COLESTAR
Environmental Inc.

September 27, 2021 0364-03

Dung Lam
Starbank Developments 2000 Corp.
1918 Avenue Road
Toronto, Ontario
M5M 4A1

Dear Mr. Lam,

RE: Soil Vapour Quality Assessment ("SVQA")
Beer Store - 1546 Scott Street, Ottawa, Ontario

Under the authorization of Starbank Developments 2000 Corp., COLESTAR Environmental Inc. (COLESTAR) is pleased to provide the results of the soil vapour quality assessment (SVQA) carried out at 1546 Scott Street (the "site") in Ottawa, Ontario. The objective of the SVQA was to establish whether the chlorinated constituents detected in groundwater at concentrations in excess of the conservative groundwater standards (Ministry of the Environment, Conservation and Parks ("MECP") Table 7 generic standards; the "Standards")); which don't necessarily apply here, given there is no record of site condition) pose an adverse risk to on site users (building occupants, including employees and visitors, as well as residents if there were residential use) via the vapour intrusion to indoor air pathway, given the current commercial use, as well as future redevelopment of the site with a mixed use building that includes residential use. The groundwater impacts described in the Phase 2 Environmental Site Assessment report dated September 2020 ("P2ESA"), prepared by COLESTAR, are in the limestone bedrock formation on the east side of the site. The impacts include cis-1,2-dichloroetylene, trans-1,2-dichloroetylene, tetrachloroethylene, trichloroethylene and vinyl chloride, which were detected in groundwater at concentrations above the Standards. The SVQA, as described herein, consisted of the installation and vapour sampling of nine vapour probes; six probes (VP1 to VP6) installed outdoors within the parking lot, and three sub-slab probes (VP7, VP8, VP9) installed inside the building.

A site plan showing the vapour probe locations and site features is provided as Figure 1. In addition, a figure extracted from the P2ESA that shows the chlorinated constituents

detected in groundwater at concentrations above the Standards is provided in Appendix A for reference purposes.

VAPOUR PROBE INSTALLATIONS AND SAMPLING

The SVQA was carried out in general accordance with the *MOECC's Draft Technical Guidance, Soil Vapour Intrusion Assessment* publication dated 2013. Details on the vapour probe installations and vapour sampling program are provided in the following sections.

Outdoor Vapour Probes

On September 1, 2020, Aardvark Drilling Inc. (Aardvark) drilled and installed six outdoor soil vapour probes (VP1 to VP6) using a direct push drill rig (Geoprobe 7822DT). The outdoor probes were placed to optimize coverage of the site, as well as to encapsulate regions of the site where concentrations of chlorinated solvent constituents (using reasonable "worst case" locations, based on the results) were detected in bedrock groundwater. The probes were placed within the overburden soil (sand, sand and gravel), with the bases of the probes positioned atop the limestone bedrock formation that was encountered at depths ranging from 0.8 to 1.2 m below grade ("bg").

The probes were constructed of 2.22 cm (7/8") diameter Schedule 40 polyvinyl chloride (PVC) pipe with 30 cm screens. PVC caps were affixed with Teflon tape to the bottom and top of the probes with the top cap fitted with a ¼ inch barbed sampling nipple that was drilled, tapped and sealed with Teflon tap into the cap. Silica sand was placed within the borehole from the bedrock surface to approximately 5 cm above the top of the screen. Ready mix concrete grout was placed from the top of the sand pack to approximately 15 cm below grade at each probe location and the surface was completed with a steel surface casing concreted in place, flush with grade.

Indoor Vapour Probes

On September 1, 2020 COLESTAR drilled 3.8 cm (1.5") diameter boreholes and installed three sub-slab vapour probes (VP7 to VP9) within the warehouse area of the Beer Store building (Figure 1). The probes were constructed of 2.22 cm (7/8") diameter Schedule 40 polyvinyl chloride (PVC) pipe with 30 cm screens. PVC caps were affixed with Teflon tape to the bottom and top of the probes with the top cap fitted with a ¼ inch barbed sampling nipple that was drilled, tapped and sealed with Teflon tap into the cap. Silica sand was

placed within the borehole from the base of the borehole to approximately 2.5 cm above the top of the screen. Ready mix concrete grout was placed from the top of the sand pack to approximately 4 cm below the surface of the concrete slab at each probe location and the surface was sealed with a rubber stopper placed flush with grade.

Leak Testing and Vapour Sampling

Prior to soil vapour sampling, two leak tests were conducted at each soil vapour probe location to assess seal integrity and ensure that the sampling train was tight. Leak tests were performed to ensure that the quality of the collected sample had not been compromised by the introduction of atmospheric air into the sample container. The leak tests performed included the water dam test and the helium shroud test.

At each probe location, the water dam test entailed the addition of water into the probe casing such that it resided atop the concrete grout seal. The water level within the casing was monitored over a 10 minute period to see if it dropped; thereby establishing if the seal was compromised (i.e. leaking). The results of this testing indicated that the concrete grout seals were tight at all probe locations.

The helium shroud test is a tracer test designed to ensure the sampling tubes and connections (sampling chain) are airtight, thereby, confirming that atmospheric air could not enter the sampling container. At each probe location, the test involved connecting all of the sampling media (tubing, controllers and sampling container (Summa canister)) to the sampling nipple and encapsulating the entire assembly beneath an airtight plastic shroud. The shroud had 3 small (1 cm diameter) ports. One port was used for filling the shroud with helium gas. The second port contained tubing which was connected to the soil vapour probe and the sampling container via a tee connector. The third port was used for detecting helium within the shroud. The shroud was secured to the ground and then filled with helium gas. Once the shroud was sufficiently filled with helium, a sample of air was drawn from the soil vapour probe using a peristaltic pump via port 2. The sample was collected into a 2 litre Tedlar bag over a time period of approximately 5 minutes. The sample was then measured for helium concentrations. The results of the helium shroud testing indicated that helium, was not detected and that the sampling train was tight at all probe locations.

Upon completing the leak tests, a minimum of three well volumes were purged from each soil vapour probe prior to sampling. After purging, soil vapour samples were collected in laboratory supplied pre-charged Summa canisters (1.4 Litres) with 1-hour flow controllers.

For quality assurance and quality control (QA/QC) purposes, a duplicate vapour sample was collected from VP7. A trip blank sample was also submitted for analyses. Samples were submitted to ALS Environmental Laboratories in Waterloo, Ontario, for laboratory analysis of 1,1-dichloroethane; 1,2-dichlorethane; 1,1-dichloroethylene; cis-1,2-dichloroetylene; trans-1,2-dichloroethylene; tetrachloroethylene; 1,1,1-trichloroethane; trichloroethylene; and vinyl chloride.

VAPOUR ASSESSMENT CRITERIA

The human health based soil vapour criteria provided for shallow vapour probes (<1 m) in the Modified Generic Risk Assessment, "Approved Model" (2016) for residential and commercial/industrial land use were used as upper bound thresholds in this assessment to establish whether the vapour concentrations detected in soil vapour at the probe locations at the site pose even a theoretical (based on the results and modeling) adverse risk to building occupants via the vapour intrusion to indoor air pathway given the current commercial land use and future residential use (which may be possible).

OBSERVATIONS AND RESULTS

Stratigraphy

The soil stratigraphy apparent in the outdoor probes consists of sand or sand and gravel overlying limestone bedrock encountered at 0.8 to 1.2 m bg. The strata beneath the concrete slab within the building consists of sand and gravel.

Groundwater Conditions

Groundwater was not apparent in the probes.

Soil Vapour Laboratory Results

The results of laboratory testing performed on the soil vapour samples are presented along with the soil vapour criteria for residential and commercial/industrial land uses in Table 1. Laboratory certificates supporting this data are provided in Appendix B.

The analyzed soil vapour samples had chlorinated constituent concentrations below the commercial/industrial and residential soil vapour criteria (i.e., the soil

vapour samples satisfied the criteria, which means there is not even a theoretical potential risk, based on the results and the model).

The QA/QC results for the field duplicate were the same or with the exception of PCE yielded relative percent differences ranging from 4 to 26% which fall below the generally accepted RPD threshold of 50%. The RPD for PCE was calculated at 107% and the variance with respect to the mean is 53%. Given that the residential and commercial/industrial vapour criteria for this parameter are two to four orders of magnitude higher that the detected concentrations, the QA/QC variance in this parameter is not considered to materially affect the overall results and objective of this assessment (i.e. assessment of adverse risk). Given the above, the soil vapour laboratory results represent reasonable reproducibility suggesting that the field sampling methodology and associated field QA/QC protocols were executed in a manner which yielded a reliable data set. The trip blank yielded not detected results for all parameters tested indicating that the results were not affected by transport or laboratory analytical processes. A review of the soil QA/QC data presented in the laboratory certificates indicates that the batch analyses were consistent with generally accepted industry practices and that the results indicate satisfactory data reproducibility, precision and accuracy.

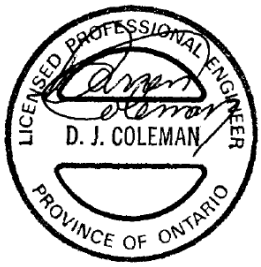
CONCLUSIONS

Based on the observations and results presented in this report, chlorinated constituents that were detected in groundwater in the bedrock were not detected in soil vapour within the overburden soil formation at the site at concentrations that could pose even a theoretical potential for an adverse risk to building occupants (including employees and visitors, as well as residents if there were to be residential use) via the vapour intrusion to indoor air pathway under the current commercial land use or future residential land use.

CLOSURE AND LIMITATIONS

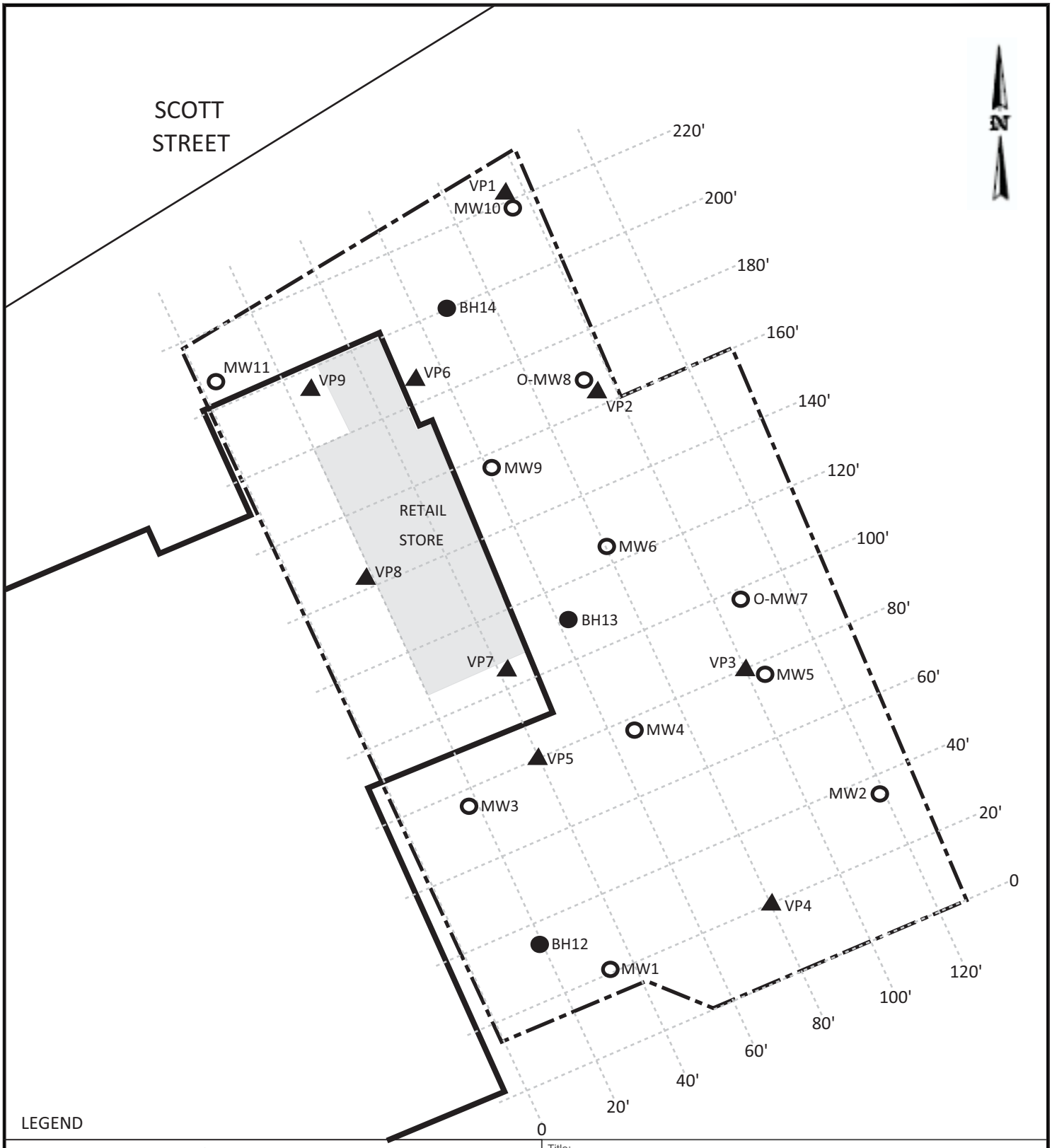
Please be advised that the limitations and general conditions outlined in Attachment 1 form part of this report. Should you have any questions, please do not hesitate to contact Mr. Darren Coleman at (905) 554-4156.

Yours truly,
COLESTAR Environmental Inc.



Darren J. Coleman, P.Eng., QP
President

FIGURES



LEGEND

- Site Boundary
- Borehole/Monitoring Well
- Borehole
- Vapour Probe

SOURCE: Ottawa Interactive Maps

Title: SITE PLAN

COLESTAR Environmental Inc.

Project: SOIL VAPOUR QUALITY ASSESSMENT
1546 SCOTT STREET, OTTAWA, ONTARIO

Project Number: 0394-03

Client: STARBANK DEVELOPMENTS 2000 CORP.

0 20' 40' 60 ft
0 6.1 12.2 18.3 m

Date: SEPT. 2020

FIGURE 1

TABLES

TABLE 1

SOIL VAPOUR LABORATORY RESULTS - CHLORINATED VOCs

BEER STORE - 1546 SCOTT STREET STREET, OTTAWA, ONTARIO

(Expressed in ug/m3)

Parameter	MECP Soil Vapour Criteria (1)		Outdoor Probes					
			VP1	VP2	VP3	VP4	VP5	VP6
			2-Sep-2020	2-Sep-2020	2-Sep-2020	2-Sep-2020	2-Sep-2020	3-Sep-2020
	Residential	Com./Ind.	L2499335-5	L2499335-4	L2499335-3	L2499335-2	L2499335-1	L2499335-10
Dichloroethane, 1,1-	1720	284000	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081
Dichloroethane, 1,2-	2.14	297	2.03	<0.040	<0.040	<0.040	<0.040	<0.040
Dichloroethylene, 1,1-	730	113000	<0.079	<0.079	<0.079	<0.079	<0.079	<0.079
Dichloroethylene, 1,2-cis-	1560	259000	<0.079	0.465	0.373	1.96	<0.079	<0.079
Dichloroethylene, 1,2-trans-	626	105000	<0.079	<0.079	0.131	<0.079	<0.079	0.877
Tetrachloroethylene	214	33500	0.41	38.1	2.72	187	3.41	102
Trichloroethane, 1,1,1-	10400	1690000	<0.11	0.44	0.12	<0.11	<0.11	0.23
Trichloroethylene	13.6	2050	<0.11	0.77	12.6	11.3	0.15	1.07
Vinyl Chloride	6.32	872	0.177	<0.051	<0.051	<0.051	<0.051	<0.051

Parameter	MECP Soil Vapour Criteria (1)		Indoor Sub-Slab Probes				
			VP7	VP7	VP8	VP9	TRIP BLANK
			2-Sep-2020	2-Sep-2020	3-Sep-2020	3-Sep-2020	3-Sep-2020
				DUP-VP			
	Residential	Com./Ind.	L2499335-6	L2499335-9	L2499335-7	L2499335-8	L2499335-11
Dichloroethane, 1,1-	1720	284000	<0.081	<0.081	<0.081	<0.081	<0.081
Dichloroethane, 1,2-	2.14	297	0.065	0.05	0.064	<0.040	<0.040
Dichloroethylene, 1,1-	730	113000	<0.079	<0.079	<0.079	<0.079	<0.079
Dichloroethylene, 1,2-cis-	1560	259000	<0.079	<0.079	<0.079	<0.079	<0.079
Dichloroethylene, 1,2-trans-	626	105000	0.261	0.279	0.305	0.18	<0.079
Tetrachloroethylene	214	33500	0.37	1.22	0.35	1.5	<0.14
Trichloroethane, 1,1,1-	10400	1690000	0.48	0.46	0.6	0.15	<0.11
Trichloroethylene	13.6	2050	0.41	<0.11	0.34	<0.11	<0.11
Vinyl Chloride	6.32	872	<0.051	<0.051	<0.051	<0.051	<0.051

1 - Soil Vapour Criteria for residential and commercial/industrial land use settings obtained from the Table of Soil Vapour Criteria tab provided in the Modified Generic Risk Assessment Speadsheet "Approved Model" - November 1, 2016..

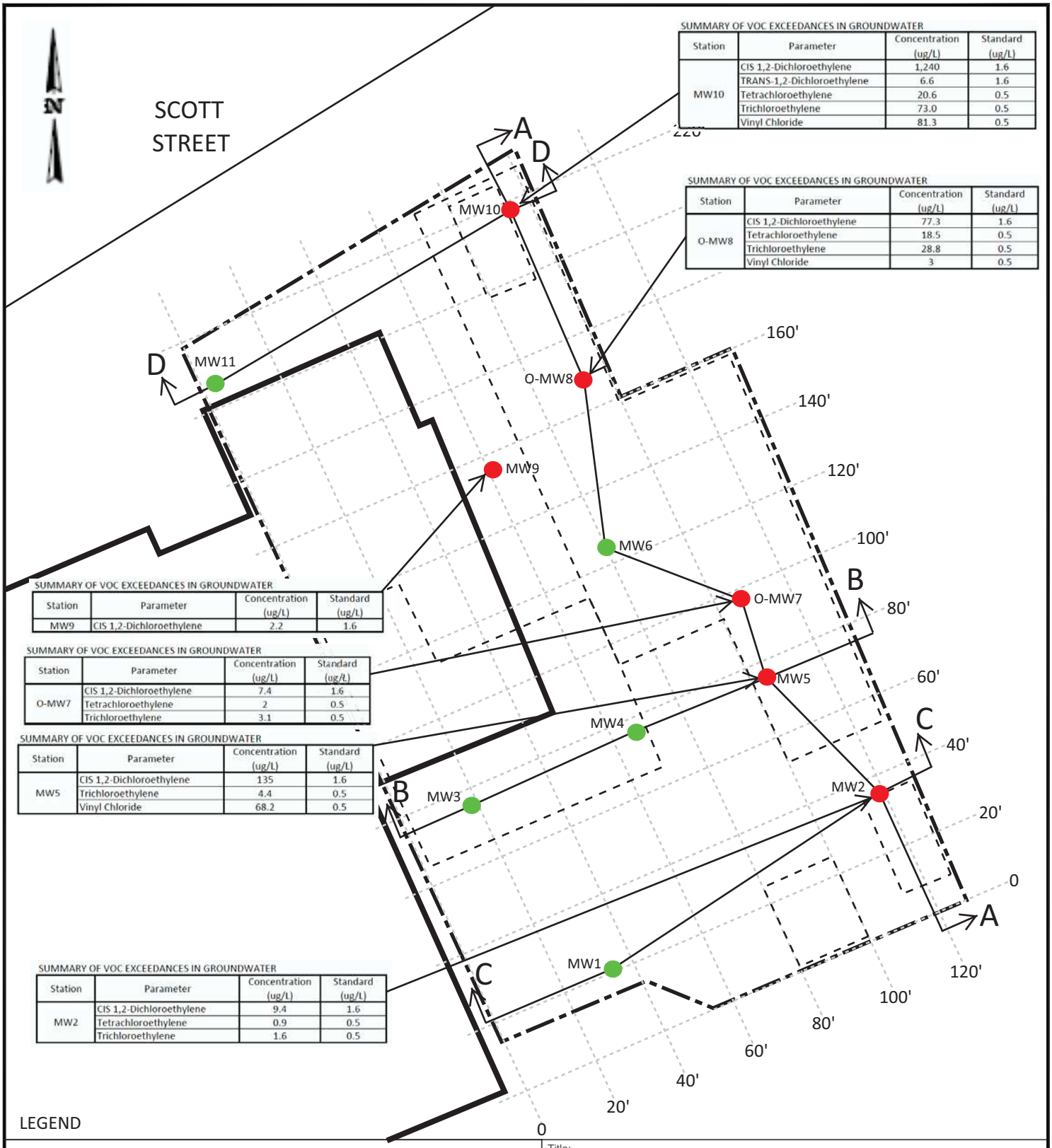
Dates presented are sample dates

L2499335-5: laboratory sample identifier

DUP - field duplicate

APPENDIX A

P2ESA FIGURE



SUMMARY OF VOC EXCEEDANCES IN GROUNDWATER

Station	Parameter	Concentration (ug/L)	Standard (ug/L)
MW10	CIS 1,2-Dichloroethylene	1,240	1.6
	TRANS-1,2-Dichloroethylene	6.6	1.6
	Tetrachloroethylene	20.6	0.5
	Trichloroethylene	73.0	0.5
	Vinyl Chloride	81.3	0.5

SUMMARY OF VOC EXCEEDANCES IN GROUNDWATER

Station	Parameter	Concentration (ug/L)	Standard (ug/L)
O-MW8	CIS 1,2-Dichloroethylene	77.3	1.6
	Tetrachloroethylene	18.5	0.5
	Trichloroethylene	28.8	0.5
	Vinyl Chloride	3	0.5

SUMMARY OF VOC EXCEEDANCES IN GROUNDWATER

Station	Parameter	Concentration (ug/L)	Standard (ug/L)
MW9	CIS 1,2-Dichloroethylene	2.2	1.6

SUMMARY OF VOC EXCEEDANCES IN GROUNDWATER

Station	Parameter	Concentration (ug/L)	Standard (ug/L)
O-MW7	CIS 1,2-Dichloroethylene	7.4	1.6
	Tetrachloroethylene	2	0.5
	Trichloroethylene	3.1	0.5

SUMMARY OF VOC EXCEEDANCES IN GROUNDWATER

Station	Parameter	Concentration (ug/L)	Standard (ug/L)
MW5	CIS 1,2-Dichloroethylene	135	1.6
	Trichloroethylene	4.4	0.5
	Vinyl Chloride	68.2	0.5

SUMMARY OF VOC EXCEEDANCES IN GROUNDWATER

Station	Parameter	Concentration (ug/L)	Standard (ug/L)
MW2	CIS 1,2-Dichloroethylene	9.4	1.6
	Tetrachloroethylene	0.9	0.5
	Trichloroethylene	1.6	0.5

LEGEND

- Site Boundary
- Former Building
- Building
- Groundwater Quality meets VOC Standards
- Groundwater Quality exceeds Standards for one or more VOC constituents

SOURCE: Ottawa Interactive Maps

Title: GROUNDWATER QUALITY - VOCs

COLESTAR Environmental Inc.

Project: PHASE 2 ENVIRONMENTAL SITE ASSESSMENT
1546 SCOTT STREET, OTTAWA, ONTARIO

Project Number: 0394-05

Client: STARBANK DEVELOPMENTS 2000 CORP.

0 20' 40' 60 ft
0 6.1 12.2 18.3 m

Date: AUGUST 2020

FIGURE 7a

APPENDIX B

LABORATORY CERTIFICATES

COLESTAR Environmental Inc.
ATTN: Darren Coleman
178 Fincham Avenue
Markham Ontario L3P 4B3

Date Received: 04-SEP-20
Report Date: 18-SEP-20 15:21 (MT)
Version: FINAL

Client Phone: 905-554-4156

Certificate of Analysis

Lab Work Order #: L2499335

Project P.O. #: NOT SUBMITTED
Job Reference: 0394-03
C of C Numbers:
Legal Site Desc:

Emily Smith
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2499335-1 VP5 Sampled By: CF on 02-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	<0.040		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	<0.010		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
trans-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	3.41		0.14	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	0.502		0.020	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	<0.11		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	0.15		0.11	ug/m3		14-SEP-20	R5222942
Trichloroethylene	0.027		0.020	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	<0.051		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Miscellaneous							
Batch Proof ID	200812.216				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0401				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-6.1		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	G84				11-SEP-20	11-SEP-20	R5222060
L2499335-2 VP4 Sampled By: CF on 02-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	<0.040		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	<0.010		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	1.96		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	0.495		0.020	ppb(V)		14-SEP-20	R5222942
trans-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	187	DLA	6.8	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	27.6	DLA	1.0	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	<0.11		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	11.3	DLA	1.1	ug/m3		14-SEP-20	R5222942
Trichloroethylene	2.10	DLA	0.20	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	<0.051		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	<0.020		0.020	ppb(V)		14-SEP-20	R5222942

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2499335-2 VP4 Sampled By: CF on 02-SEP-20 Matrix: SG							
Volatile Organic Compounds							
Miscellaneous							
Batch Proof ID	200812.107				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0306				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-5.3		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	G42				11-SEP-20	11-SEP-20	R5222060
L2499335-3 VP3 Sampled By: CF on 02-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	<0.040		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	<0.010		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	0.373		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	0.094		0.020	ppb(V)		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.131		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.033		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	2.72		0.14	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	0.402		0.020	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.12		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.022		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	12.6	DLA	1.1	ug/m3		14-SEP-20	R5222942
Trichloroethylene	2.34	DLA	0.20	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	<0.051		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Miscellaneous							
Batch Proof ID	200812.223				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0514				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-8.2		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	G164				11-SEP-20	11-SEP-20	R5222060
L2499335-4 VP2 Sampled By: CF on 02-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	<0.040		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	<0.010		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	0.465		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	0.117		0.020	ppb(V)		14-SEP-20	R5222942

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2499335-4 VP2 Sampled By: CF on 02-SEP-20 Matrix: SG							
Volatile Organic Compounds							
trans-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	38.1	DLA	6.8	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	5.6	DLA	1.0	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.44		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.080		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	0.77		0.11	ug/m3		14-SEP-20	R5222942
Trichloroethylene	0.143		0.020	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	<0.051		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Miscellaneous							
Batch Proof ID	200812.221				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0051				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-9.2		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	G145				11-SEP-20	11-SEP-20	R5222060
L2499335-5 VP1 Sampled By: CF on 02-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	2.03		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	0.501		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
trans-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	0.41		0.14	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	0.060		0.020	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	<0.11		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	<0.11		0.11	ug/m3		14-SEP-20	R5222942
Trichloroethylene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	0.177		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	0.069		0.020	ppb(V)		14-SEP-20	R5222942
Miscellaneous							
Batch Proof ID	200812.116				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0349				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-8.0		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	G320				11-SEP-20	11-SEP-20	R5222060
L2499335-6 VP7 Sampled By: CF on 02-SEP-20 Matrix: SG							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2499335-6 VP7 Sampled By: CF on 02-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	0.065		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	0.016		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.261		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.066		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	0.37		0.14	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	0.054		0.020	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.48		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.087		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	0.41		0.11	ug/m3		14-SEP-20	R5222942
Trichloroethylene	0.077		0.020	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	<0.051		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Miscellaneous							
Batch Proof ID	200812.217				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0280				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-6.3		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	G55				11-SEP-20	11-SEP-20	R5222060
L2499335-7 VP8 Sampled By: CF on 03-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	0.064		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	0.016		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.305		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.077		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	0.35		0.14	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	0.052		0.020	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.60		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.111		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	0.34		0.11	ug/m3		14-SEP-20	R5222942
Trichloroethylene	0.063		0.020	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	<0.051		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	<0.020		0.020	ppb(V)		14-SEP-20	R5222942

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2499335-7 VP8 Sampled By: CF on 03-SEP-20 Matrix: SG							
Volatile Organic Compounds							
Miscellaneous							
Batch Proof ID	200812.115				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0094				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-6.1		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	G179				11-SEP-20	11-SEP-20	R5222060
L2499335-8 VP9 Sampled By: CF on 03-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	<0.040		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	<0.010		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.180		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.046		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	1.50		0.14	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	0.221		0.020	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.15		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.027		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	<0.11		0.11	ug/m3		14-SEP-20	R5222942
Trichloroethylene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	<0.051		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Miscellaneous							
Batch Proof ID	200812.122				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0301				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-5.1		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	G40				11-SEP-20	11-SEP-20	R5222060
L2499335-9 DUP-VP Sampled By: CF on 02-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	0.050		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	0.012		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2499335-9 DUP-VP Sampled By: CF on 02-SEP-20 Matrix: SG							
Volatile Organic Compounds							
trans-1,2-Dichloroethene	0.279		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.070		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	1.22		0.14	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	0.180		0.020	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.46		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.085		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	<0.11		0.11	ug/m3		14-SEP-20	R5222942
Trichloroethylene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	<0.051		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Miscellaneous							
Batch Proof ID	200812.222				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0471				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-6.5		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	G124				11-SEP-20	11-SEP-20	R5222060
L2499335-10 VP6 Sampled By: CF on 03-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	<0.040		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	<0.010		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.877		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	0.221		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	102	DLA	6.8	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	15.1	DLA	1.0	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.23		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	0.043		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	1.07		0.11	ug/m3		14-SEP-20	R5222942
Trichloroethylene	0.199		0.020	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	<0.051		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Miscellaneous							
Batch Proof ID	200506.204				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0510				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-6.1		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	G293				11-SEP-20	11-SEP-20	R5222060
L2499335-11 TRIP BLANK Sampled By: CF on 03-SEP-20 Matrix: SG							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2499335-11 TRIP BLANK Sampled By: CF on 03-SEP-20 Matrix: SG							
Volatile Organic Compounds							
1,1-Dichloroethane	<0.081		0.081	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,2-Dichloroethane	<0.040		0.040	ug/m3		14-SEP-20	R5222942
1,2-Dichloroethane	<0.010		0.010	ppb(V)		14-SEP-20	R5222942
1,1-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
1,1-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
cis-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
trans-1,2-Dichloroethene	<0.079		0.079	ug/m3		14-SEP-20	R5222942
trans-1,2-Dichloroethene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Tetrachloroethylene	<0.14		0.14	ug/m3		14-SEP-20	R5222942
Tetrachloroethylene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
1,1,1-Trichloroethane	<0.11		0.11	ug/m3		14-SEP-20	R5222942
1,1,1-Trichloroethane	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Trichloroethylene	<0.11		0.11	ug/m3		14-SEP-20	R5222942
Trichloroethylene	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Vinyl chloride	<0.051		0.051	ug/m3		14-SEP-20	R5222942
Vinyl chloride	<0.020		0.020	ppb(V)		14-SEP-20	R5222942
Miscellaneous							
Batch Proof ID	200812.209				11-SEP-20	11-SEP-20	R5222060
Canister ID	01400-0416				11-SEP-20	11-SEP-20	R5222060
Pressure on Receipt	-4.1		-30	in Hg	11-SEP-20	11-SEP-20	R5222060
Regulator ID	N/A				11-SEP-20	11-SEP-20	R5222060

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier key listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CAN-DATA-WT	Canister	Canister Information	EPA TO-15
Batch Proof ID, Canister ID, Pressure on Receipt, Regulator ID.			
VOC-L-GCMS-WT	Canister	Volatile Organic Compounds Low Level	EPA TO-15

This analysis is performed using procedures adapted from EPA Method TO-15. Air samples are collected into cleaned evacuated canisters. A volume of air sample is transferred from the canister to a preconcentrator system where the analytes are trapped & focused. The analytes are then thermally desorbed into a GC-MSD for analysis. Test results are not blank corrected unless indicated by a qualifier.

Canister samples will be retained for 7 calendar days after final report. If you require a longer canister storage time, please contact your account manager.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Client: COLESTAR Environmental Inc.
178 Fincham Avenue
Markham Ontario L3P 4B3
Contact: Darren Coleman

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CAN-DATA-WT	Canister							
Batch R5222060								
WG3402403-1 MB								
Pressure on Receipt			-29.8		in Hg			11-SEP-20
VOC-L-GCMS-WT	Canister							
Batch R5222942								
WG3403133-3 DUP		**L2499335-8**						
1,1,1-Trichloroethane		0.027	0.029		ppb(V)	5.1	30	14-SEP-20
1,1-Dichloroethane		<0.020	<0.020	RPD-NA	ppb(V)	N/A	30	14-SEP-20
1,1-Dichloroethene		<0.020	<0.020	RPD-NA	ppb(V)	N/A	20	14-SEP-20
1,2-Dichloroethane		<0.010	<0.010	RPD-NA	ppb(V)	N/A	30	14-SEP-20
cis-1,2-Dichloroethene		<0.020	<0.020	RPD-NA	ppb(V)	N/A	30	14-SEP-20
Tetrachloroethylene		0.221	0.225		ppb(V)	1.5	30	14-SEP-20
trans-1,2-Dichloroethene		0.046	0.046		ppb(V)	0.9	30	14-SEP-20
Trichloroethylene		<0.020	<0.020	RPD-NA	ppb(V)	N/A	30	14-SEP-20
Vinyl chloride		<0.020	<0.020	RPD-NA	ppb(V)	N/A	30	14-SEP-20
WG3403133-2 LCS								
1,1,1-Trichloroethane			104.4		%		70-130	14-SEP-20
1,1-Dichloroethane			102.0		%		70-130	14-SEP-20
1,1-Dichloroethene			96.0		%		70-130	14-SEP-20
1,2-Dichloroethane			100.2		%		70-130	14-SEP-20
cis-1,2-Dichloroethene			101.3		%		70-130	14-SEP-20
Tetrachloroethylene			102.0		%		70-130	14-SEP-20
trans-1,2-Dichloroethene			106.7		%		70-130	14-SEP-20
Trichloroethylene			105.1		%		70-130	14-SEP-20
Vinyl chloride			93.3		%		70-130	14-SEP-20
WG3403133-1 MB								
1,1,1-Trichloroethane			<0.020		ppb(V)		0.02	14-SEP-20
1,1-Dichloroethane			<0.020		ppb(V)		0.02	14-SEP-20
1,1-Dichloroethene			<0.020		ppb(V)		0.02	14-SEP-20
1,2-Dichloroethane			<0.010		ppb(V)		0.01	14-SEP-20
cis-1,2-Dichloroethene			<0.020		ppb(V)		0.02	14-SEP-20
Tetrachloroethylene			<0.020		ppb(V)		0.02	14-SEP-20
trans-1,2-Dichloroethene			<0.020		ppb(V)		0.02	14-SEP-20
Trichloroethylene			<0.020		ppb(V)		0.02	14-SEP-20
Vinyl chloride			<0.020		ppb(V)		0.02	14-SEP-20

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Batch Proof Report

Batch ID	Canister ID	Parameters	Value	Units	Date	Analyst
B200504.214	00946-0238	1,1,1-Trichloroethane	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,1,1,2-Tetrachloroethane	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,1,2,2-Tetrachloroethane	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,1,2-Trichloroethane	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,1-Dichloroethane	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,1-Dichloroethene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,2,4-Trichlorobenzene	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,2,4-Trimethylbenzene	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,2-Dibromoethane	<0.01	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,2-Dichlorobenzene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,2-Dichloroethane	<0.01	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,2-Dichloropropane	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,3,5-Trimethylbenzene	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,3-Butadiene	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,3-Dichlorobenzene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,4-Dichlorobenzene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	1,4-Dioxane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	2-Chlorophenol	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	2-Hexanone	<1.0	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	4-Ethyltoluene	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Acetone	<0.50	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Allyl Chloride	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Benzene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Benzyl Chloride	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Bromodichloromethane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Bromobenzene	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Bromoform	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Bromomethane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Carbon Disulfide	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Carbon Tetrachloride	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Chlorobenzene	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Chloroethane	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Chloroform	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Chloromethane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	cis-1,2-Dichloroethene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	cis-1,3-Dichloropropene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Cyclohexane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Dibromochloromethane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Dichlorodifluoromethane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Ethyl Acetate	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Ethyl Benzene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Freon 113	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Freon 114	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Hexachlorobutadiene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Isooctane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Isopropyl Alcohol	<1.0	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Isopropylbenzene	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	m&p-Xylene	<0.04	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Methyl Ethyl Ketone	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Methylcyclohexane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Methyl Isobutyl Ketone	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Methylene Chloride	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	MTBE	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Naphthalene	<0.05	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	n-Decane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	n-Heptane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	n-Hexane	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	o-Xylene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Propylene	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Styrene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Tetrachloroethylene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Tetrahydrofuran	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Toluene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	trans-1,2-Dichloroethene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	trans-1,3-Dichloropropene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Trichloroethylene	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Trichlorofluoromethane	<0.20	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Vinyl Acetate	<0.50	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	Vinyl Bromide	<0.20	ppb(V)	26-May-20	CG2

B200504.214	00946-0238	Vinyl Chloride	<0.02	ppb(V)	26-May-20	CG2
B200504.214	00946-0238	4-Bromofluorobenzene	89.3	%	26-May-20	CG2

Batch Proof Report

Batch ID	Canister ID	Parameters	Value	Units	Date	Analyst
B200812.207	01400-0199	1,1,1-Trichloroethane	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,1,1,2-Tetrachloroethane	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,1,2,2-Tetrachloroethane	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,1,2-Trichloroethane	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,1-Dichloroethane	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,1-Dichloroethene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,2,4-Trichlorobenzene	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,2,4-Trimethylbenzene	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,2-Dibromoethane	<0.01	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,2-Dichlorobenzene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,2-Dichloroethane	<0.01	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,2-Dichloropropane	0.0857	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,3,5-Trimethylbenzene	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,3-Butadiene	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,3-Dichlorobenzene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,4-Dichlorobenzene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	1,4-Dioxane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	2-Chlorophenol	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	2-Hexanone	<1.0	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	4-Ethyltoluene	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Acetone	<0.50	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Allyl Chloride	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Benzene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Benzyl Chloride	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Bromodichloromethane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Bromobenzene	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Bromoform	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Bromomethane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Carbon Disulfide	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Carbon Tetrachloride	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Chlorobenzene	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Chloroethane	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Chloroform	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Chloromethane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	cis-1,2-Dichloroethene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	cis-1,3-Dichloropropene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Cyclohexane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Dibromochloromethane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Dichlorodifluoromethane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Ethyl Acetate	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Ethyl Benzene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Freon 113	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Freon 114	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Hexachlorobutadiene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Isooctane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Isopropyl Alcohol	<1.0	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Isopropylbenzene	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	m&p-Xylene	<0.04	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Methyl Ethyl Ketone	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Methylcyclohexane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Methyl Isobutyl Ketone	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Methylene Chloride	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	MTBE	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Naphthalene	<0.05	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	n-Decane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	n-Heptane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	n-Hexane	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	o-Xylene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Propylene	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Styrene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Tetrachloroethylene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Tetrahydrofuran	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Toluene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	trans-1,2-Dichloroethene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	trans-1,3-Dichloropropene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Trichloroethylene	<0.02	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Trichlorofluoromethane	<0.20	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Vinyl Acetate	<0.50	ppb(V)	27-Aug-20	DT1
B200812.207	01400-0199	Vinyl Bromide	<0.20	ppb(V)	27-Aug-20	DT1

B200812.207	01400-0199	Vinyl Chloride	<0.02	ppb(V)	27-Aug-20	DT1

L2499335-COFC

60 NORTHLAND ROAD, UNIT 1
WATERLOO, ON N2V 2B8
Phone: (519) 886-6910
Fax: (519) 886-9047
Toll Free: 1-800-668-9878

ALS Environmental

AIR QUALITY CHAIN OF CUSTODY FORM - Canister/Tube/Gas Bag

Note: All TAT Quoted is in business days which exclude statutory holidays and weekends. TAT of samples received past 3:00 pm or Saturday / Sunday begin the next day.

DATE REQUIRED — SERVICE REQUESTED: 10 day (regular) [X]; Rush 5 day (50%) [ ]; Rush 3 day (100%) [ ]; Rush 2 day (200%) [ ]; Rush 1 day (300%) - Enquire [ ]

All rush work requires lab approval before sample submission

COMPANY NAME	Colestar
OFFICE	178 Fincham Ave, Markham, Ont. L3P 4B3
PROJECT MANAGER	Darren Coleman
PROJECT #	0394-03
PHONE	905-554-4156
FAX	905-554-4157
ACCOUNT #	
QUOTATION #	Q78141
PO #	

REGULATION | CRITERIA | OTHER INFORMATION

REPORT FORMAT/DISTRIBUTION

EMAIL X FAX ____ BOTH ____
SELECT: PDF ____ DIGITAL ____ BOTH X
EMAIL 1
EMAIL 2 dcoleman@colestar environmental.com

SUBMISSION #: L2499335
ENTERED BY: RD
DATE/TIME ENTERED:
BIN #:

SAMPLING INFORMATION

Sample Date/Time: Date (dd-mmm-yy)	Time (24hr) (hh:mm)	Canister or Tube ID# (e.g. 060000-XXXX or G0XXXXXXSVI)	Regulator Serial # CS1200-XXXX or GXX	Matrix Type	SAMPLE DESCRIPTION TO APPEAR ON REPORT	TUBE AIR VOLUME - L ☐ or m³ ☐	ANALYSIS REQUEST: VOCs (as stated on the ALS "air sampling media request Form")	STARTING PRESSURE - Pre-Sampling ("Hg)	ENDING PRESSURE - Post Sampling ("Hg)	COLLECTION TIME (HRS)	Field Conditions (Rain/Wind/Dust/Odour) Field PID Reading	LAB ID
Sept 2/20	[redacted]	1400-0401	G84	SG	VP5		X	-28.6	-6	1	cloudy, 25°C	
		1400-0306	G42		VP4		X	-28.5	-6	1		
		1400-0514	G164		VP3		X	-28	-8	1.5		
		1400-0051	G145		VP2		X	-28	-8	1		
		1400-0349	G320		VP1		X	-28	-8	<1		
		1400-0280	G55		VP7		X	-28	-8	1		
Sept 3/20		1400-0094	G179		VP8		X	-28.5	-8	1		
Sept 3/20		1400-0301	G40		VP9		X	-28.5	-6	1		
Sept 2/20		1400-0471	G124		DUP-VP		X	-28	-8	1		
Sept 3/20		1400-0510	G293		[redacted] VP6		X	-28.5	-8	1		

SPECIAL INSTRUCTIONS/COMMENTS

Trip Blank needs to be checked/tested

This Chain of Custody Form is only to be used for Air Quality Samples

Matrix Type: Soil Gas Vapour = SG; Indoor Air = IA; Ambient Air = AA; Industrial Hygiene = IH

SAMPLE CONDITION AS RECEIVED: FROZEN ☐ COLD ☐ COOLING INITIATED ☐ AMBIENT ☐ — MEAN TEMP

OBSERVATIONS Yes ☐ No ☐ If yes add SIF — INIT

SAMPLED BY:	Car / Frankruyter	DATE & TIME: Sept 2/20 5pm	RECEIVED BY: Sep 4/20 — DATE & TIME: 11:15
RELINQUISHED BY:	"	DATE & TIME: Sept 4/20 11am	RECEIVED AT LAB: — DATE & TIME: Sep 4/20 17:30

Notes

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

3. Any known or suspected hazards relating to a sample must be noted on the chain of custody in comments section.

REV6-2015

ATTACHMENT 1

GENERAL CONDITIONS AND LIMITATIONS

COLESTAR ENVIRONMENTAL INC.

GENERAL CONDITIONS AND LIMITATIONS

1. This report has been prepared in accordance with generally accepted engineering and environmental practices for the exclusive use of the client named in the report preceding these limitations. This report is based on the information obtained while conducting authorized environmental assessment, investigation and/or remediation activities at the property or subject site.

2. The findings and conclusions presented in this report are based exclusively on the field parameters measured and the chemical parameters tested at specific locations. It should be recognized that subsurface conditions between and beyond the sample locations may vary. COLESTAR cannot expressly guarantee that subsurface conditions between and beyond the sample locations do not vary from the results determined at the sample locations. Notwithstanding these limitations, this report is believed to provide a reasonable representation of the environmental conditions apparent at the site on the dates of measurement and chemical testing.

3. The contents of this report are based on the information collected during assessment, investigation and/or remediation activities, our understanding of the actual site conditions, and our professional opinion according to the information available at the time of preparation of this report. This report gives a professional opinion and, by consequence, no guarantee is attached to the conclusions or expert advice depicted in this report. This report does not provide a legal opinion in regards to Regulations and applicable Laws.

4. Any use of this report by a third party and any decision made based on the information contained in this report by the third party is the sole responsibility of that third party. COLESTAR will not accept any responsibility for damages resulting from a decision or an action made by a third party based on the information contained in this report.

5. Third party information reviewed and used to develop the opinions and conclusions contained in this report is assumed to be complete and correct. COLESTAR used this information in good faith and will not accept any responsibility for deficiencies, mis-interpretation or incompleteness of the information contained in documents prepared by third parties.

6. The services performed and outlined in this report were based, in part, upon visual observations of the site and attendant structures. Our opinion cannot be extended to portions of the site which were unavailable for direct observation, reasonably beyond our control.

7. The objective of this report was to assess environmental conditions at the site, within the context of the agreed scope of work and existing environmental regulations within the applicable jurisdiction. Evaluating compliance of past or future owners with applicable local, provincial and federal government laws and regulations was not included in our contract for services.