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**ENVIRONMENTAL SITE ASSESSMENT
PHASE II REPORT**

AT

**SCUGOG LINE 6,
Port Perry, ONTARIO**

PREPARED FOR:

WANLONG REAL ESTATE DEVELOPMENT LTD.

June 30, 2022

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1. EXECUTIVE SUMMARY

King EPCM (the Engineer) was retained by Wanlong Real Estate Development Ltd. (the Client) to conduct a Phase II Environmental Site Assessment (ESA) for the property located at Scugog Line 6, Port Perry (the Site), (15251 Highway 12, Uxbridge, ON), Regional Municipality of Durham Township Of Scugog, Ontario.

The date of the last work on all of the planning for the scope of work, conducting the Site investigation, and receiving and evaluating the information gathered during the Site inspection for the Phase II ESA (per Section 33.5 (1) (a) of O. Reg. 153/04) was June 30, 2022. For the purposes of filing a Record of Site Conditions (RSC) in the future, the Certification Date of the Phase II ESA (per Section 17 (3) of O. Reg. 153/04) was June 1, 2022.

The Site has an area of approximately 524,051 m² and is located at the east of the Highway 7, right next to the north of the Scugog Line 6, and at the west of Port Perry, the Township of Scugog. The Site is on the agricultural land, with industrial/commercial structures to the north, west and east outside of the Site.

The Phase II ESA was triggered based on the findings from a Phase I ESA Investigation completed by King EPCM on November 1, 2021. The Phase I ESA did not identify onsite Potentially Contaminating Activities (PCA's), therefore the soil on the property was considered to remain the original soil conditions. However the offsite PCA's especially north and northwest out of the Site in the industrial complex may have impacts on the groundwater at the northern portion of the Site where an area of a relatively low wetland and a ditch was located. Therefore a Phase II ESA was recommended for groundwater investigation.

During the Phase II ESA investigation, thirteen boreholes (BH101 to BH113) were advanced and then developed into groundwater monitoring wells, with three of wells (BH110, BH111 and BH113) located at the north and northwest corner of the Site.

Based on the groundwater flow to the northwest direction onsite, the rest of groundwater wells on the south would not be expected to be impacted if the groundwater wells located at the north and northwest area (BH110, BH111 and BH113) were not impacted. The Phase II ESA was therefore undertaken to assess the following Contaminates of Concerns (COC's), from BH110, BH111 and BH113 groundwater monitoring wells. The Area of Potential Environmental Concerns (APEC's) was decided to be at the edge of north and northwest corner of the Site, with potential impact from the offsite PCA's.

1. Petroleum hydrocarbons (PHC F1 – F4)
2. Volatile organic compounds (VOCs including BTEX)
3. Metals (dissolved metals for groundwater)
4. Inorganics (pH, etc.)

The groundwater criteria from the Ministry of Environment, Conservation and Parks (MECP) was applied, Table 8: Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition, All Types of Property Use, with coarse textured, *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (March 2021)*, (Criteria).

The Phase II ESA investigation indicated that these three groundwater monitoring wells (BH110, BH111 and BH113) at the north and northwest portion of the Site were all below the Criteria for the parameters analyzed. Since the groundwater flow was towards the northwest direction, the rest of the groundwater monitoring wells onsite on the south and southeast of these three wells would be considered below the Criteria.

It was the opinion of King EPCM, that no further investigation or remediation was recommended at this time.

As for the open area at the south part of the Site, by the entrance of the Site near the street of Scugog Line 6, the debris of imported materials (bricks, concrete, fill soils, etc.) were removed by the time of June 24, 2022, other than the front entrance as required for access to get into the Site and to the office trailer.

2. INTRODUCTION

King EPCM (the Engineer) was retained by Wanlong Real Estate Development Ltd. (the Client) to conduct a Phase II Environmental Site Assessment (ESA) for the property located at Scugog Line 6, Port Perry (the Site), (15251 Highway 12, Uxbridge, ON), Regional Municipality of Durham Township Of Scugog, Ontario.

The Phase II ESA was triggered based on the findings from a Phase I ESA Investigation completed by King EPCM on November 1, 2021. The Phase I ESA did not identify onsite Potentially Contaminating Activities (PCA's), therefore the soil on the property was considered to remain the original soil conditions. However the offsite PCA's especially north and northwest out of the Site in the industrial complex may have impacts on the groundwater at the northern portion of the Site where an area of a relatively low wetland and a ditch was located. Therefore a Phase II ESA was recommended for groundwater investigation.

The objective of the Phase II ESA investigation was to assess the groundwater quality from the three groundwater monitoring wells, located at the north and northwest portion of the Site, which was considered as the APEC associated with the offsite PCA's as identified in the Phase I ESA.

2.1. SITE DESCRIPTION

The Site has an area of approximately 524,051 m² and is located at the east of the Highway 7, right next to the north of the Scugog Line 6, and at the west of Port Perry, the Township of Scugog. The Site is on the agricultural land, with industrial/commercial structures to the north, west and east outside of the Site.

The Phase II ESA property has the following description, based on the information from the Phase I ESA:

Site Address:	15251 Highway 12, Uxbridge Ontario
PIN:	268050606
Owner:	Wanlong Real Estate Development Ltd.
Legal Description:	Part Lot 14 Concession 6 Reach, Parts 1, 2 and 3 On 40r18803 except Parts 1 And 2 on 40r27161 together with an easement over Part Lot 13 Concession 6 Reach, Parts 1 And 2 on 40r19312 until assumed as public highway as in Lt936579 Subject to an easement as an Rh17533 Subject to an easement as in Rh17659 Township of Scugog.

2.2. PROPERTY OWNERSHIP

The current owner of the property is Wanlong Real Estate Development Ltd.

2.3. CURRENT AND PROPOSED FUTURE USES

During the time of the investigation, it was identified that the property was a farm land with corn crops onsite, and some trees at the western and northern boundary. It was understood that the property land use would be changed from currently the agricultural use to the industrial use in the future.

2.4. APPLICABLE SITE CONDITION STANDARDS

The following Site specific details were present for determining the groundwater quality standards:

- The Site included a wetland at northwest corner, therefore the land was within 30 m of a water bod. The Site was also inside an area of natural and scientific interest (ANSI), considered “potentially sensitive” significant per the definition of O. Reg. 153/04.
- The use of the Site was an agricultural land and the groundwater standard was set out for all Types of Property Use.
- The groundwater could be potentially used as the potable groundwater for this Site, therefore the potable groundwater conditions were chosen to apply.
- The more stringent “coarse textured” was applied.

Based on the above conditions, the following groundwater criteria from MECP was applied, Table 8: Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition, All Types of Property Use, with coarse textured, *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (March 2021)*, (Criteria).

3. BACKGROUND INFORMATION

3.1. PHYSICAL SETTING

3.1.1. WATER BODIES & AREAS OF NATURAL SIGNIFICANCE

Based on OBM and MNRF Topographic Map, there was a wetland low area at the northwest corner of the Site. This was the permanent water body on the northwest corner of the Site. There was also a ditch along the north boundary within the treed areas of the Site. The Site was also located in the Areas of Natural and Scientific Interest (ANSI) based on the ANSI Ontario mapping information.

3.1.2. TOPOGRAPHY & SURFACE WATER DRAINAGE

A review of the topographic information from the Ontario Base Map (OBM), the Ministry of Natural Resources and Forestry (MNRF) indicated that the Site was located on a relatively flat area with a general elevation of approximate 260 m (amsl). The general surface drainage is towards the north direction in the region.

3.2. PAST INVESTIGATIONS

A Phase I ESA was completed by King EPCM:

- *Phase I Environmental Site Assessment, Scugog Line 6, Port Perry, ON. November 1, 2021.*

3.2.1. SUMMARY OF PAST INVESTIGATIONS

A summary of the Phase I ESA Report, November 1, 2021 was as below:

- The Site was on an agricultural land use.
- There was corn crop and tree on the Site.
- An APEC was determined at the north and northwest edge of the Site, next to the offside industrial complex, for groundwater impact investigation for the property.
- These COCs were identified: PHC F1-F4, BTEX, VOC's, Metals, Inorganics

3.2.2. CONFIRMATION OF PREVIOUS INVESTIGATIONS

Confirmation of the Phase I ESA report was conducted through:

- Review of the historical photographs.
- Review of historical environmental records in the Environmental Database and Reports from Environmental Risk Information Services (ERIS), dated September 30, 2021.

- Review of Phase I ESA investigation, conclusion and recommendation.
- Site investigation within the Phase I site property.

4. SCOPE OF INVESTIGATION

4.1. OVERVIEW OF SITE INVESTIGATION

The scope of the assessment from King EPCM consisted of the following:

- Preparation of a sampling and analysis plan for the area associated with the target APEC's location, laboratory analytical program, appropriate sampling containers and preservation methods supplied by the laboratory. The sample IDs and tested parameters can be found in Appendix I, and the sampling and analysis plan can be found in the Appendix II.
- Drilling of thirteen boreholes, to the depth from 2.1 m to 4 m respectively, depending on soil conditions on each borehole location.
- Conversion of all of boreholes to groundwater monitoring wells.
- Logging of appropriate soil characteristics during the borehole program.
- Collection of groundwater samples from three groundwater monitoring wells at the north and northwest portion of the Site.
- Submission of groundwater samples to the laboratory.
- Evaluation of the laboratory analytical results against the appropriate site condition standards.

4.2. MEDIA INVESTIGATED

Based on the findings of Phase I ESA investigation for the subject property, which has been an agricultural farm land, no onsite PCA's were identified, therefore the soil on the property was considered to remain the original soil conditions. However the offsite PCA's especially from the industrial complex north and northwest outside the property might have the impact with COC's to the groundwater quality at this portion. Therefore the groundwater quality required a Phase II ESA for further investigation.

A total of thirteen boreholes were advanced to the depth from 2.1 m to 4 m. Twelve of them (BH101 to BH112) were drilled throughout the Site on the farm land, while one borehole (BH113) particularly drilled at the northwest corner of the Site on the forest area.

Soil was investigated through borehole drillings, with all cuttings reviewed based on visual colour / staining. Borehole logs were documented. All boreholes were developed into groundwater monitoring wells.

Groundwater monitoring wells BH110, BH111 and BH113 at the northwest portion of the Site were investigated. Groundwater samples were taken from these wells and sent to the laboratory for chemical analysis.

4.3. PHASE I CONCEPTUAL SITE MODEL

Phase I ESA Conceptual Site Model completed by King EPCM was summarized as follows:

- **Site Features:** The Site is situated at Scugog Line 6 on an agricultural land. The property was approximately 524,051 m² and is located at the east of the Highway 7, right next to the north of the Scugog Line 6, and at the west of Port Perry, the town of Scugog. There are industrial/commercial structures to the north, west and east, and an agricultural area south of the Scugog Line 6.
- **Land Uses:** The current land use is agricultural land with corn and trees on the property, and is planned to change the land use to the industrial land in the future.
- **Geology / Hydrogeology:** The surficial geological materials contain sand, silt and clay in the soil. The Site is situated in the upper Ordovician rock formation, which is dominated by limestone with subordinate dolomite, and in the Georgian bay formation, Blue mountain formation and Billings formation. The general surface drainage is towards the north and northeast direction in the region.
- **PCA's and APEC's:** Two offsite PCA's were identified outside the property but within the Phase I Study Area at the north and northwest corner of the subject property. The north and northwest edge of the property was therefore considered as an APEC for the investigation of potential impacts from the offsite PCA's to the groundwater quality onsite:
 - APEC#1: PCA#58 Waste Disposal and Waste Management
 - PCA#33 Metal Treatment, Coating, Plating and Finishing
- **Uncertainty:** It was not expected that any uncertainty or absence of information would affect the validity of the Phase I Conceptual Site Model (CSM).

4.4. DEVIATION FROM THE SAMPLING AND ANALYSIS PLAN

The three groundwater monitoring wells (BH110, BH111 and BH113) were first purged and sampled in January 10, 2022. However due to the insufficient purging, the groundwater results could not represent the actual onsite situation. These groundwater monitoring wells were purged in late May 2022 for at least three times of the volume in each well, in order to remove stagnant materials accumulated inside the wells, and allow the wells to recharge before the actual sampling. The groundwater was sampled from these three monitoring wells on June 1, 2022.

4.5. IMPEDIMENTS

No impediments were encountered.

5. INVESTIGATION METHOD

5.1. GENERAL

The Site was investigated solely through groundwater sampling from the groundwater monitoring wells on the Site.

A total of three groundwater monitoring wells (BH110, BH111 and BH113) were investigated at this time. The groundwater monitoring well BH113 was located at the northwest corner of the property, and the BH110 and BH111 were located northwest of the property. These monitoring wells were closest to the low wetland area at the north and northwest edge of the property. If the groundwater from these monitoring wells was not impacted by the offside PCA's, the rest of the groundwater monitoring wells on the property would not be impacted as well, as they were further south of the property, and the general surface drainage of the property was towards northwest direction.

5.2. BOREHOLE DRILLING

A total of thirteen boreholes (BH101 to BH113) were drilled from December 6 to December 14, 2021. Boreholes BH101 to BH112 were drilled throughout the property, and BH113 was drilled at the northwest corner of the property. Boreholes were drilled to the depth from 2.1 m to 4 m respectively, depending on soil conditions on each borehole location. Soil conditions were recorded in the borehole logs. All boreholes were converted into the groundwater monitoring wells immediately after the completion of borehole drilling individually, in accordance with O. Reg. 903 criteria. Borehole logs can be found in the Appendix III.

5.3. SOIL SAMPLING

No soil samples were collected from the boreholes.

5.4. FIELD SCREENING MEASUREMENTS

No soil field screening was needed.

5.5. GROUNDWATER

5.5.1. MONITORING WELL INSTALLATION

Thirteen boreholes were all converted into groundwater monitoring wells by King EPCM from December 6 to December 14, 2021.

Measures to minimize potential cross-contamination of the groundwater monitoring well included:

- Removal of any dirt / debris from the drilling auger and equipment after each drilling.
- Thorough cleaning of all the drilling auger, sampler and equipment, removing dried and wet materials and cleaning all crevices within the equipment, and finally rinsing with a bucket of potable tap water.
- Groundwater monitoring wells were installed immediately after borehole drilling was completed.
- Each well screen and riser(s) was protected in each plastic bag before being taken out for installation. All groundwater monitoring wells were stand-up casing type.

5.5.2. MONITORING WELL DEVELOPMENT METHOD

Thirteen groundwater monitoring wells (BH101 to BH113) were completed with the following procedures;

- The groundwater monitoring wells were all stand-up casing type, with twelve wells (BH101 to BH112) throughout the Site on the farm land, and one well (BH113) at the northwest corner of the Site on the forest area.
- The well locations, elevations, water levels, well depths and other relevant data were measured using GPS meter, water depth indicator and other instrument. The field information was documented.
- Each well had its own tubing with a foot valve inside the well for individual sampling.
- Three wells were chosen for sampling in this investigation. BH110 and BH111 located northwest of the Site, and BH113 at the northwest corner of the Site were investigated.
- These wells were first investigated in January 2022. Due to the insufficient purging of groundwater, it was decided that these wells would be investigated again with complete purging and recharging process.
- The wells were investigated on June 22, 2022. Each well was purged for at least three times the well volume, to remove the stagnant accumulated water inside the well.
- The groundwater was sampled from each well after sufficient purging and recharging, to represent the actual groundwater conditions.
- Additional information for monitoring well development method can be found in Appendix II, SOP – ENV006.1, Monitoring Well Development

5.6. FIELD MEASUREMENTS OF WATER QUALITY PARAMETERS

Prior to conducting groundwater sampling activities, light non-aqueous phase liquids (LNAPL) and dense non-aqueous phase liquids (DNAPL) were observed and discovered no sign of LNAPL or DNAPL.

5.7. GROUNDWATER SAMPLING

Groundwater samples from three groundwater monitoring wells (BH110, BH111 and BH113) were collected on June 22, 2022, using a tubing in each well individually. The groundwater samples were collected directly into pre-cleaned, laboratory supplied sampling bottles (some with appropriate stabilizers/doses), and packed into a cooler with ice packs. The groundwater samples were delivered to the laboratory for analysis by hand, under signed chain of custody. The groundwater samples were not field filtered, and sample filtering was requested to be conducted by the laboratory prior to metals analysis.

5.8. SEDIMENT SAMPLING

Sediment sampling was not completed as sediment was not present at the site.

5.9. ANALYTICAL TESTING

Laboratory analytical services were provided by Testmark Laboratories Ltd. (Testmark) in their Mississauga office. Testmark is accredited by CALA to the standards of ISO 17025 – *General Requirements for the Competence of Testing and Calibration Laboratories* and licensed by the Ministry of Environment, Conservation and Parks (MECP).

5.10. RESIDUE MANAGEMENT

Drill cuttings generated from the borehole drilling were left on the farm land, and the purged groundwater from monitoring wells were allowed to naturally seep back into the ground, as there were relatively little amounts.

5.11. ELEVATION SURVEYING

King EPCM completed the elevation survey on the property from December 6 to 14, 2021, using a GPS coordinate meter at the thirteen monitoring well locations (BH101 to BH113).

5.12. QA/QC MEASURES

Sampling containers and preservations were supplied by the laboratory prior to the start of the sampling program. All sample containers were labelled to specify the sample identifications. Groundwater samples were collected with a tubing from each well individually, and directly taken into supplied containers. After all groundwater samples were collected, they were chilled and delivered to the laboratory, by hand, under signed chain of custody.

Equipment cleaning procedures included

- Don fresh latex / nitrile gloves prior to working
- A foot valve and LDPE tubing, dedicated for each monitoring well

For the QA/QC of groundwater sampling, one duplicate groundwater sample (BH111) was analyzed in Testmark.

6. REVIEW AND EVALUATION

6.1. GEOLOGY

Based on the borehole drilling program, the Site contained topsoil on the surface, with the damp clay at approximately 0.4 m under the topsoil, followed by wet clay at approximately 1.5 m to the bottom of the borehole (2.1 m to 4.1 m respectively). The average elevation of the Site is approximately 261 m above mean sea level (amsl). The detailed borehole & elevation information can be found in Appendix III.

6.2. GROUNDWATER ELEVATION AND FLOW DIRECTION

The ground elevations were measured on December 6 to 14, 2021 using a GPS meter, and the groundwater measurements were completed on June 22, 2022. It was noted that the monitoring well BH110 was damaged onsite potentially by a bulldozer, therefore complete no measurement could be conducted for this well. The calculated data were in the following table.

Table 1. Groundwater Monitoring Well Information for the BH110, BH111 and BH113

	BH110	BH111	BH113
Date of Well Installation	Dec. 14, 2021	Dec. 14, 2021	Dec. 14, 2021
Date of Groundwater Measurement	June 22, 2022	June 22, 2022	June 22, 2022
Elevation of Well Surface (m)	256.34	257.54	255.12
Bottom of Monitoring Well (m)	The well was broken potentially by the bulldozer.	4.22	3.04
Elevation of Groundwater Level (m)		255.92	254.58
Groundwater Well Depth (m)		2.98	1.87
Groundwater Depth (m)		1.45	1.33
Sampling Interval (m)		1.53 – 2.98	0.54 – 1.87
LNAPL Thickness	none	none	none
LNAPL Thickness	none	none	none

Table 2. Measurement Information for All Monitoring Wells

ID	Distance from riser to groundwater level	Distance from riser to bottom of well	Riser height above ground level	Well Depth	Water Depth	Ground Elevation	Groundwater Elevation
BH/MW101	2.44	4.27	1.17	3.10	1.83	262.18	260.91
BH/MW102	1.86	5.05	1.18	3.87	3.19	262.63	261.95
BH/MW103	2.37	4.18	1.22	2.96	1.81	263.46	262.31
BH/MW104	1.30	5.05	1.24	3.81	3.75	260.90	260.84
BH/MW105	2.04	5.04	1.24	3.80	3.00	261.75	260.95
BH/MW106	2.28	3.90	1.16	2.74	1.62	262.45	261.33
BH/MW107	2.52	4.15	1.23	2.92	1.63	260.09	258.80
BH/MW108	2.50	4.14	1.13	3.01	1.64	261.73	260.36
BH/MW109	2.28	4.20	1.22	2.98	1.92	261.70	260.64
BH/MW111	2.77	4.22	1.24	2.98	1.45	257.45	255.92
BH/MW112	2.90	4.23	1.17	3.06	1.33	258.76	257.03
BH/MW113	1.71	3.04	1.17	1.87	1.33	255.12	254.58

BH/MW110 was broken.

Based on the groundwater elevation information, it was determined that the groundwater flow direction was towards northwest direction.

6.3. GROUNDWATER HYDRAULIC GRADIENTS AND CONDUCTIVITY

The interpreted groundwater flow direction was illustrated, and the groundwater gradient was calculated at approximately 1.5% trending northwest. The primary groundwater-bearing lithology type from the drilled boreholes contained clay.

6.4. SOIL TEXTURE

Soil texture was analyzed as part of borehole field logging, as recorded in the borehole field log in Appendix III. Based on the results of the analysis, majority soil contained clay, either damp or wet, with some sand combined. Overall the site is classified as “medium and fine textured” as per the definition of O. Reg. 153/04.

6.5. SOIL FIELD SCREENING

No soil samples were collected nor was soil field screening conducted, as no PCA's were identified during the Phase I ESA investigation for soil conditions.

6.6. SOIL QUALITY

No soil quality was tested.

6.7. GROUNDWATER QUALITY

All boreholes were developed into groundwater monitoring wells individually after the completion of each borehole drilling. A 1.5” PVC pipe was installed inside each borehole, with a screen approximately 1.5 m from the bottom of the well. Three groundwater monitoring wells BH110, BH111 and BH113 located at the north and northwest corner of the Site were investigated.

BH113 was drilled at the northwest corner of the Site, closest to the northern industrial complex outside, and was developed into a groundwater monitoring well to a depth of 3.1 m. The groundwater depth was approximately 1.33 m.

BH110 was drilled at northwest part of the Site, closest to BH113, and was developed into a groundwater monitoring well to a depth of 1.3 m. The groundwater depth could not be measured

as the well was damaged potentially by a bulldozer during the time when the groundwater measurement was conducted.

BH111 was drilled at the east of the BH110, on the north part of the Site, and was developed into a groundwater monitoring well to a depth of 2.1 m. The groundwater depth was approximately 1.45 m.

The groundwater samples were not field filtered, and sample filtering was conducted by the laboratory prior to dissolved metals analysis.

Table 3 – Summary of Groundwater Samples Submitted for Chemical Analysis

Sample ID	Sample Location	Sample Date	Sample depth (m)	Rationale	GW VOC	GW F1-F4, BTEX	GW Metals	GW pH
BH110	North of the Site	01-Jun-22	Well broken, water depth couldn't be measured	Potential impact on groundwater from offsite PCA's in the industrial complex located north and northwest of the Site	x	x	x	x
BH111	East of BH110	01-Jun-22	1.53 - 2.98		x	x	x	x
BH113	Northwest corner of the Site	01-Jun-22	0.54 - 1.87		x	x	x	x

The analytical results indicated that all these groundwater monitoring wells were below the Criteria for tested parameters for groundwater quality.

6.8. SEDIMENT QUALITY

Sediments were not evaluated during this investigation, as sediments were not present on Site.

6.9. QA/QC RESULTS

The QA/QC program for laboratory analysis consisted of the following:

- BH111, a duplicate groundwater sample of BH111 in the laboratory analysis.

The concentration of tested parameters for the pair of BH111 groundwater samples showed generally acceptable correlations. There were no issues raised with regards to the duplicate samples for groundwater samples. There were no instances where samples were believed to be mishandled in accordance with the Analytical Protocol. The laboratory internal QA/QC can be seen as in the Certificate of Analysis in Appendix IV.

The Certificate of Analysis was available in Appendix IV, and all complied with the regulation of Section 47 (3) of O. Reg. 153/04. All groundwater samples sent to the laboratory were accounted for within the Certificate of Analysis, and all full Certificate of Analysis received have been included in full in Appendix IV.

The quality of the QA/QC program was satisfactory. From the analysis above, there were no concerns regarding the reliability or the consistency of the laboratory testing methods.

6.10. PHASE II CONCEPTUAL SITE MODEL

6.10.1. SITE SITUATION WITH PCA'S, APEC'S, AND COC'S

The Site has an area of approximately 524,051 m² and is located at the east of the Highway 7, right next to the north of the Scugog Line 6, and at the west of Port Perry, the Township of Scugog. The Site is on the agricultural land, with industrial/commercial structures to the north, west and east outside of the Site.

A Phase I ESA Report was completed by King EPCM on November 1, 2021. The Phase I ESA identified no onsite Potentially Contaminating Activities (PCA's), therefore the soil on the property was considered to remain the original soil conditions. However the offsite PCA's especially north and northwest out of the Site in the industrial complex may have impacts to the groundwater at the northern edge of the Site as an APEC, where an area of a relatively low wetland and a ditch was located. The COC's for the PCA's included petroleum hydrocarbons F1-F4, BTEX, VOC's, metals and inorganics parameters.

Groundwater quality investigation was required in the Phase II ESA near the APEC location at the north and northwest portion of the Site.

APEC#1: PCA#58 Waste Disposal and Waste Management
PCA#33 Metal Treatment, Coating, Plating and Finishing

Table 4 - Table of Areas of Potential Environmental Concerns

APEC	Location of APEC	PCA	Location of PCA (onsite or offsite)	COC	Media
APEC#1	Northwest corner of the property	Offsite PCA#58 Wastes, PCA#33 Metals	Industrial complex north and northwest offsite the property	PHC F1-F4, BTEX, VOC's, Metals, Inorganics	Groundwater

For the scope of work in the Phase II ESA, three groundwater monitoring wells (BH110, BH111 and BH113) located north and northwest portion of the Site were sampled, to test the groundwater quality for any potential impacts.

The groundwater criteria from the Ministry of Environment, Conservation and Parks (MECP) was applied, Table 8: Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition, All Types of Property Use, with coarse textured, *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (March 2021)*, (Criteria).

Based on the analytical results for groundwater samples collected, all parameters were below the Criteria for all three groundwater monitoring wells. The groundwater quality met the Criteria.

6.10.2. PHYSICAL SETTING OF PHASE II PROPERTY

The surficial geology information indicated that the Site was situated in the Pleistocene deposit region. The surficial geological materials contained sand, silt and clay in the soil. The Site was located on a relatively flat area with a general elevation of approximate 260 m (amsl). The Site gradient was approximately 1.5% trending northwest for the general surface drainage direction.

The Bedrock Geology of Southern Ontario Mapping indicated that the Site was situated in the upper Ordovician rock formation, which was dominated by limestone with subordinate dolomite, and in the Georgian bay formation, Blue mountain formation and Billings formation. The elevation of the bedrock was approximately 183-188 m (amsl).

The Site included a relatively low wetland at northwest corner, along with the ditch by the northwest corner to the north edge of the Site. The Site was also inside an area of natural and scientific interest (ANSI), considered “potentially sensitive” significant per the definition of O. Reg. 153/04.

The Site was on an agricultural land. Based on the borehole drilling program, the Site contained topsoil on the surface and damp clay underneath.

6.10.3. CONTAMINATES AND SITE CONDITION STANDARDS

The analytical results revealed that all groundwater samples from BH110, BH111 and BH113 were below the Criteria.

These three groundwater monitoring wells were located at the north and northwest portion of the Site, with BH113 at northwest corner near the offsite northern industrial complex. Based on the groundwater flow to the northwest direction, the rest of the groundwater monitoring wells located at south and southeast of these three wells were not expected to be impacted as well. The groundwater quality for the Site was considered to have no impact from the industrial complex.

The analytical results for the groundwater quality were summarized in the following table.

Table 5 – Groundwater Analytical Results from Groundwater Monitoring Wells on June 1, 2022

ID	Location	Parameters	Exceedance (µg/L)	Criteria* (µg/L)
BH110	North of the Site	PHC F1-F4, BTEX, VOC's, metals, inorganics	No	-
BH111	East of BH110	PHC F1-F4, BTEX, VOC's, metals, inorganics	No	-
BH113	The northwest corner of the Site	PHC F1-F4, BTEX, VOC's, metals, inorganics	No	-

* Table 8: Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition, All Types of Property Use, with coarse textured, *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (March 2021), (Criteria).*

6.10.4. DELINEATION OF CONTAMINATES AT SITE

No groundwater contamination was identified therefore no vertical or horizontal delineation of groundwater contaminants were required or planned at this time.

6.10.5. PATHWAYS AND EXPOSURE OF CONTAMINATES

No pathway or exposure analysis was required.

7. CONCLUSIONS

7.1. SUMMARY OF PHASE II ESA

The Phase II ESA was completed to investigate the groundwater quality onsite for potential impact from the offsite northern industrial complex. A total of thirteen boreholes were drilled and converted into groundwater monitoring wells. Three monitoring wells located at the north and northwest portion of the Site (BH110, BH111 and BH113) were sampled and analyzed. The analytical results indicated that the groundwater quality from these three groundwater monitoring wells met the Criteria for parameters analyzed. With the groundwater flow direction to the northwest onsite, the rest of the groundwater wells at south and southeast of the Site were considered with no impact.

The soil sampling was not required as no PCA's occurred onsite and no evidence of impacts on soil was identified during the Site investigation and borehole drillings.

As for the open area at the south part of the Site, by the entrance of the Site near the street of Scugog Line 6, the debris of imported materials (bricks, concrete, fill soils, etc.) were removed by the time of June 24, 2022, other than the front entrance as required for access to get into the Site and to the office trailer.

It was the opinion of King EPCM, that no further investigation or remediation was recommended at this time.

7.2. SIGNATURES

The Phase II ESA property is located at Scugog Line 6, Port Perry, Ontario (the Site). The Phase II ESA investigation was conducted under the supervision of Tony Wang, the principal engineer of King EPCM, and a Qualified Person (QP) as in accordance with O. Reg. 153/04 and updated by O. Reg. 511/09. This report was based the Certificate Date of June 1, 2022.

King EPCM accepts no responsibility or liability for any changes or potential changes in the condition of the site after the Certificate Date. The sampling frequency and sampling locations are chosen based on the best practice guidelines, and to the best of our ability, on field conditions during the project. Conditions beyond sampling locations may vary. Furthermore, this assessment was limited to a study of those chemical parameters specifically addressed in this report. This report pertains, only, to the site specifically described in this report and not to any adjacent or other property.

This report has been prepared for the sole use of Wanlong Real Estate Development Ltd. (Client). King EPCM accepts no liability for claims arising from the use of this report, or from actions taken or decisions made as a result of this report, by parties other than the Client.

sfian

Simon Xian
Intermediate Environmental Engineer

Y. T. Wang

Yu Tao (Tony) Wang, P. Eng.
Principal Engineer
Qualified Person, per O. Reg. 153/04



8. REFERENCES

Ontario Regulation 153/04, Record of Site Condition – Part XV.1 of the Act.

Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (March 2021).

King EPCM, Phase I Environmental Site Assessment, Scugog Line 6, Port Perry, ON. November 1, 2021

Environmental Database and Reports, Environmental Risk Information Services (ERIS)

APPENDIX I – SAMPLE ID AND TESTED PARAMETERS

Table 1 – Summary of Groundwater Samples Submitted for Chemical Analysis

Sample ID	Sample Location	Sample Date	Sample depth (m)	Rationale	GW VOC	GW F1-F4, BTEX	GW Metals	GW pH
BH110	North of the Site	01-Jun-22	Well broken, water depth couldn't be measured	Potential impact on groundwater from offsite PCA's in the industrail complex located north and northwest of the Site	x	x	x	x
BH111	East of BH110	01-Jun-22	1.53 - 2.98		x	x	x	x
BH113	Northwest corner of the Site	01-Jun-22	0.54 - 1.87		x	x	x	x

Table 2 - Table of Areas of Potential Environmental Concerns

APEC	Location of APEC	PCA	Location of PCA (onsite or offsite)	COC	Media
APEC#1	Northwest corner of the roperty	Offsite PCA#58 Wastes, PCA#33 Metals	Industrail complex north and northwest offside the property	PHC F1-F4, BTEX, VOC's, Metals, Inorganices	Groundwater

Table 3: Groundwater Maximum Concentration Data

Certification Date June 1, 2022 for groundwater testing

Tested Parameter	Units	Table 8 Groundwater	Maximum Sample Concentration	Sample ID
Metals				
Dissolved Antimony	µg/L	6	<0.5	All Samples
Dissolved Arsenic	µg/L	25	<1	All Samples
Dissolved Barium	µg/L	1000	160	All Samples
Dissolved Beryllium	µg/L	4	<0.5	All Samples
Dissolved Boron	µg/L	5000	52	All Samples
Dissolved Cadmium	µg/L	2.1	<0.1	All Samples
Dissolved Chromium	µg/L	50	6	All Samples
Dissolved Copper	µg/L	69	4	All Samples
Dissolved Lead	µg/L	10	<0.1	All Samples
Dissolved Molybdenum	µg/L	70	2.9	All Samples
Dissolved Nickel	µg/L	100	5	All Samples
Dissolved Selenium	µg/L	10	0.9	All Samples
Dissolved Silver	µg/L	1.2	<0.1	All Samples
Dissolved Thallium	µg/L	2	<0.1	All Samples
Dissolved Uranium	µg/L	20	3	All Samples
Dissolved Vanadium	µg/L	6.2	2.7	All Samples
Dissolved Zinc	µg/L	890	<1	All Samples
PHC				
F1 (C6-C10) - Less BTEX	µg/L	420	<20	All Samples
F2 (C10-C16)	µg/L	150	<100	All Samples
F3 (C16-C34)	µg/L	500	<200	All Samples
F4 (C34-C50)	µg/L	500	<200	All Samples
	µg/L			All Samples
VOC				
Benzene	µg/L	5	<0.2	All Samples
Toluene	µg/L	22	<0.5	All Samples
Ethylbenzene	µg/L	2.4	<0.5	All Samples
Total Xylenes	µg/L	300	<0.5	All Samples
m+p-Xylene	µg/L		<0.5	All Samples
o-Xylene	µg/L		<0.5	All Samples
1,1,1,2-Tetrachloroethane	µg/L	1.1	<0.5	All Samples
1,1,1-Trichloroethane	µg/L	200	<0.5	All Samples
1,1,2,2-Tetrachloroethane	µg/L	1	<0.5	All Samples
1,1,2-Trichloroethane	µg/L	4.7	<0.5	All Samples
1,1-Dichloroethane	µg/L	5	<0.5	All Samples
1,1-Dichloroethylene	µg/L	1.6	<0.5	All Samples
1,2-Dibromoethane	µg/L	0.2	<0.2	All Samples
1,2-Dichlorobenzene	µg/L	3	<0.5	All Samples
1,2-Dichloroethane	µg/L	1.6	<0.5	All Samples
1,2-Dichloropropane	µg/L	5	<0.5	All Samples
1,3-Dichlorobenzene	µg/L	59	<0.5	All Samples
1,4-Dichlorobenzene	µg/L	1	<0.5	All Samples
Acetone	µg/L	2700	432	All Samples
Bromodichloromethane	µg/L	16	<0.2	All Samples
Bromoform	µg/L	25	<0.5	All Samples

Bromomethane	µg/L	0.89	<0.5	All Samples
Carbon tetrachloride	µg/L	0.79	<0.2	All Samples
Chlorobenzene	µg/L	30	<0.5	All Samples
Chloroform	µg/L	2.4	<1	All Samples
cis - + trans-1,3-Dichloropropene	µg/L	0.5	<0.5	All Samples
cis-1,2-Dichloroethylene	µg/L	1.6	<0.5	All Samples
cis-1,3-Dichloropropene	µg/L		<0.5	All Samples
Dibromochloromethane	µg/L	25	<2	All Samples
Dichlorodifluoromethane	µg/L	590	<2	All Samples
Dichloromethane	µg/L	50	<5	All Samples
Methyl ethyl ketone	µg/L	1800	<20	All Samples
Methyl isobutyl ketone (MIBK)	µg/L	640	<20	All Samples
Methyl tert-butyl ether (MTBE)	µg/L	15	<2	All Samples
n-Hexane	µg/L	51	<5	All Samples
Styrene	µg/L	5.4	<0.5	All Samples
Tetrachloroethylene	µg/L	1.6	<0.5	All Samples
Trans-1,2-dichloroethylene	µg/L	1.6	<0.5	All Samples
Trans-1,3-dichloropropene	µg/L		<0.5	All Samples
Trichloroethylene	µg/L	1.6	<0.5	All Samples
Trichlorofluoromethane	µg/L	150	<5	All Samples
Vinyl chloride	µg/L	0.5	<0.1	All Samples
Inorganics				
pH			7.99	All Samples

Table 4 - Monitoring Well Information

	BH110	BH111	BH113
Date of Well Installation	Dec. 14, 2021	Dec. 14, 2021	Dec. 14, 2021
Date of Groundwater Measurement	June 22, 2022	June 22, 2022	June 22, 2022
Elevation of Well Surface (m)	256.34	257.54	255.12
Bottom of Monitoring Well (m)	The well was broken potentially by the bulldozer.	4.22	3.04
Elevation of Groundwater Level (m)		255.92	254.58
Groundwater Well Depth (m)		2.98	1.87
Groundwater Depth (m)		1.45	1.33
Sampling Interval (m)		1.53 - 2.98	0.54 - 1.87
LNAPL Thickness	none	none	none
LNAPL Thickness	none	none	none

APPENDIX II – SAMPLING AND ANALYSIS PLAN

SAMPLING AND ANALYSIS PLAN ENVIRONMENTAL SITE ASSESSMENT PHASE II REPORT

OBJECTIVES

The purpose of the sampling and analysis plan is to ensure that all APECs previously identified during the Phase I ESA program has been considered, and an adequate sampling program to reflect all the possible Contaminates of Concern within the ESA Phase II property.

AREA OF POTENTIAL ENVIRONMENTAL CONCERN (APEC)

After reviewing the Phase I ESA program, the onsite APEC was considered as the edge of north and northwest part of the property for the groundwater quality, for the potential impact by the offsite PCA's especially from the industrial complex outside northern boundary of the property.

The APEC's localized within the Site is listed below:

Groundwater investigation included the groundwater sampling from three groundwater monitoring wells located at the north and northwest portion of the Site:

APEC#1: PCA#58 Waste Disposal and Waste Management
PCA#33 Metal Treatment, Coating, Plating and Finishing

CONTAMINATES OF CONCERN (COC)

From the above localized APEC's, the following COC's were identified for groundwater parameters:

1. Petroleum hydrocarbons (PHC F1 – F4, BTEX)
2. Volatile organic compounds (VOCs, BTEX included in PHC)
3. Metals (dissolved metals for groundwater)
4. Inorganics (pH, etc.)

STANDARD OPERATING PROCEDURES (SOP)

The following SOP's may be reviewed as part of the Appendix I, Sampling and Analysis Plan:

- SOP – ENV001.2, Trailer Mounted Solid Stem Auger Borehole Drilling
- SOP – ENV005.1, Monitoring Well Installation
- SOP – ENV006.1, Monitoring Well Development
- SOP – ENV007.1, Field Measurement of Water Quality Indicators & Calibration Procedures
- SOP – ENV008.1, Groundwater Sampling

FIELD QUALITY ASSURANCE (QA)

The following field quality assurance program is used to assure that the sampling procedure is appropriately designed and that samples tested are representative of the site conditions:

Decontamination Protocol:

All non-disposable tools are cleaned at the end of each project, prior to leaving site. Tools are also cleaned prior to use at each specific job site. In general, tools are cleaned with an Alconox cleaning solution using plastic and metallic brushes to remove soil particles, then rinsed with potable city tap water, or distilled water in the case of field testing equipment. Cleaning requirements are also detailed in the attached SOPs.

Equipment Calibration:

All field screening instruments are calibrated prior to usage at site by equipment supplier. Additional calibration was not conducted between field samples. All instruments are cleaned between each use, especially between each borehole.

Sample Preservation:

Groundwater samples shall be collected into pre-cleaned, appropriately preserved laboratory supplied containers, and placed on ice in insulated coolers for storage and transport. Where laboratory supplied containers are not used, alternative containers must be approved by laboratory prior to use for the intended testing media and tested contaminate. Groundwater preservation requirements are handled by the laboratory, with preservatives within laboratory-supplied containers. A summary of preservatives used in each project shall be found below in the Laboratory Program section.

Sample Documentation:

All samples will be assigned a unique identification number, which is to be recorded in field sampling notes along with the date, time, project number, company name, location and requested analysis. All samples shall be handled and transported following chain of custody protocols and analyzed within laboratory method holding time requirements.

FIELD QUALITY CONTROL (QC)

The following field quality control program will be used to confirm the laboratory and field sampling validity:

QA/QC blanks:

The blank sample media used is plain bottled water, filled into laboratory pre-supplied container, then packed into a cooler, along with all other sampling bottles throughout the entire sampling program. The blanks are returned to the laboratory along with all other sampling containers at the end of the sampling program. Since there were less than ten samples this time, no blank sampling was conducted.

QA/QC duplicates:

A field duplicate of soil is submitted to the laboratory for chemical analysis. The laboratory will not be notified of the nature of the duplicate. The duplicate will be extracted within the same

sample location at the same depth. Also the laboratory can perform duplicate sample analysis from the samples collected in the field. The field duplicate is intended to remove biases from both sampling techniques and analytical procedures. In this particular project, the duplicate samples were analyzed by the laboratory for groundwater quality of BH/111.

SAMPLING PROGRAM

A total of thirteen boreholes are designed for drilling. Borehole logs and visual observation of stains of contamination will be recorded. All of these boreholes are converted into groundwater monitoring wells (BH101 to BH113).

Three groundwater monitoring wells (BH110, BH111 and BH113) are planned to sample.

All groundwater samples should be placed in laboratory supplied containers with appropriate stabilizers. Sample ID, conditions, and other factors shall be recorded under chain of custody.

LABORATORY PROGRAM

Project Laboratory: Testmark Laboratories Ltd., Mississauga Office

Accreditation: CALA to the standards of ISO 17025 – *General Requirements for the Competence of Testing and Calibration Laboratories* and licensed by the Ministry of Environment, Conservation and Parks

Analytical Methods: The laboratory will use the methods specified in “Analytical Protocol”, otherwise known as the *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*, Produced by Laboratory Services Branch, Ministry of the Environment, dated March 9, 2004, amended as of July 1, 2011.

Sample Containers and Preservations: Please see the illustrated Sampling Container guide from Testmark Laboratory.

Soil sample containers (a total of 5 laboratory-supplied containers):

- 40 ml vial, preserved with methanol (VOC, BTEX and F1)
- 250 ml jar (PHC F2-F4, metals, general chemistry)

Groundwater sample containers (a total of 5 laboratory-supplied containers):

- 40 ml vial, preserved (VOC, BTEX and F1)
- 1 L bottle (PHC F2-F4)
- 125 ml bottle (Dissolved metals)
- 120 ml bottle (Mercury)

SUBCONTRACTORS AND OTHER CONTACTORS

- Laboratory analysis: Testmark Laboratories Ltd., Mississauga Office

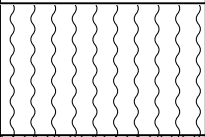
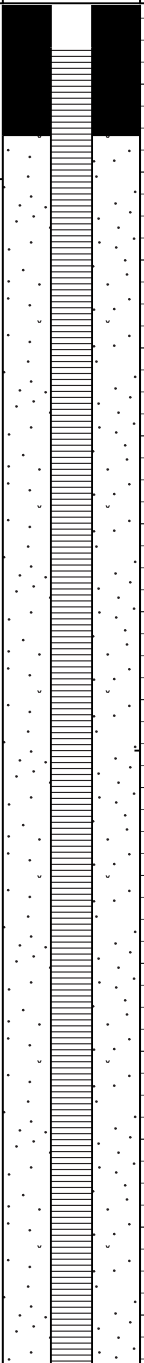
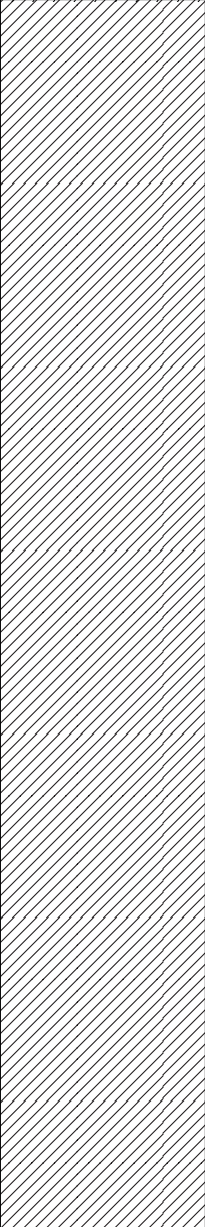
APPENDIX III – FINALIZED BOREHOLE FIELD LOGS

GROUNDWATER MONITORING Well BH101

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,244,899N, 661,934,627E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 262.184 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/06/2021	TOTAL DEPTH 3.1 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS Southeast corner of the dwelling

Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			262.1
0.4			USCS: CL, lean clay, damp to wet depths	Groundwater measured at 0.4 m deep when drilling		261.8
0.6						261.6
0.8						261.4
1						261.2
1.2						261
1.4						260.8
1.6						260.6
1.8						260.4
2						260.2
2.2						260
2.4						259.8
2.6						259.6
2.8						259.4
3						259.2
			Termination Depth at: 3.1 m			259

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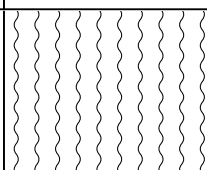
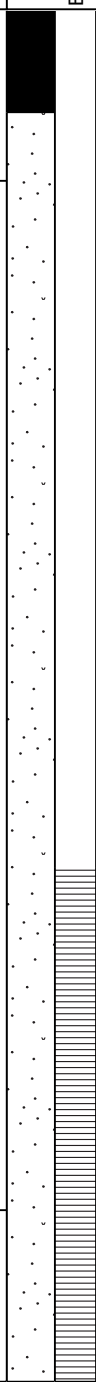
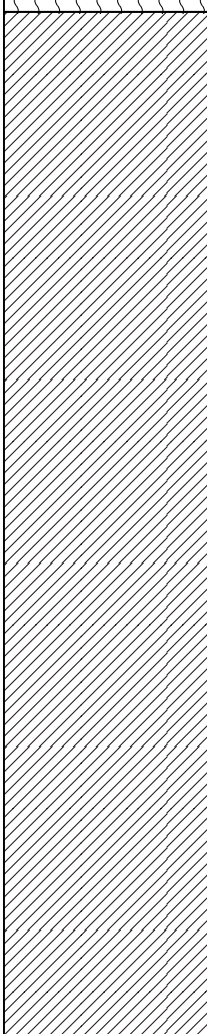
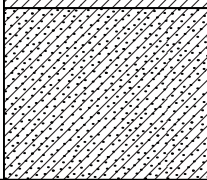
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GROUNDWATER MONITORING Well BH102

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,266,525N, 661,996,529E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 262.627 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/07/2021	TOTAL DEPTH 4 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS South of the dwelling

Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation BH101	Elevation (m)
			Topsoil			262.6
0.2						262.4
0.4						262.2
0.6			USCS: CL, brown damp clay			262
0.8						261.8
1						261.6
1.2						261.4
1.4						261.2
1.6						261
1.8						260.8
2						260.6
2.2						260.4
2.4						260.2
2.6						260
2.8						259.8
3						259.6
3.2						259.4
3.4						259.2
3.6			USCS: CL, grey wet clay	Groundwater measured at 3.5 m deep when drilling		259
3.8						258.8
4			Termination Depth at: 4 m			258.6

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GROUNDWATER MONITORING Well BH103

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,287,682N, 662,059,624E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 263.463 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/07/2021	TOTAL DEPTH 3.1 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS Southwest of the dwelling

Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			263.4
0.4						263.2
0.6			USCS: CL, brown damp clay			263
0.8						262.8
1						262.6
1.2						262.4
1.4						262.2
1.6						262
1.8						261.8
2			USCS: CL, grey wet clay			261.6
2.2				Groundwater measured at 2.2 m deep when drilling		261.4
2.4						261.2
2.6						261
2.8						260.8
3						260.6
			Termination Depth at: 3.1 m			260.4

GROUNDWATER MONITORING Well BH104

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,364,300N, 661,867,534E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 260.898 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/08/2021	TOTAL DEPTH 4 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS Southeast of the dwelling

Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			260.8
0.4			USCS: CL, brown damp clay			260.6
0.6						260.4
0.8						260.2
1.0						260
1.2						259.8
1.4						259.6
1.6			USCS:CL, grey wet clay			259.4
1.8				Groundwater measured at 1.8 m deep when drilling		259.2
2.0						259
2.2						258.8
2.4						258.6
2.6						258.4
2.8						258.2
3.0						258
3.2						257.8
3.4						257.6
3.6						257.4
3.8						257.2
4.0			Termination Depth at: 4 m			257

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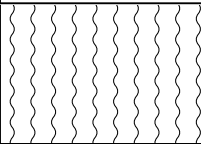
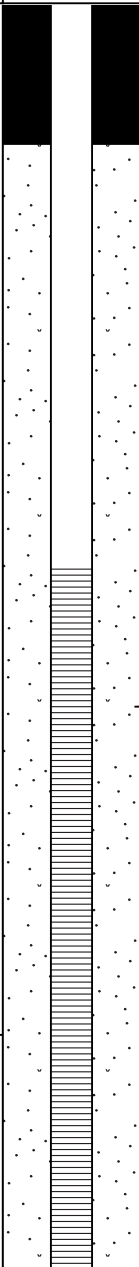
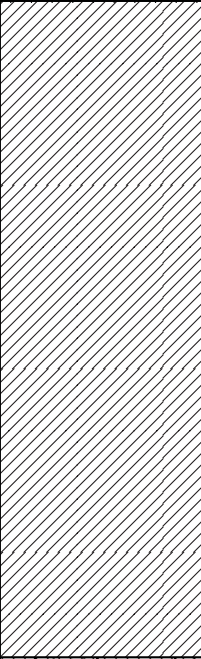
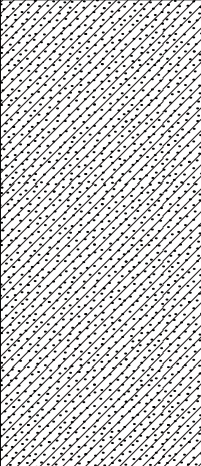
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GROUNDWATER MONITORING Well BH105

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,404,509N, 661,950,440E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 261.746 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/09/2021	TOTAL DEPTH 2.7 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

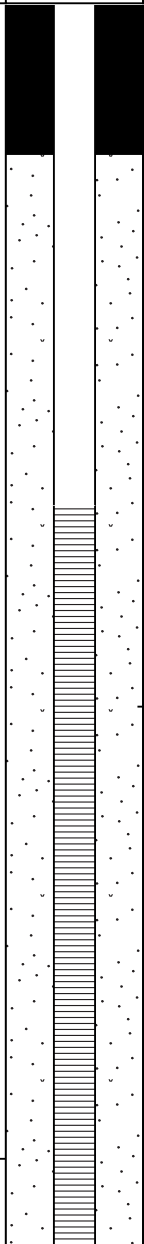
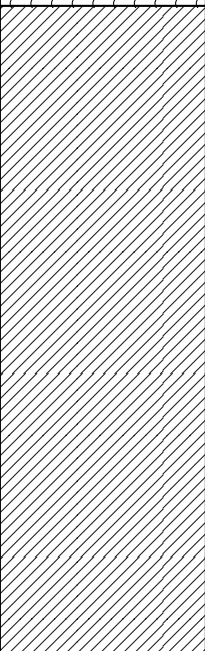
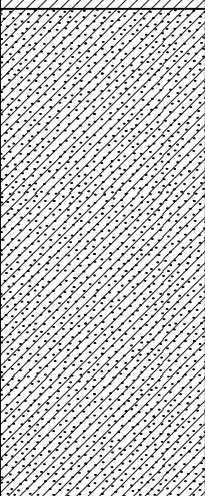
COMMENTS Middle of the field

Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			261.6
0.4			USCS: CL, brown damp clay			261.4
0.6						261.2
0.8						261
1						260.8
1.2						260.6
1.4						260.4
1.6						260.2
1.8			USCS: CL, grey wet clay			260
2						259.8
2.2				Groundwater measured at 2.2 m deep when drilling		259.6
2.4						259.4
2.6						259.2
2.8			Termination Depth at: 2.7 m	Bearing capacity tested at 2.7m deep is 1200 KPa at without displacement		259
						258.8

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,440,761N, 662,026,623E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 262.448 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/15/2021	TOTAL DEPTH 2.5 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS Middle of the field

Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			262.4
0.4			USCS: CL, damp grey clay			262.2
0.6						262
0.8						261.8
1						261.6
1.2						261.4
1.4						261.2
1.6			USCS: CL, wet grey clay			261
1.8						260.8
2						260.6
2.2						260.4
2.4				Groundwater measured at 2.2 m deep when drilling		260.2
2.6			Termination Depth at: 2.5 m			260
						259.8

GROUNDWATER MONITORING Well BH107

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,471,381N, 661,771,905E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 260.092 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/08/2021	TOTAL DEPTH 3.1 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS East of the dwelling

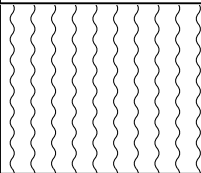
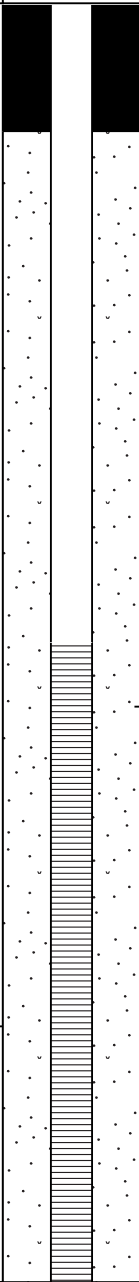
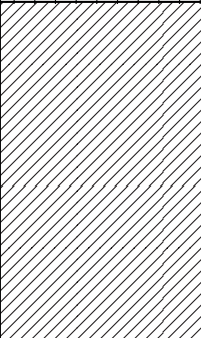
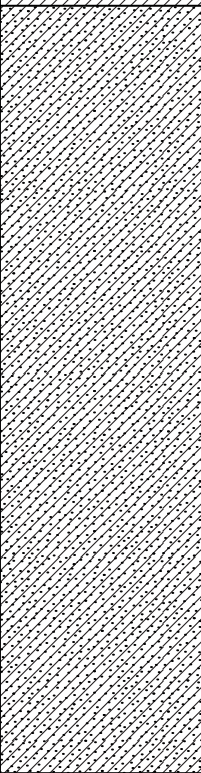
Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			260
0.4			USCS: CL, brown damp clay			259.8
0.6						259.6
0.8						259.4
1						259.2
1.2						259
1.4						258.8
1.6						258.6
1.8						258.4
2			USCS: CL, grey wet clay			258.2
2.2				Groundwater measured at 2.2 m deep when drilling		258
2.4						257.8
2.6						257.6
2.8						257.4
3						257.2
			Termination Depth at: 3.1 m			257

GROUNDWATER MONITORING Well BH108

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,508,262N, 661,897,120E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 261.729 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/09/2021	TOTAL DEPTH 3 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS Middle of the field

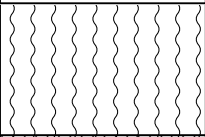
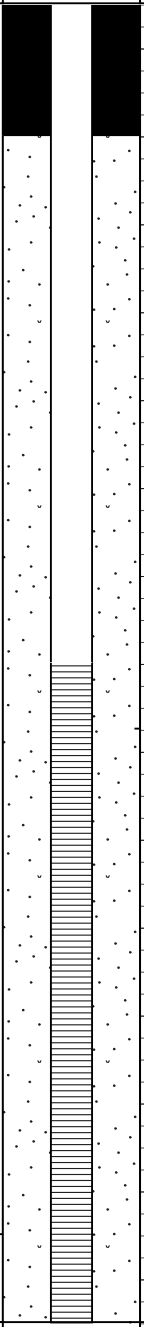
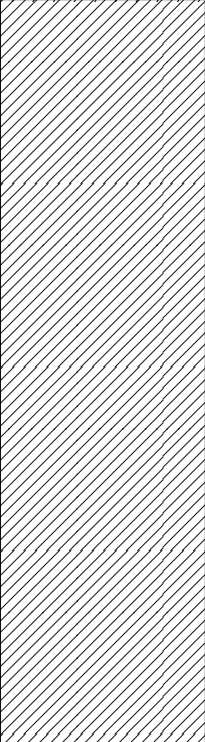
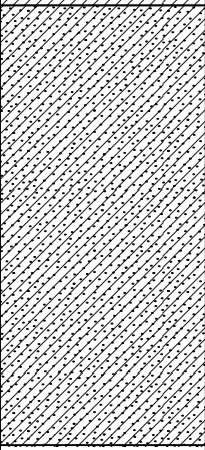
Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			261.6
0.4			USCS: CL, damp grey clay			261.4
0.6						261.2
0.8						261
1						260.8
1.2			USCS: CL, wet grey clay			260.6
1.4						260.4
1.6						260.2
1.8						260
2						259.8
2.2						259.6
2.4				Groundwater measured at 2.4 m deep when drilling		259.4
2.6						259.2
2.8						259
3			Termination Depth at: 3 m	Bearing capacity tested at 3m deep is 1000 KPa at without displacement		258.8
3.2						258.6

GROUNDWATER MONITORING Well BH109

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,544,885N, 661,976,834E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 261.704 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/09/2021	TOTAL DEPTH 3 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS Middle & west of the field

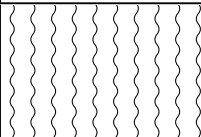
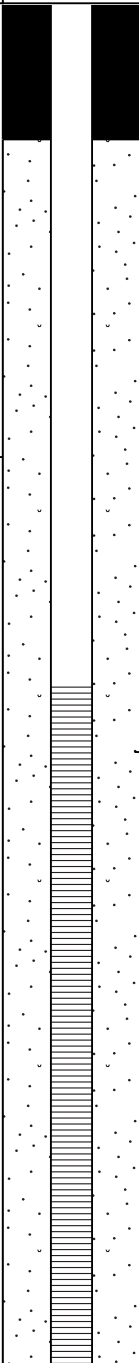
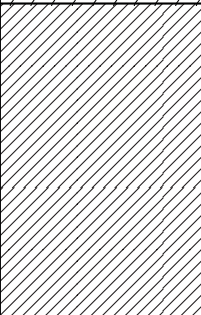
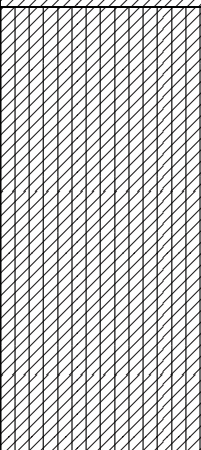
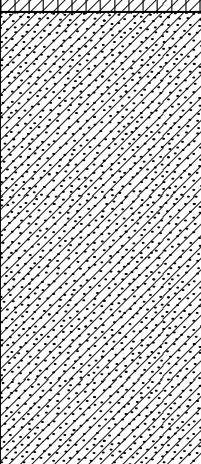
Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			261.6
0.4			USCS: CL, damp grey clay			261.4
0.6						261.2
0.8						261
1						260.8
1.2						260.6
1.4						260.4
1.6						260.2
1.8						260
2						259.8
2.2			USCS: CL, wet grey clay			259.6
2.4						259.4
2.6						259.2
2.8				Groundwater measured at 2.8 m deep when drilling		259
3			Termination Depth at: 3 m	Bearing capacity tested at 3m deep is 1200 KPa at 40mm displacement		258.8
						258.6

GROUNDWATER MONITORING Well BH110

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,788,529N, 661,612,830E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 256.346 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/14/2021	TOTAL DEPTH 3.1 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS Northeast corner of the field

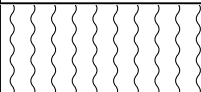
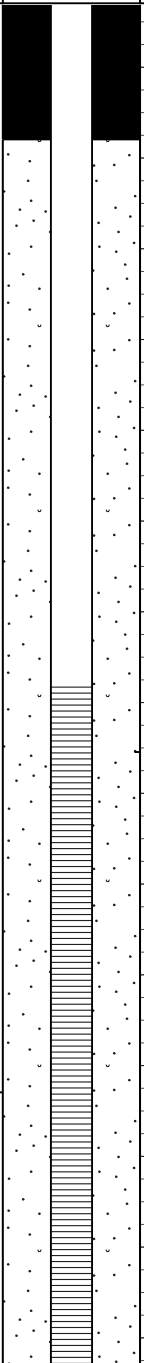
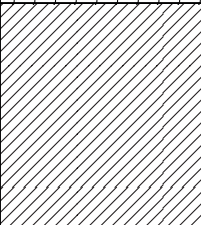
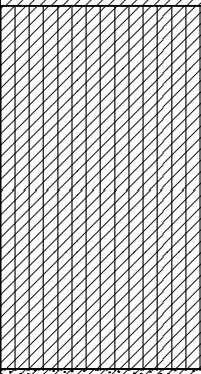
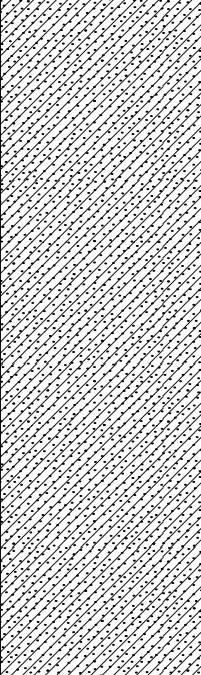
Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			256.2
0.4			USCS: dark yellow sand			256
0.6						255.8
0.8						255.6
1						255.4
1.2			USCS: CL, grey damp clay	Groundwater measured at 1 m deep when drilling		255.2
1.4						255
1.6						254.8
1.8						254.6
2						254.4
2.2			USCS: CL, grey wet clay			254.2
2.4						254
2.6						253.8
2.8						253.6
3			Termination Depth at: 3m	Bearing capacity tested at 3m deep is 1000 KPa at less than 40cm displacement		253.4

GROUNDWATER MONITORING Well BH111

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,841,025N, 661,720,391E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 257.541 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/14/2021	TOTAL DEPTH 3.1 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS North and middle location of the field

Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			257.4
0.4			USCS: dark yellow sand			257.2
0.6						257
0.8			USCS: CL, grey damp clay			256.8
1.0						256.6
1.2						256.4
1.4						256.2
1.6			USCS: CL, grey wet clay			256
1.8						255.8
2.0						255.6
2.2						255.4
2.4						255.2
2.6				Groundwater measured at 1 m deep when drilling		255
2.8						254.8
3.0			Termination Depth at: 3m	Bearing capacity tested at 3m deep is 1600 KPa at no displacement		254.6

GROUNDWATER MONITORING Well BH112

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,893,893N, 661,842,834E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 258.759 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/14/2021	TOTAL DEPTH 3 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS North and middle location of the field

Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.2			Topsoil			258.6
0.4			USCS: CL, grey damp clay			258.4
0.6						258.2
0.8						258
1						257.8
1.2						257.6
1.4						257.4
1.6			USCS: CL, grey wet clay	Groundwater measured at 1.5 m deep when drilling		257.2
1.8						257
2						256.8
2.2						256.6
2.4						256.4
2.6						256.2
2.8						256
3			Termination Depth at: 3m	Bearing capacity tested at 3m deep is 1700 KPa at no displacement		255.8

GROUNDWATER MONITORING Well BH113

PROJECT NUMBER	DRILLING COMPANY King EPCM	COORDINATES 4884,926,436N, 661,327,919E
PROJECT NAME	DRILLER Pincheng Zhao, Yung Chong	COORD SYS UTM-17
CLIENT	DRILL RIG	SURFACE ELEVATION 255.121 AMSL
ADDRESS 1401 Scugog Line 6, Port Perry	DRILLING METHOD Continuous Flight Auger	WELL TOC None
DRILLING DATE 12/13/2021	TOTAL DEPTH 2.1 m	LOGGED BY Pincheng Zhao
LICENCE NO. C-7691	DIAMETER 1.5 inch	CHECKED BY Tony Wang, P Eng, Principal Engineer

COMPLETION **CASING** 1.25 inch **SCREEN** 1.25 inch

COMMENTS Northeast of the dwelling near the swamp

Depth (m)	Graphic Log	USCS SAMPLES	Material Description	Additional Observations	Well Installation	Elevation (m)
0.1			Topsoil			255.1
0.2						255.0
0.3						254.9
0.4			USCS: ML, Silt of low plasticity	Groundwater measured at 0.7 m deep when drilling		254.8
0.5						254.7
0.6						254.6
0.7						254.5
0.8						254.4
0.9						254.3
1.0						254.2
1.1						254.1
1.2						254.0
1.3						253.9
1.4						253.8
1.5						253.7
1.6						253.6
1.7						253.5
1.8						253.4
1.9						253.3
2.0						253.2
2.1						253.1
2.1			Termination Depth at: 2.1 m			253.0

APPENDIX IV – CERTIFICATE OF ANALYSIS

7 Margaret Street, Garson, ON, P3L 1E1 • 705-693-1121 (P) • 705-693-1124 (F) • customer.service@testmark.ca
1335 Riverside Drive, Timmins, ON, P4R 1A6 • 705-531-1121 (P) • 705-531-1125 (F) • timmins@testmark.ca
6820 Kitimat Road Unit #1, Mississauga, ON, L5N 5M3 • 905-821-1112 (P) • 905-821-2095 (F) • mississauga@testmark.ca
1470 Government Road, Kirkland Lake, ON P2N 3J1 • 705-642-3361 (P) • 705-642-3222 (F) • kirkland.lake@testmark.ca
1131 Central Ave., Unit 2 Thunder Bay, ON P7B 7C9 • 807-333-0921 (P) • 807-333-0924 (F) • thunder.bay@testmark.ca



464873 D

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CERTIFICATE OF ANALYSIS

Client:	Tony Wang	Work Order Number:	464873
Company:	KING EPCM	PO #:	
Address:	204-304 Toronto Street South Uxbridge, ON, L9P 1Y2	Regulation:	O.Reg 153 Table 3 Ground Water (Coarse)
Phone:	64745956	Project #:	Scugog Line 6 Port Perry
Email:	kingepcm@outlook.com	DWS #:	
		Sampled By:	C.Chen
Date Order Received:	6/2/2022	Analysis Started:	6/2/2022
Arrival Temperature:	18.7 °C	Analysis Completed:	6/9/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
BH 111	1761040	Ground Water	None		6/1/2022	9:15 AM
BH 110	1761041	Ground Water	None		6/1/2022	9:25 AM
BH 113	1761042	Ground Water	None		6/1/2022	9:45 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
BTEX/F1 Water (A127)	Mississauga	Determination of PHC BTEX/F1 in Water - Tier 1 CCME	Modified from CWS PHC Tier I CCME
ICPMS Dis. Water (A13)	Mississauga	Determination of Dissolved (Lab Filtered) Metals in Water by ICP/MS	Modified from SW846-6020
pH of Water (A2.0)	Mississauga	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
PHC F2-F4 Water (A59)	Mississauga	Determination of PHC (F2-F4) in Water - Tier 1 CCME by GC/FID	Modified from CWS PHC Tier I CCME
VOC Water (A14)	Mississauga	Determination of Volatile Organic Compounds in Water by P&T/GC/MS	Modified from EPA SW846-8260 B



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CERTIFICATE OF ANALYSIS

KING EPCM

Work Order Number: 464873

This report has been approved by:

Marc Creighton
Laboratory Director



CERTIFICATE OF ANALYSIS

KING EPCM

Work Order Number: 464873

WORK ORDER RESULTS

Sample Description	BH 111		BH 110		BH 113			
Sample Date	6/1/2022 9:15 AM		6/1/2022 9:25 AM		6/1/2022 9:45 AM			
Lab ID	1761040		1761041		1761042			
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 3 Ground Water (Coarse)
pH	7.94	N/A	7.99	N/A	7.9	N/A	pH	~

Sample Description	BH 111		BH 110		BH 113			
Sample Date	6/1/2022 9:15 AM		6/1/2022 9:25 AM		6/1/2022 9:45 AM			
Lab ID	1761040		1761041		1761042			
Metals (Dissolved)	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 3 Ground Water (Coarse)
Dissolved Antimony	<0.5 [<0.5]	0.5	<0.5	0.5	<0.5	0.5	ug/L	20000
Dissolved Arsenic	<1 [<1]	1	<1	1	<1	1	ug/L	1900
Dissolved Barium	160 [158]	10	130	1	35	1	ug/L	29000
Dissolved Beryllium	<0.5 [<0.5]	0.5	<0.5	0.5	<0.5	0.5	ug/L	67
Dissolved Boron	52 [51]	2	44	2	15	2	ug/L	45000
Dissolved Cadmium	<0.1 [<0.1]	0.1	<0.1	0.1	<0.1	0.1	ug/L	2.7
Dissolved Chromium	6 [5]	1	5	1	6	1	ug/L	810
Dissolved Copper	2 [2]	1	3	1	4	1	ug/L	87
Dissolved Lead	<0.1 [<0.1]	0.1	<0.1	0.1	<0.1	0.1	ug/L	25



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CERTIFICATE OF ANALYSIS

KING EPCM

Work Order Number: 464873

Sample Description	BH 111		BH 110		BH 113			
Sample Date	6/1/2022 9:15 AM		6/1/2022 9:25 AM		6/1/2022 9:45 AM			
Lab ID	1761040		1761041		1761042			
Metals (Dissolved)	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 3 Ground Water (Coarse)
Dissolved Molybdenum	1.2 [1.5]	0.5	2.9	0.5	<0.5	0.5	ug/L	9200
Dissolved Nickel	4 [4]	1	4	1	5	1	ug/L	490
Dissolved Selenium	0.6 [<0.5]	0.5	0.9	0.5	<0.5	0.5	ug/L	63
Dissolved Silver	<0.1 [<0.1]	0.1	<0.1	0.1	<0.1	0.1	ug/L	1.5
Dissolved Thallium	<0.1 [<0.1]	0.1	<0.1	0.1	<0.1	0.1	ug/L	510
Dissolved Uranium	<1 [<1]	1	3	1	<1	1	ug/L	420
Dissolved Vanadium	1.5 [1.4]	0.5	2.7	0.5	2.3	0.5	ug/L	250
Dissolved Zinc	<1 [<1]	1	<1	1	<1	1	ug/L	1100

Sample Description	BH 111		BH 110		BH 113			
Sample Date	6/1/2022 9:15 AM		6/1/2022 9:25 AM		6/1/2022 9:45 AM			
Lab ID	1761040		1761041		1761042			
Petroleum Hydrocarbons (Water)	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 3 Ground Water (Coarse)
F1 (C6-C10) - Less BTEX (Calc.)	<20	20	<20	20	<20	20	ug/L	750
F1 (C6-C10) Incl. BTEX	<20	20	<20	20	<20	20	ug/L	~
F2 (C10-C16)	<100	100	<100	100	<100	100	ug/L	150
F3 (C16-C34)	<500	500	<500	500	<400	400	ug/L	500



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CERTIFICATE OF ANALYSIS

KING EPCM

Work Order Number: 464873

Sample Description	BH 111		BH 110		BH 113			
Sample Date	6/1/2022 9:15 AM		6/1/2022 9:25 AM		6/1/2022 9:45 AM			
Lab ID	1761040		1761041		1761042			
Petroleum Hydrocarbons (Water)	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 3 Ground Water (Coarse)
F4 (C34-C50)	<200	200	<200	200	<100	100	ug/L	500
Baseline @ C50	Yes	N/A	Yes	N/A	Yes	N/A	NA	~
1,4-dichlorobenzene-d4 (Surr.)	112	N/A	122	N/A	111	N/A	% Rec	~
o-Terphenyl (Surr.)	ND	N/A	ND	N/A	ND	N/A	% Rec	~
undecane (Surr.)	13.2	N/A	10.2	N/A	17.5	N/A	% Rec	~

Sample Description	BH 111		BH 110		BH 113			
Sample Date	6/1/2022 9:15 AM		6/1/2022 9:25 AM		6/1/2022 9:45 AM			
Lab ID	1761040		1761041		1761042			
Volatile Organic Compounds	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 3 Ground Water (Coarse)
Benzene	<0.2	0.2	<0.2	0.2	<0.2	0.2	ug/L	44
Ethylbenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	2300
Toluene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	18000
m+p-Xylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	~
o-Xylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	~
Total Xylenes (Calc.)	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	4200
1,1,1,2-Tetrachloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	3.3
1,1,1-Trichloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	640
1,1,2,2-Tetrachloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	3.2
1,1,2-Trichloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	4.7



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CERTIFICATE OF ANALYSIS

KING EPCM

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Sample Date	6/1/2022 9:15 AM		6/1/2022 9:25 AM		6/1/2022 9:45 AM			
Lab ID	1761040		1761041		1761042			
Volatile Organic Compounds	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 3 Ground Water (Coarse)
1,1-Dichloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	320
1,1-Dichloroethylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	1.6
1,2-Dibromoethane	<0.2	0.2	<0.2	0.2	<0.2	0.2	ug/L	0.25
1,2-Dichlorobenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	4600
1,2-Dichloroethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	1.6
1,2-Dichloroethane-d4 (Surr)	101	N/A	103	N/A	101	N/A	% Rec	~
1,2-Dichloropropane	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	16
1,3-Dichlorobenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	9600
1,4-Dichlorobenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	8
1-Bromo-4-fluorobenzene (Surr.)	84.7	N/A	82.5	N/A	89.4	N/A	% Rec	~
Acetone	<30	30	432	30	46	30	ug/L	130000
Bromodichloromethane	<0.2	0.2	<0.2	0.2	<0.2	0.2	ug/L	85000
Bromoform	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	380
Bromomethane	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	5.6
Carbon tetrachloride	<0.2	0.2	<0.2	0.2	<0.2	0.2	ug/L	0.79
Chlorobenzene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	630
Chloroform	<1	1	<1	1	<1	1	ug/L	2.4
cis - + trans-1,3-Dichloropropene (Calc.)	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	5.2
cis-1,2-Dichloroethylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	1.6
cis-1,3-Dichloropropene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	~
Dibromochloromethane	<2	2	<2	2	<2	2	ug/L	82000
Dichlorodifluoromethane	<2	2	<2	2	<2	2	ug/L	4400



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Sample Date	6/1/2022 9:15 AM		6/1/2022 9:25 AM		6/1/2022 9:45 AM			
Lab ID	1761040		1761041		1761042			
Volatile Organic Compounds	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 3 Ground Water (Coarse)
Dichloromethane	<5	5	<5	5	<5	5	ug/L	610
Methyl ethyl ketone	<20	20	<20	20	<20	20	ug/L	470000
Methyl isobutyl ketone (MIBK)	<20	20	<20	20	<20	20	ug/L	140000
Methyl tert-butyl ether (MTBE)	<2	2	<2	2	<2	2	ug/L	190
n-Hexane	<5	5	<5	5	<5	5	ug/L	51
Styrene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	1300
Tetrachloroethylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	1.6
Toluene-d8 (Surr.)	108	N/A	108	N/A	107	N/A	% Rec	~
Trans-1,2-dichloroethylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	1.6
Trans-1,3-dichloropropene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	~
Trichloroethylene	<0.5	0.5	<0.5	0.5	<0.5	0.5	ug/L	1.6
Trichlorofluoromethane	<5	5	<5	5	<5	5	ug/L	2500
Vinyl chloride	<0.1	0.1	<0.1	0.1	<0.1	0.1	ug/L	0.5



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CERTIFICATE OF ANALYSIS

KING EPCM

Work Order Number: 464873

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

% Rec: Surrogate compounds are added to the sample in some cases and the recovery is reported as a % recovered.

~: In a criteria column indicates the criteria is not applicable for the parameter row.

Quality Control: All associated Quality Control data is available on request.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

Reproduction of Report: Report shall not be reproduced, except in full, without the approval of Testmark Laboratories Ltd.

ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.

APPENDIX V – SURVEY OF PHASE II PROPERTY

SURVEYOR'S REAL PROPERTY REPORT
PART 1 - PLAN OF
CONCESSION 6
TOWNSHIP OF SCUGOG
REGIONAL MUNICIPALITY OF DURHAM

SCALE 1:1500
75m 37.5 0 75 METRES
MANDARIN SURVEYORS LIMITED, O.L.S. (C)

METRIC
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE
CONVERTED TO FEET BY DIVIDING BY 0.3048

LEGEND

- DENOTES MONUMENT SET
- SB DENOTES MONUMENT FOUND
- SB DENOTES STANDARD IRON BAR
- SB DENOTES IRON BAR
- SB DENOTES SHORT STANDARD IRON BAR
- P1 DENOTES PLAN 40R-18803
- P2 DENOTES PLAN 40R-27161
- P3 DENOTES PLAN 40R-10590
- P4 DENOTES PLAN 40R-18167
- P5 DENOTES PLAN 40R-12137
- CAL'D DENOTES CALCULATED FROM P1 AND P2
- WT DENOTES WITNESS
- PN DENOTES PROPERTY IDENTIFIER NUMBER
- M DENOTES MEASURED
- N.S.E.W. DENOTES NORTH, SOUTH, EAST, WEST
- W.F. DENOTES WIRE FENCE
- C.S.P. DENOTES CORRUGATED STEEL PIPE
- INV DENOTES INVERT ELEVATION
- 1183 DENOTES H. F. GRANDER CO. LTD., O.L.S.
- 1174 DENOTES B.T. DAVES, O.L.S.
- NI DENOTES NOT IDENTIFIABLE
- D.S. DENOTES FINISHED SILL ELEVATION AT ENTRY
- O.H.W. DENOTES OVERHEAD WIRE
- T.O.B. DENOTES TOP OF BANK
- H.T. DENOTES HYDRO TRANSFORMER
- C.M. DENOTES CONCRETE MANHOLE
- W.H. DENOTES FIRE HYDRANT
- P.A. DENOTES POLE ANCHOR
- U.P. DENOTES UTILITY POLE
- U.P.L. DENOTES UTILITY POLE WITH LIGHT STANDARD
- W.V. DENOTES WATER VALVE
- C.B. DENOTES CATCH BASIN
- CT DENOTES CONIFEROUS TREE
- DT DENOTES DECIDUOUS TREE

ALL TIES TO CONCRETE FOUNDATION, UNLESS NOTED OTHERWISE.
BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS,
BY REAL TIME NETWORK OBSERVATIONS, UTM ZONE 17, NAD 83.

BENCHMARK NOTE

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO THE
TOWNSHIP OF SCUGOG BENCHMARK No.366-71 HAVING AN ELEVATION OF
259.348 M. DATUM: GVD28.78, LOCATED AT TWO-STORY RED BRICK HOUSE
ON WEST SIDE OF HWY 7 AND 12, 1.9 KM NORTH OF JCT OF HWY 7 AND 12
AND HWY 7A AT MANCHESTER, 0.5 KM NORTH OF SCUGOG 6TH LINE AND 28.6M
WEST OF CENTRELINE OF HWY 7 AND 12. TABLET IS SET HORIZONTALLY IN
NORTH FACE OF STONE FOUNDATION, 1.40 M WEST OF NORTHEAST CORNER
AND 43 CM BELOW BRICKWORK.

THIS REPORT WAS PREPARED FOR WANLONG REAL ESTATE DEVELOPMENT LTD.
AND THE UNDERSIGNED ACCEPTS NO RESPONSIBILITY FOR ITS USE BY OTHER
PARTIES.

PART 2 (SURVEY REPORT)

1. REGISTERED EASEMENTS AND/OR RIGHT OF WAYS, TOGETHER WITH AN
EASEMENT AS IN L1936579, SUBJECT TO AN EASEMENT IN FAVOR OF
ONTARIO HIGHWAY AS SET OUT IN INST. No. RH17533 AND RH17659.
2. ADDITIONAL COMMENTS: NOTE THE LOCATION OF THE FENCES AROUND THE
WESTERLY LIMITS OF THE SUBJECT PROPERTY.
NOTE ALSO THE LOCATION OF THE OVERHEAD WIRE AND POLE ANCHORS.
3. THIS PLAN DOES NOT CERTIFY COMPLIANCE WITH ZONING BY-LAWS.

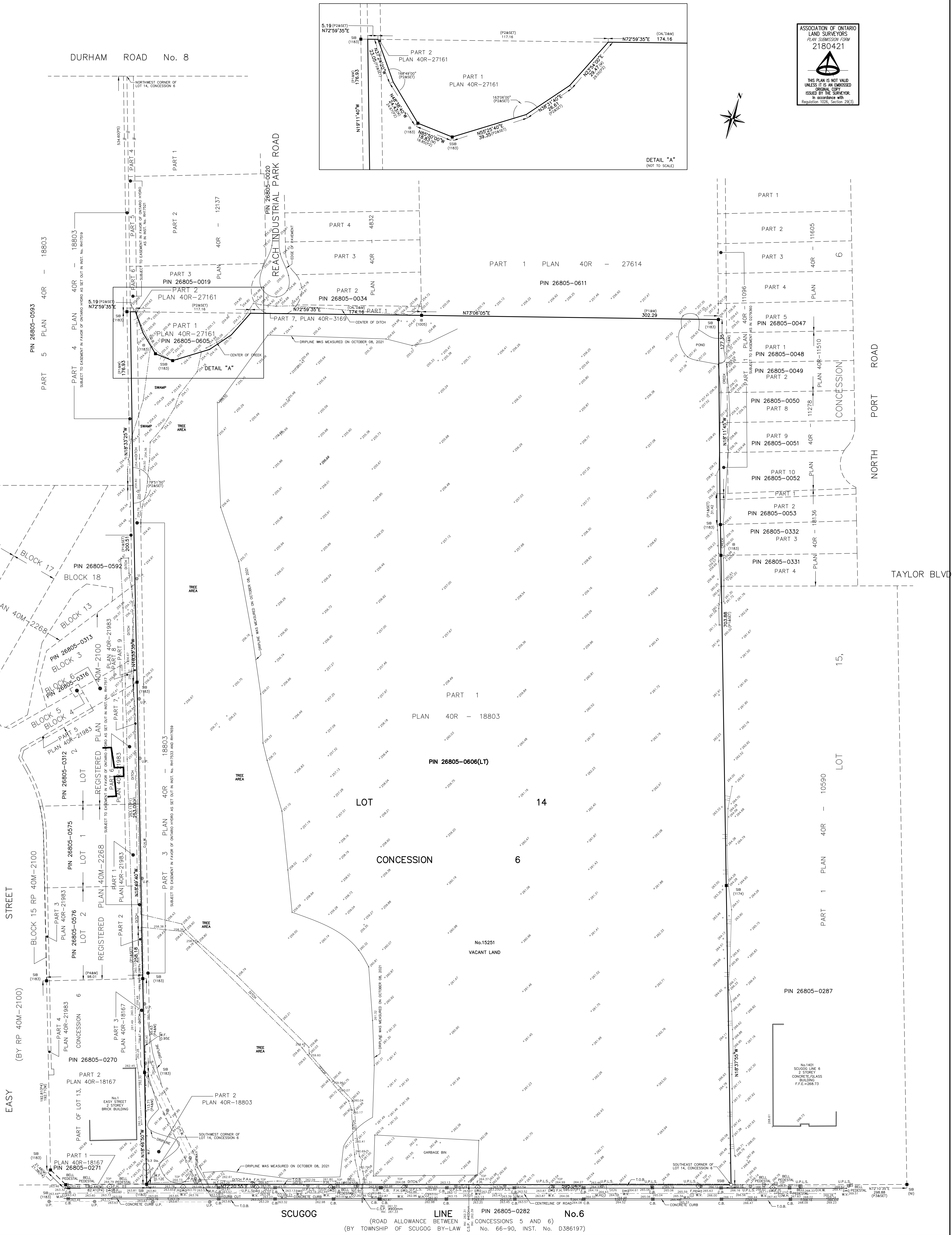
SURVEYOR'S CERTIFICATE

- I CERTIFY THAT:
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE
WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE
REGULATIONS MADE UNDER THEM.
 2. THE SURVEY WAS COMPLETED ON THE 08th DAY OF OCTOBER, 2021

NOVEMBER 1, 2021

DATE Z. ZENG ONTARIO LAND SURVEYOR

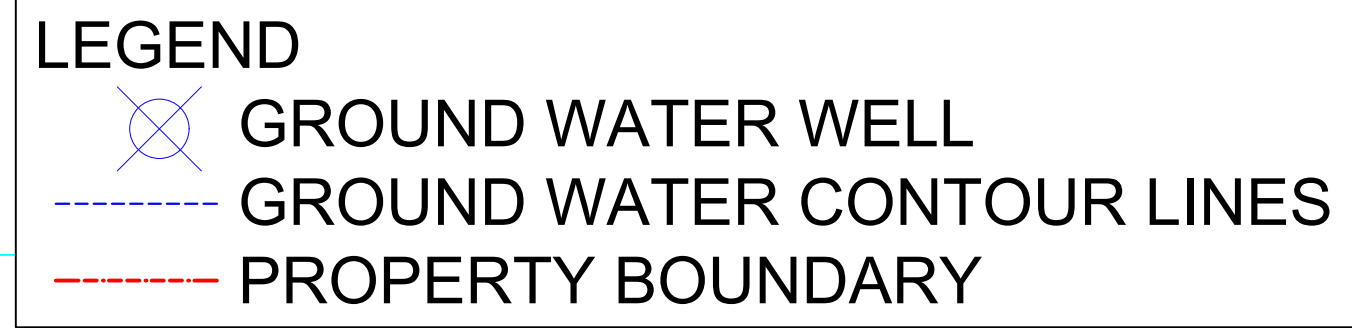
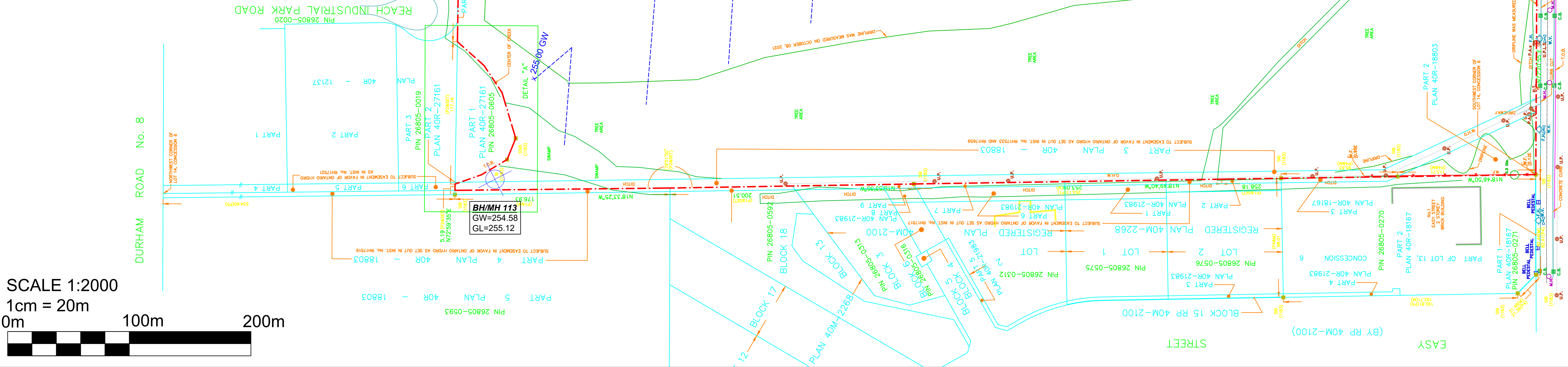
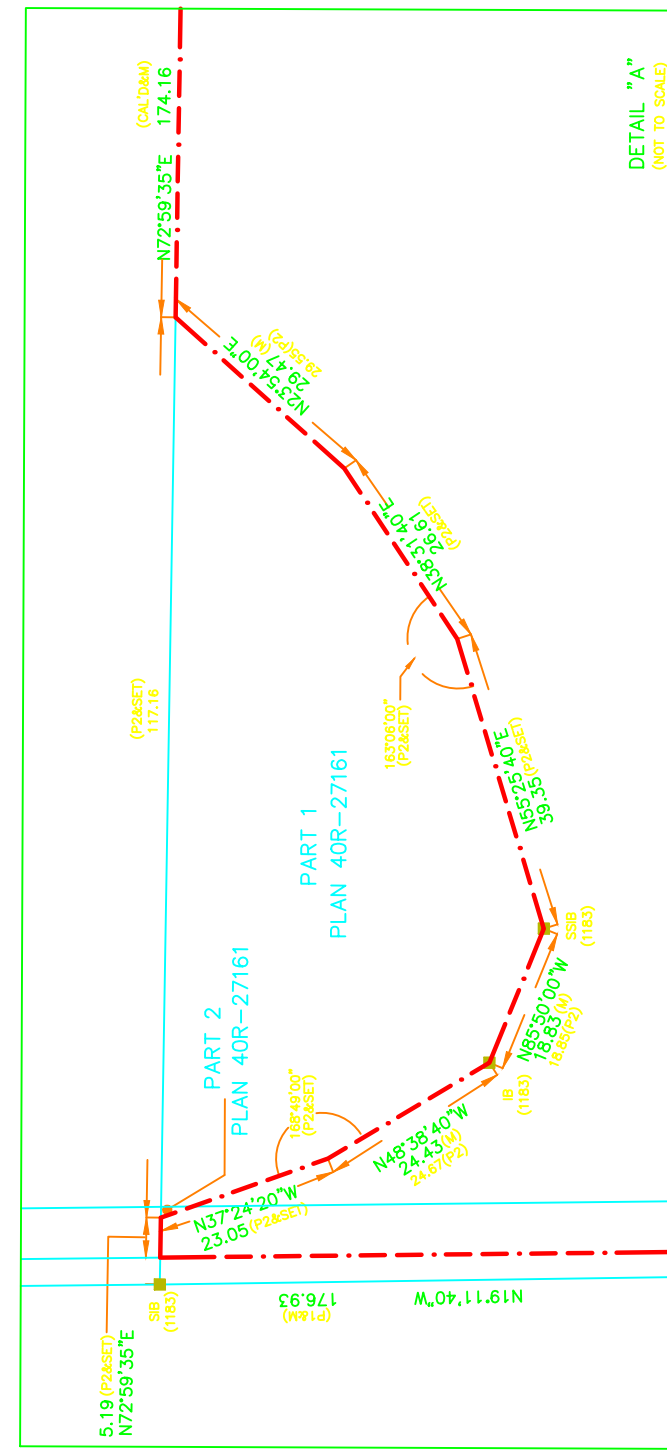
MANDARIN SURVEYORS LIMITED
ONTARIO LAND SURVEYOR CANADA LANDS SURVEYOR
WWW.MANDARINSURVEYOR.COM
2400 MIDLAND AVE., #121 PHONE: (647)430-1366 FAX: (647)799-4088
SCARBOROUGH, ONTARIO, M1S 1X7 E-MAIL: MANDARINSURVEYOR@GMAIL.COM
SURVEY BY: S.Z. CAD No. 21-491SRPR JOB No. 2021-491



THIS PLAN IS NOT VALID
UNLESS IT IS AN EMBOSSED
ORIGINAL COPY
ISSUED BY THE SURVEYOR.
In accordance with
Regulation 1002, Section 28(3)

APPENDIX VI – PHASE II CONCEPTUAL SITE MODEL

- PROPERTY BOUNDARY IS REFERENCED BY "MANDARIN SURVEYORS LIMITED" ON NOV. 01 2021
- GROUND AND GROUNDWATER LEVEL WERE MEASURED BY "KING EPCM" ON DEC. 2021 AND JUN. 2022, SEPARATELY



DRAWN	STAMP
ZW	
DATE	
JUN 28, 2022	

The logo for KING EPCM features the word "KING" in large, yellow, outlined serif capital letters. To the right of "KING", the letters "E", "P", "C", and "M" are stacked vertically in a smaller, blue, outlined serif font. Below this, the text "King EPCM" is written in a bold, black, sans-serif font. Underneath that, the address "204-304 Toronto Street South" and "Uxbridge, ON, L9P 1Z7" are listed in a black, sans-serif font. The contact information "www.KingEPCM.com", "647-459-5647", and "General@KingEPCM.com" is provided at the bottom in a black, sans-serif font.

KING E
P
C
M

King EPCM

204-304 Toronto Street South
Uxbridge, ON, L9P 1Z7

www.KingEPCM.com
647-459-5647
General@KingEPCM.com

CLIENT

**WANLONG REAL ESTATE
DEVELOPMENT LTD.**

PROJECT NAME
GROUND WATER WELLS LOCATION AND FLOW DIRECTION

PROJECT LOCATION

**SCUGOG LINE 6, PORT
PERRY, ON
PART-1, PLAN 40R - 18803**

PRINT TITLE

**GROUNDWATER
MEASUREMENT**

FILE No.

EGR - 1.1

No.	ISSUED FOR:	DATE	DRAW BY	CHECK
V1	INTERNAL REVIEW	JUN 28, 2022	ZW	



NOTES	 King EPCM 204-304 Toronto Street South Uxbridge, ON, L9P 1Y2 www.KingEPCM.com 647-459-5647 Twang@KingEPCM.com	PRINT TITLE				PHASE I STUDY AREA	
		PROJECT TITLE				PHASE I ENVIRONMENTAL SITE ASSESSMENT	
		SITE ADDRESS				SCUGOG LINE 6, PORT PERRY ONTARIO	
		SCALE:	NTS	DATE:	NOV 1, 2021	BY:	SIMON X.