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REPORT ON THE GEOHYDROLOGICAL INVESTIGATION IN SUPPORT OF A WATER USE LICENSE APPLICATION FOR THE PROPOSED CATO RIDGE LAND DEVELOPMENT AND RELEASE PROJECT – ETHEKWINI MUNICIPALITY

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REPORT ON THE GEOHYDROLOGICAL INVESTIGATION IN SUPPORT OF A WULA FOR THE PROPOSED CATO RIDGE LAND DEVELOPMENT AND RELEASE PROJECT – ETHEKWINI MUNICIPALITY

1. INTRODUCTION, TERMS OF REFERENCE AND SCOPE OF WORK

As per our accepted budget proposal and the issued Purchase Orders (No. 161020 and 161022) dated 13/03/2023, we have undertaken the geohydrological investigation in support of the Water Use License Application (WULA) for the Cato Ridge Land Development and Release Project in the Cato Ridge area of the eThekwini Municipality, including the construction of a modular wastewater treatment plant with an effluent discharge point, as well as the related infrastructure including pipelines, collection sumps and pump stations,.

The scope of work as part of this investigation is detailed hereafter:

Phase A – Initial Desktop Assessment

- Identification and delineation of all surface water sources / bodies in proximity to the study area
- Assessment of any applicable existing reports / information pertaining to the project, should they be available
- Desktop study of, and collation of information pertaining to, the geology and geohydrology of the area
- Undertaking of a desktop hydrocensus within a 5 km radius of the site, utilising the DWS National Groundwater Archives (NGA), KZN GRIP and our in-house (Geom) borehole database
- Assessment of DWS-mapped structures in proximity to the study area, in accordance with the regional geological map
- Assessment of other relevant GIS data and mapping information pertaining to the study area and this project

Phase B – Geohydrological Site Investigations

- Site walkover inspection and reconnaissance of the receiving environment to identify surface and subsurface migration pathways as well as potential receptors located in the study area.
- Identification and delineation of existing point-source pollution sources within the study area, should any be in evidence
- Performance of a hydrocensus within a 5 km radius of the study area with the aim of identifying any functional groundwater boreholes or monitoring wells.

- Collection of up to five (5) water samples from boreholes / springs and possibly surface water sources (upstream and downstream of the development area) located within the area for submission to a SANAS-accredited laboratory for analysis according to the abbreviated SANS 241: 2015 suite of determinants with the addition of ammonia (NH_3), free and saline ammonia and ammonium (NH_4), to allow for the assessment of water quality on-site / within the study area.

Phase C – Data Evaluation and Reporting

- Preparation of a geohydrological investigation report, where the following is included:

  - field investigation methodologies and applicable principles

  - results of the hydrocensus, including the position of, and distance to, identified groundwater sources as well as the gathered pertinent groundwater field characteristics

  - inferred geology and geohydrology of the area, through the inclusion of gathered field data, laboratory data and the available desktop information

  - possible impacts of this development on the downstream environment and groundwater resources in its vicinity, and any existing geohydrological constraints

  - compilation of detailed maps showing water sources and pollution sources

  - interpretation of field and desktop data

  - capturing of the laboratory data and running of a Tier I screening exercise, through the use of the results of the water samples submitted for analysis, as based on site-appropriate RSA SSVs.

  - performance of a Tier II quantitative risk assessment model, in the event that Contaminants of Concern emerge from the Tier I screening exercise, to define any potential health and environmental risk to both on- and off-site receptors (human and environment).

  - identification of the geohydrological risks

  - recommendations for potentially significant impacts including mitigation measures and possible remediation solutions

  - preparation of a surface and groundwater monitoring programme.

2. DATA INFORMATION SOURCES

The following were used as sources of data / information during the formulation of this report:

- Maps:

  - 1 : 250 000 scale 2930 Durban topographic map
  - 1 : 250 000 scale 2930 Durban geological map
  - 1 : 50 000 scale 2930 CB topographic map
  - ESRI ArcMap Imagery

- GIS Databases:

  - DWS KZN GRIP borehole database (2011)
  - Geomeasure Group borehole database (2015)
  - National Groundwater Archive (NGA) Borehole Database (2023)
  - DWS digitized KwaZulu-Natal dolerite dykes, geological faults and lineaments

- Published Information:

  - Groundwater Consulting Services (1995). Characterisation and Mapping of the Groundwater Resources of KwaZulu-Natal Province Mapping Unit 2. *Department of Water Affairs and Forestry*, Pretoria.

3. PROJECT LOCATION & DESCRIPTION

The proposed Cato Ridge Land Development and Release Project, hereon referred to as the site, is located in the Cato Ridge area in the eThekwini Municipality. The area is accessed via Eddie Hagen Road off the R103, which is in turn accessed off the N3 National Highway at Cato Ridge. The central geographical coordinates of the site are 29º 42' 26.28" S and 30º 37' 19.52"E. The site location is shown on the attached Locality Plan – Dwg No. 2022/151 Figure 1.

The proposed site is being developed to make land available for a combination of land use options for future end users to enable social and economic imperatives for the region. The site will be developed for a medium-impact mixed-use land-use scenario and will be targeted towards light industry, warehousing, distribution and logistics precinct. The current footprint of the site is 369.2 ha in extent and will be developed in three (3) phases.

The development will include all the associated infrastructure with Phase 1 including the construction of internal access roads, offices, ablutions, parking lots, container storage areas, roadside stormwater drainage system, bulk stormwater diversion and attenuation ponds, bulk water supply infrastructure, electrical substation and powerlines and a sewer collection pipeline network, collection sumps, pump stations and a 2 megalitre (ML) modular Wastewater Treatment Plant (WTP) and effluent pipeline.

During Phase 2 the modular WTP will be decommissioned once sufficient sewer flow is achieved and the link to the municipal trunk sewer is established. The general site layout is shown on the attached Site Plan – Dwg No. 2022/151 Figure 2.

4. TOPOGRAPHY AND DRAINAGE

The site is situated near the western edge of an extensive north trending plateau which forms part of a bluff landform remnant of the "Ancient African Erosion Surface" (see Area Plan - Dwg No 2022/151 Figure 3).

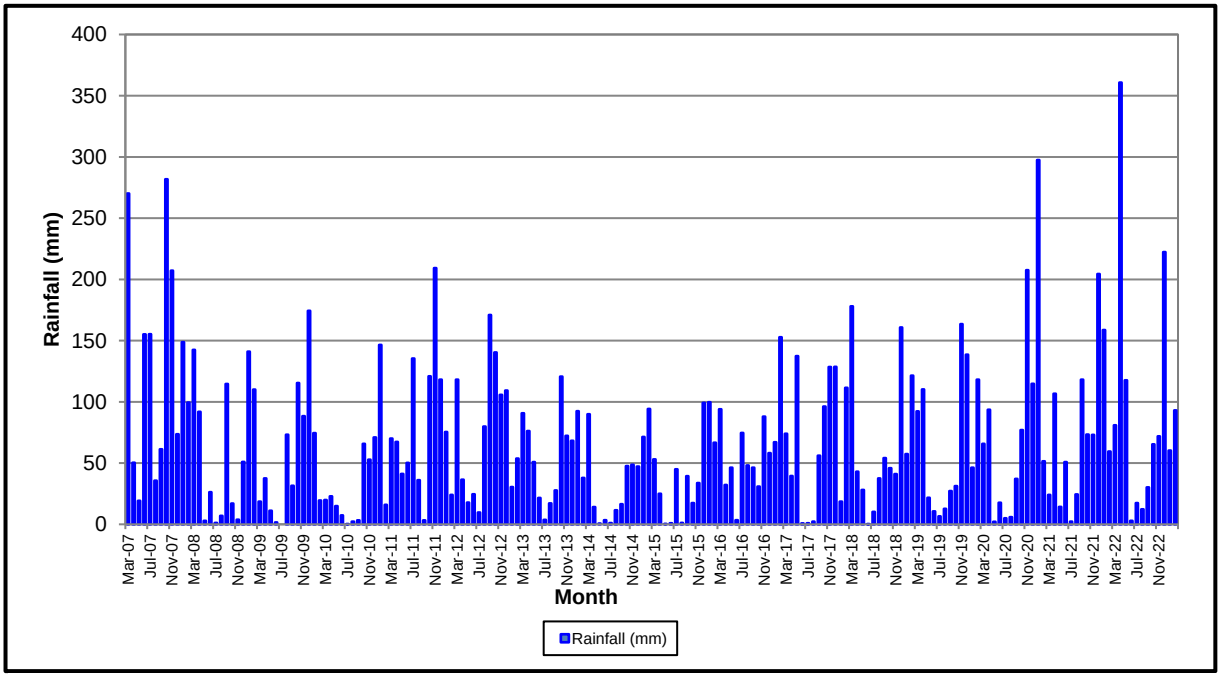
The elevation of the study area is approximately 780 m AMSL (above mean sea level) with a topographic variation of about 15 m. This plateau terminates in vertical cliffs and/or very steep slopes to the west, north and east. Elevations of the drainage features below this plateua range between 300 and 400 m AMSL (see Area Plan Dwg 2022/151 Figure 3).

The surface topography of the area encompassing the site is planar and drainage is generally westerly toward minor tributaries of the Mshwati River which is in turn a tributary of the Msunduze River in the Mgeni River catchment.

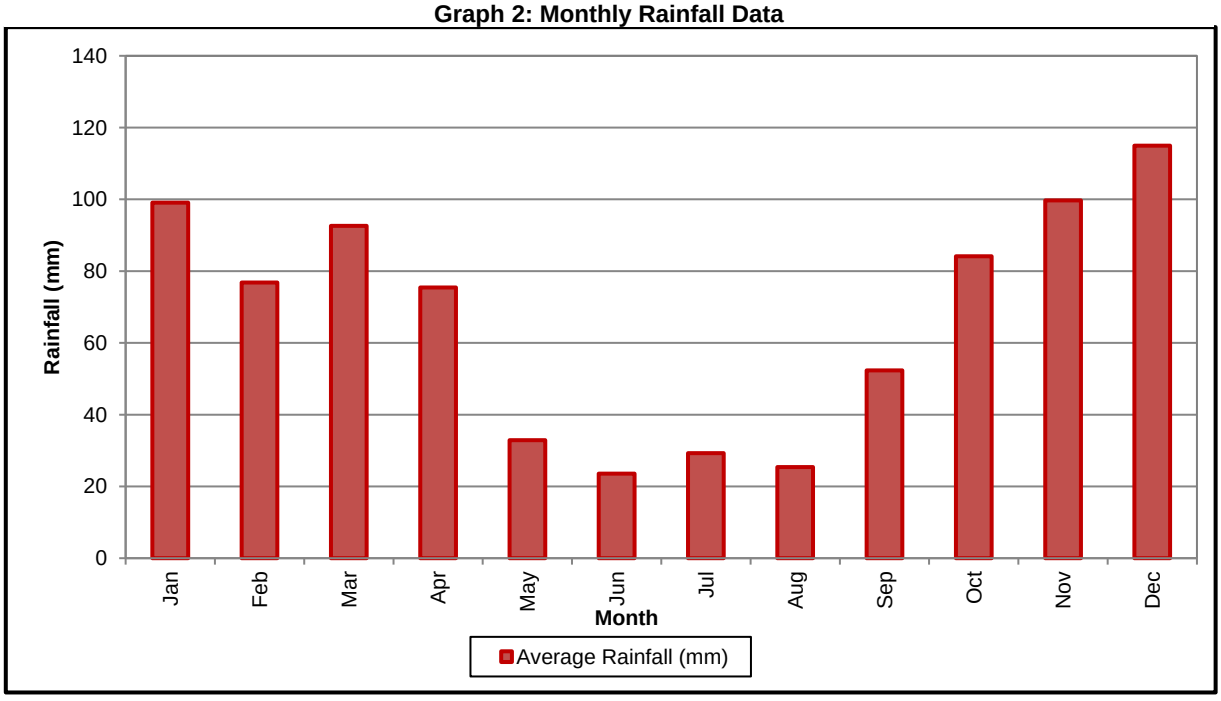
5. RAINFALL AND EVAPORATION

The rainfall in the area is quite variable and long term data has revealed that the KwaZulu-Natal coastal region and its immediate hinterland is subject to cyclic ”wet and dry” periods. Research suggests cyclic rainfall patterns can be attributed to the El-Nino effect and in wet cycles the rainfall can exceed 1300 mm/annum whilst the total rainfall in the dry cycle could be less than 400 mm/annum.

Although rainfall is generally quite steady and of low to medium intensity, high intensity rainfall does occur when cut-off lows develop along the coast. Rainfall data measured by the automated weather station which is managed by Messrs EnviroNgaka on behalf of Assmang Cato Ridge Works (ACRW) shows the variable rainfall events, as shown on Graph 1 below which shows recorded rainfall data from March 2007 till February 2023. Graph 2 below shows the average monthly rainfall over the same time period.



Graph 2: Monthly Rainfall Data



Graph 1: Average Rainfall Data - ACRW

6. GEOLOGY & GEOHYDROLOGY

6.1 GEOLOGY

The published 1: 250 000 scale Geological Sheet, 2930 Durban, shows that the plateau and hence the study area is underlain entirely by a capping of sub-horizontally bedded sandstone of the Natal Group that rests unconformably on the massive granite gneiss of the Mapumulo Suite of the Natal Structural and Metamorphic Province (see Geological Plan - Dwg No 2022/151 Figure 4).

These formations have been subjected to severe tectonic activity associated with the break-up of Gondwana and numerous mainly N, NW and NE trending displacement faults occur in the region. The “tilted blocks” formed by this activity have resulted in repetition of geological formations in the coastal region and numerous Jurassic age dolerite dykes and sills have intruded into planes of weakness within the host rock formations.

6.1.1 Natal Group

The Natal Group comprises sub-horizontally bedded layers of pink and purple, medium- and fine-grained arkosic and agrillaceous sandstone with subordinate layers of off-white ortho-quartzite and lenses of maroon shale. The regional dip of these sediments ranges from 5^{o} to 15^{o} east to southeast.

6.2.2. Maphumulo Granite Gneiss

The granite gneiss of this stratigraphic unit comprises light grey, pink and white medium- to coarse-grained granite gneiss, which contains numerous pegmatite and quartz veins.

This ancient formation is relatively massive but the weathered profile often extends to depths of over 40 m.

6.2 SOILS

6.2.1 Natal Group

The soils derived from weathering of the Natal Group include colluvial topsoil comprising loose to medium dense, non-plastic, light brown, fine-grained silty sands with a characteristic pinkish hue and a thickness ranging between 0.5 and 1.2 m. These soils represent the Fernwood form.

Residual soil profiles are generally well developed and often extend to depths of > 2m. These profiles which are often separated from the colluvium by a light grey G-horizon comprising grey mottled yellow, stiff, structured, gritty, silty clay representative of the Katspruit form.

These soil profiles diminish in thickness toward the edge of the plateau, where there is no residual clay over the bedrock and there are numerous areas east of Assmang where the sandy colluvial topsoil has been mined for plaster sand and in some areas, clay has been mined for use in the plant.

6.2.2. Maphumulo Granite Gneiss

The scant soil cover derived from granite occurs in the broken, steeply undulating topography west of the site and Assmang.

A typical soil profile comprises a dark grey, sandy loam Orthic A-horizon over the soft, reddish orange, weathered granite saprolite. The transition is gradual and these soils are representative of the Glenrosa form.

6.3 GEOHYDROLOGY

6.3.1 Natal Group

The Natal Group represents a secondary or fractured rock aquifer which comprises a sub-horizontally bedded widely jointed “brittle” rock mass of about 40 to 60 m thick. This formation has negligible primary porosity and permeability and most groundwater storage and movement occurs within joints, fractures or bedding planes within the rock mass.

Groundwater recharge within this elevated and exposed study area is totally rainfall dependent and can only gain access into the rock mass via the joints and fractures in the rock mass. Recharge is, however, limited to remnant pore-water absorbed by the sandy subsoils, which is not lost to the atmosphere via evaporation or evapotranspiration. This recharge would be minimal and is estimated to be less than 2 % of MAP.

In areas of intense fracturing, which is normally associated with “brittle deformation” of the rock mass in close proximity to faults or dolerite intrusions, the joints are often dilated and “clean” and these localised, highly permeable zones offer preferential groundwater flow paths which enhance recharge and rock mass permeability. Under ideal conditions borehole yields of up to 10 l/s can be obtained within these discrete fractured zones.

The sustainability of these aquifers is a factor of rainfall recharge and aquifer through-flow. However, in this study area, aquifer through-flow is insignificant due to the elevated and isolated nature of the geohydrological environment.

The KwaZulu-Natal Hydrogeological Map in “*Characterisation and Mapping of the Groundwater Resources KwaZulu-Natal Province Mapping Unit 2*” January 1995, which was prepared for the former Department of Water Affairs and Forestry (DWAF) by Groundwater Consulting Services, depicts this as an area of poor groundwater development potential with expected borehole yields ranging from 0.5 to 1 l/s. Mean EC values range from 30 to 100 mS/m, and although the groundwater generally meets with most of the recommended limits of the SABS 241:2015 Standards for Drinking Water, the water is often slightly acidic and may contain high levels of iron and manganese, which detracts from the suitability of this source for domestic and industrial use.

The groundwater gradient on the plateau area is very mild and mirrors the surface topography. This gradient is influenced by the bedding of the formations and proximity to the edge of the escarpment where localised steep gradients and changes in regional flow direction may occur.

6.3.2. Maphumulo Granite Gneiss

Unweathered granite gneiss is usually quite massive and as a result this formation is considered a marginal secondary or fractured rock aquifer.

The unconformable sandstone / granite contacts is generally quite “tight” but as a result of the significant age difference (>1000 million years) between these stratigraphic units, isolated thin zones of weathering occur sporadically below this contact zone to offer inter-granular storage and enhanced permeability. Boreholes drilled to intersect this contact zone usually produce yields ranging from 0.1 to 0.3 l/s.

Geological reconnaissance carried out in the Nagle Dam/Reservoir Hills transfer tunnel has also shown that the granite / dolerite contact zones are generally quite tight due to “welding”.

The groundwater gradient in this stratigraphic unit normally mirrors the surface topography and a spring line occurs at the foot of the sub-vertical cliff faces where the sandstone / granite contacts day light.

7. GEOHYDROLOGICAL SITE INVESTIGATION

7.1. INITIAL DESKTOP ASSESSMENT

A desktop study of the area was conducted using the DWS KZN GRIP database and the NGA Borehole Database, as well as our own in-house database (Geom BH Data), which typically represent the most up to date and complete data sets for the study area. Water quality data was also attained from the ACRW groundwater database which is managed by Geomeasure Group on behalf of ACRW. Geomeasure Group have conducted the monthly and quarterly surface water and quarterly groundwater sampling at ACRW since 2009.

The results of this exercise indicated that fifty (50) borehole records occur within a 5 km radius of the site (see attached Area Plan – Dwg No. 2022/151 Figure 2). The desktop study borehole data has been presented in Tables 1 to 4 in Appendix A. It must be noted that many of the records across the databases are duplicates. It is also likely that there are unrecorded / “unregistered” boreholes within the area.

Available details of the borehole records are summarised as follows:

Borehole Depth Range:	6.00 – 270.00 m bgl *
Static Water Level	0.89 – 39.61 m bgl
Blow Yields:	Dry – 5.00 l/sec
Water Strike Depths:	2.00 – 270.00 m bgl
Borehole Use:	Domestic and Monitoring

** m bgl: metres below ground level.*

As seen in the data tables in Appendix A, the data available is useful and from investigations in the area, the groundwater is generally a poor water supply source due to low yields and boreholes often being dry. The area is served by reticulated Municipal water supply and the majority of the boreholes on and around the site are used for monitoring purposes. The available data shows that a shallow / perched water table is evident on the site.

7.2. DESKTOP GROUNDWATER QUALITY

From Geomeasure Group’s routine sampling undertaken at ACRW an extensive groundwater quality database is available.

As seen on Area Plan – Dwg No. 2022/151 Figure 2, the ACRW monitoring boreholes located on the various phases of the proposed site include the following boreholes:

- BH Doornrug Deep and BH Doornrug Shallow
- BH SH 1 Deep and BH SH 1 Shallow
- BH 1 Deep and BH 1 Shallow
- BH F2

The detailed water quality data from previous sampling events have been included in Tables 5 to 18 in Appendix B.

The water quality data suggests that the groundwater is generally of excellent quality with only a few exceedances of the SANS 241: 2015 drinking water standards.

The monitoring data shows that the groundwater quality generally shows the following ranges, with the exception of monitoring BH F2 (the detailed water quality is discussed in Section 7.4):

pH:	5.99 – 7.99
Electrical Conductivity:	22.9 – 121.80 mS/m*
Sodium:	14.63 – 133.70 mg/l
Chloride:	21.75 – 364.20 mg/l
Fluoride:	<0.05 – 0.93 mg/l
Iron:	<50.00 – 4060.00 ug/l
Manganese:	<50.00 – 400.00 ug/l
Total Organic Carbon:	<10.00 – 22.50 mg/l

** mS/m: milliSiemens/meter*
mg/l: milligram/litre
ug/l: microgram/litre

During the routine sampling at ACRW, the static water levels in each of the monitoring boreholes are recorded; this data is utilised in conjunction with the surveyed elevation of each of the monitoring boreholes to derive the reduced groundwater levels in the shallow and deep aquifers. The static water range between 17 and 30 m bgl. The spatially modelled shallow and deep groundwater levels and flow directions are shown on the attached RSGWL Plan – Dwg No. 2022/151 Figure 5 and RDGWL Plan – Dwg No. 2022/151 Figure 6. From these plots it can be seen that the shallow and deep groundwater flow in the vicinity of the site is in a westerly direction toward the lower lying adjacent valley lines.

7.3. FIELD ASSESSMENT AND HYDROCENSUS

A site visit was conducted on the 19th April 2023. This included a site walkover, hydrocensus and an attempted groundwater sampling event. A hydrocensus was undertaken within the area deemed geohydrologically sensitive by an on-site assessment of the study area.

During the hydrocensus, the proposed site and neighbouring properties were investigated in order to identify groundwater users, especially users immediately down-gradient of the site. The results of this investigation are detailed below in Table 1, whilst the locations of the identified boreholes and hydrocensus points are shown on the attached Hydrocensus Area Plan – Dwg No. 2022/151 Figure 4. Furthermore, a photographic report has been included in Appendix C. A total of four (4) boreholes was located in the field. Two (2) were found to be dry and not in use and two (2) were found to be functional and in use. However, permission was not granted by the owners for groundwater samples to be taken.

It was discovered that the majority of the area is served by reticulated municipal water supply.

The detailed hydrocensus data is contained in Table 1 overleaf.

Table 1: Cato Ridge Development Hydrocensus Information

Point	Reference	Latitude	Longitude	Notes
1	BH F2 (ACRW)	-29.701944	31.611756	Sampled routinely in the ACRW routine sampling
2	Old Illegal Sand Mining Operation	-29.701256	30.620559	Old illegal sand mining operation – has been abandoned and grass overgrown now
3	BH F1	-29.693056	30.631944	Borehole destroyed
4	Freys Food	-29.694867	30.640870	Freys Food and Abbatoir – no borehole on site
5	AVI Products	-29.699244	30.639179	No borehole on site
6	SRF	-29.699766	30.634574	Borehole was drilled but was dry
7	SMD	-29.699601	30.631382	Jojo tank and what looks like pipes connected to borehole but no borehole located. Site representative noted that they were not aware of any borehole and installation had been on site before they established on site.
8	Cap Pack Solutions	-29.701446	30.633598	No borehole on site
9	JD Group	-29.708654	30.627424	No borehole on site
10	Swan Plastics	-29.723059	30.621215	No borehole on site
11	Deratek Packaging	-29.723298	30.623219	Borehole was drilled but was dry. Site is located 460 m east of WTP.
12	Caltex Cato Ridge	-29.723548	30.620147	Potential Pollution Source
13	Pipe Coatings & Bake Rite	-29.723566	30.623899	No borehole on site
14	Merlog Foods	-29.724162	30.626779	Reported that they had a borehole but permission was not granted to take a water quality sample. Site is 820 m east of WTP.
15	Cato Zulu Industrial Park	-29.727382	30.612976	No borehole on site
16	Safal Steel	-29.729394	30.603831	No borehole on site
17	Eskom	-29.728592	30.606045	No borehole on site
18	Reproplant and Makhatini Medical Waste	-29.731151	30.603723	No boreholes on site
19	GEM Steel	-29.729473	30.598338	No borehole on site
20	Cato Brick and Block	-29.731732	30.596561	Reported that they had a borehole but permission was not granted to take a water quality sample. Site is 2.4 km south west of the WTP.
21	Assmang Cato Ridge Works	-29.715809	30.612909	Has a network of monitoring boreholes which are monitored every 3 months.

From Table 1 above, the following can be deduced:

- None of the intrinsic borehole details (age, depth, water strikes and SWL) could be attained for the off-site boreholes. From the information that was obtained, it was determined that:
    - Two (2) boreholes were functional and in use
    - Two (2) boreholes were installed but were dry
- The investigation confirms that groundwater is not a reliable source of water in this region with only two users being discovered.

7.4. GROUNDWATER AND SURFACE WATER SAMPLING

No off-site boreholes could be sampled. The latest groundwater sampling information for the seven (7) ACRW monitoring boreholes located on the site has been included in this report. These boreholes were last sampled in March 2023. These boreholes include the following:

- BH Doornrug Deep and BH Doornrug Shallow
- BH SH 1 Deep and BH SH 1 Shallow
- BH 1 Deep and BH 1 Shallow
- BH F2

The historical water quality data is contained in Appendix B, however, the determinands which exceed the SANS 241: 2015 drinking water standards have been summarized below. The static water levels monitored in the boreholes are shown in Table 2 below:

Table 2: Static Water Levels – ACRW Boreholes – March 2023

Reference	Latitude	Longitude	Static Water Level (m bgl)
BH F2	-29.701065	30.6208244	32.05
BH 1 Shallow	-29.712344	30.621113	5.97
BH 1 Deep	-29.712328	30.621077	17.49
BH SH 1 Shallow	-29.712845	30.618177	5.97
BH SH 1 Deep	-29.712852	30.618212	13.00
BH Doornrug Deep	-29.724740	30.607086	Inaccessible
BH Doornrug Shallow	-29.724738	30.607060	Inaccessible

BH F2

Borehole F2 is located in Phase 2 portion of the site. The quality of this borehole is moderate to good with the sodium, chloride and manganese concentrations exceeding the SANS 241: 2015 drinking water standards, as seen in Table 3 below. None of the organic determinands exceeded the US EPA Tap Water Standards (which are used in the absence of South African screening levels).

Table 3: Selected elevated BH F2 determinands and their SANS standards

Determinant	Risk	Units	Standard Limit	Sample BH F2 13-Mar-23
Macro Chemical – Determinants				
Sodium as Na	Aesthetic	mg/l	≤ 200	***271.50***
Chloride as Cl	Aesthetic	mg/l	≤ 300	***527.90***
Micro Chemical – Determinants				
Manganese as Mn	Chronic Health	ug/l	≤ 400	***870.00***

Borehole BH F2 located in the Phase 2 area of the site consistently shows levels / concentrations of electrical conductivity, sodium, chloride, iron and manganese in excess of the SANS 241: 2015 Drinking Water Standards and therefore renders the groundwater unsuitable as a potable source. Fluoride is also sporadically elevated. These elevated concentrations are naturally occurring and are likely attributable to low recharge resulting in increased salt dissolution times.

BH 1 SHALLOW

Borehole BH 1 Shallow is located adjacent to BH 1 Deep in Phase 1 portion of the site. The quality of this borehole is good with only the total organic carbon concentration exceeding the SANS 241: 2015 drinking water standards, as seen in Table 4 below. None of the organic determinands exceeded the US EPA Tap Water Standards (which are used in the absence of South African screening levels). The total organic carbon is likely naturally occurring.

Table 4: Selected elevated BH 1 Shallow determinands and their standards

Determinant	Risk	Units	Standard Limit	Sample BH F2 13-Mar-23
Organic – Determinants				
Total Organic Carbon	Chronic Health	mg/l	≤ 10	***10.47***

BH 1 DEEP

Borehole BH 1 Deep is located adjacent to BH 1 Shallow in Phase 1 portion of the site. The quality of this borehole is excellent with none of the determinand concentrations exceeding the SANS 241: 2015 drinking water standards. None of the organic determinands exceeded the US EPA Tap Water Standards (which are used in the absence of South African screening levels).

BH SH 1 SHALLOW

Borehole BH SH 1 Shallow is located adjacent to BH SH 1 Deep in Phase 1 portion of the site. The quality of this borehole is excellent with none of the determinand concentrations exceeding the SANS 241: 2015 drinking water standards. None of the organic determinands exceeded the US EPA Tap Water Standards (which are used in the absence of South African screening levels).

BH SH 1 DEEP

Borehole BH SH 1 Deep is located adjacent to BH SH 1 Shallow in Phase 1 portion of the site. The quality of this borehole is excellent with none of the determinand concentrations exceeding the SANS 241: 2015 drinking water standards. None of the organic determinands exceeded the US EPA Tap Water Standards (which are used in the absence of South African screening levels).

BH DOORNRUG SHALLOW

Borehole Doornrug Shallow is located adjacent to BH Doornrug Deep in the southern portion of Phase 1 portion of the site. The quality of this borehole has historically been good with iron and manganese concentrations exceeding the SANS 241: 2015 drinking water standards. This borehole has however been inaccessible since June 2022.

BH DOORNRUG DEEP

Borehole Doornrug Deep is located adjacent to BH Doornrug Shallow in the southern portion of Phase 1 portion of the site. The quality of this borehole has historically been excellent to good, however this borehole has been inaccessible since June 2018.

8. EXISTING POINT-SOURCE POLLUTION SOURCE ASSESSMENT

During the site visit, an existing point-source pollution source assessment was undertaken within the area deemed geohydrologically sensitive by an on-site assessment of the study area.

Numerous point-source pollution sources were identified as follows:

Freys Foods and Abattoir:

The abattoir could be a potential pollution source if the abattoir is not managed correctly and the animal remains, if any, are not disposed of correctly.

Caltex Cato Ridge Service Station:

The public fuel retail site could serve as a point pollution source in the event of an accidental release of hydrocarbon product.

GEM Steel and Safal Steel

The steel manufacturing process could be a point pollution source if the slag from the furnaces is not correctly stored or disposed of.

Assmang Cato Ridge Works

The manganese manufacturing process could be a point pollution source if the slag from the furnaces is not correctly stored or disposed of.

9. PROJECT INFORMATION AND GEOHYDROLOGICAL ASSESSMENT

As discussed previously, the development will include a sewer collection pipeline network, collection sumps, pump stations and a 2 megalitre (ML) modular Wastewater Treatment Plant (WTP) and effluent pipeline. During Phase 2 the modular WTP will be decommissioned once sufficient sewer flow is achieved and the link to the municipal trunk sewer is established.

At a desktop level, the main pollution source identified on site would be the modular WTP and associated reticulation network.

One of the geohydrological risks in terms of sewage pipelines, pump stations and WTP is the failure of the systems resulting in accidental spillages. Whilst the site is underlain by consolidated sediments, spillages, especially if they are not attended to urgently, could infiltrate into the shallow groundwater depending on the size of the spillage. If the shallow and deep aquifers are geohydrologically linked, then impacts could migrate to the deep aquifer. In addition, the tributaries in the valley line to the west of the site could be impacted through baseflow. However, the spillage would need to be rather substantial to result in any significant impacts. If managed and maintained correctly, however, the risks of accidental spillages are low.

Mitigation measures to reduce impacts would involve the following:

- design of the WTP, pipeline network and pump station connections by a competent engineer.

- construction of the WTP, pump stations and pipeline under the supervision of a competent engineer and through the use of competent contractors using suitable / appropriate construction materials.

- provision of training to any staff who may work with said infrastructure to ensure the efficient management of the pump stations.

- timeous response times to the clean-up and repairs in the event of an accidental spillage.

10. AQUIFER CLASSIFICATION

The aquifer was classified according to the methodology contained in the published report entitled "*South African Aquifer System Management Classification'; WRC Report No: KV 77/95"* (12 January 1993) by Mr. R. Parsons.

Although this methodology is not promulgated, it allows for the classification of aquifers for management purposes and attempts to ensure preservation of our aquifers, using a quantitative approach.

Through the undertaking of the investigation it was determined that the aquifers in this area are Minor Aquifer Systems.

This type of aquifer can be fractured or potentially fractured rocks which do not have a high primary permeability or other formations of variable permeability. Aquifer extent may be limited and water quality variable. Although these aquifers seldom produce large quantities of water, they are important for both local supplies and in supplying base flow for rivers.

11. RECOMMENDED WATER QUALITY MONITORING PLAN

11.1 GROUNDWATER MONITORING

A mapped geological fault traverses the area directly east of the proposed WTP, as seen on Site Plan – Dwg No. 2022/151 Figure 2. This geological fault could serve as a preferential flowpath for contamination, should a spill event / leak occur at the WTP.

As a precautionary measure, two (2) shallow groundwater monitoring wells should be installed up-gradient of the WTP and two (2) shallow groundwater monitoring wells should be installed down-gradient of the WTP in order to monitor the groundwater. The static water levels in the shallow monitoring wells at ACRW suggest that water may be intercepted at shallow depths, although the ACRW monitoring wells were geophysically sited to determine the best location.

Geophysically siting monitoring boreholes around the WTP may not be possible, due to the limited area available to target the groundwater directly down-gradient of the WTP, due to the (small) size of the WTP installation. Nevertheless, a geophysical investigation should be conducted once the WTP has been installed and monitoring well locations should be identified and monitoring wells should be installed to approximately 12 m bgl. The monitoring wells should be installed with PVC casing and gravel pack and bentonite seals should be installed in the well annulus. Lockable headworks should be installed on the monitoring wells.

Once established, the monitoring wells should be sampled every six months (dry and wet seasons) and the recommended groundwater monitoring plan for the WTP should comprise the following:

- The following determinands should be analysed for during the sampling events:

    - Faecal Coliforms (per 100ml)
    - *E.Coli* (per 100ml)
    - Chemical Oxygen Demand (mg/l)
    - pH
    - Ammonia as Nitrogen (mg/l)
    - Nitrate as Nitrogen
    - Chlorine as Free Chlorine
    - Suspended Solids (mg/l)
    - Electrical Conductivity (mS/m)
    - Ortho-phosphate as Phosphorous (mg/l)

12. CONCLUSIONS

Based upon the above report, the following can be concluded:

- Geomeasure Group has undertaken the desktop portion of the geohydrological investigation for the Environmental Impact Assessment for the proposed Cato Ridge Land Development and Release Project in the eThekwini Municipality.

- The study area is directly underlain by sandstones of the Natal Group as well as granite gneiss of the Mapumulo Suite of the Natal Structural and Metamorphic Province.

- "*Characterisation and Mapping of the Groundwater Resources KwaZulu-Natal Province Mapping Unit 2*" January 1995, which was prepared for the former Department of Water Affairs and Forestry (DWAF) by Groundwater Consulting Services, depicts the Natal Group sandstones in this area having a poor groundwater development potential with expected borehole yields ranging from 0.5 to 1 l/s. In areas of intense fracturing, which is normally associated with "brittle deformation" of the rockmass in close proximity of faults or dolerite intrusions, the joints are often dilated and "clean" and these localised, highly permeable zones offer preferential groundwater flow paths which enhance recharge and rockmass permeability. Under ideal conditions borehole yields of up to 10 l/s can be obtained within these discrete fractured zones.

- The unconformable sandstone / granite contacts is generally quite "tight" but as a result of the significant age difference (>1000 million years) between these stratigraphic units, isolated thin zones of weathering occur sporadically below this contact zone to offer inter-granular storage and enhanced permeability. Boreholes drilled to intersect this contact zone usually produce yields ranging from 0.1 to 0.3 l/s.

- The ambient groundwater quality in the area is generally quite good, although the groundwater in the Natal Group is often slightly acidic and may contain high levels of iron and manganese, which detracts from the suitability of this source for domestic and industrial use, according to literature.

- The findings of the desktop hydrocensus indicated that fifty (50) borehole records occur within a 5 km radius of the area, although some records are duplicates across the

different databases. It is also likely that there are unrecorded / "unregistered" boreholes within the area.

- Seven (7) monitoring boreholes forming part of the ACRW borehole monitoring network are located on the different phases of the site. The water quality data from the routine groundwater sampling undertaken at ACRW suggests that the groundwater is generally of excellent to good quality with only a few determinands exceeding the SANS 241: 2015 Drinking Water standards in isolated monitoring boreholes.

- Borehole BH F2 located in the Phase 2 area of the site consistently shows levels / concentrations of electrical conductivity, sodium, chloride, iron and manganese in excess of the SANS 241: 2015 Drinking Water Standards and therefore renders the groundwater unsuitable as a potable source. Fluoride is also sporadically elevated. These elevated concentrations are naturally occurring and are likely attributable to low recharge resulting in increased salt dissolution times.

- A field hydrocensus was conducted and two (2) functional boreholes were located, although the owners did not give permission for these boreholes to be sampled. These boreholes are however located 820 m east and 2.4 km south west of the WTP.

- The point-pollution sources identified were Freys Food and Abattoir, Caltex Cato Ridge, GEM Steel, Safal Steel and ACRW.

- The aquifer underlying the site is classified as a minor aquifer system.

- The proposed development will include a sewer collection pipeline network, collection sumps, pump stations and a 2 megalitre (ML) modular Wastewater Treatment Plant (WTP) and effluent pipeline. During Phase 2 the modular WTP will be decommissioned once sufficient sewer flow is achieved and the link to the municipal trunk sewer is established. The main pollution source identified on site would therefore be the modular WTP and associated reticulation network.

- One of the geohydrological risks in terms of sewage pipelines, pump stations and WTP is the failure of the systems resulting in accidental spillages. Whilst the site is underlain by consolidated sediments, spillages, especially if they are not attended to urgently, could infiltrate into the shallow groundwater depending on the size of the spillage. If the shallow and deep aquifers are geohydrologically linked, then impacts could migrate to the deep aquifer. In addition, the tributaries in the valley line to the west of the site could be impacted through baseflow. The spillage however would need to be rather substantial to results in any significant impacts. If managed and maintained correctly, however, the risks of accidental spillages are low.

- There is little perceived risk posed to the geohydrological environment from this project, provided the mitigation measures mentioned in the recommendations are adhered to.

13. RECOMMENDATIONS

- The following need to be adhered to, when considering the construction of the proposed infrastructure:

  - design of the WTP, pipeline network and pump station connections by a competent engineer.

- construction of the WTP, pump stations and pipeline under the supervision of a competent engineer and through the use of competent contractors using suitable / appropriate construction materials.

- provision of training to any staff who may work with said infrastructure to ensure the efficient management of the pump stations.

- timeous response times to the clean-up and repairs in the event of an accidental spillage.

- Due to the presence of the mapped geological fault traversing the area directly adjacent to the WTP, two (2) up-gradient and two (2) down-gradient shallow groundwater monitoring wells should be installed, following the installation of the WTP. An attempt should be made to geophysically site the monitoring wells and the monitoring wells installed to a depth of approximately 12 m bgl at appropriate locations, where possible. The monitoring wells should be cased with uPVC casing a gravel pack and bentonite seals installed in the monitoring well annulus. Lockable headworks should be installed on the monitoring wells.

- The monitoring wells should be sampled on a six-monthly basis (wet and dry seasons) for the following determinands

  - Faecal Coliforms (per 100ml)
  - *E.Coli* (per 100ml)
  - Chemical Oxygen Demand (mg/l)
  - pH
  - Ammonia as Nitrogen (mg/l)
  - Nitrate as Nitrogen
  - Chlorine as Free Chlorine
  - Suspended Solids (mg/l)
  - Electrical Conductivity (mS/m)
  - Ortho-phosphate as Phosphorous (mg/l)

We trust that this report meets your immediate requirements in this matter. Please do not hesitate to contact the undersigned if you require any further information.

Yours faithfully,

Taryn Swales
Senior Geohydrologist
BSc (Hons) Geohydrology – UOVS
Pr. Sci Nat 117692

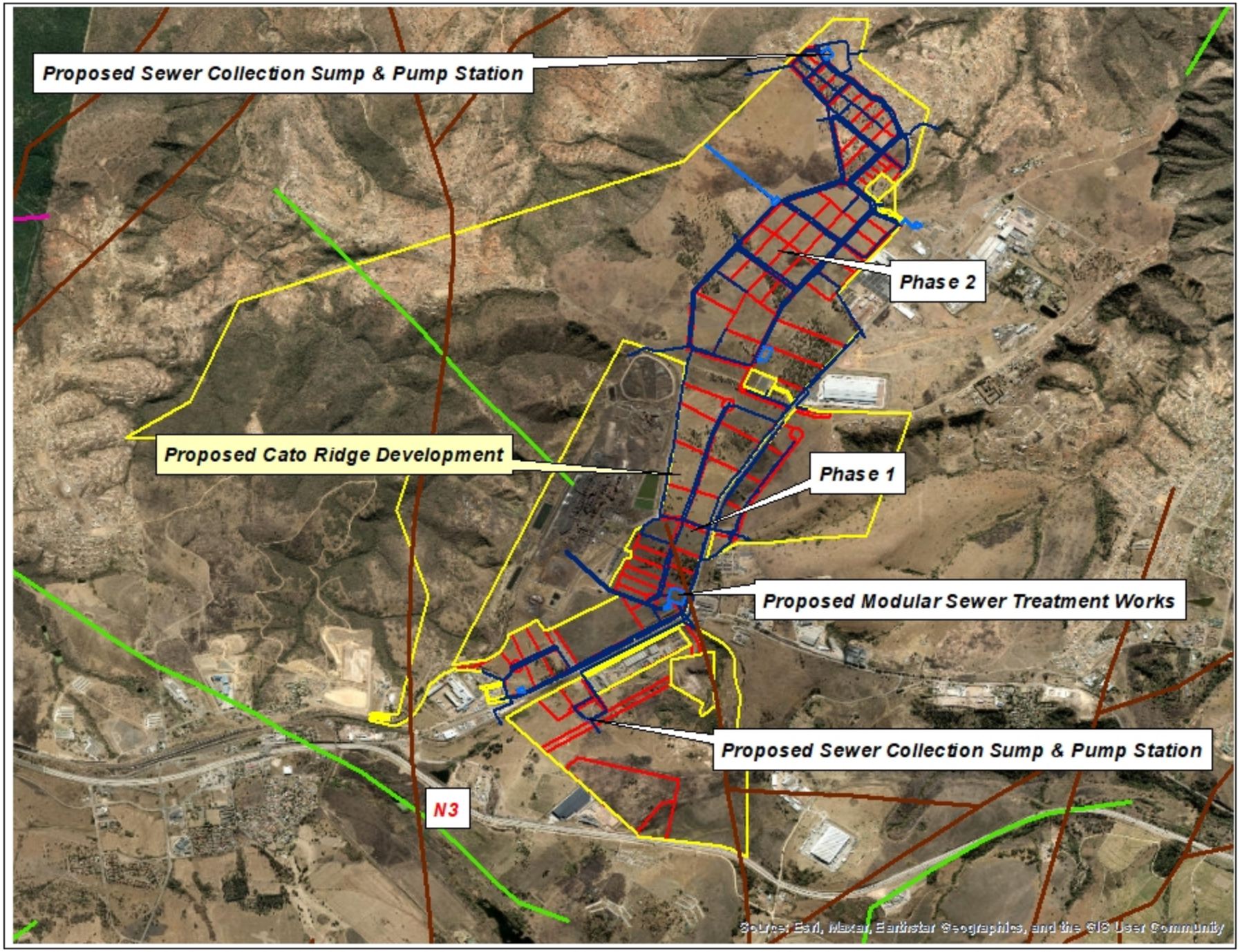
Lynn Fitschen
Principal Engineering Geologist

GEOMEASURE GROUP (Pty) Ltd

FIGURES

GEOMEASURE GROUP
Groundwater, Environmental & Geotechnical Consultants


Mnambiti River
Proposed Cato Ridge Development
Inchanga
N3
Cato Ridge
R103
Park
Broadview
SPITSKOP
816
Table Mountain
Thuthuka
Sansikane
Ekuthuleni
Egugwini
Ngidi
Hlangakhula
Universe
Mnambiti
Rietvallei
Mpuma
730
791
Landing
Lauriston
Camperdown
Doornrug
Inchanga
Park
Mnamata
Don Rock
Harrison
Esperanza
Piet Retief
Condor
Monteseel
Endevour
Helvetia
Tacoma
Lowlands
Moyeni
Hopelands
Alverstone
Gundagai
821
Sterkspruit
Georgedale
Silver Glades
De Novo
Mijowe
Retreat
Elangeni
5 2,5 0 5 10 15 Kilometers
1 : 250 000 Digital Coverage from Chief Director: Surveys and Mapping
Legend:
N
GEOMEASURE GROUP
PROPOSED CATO RIDGE DEVELOPMENT
LOCALITY PLAN
DWG NO. 2022/151
FIGURE 1



Legend:

N

- CRDC Study Area
- Proposed Development
- Services
- Services Lines
- Geological Faults
- Dolerite Dykes
- Lineaments

GEOMEASURE GROUP

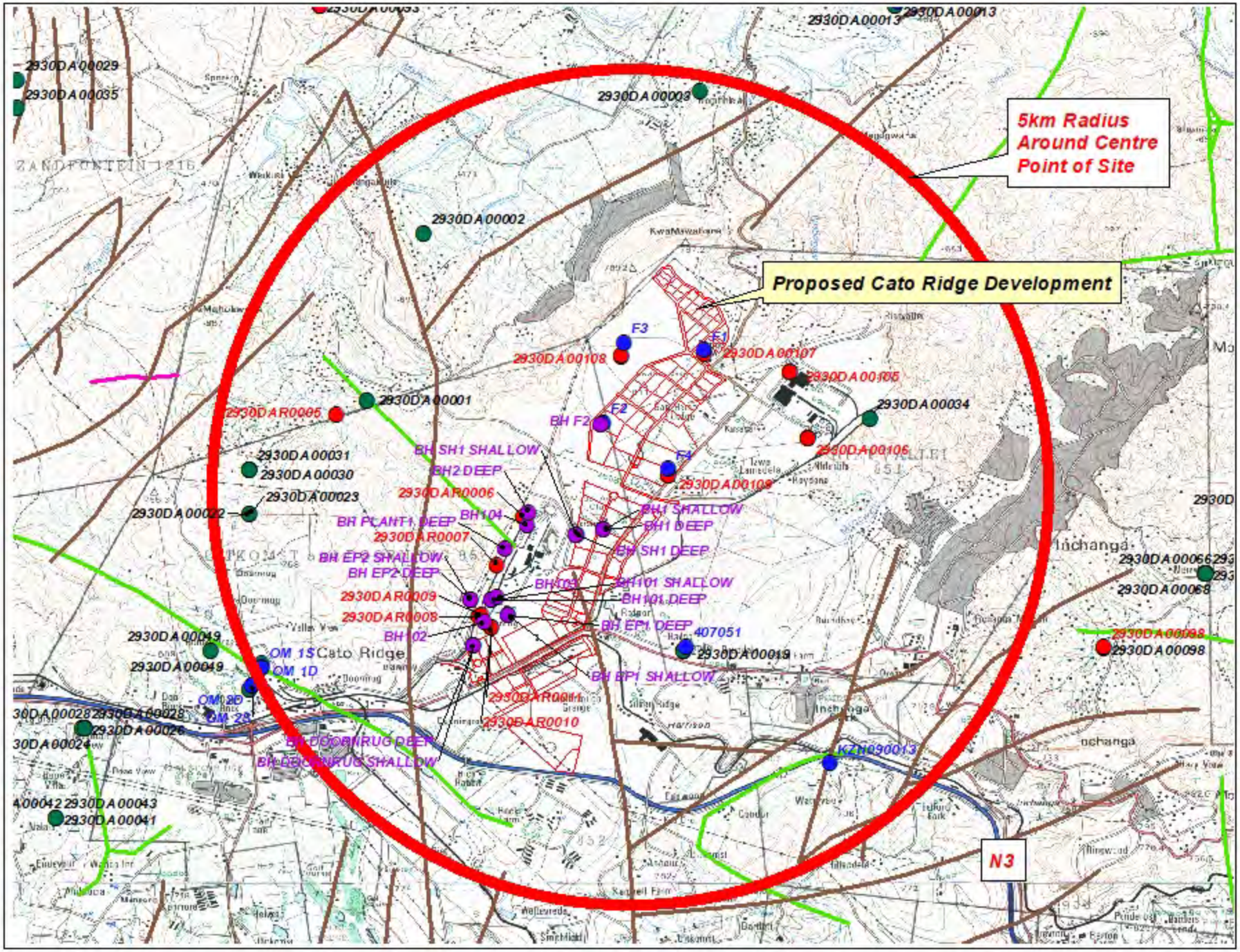
PROPOSED CATO RIDGE DEVELOPMENT

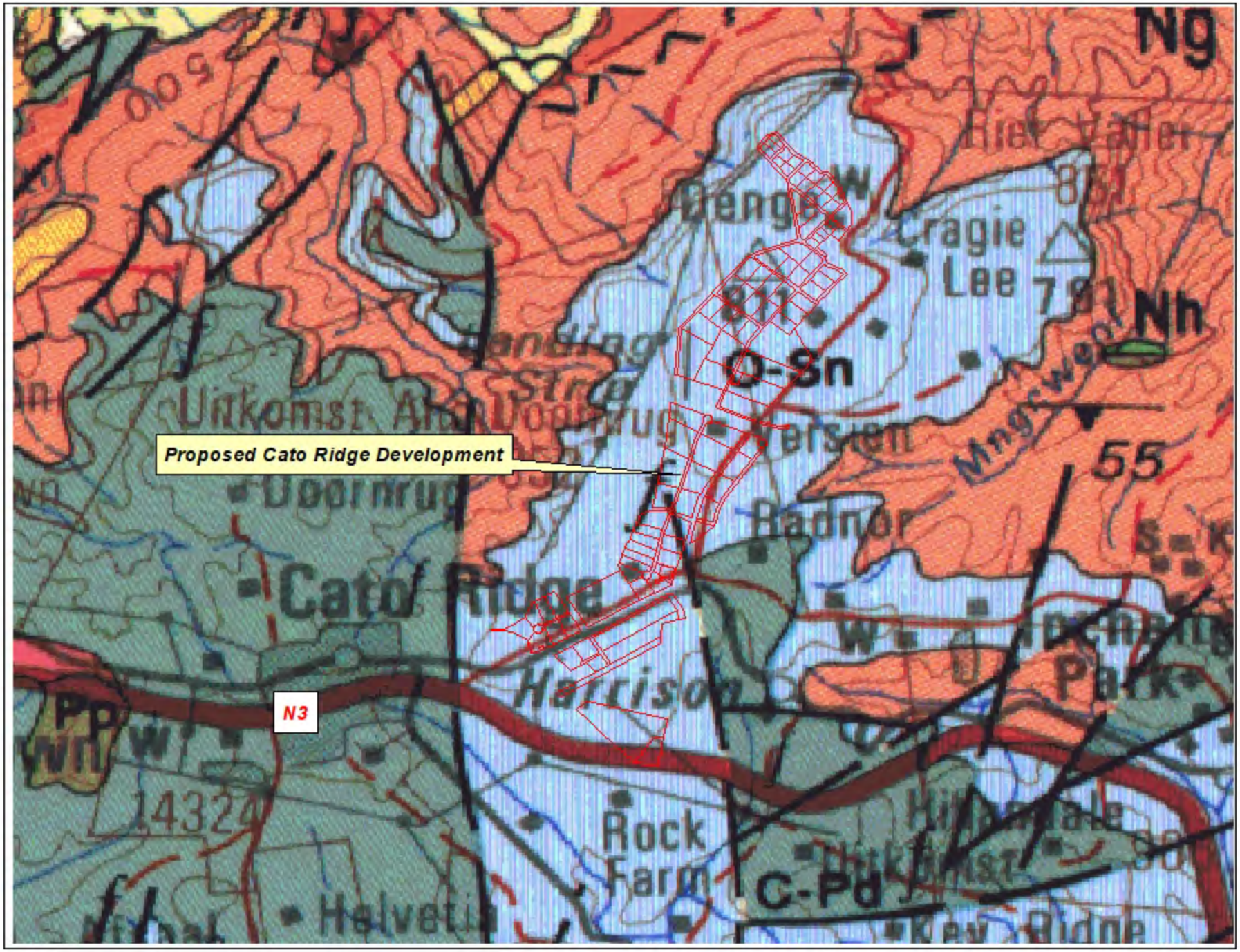
SITE PLAN

1,5 0,75 0 1,5 3 4,5 6 Kilometers

Digital Coverage from ESRI (ArcMap 10.3)

DWG NO. 2022/151
FIGURE 2


5km Radius Around Centre Point of Site
Proposed Cato Ridge Development
2930DA00029
2930DA00035
2930DA00003
2930DA00013
2930DA00002
2930DA00001
2930DAR0005
2930DA00031
2930DA00030
2930DA00023
2930DA00022
2930DA00108
2930DA00107
2930DA00105
2930DA00034
2930DA00106
2930DA00109
F1
F2
F3
F4
BH F2
BH SH1 SHALLOW
BH2 DEEP
2930DAR0006
BH104
BH PLANT1 DEEP
2930DAR0007
BH EP2 SHALLOW
BH EP2 DEEP
BH103
2930DAR0009
2930DAR0008
BH102
BH1 SHALLOW
BH1 DEEP
BH SH1 DEEP
BH101 SHALLOW
BH101 DEEP
BH EP1 DEEP
BH EP1 SHALLOW
407051
2930DA00019
2930DA00066
2930DA00068
2930DA00098
2930DA00049
OM 1S
OM 1D
OM 2D
OM 2S
2930DA00028
2930DA00026
2930DA00024
2930DAR0011
2930DAR0010
BH DOORNRUG DEEP
BH DOORNRUG SHALLOW
KZN090013
2930DA00042
2930DA00043
2930DA00041
N3
Cato Ridge
Inchanga
ZANDFONTEIN 1216
KwaMavuthana
Legend:
N
Proposed Development
Geom BH Data
KZN GRIP BH Data
ACRW_MBH
NGA BH Data
Geological Faults
Dolerite Dykes
Lineaments
GEOMEASURE GROUP
PROPOSED CATO RIDGE DEVELOPMENT
AREA PLAN SHOWING STRUCTURES & AVAILABLE HYDROCENSUS DATA
1,5 0,75 0 1,5 3 4,5 6 7,5 9 10,5 Kilometers
1 : 50 000 Digital Coverage from Chief Director: Surveys and Mapping
DWG NO. 2022/151
FIGURE 3



Legend:

N

C-Pd	Dwyka Tillite
O-Sn	Natal Group Sandstone
Ng	NNP Granite

GEOMEASURE GROUP

PROPOSED CATO RIDGE DEVELOPMENT

GEOLOGICAL PLAN

1,5 0,75 0 1,5 3 4,5 6 7,5 9 Kilometers

1 : 250 000 Digital Coverage from Council of Geoscience

DWG NO. 2022/151
FIGURE 4

0 0.5 1 1.5 2 2.5 Kilometres

Legend

N

Inferred Groundwater Flow Direction

802
800
798
796
794
792
790
788
786
784
782
780
778
776
774

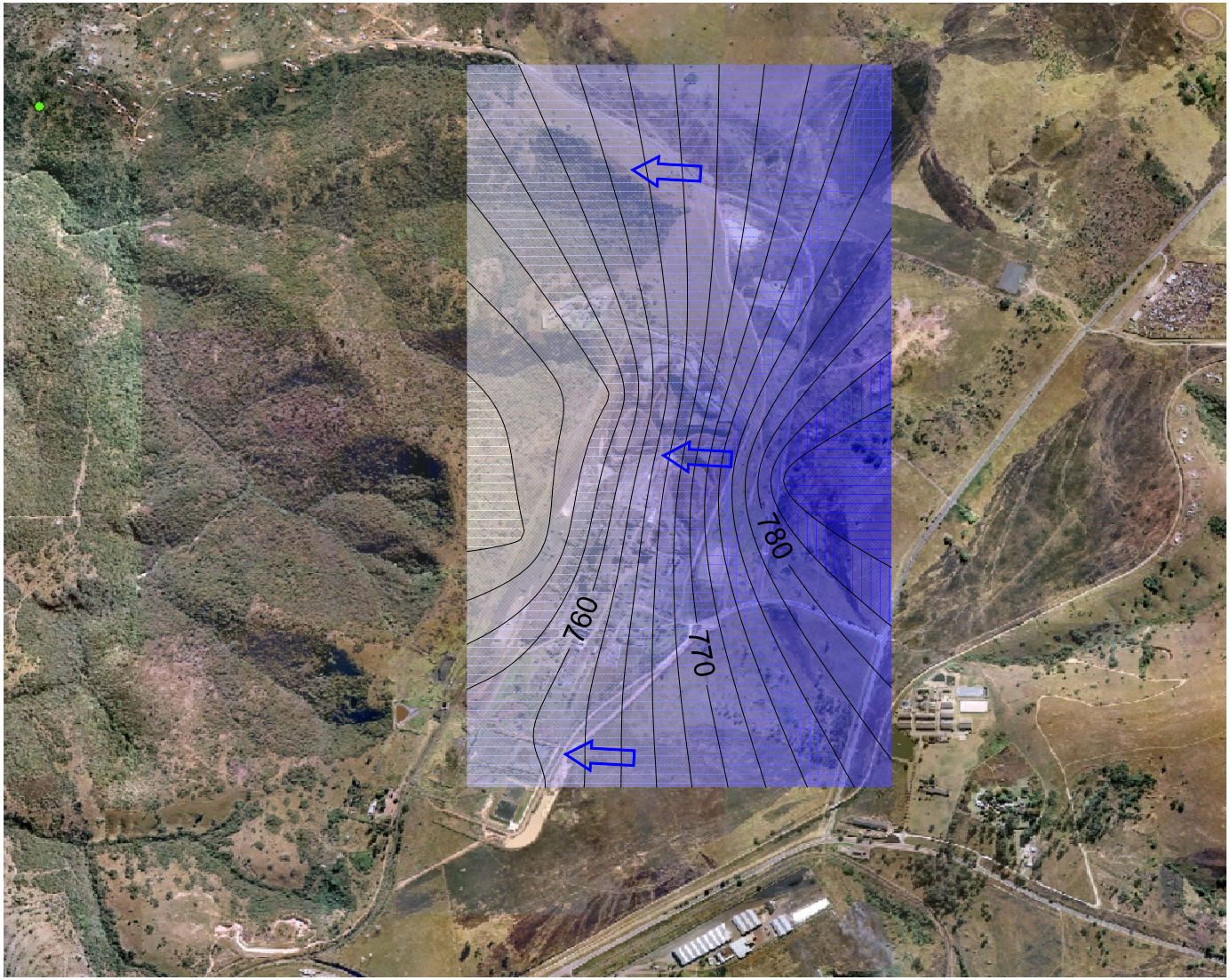
Reduced Groundwater Level AMSL (m)

GEOMEASURE GROUP
Groundwater & Environmental Consultants
Unit 3 Burnside Office Park, 1 Builders Way, Hillcrest (3610)
Tel: (031) 765 1900

PROPOSED CATO RIDGE DEVELOPMENT

REDUCED SHALLOW GROUNDWATER LEVEL & MOVEMENT DIRECTION

DWG NO. 2022/151
FIGURE 5



0 0.5 1 1.5 2 2.5

Kilometres

Legend

N

Inferred Groundwater Flow Direction

786
784
782
780
778
776
774
772
770
768
766
764
762
760
758
756
754
752
750

Reduced Groundwater Level AMSL (m)

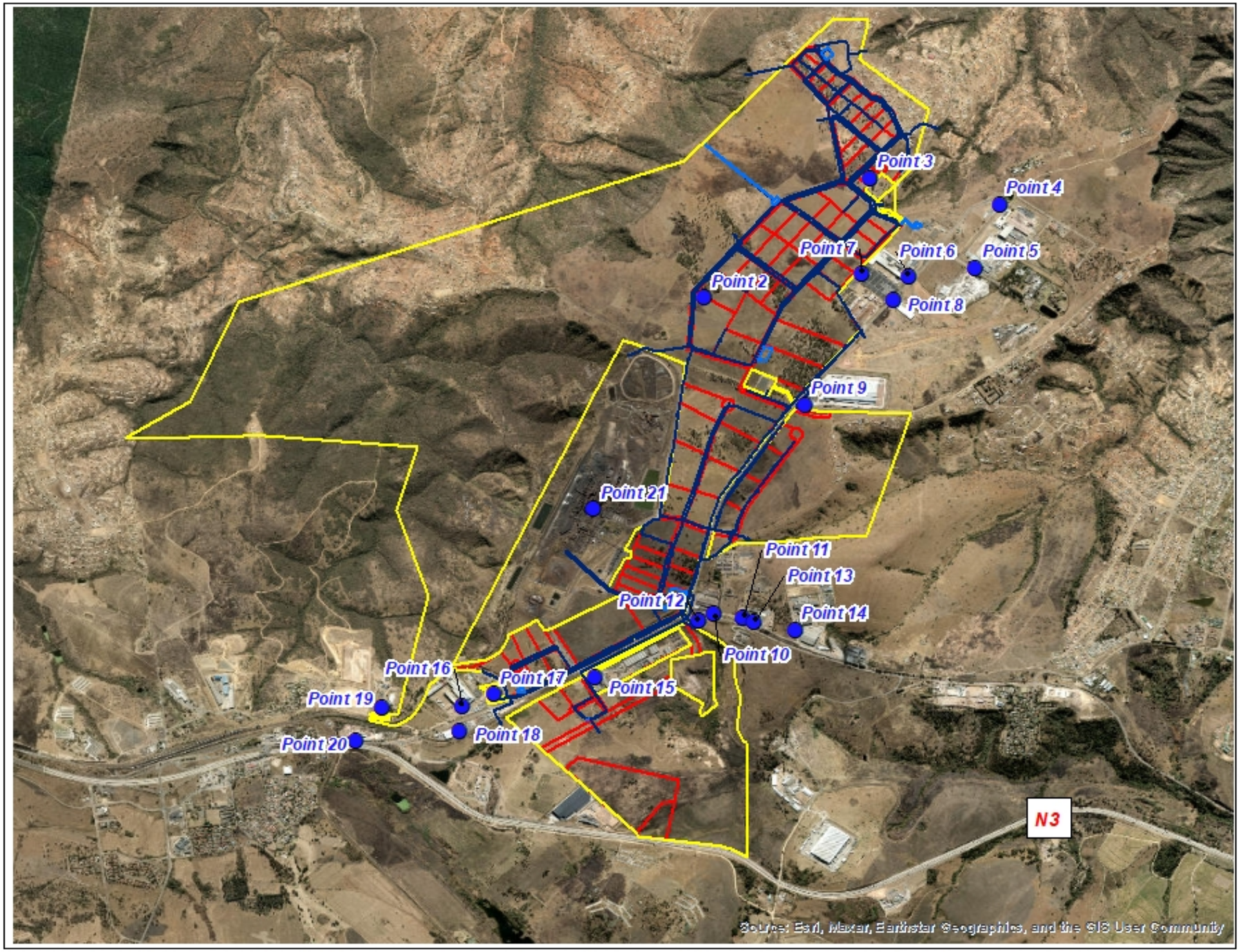
GEOMEASURE GROUP
Groundwater & Environmental Consultants

Unit 3 Burnside Office Park, 1 Builders Way, Hillcrest (3610)
Tel: (031) 765 1900

PROPOSED CATO RIDGE DEVELOPMENT

REDUCED DEEP GROUNDWATER LEVEL & MOVEMENT DIRECTION

DWG NO. 2022/151
FIGURE 6



Legend:

N

- Hydrocensus Points
- CRDC Study Area
- Proposed Development
- Services
- Services Lines

GEOMEASURE GROUP

PROPOSED CATO RIDGE DEVELOPMENT

HYDROCENSUS PLAN

1,5 0,75 0 1,5 3 4,5 6 Kilometers

Digital Coverage from ESRI (ArcMap 10.3)

DWG NO. 2022/151
FIGURE 7

APPENDIX A

TABULATED DESKTOP HYDROCENSUS DATA

GEOMEASURE GROUP
Groundwater, Environmental & Geotechnical Consultants

TABLE 1 : GEOMEASURE BOREHOLE DATA WITHIN 5KM RADIUS OF SITE

BH_NO	ZS__DECIMA	ZE__DECIMA	LOCALITY	DATE_DRILL	DRILL_CONT	BH_DEPTH_	CASING__M_	BH_DIAM__M	Z_WATER_ST	Z_WATER__1	Z_WATER__2	BYIELD_L_S	SWL__MBGL_	AQUIFER_TY	EQUIP	T__M2_DAY_	ZL_S__REC_	REC_P_RATE	ZM3_DAY__R	PUMP_CYCLE
407051	-29,725000	30,630000		23/01/90		102,00	0,00	165,00	45,00	78,00	84,00	0,56	0,00		Handpump		0,00	2,02	0,00	0,00
F1	-29,693056	30,631944	DMA outer west ferralloys l/fill	14/01/00	SA Drilling	84,00	12,00	165,00	77,00			0,40	0,00	Granite			0,00	0,00	0,00	0,00
F2	-29,700833	30,621111	DMA outer west ferralloys l/fill	14/01/00	SA Drilling	102,00	12,00	165,00	57,00			10,55	0,00	Sandstone			0,00	0,00	0,00	0,00
F3	-29,692222	30,623333	DMA outer west ferralloys l/fill	18/01/00	SA Drilling	102,00	12,00	165,00	2,00	16,00	18,00	5,00	0,00	Sandstone/Sandstone contact			0,00	0,00	0,00	0,00
F4	-29,705833	30,628055	DMA outer west ferralloys l/fill	14/01/00	SA Drilling	102,00	12,00	165,00	42,00			0,00	0,00	Sandstone			0,00	0,00	0,00	0,00
OM 1S	-29,727220	30,584440	Cato Ridge	25/04/2006	JD Drilling	10,00	0,00	0,00	0,00			0,00	0,00		No equipment		0,00	0,00	0,00	0,00
OM 1D	-29,727220	30,584440	Cato Ridge	24/04/2006	JD Drilling	60,00	0,00	0,00	0,00			0,00	0,00		No equipment		0,00	0,00	0,00	0,00
OM 2S	-29,729170	30,583330	Cato Ridge	26/04/2006	JD Drilling	10,00	0,00	0,00	0,00			0,00	0,00		No equipment		0,00	0,00	0,00	0,00
OM 2D	-29,729170	30,583330	Cato Ridge	25/04/2006	JD Drilling	60,00	0,00	0,00	0,00			0,00	0,00		No equipment		0,00	0,00	0,00	0,00
KZN090013	-29,737500	30,645470	Tribe Nursery	19-20/02/2009	National Drilling	132,00	48,00	165,00	44,00	128,00		1,28	13,37	Sand, Sandstone & Granite		2,31	0,56	2,00	20,00	10,00

BH_NO	PH	EC	TDS	HARDNESS_C	MG	NA	CL	SO4	NO3	F	ZN	AS_	CD	CU	CN	FE	MN	PB	HG	PHENOL
407051	0,00	0,00	0,00		0,00	0,00	0,00	0,00	0,00	0,00										
F1	7,46	0,00	0,00	139,00	12,90	58,00	119,00	6,91	0,16	2,68						0,07	0,23			
F2	6,39	0,00	0,00	321,00	46,00	293,00	539,00	10,30	0,00	0,16	0,05	5,30	<1.0	<0.05	<10	9,26	0,79	<4.0	<0.5	<5
F3	6,29	0,00	0,00	135,00	18,00	125,00	252,00	5,87	0,00	0,19						6,22	0,24			
F4	0,00	0,00	0,00		0,00	0,00	0,00	0,00	0,00	0,00										
OM 1S	7,03	138,00	850,00		73,20	129,00	296,00	29,20	0,00	0,00	0,25		<0.001	0,05		26,00	1,37		0,00	<0.005
OM 1D	7,76	131,00	731,00		50,40	146,00	195,00	37,30	0,00	0,00	<0.03		<0.001	<0.05		9,82	0,27		<0.0005	<0.005
OM 2S	7,37	528,00	2625,00		246,00	358,00	655,00	118,00	0,00	0,00	0,03		<0.001	0,07		2,22	1,00		<0.0005	<0.005
OM 2D	8,10	649,00	2501,00		162,00	324,00	697,00	109,00	0,00	0,00	0,26		<0.001	0,15		122,00	2,21		0,00	<0.005
KZN090013	6,50	29,00	29,00		6,20	41,00	41,00	0,00	1,60	0,00						220,00	<100.00			

BH_NO	SE	PLATE_COUN	TOT_COLIFO	FAECAL_COL	KEMPSTER_C	COMMENTS
407051						
F1			23,00	1,00		
F2	33,00	>1000	0,00	0,00		
F3			12,00	12,00		
F4						
OM 1S						
OM 1D						
OM 2S						
OM 2D						
KZN090013			41,00	0,00	1	The results of the water quality analysis indicate that the water is well suited for domestic and commercial purposes.

TABLE 2 : KZN GRIP BOREHOLE DATA WITHIN 5KM RADIUS OF SITE

site_id	SITE_TYPE	NR_ON_MAP	Latitude	Longitude	ALTITUDE	site_name	EQUIPMENT	SITE_STATU	SITE_PURPO	USE_APPLIC	BH_DIAM	DEPTH	WL_Latest_	WL_Lates_1	AQUI_YIELD	ABS_TRANSM	ABS_RECOMM
2930DA00105	Borehole	00105	-29,695355	30,641223	793,000000	RIET VALLEI GED CATO RIDGE ABATOIR	Mono type	Unused	Production	Domestic	0,00	60,00	0,000		0,50		
2930DA00106	Borehole	00106	-29,702525	30,643053	787,000000	RIET VALLEI GED CATO RIDGE ABATOIR	Submersible	Unused	Production	Domestic	165,00	270,00	0,000		0,00		
2930DA00107	Borehole	F1	-29,693455	30,631923	804,000000	FERRALLOYS LANDFILL		Unused	Exploration		0,00	0,00	39,610	Static	0,40	0.7	0.3
2930DA00108	Borehole	F3	-29,693655	30,623023	805,000000	FERRALOYS LANDFILL		Unused	Exploration		0,00	0,00	3,760	Static	0,40	0.3	0.8
2930DA00109	Borehole	F4	-29,706454	30,628023	809,000000	FERRALOYS LANDFILL		Unused	Exploration		0,00	0,00	0,000		0,00		
2930DAR0005	River	SW 4	-29,700000	30,592333	0,000000	UITKOMST AND DOORNRUG PTN. ASSMANG					0,00	0,00	0,000		0,00		
2930DAR0006	River	SW 6	-29,711000	30,612500	0,000000	UITKOMST AND DOORNRUG PTN. ASSMANG					0,00	0,00	0,000		0,00		
2930DAR0007	River	SW 7	-29,716170	30,609670	0,000000	UITKOMST AND DOORNRUG PTN. ASSMANG					0,00	0,00	0,000		0,00		
2930DAR0008	River	SW 12	-29,721690	30,607780	0,000000	UITKOMST AND DOORNRUG PTN. ASSMANG					0,00	0,00	0,000		0,00		
2930DAR0009	River	SW 13	-29,721610	30,608060	0,000000	UITKOMST AND DOORNRUG PTN. ASSMANG					0,00	0,00	0,000		0,00		
2930DAR0010	River	AS 1	-29,722889	30,609000	0,000000	UITKOMST AND DOORNRUG PTN. ASSMANG					0,00	0,00	0,000		0,00		
2930DAR0011	River	AS 2	-29,722889	30,609000	0,000000	UITKOMST AND DOORNRUG PTN. ASSMANG					0,00	0,00	0,000		0,00		

site_id	PH	EC	TDS	CA	MG	NA	K	SI	PALK	MALK	MACID	PACID	CL	SO4	N	c_F	CO3
2930DA00105	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2930DA00106	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2930DA00107	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2930DA00108	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2930DA00109	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2930DAR0005	8,00	207,00	1454,00	-1,00	-1,00	200,00	159,00	-1,00	-1,00	181,00	-1,00	-1,00	-1,00	594,00	-1,00	1,76	-1,00
2930DAR0006	9,00	275,00	1972,00	-1,00	-1,00	299,00	276,00	-1,00	-1,00	42,00	-1,00	-1,00	-1,00	969,00	-1,00	3,30	-1,00
2930DAR0007	8,20	123,00	776,00	-1,00	-1,00	84,00	64,00	-1,00	-1,00	128,00	-1,00	-1,00	-1,00	329,00	-1,00	1,11	-1,00
2930DAR0008	7,90	361,00	2474,00	77,00	52,00	367,00	510,00	-1,00	-1,00	487,00	-1,00	-1,00	293,00	866,00	0,01	3,80	-1,00
2930DAR0009	9,50	1247,00	7776,00	1,60	14,00	1044,00	2179,00	-1,00	-1,00	1502,00	-1,00	-1,00	1677,00	1600,00	1,75	19,30	-1,00
2930DAR0010	8,90	898,00	5056,00	17,00	19,00	700,00	1250,00	-1,00	-1,00	291,00	-1,00	-1,00	831,00	1560,00	24,60	12,40	-1,00
2930DAR0011	9,20	1114,00	6656,00	23,00	34,00	914,00	1664,00	0,00	0,00	700,00	0,00	0,00	207,00	1231,00	166,00	10,60	0,00

site_id	HCO3	AL	FE	MN
2930DA00105	0,00	0,00	0,00	0,00
2930DA00106	0,00	0,00	0,00	0,00
2930DA00107	0,00	0,00	0,00	0,00
2930DA00108	0,00	0,00	0,00	0,00
2930DA00109	0,00	0,00	0,00	0,00
2930DAR0005	0,00	-1,00	0,04	0,02
2930DAR0006	-1,00	-1,00	0,07	0,18
2930DAR0007	-1,00	-1,00	0,07	2,92
2930DAR0008	-1,00	-1,00	-1,00	0,05
2930DAR0009	-1,00	-1,00	-1,00	1,26
2930DAR0010	-1,00	-1,00	0,00	0,60
2930DAR0011	0,00	0,00	0,00	0,72

TABLE 3 - NGA BOREHOLE DATA WITHIN 5KM RADIUS OF SITE

GeositeI_1	GeositeI_2	GeositeI_3	GeositeI_4	GeositeI_5	DischargeR	DepthDiame	EquipmentI	WaterStrik	WaterStr_1	WaterStr_2
2930DA00044	Borehole	-29,729550	30,583050	Geosite Status Not Selected		92.96		Total Seepage	28.04	
2930DA00045	Borehole	-29,729550	30,583060	Geosite Status Not Selected		46.02				
2930DA00057	Borehole	-29,726770	30,584440	Geosite Status Not Selected		100.58				
2930DA00019	Borehole	-29,725380	30,629720	In Use: Unknown	0.560 l/s	102.00		Individual Contribution	45.78	0.6002
2930DA00019	Borehole	-29,725380	30,629720	In Use: Unknown	0.560 l/s	102.00		Individual Contribution	78.00	0.6002
2930DA00019	Borehole	-29,725380	30,629720	In Use: Unknown	0.560 l/s	102.00		Individual Contribution	84.00	0.6002
2930DA00019	Borehole	-29,725380	30,629720	In Use: Unknown	0.560 l/s	48.00		Individual Contribution	45.78	0.6002
2930DA00019	Borehole	-29,725380	30,629720	In Use: Unknown	0.560 l/s	48.00		Individual Contribution	78.00	0.6002
2930DA00019	Borehole	-29,725380	30,629720	In Use: Unknown	0.560 l/s	48.00		Individual Contribution	84.00	0.6002
2930DA00023	Borehole	-29,710670	30,583050	In Use: Unknown	1.280 l/s	63.00		Total Yield	63.00	1.2800
2930DA00022	Borehole	-29,710660	30,583050	Unused: Abandoned		102.41				
2930DA00109	Borehole	-29,706480	30,628020	Unused: Abandoned		102.00				
2930DA00030	Borehole	-29,705940	30,583050	In Use: Unknown	3.000 l/s	24.00		Total Yield	50.00	3.0000
2930DA00030	Borehole	-29,705940	30,583050	In Use: Unknown	3.000 l/s	60.00		Total Yield	50.00	3.0000
2930DA00031	Borehole	-29,705940	30,583060	In Use: Unknown	0.120 l/s	100.00		Total Yield	80.00	0.1200
2930DA00031	Borehole	-29,705940	30,583060	In Use: Unknown	0.120 l/s	20.00		Total Yield	80.00	0.1200
2930DA00106	Borehole	-29,702550	30,643050	Unused: Abandoned		270.00	Submersible Pump	Individual Contribution	60.00	0.7000
2930DA00106	Borehole	-29,702550	30,643050	Unused: Abandoned		270.00	Submersible Pump	Individual Contribution	270.00	0.7000
2930DA00034	Borehole	-29,700380	30,649720	Geosite Status Not Selected		46.94		Individual Contribution	18.29	0.2001
2930DA00034	Borehole	-29,700380	30,649720	Geosite Status Not Selected		46.94		Individual Contribution	43.28	0.2001
2930DA00001	Borehole	-29,698460	30,595660	In Use: Unknown		120.00				
2930DA00001	Borehole	-29,698460	30,595660	In Use: Unknown		6.00				
2930DA00105	Borehole	-29,695380	30,641220	Unused: Abandoned		60.00	Mono Type Pump	Total Yield	60.00	0.5000
2930DA00108	Borehole	-29,693680	30,623020	Unused: Abandoned		102.00		Total Yield	102.00	0.4000
2930DA00107	Borehole	-29,693480	30,631920	Unused: Abandoned		84.00		Total Yield	72.00	0.4000
2930DA00002	Borehole	-29,680440	30,601780	In Use: Unknown	5.000 l/s	12.00	Positive Displacement	Total Yield	56.00	5.0000
2930DA00002	Borehole	-29,680440	30,601780	In Use: Unknown	5.000 l/s	60.00	Positive Displacement	Total Yield	56.00	5.0000
2930DA00003	Borehole	-29,665190	30,631530	In Use: Unknown		60.00				

TABLE 4 : ASSMANG CATO RIDGE WORKS MONITORING BOREHOLES

ID	Lat_S	Long	Depth (m)	Steel Casing (m)	PVC Plain (	PVC Slotted (	Water Strike (m)	BlowYield (l/sec)	Current SWL
BH101 DEEP	-29,719917	30,609002							21,49
BH101 SHALLOW	-29,719926	30,609034							7,99
BH102	-29,722294	30,608340							0,99
BH103	-29,719638	30,609597							0,89
BH104	-29,711843	30,612890							
BH1 DEEP	-29,712329	30,621078	78	-	56.80	22.72		Seepage	18,18
BH2 DEEP	-29,710465	30,613039	60	-	17.04	42.60		2	25,62
BH EP1 DEEP	-29,721609	30,610890	66	6	42.6	22.7	Seepage	Seepage	25,51
BH EP1 SHALLOW	-29,721602	30,610860	11.5	-	2.8	8.5	Dry	Dry	1,76
BH F2	-29,701065	30,620824	102	12	48.28	53.96	10 & 55	10.5	32,1
BH PLANT1 DEEP	-29,714471	30,610576	60	6	22.7	36.9	Seepage	Seepage	32,02
BH1 SHALLOW	-29,712344	30,621113	12	-	2.84	8.52		Seepage	Dry
BH SH1 DEEP	-29,712852	30,618212	66	6	42.3	17	54	0.8	13,71
BH SH1 SHALLOW	-29,712845	30,618177	12	-	5.7	8.5	Dry	Dry	10,96
BH DOORNRUG DEEP	-29,724740	30,607086	48	6	22.56	22.72		Seepage	
BH DOORNRUG SHALLOW	-29,724738	30,607060	11.5	-	2.84	8.52		Dry	Dry
BH EP2 DEEP	-29,719909	30,606888	48	6	31.2	17	7	Seepage	
BH EP2 SHALLOW	-29,719863	30,606887	11.5	-	2.8	8.5	7	Seepage	

APPENDIX B

MONITORING BOREHOLE WATER QUALITY DATA

GEOMEASURE GROUP
Groundwater, Environmental & Geotechnical Consultants

TABLE 5: BH 1 SHALLOW INORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH SANS 241 (2015)

Sample Point				BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow
Sample No	Risk		Standard														
Date			Limit	17-Sep-19	14-Jan-20	10-Mar-20	24-Jun-20	16-Sep-20	09-Dec-20	08-Mar-21	08-Jun-21	14-Sep-21	06-Dec-21	14-Mar-22	21-Jun-22	20-Sep-22	05-Dec-22	13-Mar-23
Consultant				Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
PHYSICAL - WATER QUALITY																		
pH	Operational		≥ 5.0 to ≤ 9.7	DRY	5,99	6,16	DRY	DRY	6,09	6,27	7,27	DRY	6,13	INACCESSIBLE	6,68	DRY	DRY	6,75
EC	Aesthetic	mS/m	≤ 170		37,40	39,90			33,00	49,50	41,90		38,20		37,70			39,40
TDS	Aesthetic	mg/l	≤ 1200		284,00	269,00			259,00	321,00	277,00		231,00		262,00			258,00
MACRO CHEMICAL - DETERMINANDS																		
Alk		mg/l	ns		42,00	43,00			46,00	99,00	53,00		22,50		57,50			87,86
Ca		mg/l	ns		9,40	7,42			6,74	13,30	13,89		7,59		10,01			13,62
Mg		mg/l	ns		9,56	8,37			10,86	23,15	12,38		9,21		20,64			21,78
Na	Aesthetic	mg/l	≤ 200		61,33	44,81			42,24	38,48	51,07		49,58		35,15			41,84
K		mg/l	ns		0,93	0,90			0,51	0,57	0,86		0,76		0,41			0,69
COD		mg/l	ns		13,00	8,00			4,00	13,00	<3,00		8,00		<3,00			34,00
BOD		mg/l			<10.00				<10.00		<10,00		<10,00		<10,00			<10,00
NO3-N	Acute Health - 1	mg/l	≤ 11		<0.50	<0.50			<0.50	<0.50	<0,50		<0,50		<0,50			<0,50
NH4-N	Aesthetic	mg/l	≤ 1.50		<0.02				<0.02		<0,02		<0,02		0,02			0,03
Cl	Aesthetic	mg/l	≤ 300		38,80	41,16			23,24	34,92	46,74		39,70		26,80			29,16
SO4	Acute Health - 1	mg/l	≤ 500		71,37	65,90			72,90	74,28	74,41		81,91		63,91			70,69
SR PO4		mg/l	ns															
F	Chronic Health	mg/l	≤ 1.5		0,08	0,08			0,05	0,14	<0,05		<0,05		<0,05			0,22
Zn	Aesthetic	mg/l	≤ 5							0,07								
MICRO CHEMICAL - DETERMINANDS																		
Al	Operational	µg/l	≤ 300															
B		µg/l	≤ 2400		540,00	930,00			570,00	770,00	<500,00		510,00		<500,00			640,00
Cd	Chronic Health	µg/l	≤ 3		<50.00				<50.00		<50,00		<50,00		<50,00			<50,00
Cu	Chronic Health	µg/l	≤ 2000															
Pb	Chronic Health	µg/l	≤ 10		<100.00				<50.00		***390,00***		<50,00		<50,00			<50,00
Cr	Chronic Health	µg/l	≤ 50		<50.00				<50.00		<50,00		<50,00		<50,00			<50,00
Hexavalent Cr		µg/l			<50.00				<50.00				<50,00		<50,00			<50,00
As	Chronic Health	µg/l	≤ 10															
Free CN	Acute Health - 1	µg/l	≤ 70		<2.00				8,00		5,00		<2,00		<2,00			<2,00
Hg	Chronic Health	µg/l	≤ 6		<5.00				<5.00		<5,00		<5,00		<5,00			<5,00
Fe	Chronic Health	µg/l	≤ 2000		200,00	80,00			690,00	<50,00	530,00		110,00		600,00			50,00
Mn	Chronic Health	µg/l	≤ 400		<50.00	<50.00			<50.00	320,00	200,00		<50,00		180,00			70,00
Ni	Chronic Health	µg/l	≤ 70															
ORGANIC - DETERMINANDS																		
Total Organic Carbon	Chronic Health	mg/l	≤ 10		***10,37***	<10.00			<10.00	17,38	<10,00		<10,00		***10,69***			***10,47***

Black - Within Standard Limits

Red - Exceeds Standard Limits

Empty cell denotes when a particular analysis was not undertaken

TABLE 6: BH 1 DEEP INORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH SANS 241 (2015)

Sample Point				BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep
Sample No	Risk		Standard														
Date			Limit	14-Jan-20	10-Mar-20	24-Jun-20	16-Sep-20	09-Dec-20	08-Mar-21	08-Jun-21	14-Sep-21	06-Dec-21	14-Mar-22	21-Jun-22	20-Sep-22	05-Dec-22	13-Mar-23
Consultant				Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
PHYSICAL - WATER QUALITY																	
pH	Operational		≥ 5.0 to ≤ 9.7	5,79	5,86	5,86	5,92	5,95	6,33	6,92	6,22	6,17	INACCESSIBLE	6,67	6,20	6,13	7,55
EC	Aesthetic	mS/m	≤ 170	85,10	87,90	86,30	86,80	85,30	86,10	89,70	90,80	90,30		83,80	89,50	89,80	89,30
TDS	Aesthetic	mg/l	≤ 1200	588,00	639,00	617,00	442,00	503,00	540,00	612,00	530,00	597,00		561,00	571,00	578,00	508,00
MACRO CHEMICAL - DETERMINANDS																	
Alk		mg/l	ns	21,00	28,00	21,00	22,00	94,00	30,00	30,00	25,00	22,50		25,00	48,31	38,40	29,64
Ca		mg/l	ns	10,62	7,58	6,32	5,89	7,60	7,06	10,95	8,04	10,99		10,93	16,07	11,30	10,36
Mg		mg/l	ns	15,83	12,51	14,15	12,85	13,11	13,90	14,49	12,32	14,68		13,81	16,93	14,51	14,38
Na	Aesthetic	mg/l	≤ 200	107,50	120,50	130,10	125,80	114,80	132,00	117,70	133,70	132,30		117,30	133,50	118,60	142,60
K		mg/l	ns	6,36	5,56	6,46	4,69	4,51	4,62	4,59	4,11	4,59		4,61	4,49	4,52	4,92
COD		mg/l	ns	5,00	3,00	<3.00	<3.00	<3.00	<3.00	<3,00	<3,00	<3,00		<3,00	<3,00	7,00	29,00
BOD		mg/l		<10.00		<10.00		<10.00		<10,00		<10,00		<10,00	<10,00	<10,00	<10,00
NO3-N	Acute Health - 1	mg/l	≤ 11	<0.50	<0.50	1,23	<0.50	0,53	0,54	0,58	0,61	<0,50		0,69	<0,50	<0,50	<0,50
NH4-N	Aesthetic	mg/l	≤ 1.50	<0.02		<0.02		<0.02		0,13		<0,02		0,05	0,02	0,03	<0,02
Cl	Aesthetic	mg/l	≤ 300	219,90	239,30	236,50	210,40	180,50	231,90	248,80	242,70	268,50		242,70	267,10	248,70	239,80
SO4	Acute Health - 1	mg/l	≤ 500	5,62	5,03	11,09	3,69	4,66	7,18	5,56	4,08	6,83		7,84	7,66	6,39	6,63
SR PO4		mg/l	ns														
F	Chronic Health	mg/l	≤ 1.5	0,11	<0.05	<0.05	0,06	0,05	0,08	<0,05	0,06	<0,05		0,10	0,35	<0,05	0,08
Zn	Aesthetic	mg/l	≤ 5						0,07		0,06						
MICRO CHEMICAL - DETERMINANDS																	
Al	Operational	µg/l	≤ 300														
B	Chronic Health	µg/l	≤ 2400	<500.00	540,00	1020,00	<500.00	<500.00	<500.00	<500,00	<500,00	<500,00		<500,00	<500,00	<500,00	<500,00
Cd	Chronic Health	µg/l	≤ 3	<50.00		<50.00		<50.00		<50,00		<50,00		<50,00	<50,00	<50,00	<50,00
Cu	Chronic Health	µg/l	≤ 2000														
Pb	Chronic Health	µg/l	≤ 10	<100.00		<50.00		<50.00		<50,00		<50,00		<50,00	<50,00	<50,00	<50,00
Cr	Chronic Health	µg/l	≤ 50	<50.00		<50.00		<50.00		<50,00		<50,00		<50,00	<50,00	<50,00	<50,00
Hexavalent Cr		µg/l		<50.00		<50.00		<50.00		<50,00		<50,00		<50,00	<50,00	<50,00	<50,00
As	Chronic Health	µg/l	≤ 10														
Free CN	Acute Health - 1	µg/l	≤ 70	<2.00		3,00		4,00		3,00		<2,00		<2,00	<2,00	<2,00	<2,00
Hg	Chronic Health	µg/l	≤ 6	<5.00		<5.00		<5.00		<5,00		<5,00		<5,00	<5,00	<5,00	<5,00
Fe	Chronic Health	µg/l	≤ 2000	<50.00	80,00	150,00	80,00	100,00	400,00	330,00	80,00	<50,00		60,00	170,00	100,00	80,00
Mn	Chronic Health	µg/l	≤ 400	<50.00	60,00	<50.00	<50.00	<50.00	<50.00	<50,00	<50,00	<50,00		<50,00	<50,00	<50,00	50,00
Ni	Chronic Health	µg/l	≤ 70														
ORGANIC - DETERMINANDS																	
Total Organic Carbon	Chronic Health	mg/l	≤ 10	<10.00	<10.00	<10.00	<10.00	***17,39***	<10.00	<10,00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00

Black - Within Standard Limits

Red - Exceeds Standard Limits

Empty cell denotes when a particular analysis was not undertaken

TABLE 7: DOORNRUG SHALLOW INORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH SANS 241 (2015)

Sample Point				Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow
Sample No	Risk		Standard																			
Date			Limit	11-Sep-18	05-Dec-18	06-Mar-19	12-Jun-19	17-Sep-19	14-Jan-20	10-Mar-20	24-Jun-20	16-Sep-20	09-Dec-20	09-Mar-21	09-Jun-21	15-Sep-21	07-Dec-21	16-Mar-22	22-Jun-22	21-Sep-22	06-Dec-22	14-Mar-23
Consultant				Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
PHYSICAL - WATER QUALITY																						
pH	Operational		≥ 5.0 to ≤ 9.7	DRY	DRY	6,13	6,81	DRY	6,34	6,32	DRY	DRY	6,29	6,53	7,24	DRY	6,22	6,58	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE
EC	Aesthetic	mS/m	≤ 170			56,30	39,30		49,00	42,00			47,70	40,10	31,60		29,20	30,30				
TDS	Aesthetic	mg/l	≤ 1200			389,00	290,00		314,00	298,00			395,00	286,00	226,00		293,00	264,00				
MACRO CHEMICAL - DETERMINANDS																						
Alk		mg/l	ns			54,00	37,00		29,00	29,00			25,00	54,00	15,00		22,50	30,00				
Ca		mg/l	ns			15,00	11,56		18,89	9,29			13,30	10,23	6,53		10,00	10,09				
Mg		mg/l	ns			9,98	8,49		14,17	9,37			9,89	10,72	7,51		9,75	9,95				
Na	Aesthetic	mg/l	≤ 200			64,83	50,43		52,32	54,88			65,17	48,94	40,82		47,76	45,87				
K		mg/l	ns			0,89	1,51		1,24	0,50			0,37	0,24	0,22		0,31	0,73				
COD		mg/l	ns			46,00	47,00		31,00	37,00			16,00	20,00	4,00		46,00	24,00				
BOD		mg/l					<10.00		<10.00				<10.00		<10,00		22,00	<10,00				
NO3-N	Acute Health - 1	mg/l	≤ 11			<2.22	<0.50		3,28	<0.50			<0.50	<0.50	<0,50		<0,50	<0,50				
NH4-N	Aesthetic	mg/l	≤ 1.50				<0.02		0,03				<0.02		0,06		0,11	<0,02				
Cl	Aesthetic	mg/l	≤ 300			86,23	76,20		85,25	74,81			63,36	57,09	54,13		55,57	55,68				
SO4	Acute Health - 1	mg/l	≤ 500			68,72	59,85		62,29	63,86			71,92	51,61	64,35		66,26	71,12				
SR PO4		mg/l	ns																			
F	Chronic Health	mg/l	≤ 1.5			0,34	0,19		0,15	0,21			0,30	0,93	0,60		<0,05	0,57				
Zn	Aesthetic	mg/l	≤ 5											0,17								
MICRO CHEMICAL - DETERMINANDS																						
Al	Operational	µg/l	≤ 300																			
B		µg/l	≤ 2400			720,00	<5000.00		<500.00	900,00			<500.00	<500.00	<500,00		<500,00	<500,00				
Cd	Chronic Health	µg/l	≤ 3				<500.00		<50.00				<50.00		<50,00		<50,00	<50,00				
Cu	Chronic Health	µg/l	≤ 2000																			
Pb	Chronic Health	µg/l	≤ 10				<1000.00		<100.00				<100.00		<50,00		<50,00	<50,00				
Cr	Chronic Health	µg/l	≤ 50				<500.00		<50.00				<50.00		<50,00		<50,00	<50,00				
Hexavalent Cr		µg/l					<50.00		<50.00				<50.00		<50,00		<50,00	<50,00				
As	Chronic Health	µg/l	≤ 10																			
Free CN	Acute Health - 1	µg/l	≤ 70				77,00		12,00				26,00		<2,00		***149,00***	<2,00				
Hg	Chronic Health	µg/l	≤ 6				<5,00		<5,00				<5,00		<5,00		<5,00	<5,00				
Fe	Chronic Health	µg/l	≤ 2000			690,00	***13880,00***		940,00	1060,00			510,00	***3720,00***	***6410,00***		1100,00	***4060,00***				
Mn	Chronic Health	µg/l	≤ 400			110,00	<50.00		150,00	80,00			<50.00	400,00	200,00		260,00	390,00				
Ni	Chronic Health	µg/l	≤ 70																			
ORGANIC - DETERMINANDS																						
Total Organic Carbon	Chronic Health	mg/l	≤ 10			***15,42***	6,81		***15,46***	***11,54***			***20,90***	***22,50***	***11,45***		***11041,00***	***11,71***				

Black - Within Standard Limits

Red - Exceeds Standard Limits

Empty cell denotes when a particular analysis was not undertaken

TABLE 8: DOORNRUG DEEP INORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH SANS 241 (2015)

Sample Point				Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep
Sample No	Risk		Standard														
Date			Limit	17-Sep-19	14-Jan-20	10-Mar-20	24-Jun-20	16-Sep-20	09-Dec-20	09-Mar-21	09-Jun-21	15-Sep-21	07-Dec-21	16-Mar-22	22-Jun-22	21-Sep-22	06-Dec-22	14-Mar-23
Consultant				Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
PHYSICAL - WATER QUALITY																		
pH	Operational		≥ 5.0 to ≤ 9.7	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE	INACCESSIBLE
EC	Aesthetic	mS/m	≤ 170															
TDS	Aesthetic	mg/l	≤ 1200															
MACRO CHEMICAL - DETERMINANDS																		
Alk		mg/l	ns															
Ca		mg/l	ns															
Mg		mg/l	ns															
Na	Aesthetic	mg/l	≤ 200															
K		mg/l	ns															
COD		mg/l	ns															
BOD		mg/l																
NO3-N	Acute Health - 1	mg/l	≤ 11															
NH4-N	Aesthetic	mg/l	≤ 1.50															
Cl	Aesthetic	mg/l	≤ 300															
SO4	Acute Health - 1	mg/l	≤ 500															
SR PO4		mg/l	ns															
F	Chronic Health	mg/l	≤ 1.5															
Zn	Aesthetic	mg/l	≤ 5															
MICRO CHEMICAL - DETERMINANDS																		
Al	Operational	µg/l	≤ 300															
B		µg/l	≤ 2400															
Cd	Chronic Health	µg/l	≤ 3															
Cu	Chronic Health	µg/l	≤ 2000															
Pb	Chronic Health	µg/l	≤ 10															
Cr	Chronic Health	µg/l	≤ 50															
Hexavalent Cr		µg/l																
As	Chronic Health	µg/l	≤ 10															
Free CN	Acute Health - 1	µg/l	≤ 70															
Hg	Chronic Health	µg/l	≤ 6															
Fe	Chronic Health	µg/l	≤ 2000															
Mn	Chronic Health	µg/l	≤ 400															
Ni	Chronic Health	µg/l	≤ 70															
ORGANIC - DETERMINANDS																		
Total Organic Carbon	Chronic Health	mg/l	≤ 10															

Black - Within Standard Limits

Red - Exceeds Standard Limits

Empty cell denotes when a particular analysis was not undertaken

TABLE 9: BH F 2 INORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH SANS 241 (2015)

Sample Point				BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2
Sample No	Risk		Standard														
Date			Limit	14-Jan-20	10-Mar-20	24-Jun-20	16-Sep-20	09-Dec-20	08-Mar-21	08-Jun-21	15-Sep-21	06-Dec-21	14-Mar-22	21-Jun-22	20-Sep-22	05-Dec-22	13-Mar-23
Consultant				Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
PHYSICAL - WATER QUALITY																	
pH	Operational		≥ 5.0 to ≤ 9.7	6,16	6,23	6,17	6,30	6,23	6,61	7,07	6,54	6,44	6,78	6,94	6,47	6,52	7,23
EC	Aesthetic	mS/m	≤ 170	***191,40***	***199,00***	***194,10***	***196,20***	***197,00***	***209,60***	***194,30***	***192,80***	***190,00***	***195,10***	***2032,00***	***181,20***	***179,70***	167,50
TDS	Aesthetic	mg/l	≤ 1200	***1241,00***	***1254,00***	***1321,00***	1189,00	1096,00	1172,00	***1339,00***	***1261,00***	***1241,00***	***1214,00***	1127,00	1167,00	1167,00	1104,00
MACRO CHEMICAL - DETERMINANDS																	
Alk		mg/l	ns	53,00	72,00	69,00	68,00	73,00	97,00	58,00	150,00	80,00	55,00	30,00	63,33	93,10	126,90
Ca		mg/l	ns	20,04	23,23	23,51	22,57	27,80	26,48	27,58	44,30	37,43	42,71	25,52	36,63	29,87	45,63
Mg		mg/l	ns	40,35	4,83	42,59	35,73	47,83	38,18	37,31	45,40	39,90	39,04	36,42	37,86	33,80	38,63
Na	Aesthetic	mg/l	≤ 200	***256,10***	***308,60***	***269,90***	***263,00***		***265,20***	***259,60***	***298,30***	***321,20***	***257,80***	***249,90***	***259,50***	***224,90***	***271,50***
K		mg/l	ns	3,90	3,73	3,73	2,65	2,92	2,74	3,20	2,82	3,21	3,50	3,37	2,88	3,66	3,26
COD		mg/l	ns	10,00	6,00	9,00	<3.00	<3.00	<3.00	<3,00	<3,00	11,00	9,00	<3,00	<3,00	<3,00	22,00
BOD		mg/l		<10.00		<10.00		<10.00		<10,00		<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
NO3-N	Acute Health - 1	mg/l	≤ 11	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0,50	<0,50	<0,50	<0,50	<0,50	<0,50	<0,50	<0,50
NH4-N	Aesthetic	mg/l	≤ 1.50	<0.02		<0.02		<0.02		<0,02		<0,02	<0,02	<0,02	<0,02	0,03	0,24
Cl	Aesthetic	mg/l	≤ 300	***542,40***	***614,90***	***592,90***	***526,70***	***504,00***	***558,40***	***580,90***	***528,40***	***642,90***	***596,40***	***562,30***	***588,20***	***650,10***	***527,90***
SO4	Acute Health - 1	mg/l	≤ 500	4,61	4,84	10,66	4,49	4,77	5,53	8,36	6,42	6,38	6,86	6,59	4,94	5,63	6,70
SR PO4		mg/l	ns														
F	Chronic Health	mg/l	≤ 1.5	0,49	0,32	0,40	<0.05	0,15	<0,05	0,39	0,33	<0,05	0,29	<0,05	***3,22***	<0,05	0,13
Zn	Aesthetic	mg/l	≤ 5						0,07		0,07						
MICRO CHEMICAL - DETERMINANDS																	
Al	Operational	µg/l	≤ 300														
B		µg/l	≤ 2400	660,00	<500.00	<50.00	<500.00	<50.00	<500,00	<500,00	<500,00	<500,00	<500,00	<500,00	<500,00	<500,00	<500,00
Cd	Chronic Health	µg/l	≤ 3	<50.00		<50.00		<50.00		<50,00	<500,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Cu	Chronic Health	µg/l	≤ 2000														
Pb	Chronic Health	µg/l	≤ 10	<100.00		<50.00		<50.00		<50,00		<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Cr	Chronic Health	µg/l	≤ 50	<50.00		<50.00		<50.00		<50,00		<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Hexavalent Cr		µg/l		<50.00		<50.00		<50.00		<50,00		<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
As	Chronic Health	µg/l	≤ 10														
Free CN	Acute Health - 1	µg/l	≤ 70	22,00		21,00		25,00		<2,00		<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Hg	Chronic Health	µg/l	≤ 6	<5.00		<5.00		<5.00		<5,00		<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Fe	Chronic Health	µg/l	≤ 2000	***11330,00***	***11600,00***	***11140,00***	***12550,00***	***11350,00***	***11020,00***	***12000,00***	***10110,00***	***11170,00***	***14100,00***	***12070,00***	***12770,00***	***6060,00***	<500,00
Mn	Chronic Health	µg/l	≤ 400	***1080,00***	***950,00***	***1050,00***	***1030,00***	***1020,00***	***910,00***	***1050,00***	***900,00***	***940,00***	***940,00***	***870,00***	***950,00***	***860,00***	***870,00***
Ni	Chronic Health	µg/l	≤ 70														
ORGANIC - DETERMINANDS																	
Total Organic Carbon	Chronic Health	mg/l	≤ 10	<10.00	<10.00	<10.00	<10.00	***22,74***	***20,74***	***10,95***	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00

Black - Within Standard Limits

Red - Exceeds Standard Limits

Empty cell denotes when a particular analysis was not undertaken

TABLE 10: BH SH 1 SHALLOW INORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH SANS 241 (2015)

Sample Point				BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow
Sample No	Risk		Standard													
Date			Limit	14-Jan-20	10-Mar-20	24-Jun-20	16-Sep-20	09-Dec-20	08-Mar-21	08-Jun-21	14-Sep-21	06-Dec-21	16-Mar-22	21-Jun-22	20-Sep-22	05-Dec-22	14-Mar-23
Consultant				Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
PHYSICAL - WATER QUALITY																	
pH	Operational		≥ 5.0 to ≤ 9.7	7,41	7,46	7,56	7,86	7,31	7,50	7,88	7,99	INACCESSIBLE	7,53	7,63	7,07	7,55	7,63
EC	Aesthetic	mS/m	≤ 170	23,00	25,10	24,70	29,00	23,80	28,60	22,90	27,00		28,80	24,80	27,30	28,10	19,60
TDS	Aesthetic	mg/l	≤ 1200	132,00	137,00	165,00	112,00	162,00	183,00	154,00	149,00		206,00	152,00	182,00	201,00	141,00
MACRO CHEMICAL - DETERMINANDS																	
Alk		mg/l	ns	46,00	59,00	60,00	75,00	56,00	86,00	60,00	83,00		100,00	50,00	77,67	70,14	63,52
Ca		mg/l	ns	13,93	14,29	14,60	27,02	13,40	15,55	9,74	20,94		18,41	15,17	16,99	15,57	12,29
Mg		mg/l	ns	7,78	9,70	9,07	11,31	8,38	10,58	12,75	10,47		11,70	9,64	12,56	10,13	9,02
Na	Aesthetic	mg/l	≤ 200	22,11	14,37	16,77	21,98	21,77	23,69	18,36	20,27		18,18	14,63	20,24	18,63	17,15
K		mg/l	ns	4,71	5,03	4,62	1,56	4,21	5,20	4,38	5,04		5,27	4,23	4,78	4,55	4,49
COD		mg/l	ns	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00		<3,00	<3,00	<3,00	<3,00	17,00
BOD		mg/l		<10.00		<10.00		<10.00		<10,00			<10,00	<10,00	<10,00	<10,00	<10,00
NO3-N	Acute Health - 1	mg/l	≤ 11	5,58	3,43	2,35	1,98	0,86	<0,50	1,16	2,58		<0,50	0,54	<0,50	0,51	2,48
NH4-N	Aesthetic	mg/l	≤ 1.50	<0.02		<0.02		<0.02		0,05			<0,02	<0,02	<0,02	0,03	<0,02
Cl	Aesthetic	mg/l	≤ 300	23,74	24,81	25,58	23,95	25,18	23,67	29,45	29,03		21,73	18,83	27,09	28,93	21,87
SO4	Acute Health - 1	mg/l	≤ 500	15,25	13,56	15,67	18,89	19,47	26,63	13,94	15,26		24,02	19,09	24,66	23,13	11,99
SR PO4		mg/l	ns														
F	Chronic Health	mg/l	≤ 1.5	0,40	0,75	0,63	0,82	0,65	0,33	0,55	0,82		0,39	0,20	0,39	0,69	0,27
Zn	Aesthetic	mg/l	≤ 5		0,11		<0.05		0,07		0,06						
MICRO CHEMICAL - DETERMINANDS																	
B	Chronic Health	µg/l	≤ 2400	<500.00	960,00	510,00	<500.00	<500.00	<500.00	<500,00	<500,00		<500,00	<500,00	<500,00	<500,00	<500,00
Cd	Chronic Health	µg/l	≤ 3	<50.00		<50.00		<50.00		<50,00			<50,00	<50,00	<50,00	<50,00	<50,00
Cu	Chronic Health	µg/l	≤ 2000														
Pb	Chronic Health	µg/l	≤ 10	<100.00		<50.00		<50.00		<50,00			<50,00	<50,00	<50,00	<50,00	<50,00
Cr	Chronic Health	µg/l	≤ 50	<50.00		<50.00		<50.00		<50,00			<50,00	<50,00	<50,00	<50,00	<50,00
Hexavalent Cr		µg/l		<50.00		<50.00		<50.00		<50,00			<50,00	<50,00	<50,00	<50,00	<50,00
As	Chronic Health	µg/l	≤ 10														
Free CN	Acute Health - 1	µg/l	≤ 70	<2,00		6,00		6,00		14,00			<2,00	<2,00	<2,00	<2,00	<2,00
Hg	Chronic Health	µg/l	≤ 6	<5.00		<5.00		<5.00		<5,00			<5,00	<5,00	<5,00	<5,00	<5,00
Fe	Chronic Health	µg/l	≤ 2000	80,00	1160,00	590,00	550,00	120,00	310,00	570,00	170,00		350,00	170,00	690,00	270,00	60,00
Mn	Chronic Health	µg/l	≤ 400	<50.00	80,00	<50.00	<50.00	<50.00	<50.00	50,00	50,00		<50,00	50,00	<50,00	<50,00	<50,00
Ni	Chronic Health	µg/l	≤ 70														
ORGANIC - DETERMINANDS																	
Total Organic Carbon	Chronic Health	mg/l	≤ 10	<10.00	<10.00	***11,56***	<10.00	***14,87***	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00

Black - Within Standard Limits

Red - Exceeds Standard Limits

Empty cell denotes when a particular analysis was not undertaken

TABLE 11: BH SH 1 DEEP INORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH SANS 241 (2015)

Sample Point				BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep
Sample No	Risk		Standard														
Date			Limit	14-Jan-20	10-Mar-20	24-Jun-20	16-Sep-20	09-Dec-20	08-Mar-21	08-Jun-21	14-Sep-21	06-Dec-21	14-Mar-22	21-Jun-22	20-Sep-22	05-Dec-22	14-Mar-23
Consultant				Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
PHYSICAL - WATER QUALITY																	
pH	Operational		≥ 5.0 to ≤ 9.7	6,04	5,90	6,00	6,10	5,87	5,98	6,92	5,95	5,99	6,23	6,45	5,85	5,94	6,82
EC	Aesthetic	mS/m	≤ 170	100,40	121,30	81,00	59,80	121,80	99,70	56,90	84,90	102,50	72,30	64,80	79,40	57,50	51,10
TDS	Aesthetic	mg/l	≤ 1200	683,00	706,00	563,00	323,00	720,00	676,00	350,00	498,00	691,00	468,00	427,00	570,00	342,00	337,00
MACRO CHEMICAL - DETERMINANDS																	
Alk		mg/l	ns	21,00	21,00	15,00	14,00	20,00	24,00	13,00	25,00	10,00	12,50	10,00	18,58	14,68	19,59
Ca		mg/l	ns	15,86	12,71	7,42	9,37	14,51	13,29	4,64	9,18	11,05	8,53	7,27	11,26	3,67	5,03
Mg		mg/l	ns	27,16	25,87	16,53	12,19	30,35	22,39	10,32	19,57	23,80	15,03	14,09	22,20	8,74	10,81
Na	Aesthetic	mg/l	≤ 200	114,50	131,80	108,20	87,84	156,10	120,00	84,06	113,70	143,80	105,40	93,14	123,50	70,77	88,50
K		mg/l	ns	4,25	4,33	3,05	<1.00	3,04	3,04	2,37	2,86	3,31	2,71	2,90	2,90	2,32	2,00
COD		mg/l	ns	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3,00	<3.00	3,00	<3,00	<3,00	<3,00	<3,00	14,00
BOD		mg/l		<10.00		<10.00		<10.00		<10,00			<10,00	<10,00	<10,00	<10,00	<10,00
NO3-N	Acute Health - 1	mg/l	≤ 11	4,54	1,28	2,21	1,96	1,43	1,22	1,95	1,76	1,37	1,93	1,84	1,82	1,15	2,48
NH4-N	Aesthetic	mg/l	≤ 1.50	<0.02		<0.02		<0.02		0,02		<0,02	<0,02	<0,02	<0,02	0,02	0,14
Cl	Aesthetic	mg/l	≤ 300	277,80	***329,30***	225,90	132,50	***364,20***	281,30	158,20	241,10	***334,50***	201,20	197,60	287,93	150,90	154,90
SO4	Acute Health - 1	mg/l	≤ 500	4,09	2,70	9,42	<2.00	2,76	3,79	2,15	<2.00	3,03	2,64	3,26	2,69	2,64	0,00
SR PO4		mg/l	ns														
F	Chronic Health	mg/l	≤ 1.5	0,10	0,10	<0.05	0,07	0,10	0,15	0,08	0,08	0,06	0,12	0,15	<0,05	0,16	0,09
Zn	Aesthetic	mg/l	≤ 5		0,21				0,06		0,10						
MICRO CHEMICAL - DETERMINANDS																	
B	Chronic Health	µg/l	≤ 2400	1690,00	1300,00	<500.00	<5000.00	<500.00	<500.00	<500,00	<500,00	<500,00	<500,00	<500,00	<500,00	<500,00	<500,00
Cd	Chronic Health	µg/l	≤ 3	<50.00		<50.00		<50.00		<50,00		<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Pb	Chronic Health	µg/l	≤ 10	<100.00		<50.00		<50.00		<50,00		<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Cr	Chronic Health	µg/l	≤ 50	<50.00		<50.00		<50.00		<50,00		<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Hexavalent Cr		µg/l		<50.00		<50.00		<50.00		<50,00		<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Free CN	Acute Health - 1	µg/l	≤ 70	<2.00		4,00		3,00		3,00		<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Hg	Chronic Health	µg/l	≤ 6	<5.00		<5.00		<5.00		<5,00		<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Fe	Chronic Health	µg/l	≤ 2000	60,00	<50.00	<50.00	<500.00	<50.00	<50.00	150,00	160,00	<50,00	50,00	80,00	310,00	60,00	<50,00
Mn	Chronic Health	µg/l	≤ 400	<50.00	<50.00	<50.00	<500.00	<50.00	<50.00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
ORGANIC - DETERMINANDS																	
Total Organic Carbon	Chronic Health	mg/l	≤ 10	<10.00	<10.00	<10.00	<10.00	***13,45***	***19,85***	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00

Black - Within Standard Limits

Red - Exceeds Standard Limits

Empty cell denotes when a particular analysis was not undertaken

TABLE 12: BH 1 SHALLOW ORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH US EPA RSL STANDARDS

Sample Point		US EPA RSL*	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow	BH 1 Shallow
Sample No		Tap Water												
Date		(ppb/ µg/l)	24-Jun-20	16-Sep-20	09-Dec-20	08-Mar-21	08-Jun-21	14-Sep-21	06-Dec-21	16-Mar-22	21-Jun-22	20-Sep-22	05-Dec-22	13-Mar-23
Consultant			Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
VOC														
Benzene	µg/l	**0,41**	DRY	DRY	<1.00	-	<1,00	DRY	<1,00	*INACCESSIBLE*	<1,00	DRY	DRY	<1,00
Bromobenzene	µg/l	**8,8**			<2.00	<2.00	<2,00		<2,00		<2,00			<2,00
Bromochloromethane	ug/l	**0,12**			<2.00	<50.00	<50,00		<50,00		<50,00			<10,00
Bromodichloromethane	µg/l	**N/A**			<2.00	<10.00	<10,00		<10,00		<10,00			<50,00
Bromoform	µg/l	**8,5**			<5.00	<5.00	<5,00		<5,00		<5,00			<5,00
n-Butylbenzene	µg/l	**N/A**			<2.00	-	<2,00		<2,00		<2,00			<2,00
sec-Butylbenzene	µg/l	**N/A**			<2.00	-	<2,00		<2,00		<2,00			<2,00
tert-Butylbenzene	µg/l	**N/A**			<2.00	-	<2,00		<2,00		<2,00			<2,00
Carbon Tetrachloride	µg/l	**0,44**			<5.00	<5.00	<5,00		<5,00		<5,00			<5,00
Chloro Benzene	µg/l	**91**			-	<2.00	<2,00		<2,00		<2,00			<2,00
Chloroform	µg/l	**0,19**			<5.00	<5.00	<5,00		<5,00		<5,00			<5,00
No Unknown CHC	µg/l	**N/A**			-	-	-		-		-			-
CHC as chloroform	mg/l	**N/A**			-	-	-		-		-			-
Dibromochloromethane	µg/l	**0,15**			<2.00	<2.00	<2,00		<2,00		<2,00			<2,00
Dibromomethane	µg/l	**8,2**			<10.00	<10.00	<10,00		<10,00		<10,00			<10,00
Dichloromethane	ug/l	**N/A**			<10.00	<50.00	<50,00		<50,00		<50,00			<50,00
Ethylbenzene	µg/l	**1,5**			<2.00	-	<2,00		<2,00		<2,00			<2,00
Hexachlorobutadiene	µg/l	**0,86**			<2.00	<2.00	<2,00		<2,00		<2,00			<2,00
Monochlorobenzene	ug/l	**N/A**			<2.00	-	<2,00		<2,00		<2,00			<2,00
Isopropylbenzene	µg/l	**N/A**			<2.00	-	<2,00		<2,00		<2,00			<2,00
Napthalene	µg/l	**0,14**			<2.00	-	<2,00		<2,00		<2,00			<2,00
n-Propylbenzene	µg/l	**1300**			<2.00	-	<2,00		<2,00		<2,00			<2,00
Styrene	µg/l	**1600**			<2.00	-	<5,00		<5,00		<5,00			<5,00
Tetrachloroethene	µg/l	**0,11**			<2.00	<2.00	<2,00		<2,00		<2,00			<2,00
Toluene	µg/l	**2300**			<2.00	-	<10,00		<10,00		<10,00			<10,00
Trichloroethene	µg/l	**2,00**			<2.00	<5.00	<5,00		<5,00		<5,00			<5,00
Xylene	µg/l	**1200**			<2.00	-	<4,00		<4,00		<4,00			<4,00
1,1-Dichloroethane	µg/l	**2,4**			<2.00	<10.00	<10,00		<10,00		<10,00			<10,00
1,1-Dichloroethene	µg/l	**340**			<10.00	<10.00	<10,00		<10,00		<10,00			<10,00
1,1-Dichloropropene	µg/l	**N/A**			<10.00	<5.00	<5,00		<5,00		<5,00			<5,00
1,2 Dichloropropane	ug/l	**0,39**			<10.00	<10.00	<10,00		<10,00		<10,00			<10,00
1,1,1-Trichloroethane	µg/l	**9100**			<10.00	<5.00	<5,00		<5,00		<5,00			<5,00
1,1,1,2-Tetrachloroethane	µg/l	**0,52**			<10.00	<10.00	<10,00		<10,00		<10,00			<10,00
1,1,2-Trichloroethane	µg/l	**0,24**			<10.00	<5.00	<5,00		<5,00		<5,00			<5,00
1,1,2,2-Tetrachloroethane	µg/l	**0,067**			<10.00	<10.00	<10,00		<10,00		<10,00			<10,00
1,2-Dibromoethane	µg/l	**0,0065**			<10.00	<2.00	<2,00		<2,00		<2,00			<2,00
1,2-Dichlorobenzene	µg/l	**370**			<2.00	<2.00	<2,00		<2,00		<2,00			<2,00
1,2 Dichloroethane	µg/l	**0,15**			<2.00	<10.00	<10,00		<10,00		<10,00			<10,00
1,2-DCP	µg/l	**N/A**			<2.00	-	-		-		-			-
Cis-1,2-Dichloroethene	µg/l	**73**			<10.00	<10.00	<10,00		<10,00		<10,00			<10,00
Trans-1,2-Dichloroethene	µg/l	**110**			<10.00	<10.00	<10,00		<10,00		<10,00			<10,00
1,2,3-Trichlorobenzene	µg/l	**29**			<10.00	<2.00	<2,00		<2,00		<2,00			<2,00
1,2,3-Trichloropropane	µg/l	**0,00073**			<2.00	<10.00	<10,00		<10,00		<10,00			<10,00
1,2,4-Trichlorobenzene	µg/l	**2,3**			<2.00	<2.00	<2,00		<2,00		<2,00			<2,00
1,2,4 Trimethylbenzene	µg/l	**15**			<2.00	-	<2,00		<2,00		<2,00			<2,00
1,3-Dichlorobenzene	µg/l	**N/A**			<2.00	<2.00	<2,00		<2,00		<2,00			-
1,3-Dichloropropane	µg/l	**N/A**			<2.00	<10.00	<10,00		<10,00		<10,00			<2,00
1,3 Dibromo-3-chloropropane	ug/l	**730**			<10.00	-	-		-		-			<10,00
Cis-1,3-Dichloropropene	µg/l	**0,43**			<5.00	<5.00	<5,00		<5,00		<5,00			<5,00
Trans-1,3-Dichloropropene	µg/l	**0,43**			<5.00	<5.00	<5,00		<5,00		<5,00			<5,00
1,3,5-Trimethylbenzene	µg/l	**0,037**			<2.00	-	<2,00		<2,00		<2,00			<2,00
1,4-Dichlorobenzene	µg/l	**0,43**			<2.00	<2.00	<2,00		<2,00		<2,00			<2,00
2-Chlorotoluene	µg/l	**N/A**			<2.00	<2.00	<2,00		<2,00		<2,00			<2,00
2,2-Dichloropropane	µg/l	**N/A**			<2.00	<10.00	<10,00		<10,00		<10,00			<10,00
4-Chlorotoluene	µg/l	**N/A**			<2.00	<2.00	<2,00		<2,00		<2,00			<2,00
4-Isopropyltoluene	µg/l	**N/A**			<5.00	-	<5,00		<5,00		<5,00			<5,00
o-dichlorobenzene	µg/l	**N/A**			-	-	-		-		-			-
p/m-dichlorobenzene	µg/l	**N/A**			-	-	-		-		-			-
SVOC														
Acenapthene	µg/l	**2200**			-	-	<0,10		<0,10		<0,10			<0,10
Acenapthylene	µg/l	**N/A**			-	-	<0,10		<0,10		<0,10			<0,10
Anthracene	µg/l	**11000**			-	-	<0,10		<0,10		<0,10			<0,10
Azobenzene	µg/l	**0,12**			-	-	-		-		-			-
Benzo[a]anthracene	µg/l	**0,029**			-	-	<0,10		<0,10		<0,10			<0,10
Benzo[a]pyrene	µg/l	**0,0029**			-	-	<0,10		<0,10		<0,10			<0,10
Benzo[b]fluoranthene	µg/l	**0,029**			-	-	<0,20		<0,20		<0,20			<0,20
Benzo[k]fluoranthene	µg/l	**0,29**			-	-	<0,20		<0,20		<0,20			<0,20
Benzo[g.h,i]perylene	µg/l	**N/A**			-	-	<0,20		<0,20		<0,20			<0,20
Bis-(2-chloroethoxy) methane	µg/l	**110**			-	-	-		-		-			-
Bis(2-chloroethyl) ether	µg/l	**0,012**			-	-	-		-		-			-
Bis-(2-chloroisopropyl) ether	µg/l	**N/A**			-	-	-		-		-			-
Bis-(2-ethylhexyl) phthalate	µg/l	**4,8**			-	-	<20,00		<20,00		<20,00			<20,00
Butyl benzyl phthalate	µg/l	**350**			-	-	<20,00		<20,00		<20,00			<20,00
Carbazole	µg/l	**N/A**			-	-	-		-		-			-
Chrysene	µg/l	**2,9**			-	-	<0,10		<0,10		<0,10			<0,10
Di-n-butyl phthalate	µg/l	**3700**			-	-	<20,00		<20,00		<20,00			<20,00
Di-n-octyl phthalate	µg/l	**N/A**			-	-	-		-		-			-
Dibenz[a,h]anthracene	µg/l	**0,0029**			-	-	<0,20		<0,20		<0,20			<0,20
Dibenzofuran	µg/l	**37**			-	-	-		-		-			-
Diethyl phthalate	µg/l	**29000**			-	-	-		-		-			-
Dimethyl phthalate	µg/l	**N/A**			-	-	-		-		-			-
Fluoranthene	µg/l	**1500**			-	-	<0,10		<0,10		<0,10			<0,10
Fluorene	µg/l	**1500**			-	-	<0,10		<0,10		<0,10			<0,10
Hexachlorobenzene	µg/l	**0,042**			<1.00	<0.20	<0,20		<0,20		<0,20			<0,20
Hexachlorobutadiene	µg/l	**0,86**			-	<2.00	<2,00		<2,00		<2,00			<2,00
Hexachlorocyclopentadiene	µg/l	**220**			-	-	-		-		-			-
Hexachloroethane	µg/l	**4,8**			<1.00	<0.20	<0,20		<0,20		<0,20			<0,20
Indo[1,2,3-cd]pyrene	µg/l	**0,029**			-	-	<0,20		<0,20		<0,20			<0,20
Isophorone	µg/l	**71**			-	-	-		-		-			-
N-nitrosodi-n-propylamine	µg/l	**0,0096**			-	-	-		-		-			-
Napthalene	µg/l	**0,14**			-	-	<2,00		<2,00		<2,00			<0,10
Nitrobenzene	µg/l	**0,12**			-	-	-		-		-			-
Phenanthrene	µg/l	**N/A**			-	-	<0,10		<0,10		<0,10			<0,10
Pyrene	µg/l	**1100**			-	-	<0,10		<0,10		<0,10			<0,10
1,2-Dichlorobenzene	µg/l	**370**			-	<2.00	<2,00		<0,20		<0,20			<2,00
1,2,4-Trichlorobenzene	µg/l	**2,3**			<1.00	<2.00	<2,00		<0,20		<0,20			<2,00
1,3-Dichlorobenzene	µg/l	**N/A**			<2.00	<2.00	<2,00		<0,20		<0,20			<2,00
1,4-Dichlorobenzene	µg/l	**0,43**			<2.00	<2.00	<2,00		<0,20		<0,20			<2,00
2-Chloronaphthalene	µg/l	**N/A**			<1.00	<0.20	<0,20		<0,20		<0,20			<0,20
2-Methylnaphthalene	µg/l	**N/A**			<2.00	-	-		-		-			-
2-Nitroaniline	µg/l	**370**			-	-	-		-		-			-
2,4-Dinitrotoluene	µg/l	**0,22**			-	-	-		-		-			-
2,6-Dinitrotoluene	µg/l	**37**			-	-	-		-		-			-
3-Nitroaniline	µg/l	**N/A**			-	-	-		-		-			-
4-Bromophenylphenyl ether	µg/l	**N/A**			<1.00	<0.20	<0,20		<0,20		<0,20			<0,20
4-Chloroaniline	µg/l	**N/A**			-	-	-		-		-			-
4-Chlorophenylphenyl ether	µg/l	**N/A**			<1.00	<0.20	<0,20		<0,20		<0,20			<0,20
4-Nitroaniline	µg/l	**3,4**			-	-	-		-		-			-
Phenolic Compounds														
Pentachlorophenol	µg/l	**0,73**			<1.00	<1.00	<1,00		<1,00		<1,00			<1,00
Phenol	µg/l	**11000**			<20.00	-	<2,00		<2,00		<2,00			<2,00
2-Chlorophenol	µg/l	**180**			<1.00	<1.00	<1,00		<1,00		<1,00			<1,00
2-Methylphenol	µg/l	**N/A**			<1.00	-	<1,00		<1,00		<1,00			<1,00
3-and4-Methylphenol	µg/l	**N/A**			<1.00	-	<1,00		<1,00		<1,00			<1,00
2-Nitrophenol	µg/l	**N/A**			<1.00	-	<1,00		<1,00		<1,00			<1,00
2,4-Dichlorophenol	µg/l	**110**			<1.00	<1.00	<1,00		<1,00		<1,00			<1,00
2,6-Dichlorophenol	µg/l				<1.00	-	<1,00		<1,00		<1,00			<1,00
2,4-Dimethylphenol	µg/l	**730**			<1.00	-	<1,00		<1,00		<1,00			<1,00
2,4,5-Trichlorophenol	µg/l	**3700**			-	-	<1,00		<1,00		<1,00			<1,00
2,4,6-Trichlorophenol	µg/l	**6,1**			<1.00	-	<1,00		<1,00		<1,00			<1,00
4-Chloro-3-methylphenol	µg/l	**N/A**			<1.00	<1.00	<1,00		<1,00		<1,00			<1,00
2-Methyhl-4,6-dinitrophenol	µg/l	**N/A**			<1.00	-	-		-		-			-
2,3,4,6 Tetrachlorophenol\	µg/l	**11000**			<1.00	-	<1,00		<1,00		<1,00			<1,00
4-Methylphenol	µg/l	**N/A**			-	-	-		-		-			-

Italics - Exceeds Laboratory's Minimum Detection Limits

Red - Exceeds Max Allowable Limits

' - ' Denotes when a particular analysis was not undertaken

TABLE 13: BH 1 DEEP ORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH US EPA RSL STANDARDS

Sample Point		US EPA RSL*	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep	BH 1 Deep
Sample No		Tap Water												
Date		(ppb/ µg/l)	24-Jun-20	16-Sep-20	09-Dec-20	08-Mar-21	08-Jun-21	14-Sep-21	06-Dec-21	16-Mar-22	21-Jun-22	20-Sep-22	05-Dec-22	13-Mar-23
Consultant			Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
VOC														
Benzene	µg/l	0,41	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
Bromobenzene	µg/l	8,8	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Bromochloromethane	µg/l	0,12	<2.00	<10.00	<2.00	<50.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Bromochloromethane	µg/l	N/A	<2.00	<50.00	<2.00	<10.00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Bromoform	µg/l	8,5	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
n-Butylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
sec-Butylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
tert-Butylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Carbon Tetrachloride	µg/l	0,44	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Chloro Benzene	µg/l	91	-	-	-	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Chloroform	µg/l	0,19	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
No Unknown CHC	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
CHC as chloroform	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/l	0,15	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Dibromomethane	µg/l	8,2	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Dichloromethane	µg/l	N/A	<10.00	<50.00	<10.00	<50.00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Ethylbenzene	µg/l	1,5	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Hexachlorobutadiene	µg/l	0,86	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Monochlorobenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Isopropylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Napthalene	µg/l	0,14	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
n-Propylbenzene	µg/l	1300	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Styrene	µg/l	1600	<2.00	-	<2.00	-	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Tetrachloroethene	µg/l	0,11	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Toluene	µg/l	2300	<2.00	-	<2.00	-	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Trichloroethene	µg/l	2,00	<2.00	<5.00	<2.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Xylene	µg/l	1200	<2.00	-	<2.00	-	<4,00	<4,00	<4,00	<4,00	<4,00	<4,00	<4,00	<4,00
1,1-Dichloroethane	µg/l	2,4	<2.00	<10.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1-Dichloroethene	µg/l	340	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1-Dichloropropene	µg/l	N/A	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,2 Dichloropropane	µg/l	0,39	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1,1-Trichloroethane	µg/l	9100	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,1,1,2-Tetrachloroethane	µg/l	0,52	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1,2-Trichloroethane	µg/l	0,24	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,1,2,2-Tetrachloroethane	µg/l	0,067	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2-Dibromoethane	µg/l	0,0065	<10.00	<2.00	<10.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2-Dichlorobenzene	µg/l	370	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2 Dichloroethane	µg/l	0,15	<2.00	<2.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2-DCP	µg/l	N/A	<2.00	<10.00	<2.00	-	-	-	-	-	-	-	-	-
Cis-1,2-Dichloroethene	µg/l	73	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Trans-1,2-Dichloroethene	µg/l	110	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2,3-Trichlorobenzene	µg/l	29	<10.00	-	<10.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2,3-Trichloropropane	µg/l	0,00073	<2.00	-	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2,4-Trichlorobenzene	µg/l	2,3	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2,4 Trimethylbenzene	µg/l	15	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,3-Dichlorobenzene	µg/l	N/A	<2.00	-	<2.00	<2.00	-	-	-	-	-	-	-	-
1,3-Dichloropropane	µg/l	N/A	<2.00	<2.00	<2.00	<10.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,3 Dibromo-3-chloropropane	µg/l	730	<10.00	<10.00	<10.00	-	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Cis-1,3-Dichloropropene	µg/l	0,43	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Trans-1,3-Dichloropropene	µg/l	0,43	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,3,5-Trimethylbenzene	µg/l	0,037	<2.00	<2.00	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,4-Dichlorobenzene	µg/l	0,43	<2.00	-	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
2-Chlorotoluene	µg/l	N/A	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
2,2-Dichloropropane	µg/l	N/A	<2.00	<10.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
4-Chlorotoluene	µg/l	N/A	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
4-Isopropyltoluene	µg/l	N/A	<5.00	-	<5.00	-	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
o-dichlorobenzene	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
p/m-dichlorobenzene	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
SVOC														
Acenapthene	µg/l	2200	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Acenapthylene	µg/l	N/A	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Anthracene	µg/l	11000	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Azobenzene	µg/l	0,12	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	µg/l	0,029	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Benzo[a]pyrene	µg/l	0,0029	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Benzo[b]fluoranthene	µg/l	0,029	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Benzo[k]fluoranthene	µg/l	0,29	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Benzo[g,h,i]perylene	µg/l	N/A	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Bis-(2-chloroethoxy) methane	µg/l	110	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethyl) ether	µg/l	0,012	-	-	-	-	-	-	-	-	-	-	-	-
Bis-(2-chloroisopropyl) ether	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Bis-(2-ethylhexyl) phthalate	µg/l	4,8	-	-	-	-	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00
Butyl benzyl phthalate	µg/l	350	-	-	-	-	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00
Carbazole	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	µg/l	2,9	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Di-n-butyl phthalate	µg/l	3700	-	-	-	-	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00
Di-n-octyl phthalate	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz[a,h]anthracene	µg/l	0,0029	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Dibenzofuran	µg/l	37	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	µg/l	29000	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/l	1500	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Fluorene	µg/l	1500	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Hexachlorobenzene	µg/l	0,042	<1.00	<2.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Hexachlorobutadiene	µg/l	0,86	-	-	-	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Hexachlorocyclopentadiene	µg/l	220	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	µg/l	4,8	<1.00	-	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Indo[1,2,3-cd]pyrene	µg/l	0,029	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Isophorone	µg/l	71	-	-	-	-	-	-	-	-	-	-	-	-
N-nitrosodi-n-propylamine	µg/l	0,0096	-	-	-	-	-	-	-	-	-	-	-	-
Napthalene	µg/l	0,14	-	-	-	-	<2,00	<2,00	<2,00	<2,00	<2,00	<0,10	<0,10	<0,10
Nitrobenzene	µg/l	0,12	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/l	N/A	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Pyrene	µg/l	1100	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
1,2-Dichlorobenzene	µg/l	370	-	-	-	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2,4-Trichlorobenzene	µg/l	2,3	<1.00	<2.00	<1.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,3-Dichlorobenzene	µg/l	N/A	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,4-Dichlorobenzene	µg/l	0,43	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
2-Chloronaphthalene	µg/l	N/A	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
2-Methylnaphthalene	µg/l	N/A	<2.00	<2.00	<2.00	-	-	-	-	-	-	-	-	-
2-Nitroaniline	µg/l	370	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	µg/l	0,22	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	µg/l	37	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenylphenyl ether	µg/l	N/A	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
4-Chloroaniline	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenylphenyl ether	µg/l	N/A	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
4-Nitroaniline	µg/l	3,4	-	-	-	-	-	-	-	-	-	-	-	-
Phenolic Compounds														
Pentachlorophenol	µg/l	0,73	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
Phenol	µg/l	11000	<20.00	-	<20.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
2-Chlorophenol	µg/l	180	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2-Methylphenol	µg/l	N/A	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
3-and4-Methylphenol	µg/l	N/A	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2-Nitrophenol	µg/l	N/A	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4-Dichlorophenol	µg/l	110	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,6-Dichlorophenol	µg/l		<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4-Dimethylphenol	µg/l	730	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4,5-Trichlorophenol	µg/l	3700	-	-	-	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4,6-Trichlorophenol	µg/l	6,1	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
4-Chloro-3-methylphenol	µg/l	N/A	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2-Methyl-4,6-dinitrophenol	µg/l	N/A	<1.00	-	<1.00	-	-		-	-	-	-	-	-
2,3,4,6 Tetraphenol	µg/l	11000	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
4-Methylphenol	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-

Italics - Exceeds Laboratory's Minimum Detection Limits

Red - Exceeds Max Allowable Limits

TABLE 14: BH DOORNRUG SHALLOW ORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH US EPA RSL STANDARDS

Sample Point		US EPA PRG[4]	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow	Doornrug Shallow
Sample No		Tap Water																				
Date		(ppm/ µg/l)	11-Sep-18	05-Dec-18	06-Mar-19	12-Jun-19	17-Sep-19	14-Jan-20	10-Mar-20	24-Jun-20	16-Sep-20	09-Dec-20	09-Mar-21	09-Jun-21	15-Sep-21	07-Dec-21	16-Mar-22	22-Jun-22	21-Sep-22	06-Dec-22	14-Mar-23
Consultant			Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
VOC																					
Benzene	µg/l	0,35	DRY	DRY	-	<1.00	DRY	<1.00	-	DRY	DRY	<1.00	-	<1,00	DRY	<1,00	<1,00	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*
Bromobenzene	µg/l	20			<2.00	<2.00		<2.00	<2.00			<2.00	<2.00	<2,00		<2,00	<2,00				
Bromochloromethane	ug/l	N/A			<10.00	<2.00		<2.00	<10.00			<2.00	<50.00	<50,00		<50,00	<50,00				
Bromodichloromethane	µg/l	0,18			<50.00	<2.00		<2.00	<50.00			<2.00	<10.00	<10,00		<10,00	<10,00				
Bromoform	µg/l	8,5			<5.00	<5.00		<5.00	<5.00			<5.00	<5.00	<5,00		<5,00	<5,00				
n-Butylbenzene	µg/l	240			-	<2.00		<2.00	-			<2.00	-	<2,00		<2,00	<2,00				
sec-Butylbenzene	µg/l	240			-	<2.00		<2.00	-			<2.00	-	<2,00		<2,00	<2,00				
tert-Butylbenzene	µg/l	240			-	<2.00		<2.00	-			<2.00	-	<2,00		<2,00	<2,00				
Carbon Tetrachloride	µg/l	0,17			<5.00	<5.00		<5.00	<5.00			<5.00	<5.00	<5,00		<5,00	<5,00				
Chloro Benzene	µg/l	110			-	-		-	-			-	<2.00	<2,00		<2,00	<2,00				
Chloroform	µg/l	0,17			<5.00	<5.00		<5.00	<5.00			<5.00	<5.00	<5,00		<5,00	<5,00				
No Unknown CHC	µg/l	N/A			-	-		-	-			-	-	-		-	-				
CHC as chloroform	mg/l	N/A			-	-		-	-			-	-	-		-	-				
Dibromochloromethane	µg/l	0,13			<2.00	<2.00		<2.00	<2.00			<2.00	<2.00	<2,00		<2,00	<2,00				
Dibromomethane	µg/l	61			<10.00	<10.00		<10.00	<10.00			<10.00	<10.00	<10,00		<10,00	<10,00				
Dichloromethane	ug/l	5			<50.00	<10.00		<10.00	<50.00			<10.00	<50.00	<50,00		<50,00	<50,00				
Ethylbenzene	µg/l	1300			-	<2.00		<2.00	-			<2.00	-	<2,00		<2,00	<2,00				
Hexachlorobutadiene	µg/l	0,86			<2.00	<2.00		<2.00	<2.00			<2.00	<2.00	<2,00		<2,00	<2,00				
Monochlorobenzene	ug/l	N/A			-	<2.00		<2.00	-			<2.00	-	<2,00		<2,00	<2,00				
Isopropylbenzene	µg/l	660			-	<2.00		<2.00	-			<2.00	-	<2,00		<2,00	<2,00				
Napthalene	µg/l	6,2			-	<2.00		<2.00	-			<2.00	-	<2,00		<2,00	<2,00				
n-Propylbenzene	µg/l	240			-	<2.00		<2.00	-			<2.00	-	<2,00		<2,00	<2,00				
Styrene	µg/l	1600			-	<2.00		<2.00	-			<2.00	-	<5,00		<5,00	<5,00				
Tetrachloroethene	µg/l	0,1			<2.00	<2.00		<2.00	<2.00			<2.00	<2.00	<2,00		<2,00	<2,00				
Toluene	µg/l	720			-	<2.00		<2.00	-			<2.00	-	<10,00		<10,00	<10,00				
Trichloroethene	µg/l	0,028			<5.00	<2.00		<2.00	<5.00			<2.00	<5.00	<5,00		<5,00	<5,00				
Xylenes	µg/l	210			-	<2.00		<2.00	-			<2.00	-	<4,00		<4,00	<4,00				
1,1-Dichloroethane	µg/l	810			<10.00	<2.00		<2.00	<10.00			<2.00	<10.00	<10,00		<10,00	<10,00				
1,1-Dichloroethene	µg/l	340			<10.00	<10.00		<10.00	<10.00			<10.00	<10.00	<10,00		<10,00	<10,00				
1,1-Dichloropropene	µg/l	N/A			<10.00	<10.00		<10.00	<10.00			<10.00	<5.00	<5,00		<5,00	<5,00				
1,2 Dichloropropane	ug/l	5			<10.00	<10.00		<10.00	<10.00			<10.00	<10.00	<10,00		<10,00	<10,00				
1,1,1-Trichloroethane	µg/l	3200			<10.00	<10.00		<10.00	<10.00			<10.00	<5.00	<5,00		<5,00	<5,00				
1,1,1,2-Tetrachloroethane	µg/l	0,43			<10.00	<10.00		<10.00	<10.00			<10.00	<10.00	<10,00		<10,00	<10,00				
1,1,2-Trichloroethane	µg/l	0,2			<10.00	<10.00		<10.00	<10.00			<10.00	<5.00	<5,00		<5,00	<5,00				
1,1,2,2-Tetrachloroethane	µg/l	0,055			<10.00	<10.00		<10.00	<10.00			<10.00	<10.00	<10,00		<10,00	<10,00				
1,2-Dibromoethane	µg/l	0,0056			<2.00	<10.00		<10.00	<2.00			<10.00	<2.00	<2,00		<2,00	<2,00				
1,2-Dichlorobenzene	µg/l	370			<2.00	<2.00		<2.00	<2.00			<2.00	<2.00	<2,00		<2,00	<2,00				
1,2 Dichloroethane	µg/l	0,12			<2.00	<2.00		<2.00	<2.00			<2.00	<10.00	<10,00		<10,00	<10,00				
1,2-DCP	µg/l	0,16			<10.00	<2.00		<2.00	<10.00			<2.00	-	-		-	-				
Cis-1,2-Dichloroethene	µg/l	61			<10.00	<10.00		<10.00	<10.00			<10.00	<10.00	<10,00		<10,00	<10,00				
Trans-1,2-Dichloroethene	µg/l	120			<10.00	<10.00		<10.00	<10.00			<10.00	<10.00	<10,00		<10,00	<10,00				
1,2,3-Trichlorobenzene	µg/l	N/A			-	<10.00		<10.00	-			<10.00	<2.00	<2,00		<2,00	<2,00				
1,2,3-Trichloropropane	µg/l	0,0056			-	<2.00		<2.00	-			<2.00	<10.00	<10,00		<10,00	<10,00				
1,2,4-Trichlorobenzene	µg/l	7,2			<2.00	<2.00		<2.00	<2.00			<2.00	<2.00	<2,00		<2,00	<2,00				
1,2,4 Trimethylbenzene	µg/l	12			-	<2.00		<2.00	-			<2.00	-	<2,00		<2,00	<2,00				
1,3-Dichlorobenzene	µg/l	180			-	<2.00		<2.00	-			<2.00	<2.00	<2,00		<2,00	<2,00				
1,3-Dichloropropane	µg/l	120			<2.00	<2.00		<2.00	<2.00			<2.00	<10.00	<10,00		<10,00	<10,00				
1,3 Dibromo-3-chloropropane	ug/l	5			<10.00	<10.00		<10.00	<10.00			<10.00	-	-		-	-				
Cis-1,3-Dichloropropene	µg/l	0,4			<5.00	<5.00		<5.00	<5.00			<5.00	<5.00	<5,00		<5,00	<5,00				
Trans-1,3-Dichloropropene	µg/l	0,4			<5.00	<5.00		<5.00	<5.00			<5.00	<5.00	<5,00		<5,00	<5,00				
1,3,5-Trimethylbenzene	µg/l	120			<2.00	<2.00		<2.00	<2.00			<2.00	-	<2,00		<2,00	<2,00				
1,4-Dichlorobenzene	µg/l	0,5			-	<2.00		<2.00	-			<2.00	<2.00	<2,00		<2,00	<2,00				
2-Chlorotoluene	µg/l	N/A			<2.00	<2.00		<2.00	<2.00			<2.00	<2.00	<2,00		<2,00	<2,00				
2,2-Dichloropropane	µg/l	N/A			<10.00	<2.00		<2.00	<10.00			<2.00	<10.00	<10,00		<10,00	<10,00				
4-Chlorotoluene	µg/l	N/A			<2.00	<2.00		<2.00	<2.00			<2.00	<2.00	<2,00		<2,00	<2,00				
4-Isopropyltoluene	µg/l	N/A			-	<5.00		<5.00	-			<5.00	-	<5,00		<5,00	<5,00				
o-dichlorobenzene	µg/l	N/A			-	-		-	-			-	-	-		-	-				
p/m-dichlorobenzene	µg/l	N/A			-	-		-	-			-	-	-		-	-				
SVOC																					
Acenapthene	µg/l	370			-	-		-	-			-	-	<1,00		<1,00	<1,00				
Acenapthylene	µg/l	N/A			-	-		-	-			-	-	<1,00		<1,00	<1,00				
Anthracene	µg/l	1800			-	-		-	-			-	-	<1,00		<1,00	<1,00				
Azobenzene	µg/l	0,61			-	-		-	-			-	-	-		-	-				
Benzo[a]anthracene	µg/l	0,092			-	-		-	-			-	-	<1,00		<1,00	<1,00				
Benzo[a]pyrene	µg/l	0,0092			-	-		-	-			-	-	<1,00		<1,00	<1,00				
Benzo[b]fluoranthene	µg/l	0,092			-	-		-	-			-	-	<2,00		<2,00	<2,00				
Benzo[k]fluoranthene	µg/l	0,092			-	-		-	-			-	-	<2,00		<2,00	<2,00				
Benzo[g,h,i]perylene	µg/l	N/A			-	-		-	-			-	-	<2,00		<2,00	<2,00				
Bis-(2-chloroethoxy) methane	µg/l	N/A			-	-		-	-			-	-	-		-	-				
Bis(2-chloroethyl) ether	µg/l	0,01			-	-		-	-			-	-	-		-	-				
Bis-(2-chloroisopropyl) ether	µg/l	0,27			-	-		-	-			-	-	-		-	-				
Bis-(2-ethylhexyl) phthalate	µg/l	4,8			-	-		-	-			-	-	<200,00		<200,00	<200,00				
Butyl benzyl phthalate	µg/l	7300			-	-		-	-			-	-	<200,00		<200,00	<200,00				
Carbazole	µg/l	3,4			-	-		-	-			-	-	-		-	-				
Chrysene	µg/l	0,56			-	-		-	-			-	-	<1,00		<1,00	<1,00				
Di-n-butyl phthalate	µg/l	N/A			-	-		-	-			-	-	<200,00		<200,00	<200,00				
Di-n-octyl phthalate	µg/l	1500			-	-		-	-			-	-	-		-	-				
Dibenz[a,h]anthracene	µg/l	0,0092			-	-		-	-			-	-	<2,00		<2,00	<2,00				
Dibenzofuran	µg/l	12			-	-		-	-			-	-	-		-	-				
Diethyl phthalate	µg/l	29000			-	-		-	-			-	-	-		-	-				
Dimethyl phthalate	µg/l	360000			-	-		-	-			-	-	-		-	-				
Fluoranthene	µg/l	1500			-	-		-	-			-	-	<1,00		<1,00	<1,00				
Fluorene	µg/l	240			-	-		-	-			-	-	<1,00		<1,00	<1,00				
Hexachlorobenzene	µg/l	0,042			<2.00	<1.00		<1.00	<2.00			<1.00	<0.20	<2,00		<2,00	<2,00				
Hexachlorobutadiene	µg/l	0,86			-	-		-	-			-	<2.00	<2,00		<2,00	<2,00				
Hexachlorocyclopentadiene	µg/l	220			-	-		-	-			-	-	-		-	-				
Hexachloroethane	µg/l	4,8			-	<1.00		<1.00	-			<1.00	<0.20	<2,00		<2,00	<2,00				
Indo[1,2,3-cd]pyrene	µg/l	0,092			-	-		-	-			-	-	<2,00		<2,00	<2,00				
Isophorone	µg/l	71			-	-		-	-			-	-	-		-	-				
N-nitrosodi-n-propylamine	µg/l	0,0096			-	-		-	-			-	-	-		-	-				
Napthalene	µg/l	6,2			-	-		-	-			-	-	<2,00		<2,00	<2,00				
Nitrobenzene	µg/l	3,4			-	-		-	-			-	-	-		-	-				
Phenanthrene	µg/l	N/A			-	-		-	-			-	-	<1,00		<1,00	<1,00				
Pyrene	µg/l	180			-	-		-	-			-	-	<1,00		<1,00	<1,00				
1,2-Dichlorobenzene	µg/l	370			-	-		-	-			-	<2.00	<2,00		<2,00	<2,00				
1,2,4-Trichlorobenzene	µg/l	7,2			<2.00	<1.00		<1.00	<2.00			<1.00	<2.00	<2,00		<2,00	<2,00				
1,3-Dichlorobenzene	µg/l	180			<2.00	<2.00		<2.00	<2.00			<2.00	<2.00	<2,00		<2,00	<2,00				
1,4-Dichlorobenzene	µg/l	0,5			<2.00	<2.00		<2.00	<2.00			<2.00	<2.00	<2,00		<2,00	<2,00				
2-Chloronaphthalene	µg/l	N/A			<1.00	<1.00		<1.00	<1.00			<1.00	<0.20	<2,00		<2,00	<2,00				
2-Methylnaphthalene	µg/l	N/A			<2.00	<2.00		<2.00	<2.00			<2.00	-	-		-	-				
2-Nitroaniline	µg/l	110			-	-		-	-			-	-	-		-	-				
2,4-Dinitrotoluene	µg/l	73			-	-		-	-			-	-	-		-	-				
2,6-Dinitrotoluene	µg/l	36			-	-		-	-			-	-	-		-	-				
3-Nitroaniline	µg/l	3,2			-	-		-	-			-	-	-		-	-				
4-Bromophenylphenyl ether	µg/l	N/A			<1.00	<1.00		<1.00	<1.00			<1.00	<0.20	<2,00		<2,00	<2,00				
4-Chloroaniline	µg/l	150			-	-		-	-			-	-	-		-	-				
4-Chlorophenylphenyl ether	µg/l	N/A			<1.00	<1.00		<1.00	<1.00			<1.00	<0.20	<2,00		<2,00	<2,00				
4-Nitroaniline	µg/l	3,2			-	-		-	-			-	-	-		-	-				
Phenolic Compounds																					
Pentachlorophenol	µg/l	0,73	-	-	<1.00	<1.00	-	<1.00	<1.00	-	-	<1.00	<1.00	<1,00		<10,00	<10,00				
Phenol	µg/l	11000	-	-	-	<20.00	-	<20.00	-	-	-	<20.00	-	<2,00		<20,00	<20,00				
2-Chlorophenol	µg/l	180	-	-	<1.00	<1.00	-	<1.00	<1.00	-	-	<1.00	<1.00	<1,00		<10,00	<10,00				
2-Methylphenol	µg/l	N/A	-	-	-	<1.00	-	<1.00	-	-	-	<1.00	-	<1,00		<10,00	<10,00				
3-and4-Methylphenol	µg/l	N/A	-	-	-	<1.00	-	<1.00	-	-	-	<1.00	<1.00	<1,00		<10,00	<10,00				
2-Nitrophenol	µg/l	N/A	-	-	-	<1.00	-	<1.00	-	-	-	<1.00	-	<1,00		<10,00	<10,00				
2,4-Dichlorophenol	µg/l	110	-	-	<1.00	<1.00	-	<1.00	<1.00	-	-	<1.00	<1.00	<1,00		<10,00	<10,00				
2,6 Dichlorophenol	µg/l		-	-	-	<1.00	-	<1.00	-	-	-	<1.00	-	<1,00		<10,00	<10,00				
2,4-Dimethylphenol	µg/l	730	-	-	-	<1.00	-	<1.00	-	-	-	<1.00	-	<1,00		<10,00	<10,00				
2,4,5-Trichlorophenol	µg/l	3700	-	-	-	-	-	-	-	-	-	-	-	<1,00		<10,00	<10,00				
2,4,6-Trichlorophenol	µg/l	6,1	-	-	-	<1.00	-	<1.00	-	-	-	<1.00	-	<1,00		<10,00	<10,00				
4-Chloro-3-methylphenol	µg/l	N/A	-	-	<1.00	<1.00	-	<1.00	<1.00	-	-	<1.00	<1.00	<1,00		<10,00	<10,00				
2-Methyhl-4,6-dinitrophenol	µg/l	N/A	-	-	-	<1.00	-	<1.00	-	-	-	<1.00	-	-		-	-				
2,3,4,6 Tetrachlorophenol	µg/l	11000	-	-	-	<1.00	-	<1.00	-	-	-	<1.00	-	<1,00		<10,00	<10,00				
4-Methylphenol	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-		-	-				

Italics - Exceeds Laboratory's Minimum Detection Limits

Red - Exceeds Max Allowable Limits

' - ' Denotes when a particular analysis was not undertaken

TABLE 15: DOORNRUG DEEP ORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH US EPA RSL STANDARDS

Sample Point		US EPA RSL*	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep	Doornrug Deep
Sample No		Tap Water																					
Date		(ppb/ µg/l)	20-Jun-18	11-Sep-18	05-Dec-18	06-Mar-19	12-Jun-19	17-Sep-19	14-Jan-20	10-Mar-20	24-Jun-20	16-Sep-20	09-Dec-20	09-Mar-21	09-Jun-21	15-Sep-21	07-Dec-21	16-Mar-22	22-Jun-22	21-Sep-22	06-Dec-22	14-Mar-23
Consultant			Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
VOC																							
Benzene	µg/l	0,41	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*	*INACCESSIBLE*
Bromobenzene	µg/l	8,8																					
Bromochloromethane	µg/l	0,12																					
Bromodichloromethane	µg/l	N/A																					
Bromoform	µg/l	8,5																					
n-Butylbenzene	µg/l	N/A																					
sec-Butylbenzene	µg/l	N/A																					
tert-Butylbenzene	µg/l	N/A																					
Carbon Tetrachloride	µg/l	0,44																					
Chloro Benzene	µg/l	91																					
Chloroform	µg/l	0,19																					
No Unknown CHC	µg/l	N/A																					
CHC as chloroform	µg/l	N/A																					
Dibromochloromethane	µg/l	0,15																					
Dibromomethane	µg/l	8,2																					
Dichloromethane	µg/l	N/A																					
Ethylbenzene	µg/l	1,5																					
Hexachlorobutadiene	µg/l	0,86																					
Monochlorobenzene	µg/l	N/A																					
Isopropylbenzene	µg/l	N/A																					
Napthalene	µg/l	0,14																					
n-Propylbenzene	µg/l	1300																					
Styrene	µg/l	1600																					
Tetrachloroethene	µg/l	0,11																					
Toluene	µg/l	2300																					
Trichloroethene	µg/l	2,00																					
Xylenes	µg/l	1200																					
1,1-Dichloroethane	µg/l	2,4																					
1,1-Dichloroethene	µg/l	340																					
1,1-Dichloropropene	µg/l	N/A																					
1,2 Dichloropropane	µg/l	0,39																					
1,1,1-Trichloroethane	µg/l	9100																					
1,1,1,2-Tetrachloroethane	µg/l	0,52																					
1,1,2-Trichloroethane	µg/l	0,24																					
1,1,2,2-Tetrachloroethane	µg/l	0,067																					
1,2-Dibromoethane	µg/l	0,0065																					
1,2-Dichlorobenzene	µg/l	370																					
1,2 Dichloroethane	µg/l	0,15																					
1,2-DCP	µg/l	N/A																					
Cis-1,2-Dichloroethene	µg/l	73																					
Trans-1,2-Dichloroethene	µg/l	110																					
1,2,3-Trichlorobenzene	µg/l	29																					
1,2,3-Trichloropropane	µg/l	0,00073																					
1,2,4-Trichlorobenzene	µg/l	2,3																					
1,2,4 Trimethylbenzene	µg/l	15																					
1,3-Dichlorobenzene	µg/l	N/A																					
1,3-Dichloropropane	µg/l	N/A																					
1,3 Dibromo-3-chloropropane	µg/l	730																					
Cis-1,3-Dichloropropene	µg/l	0,43																					
Trans-1,3-Dichloropropene	µg/l	0,43																					
1,3,5-Trimethylbenzene	µg/l	0,037																					
1,4-Dichlorobenzene	µg/l	0,43																					
2-Chlorotoluene	µg/l	N/A																					
2,2-Dichloropropane	µg/l	N/A																					
4-Chlorotoluene	µg/l	N/A																					
4-isopropyltoluene	µg/l	N/A																					
p/m-dichlorobenzene	µg/l	N/A																					
o-dichlorobenzene	µg/l	N/A																					
SVOC																							
Acenapthene	µg/l	2200																					
Acenapthylene	µg/l	N/A																					
Anthracene	µg/l	11000																					
Azobenzene	µg/l	0,12																					
Benzo[a]anthracene	µg/l	0,029																					
Benzo[a]pyrene	µg/l	0,0029																					
Benzo[b]fluoranthene	µg/l	0,029																					
Benzo[k]fluoranthene	µg/l	0,29																					
Benzo[g,h,i]perylene	µg/l	N/A																					
Bis-(2-chloroethoxy) methane	µg/l	110																					
Bis(2-chloroethyl) ether	µg/l	0,012																					
Bis-(2-chloroisopropyl) ether	µg/l	N/A																					
Bis-(2-ethylhexyl) phthalate	µg/l	4,8																					
Butyl benzyl phthalate	µg/l	350																					
Carbazole	µg/l	N/A																					
Chrysene	µg/l	2,9																					
Di-n-butyl phthalate	µg/l	3700																					
Di-n-octyl phthalate	µg/l	N/A																					
Dibenz[a,h]anthracene	µg/l	0,0029																					
Dibenzofuran	µg/l	37																					
Diethyl phthalate	µg/l	29000																					
Dimethyl phthalate	µg/l	N/A																					
Fluoranthene	µg/l	1500																					
Fluorene	µg/l	1500																					
Hexachlorobenzene	µg/l	0,042																					
Hexachlorobutadiene	µg/l	0,86																					
Hexachlorocyclopentadiene	µg/l	220																					
Hexachloroethane	µg/l	4,8																					
Indo[1,2,3-cd]pyrene	µg/l	0,029																					
Isophorone	µg/l	71																					
N-nitrosodi-n-propylamine	µg/l	0,0096																					
Napthalene	µg/l	0,14																					
Nitrobenzene	µg/l	0,12																					
Phenanthrene	µg/l	N/A																					
Pyrene	µg/l	1100																					
1,2-Dichlorobenzene	µg/l	370																					
1,2,4-Trichlorobenzene	µg/l	2,3																					
1,3-Dichlorobenzene	µg/l	N/A																					
1,4-Dichlorobenzene	µg/l	0,43																					
2-Chloronaphthalene	µg/l	N/A																					
2-Methylnaphthalene	µg/l	N/A																					
2-Nitroaniline	µg/l	370																					
2,4-Dinitrotoluene	µg/l	0,22																					
2,6-Dinitrotoluene	µg/l	37																					
3-Nitroaniline	µg/l	N/A																					
4-Bromophenylphenyl ether	µg/l	N/A																					
4-Chloroaniline	µg/l	N/A																					
4-Chlorophenylphenyl ether	µg/l	N/A																					
4-Nitroaniline	µg/l	3,4																					
Phenolic Compounds																							
Pentachlorophenol	µg/l	0,73																					
Phenol	µg/l	11000																					
2-Chlorophenol	µg/l	180																					
2-Methylphenol	µg/l	N/A																					
3-and4-Methylphenol	µg/l	N/A																					
2-Nitrophenol	µg/l	N/A																					
2,4-Dichlorophenol	µg/l	110																					
2,6 Dichlorophenol	µg/l																						
2,4-Dimethylphenol	µg/l	730																					
2,4,5-Trichlorophenol	µg/l	3700																					
2,4,6-Trichlorophenol	µg/l	6,1																					
4-Chloro-3-methylphenol	µg/l	N/A																					
2-Methyl-4,6-dinitrophenol	µg/l	N/A																					
2,3,4,6 Tetrachlorophenol	µg/l	11000																					
4-Methylphenol	µg/l	N/A																					

Italics - Exceeds Laboratory's Minimum Detection Limits

Red - Exceeds Max Allowable Limits

* - " Denotes when a particular analysis was not undertaken

TABLE 16: BH F2 ORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH US EPA RSL STANDARDS

Sample Point		US EPA RSL*	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2	BH F2
Sample No		Tap Water												
Date		(ppb/ µg/l)	24-Jun-20	16-Sep-20	09-Dec-20	08-Mar-21	08-Jun-21	14-Sep-21	06-Dec-21	14-Mar-22	21-Jun-22	20-Sep-22	05-Dec-22	13-Mar-23
Consultant			Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
VOC														
Benzene	µg/l	0,41	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
Bromobenzene	µg/l	8,8	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Bromochloromethane	ug/l	0,12	<2.00	<10.00	<2.00	<50.00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Bromodichloromethane	µg/l	N/A	<2.00	<50.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Bromoform	µg/l	8,5	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
n-Butylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
sec-Butylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
tert-Butylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Carbon Tetrachloride	µg/l	0,44	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Chloro Benzene	µg/l	91	-	-	-	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Chloroform	µg/l	0,19	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
No Unknown CHC	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
CHC as chloroform	mg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/l	0,15	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Dibromomethane	µg/l	8,2	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Dichloromethane	ug/l	N/A	<10.00	<50.00	<10.00	<50.00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Ethylbenzene	µg/l	1,5	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Hexachlorobutadiene	µg/l	0,86	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Monochlorobenzene	ug/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Isopropylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Napthalene	µg/l	0,14	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
n-Propylbenzene	µg/l	1300	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Styrene	µg/l	1600	<2.00	-	<2.00	-	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Tetrachloroethene	µg/l	0,11	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Toluene	µg/l	2300	<2.00	-	<2.00	-	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Trichloroethene	µg/l	2,00	<2.00	<5.00	<2.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Xylenes	µg/l	1200	<2.00	-	<2.00	-	<4,00	<4,00	<4,00	<4,00	<4,00	<4,00	<4,00	<4,00
1,1-Dichloroethane	µg/l	2,4	<2.00	<10.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1-Dichloroethene	µg/l	340	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1-Dichloropropene	µg/l	N/A	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,2 Dichloropropane	ug/l	0,39	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1,1-Trichloroethane	µg/l	9100	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,1,1,2-Tetrachloroethane	µg/l	0,52	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1,2-Trichloroethane	µg/l	0,24	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,1,2,2-Tetrachloroethane	µg/l	0,067	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2-Dibromoethane	µg/l	0,0065	<10.00	<2.00	<10.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2-Dichlorobenzene	µg/l	370	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2 Dichloroethane	µg/l	0,15	<2.00	<2.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2-DCP	µg/l	N/A	<2.00	<10.00	<2.00	-	-	-	-	-	-	-	-	-
Cis-1,2-Dichloroethene	µg/l	73	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Trans-1,2-Dichloroethene	µg/l	110	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2,3-Trichlorobenzene	µg/l	29	<10.00	-	<10.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2,3-Trichloropropane	µg/l	0,00073	<2.00	-	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2,4-Trichlorobenzene	µg/l	2,3	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2,4 Trimethylbenzene	µg/l	15	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,3-Dichlorobenzene	µg/l	N/A	<2.00	-	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,3-Dichloropropane	µg/l	N/A	<2.00	<2.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,3 Dibromo-3-chloropropane	ug/l	730	<10.00	<10.00	<10.00	-	-	-	-	-	-	-	-	-
Cis-1,3-Dichloropropene	µg/l	0,43	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Trans-1,3-Dichloropropene	µg/l	0,43	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,3,5-Trimethylbenzene	µg/l	0,037	<2.00	<2.00	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,4-Dichlorobenzene	µg/l	0,43	<2.00	-	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
2-Chlorotoluene	µg/l	N/A	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
2,2-Dichloropropane	µg/l	N/A	<2.00	<10.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
4-Chlorotoluene	µg/l	N/A	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
4-Isopropyltoluene	µg/l	N/A	<5.00	-	<5.00	-	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
p/m-dichlorobenzene	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
o-dichlorobenzene	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
SVOC														
Acenapthene	µg/l	2200	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Acenapthylene	µg/l	N/A	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Anthracene	µg/l	11000	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Azobenzene	µg/l	0,12	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	µg/l	0,029	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Benzo[a]pyrene	µg/l	0,0029	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Benzo[b]fluoranthene	µg/l	0,029	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Benzo[k]fluoranthene	µg/l	0,29	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Benzo[g,h,i]perylene	µg/l	N/A	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Bis-(2-chloroethoxy) methane	µg/l	110	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethyl) ether	µg/l	0,012	-	-	-	-	-	-	-	-	-	-	-	-
Bis-(2-chloroisopropyl) ether	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Bis-(2-ethylhexyl) phthalate	µg/l	4,8	-	-	-	-	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00
Butyl benzyl phthalate	µg/l	350	-	-	-	-	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00
Carbazole	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	µg/l	2,9	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Di-n-butyl phthalate	µg/l	3700	-	-	-	-	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00
Di-n-octyl phthalate	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz[a,h]anthracene	µg/l	0,0029	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Dibenzofuran	µg/l	37	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	µg/l	29000	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/l	1500	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Fluorene	µg/l	1500	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Hexachlorobenzene	µg/l	0,042	<1.00	<2.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Hexachlorobutadiene	µg/l	0,86	-	-	-	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Hexachlorocyclopentadiene	µg/l	220	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	µg/l	4,8	<1.00	-	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Indo[1,2,3-cd]pyrene	µg/l	0,029	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Isophorone	µg/l	71	-	-	-	-	-	-	-	-	-	-	-	-
N-nitrosodi-n-propylamine	µg/l	0,0096	-	-	-	-	-	-	-	-	-	-	-	-
Napthalene	µg/l	0,14	-	-	-	-	<2,00	<2,00	<2,00	<2,00	<2,00	<0,10	<0,10	<0,10
Nitrobenzene	µg/l	0,12	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/l	N/A	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Pyrene	µg/l	1100	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
1,2-Dichlorobenzene	µg/l	370	-	-	-	<2.00	<2,00	<2,00	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
1,2,4-Trichlorobenzene	µg/l	2,3	<1.00	<2.00	<1.00	<2.00	<2,00	<2,00	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
1,3-Dichlorobenzene	µg/l	N/A	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
1,4-Dichlorobenzene	µg/l	0,43	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
2-Chloronaphthalene	µg/l	N/A	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
2-Methylnaphthalene	µg/l	N/A	<2.00	<2.00	<2.00	-	-	-	-	-	-	-	-	-
2-Nitroaniline	µg/l	370	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	µg/l	0,22	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	µg/l	37	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenylphenyl ether	µg/l	N/A	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
4-Chloroaniline	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenylphenyl ether	µg/l	N/A	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
4-Nitroaniline	µg/l	3,4	-	-	-	-	-	-	-	-	-	-	-	-
Phenolic Compounds														
Pentachlorophenol	µg/l	0,73	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
Phenol	µg/l	11000	<20.00	-	<20.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
2-Chlorophenol	µg/l	180	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2-Methylphenol	µg/l	N/A	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
3-and4-Methylphenol	µg/l	N/A	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2-Nitrophenol	µg/l	N/A	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4-Dichlorophenol	µg/l	110	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,6 Dichlorophenol	µg/l		<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4-Dimethylphenol	µg/l	730	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4,5-Trichlorophenol	µg/l	3700	-	-	-	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4,6-Trichlorophenol	µg/l	6,1	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
4-Chloro-3-methylphenol	µg/l	N/A	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2-Methyl-4,6-dinitrophenol	µg/l	N/A	<1.00	-	<1.00	-	-	-	-	-	-	-	-	-
2,3,4,6 Tetrachlorophenol	µg/l	11000	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
4-Methylphenol	µg/l	N/A	-	-	-	-	-	-	-	-	-	-	-	-

Italics - Exceeds Laboratory's Minimum Detection Limits

Red - Exceeds Max Allowable Limits

' - ' Denotes when a particular analysis was not undertaken

TABLE 17: BH SH 1 SHALLOW ORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH US EPA RSL STANDARDS

Sample Point		US EPA RSL*	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow	BH SH 1 Shallow
Sample No		Tap Water												
Date		(ppb/ µg/l)	24-Jun-20	16-Sep-20	09-Dec-20	08-Mar-21	08-Jun-21	14-Sep-21	06-Dec-21	16-Mar-22	21-Jun-22	20-Sep-22	05-Dec-22	14-Mar-23
Consultant			Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
VOC														
Benzene	µg/l	0,41	<1.00	-	<1.00	-	<1,00	<1,00	*INACCESSIBLE*	<1,00	<1,00	<1,00	<1,00	<1,00
Bromobenzene	µg/l	8,8	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Bromochloromethane	ug/l	0,12	<2.00	<10.00	<2.00	<50.00	<50,00	<50,00		<50,00	<50,00	<50,00	<50,00	<50,00
Bromodichloromethane	µg/l	N/A	<2.00	<50.00	<2.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
Bromoform	µg/l	8,5	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
n-Butylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
sec-Butylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
tert-Butylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Carbon Tetrachloride	µg/l	0,44	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
Chloro Benzene	µg/l	91	-	-	-	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Chloroform	µg/l	0,19	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
No Unknown CHC	µg/l	N/A	-	-	-	-	-	-		-	-	-	-	-
CHC as chloroform	mg/l	N/A	-	-	-	-	-	-		-	-	-	-	-
Dibromochloromethane	µg/l	0,15	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Dibromomethane	µg/l	8,2	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
Dichloromethane	ug/l	N/A	<10.00	<50.00	<10.00	<50.00	<50,00	<50,00		<50,00	<50,00	<50,00	<50,00	<50,00
Ethylbenzene	µg/l	1,5	<2.00	-	<2.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Hexachlorobutadiene	µg/l	0,86	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Monochlorobenzene	ug/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Isopropylbenzene	µg/l	N/A	<2.00	-	<2.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Napthalene	µg/l	0,14	<2.00	-	<2.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
n-Propylbenzene	µg/l	1300	<2.00	-	<2.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Styrene	µg/l	1600	<2.00	-	<2.00	-	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
Tetrachloroethene	µg/l	0,11	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Toluene	µg/l	2300	<2.00	-	<2.00	-	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
Trichloroethene	µg/l	2,00	<2.00	<5.00	<2.00	<5.00	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
Xylenes	µg/l	1200	<2.00	-	<2.00	-	<4,00	<4,00		<4,00	<4,00	<4,00	<4,00	<4,00
1,1-Dichloroethane	µg/l	2,4	<2.00	<10.00	<2.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
1,1-Dichloroethene	µg/l	340	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
1,1-Dichloropropene	µg/l	N/A	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
1,2 Dichloropropane	ug/l	0,39	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
1,1,1-Trichloroethane	µg/l	9100	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
1,1,1,2-Tetrachloroethane	µg/l	0,52	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
1,1,2-Trichloroethane	µg/l	0,24	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
1,1,2,2-Tetrachloroethane	µg/l	0,067	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
1,2-Dibromoethane	µg/l	0,0065	<10.00	<2.00	<10.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
1,2-Dichlorobenzene	µg/l	370	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
1,2 Dichloroethane	µg/l	0,15	<2.00	<2.00	<2.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
1,2-DCP	µg/l	N/A	<2.00	<10.00	<2.00	-	-	-		-	-	-	-	-
Cis-1,2-Dichloroethene	µg/l	73	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
Trans-1,2-Dichloroethene	µg/l	110	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
1,2,3-Trichlorobenzene	µg/l	29	<10.00	-	<10.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
1,2,3-Trichloropropane	µg/l	0,00073	<2.00	-	<2.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
1,2,4-Trichlorobenzene	µg/l	2,3	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
1,2,4 Trimethylbenzene	µg/l	15	<2.00	-	<2.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
1,3-Dichlorobenzene	µg/l	N/A	<2.00	-	<2.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
1,3-Dichloropropane	µg/l	N/A	<2.00	<2.00	<2.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
1,3 Dibromo-3-chloropropane	ug/l	730	<10.00	<10.00	<10.00	-	-	-		-	-	-	-	-
Cis-1,3-Dichloropropene	µg/l	0,43	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
Trans-1,3-Dichloropropene	µg/l	0,43	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
1,3,5-Trimethylbenzene	µg/l	0,037	<2.00	<2.00	<2.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
1,4-Dichlorobenzene	µg/l	0,43	<2.00	-	<2.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
2-Chlorotoluene	µg/l	N/A	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
2,2-Dichloropropane	µg/l	N/A	<2.00	<10.00	<2.00	<10.00	<10,00	<10,00		<10,00	<10,00	<10,00	<10,00	<10,00
4-Chlorotoluene	µg/l	N/A	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
4-Isopropyltoluene	µg/l	N/A	<5.00	-	<5.00	-	<5,00	<5,00		<5,00	<5,00	<5,00	<5,00	<5,00
p/m-dichlorobenzene	µg/l	N/A	-	-	-	-	-	-		-	-	-	-	-
o-dichlorobenzene	µg/l	N/A	-	-	-	-	-	-		-	-	-	-	-
SVOC														
Acenapthene	µg/l	2200	-	-	-	-	<0,10	<0,10		<0,10	<0,10	<0,10	<0,10	<0,10
Acenapthylene	µg/l	N/A	-	-	-	-	<0,10	<0,10		<0,10	<0,10	<0,10	<0,10	<0,10
Anthracene	µg/l	11000	-	-	-	-	<0,10	<0,10		<0,10	<0,10	<0,10	<0,10	<0,10
Azobenzene	µg/l	0,12	-	-	-	-	-	-		-	-	-	-	-
Benzo[a]anthracene	µg/l	0,029	-	-	-	-	<0,10	<0,10		<0,10	<0,10	<0,10	<0,10	<0,10
Benzo[a]pyrene	µg/l	0,0029	-	-	-	-	<0,10	<0,10		<0,10	<0,10	<0,10	<0,10	<0,10
Benzo[b]fluoranthene	µg/l	0,029	-	-	-	-	<0,20	<0,20		<0,20	<0,20	<0,20	<0,20	<0,20
Benzo[k]fluoranthene	µg/l	0,29	-	-	-	-	<0,20	<0,20		<0,20	<0,20	<0,20	<0,20	<0,20
Benzo[g,h,i]perylene	µg/l	N/A	-	-	-	-	<0,20	<0,20		<0,20	<0,20	<0,20	<0,20	<0,20
Bis-(2-chloroethoxy) methane	µg/l	110	-	-	-	-	-	-		-	-	-	-	-
Bis(2-chloroethyl) ether	µg/l	0,012	-	-	-	-	-	-		-	-	-	-	-
Bis-(2-chloroisopropyl) ether	µg/l	N/A	-	-	-	-	-	-		-	-	-	-	-
Bis-(2-ethylhexyl) phthalate	µg/l	4,8	-	-	-	-	<20,00	<20,00		<20,00	<20,00	<20,00	<20,00	<20,00
Butyl benzyl phthalate	µg/l	350	-	-	-	-	<20,00	<20,00		<20,00	<20,00	<20,00	<20,00	<20,00
Carbazole	µg/l	N/A	-	-	-	-	-	-		-	-	-	-	-
Chrysene	µg/l	2,9	-	-	-	-	<0,10	<0,10		<0,10	<0,10	<0,10	<0,10	<0,10
Di-n-butyl phthalate	µg/l	3700	-	-	-	-	<20,00	<20,00		<20,00	<20,00	<20,00	<20,00	<20,00
Di-n-octyl phthalate	µg/l	N/A	-	-	-	-	-	-		-	-	-	-	-
Dibenz[a,h]anthracene	µg/l	0,0029	-	-	-	-	<0,20	<0,20		<0,20	<0,20	<0,20	<0,20	<0,20
Dibenzofuran	µg/l	37	-	-	-	-	-	-		-	-	-	-	-
Diethyl phthalate	µg/l	29000	-	-	-	-	-	-		-	-	-	-	-
Dimethyl phthalate	µg/l	N/A	-	-	-	-	-	-		-	-	-	-	-
Fluoranthene	µg/l	1500	-	-	-	-	<0,10	<0,10		<0,10	<0,10	<0,10	<0,10	<0,10
Fluorene	µg/l	1500	-	-	-	-	<0,10	<0,10		<0,10	<0,10	<0,10	<0,10	<0,10
Hexachlorobenzene	µg/l	0,042	<1.00	<2.00	<1.00	<0.20	<0,20	<0,20		<0,20	<0,20	<0,20	<0,20	<0,20
Hexachlorobutadiene	µg/l	0,86	-	-	-	<2.00	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
Hexachlorocyclopentadiene	µg/l	220	-	-	-	-	-	-		-	-	-	-	-
Hexachloroethane	µg/l	4,8	<1.00	-	<1.00	<0.20	<0,20	<0,20		<0,20	<0,20	<0,20	<0,20	<0,20
Indo[1,2,3-cd]pyrene	µg/l	0,029	-	-	-	-	<0,20	<0,20		<0,20	<0,20	<0,20	<0,20	<0,20
Isophorone	µg/l	71	-	-	-	-	-	-		-	-	-	-	-
N-nitrosodi-n-propylamine	µg/l	0,0096	-	-	-	-	-	-		-	-	-	-	-
Napthalene	µg/l	0,14	-	-	-	-	<2,00	<2,00		<2,00	<0,10	<0,10	<0,10	<0,10
Nitrobenzene	µg/l	0,12	-	-	-	-	-	-		-	-	-	-	-
Phenanthrene	µg/l	N/A	-	-	-	-	<0,10	<0,10		<0,10	<0,10	<0,10	<0,10	<0,10
Pyrene	µg/l	1100	-	-	-	-	<0,10	<0,10		<0,10	<0,10	<0,10	<0,10	<0,10
1,2-Dichlorobenzene	µg/l	370	-	-	-	<2.00	<2,00	<2,00		<0,20	<0,20	<0,20	<0,20	<0,20
1,2,4-Trichlorobenzene	µg/l	2,3	<1.00	<2.00	<1.00	<2.00	<2,00	<2,00		<0,20	<0,20	<0,20	<0,20	<0,20
1,3-Dichlorobenzene	µg/l	N/A	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00		<0,20	<0,20	<0,20	<0,20	<0,20
1,4-Dichlorobenzene	µg/l	0,43	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00		<0,20	<0,20	<0,20	<0,20	<0,20
2-Chloronaphthalene	µg/l	N/A	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20		<0,20	<0,20	<0,20	<0,20	<0,20
2-Methylnaphthalene	µg/l	N/A	<2.00	<2.00	<2.00	-	-	-		-	-	-	-	-
2-Nitroaniline	µg/l	370	-	-	-	-	-	-		-	-	-	-	-
2,4-Dinitrotoluene	µg/l	0,22	-	-	-	-	-	-		-	-	-	-	-
2,6-Dinitrotoluene	µg/l	37	-	-	-	-	-	-		-	-	-	-	-
3-Nitroaniline	µg/l	N/A	-	-	-	-	-	-		-	-	-	-	-
4-Bromophenylphenyl ether	µg/l	N/A	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20		<0,20	<0,20	<0,20	<0,20	<0,20
4-Chloroaniline	µg/l	N/A	-	-	-	-	-	-		-	-	-	-	-
4-Chlorophenylphenyl ether	µg/l	N/A	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20		<0,20	<0,20	<0,20	<0,20	<0,20
4-Nitroaniline	µg/l	3,4	-	-	-	-	-	-		-	-	-	-	-
Phenolic Compounds														
Pentachlorophenol	µg/l	0,73	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
Phenol	µg/l	11000	<20.00	-	<20.00	-	<2,00	<2,00		<2,00	<2,00	<2,00	<2,00	<2,00
2-Chlorophenol	µg/l	180	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
2-Methylphenol	µg/l	N/A	<1.00	-	<1.00	-	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
3-and4-Methylphenol	µg/l	N/A	<1.00	-	<1.00	-	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
2-Nitrophenol	µg/l	N/A	<1.00	-	<1.00	-	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
2,4-Dichlorophenol	µg/l	110	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
2,6-Dichlorophenol	µg/l		<1.00	-	<1.00	-	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
2,4-Dimethylphenol	µg/l	730	<1.00	-	<1.00	-	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
2,4,5-Trichlorophenol	µg/l	3700	-	-	-	-	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
2,4,6-Trichlorophenol	µg/l	6,1	<1.00	-	<1.00	-	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
4-Chloro-3-methylphenol	µg/l	N/A	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
2-Methyl-4,6-dinitrophenol	µg/l	N/A	<1.00	-	<1.00	-	-	-		-	-	-	-	-
2,3,4,6 Tetrachlorophenol	µg/l	11000	<1.00	-	<1.00	-	<1,00	<1,00		<1,00	<1,00	<1,00	<1,00	<1,00
4-Methylphenol	µg/l	N/A	-	-	-	-	-	-		-	-	-	-	-

Italics - Exceeds Laboratory's Minimum Detection Limits

Red - Exceeds Max Allowable Limits

' - ' Denotes when a particular analysis was not undertaken

TABLE 18: BH SH 1 DEEP ORGANIC ANALYTICAL ANALYSIS IN ACCORDANCE WITH US EPA RSL STANDARDS

Sample Point		US EPA RSL*	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep	BH SH 1 Deep
Sample No		Tap Water												
Date		(ppb/ µg/l)	24-Jun-20	16-Sep-20	09-Dec-20	08-Mar-21	08-Jun-21	14-Sep-21	06-Dec-21	14-Mar-22	21-Jun-22	20-Sep-22	05-Dec-22	14-Mar-23
Consultant			Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure	Geomeasure
VOC														
Benzene	µg/l	**0,41**	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
Bromobenzene	µg/l	**8,8**	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Bromochloromethane	ug/l	**0,12**	<2.00	<10.00	<2.00	<50.00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Bromodichloromethane	µg/l	**N/A**	<2.00	<50.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Bromoform	µg/l	**8,5**	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
n-Butylbenzene	µg/l	**N/A**	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
sec-Butylbenzene	µg/l	**N/A**	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
tert-Butylbenzene	µg/l	**N/A**	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Carbon Tetrachloride	µg/l	**0,44**	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Chloro Benzene	µg/l	**91**	-	-	-	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Chloroform	µg/l	**0,19**	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
No Unknown CHC	µg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-
CHC as chloroform	mg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/l	**0,15**	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Dibromomethane	µg/l	**8,2**	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Dichloromethane	ug/l	**N/A**	<10.00	<50.00	<10.00	<50.00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00	<50,00
Ethylbenzene	µg/l	**1,5**	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Hexachlorobutadiene	µg/l	**0,86**	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Monochlorobenzene	ug/l	**N/A**	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Isopropylbenzene	µg/l	**N/A**	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Napthalene	µg/l	**0,14**	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
n-Propylbenzene	µg/l	**1300**	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Styrene	µg/l	**1600**	<2.00	-	<2.00	-	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Tetrachloroethene	µg/l	**0,11**	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Toluene	µg/l	**2300**	<2.00	-	<2.00	-	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Trichloroethene	µg/l	**2,00**	<2.00	<5.00	<2.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Xylenes	µg/l	**1200**	<2.00	-	<2.00	-	<4,00	<4,00	<4,00	<4,00	<4,00	<4,00	<4,00	<4,00
1,1-Dichloroethane	µg/l	**2,4**	<2.00	<10.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1-Dichloroethene	µg/l	**340**	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1-Dichloropropene	µg/l	**N/A**	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,2 Dichloropropane	ug/l	**0,39**	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1,1-Trichloroethane	µg/l	**9100**	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,1,1,2-Tetrachloroethane	µg/l	**0,52**	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,1,2-Trichloroethane	µg/l	**0,24**	<10.00	<10.00	<10.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,1,2,2-Tetrachloroethane	µg/l	**0,067**	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2-Dibromoethane	µg/l	**0,0065**	<10.00	<2.00	<10.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2-Dichlorobenzene	µg/l	**370**	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2 Dichloroethane	µg/l	**0,15**	<2.00	<2.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2-DCP	µg/l	**N/A**	<2.00	<10.00	<2.00	-	-	-	-	-	-	-	-	-
Cis-1,2-Dichloroethene	µg/l	**73**	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
Trans-1,2-Dichloroethene	µg/l	**110**	<10.00	<10.00	<10.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2,3-Trichlorobenzene	µg/l	**29**	<10.00	-	<10.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2,3-Trichloropropane	µg/l	**0,00073**	<2.00	-	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,2,4-Trichlorobenzene	µg/l	**2,3**	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,2,4 Trimethylbenzene	µg/l	**15**	<2.00	-	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,3-Dichlorobenzene	µg/l	**N/A**	<2.00	-	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,3-Dichloropropane	µg/l	**N/A**	<2.00	<2.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
1,3 Dibromo-3-chloropropane	ug/l	**730**	<10.00	<10.00	<10.00	-	-	-	-	-	-	-	-	-
Cis-1,3-Dichloropropene	µg/l	**0,43**	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
Trans-1,3-Dichloropropene	µg/l	**0,43**	<5.00	<5.00	<5.00	<5.00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
1,3,5-Trimethylbenzene	µg/l	**0,037**	<2.00	<2.00	<2.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
1,4-Dichlorobenzene	µg/l	**0,43**	<2.00	-	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
2-Chlorotoluene	µg/l	**N/A**	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
2,2-Dichloropropane	µg/l	**N/A**	<2.00	<10.00	<2.00	<10.00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00	<10,00
4-Chlorotoluene	µg/l	**N/A**	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
4-Isopropyltoluene	µg/l	**N/A**	<5.00	-	<5.00	-	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00	<5,00
p/m-dichlorobenzene	µg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-
o-dichlorobenzene	µg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-
SVOC														
Acenapthene	µg/l	**2200**	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Acenapthylene	µg/l	**N/A**	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Anthracene	µg/l	**11000**	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Azobenzene	µg/l	**0,12**	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	µg/l	**0,029**	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Benzo[a]pyrene	µg/l	**0,0029**	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Benzo[b]fluoranthene	µg/l	**0,029**	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Benzo[k]fluoranthene	µg/l	**0,29**	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Benzo[g,h,i]perylene	µg/l	**N/A**	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Bis-(2-chloroethoxy) methane	µg/l	**110**	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethyl) ether	µg/l	**0,012**	-	-	-	-	-	-	-	-	-	-	-	-
Bis-(2-chloroisopropyl) ether	µg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-
Bis-(2-ethylhexyl) phthalate	µg/l	**4,8**	-	-	-	-	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00
Butyl benzyl phthalate	µg/l	**350**	-	-	-	-	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00
Carbazole	µg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	µg/l	**2,9**	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Di-n-butyl phthalate	µg/l	**3700**	-	-	-	-	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00	<20,00
Di-n-octyl phthalate	µg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz[a,h]anthracene	µg/l	**0,0029**	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Dibenzofuran	µg/l	**37**	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	µg/l	**29000**	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	µg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/l	**1500**	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Fluorene	µg/l	**1500**	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Hexachlorobenzene	µg/l	**0,042**	<1.00	<2.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Hexachlorobutadiene	µg/l	**0,86**	-	-	-	<2.00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
Hexachlorocyclopentadiene	µg/l	**220**	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	µg/l	**4,8**	<1.00	-	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Indo[1,2,3-cd]pyrene	µg/l	**0,029**	-	-	-	-	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
Isophorone	µg/l	**71**	-	-	-	-	-	-	-	-	-	-	-	-
N-nitrosodi-n-propylamine	µg/l	**0,0096**	-	-	-	-	-	-	-	-	-	-	-	-
Napthalene	µg/l	**0,14**	-	-	-	-	<2,00	<2,00	<2,00	<2,00	<2,00	<0,10	<0,10	<0,10
Nitrobenzene	µg/l	**0,12**	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/l	**N/A**	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
Pyrene	µg/l	**1100**	-	-	-	-	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10	<0,10
1,2-Dichlorobenzene	µg/l	**370**	-	-	-	<2.00	<2,00	<2,00	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
1,2,4-Trichlorobenzene	µg/l	**2,3**	<1.00	<2.00	<1.00	<2.00	<2,00	<2,00	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
1,3-Dichlorobenzene	µg/l	**N/A**	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
1,4-Dichlorobenzene	µg/l	**0,43**	<2.00	<2.00	<2.00	<2.00	<2,00	<2,00	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
2-Chloronaphthalene	µg/l	**N/A**	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
2-Methylnaphthalene	µg/l	**N/A**	<2.00	<2.00	<2.00	-	-	-	-	-	-	-	-	-
2-Nitroaniline	µg/l	**370**	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	µg/l	**0,22**	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	µg/l	**37**	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	µg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenylphenyl ether	µg/l	**N/A**	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
4-Chloroaniline	µg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenylphenyl ether	µg/l	**N/A**	<1.00	<1.00	<1.00	<0.20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20	<0,20
4-Nitroaniline	µg/l	**3,4**	-	-	-	-	-	-	-	-	-	-	-	-
Phenolic Compounds														
Pentachlorophenol	µg/l	**0,73**	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
Phenol	µg/l	**11000**	<20.00	-	<20.00	-	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00	<2,00
2-Chlorophenol	µg/l	**180**	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2-Methylphenol	µg/l	**N/A**	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
3-and4-Methylphenol	µg/l	**N/A**	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2-Nitrophenol	µg/l	**N/A**	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4-Dichlorophenol	µg/l	**110**	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,6-Dichlorophenol	µg/l		<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4-Dimethylphenol	µg/l	**730**	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4,5-Trichlorophenol	µg/l	**3700**	-	-	-	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2,4,6-Trichlorophenol	µg/l	**6,1**	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
4-Chloro-3-methylphenol	µg/l	**N/A**	<1.00	<1.00	<1.00	<1.00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
2-Methyl-4,6-dinitrophenol	µg/l	**N/A**	<1.00	-	<1.00	-	-	-	-	-	-	-	-	-
2,3,4,6 Tetrachlorophenol	µg/l	**11000**	<1.00	-	<1.00	-	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00	<1,00
4-Methylphenol	µg/l	**N/A**	-	-	-	-	-	-	-	-	-	-	-	-

Italics - Exceeds Laboratory's Minimum Detection Limits

Red - Exceeds Max Allowable Limits

' - ' Denotes when a particular analysis was not undertaken

APPENDIX C

PHOTOGRAPHIC REPORT

GEOMEASURE GROUP
Groundwater, Environmental & Geotechnical Consultants

PHOTO REPORT
CATO RIDGE GEOHYDRO

Plate 1 – View of the site

Plate 2 – View of the site

Plate 3 – View of the site

Plate 4 – View of the site

Plate 5 – View of the site

Plate 6 – View of the site

PHOTO REPORT
CATO RIDGE GEOHYDRO

Plate 7 – View of the site

Plate 8 – View of ACRW monitoring BH SH 1 Deep and Shallow

Plate 9 – View of ACRW monitoring BH F2

Plate 10 – View of old illegal sand mining area

Plate 11 – View of suspected abandoned BH at SMD

Plate 12 – View of dry BH at Deratek Packaging