/L	0.05	EPA 8270	20-Dec-12/K	45.5	20.0	< 0.05	0.18
Phenanthrene	µg/L	0.05	EPA 8270	20-Dec-12/K	0.07	0.22	< 0.05	< 0.05
Pyrene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	< 0.05
2-Fluorobiphenyl (SS)	% rec.	10	EPA 8270	20-Dec-12/K	71	78	31	37
Terphenyl-d14 (SS)	% rec.	10	EPA 8270	20-Dec-12/K	75	88	71	75

NOTE: Elevated MDL for Benzene due to dilution required to bring remaining VOC's into the analytical range of the instrument.

M.D.L. = Method Detection Limit

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District



Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G28234

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman

DATE RECEIVED: 13-Dec-12 DATE REPORTED: 28-Dec-12

SAMPLE MATRIX: Groundwater

REPORT No. B12-31568

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244
JOB/PROJECT NO.: Escott
P.O. NUMBER: 121-21627-00

WATERWORKS NO.

			Client I.D.		DW-1	DW-2	Duplicate	
			Sample I.D.		B12-31568-5	B12-31568-6	B12-31568-7	
			Date Collect	ed	12-Dec-12	12-Dec-12	12-Dec-12	
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Lead	µg/L	0.02	EPA 200.8	17-Dec-12/O	< 0.02	< 0.02	0.12	
Benzene	µg/L	0.5	EPA 8260	14-Dec-12/O	< 0.5	< 0.5	< 5	
Toluene	µg/L	0.5	EPA 8260	14-Dec-12/O	< 0.5	< 0.5	18.3	
Ethylbenzene	µg/L	0.5	EPA 8260	14-Dec-12/O	< 0.5	< 0.5	141	
Xylene, m,p-	µg/L	1.0	EPA 8260	14-Dec-12/O	< 1.0	< 1.0	445	
Xylene, o-	µg/L	0.5	EPA 8260	14-Dec-12/O	< 0.5	< 0.5	79.0	
Xylene, m,p,o-	µg/L	1.1	EPA 8260	14-Dec-12/O	< 1.1	< 1.1	524	
Dichloroethane-d4,1,2-(SS)	%		EPA 8260	14-Dec-12/O	88.0	94.0	98.0	
Toluene-d8 (SS)	%		EPA 8260	14-Dec-12/O	91.0	96.0	99.0	
Bromofluorobenzene,4(SS)	%		EPA 8260	14-Dec-12/O	91.0	94.0	104	
PHC F1 (C6-C10)	µg/L	50	MOE E3421	20-Dec-12/O	< 50	< 50	4730	
PHC F2 (>C10-C16)	µg/L	50	MOE PHC E3421	21-Dec-12/K	< 50	300	230	
PHC F3 (>C16-C34)	µg/L	500	MOE PHC E3421	21-Dec-12/K	< 500	< 500	< 500	
PHC F4 (>C34-C50)	µg/L	500	MOE PHC E3421	21-Dec-12/K	< 500	< 500	< 500	
Acenaphthene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
Acenaphthylene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
Anthracene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
Benzo(a)anthracene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
Benzo(a)pyrene	µg/L	0.01	EPA 8270	20-Dec-12/K	< 0.01	< 0.01	< 0.01	
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
Benzo(b+k)fluoranthene	µg/L	0.1	EPA 8270	20-Dec-12/K	< 0.1	< 0.1	< 0.1	
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
Benzo(k)fluoranthene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
Chrysene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
Fluoranthene	µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	

NOTE: Elevated MDL for Benzene due to dilution required to bring remaining VOC's into the analytical range of the instrument.

Darkin

Greg Clarkin, BSc., C. Chem

Lab Manager - Ottawa District

M.D.L. = Method Detection Limit

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill



Final Report

C.O.C.: G28234

Genivar Inc - Cornwall

Cornwall ON K6J 3E5 Canada

DATE REPORTED: 28-Dec-12

SAMPLE MATRIX: Groundwater

Attention: Lyle Casselman DATE RECEIVED: 13-Dec-12

1345 Rosemont Ave.,

Report To:

REPORT No. B12-31568

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244
JOB/PROJECT NO.: Escott
P.O. NUMBER: 121-21627-00
WATERWORKS NO.

				DW-1	DW-2	Duplicate	
		Sample I.D.		B12-31568-5	B12-31568-6	B12-31568-7	
				12-Dec-12	12-Dec-12	12-Dec-12	
Units	M.D.L.	Reference Method	Date/Site Analyzed	•			
µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	0.08	
µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	6.00	
µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	14.3	
µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	37.2	
µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	0.09	
µg/L	0.05	EPA 8270	20-Dec-12/K	< 0.05	< 0.05	< 0.05	
% rec.	10	EPA 8270	20-Dec-12/K	57	55	51	
% rec.	10	EPA 8270	20-Dec-12/K	28	14	105	
	Units µg/L µg/L µg/L µg/L µg/L µg/L % rec. % rec.	Units M.D.L. µg/L 0.05 % rec. 10	Client I.D. Sample I.D. Sample I.D. Date Collect Units M.D.L. Mp/L Client I.D. pg/L O.05 Reference pg/L 0.05 EPA 8270 pg/L O.05 EPA 8270 pg/L 0.05 EPA 8270 f	Client I.D. Sample I.D. Date Collect Date Collect Date Collect MnD.L. Reference Method Date/Site Analyzed µg/L 0.05 EPA 8270 20-Dec-12/K % rec.	Client I.D. DW-1 Sample I.D. B12-31568-5 Date Collect 12-Dec-12 Date Collect 12-Dec-12 Units M.D.L. Reference Method Date/Site Analyzed µg/L 0.05 EPA 8270 20-Dec-12/K < 0.05	Client I.D. DW-1 DW-2 Sample I.D. B12-31568-5 B12-31568-6 Date Collect 12-Dec-12 12-Dec-12 Units M.D.L. Reference Method Date/Site Analyzed	Client I.D.DW-1DW-2DuplicateSample I.D.B12-31568-5B12-31568-6B12-31568-7B12-31568-7Date Collecture12-Dec-1212-Dec-1212-Dec-1212-Dec-12UnitsM.D.L.Reference MethodDate/Site Analyzed $$

NOTE: Elevated MDL for Benzene due to dilution required to bring remaining VOC's into the analytical range of the instrument.

M.D.L. = Method Detection Limit

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District



Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G27425

Report To:

Genivar Inc - Cornwall 1345 Rosemont Ave., Cornwall ON K6J 3E5 Canada Attention: Lyle Casselman

DATE RECEIVED: 12-Dec-12 DATE REPORTED: 28-Dec-12

SAMPLE MATRIX: Drinking Water

REPORT No. B12-31340

Caduceon Environmental Laboratories2378 Holly LaneOttawa Ontario K1V 7P1Tel:613-526-0123Fax:613-526-1244JOB/PROJECT NO.:EscottP.O. NUMBER:121-21627-00

WATERWORKS NO.

			Client I.D.		DW - Lynch		
			Sample I.D.		B12-31340-1		
			Date Collecte	ed	11-Dec-12		
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			-
Lead	µg/L	0.02	EPA 200.8	14-Dec-12/O	0.09		
Benzene	µg/L	0.5	EPA 8260	12-Dec-12/O	< 0.5		
Toluene	µg/L	0.5	EPA 8260	12-Dec-12/O	< 0.5		
Ethylbenzene	µg/L	0.5	EPA 8260	12-Dec-12/O	< 0.5		
Xylene, m,p-	µg/L	1.0	EPA 8260	12-Dec-12/O	< 1.0		
Xylene, o-	µg/L	0.5	EPA 8260	12-Dec-12/O	< 0.5		
Xylene, m,p,o-	µg/L	1.1	EPA 8260	12-Dec-12/O	< 1.1		
Dichloroethane-d4,1,2-(SS)	%		EPA 8260	12-Dec-12/O	85.0		
Toluene-d8 (SS)	%		EPA 8260	12-Dec-12/O	96.0		
Bromofluorobenzene,4(SS)	%		EPA 8260	12-Dec-12/O	96.0		
PHC F1 (C6-C10)	µg/L	50	MOE E3421	21-Dec-12/O	< 50		
PHC F2 (>C10-C16)	µg/L	50	MOE PHC E3421	17-Dec-12/K	< 50		
PHC F3 (>C16-C34)	µg/L	500	MOE PHC E3421	17-Dec-12/K	< 500		
PHC F4 (>C34-C50)	µg/L	500	MOE PHC E3421	17-Dec-12/K	< 500		
Acenaphthene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Acenaphthylene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Anthracene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Benzo(a)anthracene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Benzo(a)pyrene	µg/L	0.005	EPA 8270	24-Dec-12/K	< 0.005		
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Benzo(b+k)fluoranthene	µg/L	0.1	EPA 8270	24-Dec-12/K	< 0.1		
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Benzo(k)fluoranthene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Chrysene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Fluoranthene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		

Greg Clarkin, BSc., C. Chem

Lab Manager - Ottawa District

M.D.L. = Method Detection Limit

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill



Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G27425

Genivar Inc - Cornwall 1345 Rosemont Ave.,

Cornwall ON K6J 3E5 Canada <u>Attention:</u> Lyle Casselman DATE RECEIVED: 12-Dec-12 DATE REPORTED: 28-Dec-12 SAMPLE MATRIX: Drinking Water

Report To:

REPORT No. B12-31340

Caduceon Environmental Laboratories								
2378 Holly Lane								
Ottawa Ontario K1V 7P1								
Tel: 613-526-0123								
Fax: 613-526-1244								
JOB/PROJECT NO.:	Escott							
P.O. NUMBER:	121-21627-00							
WATERWORKS NO.								

	Client I.D.		DW - Lynch				
			Sample I.D.		B12-31340-1		
			Date Collect	ed	11-Dec-12		
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed		•	
Fluorene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Methylnaphthalene,1-	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Methylnaphthalene,2-	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Naphthalene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Phenanthrene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
Pyrene	µg/L	0.05	EPA 8270	24-Dec-12/K	< 0.05		
2-Fluorobiphenyl (SS)	% rec.	10	EPA 8270	24-Dec-12/K	62		
Terphenyl-d14 (SS)	% rec.	10	EPA 8270	24-Dec-12/K	104		

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

M.D.L. = Method Detection Limit

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill

Appendix G

Terms and Conditions Retainer

GENERAL CONDITIONS FOR QUOTATIONS & SERVICES AGREEMENT

BETWEEN

GENIVAR INC. ("the Consultant")

AND

CIBC C/O VERANOVA PROPERTIES LIMITED ("the Client")

PERFORMANCE – The Consultant shall use appropriate practices according to the Client's instructions in performing the services described in the attached proposal and under these General Conditions. The Consultant shall not be responsible for inability to perform services due to (i) failure or delay by the Client or its representatives to enable continued right-of-entry to properties upon which work is to be performed; (ii) to provide documents, information, or materials; (iii) delays in obtaining from the Client or its representatives approval of work in progress; (iv) delays caused by the Client or its representatives; or (v) labour disputes, inclement weather, acts of governmental authority, or any other act or cause reasonably beyond the control of the Consultant.

SITE ACCESS – The Client will ensure access of personnel and equipment to and from the site as described in the attached proposal and between borings and other explorations and services. The Client shall inform itself and the Consultant of, and identify and clearly mark all utilities located on the site including the presence and location of hidden or obscure objects or factors affecting the Consultant's services.

DESIGN REVIEWS – Unless specifically agreed to in writing, the Consultant's review of designs submitted by the Client will be limited to the adequacy of concept and is not to be construed as a specific approval of the accuracy or adequacy of detailed working design of structural or drainage elements.

SAMPLE STORAGE – Samples of soil and rock may be stored by the Consultant for a period of 60 days after submission of the project soil report. Thereafter, samples will be destroyed, unless otherwise directed by the Client. If the Client requests samples, the Consultant will ship them collect to the client, or storage will be arranged at an agreed upon charge. No contaminated samples will be stored by the Consultant.

FEES AND SERVICES - The Client shall pay the Consultant fee(s) per the attached Schedule of Standard Charges, calculated on a time basis, for the services described in the attached proposal.

All time expended to perform services, including travel time, shall be chargeable. This includes, but is not limited to, administrative staff engaged in the preparation of documents such as reports and specifications.

In addition to the fee(s) and despite the budgeted estimates, unless prior written notification to stop the services is received from the Client, the Consultant shall be reimbursed at cost, plus the cost of the additional insurance, for all reasonable and necessary expenses incurred by the Consultant in connection with the project, including but not limited to: vehicle use charges, traveling, lodging and living expenses, long distance telephone charges, printing and reproductions, photography, special delivery and express charges, overtime premium costs, and the costs of maintaining site supplies and equipment, as well as chemical and physical tests. If it is apparent that a budgetary estimate is not sufficient to complete the services in a satisfactory manner, the Client will be notified as soon as practicable.

Payment of the Consultant's fees and reimbursable expenses shall be made within 30 days after the Consultant has forwarded the invoice to the Client. Invoices will be submitted once a month or at the conclusion of a project at the Consultant's discretion. A 1.5 percent per month service charge will be added to all overdue accounts. The Client further agrees to pay for all of the Consultant's legal fees, expenses and costs incurred in recovering non payment of invoices or to enforce this Agreement or to enjoin the Client or its representatives from breaching this Agreement.

QUOTATION LIMITS - The Consultant reserves the right to revoke and revise the content and terms of this quotation if the proposal is not accepted within 60 days from the proposal date or if the Client chooses to alter the scope of work indicated in the proposal.

TERMINATION - In the event of failure by the Client or its representatives to perform in accordance with the terms and conditions of the proposal or this Agreement, the proposal and the Agreement arising there from shall be subject to termination or suspension by the Consultant upon written notice of ten (10) days. Upon delivery of such notice the Consultant shall perform no further services other than those reasonably necessary to close out the Consultant's services.

In the event that this Agreement is terminated or suspended by written notification by the Client, the Client shall compensate the Consultant for all services performed and for all disbursements incurred prior to the termination or suspension, plus reasonable fees for costs incurred as a result of termination or suspension initiated by the Client.

INSURANCE - The Consultant agrees to maintain appropriate and required insurance coverage in amounts in conformance with legal, and the Consultant's business, requirements. Certificates evidencing such coverage will be provided to the Client upon request.

For projects involving a contractor, the Client agrees to require its contractor to include the Consultant as an additional insured on its policies relating to the project. Certificates evidencing such coverage will be provided to the Consultant prior to the commencement of the Consultant's services and thereafter by the Client upon request. The Consultant's coverage referenced above shall, in such case, be excess over the Client's primary coverage.

GENERAL CONDITIONS FOR QUOTATIONS & SERVICES AGREEMENT

CONFIDENTIALITY - The Client acknowledges that in the Consultant's course of carrying out the services, the Client will have access to and will be entrusted with confidential information concerning the business of the Consultant, including technical and pricing information. The Client agrees that this is Confidential Information and shall be held in the strictest confidence. The Client shall not disclose any Confidential Information to any other person during the term of the Consultant's services, or at any time thereafter without the prior written consent of the Consultant.

The Consultant shall not divulge any confidential information concerning the Client that it acquires in the course of carrying out the services except as required by law or as the Consultant may reasonably believe to be required to protect the safety or welfare of the public. No such information shall be used on any other project without the prior written consent of the Client.

STANDARD OF CARE – For work that is regulated, the Client acknowledges the inherent risk associated with hazardous substances and/or conditions, as well as with construction activities. The Consultant makes no warranty, express or implied, beyond the commitment to perform its services with the standard of care ordinarily exercised for similar circumstances by members of the profession at the time services are rendered.

The Consultant will take reasonable precautions to avoid damage or injury due to subsurface investigations. The Client agrees to indemnify and hold the Consultant harmless from and against any damages to subsurface or subterranean structures or utilities which are not identified or otherwise brought to the Consultant's attention, and/or correctly delineated or described on documents furnished.

The Consultant will take reasonable precautions to minimize damage to the land from equipment usage. If the Client requests the Consultant to restore the land to its former condition, the restoration will be completed and the cost added to the project fee.

INDEMNITIES - The Consultant shall indemnify and save harmless the Client from and against loss, liability, and damages sustained by the Client, its agents, employees, and representatives by reason of injury or death to persons or damage to tangible property to the extent caused directly by the willful misconduct of the Consultant, its agents or employees.

To the fullest extent permitted by law, the Client shall indemnify the Consultant from and against loss, liability, and damages (including reasonable litigation costs) arising from or relating to claims for injury or death to persons, damages to tangible property, or other losses.

The Client agrees to require any contractors to include the Consultant as an indemnity under any indemnification obligation to the Client.

Assigns - Neither the Consultant or the Client may assign, delegate, or otherwise transfer its responsibilities, obligations, or interest in this Agreement without the written consent of the other party.

AGREEMENT - The general conditions of this Agreement and any other companion documents constitute full and complete agreement between the parties, and may only be amended, supplemented, superseded, or waived in writing, which specifically states that it is an amendment to this Agreement, and which states the nature of the amendment or other modification to the Agreement.

ARBITRATION - Any question, dispute or disagreement pertaining to this Agreement including the interpretation or application of this Agreement shall be determined by arbitration in accordance with terms mutually agreeable to both parties.

Figures






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Addendum #2

March 23, 2013 Memorandum prepared by Provincial Officer Frank Crossley

Ministry of the Environment

P.O. Box 22032 Kingston, Ontario K7M 8S5 613/549-4000 or 1-800/267-0974 Fax: 613/548-6908 Ministère de l'Environnement

C.P. 22032 Kingston (Ontario) K7M 8S5 613/549-4000 ou 1-800/267-0974 Fax: 613/548-6908



MEMORANDUM

28 March 2013

- TO: N. Matthews Sr. Environmental Officer Kingston District Office Eastern Region
- FROM: F. Crossley Hydrogeologist Technical Support Section Eastern Region
- RE: Phase II Environmental Site Assessment 1376 County Road 2, Escott, Ontario

I reviewed the "Phase II Environmental Site Assessment – 1376 County Road 2, Escott" dated January, 2013 (received February, 2013) by Genivar to determine the environmental impacts related to the former land use at the site.

The site is located at 1376 County Road 2 (Escott), Leeds and Thousand Islands Township (Lot 17, Concession II). The former land use at the site was a petroleum hydrocarbon dispensing facility, store and residential cabins commencing in the 1950's. The service station was reportedly decommissioned in the 1980's. The current land use is a house, shed and pasture land (rural residential).

The contaminants of concern are benzene, toluene, ethylbenzene and xylenes (BTEX) and petroleum hydrocarbons (PHC's F1-F4). This is based on the former land use being a petroleum hydrocarbon dispensing facility.

The cleanup criteria is derived from the "Soils, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (MOE, 2011). The residents in the area of the site rely on the groundwater resource. Genivar state that the site is not considered environmentally sensitive, thus the cleanup criteria is Table 2.

Genivar contracted Notra Incorporated to conduct a geophysical survey. The purpose of the geophysical survey was to identify if there were any underground storage tanks on the property. Notra identified one large magnetic anomaly directly to the east of the "for sale" sign (southeast portion of the site near the laneway).

Genivar conducted a test pitting program. TP #1 was within the area of the identified magnetic anomaly (geophysical survey). Genivar reported that gasoline tank pipes were found in TP #1. The consultants also reported (test pit log) the occurrence of petroleum hydrocarbon impacts. The other three test pits were in proximity to TP #1. Genivar reported that petroleum hydrocarbon impacts were also evident in all three of these test pits. Soil samples were collected from the test pits.

The consultants undertook a borehole drilling program. Genivar reported that 14 boreholes were drilled. The borehole depths range from 3.7 to 8.5 metres below ground surface. Subsequently four boreholes were converted to monitoring wells. The consultants collected soil samples from the boreholes.

Genivar determined the geology to be:

- Fill, sandy gravel approximately 0.3 metres.
- Silty sand and clay from 1.2 to 3.6 metres below ground surface.
- Sand.

The consultants determined the physical hydrogeological characteristics to be:

- The depth of water ranged from 2.30 to 3.42 metres below ground surface (December, 2012).
- The shallow groundwater flow is to the south.

The test pit soil sample results are summarized in Table 1 in the report. The results show exceedances of the cleanup criteria in: TP #1 (F1); TP #2 (E, X, F1); TP #3 (T, E, X, F1) and TP #4 (F1).

The borehole soil sample results are summarized in Table 2 in the report. The results show exceedances of the cleanup criteria in: BH7-3A (E, X, F1); BH9-3A (F1); BH10-4A (E, X, F1); BH10-2B (F1). The extent of the soil impacts has not been determined (south and east). Genivar state that the soil impacts are greatest between 2.4 and 3.0 metres below ground surface with impacts up to a maximum of 4 metres.

The consultants collected groundwater samples from the four monitoring wells (MW9-MW12). The consultants summarized the groundwater results in Table 3 in the report. The results show exceedances of the Table 2 cleanup criteria in: MW9 (E, X, F1, F2) and MW10 (T, E, X, F1). These monitoring wells are located in the "source area". MW12 is located hydraulically (north)

upgradient of the "source area". MW11 shows the presence of petroleum hydrocarbon impact indicators but not above the cleanup criteria, thus defining the western boundary of the impacts. The extent of the groundwater impacts has not been determined (south or east).

As part of the groundwater sampling program, the consultants collected groundwater samples from the two onsite water wells and one offsite water well (1734 County Road 2). The water well results are summarized in Table 3 in the report. The onsite water well designated as DW1 does not show petroleum hydrocarbon impacts. The onsite water well designated as DW2 has an exceedance of the cleanup criteria (F2). The offsite water well (1734 County Road 2) does not show petroleum hydrocarbon impacts. Genivar state that the dug well hydraulically downgradient of the site was not sampled as it was "dry".

I offer the following conclusions and recommendations:

- The site is located at 1376 County Road 2 (Escott), Leeds and the Thousand Islands.
- The former land use at the site was a petroleum hydrocarbon dispensing facility. This type of land use is classified as a "potentially contaminating activity".
- The contaminants of concern are BTEX and PHC's F1-F4 based on the former land use, petroleum hydrocarbon dispensing facility.
- The cleanup criteria is Table 2 from the "Soils, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (MOE, 2011). The consultants use the agricultural or other property use (same as residential/parkland/ institutional for the contaminants of concern) with coarse textured soils.
- The geophysical survey showed the potential (large magnetic anomaly) of a buried underground storage tank however the consultants conducted a test pitting program that showed the presence of pipes but no underground storage tank.
- The soil sampling program showed exceedances of the Table 2 cleanup criteria. The extent of the soil impacts (south, east) have not been delineated. The potential exists for offsite impacts. Additional boreholes are required to delineate the extent of the soil impacts.
- The groundwater sampling program shows exceedances of the Table 2 cleanup criteria. The extent of the groundwater impacts (south, east) have not been delineated. Offsite impacts are likely occurring. Additional monitoring wells are required to delineate the extent of the groundwater impacts.

The impact at the onsite water well (DW2) does not appear to be related to the former petroleum hydrocarbon dispensing facility. Reportedly DW2 is not used and therefore should be properly abandoned as per Regulation 903 and amendments.

how (moly

F. Crossley, P.Geo. /sh

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ec: B.G. Kaye G. Dagg-Foster P. Taylor

c: File GW LG LT 03 02 CII (1376 County Road 2) FC/IDS #7706-94MK9K

Addendum #3

March 21, 2017 Memorandum prepared by Provincial Officer Guo

Ministry of the Environment and Climate Change

P.O. Box 22032 Kingston, Ontario K7M 8S5 613/549-4000 or 1-800/267-0974 Fax: 613/548-6908 Ministère de l'Environnement et de l'Action en matière de changement climatique

C.P. 22032 Kingston (Ontario) K7M 8S5 613/549-4000 ou 1-800/267-0974 Fax: 613/548-6908



MEMORANDUM

March 21, 2017

- TO: Nathalie Matthews Senior Environmental Officer Kingston District Office Eastern Region
- FROM: Thomas Guo Hydrogeologist Technical Support Section Eastern Region
- RE: 2016 Groundwater Monitoring Results Former Gas Station 1376 County Road 2 Escott, Township of Leeds and the Thousand Islands United Counties of Leeds and Grenville, Ontario

<u>Purpose</u>

To determine the site conditions, Nathalie Matthews, Senior Environmental Officer of Kingston District Office, and I conducted water sampling at the former gas station, 1376 County Road 2, Escott, Township of Leeds and the Thousand Islands, Ontario, on October 4, 2016.

Having reviewed the analytical results and with reference of following documents:

- "Phase II Environmental Site Assessment (ESA), 1376 County Road 2, Escott, ON", dated January 2013 and prepared by Genviar Inc.; and,
- Memorandum with subject "Phase II Environmental Site Assessment, 1376 County Road 2, Ontario", dated March 28, 2013 and provided by Frank Crossley, hydrogeologist, Technical Support Section, Eastern Region, Ministry of the Environment and Climate Change (MOECC).

I offer the following comments for your consideration.

Background

The site is located at 1376 County Road 2, Escott, Leeds and Thousand Islands Township (Lot 17, Concession II), Ontario. The former land use at the site was a petroleum hydrocarbon dispensing facility, store and residential cabins commencing in the 1950's. The service station was reportedly decommissioned in the 1980's. The site is located in a rural residential and agricultural area. The site currently includes a single family dwelling. The site is bounded by residential properties to the north, east and west.

County Road #2 road allowance is located south of the site. The site and adjacent properties rely on privately owned water wells which provide drinking water and water for domestic purposes.

Mr. Paul Marcel Cadieux currently owns the site and has been the owner of the site since February 2002. However, in June 2013, the ministry was advised that Veranova Properties Ltd. (Veranova) had been retained by Canadian Imperial Bank of Commerce (CIBC) to secure and maintain the site.

On February 4, 2013, MOECC received a report named "Phase II Environmental Site Assessment (ESA) 1376 County Road 2 Escott, ON", dated January 2013 and prepared by Genivar (Genivar was retained by Veranova).

On April 2, 2013, MOECC review comments were forwarded to Veranova and the following was requested to address MOECC concerns:

- Retain the services of a Qualified Person to:
 - a) delineate the off-site horizontal and vertical extent of soil and groundwater impacts;
 - b) prepare, and submit a report which includes a description of the extent of the off-site petroleum hydrocarbon contamination and a description of the proposed work, with details on the anticipated time lines, to fully remediate the off-site delineated area of contamination; and,
 - c) ensure that any further discharges of petroleum hydrocarbons to the natural environment from the above-noted site do not occur.
- Unless maintained for future use, the on-site well (DW2) must be abandoned in accordance with Regulation 903 as amended.

Since then, no actions have been taken by either the property owner.

Site Restoration Criteria

The cleanup criteria are Table 2 Site Condition Standards (SCS): Full Depth Generic Site Condition Standards for properties in a Potable Groundwater Condition (medium textured soils) as outlined in the "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (MOE, 2011).

Contaminants of Concern

The contaminants of concern are benzene, toluene, Ethylbenzene, xylenes, and petroleum hydrocarbon fractions (PHC F1-F4). This is based on the former land use being a petroleum hydrocarbon dispensing facility.

<u>Geology</u>

The previous report describes the geology of the site as comprising the following units:

- Fill, sandy gravel approximately 0.3 metres;
- Silty sand and clay from 1.2 to 3.6 metres below ground surface; and,
- Sand.

Hydrogeology

Based on the 2016 monitoring results, the physical hydrogeological characteristics are determined to be:

- The depth of water ranged from 2.68 to 3.02 metres below ground surface; and,
- The shallow groundwater flow is to the south.

Groundwater Monitoring Program

A total of four (4) monitoring wells (MW9-MW12) were installed and sampled at the site by Genivar in 2012. Genivar also sampled two (2) existing private wells (DW1 and DW2) within the property and one dug well in the field south of County Road 2 (offsite) in 2012.

During the sampling event in 2016, monitoring well MW9 was observed to be damaged and the off-site dug well were observed to be dry As a result, three (3) monitoring wells and two private wells were sampled for analysis.

Groundwater Monitoring Results

Similar to the Phase II ESA, monitoring well MW10 was identified to exceed the Table 2 SCS for PHC F1-F2, ethylbenzene, toluene, xylene and chloroform, and to exceed Ontario Drinking Water Quality Standards (ODWQS) for total trihalomethanes, which will be effective on July 1, 2017. Xylene was present at monitoring well MW11, but below the Table 2 SCS.

Toluene, ethylbenzene and xylene were present at monitoring well MW11, but below the Table2 SCS. Other parameters were non-detect at this monitoring well.

All analyzed parameters for the samples collected from monitoring well MW12 and private wells (DW1 and DW2) were non-detect.

It is my opinion that the elevated concentrations of chloroform and trihalomethanes are likely attributed to the chlorine disinfection at monitoring well MW10.

Conclusions and Recommendations

It is noted that the concentrations of PHC F1, toluene, ethylbenzene and xylene were much higher than the Table 2 SCS, indicating that the site is still heavily PHC-impacted. The Phase II ESA indicates that monitoring well MW9 was PHC-impacted. This monitoring well is damaged, so the current groundwater quality is unknown at this location.

As groundwater flows is to the south towards County Road 2 and the property south of the County Road 2, the contaminants have likely migrated beneath County Road 2 and also potentially beneath the property south of County Road 2. Therefore, it is recommended that:

- Since the extent of the groundwater impacts has not been fully delineated, additional monitoring wells are required to delineate the extent of the groundwater impacts to the south and east of the Site;
- The county should be notified that contaminants from the property may exist beneath County Road 2;
- If County Road 2 is confirmed to be impacted, the property owner south of County Road 2 should be notified that his land may be impacted;
- Monitoring well MW9 should be decommissioned in accordance with Regulation 903 (as amended) and a new monitoring well should be installed in the same area; and,
- Reportedly DW2 is not used and therefore if it is not the owner's intention to maintain the well for future use, it should be properly abandoned as per Regulation (as amended).

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Thomas Guo, M. Eng, P. Geo. TG/dv

- ec: Peter Taylor, Technical Support Manager Greg Faaren, Water Resources Supervisor Kyle Stephenson, Groundwater Group Leader
- c: File GW LG LT 03 02 (1376 County Road 2, Escott) TG/IDS #5046-AACQ76

ADDENDUM B

Acknowledgment and Direction

and

Certificate of Requirement

ACKNOWLEDGMENT AND DIRECTION

TO: DONNA MAE AVERY and GREGORY JOSEPH HAYES

AND TO: [INSERT NAME OF LAWYER]

RE: APPLICATION TO REGISTER – CERTIFICATE OF REQUIREMENT ISSUED TO DONNA MAE AVERY AND GREGORY JOSEPH HAYES

> PT LT 17 CON 2 ESCOTT PT 5 TO 8 28R6613; S/T LR318370; LEEDS/THOUSAND ISLANDS

PIN #44214-0244

This will confirm that:

- The undersigned has reviewed the information et out in this Acknowledgment and Direction and in the document described below (the "Document") and is satisfied that this information is accurate.
- You, your agent or employee are authorized and directed to sign, deliver and/or register electronically the Document in the form attached.
- The effect of the Document has been fully explained to the undersigned by legal counsel at the Ministry of the Environment, Conservation and Parks.
- The undersigned is in fact the party named in the Document and has not misrepresented the identity of the undersigned to you.
- You are completing and registering the Document and are not acting as legal counsel for, or providing advice to, the undersigned.
- In the event of any investigation by the Director of Land Registration (the "Director") regarding suspected fraudulent or unlawful activity or registration in connection with the Document attached to this Acknowledgement and Direction, the undersigned hereby irrevocably consents to you releasing to the Director a true copy of this Acknowledgement and Direction upon request by the Director.
- The execution of this Acknowledgement and Direction may be communicated by way of electronic or facsimile transmission, and receipt of such transmission by the addressees herein shall be deemed to be good, sufficient and fully effectual as if an original executed copy of this Acknowledgement and Direction has been delivered.

DESCRIPTION OF DOCUMENTS

The Document described in the Acknowledgment and Direction is the document selected below which is attached as "Certificate in Preparation" and is a:

<u> X </u>	Certificate of Requirement
	Certificate of Withdrawal of Requirement
DATED at	, Ontario this day of
	HIS MAJESTY THE KING IN RIGHT OF ONTARIO AS REPRESENTED BY THE MINISTER OF THE ENVIRONMENT, CONSERVATION AND PARKS
	Per: Trevor Dagilis District Manager Ministry of the Environment, Conservation and Parks 1259 Gardiners Road, Unit 3 Kingston, Ontario, K7P 3J6

<u>CERTIFICATE OF REQUIREMENT</u> S. 197(2) Environmental Protection Act, R.S.O. 1990, c. E.19

This is to certify that pursuant to Director's Order 1-20755483 dated XXXXXX xx, 2023 issued pursuant to section 18 of the *Environmental Protection Act* by Provincial Officer and Director Trevor Dagilis and being a Director's Order related to the property municipally known as 1376 County Road 2 in the Township of Leeds and the Thousand Islands, United Counties of Leeds and Grenville, Ontario being all of Property Identifier Number 44214-0244 with a legal description of PT LT 17 CON 2 ESCOTT PT 5 TO 8 28R6613; S/T LR318370; LEEDS/THOUSAND ISLANDS (the "Property") with respect to contaminants in, on or under the Property, the following person(s):

DONNA MAE AVERY AND GREGORY JOSEPH HAYES

and any other persons having an interest in the Property are required, before dealing with the Property in any way, to give a copy of the Director's Order, including any amendments that may be made thereto, to every person who will acquire an interest in the land as a result of the dealing.

Under subsection 197(3) of the *Environmental Protection Act*, this requirement applies to each person who, subsequent to the registration of this certificate, acquires an interest in the Property.