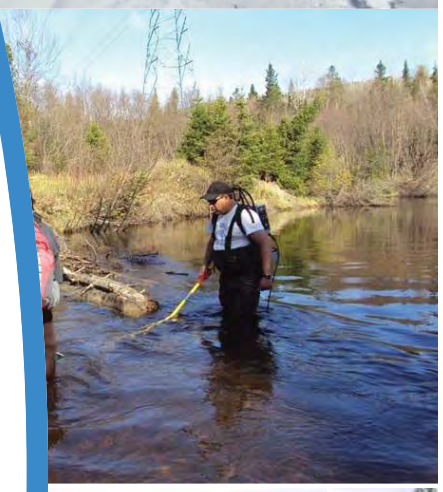
ENVIRONMENTAL ASSESSMENT FOR THE MARATHON PGM-Cu PROJECT AT MARATHON, ONTARIO



STILLWATER CANADA INC. MARATHON PGM-Cu PROJECT

SUPPORTING INFORMATION DOCUMENT No. 30 - ENVIRONMENTAL BASELINE ASSESSMENT MARATHON PGM-Cu PROJECT

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Environmental Baseline Assessment
Marathon PGM-CU Project
Marathon PGM Corporation

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1.0 INTRODUCTION

The Marathon PGM-Cu Project is located approximately 10 km north of the town of Marathon, Ontario in O'Neil Township. The project site is north of the Trans-Canada Highway on the northeast shore of Lake Superior and is located approximately 300 km east of the city of Thunder Bay. The project location is presented in Figure 1.

Historically, exploration work has been conducted on this site since 1963. Previous owners have included Anaconda Canada Exploration Ltd., Fleck Resources Ltd. and Geomaque Exploration Ltd. Current operating mines in the area include the Williams Gold Mine, located approximately 30 km southeast of Marathon.

The project was acquired by Marathon PGM in 2004 and, with the acquisition of additional land holdings since that time, consists of an area of approximately 4,568 ha made up of six Crown leases and twenty unpatented claim blocks. Mineralization of interest includes platinum group metals and copper (Figure 2).

Marathon PGM has undertaken a continuous advanced exploration and diamond drilling program at this site since Fall 2004, and proposes for 2007 an additional 35,000 m of infill and expansion drilling. Exploration work to date has defined three zones of mineralization that will be developed as open pit operations. These included the north pit (estimated dimensions of 500 m wide, 1700 m long and 300 m deep), the south pit (estimated dimensions of 300 m wide, 500 m long and 120 m deep) and the south west pit, a collection of four small pits (estimated dimensions of 200 m wide, 800 m long and 60 m deep) (P&E Mining Consultants Inc. 2006).

A proposed waste rock repository will be located to the west of the north pit in support of the open pit mining operations. A plant, consisting of a crushing, grinding, floatation and thickening circuit, will be constructed with an estimated capacity of 18,000 tonnes per day. A conventional tailings pond will be constructed to the south of the mill area to receive unthickened tailings.

The location of these proposed facilities is presented in Figure 3.

With respect to environmental permitting, the project will be subject to provincial legislation under the Mines Act (Closure Plan), the Environmental Protection Act and the Ontario Water Resources Act (Receiving Water Assessment and Section 53 effluent discharge approval). At a proposed operating capacity of 18,000 tonnes per day, the project will be subject to the Canadian Environmental Assessment Act (CEAA) in addition to the provincial requirements.

The proposed conventional open pit mining operation will result in the infilling of a number of small lakes/ponds on the project site. If it is determined that there is a

loss of fish or fish habitat associated with the site operation, regulatory consultation and potential compensation discussions with the Fisheries and Oceans Canada will be required under the No Net Loss Policy of the Federal Fisheries Act.

1.1 Purpose

In 2006, N.A.R. Environmental Consultants Inc. (NAR) was retained by Marathon PGM Corporation to complete an environmental baseline study for their proposal to conduct an Advanced Exploration project for a copper-palladium-platinum deposit near Marathon, Ontario. The environmental baseline survey was comprised of a total of 16 small lakes and ponds that will potentially be impacted by the development of the waste rock, tailings, open pit and mill areas at the Marathon PGM site under a Production decision.

The purpose of the survey was to determine the background environmental conditions in the 16 lakes in the project area. This included assessing the current water and sediment quality, benthic macroinvertebrate communities, dominant features along the shoreline, and the fisheries communities.

NAR's Scope of Services for the identified study lakes included assessments of:

- lake water quality;
- lake sediment quality
- benthic macroinvertebrate communities
- dominant shoreline features; and
- presence/absence fish community assessment.

2.0 STUDY AREA

There are no major lakes within the project limits and all the streams are Order 1 catchments, with the exception of the Pic River to the east. Most of the streams flow in an easterly direction. Many of the streams originate from or have small ponds occurring along their channels

The location of the 16 lakes in the study area is presented in Figure 4.

3.0 METHODS

The environmental baseline surveys of the 16 lakes in the study area were completed from September 23rd to September 30th, 2006. Due to the rugged nature of the topography, the majority of lakes were accessed by helicopter from the Marathon Airport.

The following methods were used to conduct the surveys at each lake:

a) collection of water chemistry and field measurements at a central basin station;
b) collection of a single sediment sample from the central basin station;
c) collection of benthos using the Reference Area Methods techniques;
d) shoreline cruise to characterize each lakes; and
e) presence/absence fish community assessment.

3. 1 Water chemistry and field measurements

Water chemistry and field measurements were completed at single stations generally located in the central basin of each lake or the deepest area of the lake as determined by a preliminary surveillance.

At each of these stations, the depth and GPS location (NAD83) were taken. A weighted sampler was used to collect a composite water sample that was ideally 5 m in depth. If maximum station depth was less than 5 m, sample depth was altered to remain 1 m above the lake bottom.

One twice rinsed bottle was filled for each of general chemistry (500 ml PET), nutrients (125 ml glass) and metals (125 ml plastic). The metals sample was preserved with 5 drops of nitric acid, and the nutrients sample was preserved with 3 drops of H_2SO_4. These samples were kept cool until submission to the analytical laboratory. Samples were submitted approximately every 3rd or 4th day to Testmark Laboratory in Sudbury.

Dissolved oxygen (DO) and temperature profiles were recorded at each central station using a Model 85 YSI meter. Measurements were taken in 1 m increments from surface to 1 m above the bottom.

3.2 Sediment sampling

At each lake, one sample was collected from the central basin station using either an Ekman or petit Ponar dredge. The percentage of the dredge filled was recorded and the sample was carefully emptied into a plastic basin. The following were recorded for each sample: depth of the sample collection, and description of the sediments colour, soil type (according to Roelofs 1944), layering, presence of any odors, plants or debris.

A stainless steel spoon was used to remove the top 2.5 cm of the sediment and to fill the pre-labelled glass jar. This glass jar was submitted to Testmark Laboratories for the analysis of the following: metals, TP, TKN and TOC. The samples were kept cool until submission. The samples were submitted on a separate Chain of Custody form from the water samples.

3.3 Benthic Invertebrate Communities

Benthic Invertebrate samples were collected by wading or boating along shoreline using a long handled D frame, fine mesh dip net (qualitative sampling) for a fixed period of 10 minutes. The researchers attempted to cover the variety of habitats along the shoreline. The collected benthos and associated debris were transferred from the net to a 1.25 L plastic jar. The jars were labeled with indelible marker by lake name. A buffered 10% formaldehyde solution was added to the sample in order to "fix" the samples upon return to the base.

Samples were submitted to Dr. Richard Bland for taxonomic identification.

3.4 Shoreline Cruise

The dominant features around the lake were recorded on lake shape file maps. These features included macrophyte coverage and dominant species, shore and littoral zone features, bottom type, inflows, etc. At least two characteristic photographs for each lake were also taken. The location of the central basin station, netting locations, minnow trap set sites and area of benthic collections were recorded on each lake map. An extensive photographic record was also completed for each lake surveyed.

3.5 Fish Community Assessment

Six standard minnow traps per lake were baited and set at inflows, upwellings or other suitable locations. Where possible, two sets of nets were deployed per lake using fall walleye index netting (FWIN) and experimental gill gang sets (mesh sizes 38 mm to 127 mm, 15 m panels). The nets were run at appropriate intervals to check for fishing efficiency.

Minnow species were identified to species and counted; whirlpack bags and formaldehyde were used to preserve specimens for further identification at the lab. Netted fish were identified to species and numbers of each species was recorded. Metrics (total length, fork length, weight, sex (if possible) and any remarks) were recorded for all of the fish captured. All live fish were returned to the area of capture.

3.6 Sample submissions for laboratory analysis

Water chemistry and sediment samples were submitted to Testmark Laboratories Ltd. in Garson via bus parcel express. Samples were kept refrigerated and shipped on ice every 3rd or 4th day under Chain of Custody forms.

4.0 RESULTS

For the interpretation of the environmental data collected, the lakes have been categorized by sub-watershed within the Marathon PGM project area. They have then been further described with respect to location of the proposed mine site components; pit areas, waste rock repository, plant site and mill yard/office area. These subcatchments are presented below.

	Subcatchment	Lakes	Comment
A	Control	Malpa	Flows directly to Pic River, not impacted by site development
B	Plant site and mill yard	#1 #2	
C	Control – Upper waste rock watershed	#3 #4 #5 #6 #7	Flows east from Lake #5 to waste rock repository
D	Waste Rock Repository	#8 #14 #15	Proposed site of waste rock repository; flows from Lake #15 to Pic River
E	Open Pit	#9 #10 #11 #16	Area to be excavated
F	Adjacent to pit area	#12 #13	Potential impact from development of pits; subject to impacts from equipment

The location of these features is presented in Figure 3 and was adapted from the NI-43-101 Technical Report and Preliminary Economic Assessment (P&E Mining Consultants Inc. 2006).

Individual lake maps presenting the location of the monitoring stations are provided in Appendix A.

4.1 Water Quality

Analytical water quality results for the individual lakes are presented in Appendix B. Where applicable, the respective Provincial Water Quality Objective (PWQO; MOE 1994) has been included. Exceedances of objectives are highlighted. The record of field measurements, including temperature, dissolved oxygen and water clarity, are presented in Appendix C.

Sampling was conducted on all study lakes during the last week in September 2006, which was a period of prolonged rainfall prior to and throughout the period of sample collections.

A – Malpa Lake

Malpa Lake was initially selected as a control lake as it is located southeast of the development areas for the Marathon PGM project. While comparable to many of the study lakes in surface area, water depth in the central basin station was only 1.7 m. Dissolved oxygen levels were good (100% saturation) and abundant zooplankton were noted in the samples collected.

pH levels in the lake were circum-neutral (6.86) and levels of conductivity, hardness, alkalinity and nutrients were all low. All parameters analyzed met their respective PWQOs, with the exception of aluminum. This parameter marginally exceeded the criteria of 75 ug/L, which may be a result of the presence of clay soils within the subwatershed. Levels of most metals were low, with most below the laboratory Method Detection Limit (MDL).

B – Lakes #1, #2

Both lakes are located in an area that will be impacted by construction of the mill, offices and yard. Outflow drainage from both lakes will also be impacted by the establishment of the plant.

Lake #1 is 12 m in depth and was thermally stratified at the time of the survey. Dissolved oxygen levels in the epilimnion (above the thermocline) were 85% saturation. However significant DO depletion was noted from a depth of 7 m to bottom (3% saturation), well below the PWQO of 47% criteria for the protection of warm water biota.

Maximum depth in Lake #2 was 3.5 m. While not stratified, a depletion of DO to 49% saturation was evident near bottom.

Water clarity in both lakes was moderate, ranging from 3.0 to 2.7 m.

Low levels of nutrients, hardness, conductivity and alkalinity were reported in both lakes. In Lake #1, pH was slightly acidic at 5.89, below the PWQO range of 6.5 to 8.5. The cadmium level was marginally elevated about the PWQO of 0.2 ug/L. While pH levels in Lake #2 were within the acceptable range, cadmium and iron levels were marginally elevated. All other parameters analyzed in both lakes met their respectively criteria, with most metal concentrations below the MDL.

C – Lakes #3, #4, #5, #6, #7

This cluster of lakes is located to the west of the proposed waste rock repository, with Lakes #3, #6 and #7 (via Lake #6) flowing into Lake #5. Water then discharges from the eastern arm of Lake #5 to Lake #14, under the proposed waste rock storage area. Some flow also reports from Lake #5 west to Lake #4.

Stations depths in Lakes #3, #4 and #6 ranged from 3.1 m down to 1.0 m. DO levels in these lakes average 85% saturation, above the PWQO for protection of warm water biota. A depth of 7 m was reported in Lake #7, which appeared to be thermally stratified near bottom. DO levels from 4 m to bottom were less than 10% saturation. Lake #5, the deepest of the study lakes, was 23 m in the central basin. The lake was thermally stratified with a strong thermocline evident from 6 to 8 m. Epilimnetic DO concentrations were adequate (> 47%), however oxygen depletion below the PWQO was measured from 6 m to bottom. From 11 to 23 m was near anoxic, with DO concentrations less than 1.0 mg/L. Based on the extent of this anoxia and the hilly surrounding topography, there is potential that this lake is meromictic, not subject to mixing during spring and/or fall turnover.

Where there was sufficient water depth to measure water clarity, secchi depth values were moderate.

All lakes had pH levels below the PWQO objective of 6.5 to 8.5. Levels ranged from 5.07 to 6.14. The occurrence of low pH level lakes in this region has been historically reported due to long range transport phenomenon. In Lakes #4, #5, #6 and #7, while not considered an exceedance at pH levels between 5.5 and 6.5, aluminum concentrations were high in these lakes. At a lower pH (5.07) in Lake #3, aluminum concentrations exceeded the more stringent criteria of 15 ug/L for waterbodies with pH levels between 4.5 and 5.5.

With the exception of Lake #4, cadmium levels in all lakes marginally exceeded the 0.2 ug/L criteria. Other exceedances included a marginally elevated lead concentration in Lake #4 and elevated iron levels in Lake #6.

In all five lakes, alkalinity levels were very low, with no capacity to buffer acidic inputs. Hardness and conductivity levels were low and nutrient concentrations were moderate. Other than the above noted exceptions, all metals were low or less than the laboratory MDL.

Based on the low pH levels, the majority of these lakes may potentially be considered as Policy 2, having water quality that does not meet PWQOs which will not be allowed to further degrade.

D – Lakes #8, #14, #15

Under the proposed mine plan, these lakes will be the site of the waste rock repository for the proposed operation. Lake #14 receives the drainage from the Group C lakes. Both Lake #14 and #8 flow into Lake #15, which discharges eastward to the Pic River.

Station depths for all three lakes were very shallow, ranging from 0.5 to 2.8 m deep. Surrounding wetlands and significant macrophyte growth were evident in each lake. In Lake #8, the northern lake, DO levels indicated 96% saturation, while levels in Lake #14 averaged 77% saturation. Both meet the PWQO of 47% for the protection of warm water biota.

In Lake #15, water temperatures were from 2 to 5 °C lower than area lakes and DO concentrations were low (39% saturation), indicating a potential ground water discharge area.

Water depths were not sufficient to accurately measure secchi disc visibility for determination of water clarity.

In this group of lakes, pH levels were slightly below neutral but within the acceptable range. Alkalinity levels were moderate, indicating some buffering capacity against acidic inputs. Conductivity was also moderate, ranging from 37 to 94 uS/cm. Levels of most metals analyzed were low or less than their respective PWQO, with some exceptions.

In Lake #8, cadmium levels moderately exceeded the 0.2 ug/L PWQO. In Lake #14 and #15, exceedances of aluminum, copper and iron were noted. Marginal exceedance of cadmium was also evident in Lake #15 and total phosphorus was above the 0.02 mg/L guideline for the protection of lakes against nuisance algal levels.

Turbidity levels were elevated in Lake #14, with increases also noted downstream in Lake #15, due to the on-going pumping along the east shore of the lake and runoff from the adjacent exploration activities. Siltation was evident throughout the lake and macrophyte community.

E – Lakes #9, #10, #11, #16

These lakes are located in the proposed North Open Pit, or immediately adjacent (Lake #9), and will be lost during the development of the pit.

More than half of the surface area of Lake #9 was semi-dry under the period of heavy fall rains. There is a large beaver lodge located in the centre of the lake and beaver activity appeared to control lake levels and re-directed the outflow from the south to the east of the lake. Similarly, Lake #16 was comprised

primarily of wetland with a small area of open water located along the south shoreline.

Water depth in this group of lakes was extremely shallow, ranging from 0.5 m in Lake #16 to 2.0 m in Lake #11. Dissolved oxygen levels ranged from 73% to 83%, within the range suitable for warm water biota.

With the exception of Lake #16, pH levels in all lakes were within the acceptable range, averaging 6.71 pH units. Conductivity levels were in the moderate range and alkalinity was low in all lakes. Nutrient levels ranged from low to moderate and most metal concentrations measured were low or below the MDL.

PWQO exceedances in Lake #9 included a marginal exceedance of the cadmium criteria of 0.2 ug/L, aluminum and lead. Lead also exceeded the PWQO in Lake #16 by a factor of two. Copper levels in lakes exceeded the PWQO of 5 ug/L, ranging from 7.3 to 9.4 ug/L.

With exceedances of PWQOs noted in all lakes, these lakes would potentially be characterized as Policy 2 with respect to water quality.

F – Lake #12 and #13

Located east of the proposed north open pit zone, these Lakes may be potentially impacted from disturbances around the pit development. As Lake #13 was not accessible by helicopter, no assessment work was completed on this lake during the survey period.

Lake #12 is characterized a shallow (station depth 2.5 m), with areas of aquatic macrophyte growth evident in both the north and south portions of the lake. DO concentrations were adequate for water water biota, measuring 74% saturation at the time of the survey. Water clarity, as measured by secchi disc visibility, was low.

Similar to the adjacent lakes in the pit development area, copper concentrations exceeded the PWQO by approximately 1.7 times (8.5 ug/L). pH was slightly below the criteria and alkalinity was low, indicating no capacity to buffer acidic inputs. Conductivity, hardness and nutrient levels were low. All remaining parameters were within their respective PWQO objective, with the concentration of most metals below the MDL.

Water Quality Summary

In general, water quality within the study area can be characterized as moderate to poor. Lakes located on the elevated hills to the west of the proposed Marathon PGM – Cu development are acidic as a result of long-range transport phenomenon. pH of the remaining lakes is slightly below neutral, with some

below the lower criteria of the PWQO range. While the level of most metals is low, there are marginal exceedances of cadmium, copper, iron, lead and aluminum throughout the study area.

As the majority of the lakes are shallow, depleted dissolved oxygen levels were not problematic. Thirteen of the 16 lakes surveyed were less than 3.5 m in depth. In the three deeper lakes, thermal stratification was evident with significant DO depletion measured in the bottom waters of these lakes. Based on the extent of the anoxic conditions noted in Lake #5 and the hilly surrounding topography, there is potential that this lake is meromictic, not subject to mixing during spring and/or fall turnover. Additional sampling following the spring turnover period is warranted on these deeper lakes to determine the extent of mixing.

4.2 Sediment Quality

Sediment sampling was conducted in conjunction with the water quality monitoring during the last week in September 2006. Samples were collected at the same stations, with the exception of Lake #4 where sediment sampling could not be completed, and are presented on the individual lake maps (Appendix A).

Analytical results for the sediment quality samples from the area study lakes are presented in Appendix D. Applicable Sediment Quality Guidelines (MOE 1992) Lowest Effect Level (LEL) and Severe Effect Level (SEL) are also provided. The LEL is the level of sediment contamination that can be tolerated by the majority of benthic organisms. The SEL is the level of contamination that would be detrimental to the majority of benthic species. Exceedances of either objective are highlighted in the results tables. Information on the collection methodology and physical characteristics of the samples is presented in Appendix E.

Of the 15 lakes surveyed, 13 had Total Organic Carbon (TOC) levels that exceeded the SEL of 10%. Theses exceedances ranged from twice the SEL to three times the value. Of the two remaining lakes, both had values that exceeded the LEL of 1%. These results are supported by the physical descriptions of the sediments during collection (Appendix E). All were highly organic in nature, composed primarily of detritus, peat or pulpy peat. High TOC levels would be anticipated in these lakes where there is a significant occurrence of aquatic macrophytes in the majority of lakes surveyed. Impacts on aquatic biota would be the result of reduced dissolved oxygen levels near the water/sediment interface as the plants decomposed. This is further supported by the common observation of a hydrogen sulphide odour during the sediment sample collections.

Total phosphorus (TP), also an indicator of high organic or detrital nutrient levels, was evident in the majority of lakes surveyed. LEL levels for TP (600 ug/g) were exceeded in nine lakes and the SEL level (2000 ug/g) was exceeded in another five lakes. TKN results were also elevated, ranging from 3,743 to 22,000 ug/g. With the exception of Lake #14, sediments in all lakes exceeded the SEL

guideline of 4,800 ug/g. The elevated levels are again indicative of the highly organic nature of the sediments.

Copper concentrations in the sediments of six lakes exceeded the SEL, with LEL levels exceeded in an additional 7 lakes. As anticipated, highest concentrations, up to 10 times the SEL value of 110 ug/g, were found in the E and F group of lakes. These lakes are located in the proposed pit area or adjacent, the area of high mineralization. Group A, B and D lakes had the next highest levels of copper, while only marginal exceedances of the LEL were noted in the control lakes located to the elevated west of the study area.

Similarily, nickel levels were highest in the Group E and F lakes. In Lake #11, located in the proposed pit area, nickel levels exceeded the SEL of 75 ug/L. The LEL criteria was exceeded in all lakes in the proposed pit area, adjacent area, waste rock repository, and mill site and Lake Malpa. In the western control lakes, there was only one marginal exceedance which occurred in Lake #3.

Cadmium levels in 13 of the 15 lakes exceeded the LEL criteria, however all concentrations were only marginally higher than the 0.6 ug/g guideline. There were exceedances of LEL criteria for lead (7 lakes), iron (6 lakes), zinc (5 lakes), chromium (4 lakes), mercury and manganese (3 lakes) and arsenic (2 lakes). The majority of these LEL exceedances were marginal, and with the exception of chromium and manganese, were scattered throughout the entire group of study lakes. Chromium and manganese exceedances were within the Group D lakes in the area of the proposed waste rock repository.

In general, sediment quality in most lakes can be described as highly organic in nature with marginally elevated levels of metals occurring throughout the study reach. Exceedances of LEL metals are not uncommon in Canadian Shield lakes. High concentrations of targeted minerals in the exploration zones would be anticipated and have been used as indicators of mineral potential within a watershed (ie. Ministry of Northern Development and Mines Operation Treasure Hunt Program).

Under MOE's *Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario* (MOE 1992), in areas where local background levels are above the LEL, such as has been established in the study lakes, the local background level forms the practical lower limit for management of sediment quality.

4.3 Benthic Invertebrate Communities

Taxanomic identification of the benthic macroinvertebrates from the 15 lakes sampled was completed by Dr. Richard Bland. Results are qualitatively presented as presence/absence in Table 1. Descriptions of the sample locations, method of collection and site characteristics are provided in Appendix F.

Total number of taxa per lake is relatively comparable throughout the study lakes, ranging from 10 to 32 taxa per lake. Highest numbers were found in Lake #6, while only 10 taxa were reported for Malpa Lake.

In general, all lakes are dominated by tolerant Diptera species, while sensitive species such as Ephemeroptera and Tricoptera are limited, or absent as in the case of Plectoptera.

To further assess the benthic community as an indicator of environmental quality, a BioMAP(q) Index was developed for each lake using BioMap protocols. Using established sensitivity values for each benthic organism, a q index value was determined for each lake. Results are presented in Table 2. Q values range from 1 to 4 and represent the water quality that would be expected based on the most sensitive organisms collected from the lake.

With the exception of Lakes #3, #14 and #15, a q index value of 2 was reported for all lakes. This value would be indicative of a lake with fair water quality conditions. The remaining three lakes reported q index values of 1 or poor water quality. This classification supports the results of the water quality analyses that reported moderate to poor water quality conditions in the study lakes.

4.4 Fisheries and Fish Habitat

Location of the net sets and minnow trap deployments for each lake are shown by lake in Appendix G.

Results of the fisheries assessment for the individual lakes are presented in Appendix H. A summary of the collections is provided in Table 3.

A total of 14 lakes were assessed using a combination of netting, minnow traps and a D-shaped dip net. Several of the lakes were too shallow and/or weedy for netting, so assessment was limited to minnow traps. When visually observed, the dip net was used to capture fish for identification.

In general, fish captured were limited to two species; pearl dace (*Semotilus margarita*) and brook or 5-spine stickleback (*Culaea inconstans*). Numbers of each species captured were low, totaling nine pearl dace and 18 brook stickleback.

The pearl dace were found in three lakes, all within Group C located upstream of the waste rock repository. Brook sticklebacks were found in all three lakes (Lakes #8, #14 and #15) in Group D, the proposed waste rock repository. Both species are common to this region and found in small cool ponds and streams (Scott and Crossman 1973).

No fish were captured or observed in the remaining eight lakes where assessments were completed. While fishing effort was limited to about 4 hours per lake, the small lakes in this area do not appear to represent a significant fisheries resource. Based on the shallow nature of some lakes, with 13 of the 16 study lakes less than 3.5 m in depth, winterkill due to freezing to bottom may limit fish communities in these lakes. Of the three lakes with greater depths (7 to 23 m), all exhibited hypolimnetic depletion of dissolved oxygen below the 47% saturation level.

Individual lake maps presented in Appendix G include descriptions shoreline type, macrophyte and terrestrial species present and location of beaver lodges or dams.

With the exception of two lakes (Lakes #15 and 16), shorelines surrounding the study lakes were comprised of predominantly bedrock, with boulders and broken rock. Both Lakes #15 and #16 had fringing wetland shorelines with no hard substrate evident. As previously described, sediments in all lakes were characterized as organic in nature, ranging from detrital to pulpy peat.

Shoreline wetlands were observed at 10 of the 16 lakes, with aquatic macrophytes documented in all lakes. Beaver activity, either the presence of lodges or dams, was observed on 10 lakes. There is a series of two dams located at the outlet of Lake #15, preventing upstream migration of seasonal inhabitants from the Pic River. Similarly, dams are located at the outlet of Lakes #2, #9, #12 and #16.

In general, fish communities and available habitat in the 16 study lakes was limited. Fish species captured during the assessment were limited to cyprinid communities with low numbers collected. Habitats were characterized as highly organic, with beaver activity noted on the majority of lakes.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The general purpose of the environmental baseline study conducted on the16 lakes in the area of the proposed Marathon PGM-Cu project was to document conditions within the lakes prior to the development of the open pit operation. One of the prime focuses of the study was to determine the presence of fish populations in any of the lakes that will be lost under site development.

Based on the results of the survey, the following recommendations are provided.

Recommendation 1:

Brook stickleback populations were identified in three lakes (Lakes #8, #14 and #15) that will be lost during the establishment of the waste rock repository. No

fish populations were identified in the lakes that will be impacted by the establishment of the pits or plant site, however, due to the relatively short period of the assessment (approximately a half day per lake) there is potential that there are cyprinid or minnow populations that were not captured.

Based on the physical nature of most of these lakes (shallow depth and significant macrophyte growths) and the depleted oxygen levels in the deeper lakes, it is unlikely that there are resident populations of species larger than cyprinids and minnows in any of the study lakes. Beaver activity throughout the study area was common, further restricting the movement of fish around the site. In general, these lakes do not represent a significant fisheries resource.

Winterkill of fish populations is also possible in the shallow lakes where freezing to bottom may occur.

To fully determine the absence of suitable fish habitat in the lakes that will be lost during development of the project, it is recommended that a survey be completed by helicopter in late Winter 2007 to measure the depth of ice and the dissolved oxygen concentration in the basin stations of the following lakes: Lakes #1, #2, #8, #9, #10, #11, #14, #15 and #16. If these lakes exhibit no suitable habitat as a result of freezing to bottom or insufficient dissolved oxygen, it will be conclusively shown that they do not represent fish habitat and compensation is not required.

Recommendation 2:

While work to date has indicated a limited fisheries resource associated with the small lakes located throughout the project site, no work has been completed on the streams that flow predominantly from west to east, discharging into the Pic River. There is potential for a transient fish population to inhabit these streams under conditions of higher flow or during spawning periods.

It is recommended that a fisheries assessment survey of the major streams be completed following spring freshet in 2007. These streams include a) the stream draining the proposed pit area (from Lakes #12, #13, #9, #10, #11 and #16), stream draining from the waste rock respository (Lakes #8, #14, #15 and the upstream control lakes) and drainage from the plant side (Lakes #1 and #2) and tailings management area.

With the loss of the upper watershed lakes in the north open pit area, there will be a significant loss of flow associated with this subcatchment. In the waste rock repository catchment, flows from the upper watershed will need to be re-routed around the former downstream lakes.

With significant changes in flow regimes anticipated, the presence of fish populations in these streams would require the determination of a need for fisheries compensation discussions with DFO.

Recommendation 3:

Based on the projected operating capacity of the operation, CEAA requirements will be triggered. It is recommended that Environment Canada be contacted early in the development process (i.e. March 2007) to initiate dialogue with the Federal agencies. A lead agency will be identified through this process and input sought from the other agencies to guide the development of a scoping study for the project.

Recommendation 4:

It is recommended that a digital terrain model be developed for the project area. This information will be used in establishing the discharge points of control that will require permitting under MOE's Section 53 Approvals process, which also includes requirements for stormwater management and monitoring.

The completion of the model may also provide additional information on the accessibility of the streams to transient fish populations from the Pic River. This would identify natural barriers to upstream migration and areas, such as pools at the base of rapids or waterfalls, that may represent spawning locations or nursery habitat.

6.0 CLOSURE

We trust this report meets the requirements of Marathon PGM with respect to documenting environmental baseline conditions at their project site. The recommendations provided address only the study area lakes and do not consider the receiving water environment of the Pic River or the expanded exploration area to the south.

N.A.R. Environmental senior staff, Brad Bowman and Jan Linquist, will be in Toronto from March 2nd to 5th prior to the PDAC and would be available during that time to discuss the report findings and recommendations. Please contact us at your convenience to discuss a meeting if required.

References

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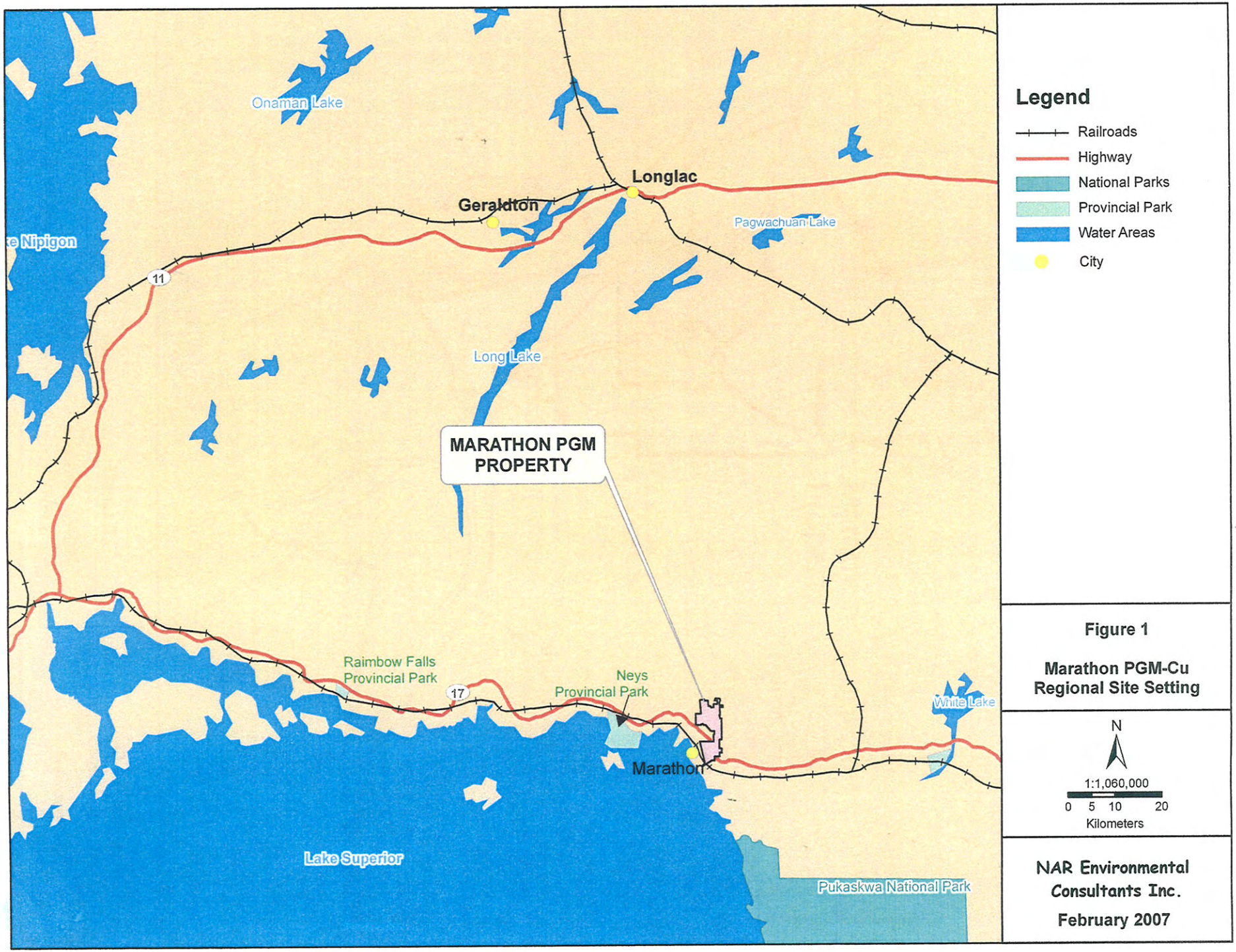


Figure 1

Marathon PGM-Cu Regional Site Setting

NAR Environmental Consultants Inc.

February 2007

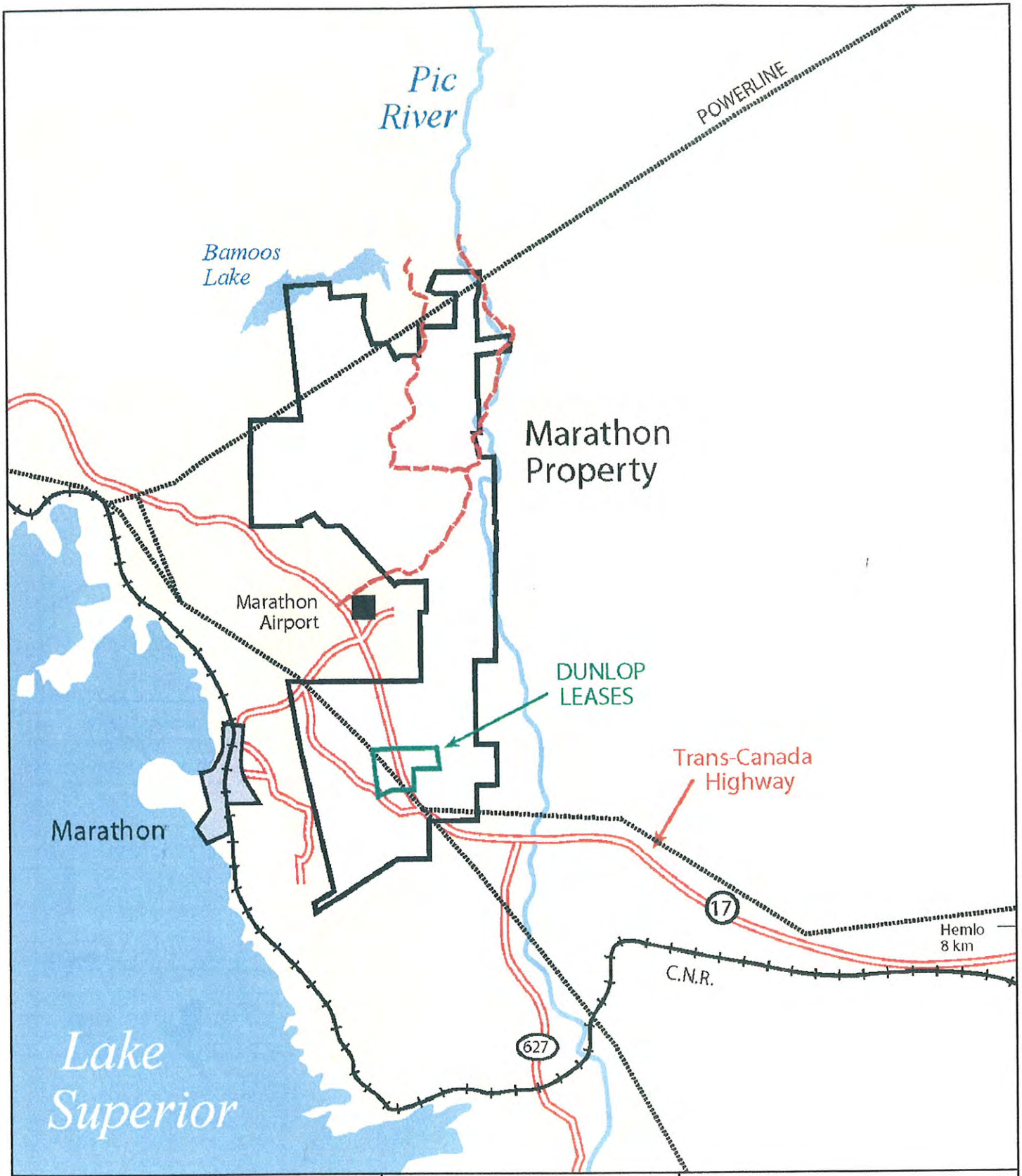
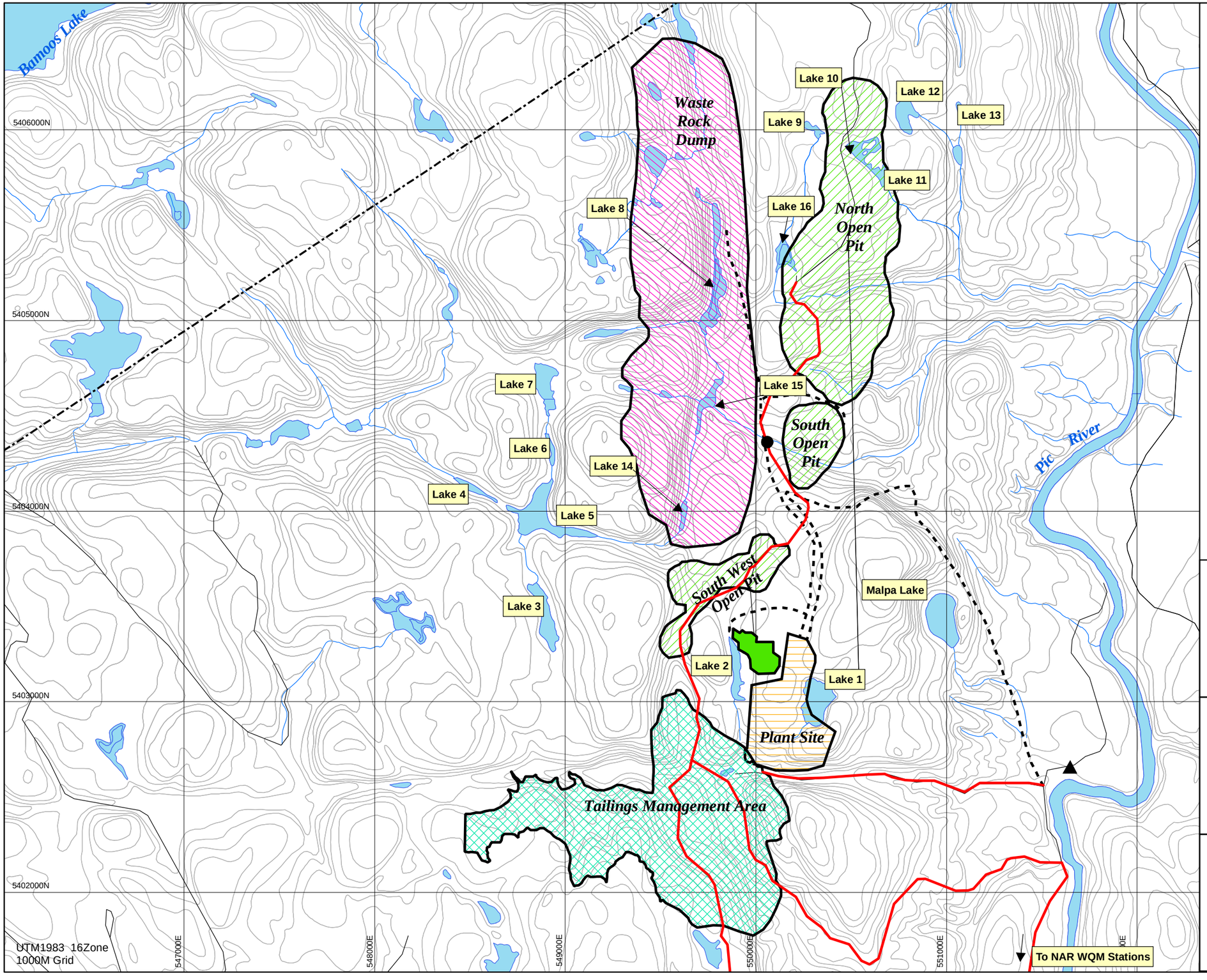


Figure 2

Marathon PGM Project

NAR Environmental Consultants Inc.

February 2007



Legend

- Exsiting Road
- Proposed Road
- Office Building Area
- Waste Rock Dump
- Tailing Management Area
- Plant Site
- Open Pit
- Grid
- Power
- Lake
- obm_OBMUSER_roadseg_line
- Contour Line
- River
- NAR Sample Location
- Environment Canada Hydrometric Station

Figure 3

Proposed Lay-Out
Marathon PGM-Cu
Mine and Mill

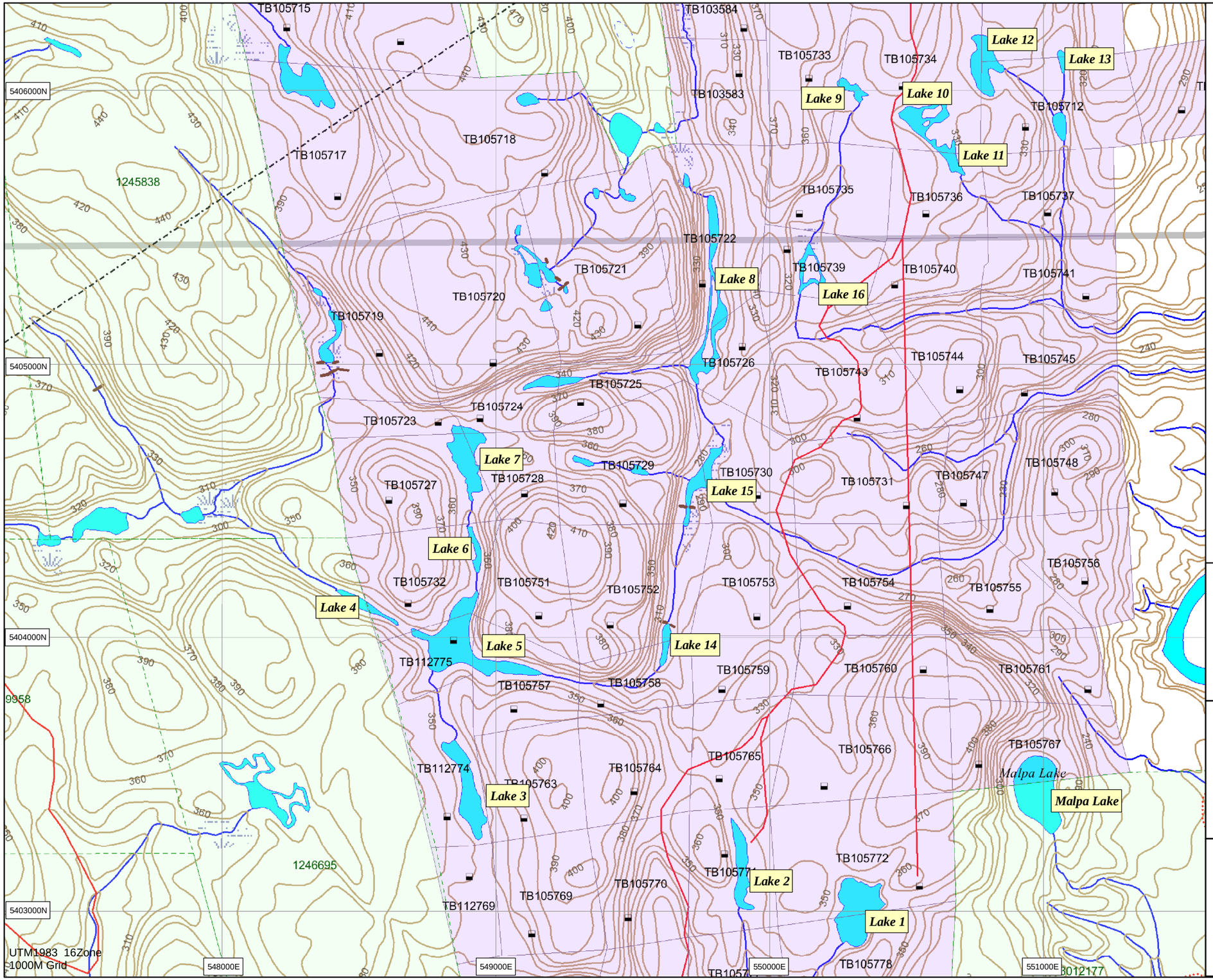
N

1:20,000

0 250 500 1,000
Meters

NAR Environmental Consultants Inc.

February 2007



Legend

Lake # — Study Lake

Lake — Lake

Figure 4

Study Lakes
Marathon PGM
2006 Environmental
Baseline Study

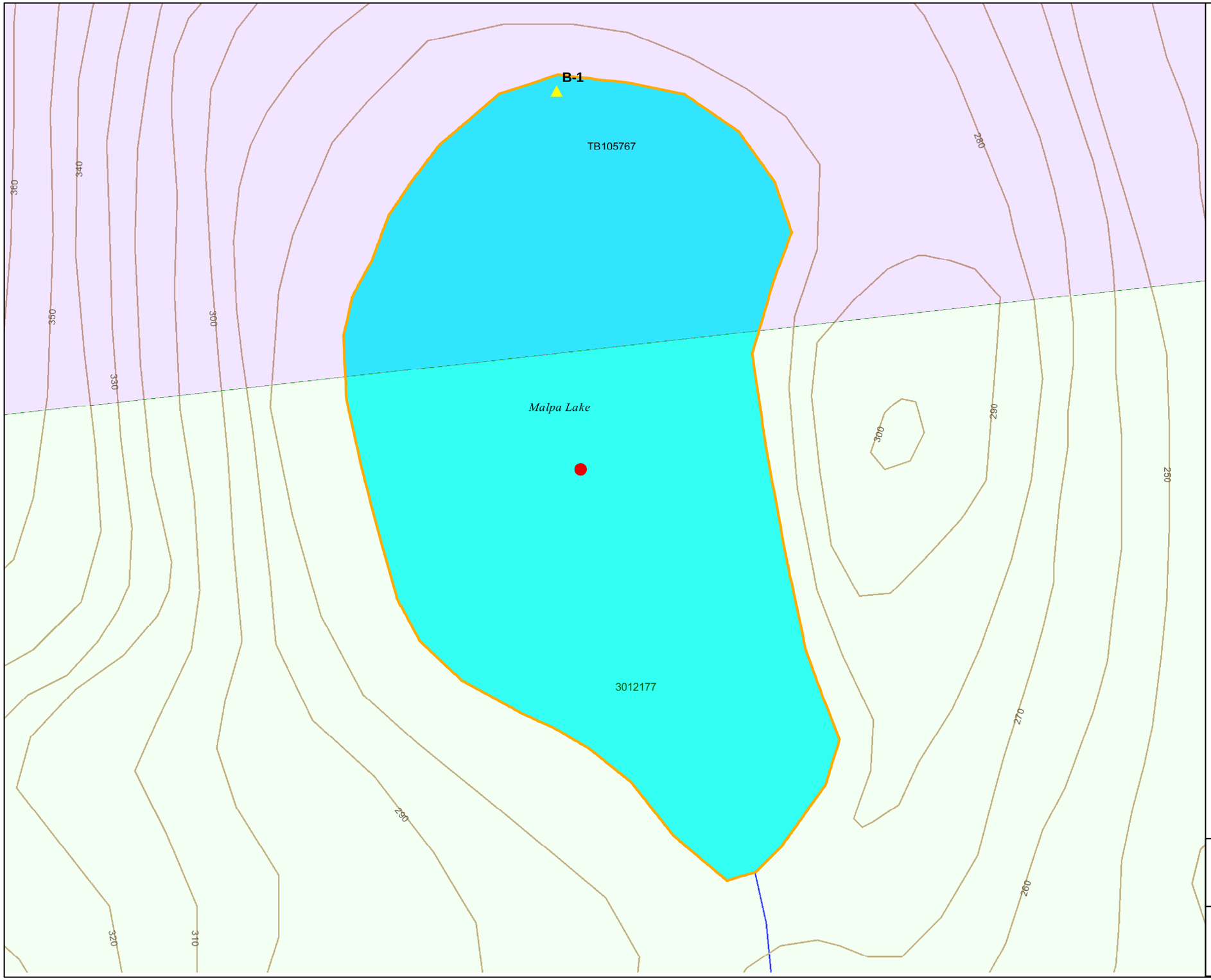
N

1:14,000

0 200 400 800
Meters

NAR Environmental
Consultants Inc.

February 2007



Monitoring Stations

Mapla Lake
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station

N	NTS
December 2006	NAR Environmental Consultants Inc.

TB105735

330

340

320

310

05739

B-2

B-1

Monitoring Stations

Lake 16
Marathon PGM

Legend

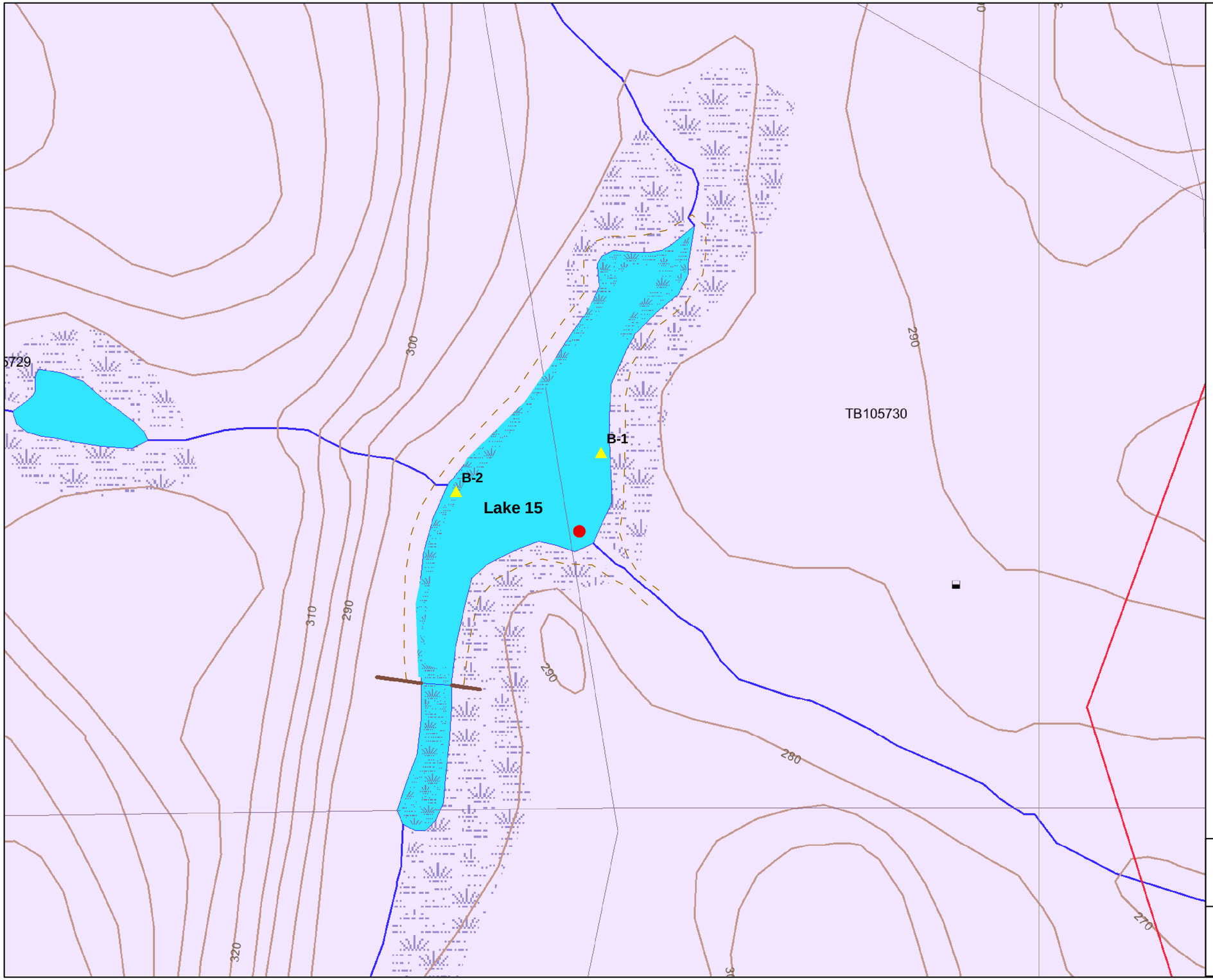
- Water and sediment quality station
- Benthic station
- Wetland

N

NTS

December 2006

NAR Environmental Consultants Inc.



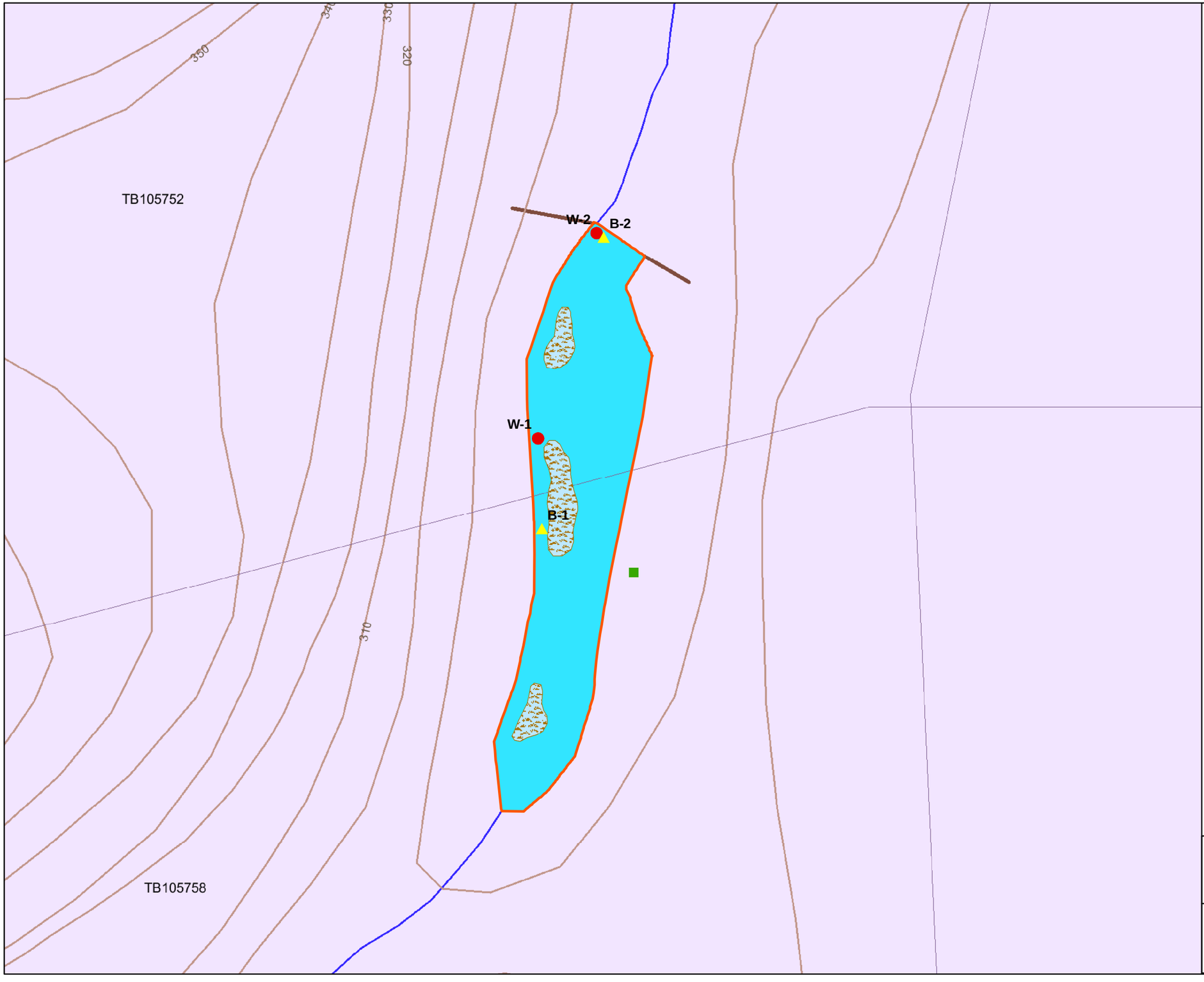
Monitoring Stations

Lake 15
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station
- Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.



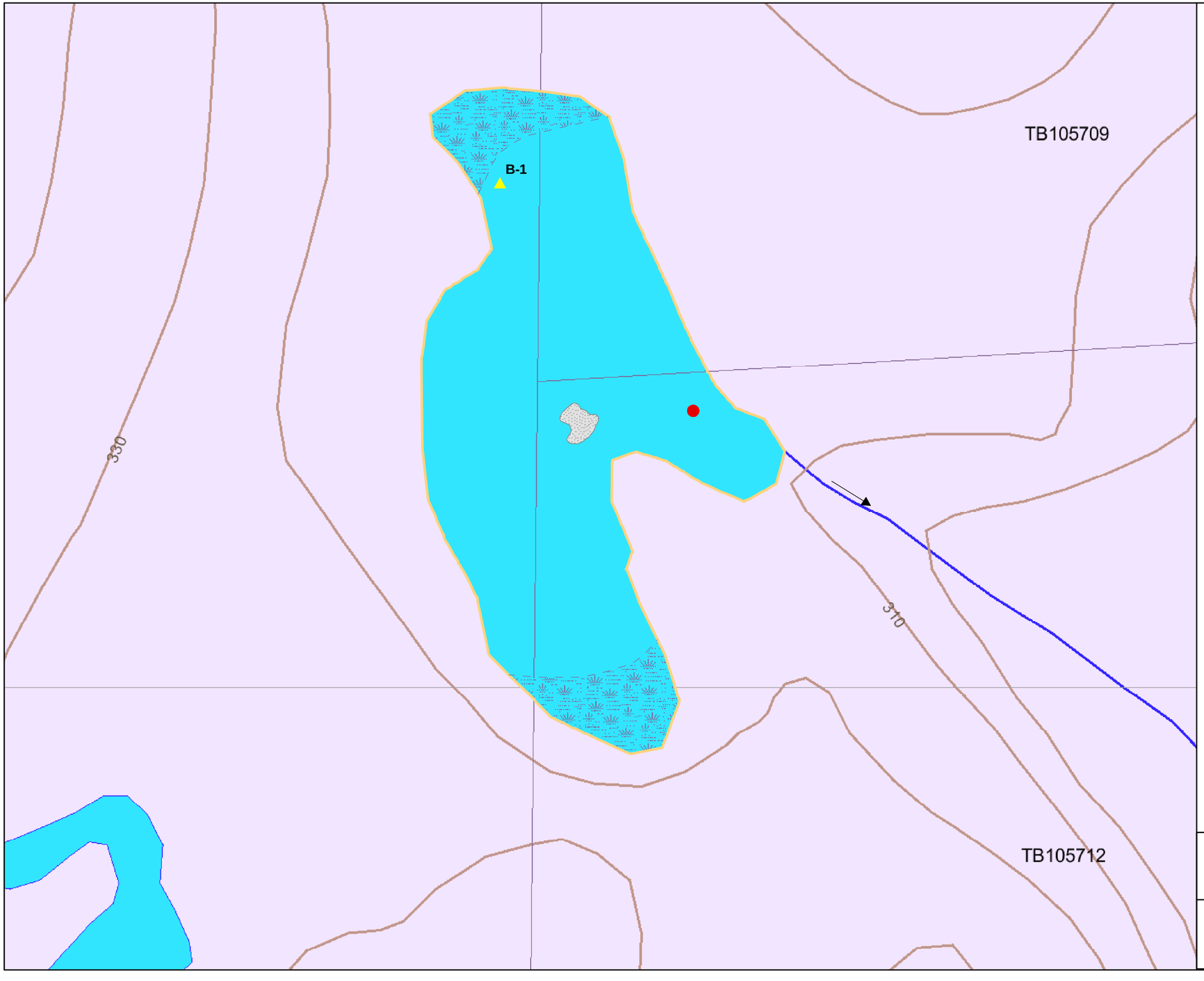
Monitoring Stations

Lake 14
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station
- Pumping Station
- Macrophytes

N	NTS
December 2006	NAR Environmental Consultants Inc.



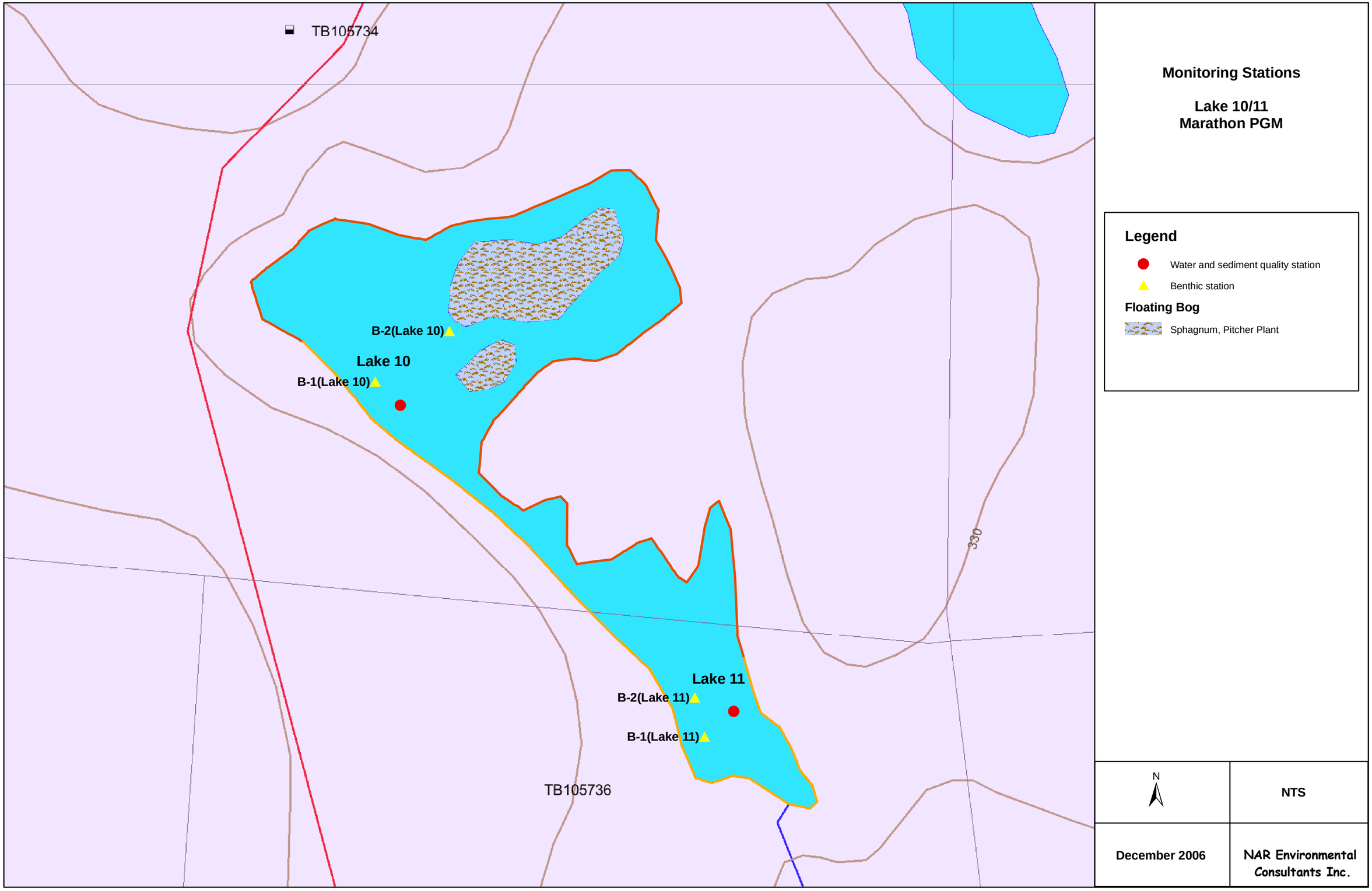
Monitoring Stations

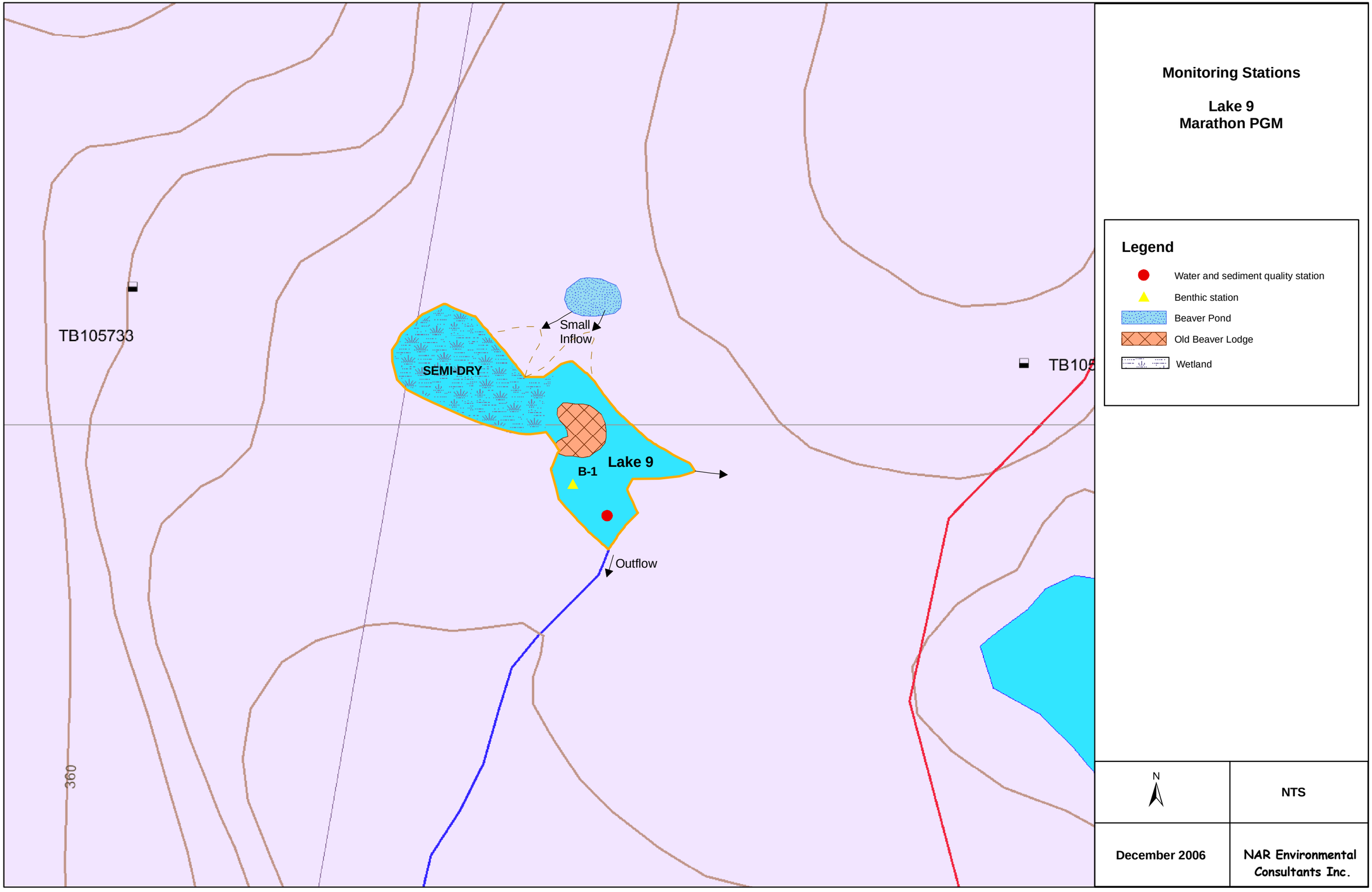
Lake 12
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station
- Wetland
- Rock island

N	NTS
December 2006	NAR Environmental Consultants Inc.


TB105734
B-2(Lake 10)
Lake 10
B-1(Lake 10)
Lake 11
B-2(Lake 11)
B-1(Lake 11)
TB105736
330
Monitoring Stations
Lake 10/11
Marathon PGM
Legend
Water and sediment quality station
Benthic station
Floating Bog
Sphagnum, Pitcher Plant
N
NTS
December 2006
NAR Environmental Consultants Inc.



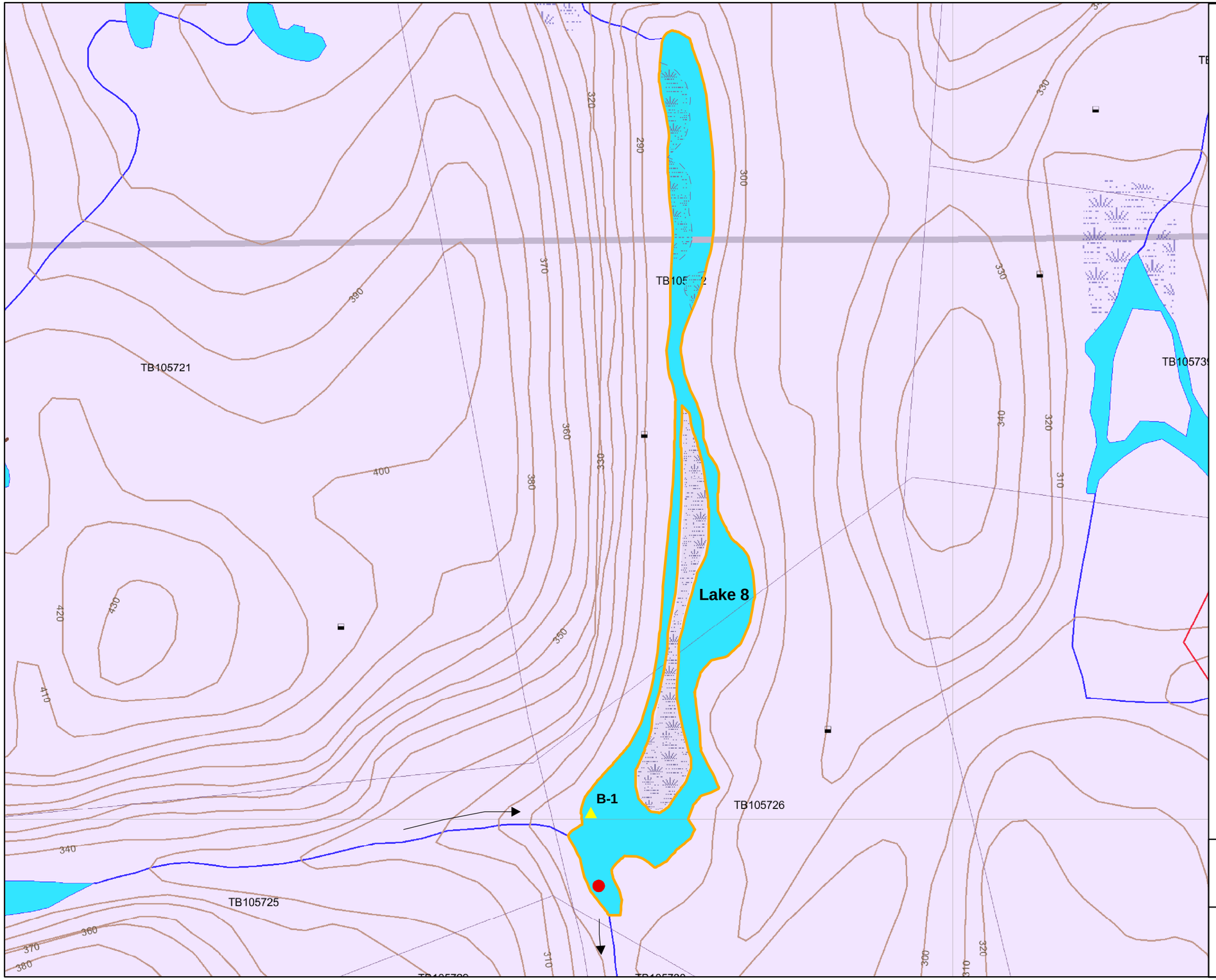
Monitoring Stations

Lake 9
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station
- Beaver Pond
- Old Beaver Lodge
- Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.



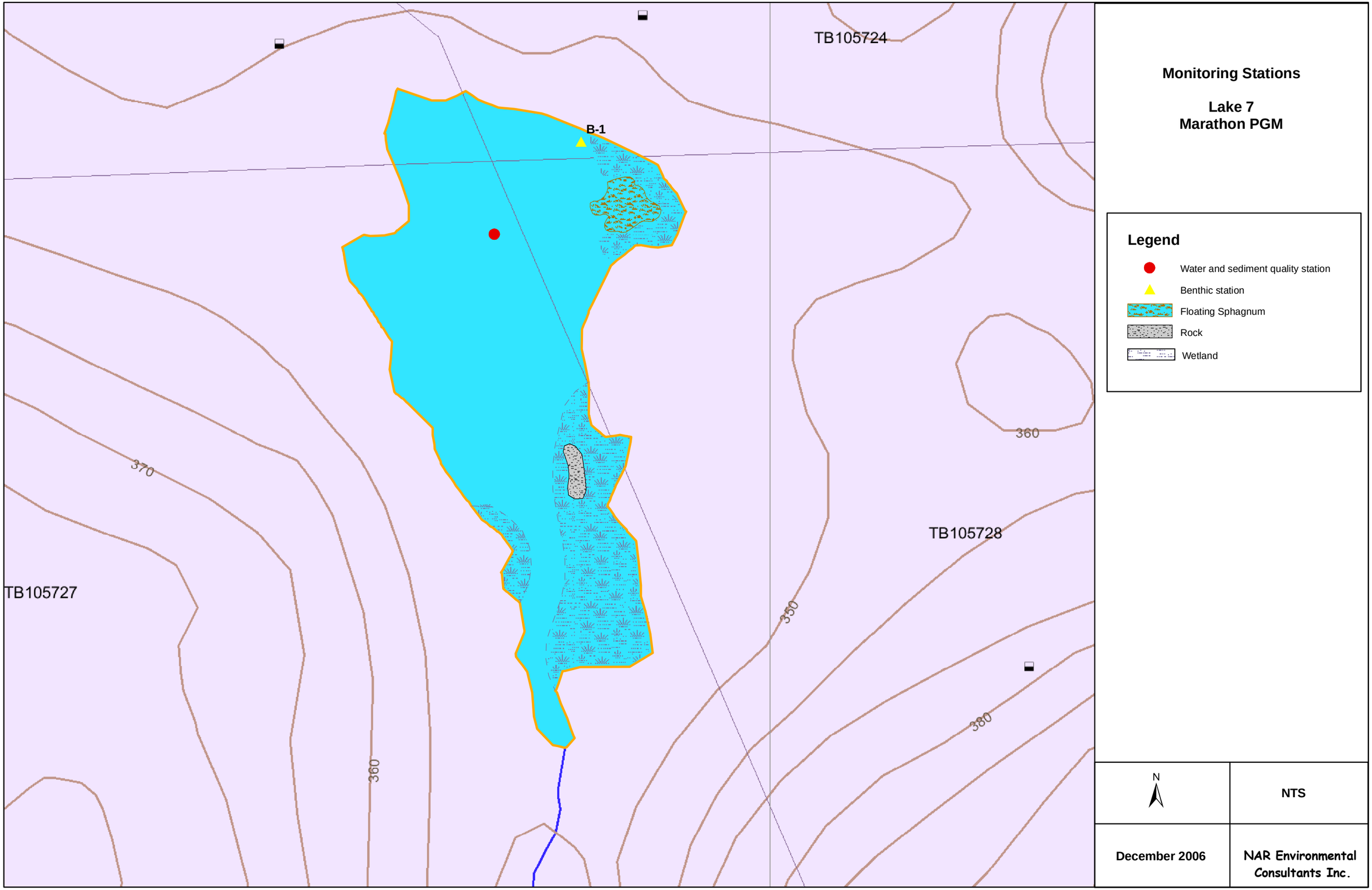
Monitoring Stations

Lake 8
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station
- Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.



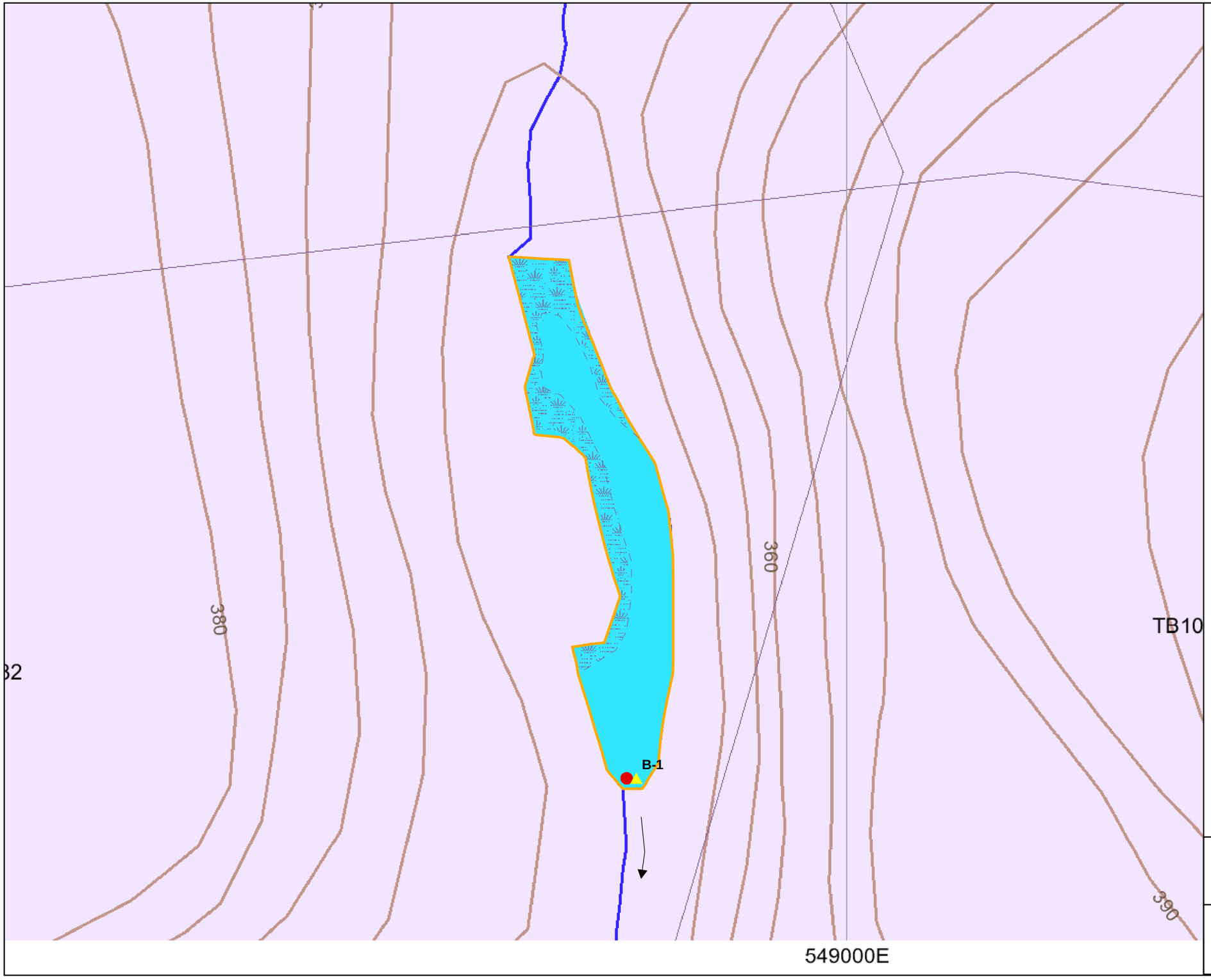
Monitoring Stations

Lake 7
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station
- Floating Sphagnum
- Rock
- Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.



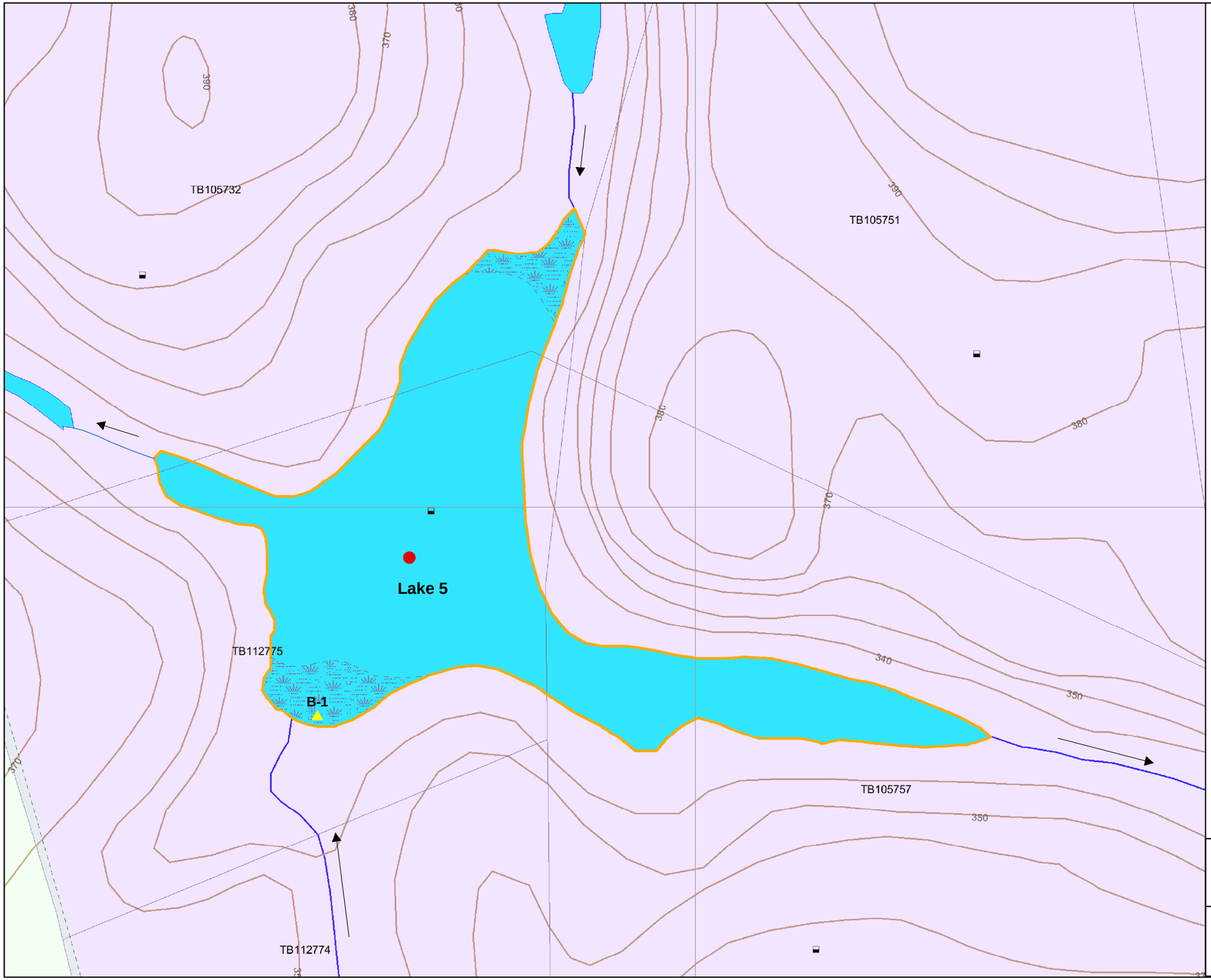
Monitoring Stations

Lake 6
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station
- Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.



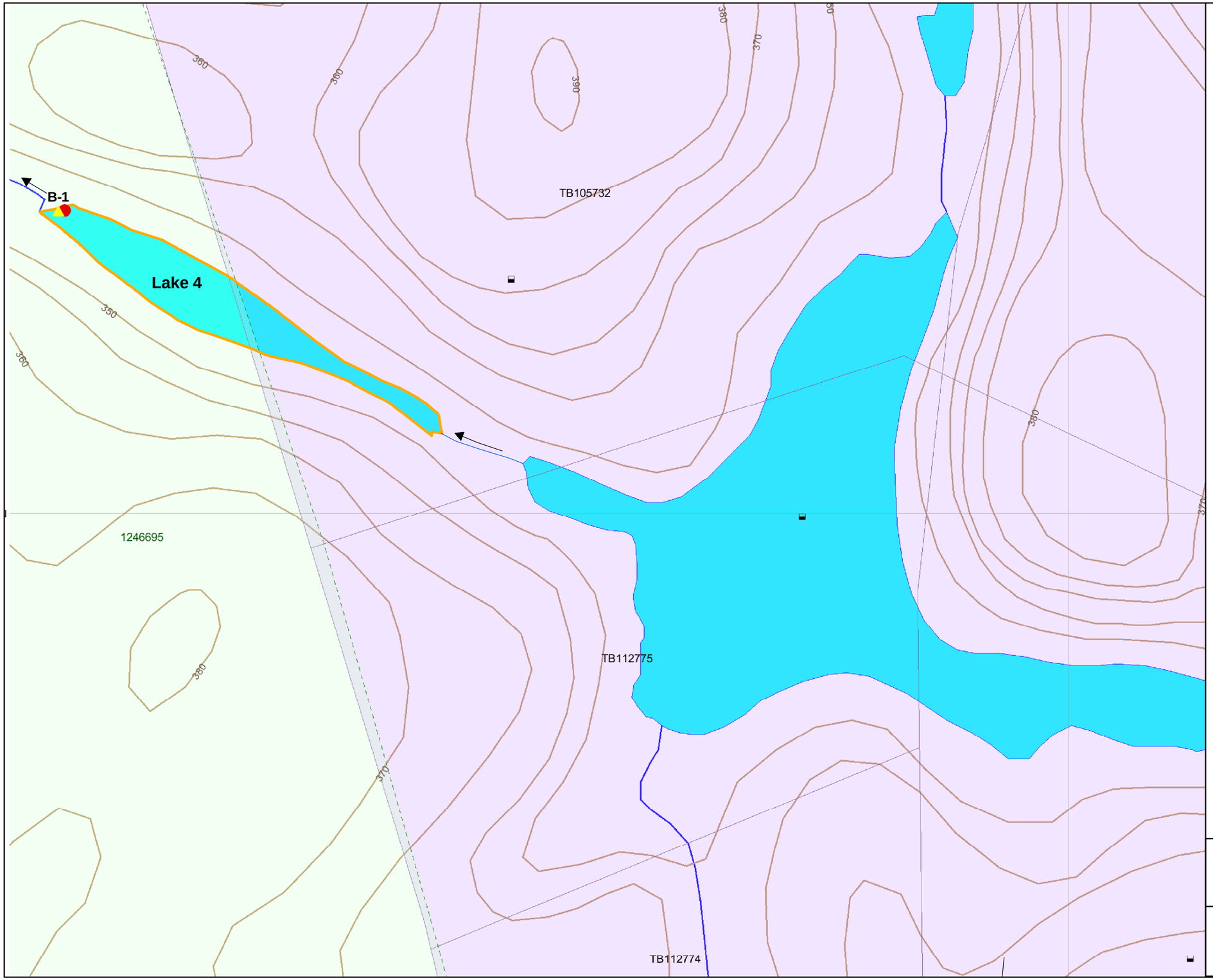
Monitoring Stations

Lake 5
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station
- Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.



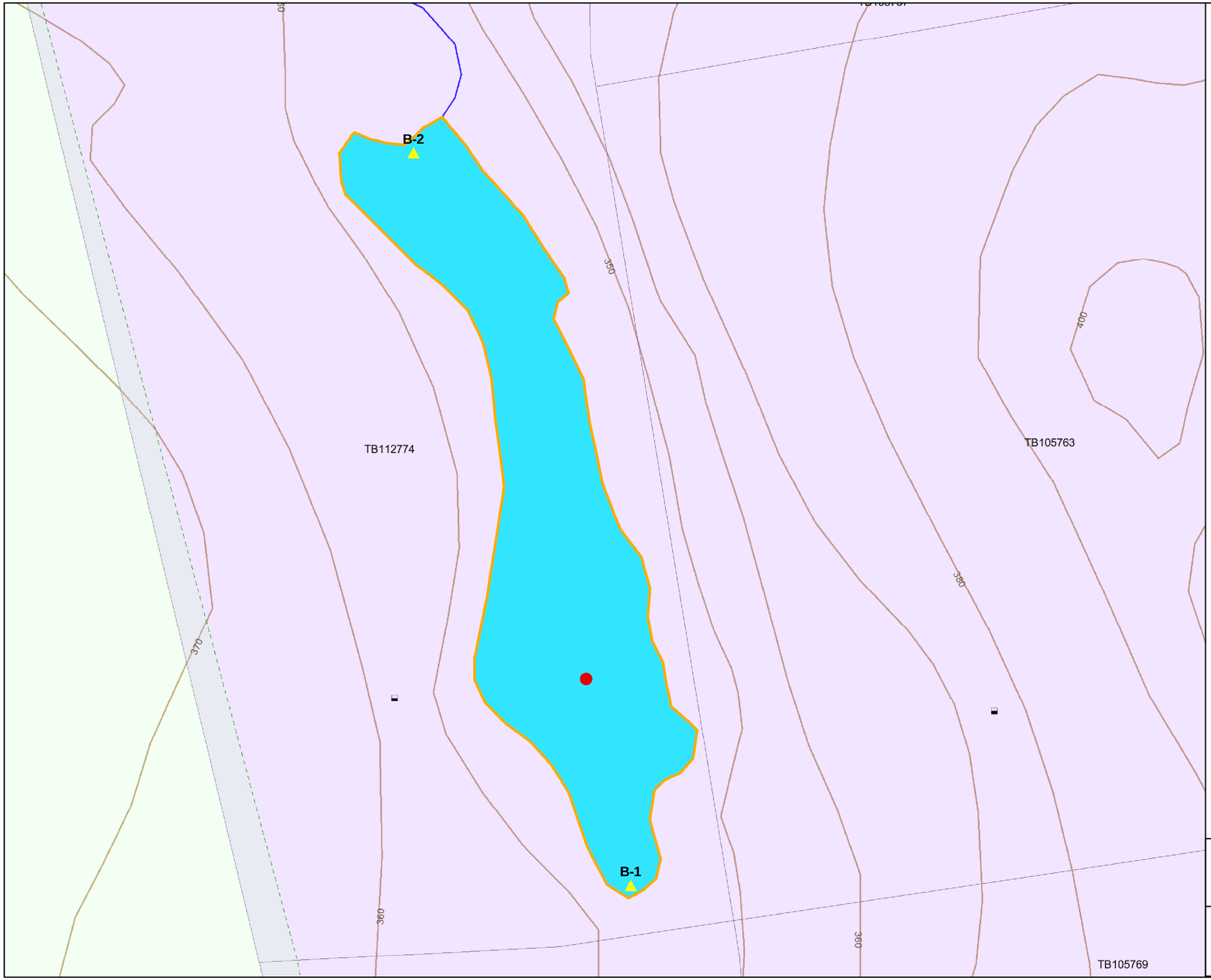
Monitoring Stations

Lake 4
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station

N	NTS
December 2006	NAR Environmental Consultants Inc.



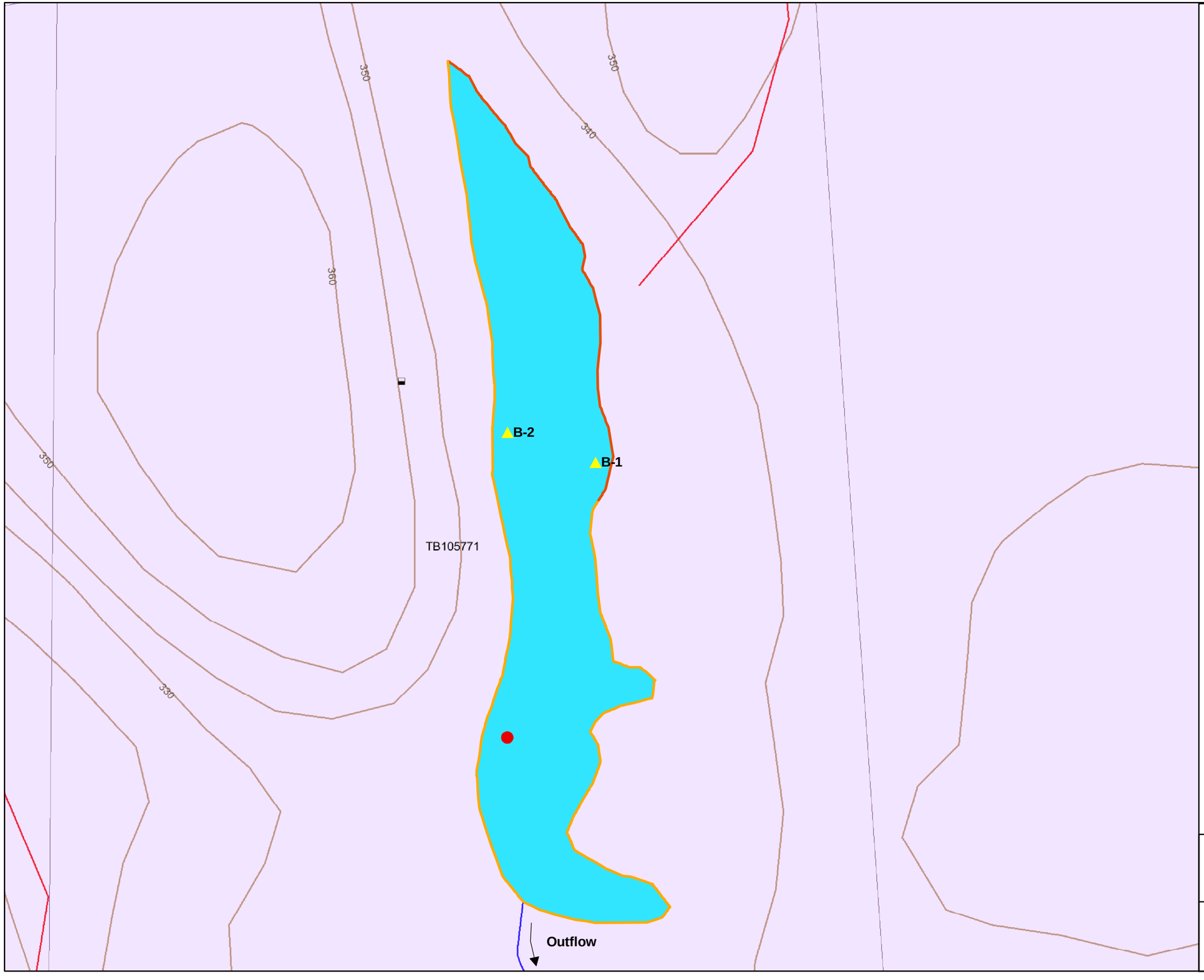
Monitoring Stations

Lake 3
Marathon PGM

Legend

- Water and sediment quality station
- Benthic station

N	NTS
December 2006	NAR Environmental Consultants Inc.



Monitoring Stations

Lake 2
Marathon PGM

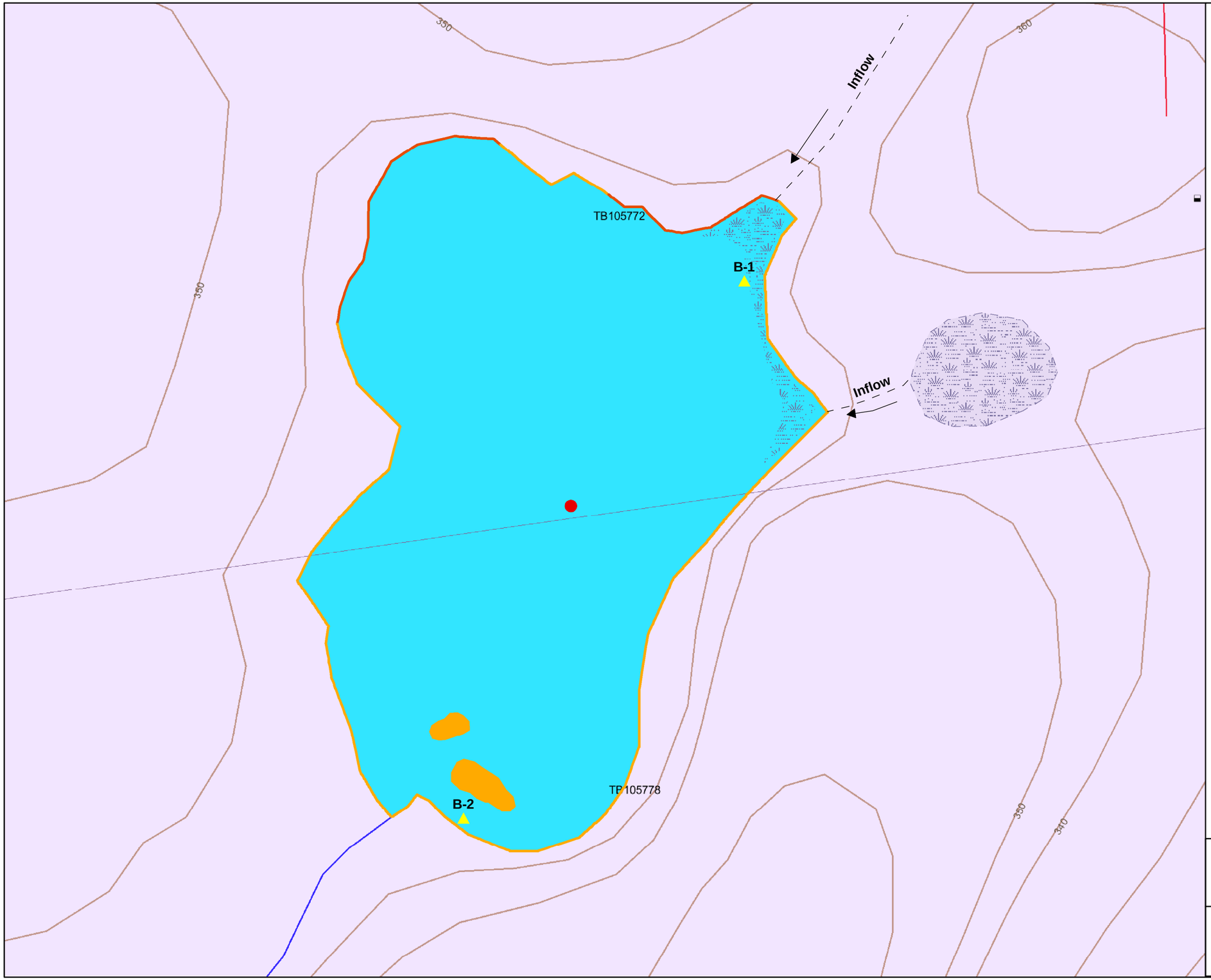
Legend

- Water and sediment quality station
- Benthic station

N	NTS
December 2006	NAR Environmental Consultants Inc.

Monitoring Stations

Lake 1
Marathon PGM



Legend

- Benthic station
- Water and sediment quality station
- Bedrock Island
- Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.

MARATHON PGM - Malpa Lake Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Malpa	84.5	0.21	<0.002	<0.5	<1	10.4	<0.5	<1	3.7	<0.1	1770	<1
Malpa Duplicate												

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Malpa	<1	<1	<0.1	20.8	<1	<1	<1	70	<1	1.4	<5	458

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Malpa	<10	12.3	<0.1	<1	<1	<1	<0.1	<0.05	6.86	<1	<1	<1

Parameter	Silver	Strontium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten	Turbidity
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L	NTU
MDL	0.1	1	0.1	1	1	1	0.1	0.08	0.002	6	1	0.2
PWQO	0.1		0.3						0.02		30	
Malpa	<0.1	13	<0.1	<1	<1	<1	5.6	0.46	<0.002	<6	<1	0.51

Parameter	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	1	1	1
PWQO	5	7		30/20	4
Malpa	<1	<1	<1	1.4	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #2 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Lake #2	124	0.073	<0.002	<0.5	<1	6.9	<0.5	<1	7.5	0.25	1830	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #2	<1	<1	0.28	24.9	2	<1	<1	310	<1	<1	<5	742

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #2	<10	13.2	<0.1	<1	4.7	<1			6.68	1.1	<1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #2	<0.1	15	<1	<0.1	<1	<1	<1	7.63	0.44	<0.002	<6	<1
Lake #2 Duplicate											<6	

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #2	4.9	<1	<1	<1	5.1	<1
Lake #2 Duplicate	4.8					

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #3 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	15		0.02	20	100/5		11		200	0.2		
Lake #3	190	0.0304	<0.002	<0.5	<1	9.4	<0.5	<1	5.5	0.31	817	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #3	<1	<1	0.41	18.5	<1	<1	<1	78	<1	1.3	<5	311

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #3	<10	51.8	<0.1	<1	1.8	<1			5.07	<1	<1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #3	<0.1	6.1	<1	<0.1	<1	1.8	<1	3.32	0.53	0.013	<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #3	1.2	<1	<1	<1	11.2	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #4 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Lake #4	207	0.0246	<0.002	<0.5	<1	7.2	<0.5	<1	4.4	0.18	1310	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #4	<1	<1	0.14	18.4	<1	<1	<1	239	<1	12	<5	281

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #4	<10	29.3	<0.1	<1	1.3	<1			5.57	<1	<1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #4	<0.1	7	<1	<0.1	<1	<1	1.2	4.42	0.36	0.013	<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #4	2	<1	<1	<1	5.5	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #5 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO			0.02	20	100/5		11		200	0.2		
Lake #5	141	0.0506	<0.002	<0.5	<1	7	<0.5	<1	5.1	0.27	1280	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #5	<1	<1	0.14	17.9	<1	<1	<1	170	<1	2.9	<5	297

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #5	<10	28.5	<0.1	<1	1.9	<1			5.9	<1	<1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #5	<0.1	6.8	<1	<0.1	<1	1.4	<1	4.42	0.3	0.002	<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #5	0.96	<1	<1	<1	5.2	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #6 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO			0.02	20	100/5		11		200	0.2		
Lake #6	290	0.0806	<0.002	<0.5	<1	10.2	<0.5	<1	5.1	0.25	1720	1.2

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #6	<1	<1	0.28	22.2	<1	<1	<1	425	<1	2.7	<5	310

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #6	<10	68.2	<0.1	<1	2.7	<1			5.64	<1	1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #6	<0.1	8.5	<1	<0.1	<1	1.6	1.5	5.58	0.48	0.016	<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #6	2.1	<1	<1	<1	6.7	1.2

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #7 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	15		0.02	20	100/5		11		200	0.2		
Lake #7	96.5	0.0528	<0.002	<0.5	<1	5.4	<0.5	<1	4.5	0.29	1720	<1
Lake #7 Duplicate	98.9			<0.5	<1	5.6	<0.5	<1	4.6	0.32	1720	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #7	<1	<1	0.1	20.8	<1	<1	<1	160	<1	3.3	<5	336
Lake #7 Duplicate	<1	<1	0.1		<1	<1	<1	160	<1	3.3	<5	340

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #7	<10	40.9	<0.1	<1	<1	<1			6.14	<1	1	<1
Lake #7 Duplicate		41.9	<0.1	<1	<1	<1				<1	<1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #7	<0.1	8	<1	<0.1	<1	1.1	<1	5.68	0.39	0.011	<6	<1
Lake #7 Duplicate	<0.1	7.8	<1	<0.1	<1	1.1	<1	5.69			<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #7	1	<1	<1	<1	5	<1
Lake #7 Duplicate	1	<1	<1	<1	5.2	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #8 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Lake #8	32.2	0.0318	<0.002	<0.5	<1	9.6	<0.5	<1	6	0.31	2860	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #8	<1	<1	<0.1	36.6	1.1	<1	<1	130	<1	2.3	<5	1210

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #8	<10	11.7	<0.1	<1	1.3	<1			6.64	<1	<1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #8	<0.1	22.3	<1	<0.1	<1	1.2	<1	12.1	0.35	0.017	<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #8	1.5	<1	<1	<1	2.3	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #9 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Lake #9	125	0.352	<0.002	<0.5	<1	13.7	<0.5	<1	<2	0.24	4060	1.5
Lake #9 Duplicate	123			<0.5	<1	13.7	<0.5	<1	<2	0.29	4020	1.4

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #9	<1	<1	0.17	53	7.3	<1	<1	170	1.1	8	<5	1820
Lake #9 Duplicate	<1	<1	0.15		7.2	<1	<1	150	1.1	8.1	<5	1800

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #9		7	<0.1	<1	<1	<1			6.51	<1	<1	<1
Lake #9 Duplicate	<10	6.9	<0.1	<1	<1	<1				<1	<1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #9	<0.1	34.3	<1	<0.1	<1	<1	1	17.6	0.68	0.015	<6	<1
Lake #9 Duplicate	<0.1	33.7	<1	<0.1	<1	<1	<1	17.5			<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #9	0.92	<1	<1	<1	7.6	<1
Lake #9 Duplicate		<1	<1	<1	7.3	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #10 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Lake #10	54.4	0.0767	<0.002	<0.5	<1	7.3	<0.5	<1	<2	0.11	2590	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #10	<1	<1	0.19	36.7	7.8	<1	<1	200	<1	3.4	<5	1530

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #10	<10	9.1	<0.1	<1	2	<1			6.67	1.1	<1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #10	<0.1	22.3	<1	<0.1	<1	<1	<1	12.8	0.48	0.0075	<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #10	1.3	<1	<1	<1	6.6	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #11 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Lake #11	48.3	0.0732	<0.002	<0.5	<1	6.5	<0.5	<1	<2	<0.1	2450	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #11	<1	<1	0.22	36	9.4	<1	<1	140	<1	2.8	<5	1450

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #11	14	8.1	<0.1	<1	2.5	<1			6.94	1	<1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #11	<0.1	21.2	<1	<0.1	<1	<1	<1	12.1	0.42	0.0054	<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #11	1.1	<1	<1	<1	6.3	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #12 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Lake #12	170	0.213	<0.002	<0.5	<1	4.1	<0.5	<1	6.2	<0.1	2480	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #12	<1	<1	0.19	27.4	8.5	<1	<1	130	<1	4.1	<5	1170

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #12	<10	5.4	<0.1	<1	2	<1	<0.1	<0.05	6.47	1.3	<1	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #12	<0.1	14.2	<1	<0.1	<1	<1	<1	9.52	0.52	0.0025	<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #12	0.94	<1	<1	<1	5.3	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective
Exceeds Provincial Water Quality Objective
Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #14 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Lake #14	340	0.0362	<0.002	<0.5	<1	12.8	<0.5	<1	<2	0.14	7240	<1
Lake #14 Duplicate		0.0371										

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #14	<1	1.4	0.22	93.8	8.3	<1	<1	460	<1	1.9	<5	2600
Lake #14 Duplicate												

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #14	30	16.7	<0.1	<1	1.3	<1			6.97	1.9	<1	<1
Lake #14 Duplicate												

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #14	<0.1	54.3	<1	<0.1	<1	<1	17.1	28.8	0.38	0.0017	<6	<1
Lake #14 Duplicate												

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #14	10.1	<1	<1	<1	5.3	1.5
Lake #14 Duplicate	10.2					

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #15 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Lake #15	199	0.018	<0.002	<0.5	<1	10.8	<0.5	<1	5.5	0.26	4900	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #15	<1	<1	0.24	64.6	5.2	<1	<1	548	<1	2.1	<5	1810

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #15	15	32.1	<0.1	<1	1.7	<1			6.59	1.9	1.3	<1

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #15	<0.1	32.4	<1	<0.1	<1	1.5	6.1	19.7	0.58	0.0348	<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #15	8.2	<1	<1	<1	3.6	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #16 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO	75		0.02	20	100/5		11		200	0.2		
Lake #16	66.4	0.0356	<0.002	<0.5	<1	16.1	<0.5	<1	<2	0.15	6940	<1
Lake #16 Duplicate												

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #16	<1	<1	0.18	95.1	7.5	<1	<1	214	<1	10.6	<5	3290
Lake #16 Duplicate				95								

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #16	14	11.5	<0.1	<1	1.5	<1			6.62	<1	<1	<1
Lake #16 Duplicate									6.7			

Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #16	<0.1	57.7	<1	<0.1	<1	<1	1.4	30.9	0.47	0.015	<6	<1
Lake #16 Duplicate												

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #16	1.8	<1	<1	<1	8.7	<1
Lake #16 Duplicate						

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective

MARATHON PGM - Lake #1 Water Quality Results, September 2006

Parameter	Aluminum	Ammonia	Ammonia	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Cerium
Units	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	0.002	Calc.	0.5	1	1	0.5	1	2	0.1	50	1
PWQO			0.02	20	100/5		11		200	0.2		
Lake #1	152	0.018	<0.002	<0.5	<1	10.1	<0.5	<1	4.6	0.25	1140	<1

Parameter	Cesium	Chromium	Cobalt	Conductivity	Copper	Europium	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Units	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	1	1	0.1	1	1	1	1	20	1	1	5	4
PWQO		100	0.9		5			300		5		
Lake #1	<1	<1	0.21	18.8	<1	<1	<1	69	<1	<1	<5	458
Lake #1 Duplicate				18.6								

Parameter	Alkalinity	Manganese	Mercury	Molybdenum	Nickel	Niobium	Nitrate	Nitrite	pH	Rubidium	Scandium	Selenium
Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	pH	µg/L	µg/L	µg/L
MDL	10	1	0.1	1	1	1	0.1	0.05	N/A	1	1	1
PWQO			0.2	10	25				6.5-8.5			100
Lake #1	<10	19.6	<0.1	<1	1.5	<1			5.89	<1	<1	<1
Lake #1 Duplicate									5.88			

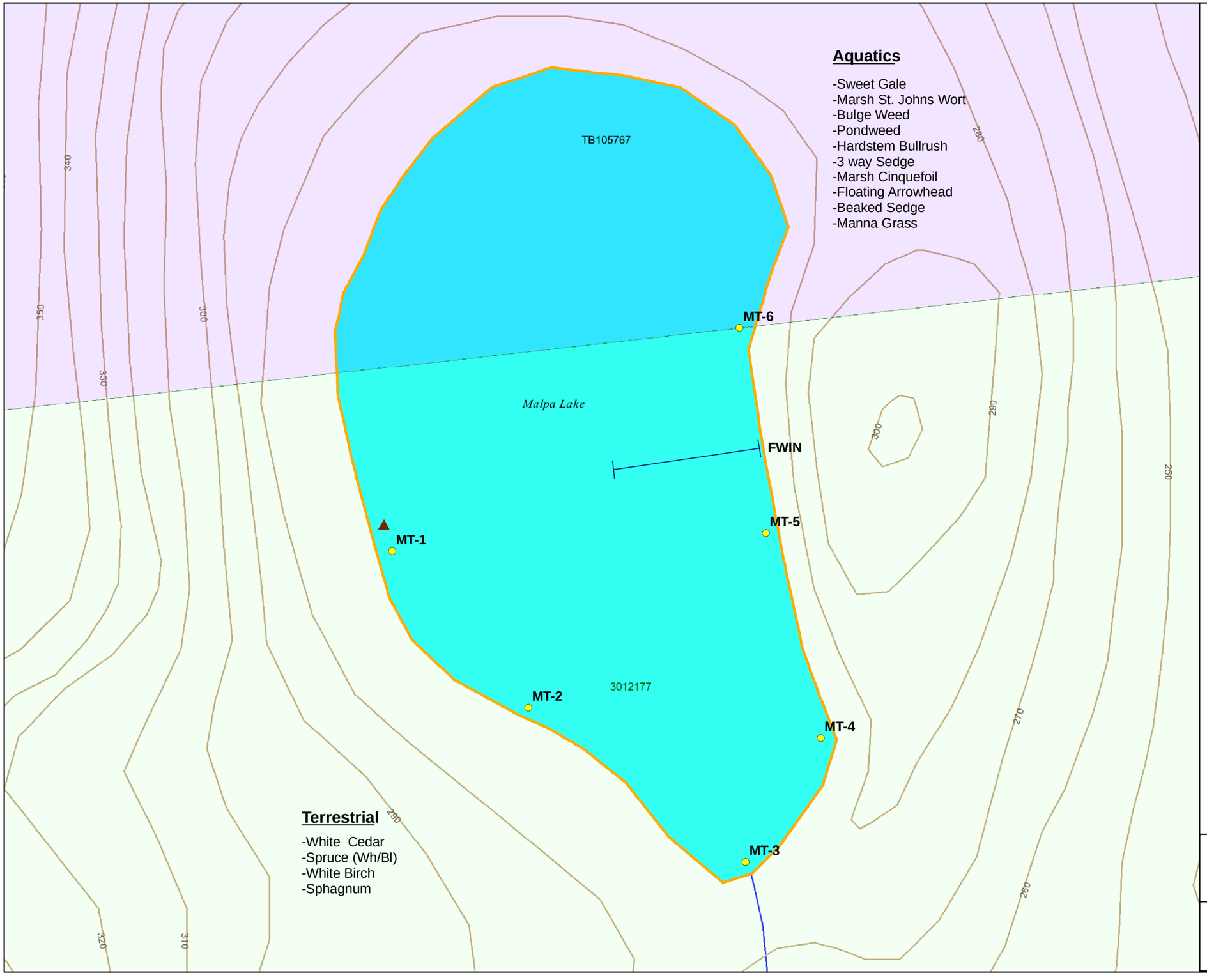
Parameter	Silver	Strontium	Tellurium	Thallium	Thorium	Tin	Titanium	Hardness	TKN	TP	TSS	Tungsten
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	ug/L
MDL	0.1	1	1	0.1	1	1	1	0.1	0.08	0.002	6	1
PWQO	0.1			0.3						0.02		30
Lake #1	<0.1	10.7	<1	<0.1	<1	1	<1	4.49	0.31	0.011	<6	<1

Parameter	Turbidity	Uranium	Vanadium	Yttrium	Zinc	Zirconium
Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L
MDL	0.2	1	1	1	1	1
PWQO		5	7		30/20	4
Lake #1	1.5	<1	<1	<1	3.9	<1

Notes: PWQO Provincial Water Quality Objective / Revised Provincial Water Quality Objective

Exceeds Provincial Water Quality Objective

Exceeds Revised Provincial Water Quality Objective



Fish Habitat and Fisheries assessment

Malpa Lake
Marathon PGM

Legend

- Minnow Traps
- Beaver Lodge
- Net Sets

Bottom Type

- Bedrock, Muck

N	NTS
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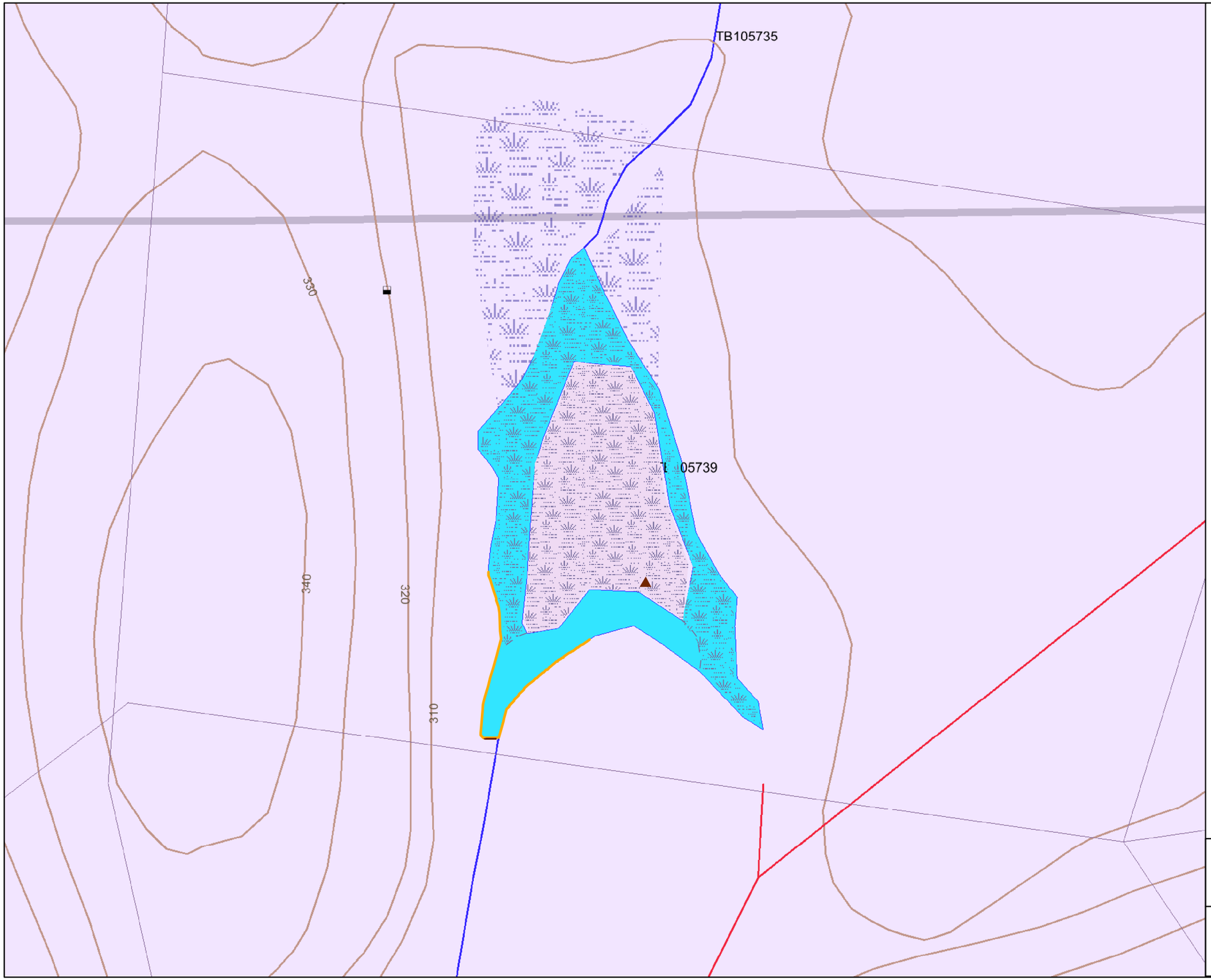

Fish Habitat and Fisheries assessment

Lake 16
Marathon PGM

Legend

- Beaver Dam
- Beaver Lodge

Bottom Type

- Bedrock, Boulder
- Wetland

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Fish Habitat and Fisheries assessment

Lake 15
Marathon PGM

Aquatics

-Water Smart Weed
-Marsh Cinquefoil
-Grasses

Terrestrial

-80% Speckled Alder
-Spruce (Bl/Wh)
-White Birch

MT-1
MT-2
MT-3
MT-4
MT-5
MT-6

Active Beaver Pond
Flooded Riparian Zone

TB105730

5729

300
290
310
290
290
280
270
320

Legend

- Minnow Traps
- Beaver Lodge
- Beaver Dam
- Wetland

N

NTS

December 2006

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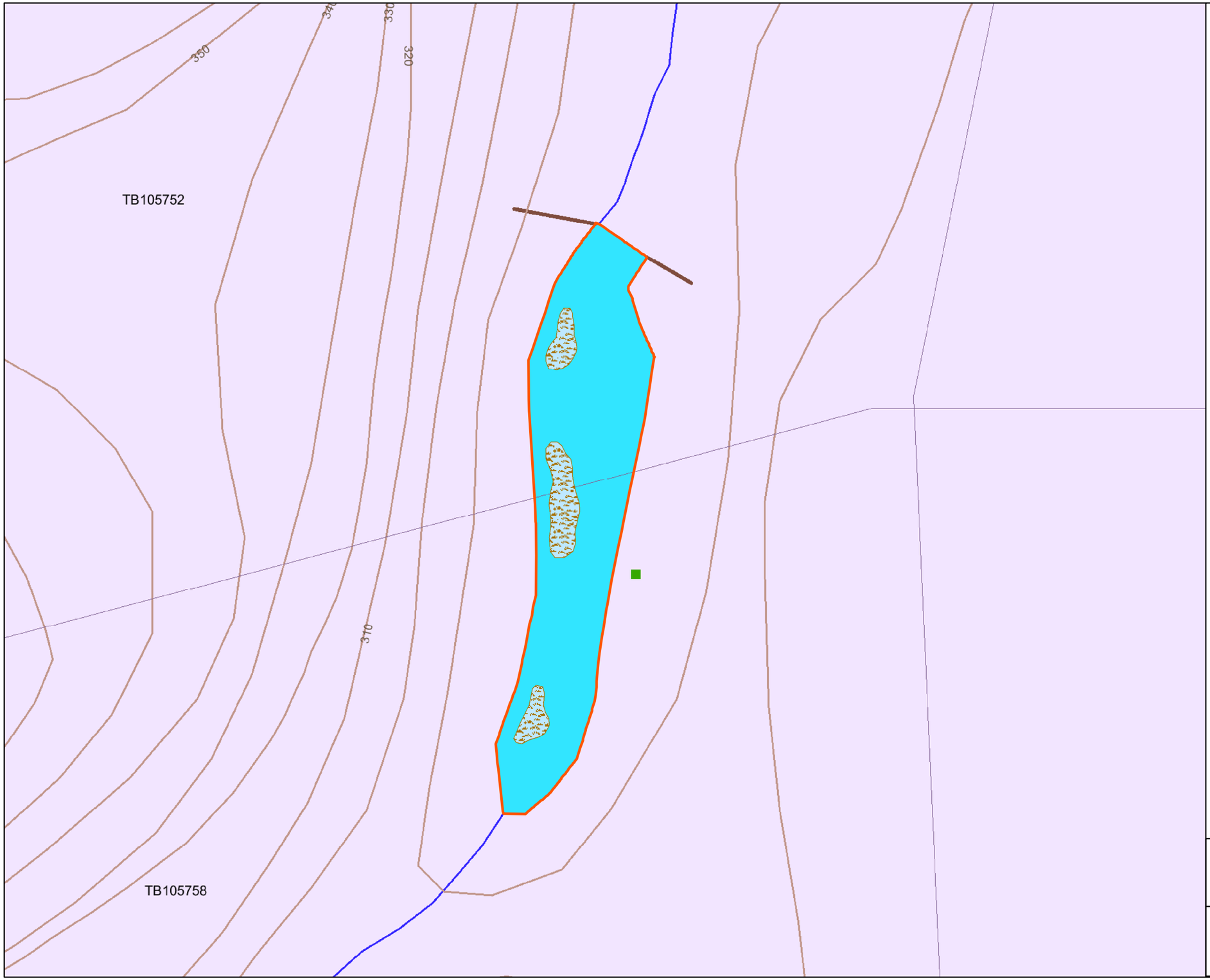

Fish Habitat and Fisheries assessment

Lake 14
Marathon PGM

Legend

- Pumping Station
- Macrophytes

Bottom Type

- Log/tree, Boulder, Pulpy Fibrous Peat

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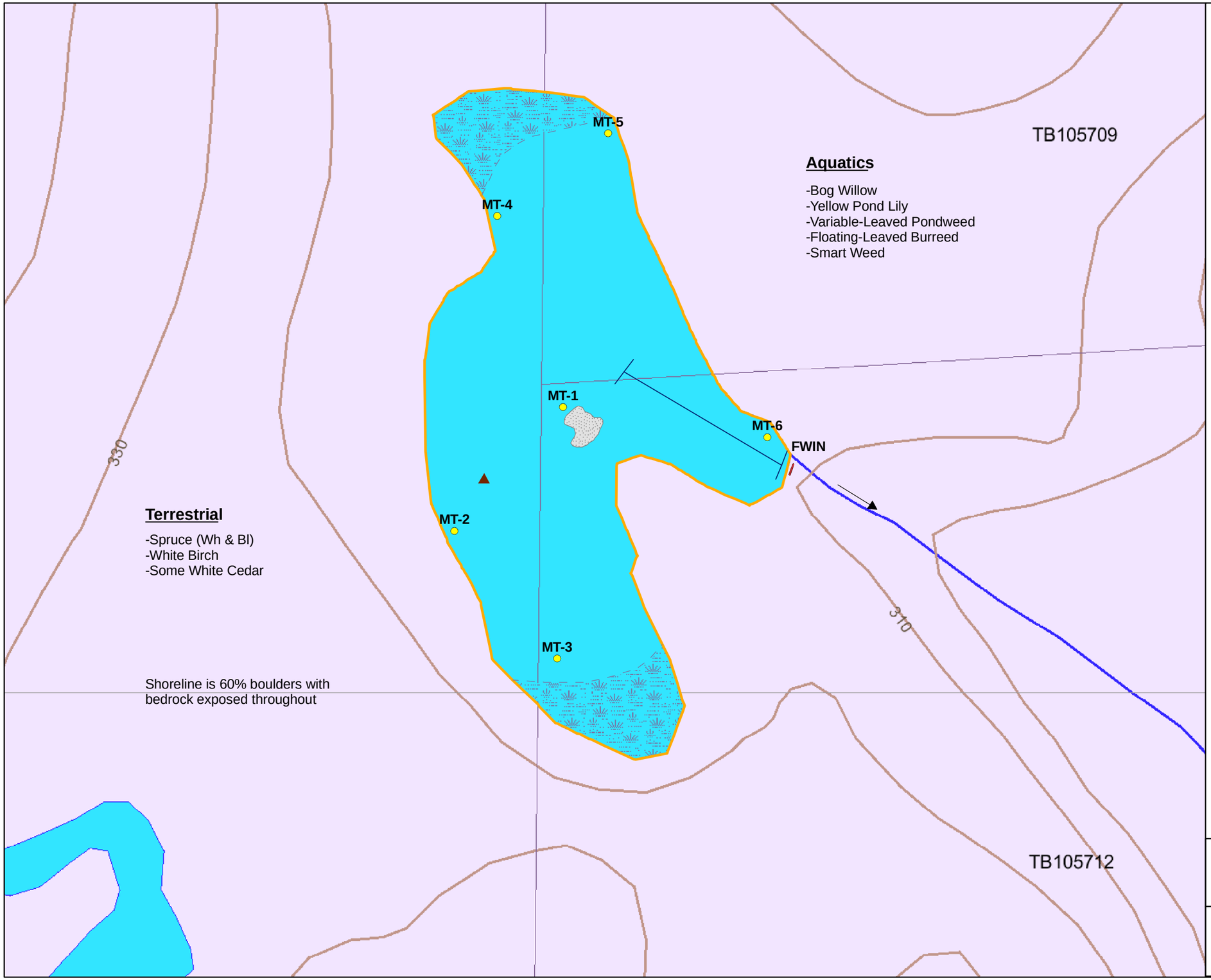
Fish Habitat and Fisheries assessment

Lake 12
Marathon PGM



Aquatics

-Bog Willow
-Yellow Pond Lily
-Variable-Leaved Pondweed
-Floating-Leaved Burreed
-Smart Weed

Terrestrial

-Spruce (Wh & Bl)
-White Birch
-Some White Cedar

Shoreline is 60% boulders with bedrock exposed throughout

Legend

- Minnow Traps
- Beaver Dam
- Beaver Lodge
- Net Sets

Bottom Type

- Boulder
- Wetland
- Rock island

N	NTS
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TB105734

Terrestrial

-Spruce (Wh & Bl)
-Balsam Fir
-Currant
-White Birch
-Tamarack

EXP

MT-6

MT-5

Lake 10

MT-4

Aquatics

-Yellow Pond Lily
-Floating-Leaved Burreed
-Hardstem Bullrush
-3 way Sedge
-Manna Grass
-Marsh St. Johns Wort
-Variable-Leaved Pondweed

330

FWIN

MT-3

MT-2

Lake 11

MT-1

TB105736

Fish Habitat and Fisheries assessment

Lake 10/11
Marathon PGM

Legend

Minnow Traps

Net Sets

Floating Bog

Sphagnum, Pitcher Plant

Bottom Type

RC-40%, BO-40%, BR-10%

BR-80%, BO-20% Logs down all along shore

Bottom Type Codes:

RC = rubble/cobble
BO = boulder
BR = bedrock

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Fish Habitat and Fisheries assessment

Lake 9
Marathon PGM

Aquatics

-Hardstem Bullrush
-Bulge Weed
-Yellow Pond Lily
-Burreed (common)
-Violet
-Sweet Gale
-Marsh Cinquefoil
-Wild Mint

Shoreline is 100% Bedrock, Boulder

Terrestrial

-Spruce (Bl/Wh)
-White Birch
-Balsam
-Mountain Ash
-Currant

TB105733

TB105

Small Inflow

SEMI-DRY

Lake 9

Outflow to Lakes 10/11
When beaver lodge is active

Outflow

360

Legend

- Beaver Dam
- Beaver Pond
- Old Beaver Lodge

Bottom Type

- Bedrock, Boulder with log/tree cover
- Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.

Fish Habitat and Fisheries assessment

Lake 8
Marathon PGM

Aquatics

-Smartweed
-Tape Grass
-Floating-Leaved Pondweed
-Variable-Leaved Pondweed
-Arrowhead (Floating Leaved)
-Northern Water Milfoil
-Marsh Cinquefoil
-Beaked Sedge
-Sweet Gale
-Blue Flag Iris

-Shoreline is 100% Boulder & Fractured Bedrock
-Very steep to West
-Moderately steep to East
-Floating Sphagnum is convuluted
and broken up into patches throughout

MT-6
MT-5
MT-4
MT-2
MT-3
MT-1
Lake 8

TB105721
TB105735
TB105739
TB105726
TB105725

Legend

Minnow Traps

Bottom Type

Boulder, Fractured Bedrock

Wetland

N

NTS

December 2006

NAR Environmental Consultants Inc.

Fish Habitat and Fisheries assessment

Lake 7
Marathon PGM

Terrestrial

-Spruce(Wh/Bl)
-White Birch
-Balsam Fir
-Poplar (sparse)

Aquatics

-Floating-Leaved Pondweed
-Variable-Leaved Pondweed
-Sweet Gale
-Marsh St. Johns Wort
-3 way Sedge
-Beaked Sedge
-Floating Arrowhead

Shoreline is
100% Bedrock & Fractured Bedrock

FWIN
MT-1
MT-2
EXP
MT-3
MT-5
MT-4
MT-6
Active Beaver Dam
Flooded Riparian Zone

TB105724
TB105728
TB105727
370
360
350
380

Legend

- Beaver Dam
- Minnow Traps
- Net Sets

Bottom Type

- Bedrock, Fractured bedrock
- Floating Sphagnum
- Rock
- Wetland

N

NTS

December 2006

NAR Environmental Consultants Inc.

Fish Habitat and Fisheries assessment

Lake 6
Marathon PGM

MT-1

MT-2

MT-3

380

360

Aquatics

-Floating Sphagnum
-Sweet Gale
-Bog Willow
-Marsh St. Johns Wort
-Northern Marsh Violet
-Variable-Leaved Pondweed
-Floating-Leaved Pondweed

Terrestrial

-Spruce (Wh/Bl)
-White Birch
-Balsam Fir
-Poplar (sparse)

Legend

Minnow Traps

Bottom Type

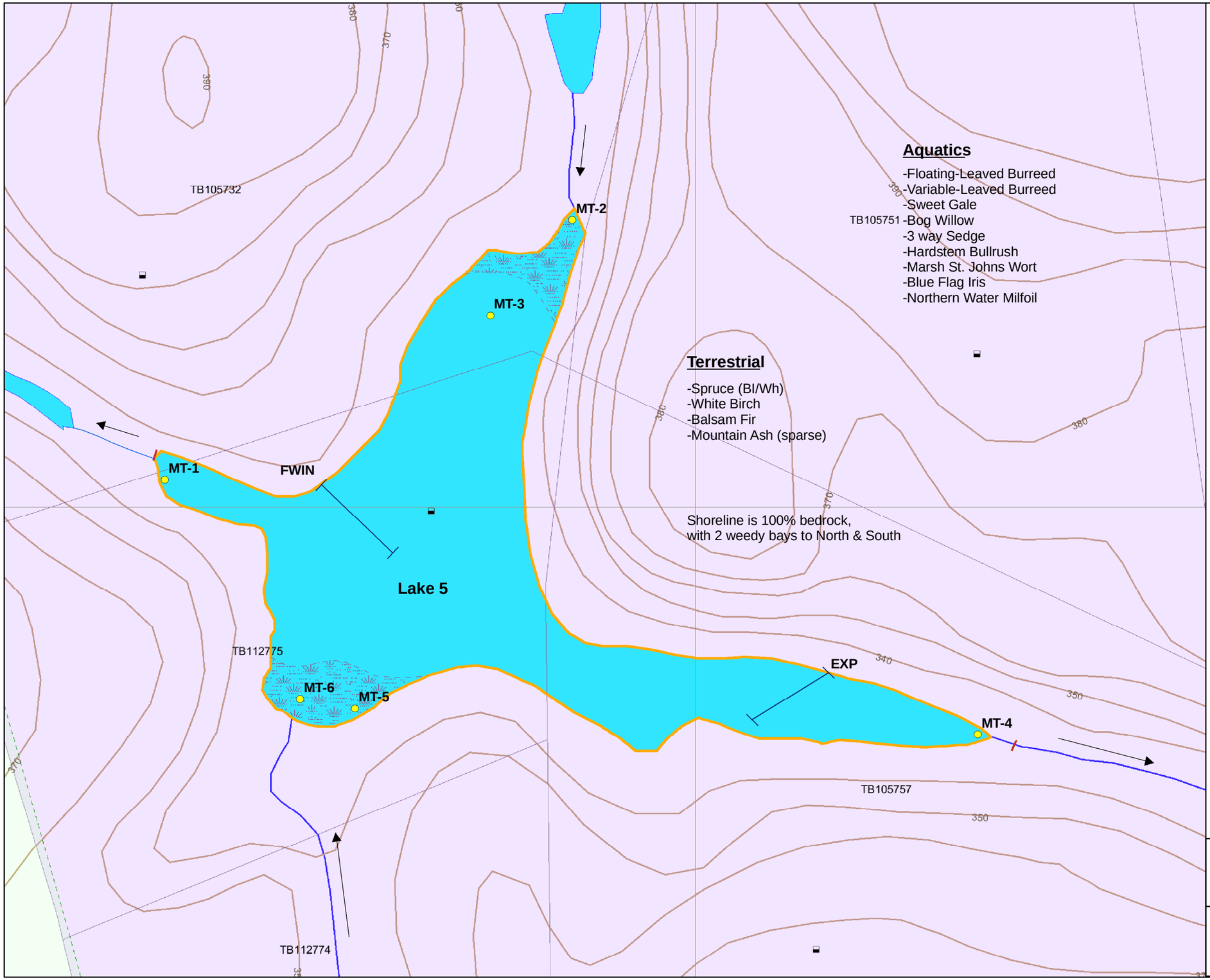
Bedrock, Fractured bedrock

Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.

Fish Habitat and Fisheries assessment

Lake 5
Marathon PGM



Aquatics

-Floating-Leaved Burreed
-Variable-Leaved Burreed
-Sweet Gale
-Bog Willow
-3 way Sedge
-Hardstem Bullrush
-Marsh St. Johns Wort
-Blue Flag Iris
-Northern Water Milfoil

Terrestrial

-Spruce (Bl/Wh)
-White Birch
-Balsam Fir
-Mountain Ash (sparse)

Shoreline is 100% bedrock,
with 2 weedy bays to North & South

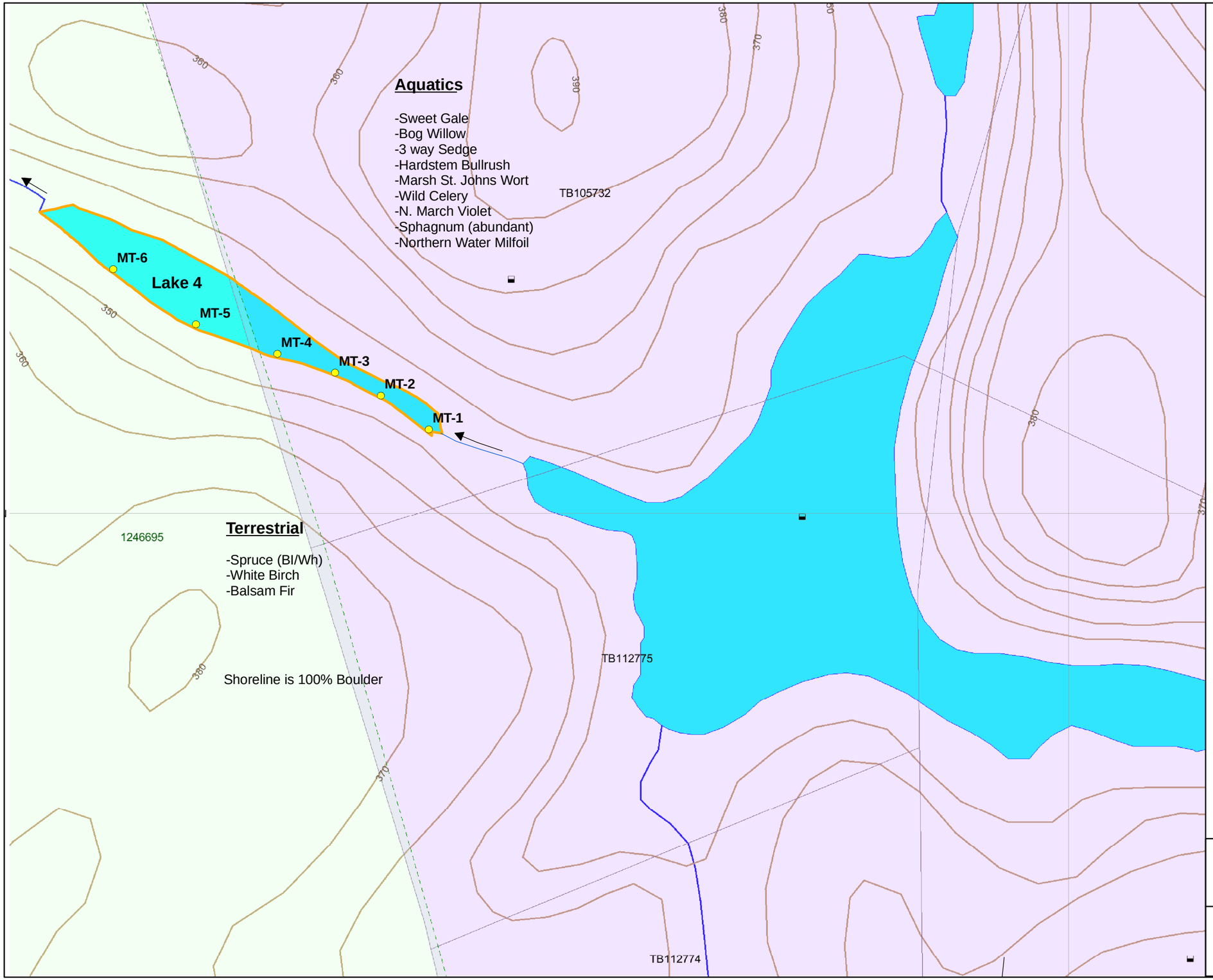
Legend

- Minnow Traps
- Beaver Dam
- Net Sets

Bottom Type

- Bedrock
- Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.



Fish Habitat and Fisheries assessment

Lake 4
Marathon PGM

Legend

Minnow Traps

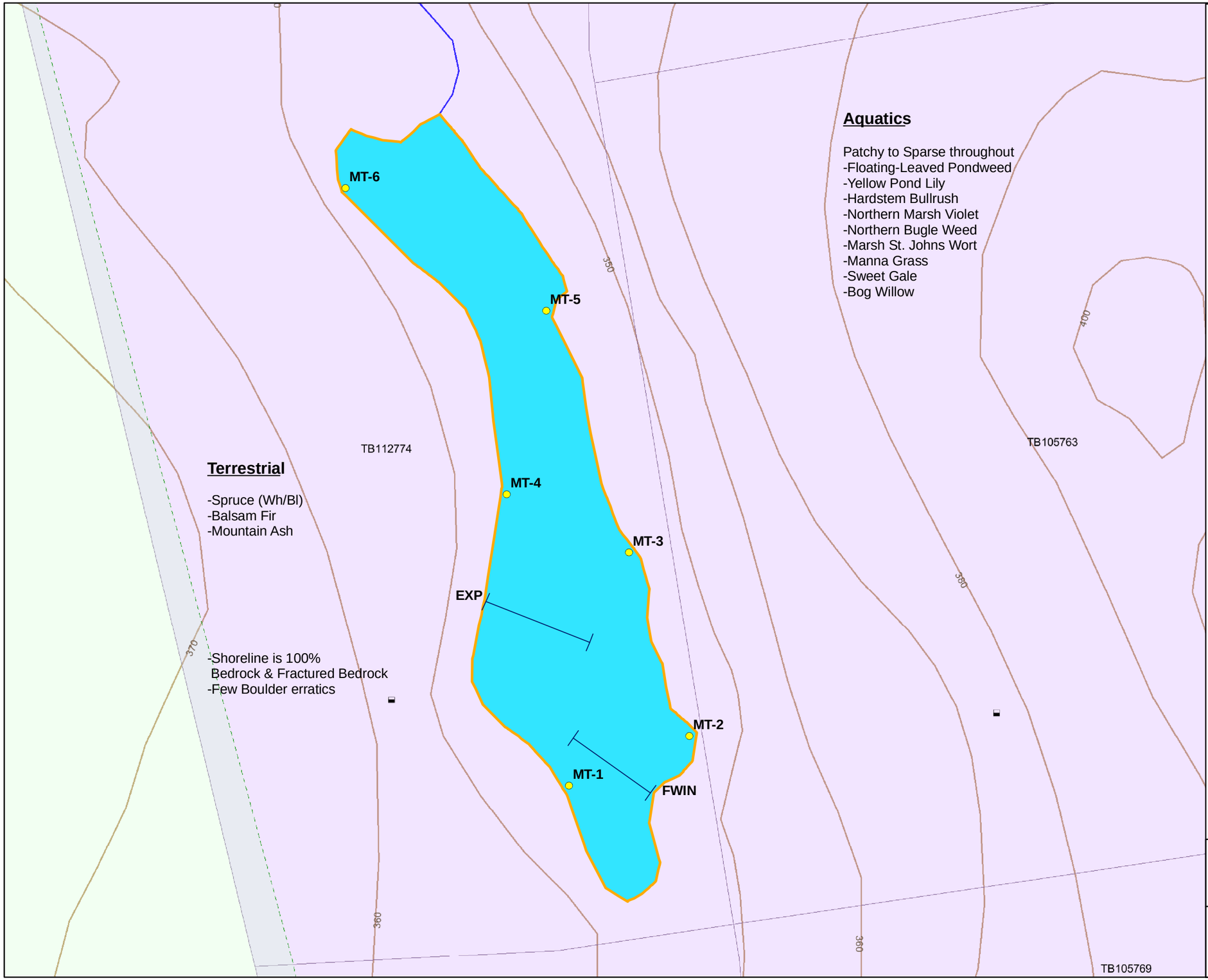
Bottom Type

Boulder

N	NTS
December 2006	NAR Environmental Consultants Inc.

Fish Habitat and Fisheries assessment

Lake 3
Marathon PGM



Aquatics

Patchy to Sparse throughout
-Floating-Leaved Pondweed
-Yellow Pond Lily
-Hardstem Bullrush
-Northern Marsh Violet
-Northern Bugle Weed
-Marsh St. Johns Wort
-Manna Grass
-Sweet Gale
-Bog Willow

Terrestrial

-Spruce (Wh/Bl)
-Balsam Fir
-Mountain Ash

-Shoreline is 100%
Bedrock & Fractured Bedrock
-Few Boulder erratics

Legend

- Minnow Traps
- Net Sets

Bottom Type

- Bedrock, Boulder

N	NTS
December 2006	NAR Environmental Consultants Inc.

Fish Habitat and Fisheries assessment

Lake 2
Marathon PGM

Terrestrial

-Mountain Maple
-Alder
-Canada Yew
-Spruce
-White Birch
-Balsam Fir
-Mountain Ash
-White Cedar

Aquatics

-Hardstem Bullrush
-Floating-Leaved Pondweed
-3 way Sedge
-Wild Celery
-Manna Grass
-Marsh St. John's Wort
-Flat-Stemmed Pondweed
-Bugle Weed

MT-3
MT-2
MT-4
MT-5
MT-1
MT-6
FWIN
Outflow
TB105771

350
340
360
330

Legend

- Minnow Traps
- Beaver Lodge
- Beaver Dam
- Net Sets

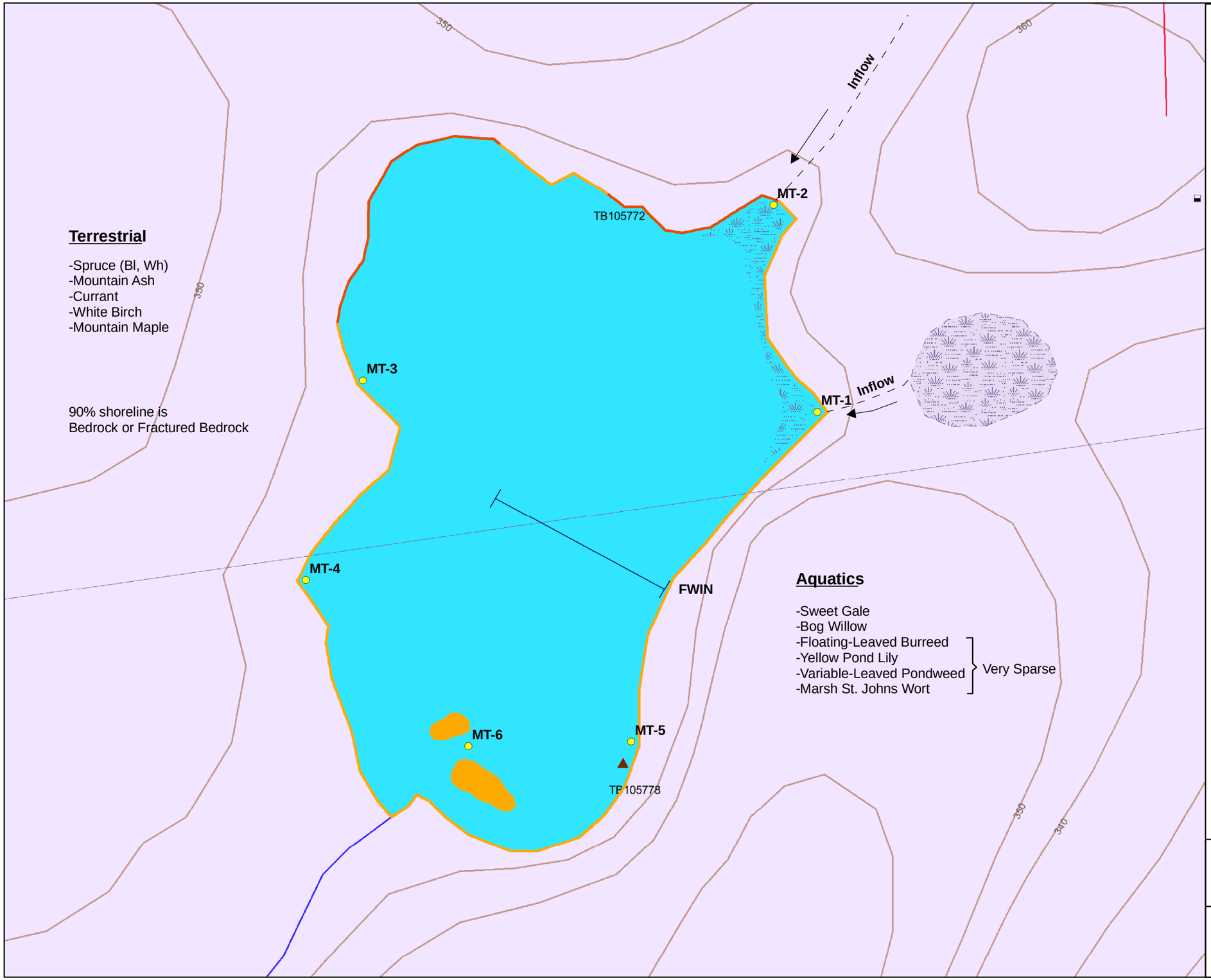
Bottom Type

- Bedrock, Rubble/cobble, Detritus
- Bedrock, Boulder

N	NTS
December 2006	NAR Environmental Consultants Inc.

Fish Habitat and Fisheries assessment

Lake 1
Marathon PGM



Terrestrial

-Spruce (Bl, Wh)
-Mountain Ash
-Currant
-White Birch
-Mountain Maple

90% shoreline is
Bedrock or Fractured Bedrock

Aquatics

-Sweet Gale
-Bog Willow
-Floating-Leaved Burreed
-Yellow Pond Lily
-Variable-Leaved Pondweed
-Marsh St. Johns Wort

} Very Sparse

Legend

- Minnow Traps
- Beaver Lodge
- Net Sets
- Bedrock Island

Bottom Type

- Rubble/cobble, Gravel/pebble
- Bedrock
- Wetland

N	NTS
December 2006	NAR Environmental Consultants Inc.

TESTMARK Laboratories Ltd.

Committed to Quality and Service

Analytical Report

Client: Jan Linquist
Company: NAR Environmental Consulting
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Email: jan.linquist@bellnet.ca

Work Order Number: **28010**
Date Order Received: 10/2/2006
Regulation: PWQO
PO #:
Project #: Marathon PGM

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
Malpa Lake	100576	Water		9/28/2006	
Lake #12	100577	Water		9/28/2006	

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis **Instrument group:** Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis **Instrument group:** Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography **Instrument group:** Dionex DX300 HPIC	Mod. SW846-9056
CONDWATER	Determination of conductivity in water **Instrument group:** Radiometer Meterlab Ion 450	Mod. APHA-2510
Hardness	Determination of Total Hardness **Instrument group:** Calculation	Mod. APHA-2340B
ICPMS Tot. Water	Determination of Total Metals in Water by ICP/MS with Digestion **Instrument group:** Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode **Instrument group:** Radiometer Meterlab Ion 450	Mod. APHA-4500
TKN Water	Determination of Total Kjedahl Nitrogen in Waters **Instrument group:** Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion **Instrument group:** Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry **Instrument group:** Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry **Instrument group:** Hach Ratio Nephelometer	Mod. APHA-2130

Sample Notes: Please note: The total phosphorus analysis for sample 100576 was performed on a sample obtained from the PET container (usually from glass).

This report has been approved by:

Dr. Xiaojing Li
Chief Chemist

Dr. Robert Hamel
Inorganic Section Head

Sample Data:

Sample Name: Malpa Lake **Date: 9/28/2006** **Matrix: Water** **Lab #: 100576**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.21	mg/L	20061006.R42A

Anions Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Nitrate (as N)	0.1	<0.1	mg/L	20061003.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20061003.R5A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	20.8	µS/cm	20061003.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	5.6	mg/L	20061010.R90C

ICPMS Tot. Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Aluminum	1	84.5	ug/L	20061010.R13E
Total Antimony	0.5	<0.5	ug/L	20061010.R13E
Total Arsenic	1	<1	ug/L	20061010.R13E
Total Barium	1	10.4	ug/L	20061010.R13E
Total Berylium	0.5	<0.5	ug/L	20061010.R13E
Total Bismuth	1	<1	ug/L	20061010.R13E
Total Boron	2	3.7	ug/L	20061010.R13E
Total Cadmium	0.1	<0.1	ug/L	20061010.R13E
Total Calcium	50	1770	ug/L	20061010.R13E
Total Cerium	1	<1	ug/L	20061010.R13E
Total Cesium	1	<1	ug/L	20061010.R13E
Total Chromium	1	<1	ug/L	20061010.R13E
Total Cobalt	0.1	<0.1	ug/L	20061010.R13E
Total Copper	1	<1	ug/L	20061010.R13E
Total Europium	1	<1	ug/L	20061010.R13E
Total Gallium	1	<1	ug/L	20061010.R13E
Total Iron	20	70	ug/L	20061010.R13E
Total Lanthanum	1	<1	ug/L	20061010.R13E
Total Lead	1	1.4	ug/L	20061010.R13E
Total Lithium	5	<5	ug/L	20061010.R13E
Total Magnesium	4	458	ug/L	20061010.R13E
Total Manganese	1	12.3	ug/L	20061010.R13E
Total Mercury	0.1	<0.1	ug/L	20061010.R13E
Total Molybdenum	1	<1	ug/L	20061010.R13E
Total Nickel	1	<1	ug/L	20061010.R13E

Sample Name: Malpa Lake **Date: 9/28/2006** **Matrix: Water** **Lab #: 100576**

ICPMS Tot. Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Niobium	1	<1	ug/L	20061010.R13E
Total Rubidium	1	<1	ug/L	20061010.R13E
Total Scandium	1	<1	ug/L	20061010.R13E
Total Selenium	1	<1	ug/L	20061010.R13E
Total Silver	0.1	<0.1	ug/L	20061010.R13E
Total Strontium	1	13	ug/L	20061010.R13E
Total Thallium	0.1	<0.1	ug/L	20061010.R13E
Total Thorium	1	<1	ug/L	20061010.R13E
Total Tin	1	<1	ug/L	20061010.R13E
Total Titanium	1	<1	ug/L	20061010.R13E
Total Tungsten	1	<1	ug/L	20061010.R13E
Total Uranium	1	<1	ug/L	20061010.R13E
Total Vanadium	1	<1	ug/L	20061010.R13E
Total Yttrium	1	<1	ug/L	20061010.R13E
Total Zinc	1	1.4	ug/L	20061010.R13E
Total Zirconium	1	<1	ug/L	20061010.R13E

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.86	pH	20061003.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.46	mg/L	20061011.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	<0.002	mg/L	20061006.R23.2B

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	0.51	NTU	20061003.R21A

Sample Name: Lake #12 **Date: 9/28/2006** **Matrix: Water** **Lab #: 100577**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.213	mg/L	20061006.R42A

Sample Name: Lake #12 **Date: 9/28/2006** **Matrix: Water** **Lab #: 100577**

Anions Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Nitrate (as N)	0.1	<0.1	mg/L	20061003.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20061003.R5A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	27.4	µS/cm	20061003.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	9.52	mg/L	20061010.R90C

ICPMS Tot. Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Aluminum	1	170	ug/L	20061010.R13E
Total Antimony	0.5	<0.5	ug/L	20061010.R13E
Total Arsenic	1	<1	ug/L	20061010.R13E
Total Barium	1	4.1	ug/L	20061010.R13E
Total Berylium	0.5	<0.5	ug/L	20061010.R13E
Total Bismuth	1	<1	ug/L	20061010.R13E
Total Boron	2	6.2	ug/L	20061010.R13E
Total Cadmium	0.1	<0.1	ug/L	20061010.R13E
Total Calcium	50	2480	ug/L	20061010.R13E
Total Cerium	1	<1	ug/L	20061010.R13E
Total Cesium	1	<1	ug/L	20061010.R13E
Total Chromium	1	<1	ug/L	20061010.R13E
Total Cobalt	0.1	0.19	ug/L	20061010.R13E
Total Copper	1	8.5	ug/L	20061010.R13E
Total Europium	1	<1	ug/L	20061010.R13E
Total Gallium	1	<1	ug/L	20061010.R13E
Total Iron	20	130	ug/L	20061010.R13E
Total Lanthanum	1	<1	ug/L	20061010.R13E
Total Lead	1	4.1	ug/L	20061010.R13E
Total Lithium	5	<5	ug/L	20061010.R13E
Total Magnesium	4	1170	ug/L	20061010.R13E
Total Manganese	1	5.4	ug/L	20061010.R13E
Total Mercury	0.1	<0.1	ug/L	20061010.R13E
Total Molybdenum	1	<1	ug/L	20061010.R13E
Total Nickel	1	2	ug/L	20061010.R13E
Total Niobium	1	<1	ug/L	20061010.R13E
Total Rubidium	1	1.3	ug/L	20061010.R13E
Total Scandium	1	<1	ug/L	20061010.R13E
Total Selenium	1	<1	ug/L	20061010.R13E
Total Silver	0.1	<0.1	ug/L	20061010.R13E
Total Strontium	1	14.2	ug/L	20061010.R13E
Total Thallium	0.1	<0.1	ug/L	20061010.R13E
Total Thorium	1	<1	ug/L	20061010.R13E

Sample Name: Lake #12 **Date: 9/28/2006** **Matrix: Water** **Lab #: 100577**

ICPMS Tot. Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Tin	1	<1	ug/L	20061010.R13E
Total Titanium	1	<1	ug/L	20061010.R13E
Total Tungsten	1	<1	ug/L	20061010.R13E
Total Uranium	1	<1	ug/L	20061010.R13E
Total Vanadium	1	<1	ug/L	20061010.R13E
Total Yttrium	1	<1	ug/L	20061010.R13E
Total Zinc	1	5.3	ug/L	20061010.R13E
Total Zirconium	1	<1	ug/L	20061010.R13E

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.47	pH	20061003.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.52	mg/L	20061004.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.0025	mg/L	20061006.R23.2B

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	0.94	NTU	20061003.R21A

MDL Method detection limit or minimum reporting limit.
% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.
QAQCID This is a unique reference to the quality control data set used to generate the reported value.
Data reported for organic analysis in soil samples are corrected for moisture content
Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.
INT Interferences
TNTC To numerous to count
ND Not detected

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	205	180	20061004.R69A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	10	<10	<10	20061004.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Ammonia (as N)	0.002	mg/L	0.6	0.54	0.4	20061006.R42A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20061006.R42A

Anions Water

10 ppm Blank Spike						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Nitrate (as N)	0.1	mg/L	12	10.2	8	20061003.R5A
Nitrite (as N)	0.05	mg/L	12	10	8	20061003.R5A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20061003.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20061003.R5A

CONDWATER

100 µS Blank Spike						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Conductivity	2	µS/cm	110	106	90	20061003.R12A

ICPMS Tot. Water

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Aluminum	1	ug/L	1	<1	<1	20061010.R13E
Total Antimony	1	ug/L	1	<1	<1	20061010.R13E
Total Arsenic	1	ug/L	1	<1	<1	20061010.R13E
Total Barium	1	ug/L	1	<1	<1	20061010.R13E
Total Berylium	1	ug/L	1	<1	<1	20061010.R13E
Total Bismuth	1	ug/L	1	<1	<1	20061010.R13E
Total Boron	2	ug/L	2	<2	<2	20061010.R13E
Total Cadmium	1	ug/L	1	<1	<1	20061010.R13E

ICPMS Tot. Water

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Cerium	1	ug/L	1	<1	<1	20061010.R13E
Total Cesium	1	ug/L	1	<1	<1	20061010.R13E
Total Chromium	1	ug/L	1	<1	<1	20061010.R13E
Total Cobalt	1	ug/L	1	<1	<1	20061010.R13E
Total Copper	1	ug/L	1	<1	<1	20061010.R13E
Total Europium	1	ug/L	1	<1	<1	20061010.R13E
Total Gallium	1	ug/L	1	<1	<1	20061010.R13E
Total Iron	20	ug/L	20	<20	<20	20061010.R13E
Total Lanthanum	1	ug/L	1	<1	<1	20061010.R13E
Total Lead	1	ug/L	1	<1	<1	20061010.R13E
Total Lithium	5	ug/L	5	<5	<5	20061010.R13E
Total Magnesium	4	ug/L	4	<4	<4	20061010.R13E
Total Manganese	1	ug/L	1	<1	<1	20061010.R13E
Total Mercury	0.1	ug/L	0.1	<0.1	<0.1	20061010.R13E
Total Molybdenum	1	ug/L	1	<1	<1	20061010.R13E
Total Nickel	1	ug/L	1	<1	<1	20061010.R13E
Total Niobium	1	ug/L	1	<1	<1	20061010.R13E
Total Rubidium	1	ug/L	1	<1	<1	20061010.R13E
Total Selenium	1	ug/L	1	<1	<1	20061010.R13E
Total Silver	5	ug/L	5	<5	<5	20061010.R13E
Total Strontium	1	ug/L	1	<1	<1	20061010.R13E
Total Thallium	1	ug/L	1	<1	<1	20061010.R13E
Total Thorium	1	ug/L	1	<1	<1	20061010.R13E
Total Tin	1	ug/L	1	<1	<1	20061010.R13E
Total Tungsten	1	ug/L	1	<1	<1	20061010.R13E
Total Uranium	1	ug/L	1	<1	<1	20061010.R13E
Total Vanadium	1	ug/L	1	<1	<1	20061010.R13E
Total Yttrium	1	ug/L	1	<1	<1	20061010.R13E
Total Zinc	1	ug/L	1	<1	<1	20061010.R13E
Total Zirconium	1	ug/L	1	<1	<1	20061010.R13E

Blank Spike (1011)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Aluminum	1	ug/L	600	487	400	20061010.R13E
Total Arsenic	1	ug/L	120	90.5	80	20061010.R13E
Total Barium	1	ug/L	120	99.1	80	20061010.R13E
Total Berylium	1	ug/L	125	95.6	75	20061010.R13E
Total Boron	2	ug/L	125	90.8	75	20061010.R13E
Total Cadmium	1	ug/L	120	101	80	20061010.R13E
Total Calcium	50	ug/L	1200	892	800	20061010.R13E
Total Chromium	1	ug/L	120	90.4	80	20061010.R13E
Total Cobalt	1	ug/L	120	91.5	80	20061010.R13E
Total Copper	1	ug/L	120	93.8	80	20061010.R13E
Total Iron	20	ug/L	600	469	400	20061010.R13E
Total Lead	1	ug/L	120	101	80	20061010.R13E
Total Magnesium	4	ug/L	1200	920	800	20061010.R13E

ICPMS Tot. Water

Blank Spike (1011)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Manganese	1	ug/L	120	92.5	80	20061010.R13E
Total Molybdenum	1	ug/L	120	97.8	80	20061010.R13E
Total Nickel	1	ug/L	120	93.3	80	20061010.R13E
Total Selenium	1	ug/L	120	85	80	20061010.R13E
Total Thallium	1	ug/L	120	98.9	80	20061010.R13E
Total Vanadium	1	ug/L	120	90.3	80	20061010.R13E
Total Zinc	1	ug/L	120	82.5	80	20061010.R13E

pHWATER

pH 7						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
pH	N/A	pH	7.1	6.99	6.9	20061003.R2A

TKN Water

Blank Spike (0.5 mg/L)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.008	mg/L	0.6	0.542	0.4	20061004.R58A
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.008	mg/L	0.6	0.442	0.4	20061011.R58A

Method Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.008	mg/L	0.08	<0.008	<0.008	20061004.R58A
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.008	mg/L	0.08	<0.008	<0.008	20061011.R58A

TP Water

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.002	mg/L	0.005	<0.002	<0.002	20061006.R23.2B

Blank Spike (0.05 mg/L)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.002	mg/L	0.06	0.0446	0.04	20061006.R23.2B

TSS

160 mg/L Control						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Suspended Solids	6	mg/L	192	157	128	20061006.R27A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Suspended Solids	3	mg/L	<3	<3	<3	20061006.R27A

Turbidity

1 NTU Control						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Turbidity	N/A	NTU	0.84	0.78	0.72	20061003.R21A

Turbidity Water						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20061003.R21A

UCL Upper Control Limit
LCL Lower Control Limit

TESTMARK Laboratories Ltd.

Committed to Quality and Service

(Revised) Analytical Report

Client: Jan Linquist
Company: NAR Environmental Consulting
Address: 1130 Southlane Road
Sudbury, ON, P3G 1N6
Phone: (705) 522-5990
Fax: (705) 522-1898
Email: jan.linquist@bellnet.ca

Work Order Number: **28008**
Date Order Received: 10/2/2006
Regulation: PSQG
PO #:
Project #: Marathon PGM

Supercedes report printed :10/12/2006

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

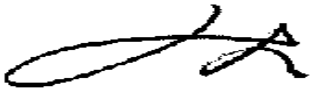
Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
Malpa Lake	100573	Sediment		9/28/2006	
Lake #12	100574	Sediment		9/30/2006	

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
ICPMS Soil	Determination of Metals in Soil by ICP/MS with Aqua Regia Digest **Instrument group:** Perkin Elmer Elan 5000	Mod. SW846-6020
Moisture	Determination of Percent Moisture **Instrument group:** Cahn Analytical Balance	In House
TKN Sediment	Determination of Total Kjedahl Nitrogen in Sediments by Block Digest/FIA **Instrument group:** Skalar San++ FIA	APHA 4500B
TOC Sediment	Determination of Total Organic Carbon in Sediment **Instrument group:** Leco TOC Analyzer	APHA
TP Sediment	Determination of Total Phosphorus in Sediment by Block Digest/FIA **Instrument group:** Skalar San++ FIA	Mod. APHA-4500

This report has been approved by:

Rita Rienguette, Chem. Eng. Tech.
Organic Laboratory Supervisor



Dr. Xiaojing Li
Chief Chemist

Dr. Robert Hamel
Inorganic Section Head

Sample Data:

Sample Name: Malpa Lake **Date: 9/28/2006** **Matrix: Sediment** **Lab #: 100573**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	17700	µg/g	20061006.R13B
Antimony	0.5	0.59	µg/g	20061006.R13B
Arsenic	0.5	5.93	µg/g	20061006.R13B
Barium	0.5	235	µg/g	20061006.R13B
Beryllium	0.5	1.5	µg/g	20061006.R13B
Bismuth	0.5	<0.5	µg/g	20061006.R13B
Cadmium	0.05	1.53	µg/g	20061006.R13B
Calcium	250	4640	µg/g	20061006.R13B
Cerium	0.5	101	µg/g	20061006.R13B
Cesium	0.5	0.82	µg/g	20061006.R13B
Chromium	0.5	20.6	µg/g	20061006.R13B
Cobalt	0.05	13.5	µg/g	20061006.R13B
Copper	0.5	52.8	µg/g	20061006.R13B
Europium	0.5	1.2	µg/g	20061006.R13B
Gallium	0.5	8.63	µg/g	20061006.R13B
Iron	100	12400	µg/g	20061006.R13B
Lanthanum	0.5	55.6	µg/g	20061006.R13B
Lead	0.5	39	µg/g	20061006.R13B
Lithium	2.5	8.1	µg/g	20061006.R13B
Magnesium	2	1510	µg/g	20061006.R13B
Manganese	0.5	170	µg/g	20061006.R13B
Mercury	0.05	0.12	µg/g	20061006.R13B
Molybdenum	0.5	1.7	µg/g	20061006.R13B
Nickel	0.5	35.8	µg/g	20061006.R13B
Niobium	0.5	2.1	µg/g	20061006.R13B
Rubidium	0.5	7.26	µg/g	20061006.R13B
Scandium	0.5	1.1	µg/g	20061006.R13B
Selenium	0.5	3.8	µg/g	20061006.R13B
Silver	0.5	<0.5	µg/g	20061006.R13B
Strontium	0.5	42.3	µg/g	20061006.R13B
Thallium	0.5	<0.5	µg/g	20061006.R13B
Thorium	0.5	<0.5	µg/g	20061006.R13B
Tin	0.5	1.2	µg/g	20061006.R13B
Titanium	5	132	µg/g	20061006.R13B
Tungsten	0.5	<0.5	µg/g	20061006.R13B
Uranium	0.5	1.9	µg/g	20061006.R13B
Vanadium	0.5	38.6	µg/g	20061006.R13B
Yttrium	0.5	14.4	µg/g	20061006.R13B
Zinc	5	168	µg/g	20061006.R13B
Zirconium	0.5	7.25	µg/g	20061006.R13B

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	95.1	%	20061011.R99B

Sample Name: Malpa Lake **Date: 9/28/2006** **Matrix: Sediment** **Lab #: 100573**

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**

TKN Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.41	1.9	%(w/w)	20061006.R58A

TOC Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	0.05	22.4	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	730	1100	µg/g	20061011.R23A

Sample Name: Lake #12 **Date: 9/30/2006** **Matrix: Sediment** **Lab #: 100574**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	10600	µg/g	20061006.R13B
Antimony	0.5	<0.5	µg/g	20061006.R13B
Arsenic	0.5	2.5	µg/g	20061006.R13B
Barium	0.5	67.1	µg/g	20061006.R13B
Beryllium	0.5	<0.5	µg/g	20061006.R13B
Bismuth	0.5	<0.5	µg/g	20061006.R13B
Cadmium	0.05	0.887	µg/g	20061006.R13B
Calcium	250	5650	µg/g	20061006.R13B
Cerium	0.5	20.5	µg/g	20061006.R13B
Cesium	0.5	0.8	µg/g	20061006.R13B
Chromium	0.5	19.6	µg/g	20061006.R13B
Cobalt	0.05	7.57	µg/g	20061006.R13B
Copper	5	518	µg/g	20061006.R13B
Europium	0.5	<0.5	µg/g	20061006.R13B
Gallium	0.5	3.9	µg/g	20061006.R13B
Iron	100	4910	µg/g	20061006.R13B
Lanthanum	0.5	11.2	µg/g	20061006.R13B
Lead	0.5	20.3	µg/g	20061006.R13B
Lithium	2.5	5.3	µg/g	20061006.R13B
Magnesium	2	1490	µg/g	20061006.R13B
Manganese	0.5	56	µg/g	20061006.R13B
Mercury	0.05	0.15	µg/g	20061006.R13B
Molybdenum	0.5	0.58	µg/g	20061006.R13B
Nickel	0.5	70.3	µg/g	20061006.R13B
Niobium	0.5	0.63	µg/g	20061006.R13B
Rubidium	0.5	4.7	µg/g	20061006.R13B
Scandium	0.5	0.74	µg/g	20061006.R13B
Selenium	0.5	2.1	µg/g	20061006.R13B
Silver	0.5	<0.5	µg/g	20061006.R13B

Sample Name: Lake #12 **Date: 9/30/2006** **Matrix: Sediment** **Lab #: 100574**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Strontium	0.5	33.7	µg/g	20061006.R13B
Thallium	0.5	<0.5	µg/g	20061006.R13B
Thorium	0.5	<0.5	µg/g	20061006.R13B
Tin	0.5	0.52	µg/g	20061006.R13B
Titanium	5	154	µg/g	20061006.R13B
Tungsten	0.5	<0.5	µg/g	20061006.R13B
Uranium	0.5	0.57	µg/g	20061006.R13B
Vanadium	0.5	13.5	µg/g	20061006.R13B
Yttrium	0.5	5.16	µg/g	20061006.R13B
Zinc	0.5	79.3	µg/g	20061006.R13B
Zirconium	0.5	1.7	µg/g	20061006.R13B

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	92.9	%	20061011.R99B

TKN Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.28	1.4	%(w/w)	20061006.R58A

TOC Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	0.05	22	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	540	680	µg/g	20061011.R23A

MDL Method detection limit or minimum reporting limit.
% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.
QAQCID This is a unique reference to the quality control data set used to generate the reported value.
Data reported for organic analysis in soil samples are corrected for moisture content
Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.
INT Interferences
TNTC To numerous to count
ND Not detected

Quality Control Data:

ICPMS Soil

5 ppm Cal. Check						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Aluminum	0.05	µg/g	30	24.1	20	20061006.R13B
Arsenic	0.05	µg/g	6	5	4	20061006.R13B
Barium	0.05	µg/g	6	5.23	4	20061006.R13B
Beryllium	0.05	µg/g	6.25	5.46	3.75	20061006.R13B
Cadmium	0.05	µg/g	6	4.83	4	20061006.R13B
Calcium	2.5	µg/g	60	46	40	20061006.R13B
Chromium	0.05	µg/g	6	5.16	4	20061006.R13B
Cobalt	0.05	µg/g	6	5.24	4	20061006.R13B
Copper	0.05	µg/g	6	5.36	4	20061006.R13B
Iron	1	µg/g	30	27.8	20	20061006.R13B
Lead	0.05	µg/g	6	4.87	4	20061006.R13B
Magnesium	0.2	µg/g	60	47.3	40	20061006.R13B
Manganese	0.05	µg/g	6	5.44	4	20061006.R13B
Molybdenum	0.05	µg/g	6	5.01	4	20061006.R13B
Nickel	0.05	µg/g	6	5.1	4	20061006.R13B
Selenium	0.05	µg/g	6	4.1	4	20061006.R13B
Thallium	0.05	µg/g	6	4.88	4	20061006.R13B
Vanadium	0.05	µg/g	6	5	4	20061006.R13B
Zinc	0.05	µg/g	6	4.86	4	20061006.R13B

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Aluminum	0.2	µg/g	0.2	<0.2	<0.2	20061006.R13B
Antimony	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Arsenic	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Barium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Beryllium	0.25	µg/g	0.25	<0.25	<0.25	20061006.R13B
Bismuth	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Cadmium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Calcium	0.25	µg/g	0.25	<0.25	<0.25	20061006.R13B
Cerium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Cesium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Chromium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Cobalt	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Copper	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Europium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Gallium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Iron	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Lanthanum	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Lead	0.005	µg/g	0.05	<0.005	<0.005	20061006.R13B
Magnesium	0.1	µg/g	0.1	<0.1	<0.1	20061006.R13B
Manganese	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Mercury	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Molybdenum	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B

ICPMS Soil

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Nickel	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Niobium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Rubidium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Scandium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Selenium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Silver	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Strontium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Thallium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Thorium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Tin	0.25	µg/g	0.25	<0.25	<0.25	20061006.R13B
Titanium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Tungsten	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Uranium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Vanadium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Yttrium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Zinc	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B
Zirconium	0.05	µg/g	0.05	<0.05	<0.05	20061006.R13B

TKN Soil

ERA 545						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.01	%(w/w)	5.32	4.12	1.08	20061006.R58A

Method Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.001	%(w/w)	0.02	<0.001	<0.001	20061006.R58A

TOC Soil

KHP (47%-C)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Organic Carbon	1	%	52	52	42	20061011.R55A

TP Soil

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.01	%(w/w)	20	<0.01	<0.01	20061011.R23A

ERA 545						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.24	%(w/w)	3.75	3.07	1.98	20061011.R23A

UCL Upper Control Limit
LCL Lower Control Limit

TESTMARK Laboratories Ltd.

Committed to Quality and Service

(Revised) Analytical Report

Client: Jan Linquist
Company: NAR Environmental Consulting
Address: 1130 Southlane Road
Sudbury, ON, P3G 1N6
Phone: (705) 522-5990
Fax: (705) 522-1898
Email: jan.linquist@bellnet.ca

Work Order Number: **27976**
Date Order Received: 10/2/2006
Regulation: PSQG
PO #:
Project #: Marathon PGM

Supercedes report printed :10/12/2006

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
LAKE #2	100474	Sediment		9/29/2006	
LAKE #6	100475	Sediment		9/29/2006	
LAKE #5	100476	Sediment		9/29/2006	
LAKE #3	100477	Sediment		9/29/2006	
LAKE #1	100478	Sediment		9/29/2006	
LAKE #8	100479	Sediment		9/29/2006	
LAKE #15	100480	Sediment		9/29/2006	
LAKE #7	100481	Sediment		9/29/2006	

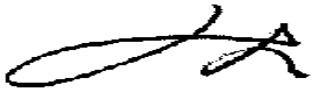
The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
ICPMS Soil	Determination of Metals in Soil by ICP/MS with Aqua Regia Digest **Instrument group:** Perkin Elmer Elan 5000	Mod. SW846-6020
Moisture	Determination of Percent Moisture **Instrument group:** Cahn Analytical Balance	In House
TKN Sediment	Determination of Total Kjedahl Nitrogen in Sediments by Block Digest/FIA **Instrument group:** Skalar San++ FIA	APHA 4500B
TOC Sediment	Determination of Total Organic Carbon in Sediment **Instrument group:** Leco TOC Analyzer	APHA
TP Sediment	Determination of Total Phosphorus in Sediment by Block Digest/FIA **Instrument group:** Skalar San++ FIA	Mod. APHA-4500

Sample Notes: Please note: We did not receive a sample container for 'LAKE #4'.

This report has been approved by:

Rita Rienguette, Chem. Eng. Tech.
Organic Laboratory Supervisor



Dr. Xiaojing Li
Chief Chemist

Dr. Robert Hamel
Inorganic Section Head

Sample Data:

Sample Name: LAKE #2 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100474**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	13600	µg/g	20061010.R13A
Antimony	0.5	0.53	µg/g	20061010.R13A
Arsenic	0.5	4.8	µg/g	20061010.R13A
Barium	0.5	82.6	µg/g	20061010.R13A
Beryllium	0.5	0.72	µg/g	20061010.R13A
Bismuth	0.5	<0.5	µg/g	20061010.R13A
Cadmium	0.05	1.59	µg/g	20061010.R13A
Calcium	250	4220	µg/g	20061010.R13A
Cerium	0.5	33.7	µg/g	20061010.R13A
Cesium	0.5	0.85	µg/g	20061010.R13A
Chromium	0.5	21.5	µg/g	20061010.R13A
Cobalt	0.05	12.6	µg/g	20061010.R13A
Copper	5	130	µg/g	20061010.R13A
Europium	0.5	0.51	µg/g	20061010.R13A
Gallium	0.5	5.36	µg/g	20061010.R13A
Iron	100	13600	µg/g	20061010.R13A
Lanthanum	0.5	17.2	µg/g	20061010.R13A
Lead	0.5	42.7	µg/g	20061010.R13A
Lithium	2.5	6.7	µg/g	20061010.R13A
Magnesium	2	1970	µg/g	20061010.R13A
Manganese	0.5	136	µg/g	20061010.R13A
Mercury	0.05	0.24	µg/g	20061010.R13A
Molybdenum	0.5	1.2	µg/g	20061010.R13A
Nickel	0.5	30.5	µg/g	20061010.R13A
Niobium	0.5	1.6	µg/g	20061010.R13A
Rubidium	0.5	5.76	µg/g	20061010.R13A
Scandium	0.5	<0.5	µg/g	20061010.R13A
Selenium	0.5	0.88	µg/g	20061010.R13A
Silver	0.5	<0.5	µg/g	20061010.R13A
Strontium	0.5	28.4	µg/g	20061010.R13A
Thallium	0.5	<0.5	µg/g	20061010.R13A
Thorium	0.5	<0.5	µg/g	20061010.R13A
Tin	0.5	1.4	µg/g	20061010.R13A
Titanium	5	204	µg/g	20061010.R13A
Tungsten	0.5	<0.5	µg/g	20061010.R13A
Uranium	0.5	0.57	µg/g	20061010.R13A
Vanadium	0.5	48.4	µg/g	20061010.R13A
Yttrium	0.5	6.82	µg/g	20061010.R13A
Zinc	0.5	70.2	µg/g	20061010.R13A
Zirconium	0.5	3.2	µg/g	20061010.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	92.1	%	20061011.R99B

Sample Name: LAKE #2 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100474**

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**

TKN Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.25	1.2	%(w/w)	20061006.R58A
Total Kjeldahl Nitrogen (Dup)	0.25	1.5	%(w/w)	20061006.R58A

TOC Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	0.05	19.3	%	20061011.R55A
Total Organic Carbon (Dup)	0.05	19.5	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	500	1600	µg/g	20061011.R23A
Total Phosphorus (as P) (Dup)	490	1200	µg/g	20061011.R23A

Sample Name: LAKE #6 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100475**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	10000	µg/g	20061010.R13A
Antimony	0.5	<0.5	µg/g	20061010.R13A
Arsenic	0.5	1.3	µg/g	20061010.R13A
Barium	0.5	78.3	µg/g	20061010.R13A
Beryllium	0.5	0.84	µg/g	20061010.R13A
Bismuth	0.5	<0.5	µg/g	20061010.R13A
Cadmium	0.05	1.37	µg/g	20061010.R13A
Calcium	250	6490	µg/g	20061010.R13A
Cerium	0.5	56.8	µg/g	20061010.R13A
Cesium	0.5	<0.5	µg/g	20061010.R13A
Chromium	0.5	7.58	µg/g	20061010.R13A
Cobalt	0.05	2.13	µg/g	20061010.R13A
Copper	0.5	13.6	µg/g	20061010.R13A
Europium	0.5	1.2	µg/g	20061010.R13A
Gallium	0.5	3.8	µg/g	20061010.R13A
Iron	99	8990	µg/g	20061010.R13A
Lanthanum	0.5	31.1	µg/g	20061010.R13A
Lead	0.5	15.1	µg/g	20061010.R13A
Lithium	2.5	2.6	µg/g	20061010.R13A
Magnesium	2	767	µg/g	20061010.R13A
Manganese	5	310	µg/g	20061010.R13A
Mercury	0.05	0.12	µg/g	20061010.R13A
Molybdenum	0.5	0.57	µg/g	20061010.R13A
Nickel	0.5	5.5	µg/g	20061010.R13A
Niobium	0.5	1.5	µg/g	20061010.R13A
Rubidium	0.5	2.2	µg/g	20061010.R13A

Sample Name: LAKE #6 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100475**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Scandium	0.5	<0.5	µg/g	20061010.R13A
Selenium	0.5	<0.5	µg/g	20061010.R13A
Silver	0.5	<0.5	µg/g	20061010.R13A
Strontium	0.5	23	µg/g	20061010.R13A
Thallium	0.5	<0.5	µg/g	20061010.R13A
Thorium	0.5	<0.5	µg/g	20061010.R13A
Tin	0.5	<0.5	µg/g	20061010.R13A
Titanium	5	98.2	µg/g	20061010.R13A
Tungsten	0.5	<0.5	µg/g	20061010.R13A
Uranium	0.5	0.98	µg/g	20061010.R13A
Vanadium	0.5	7.94	µg/g	20061010.R13A
Yttrium	0.5	11.5	µg/g	20061010.R13A
Zinc	0.5	26.2	µg/g	20061010.R13A
Zirconium	0.5	3.5	µg/g	20061010.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	94.7	%	20061011.R99B

TKN Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.38	2.1	%(w/w)	20061006.R58A

TOC Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	0.05	33.3	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	810	1900	µg/g	20061011.R23A

Sample Name: LAKE #5 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100476**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	19200	µg/g	20061010.R13A
Aluminum (Dup)	5	19300	µg/g	20061010.R13A
Antimony	0.5	0.73	µg/g	20061010.R13A
Antimony (Dup)	0.5	0.84	µg/g	20061010.R13A
Arsenic	0.5	4.9	µg/g	20061010.R13A
Arsenic (Dup)	0.5	5.17	µg/g	20061010.R13A
Barium	0.5	99.3	µg/g	20061010.R13A
Barium (Dup)	0.5	98.5	µg/g	20061010.R13A
Beryllium	0.5	1.9	µg/g	20061010.R13A
Beryllium (Dup)	0.5	1.9	µg/g	20061010.R13A
Bismuth	0.5	<0.5	µg/g	20061010.R13A

Sample Name: LAKE #5 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100476**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Bismuth (Dup)	0.5	<0.5	µg/g	20061010.R13A
Cadmium	0.05	3.4	µg/g	20061010.R13A
Cadmium (Dup)	0.05	3.54	µg/g	20061010.R13A
Calcium	25	4430	µg/g	20061010.R13A
Calcium (Dup)	25	4610	µg/g	20061010.R13A
Cerium	0.5	83.3	µg/g	20061010.R13A
Cerium (Dup)	0.5	82	µg/g	20061010.R13A
Cesium	0.5	0.59	µg/g	20061010.R13A
Cesium (Dup)	0.5	0.63	µg/g	20061010.R13A
Chromium	0.5	15.8	µg/g	20061010.R13A
Chromium (Dup)	0.5	17.1	µg/g	20061010.R13A
Cobalt	0.05	4.46	µg/g	20061010.R13A
Cobalt (Dup)	0.05	4.69	µg/g	20061010.R13A
Copper	0.5	24	µg/g	20061010.R13A
Copper (Dup)	0.5	25.3	µg/g	20061010.R13A
Europium	0.5	1.9	µg/g	20061010.R13A
Europium (Dup)	0.5	1.9	µg/g	20061010.R13A
Gallium	0.5	5.65	µg/g	20061010.R13A
Gallium (Dup)	0.5	5.89	µg/g	20061010.R13A
Iron	100	11600	µg/g	20061010.R13A
Iron (Dup)	100	11700	µg/g	20061010.R13A
Lanthanum	0.5	44.2	µg/g	20061010.R13A
Lanthanum (Dup)	0.5	43.3	µg/g	20061010.R13A
Lead	0.5	47.3	µg/g	20061010.R13A
Lead (Dup)	0.5	48.4	µg/g	20061010.R13A
Lithium	2.5	6.4	µg/g	20061010.R13A
Lithium (Dup)	2.5	6.9	µg/g	20061010.R13A
Magnesium	2	1160	µg/g	20061010.R13A
Magnesium (Dup)	2	1250	µg/g	20061010.R13A
Manganese	0.5	135	µg/g	20061010.R13A
Manganese (Dup)	0.5	140	µg/g	20061010.R13A
Mercury	0.05	0.17	µg/g	20061010.R13A
Mercury (Dup)	0.05	0.19	µg/g	20061010.R13A
Molybdenum	0.5	1.3	µg/g	20061010.R13A
Molybdenum (Dup)	0.5	1.3	µg/g	20061010.R13A
Nickel	0.5	14.5	µg/g	20061010.R13A
Nickel (Dup)	0.5	15.6	µg/g	20061010.R13A
Niobium	0.5	2.1	µg/g	20061010.R13A
Niobium (Dup)	0.5	2.2	µg/g	20061010.R13A
Rubidium	0.5	4	µg/g	20061010.R13A
Rubidium (Dup)	0.5	4.2	µg/g	20061010.R13A
Scandium	0.5	1.3	µg/g	20061010.R13A
Scandium (Dup)	0.5	1.4	µg/g	20061010.R13A
Selenium	0.5	1.5	µg/g	20061010.R13A
Selenium (Dup)	0.5	1.7	µg/g	20061010.R13A

Sample Name: LAKE #5 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100476**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Silver	0.5	<0.5	µg/g	20061010.R13A
Silver (Dup)	0.5	<0.5	µg/g	20061010.R13A
Strontium	0.5	17.4	µg/g	20061010.R13A
Strontium (Dup)	0.5	17.9	µg/g	20061010.R13A
Thallium	0.5	<0.5	µg/g	20061010.R13A
Thallium (Dup)	0.5	<0.5	µg/g	20061010.R13A
Thorium	0.5	<0.5	µg/g	20061010.R13A
Thorium (Dup)	0.5	<0.5	µg/g	20061010.R13A
Tin	0.5	1.4	µg/g	20061010.R13A
Tin (Dup)	0.5	1.6	µg/g	20061010.R13A
Titanium	5	140	µg/g	20061010.R13A
Titanium (Dup)	5	161	µg/g	20061010.R13A
Tungsten	0.5	<0.5	µg/g	20061010.R13A
Tungsten (Dup)	0.5	<0.5	µg/g	20061010.R13A
Uranium	0.5	1.3	µg/g	20061010.R13A
Uranium (Dup)	0.5	1.3	µg/g	20061010.R13A
Vanadium	0.5	28.4	µg/g	20061010.R13A
Vanadium (Dup)	0.5	29.7	µg/g	20061010.R13A
Yttrium	0.5	17.1	µg/g	20061010.R13A
Yttrium (Dup)	0.5	17.6	µg/g	20061010.R13A
Zinc	5	121	µg/g	20061010.R13A
Zinc (Dup)	5	123	µg/g	20061010.R13A
Zirconium	0.5	4.6	µg/g	20061010.R13A
Zirconium (Dup)	0.5	4.2	µg/g	20061010.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	92.7	%	20061011.R99B

TKN Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.27	1.7	%(w/w)	20061006.R58A

TOC Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	0.05	18.6	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	540	2200	µg/g	20061011.R23A

Sample Name: LAKE #3 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100477**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	15200	µg/g	20061010.R13A

Sample Name: LAKE #3 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100477**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Antimony	0.5	0.62	µg/g	20061010.R13A
Arsenic	0.5	5.84	µg/g	20061010.R13A
Barium	0.5	66.8	µg/g	20061010.R13A
Beryllium	0.5	0.99	µg/g	20061010.R13A
Bismuth	0.5	<0.5	µg/g	20061010.R13A
Cadmium	0.05	1.82	µg/g	20061010.R13A
Calcium	25	2290	µg/g	20061010.R13A
Cerium	0.5	45.3	µg/g	20061010.R13A
Cesium	0.5	0.74	µg/g	20061010.R13A
Chromium	0.5	18.2	µg/g	20061010.R13A
Cobalt	0.05	4.7	µg/g	20061010.R13A
Copper	0.5	30.6	µg/g	20061010.R13A
Europium	0.5	0.87	µg/g	20061010.R13A
Gallium	0.5	5.28	µg/g	20061010.R13A
Iron	100	11500	µg/g	20061010.R13A
Lanthanum	0.5	23.4	µg/g	20061010.R13A
Lead	0.5	42.6	µg/g	20061010.R13A
Lithium	2.5	6	µg/g	20061010.R13A
Magnesium	2	1220	µg/g	20061010.R13A
Manganese	0.5	68.3	µg/g	20061010.R13A
Mercury	0.05	0.19	µg/g	20061010.R13A
Molybdenum	0.5	1.4	µg/g	20061010.R13A
Nickel	0.5	17.6	µg/g	20061010.R13A
Niobium	0.5	1.4	µg/g	20061010.R13A
Rubidium	0.5	4.8	µg/g	20061010.R13A
Scandium	0.5	<0.5	µg/g	20061010.R13A
Selenium	0.5	0.56	µg/g	20061010.R13A
Silver	0.5	<0.5	µg/g	20061010.R13A
Strontium	0.5	13.6	µg/g	20061010.R13A
Thallium	0.5	<0.5	µg/g	20061010.R13A
Thorium	0.5	<0.5	µg/g	20061010.R13A
Tin	0.5	1.5	µg/g	20061010.R13A
Titanium	5	129	µg/g	20061010.R13A
Tungsten	0.5	<0.5	µg/g	20061010.R13A
Uranium	0.5	0.75	µg/g	20061010.R13A
Vanadium	0.5	37.4	µg/g	20061010.R13A
Yttrium	0.5	8.89	µg/g	20061010.R13A
Zinc	0.5	66.2	µg/g	20061010.R13A
Zirconium	0.5	2.5	µg/g	20061010.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	93.4	%	20061011.R99B

Sample Name: LAKE #3 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100477**

TKN Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.3	1.4	%(w/w)	20061006.R58A

TOC Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	0.05	21.9	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	550	1300	µg/g	20061011.R23A

Sample Name: LAKE #1 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100478**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	21300	µg/g	20061010.R13A
Antimony	0.5	0.95	µg/g	20061010.R13A
Arsenic	0.5	12	µg/g	20061010.R13A
Barium	0.5	34.4	µg/g	20061010.R13A
Beryllium	0.5	1.8	µg/g	20061010.R13A
Bismuth	0.5	0.67	µg/g	20061010.R13A
Cadmium	0.05	4.39	µg/g	20061010.R13A
Calcium	25	3990	µg/g	20061010.R13A
Cerium	0.5	54.9	µg/g	20061010.R13A
Cesium	0.5	0.62	µg/g	20061010.R13A
Chromium	0.5	28.6	µg/g	20061010.R13A
Cobalt	0.05	7.55	µg/g	20061010.R13A
Copper	0.5	47.7	µg/g	20061010.R13A
Europium	0.5	0.83	µg/g	20061010.R13A
Gallium	0.5	4.6	µg/g	20061010.R13A
Iron	100	21000	µg/g	20061010.R13A
Lanthanum	0.5	28.1	µg/g	20061010.R13A
Lead	0.5	87.2	µg/g	20061010.R13A
Lithium	2.5	5.1	µg/g	20061010.R13A
Magnesium	2	1240	µg/g	20061010.R13A
Manganese	0.5	107	µg/g	20061010.R13A
Mercury	0.05	0.26	µg/g	20061010.R13A
Molybdenum	0.5	2.4	µg/g	20061010.R13A
Nickel	0.5	19.9	µg/g	20061010.R13A
Niobium	0.5	2.7	µg/g	20061010.R13A
Rubidium	0.5	4.3	µg/g	20061010.R13A
Scandium	0.5	1.3	µg/g	20061010.R13A
Selenium	0.5	2.7	µg/g	20061010.R13A
Silver	0.5	<0.5	µg/g	20061010.R13A
Strontium	0.5	24.6	µg/g	20061010.R13A
Thallium	0.5	<0.5	µg/g	20061010.R13A

Sample Name: LAKE #1 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100478**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Thorium	0.5	<0.5	µg/g	20061010.R13A
Tin	0.5	2.5	µg/g	20061010.R13A
Titanium	5	158	µg/g	20061010.R13A
Tungsten	0.5	<0.5	µg/g	20061010.R13A
Uranium	0.5	1.4	µg/g	20061010.R13A
Vanadium	0.5	67.1	µg/g	20061010.R13A
Yttrium	0.5	10.2	µg/g	20061010.R13A
Zinc	5	122	µg/g	20061010.R13A
Zirconium	0.5	7.24	µg/g	20061010.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	95.1	%	20061011.R99B

TKN Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.41	1.7	%(w/w)	20061006.R58A

TOC Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	0.05	20	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	780	2000	µg/g	20061011.R23A

Sample Name: LAKE #8 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100479**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	16100	µg/g	20061010.R13A
Antimony	0.5	<0.5	µg/g	20061010.R13A
Arsenic	0.5	3.2	µg/g	20061010.R13A
Barium	0.5	117	µg/g	20061010.R13A
Beryllium	0.5	1.4	µg/g	20061010.R13A
Bismuth	0.5	<0.5	µg/g	20061010.R13A
Cadmium	0.05	1.58	µg/g	20061010.R13A
Calcium	250	8880	µg/g	20061010.R13A
Cerium	0.5	92.4	µg/g	20061010.R13A
Cesium	0.5	0.93	µg/g	20061010.R13A
Chromium	0.5	41.2	µg/g	20061010.R13A
Cobalt	0.05	14.1	µg/g	20061010.R13A
Copper	0.5	99.9	µg/g	20061010.R13A
Europium	0.5	2.3	µg/g	20061010.R13A
Gallium	0.5	6.58	µg/g	20061010.R13A
Iron	100	25300	µg/g	20061010.R13A

Sample Name: LAKE #8 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100479**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Lanthanum	0.5	64	µg/g	20061010.R13A
Lead	0.5	22.2	µg/g	20061010.R13A
Lithium	2.5	15	µg/g	20061010.R13A
Magnesium	20	4680	µg/g	20061010.R13A
Manganese	5	544	µg/g	20061010.R13A
Mercury	0.05	0.093	µg/g	20061010.R13A
Molybdenum	0.5	1.6	µg/g	20061010.R13A
Nickel	0.5	30.5	µg/g	20061010.R13A
Niobium	0.5	3	µg/g	20061010.R13A
Rubidium	0.5	8.66	µg/g	20061010.R13A
Scandium	0.5	2.9	µg/g	20061010.R13A
Selenium	0.5	2.8	µg/g	20061010.R13A
Silver	0.5	<0.5	µg/g	20061010.R13A
Strontium	0.5	36.6	µg/g	20061010.R13A
Thallium	0.5	<0.5	µg/g	20061010.R13A
Thorium	0.5	0.9	µg/g	20061010.R13A
Tin	0.5	0.93	µg/g	20061010.R13A
Titanium	5	728	µg/g	20061010.R13A
Tungsten	0.5	<0.5	µg/g	20061010.R13A
Uranium	0.5	1.8	µg/g	20061010.R13A
Vanadium	0.5	34.9	µg/g	20061010.R13A
Yttrium	0.5	25.1	µg/g	20061010.R13A
Zinc	5	185	µg/g	20061010.R13A
Zirconium	0.5	3.4	µg/g	20061010.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	89.7	%	20061011.R99B

TKN Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.19	1.5	%(w/w)	20061006.R58A

TOC Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	0.05	18.6	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	360	2400	µg/g	20061011.R23A

Sample Name: LAKE #15 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100480**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	20700	µg/g	20061010.R13A

Sample Name: LAKE #15 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100480**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Antimony	0.5	<0.5	µg/g	20061010.R13A
Arsenic	0.5	1.8	µg/g	20061010.R13A
Barium	0.5	165	µg/g	20061010.R13A
Beryllium	0.5	1.2	µg/g	20061010.R13A
Bismuth	0.5	<0.5	µg/g	20061010.R13A
Cadmium	0.05	0.47	µg/g	20061010.R13A
Calcium	250	13000	µg/g	20061010.R13A
Cerium	0.5	106	µg/g	20061010.R13A
Cesium	0.5	1.5	µg/g	20061010.R13A
Chromium	0.5	54.9	µg/g	20061010.R13A
Cobalt	0.05	20.4	µg/g	20061010.R13A
Copper	5	151	µg/g	20061010.R13A
Europium	0.5	2	µg/g	20061010.R13A
Gallium	0.5	10.5	µg/g	20061010.R13A
Iron	100	25400	µg/g	20061010.R13A
Lanthanum	0.5	57.9	µg/g	20061010.R13A
Lead	0.5	9.51	µg/g	20061010.R13A
Lithium	2.5	39.3	µg/g	20061010.R13A
Magnesium	20	8780	µg/g	20061010.R13A
Manganese	5	512	µg/g	20061010.R13A
Mercury	0.05	<0.05	µg/g	20061010.R13A
Molybdenum	0.5	0.54	µg/g	20061010.R13A
Nickel	0.5	40.5	µg/g	20061010.R13A
Niobium	0.5	2.8	µg/g	20061010.R13A
Rubidium	0.5	16.6	µg/g	20061010.R13A
Scandium	0.5	4.7	µg/g	20061010.R13A
Selenium	0.5	1.4	µg/g	20061010.R13A
Silver	0.5	<0.5	µg/g	20061010.R13A
Strontium	0.5	46.4	µg/g	20061010.R13A
Thallium	0.5	<0.5	µg/g	20061010.R13A
Thorium	0.5	4.1	µg/g	20061010.R13A
Tin	0.5	<0.5	µg/g	20061010.R13A
Titanium	5	1380	µg/g	20061010.R13A
Tungsten	0.5	<0.5	µg/g	20061010.R13A
Uranium	0.5	1.5	µg/g	20061010.R13A
Vanadium	0.5	83.4	µg/g	20061010.R13A
Yttrium	0.5	22.3	µg/g	20061010.R13A
Zinc	0.5	83.3	µg/g	20061010.R13A
Zirconium	0.5	5.59	µg/g	20061010.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	72.6	%	20061011.R99B

Sample Name: LAKE #15 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100480**

TKN Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.073	0.69	%(w/w)	20061006.R58A

TOC Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	0.05	8.94	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	140	4500	µg/g	20061011.R23A

Sample Name: LAKE #7 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100481**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	18800	µg/g	20061010.R13A
Antimony	0.5	1.2	µg/g	20061010.R13A
Arsenic	0.5	14.7	µg/g	20061010.R13A
Barium	0.5	29.3	µg/g	20061010.R13A
Beryllium	0.5	1.7	µg/g	20061010.R13A
Bismuth	0.5	0.85	µg/g	20061010.R13A
Cadmium	0.05	4.22	µg/g	20061010.R13A
Calcium	250	4580	µg/g	20061010.R13A
Cerium	0.5	84.4	µg/g	20061010.R13A
Cesium	0.5	<0.5	µg/g	20061010.R13A
Chromium	0.5	15	µg/g	20061010.R13A
Cobalt	0.05	5.75	µg/g	20061010.R13A
Copper	0.5	39.5	µg/g	20061010.R13A
Europium	0.5	2.1	µg/g	20061010.R13A
Gallium	0.5	4.2	µg/g	20061010.R13A
Iron	100	24000	µg/g	20061010.R13A
Lanthanum	0.5	51.2	µg/g	20061010.R13A
Lead	0.5	132	µg/g	20061010.R13A
Lithium	2.5	4.7	µg/g	20061010.R13A
Magnesium	2	1030	µg/g	20061010.R13A
Manganese	5	265	µg/g	20061010.R13A
Mercury	0.05	0.23	µg/g	20061010.R13A
Molybdenum	0.5	2	µg/g	20061010.R13A
Nickel	0.5	14	µg/g	20061010.R13A
Niobium	0.5	1.8	µg/g	20061010.R13A
Rubidium	0.5	3.9	µg/g	20061010.R13A
Scandium	0.5	2.9	µg/g	20061010.R13A
Selenium	0.5	2	µg/g	20061010.R13A
Silver	0.5	<0.5	µg/g	20061010.R13A
Strontium	0.5	20.2	µg/g	20061010.R13A
Thallium	0.5	<0.5	µg/g	20061010.R13A

Sample Name: LAKE #7 **Date: 9/29/2006** **Matrix: Sediment** **Lab #: 100481**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Thorium	0.5	1.2	µg/g	20061010.R13A
Tin	0.5	3.4	µg/g	20061010.R13A
Titanium	5	164	µg/g	20061010.R13A
Tungsten	0.5	<0.5	µg/g	20061010.R13A
Uranium	0.5	1.4	µg/g	20061010.R13A
Vanadium	0.5	29.8	µg/g	20061010.R13A
Yttrium	0.5	19	µg/g	20061010.R13A
Zinc	5	186	µg/g	20061010.R13A
Zirconium	0.5	12	µg/g	20061010.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	95.1	%	20061011.R99B

TKN Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.41	2.2	%(w/w)	20061006.R58A

TOC Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	0.05	27.7	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	780	2100	µg/g	20061011.R23A

MDL Method detection limit or minimum reporting limit.
% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.
QAQCID This is a unique reference to the quality control data set used to generate the reported value.
Data reported for organic analysis in soil samples are corrected for moisture content
Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.
INT Interferences
TNTC To numerous to count
ND Not detected

Quality Control Data:

ICPMS Soil

5 ppm Cal. Check						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Aluminum	0.05	µg/g	30	24.4	20	20061010.R13A
Arsenic	0.05	µg/g	6	4.52	4	20061010.R13A
Barium	0.05	µg/g	6	4.96	4	20061010.R13A
Beryllium	0.05	µg/g	6.25	4.78	3.75	20061010.R13A
Cadmium	0.05	µg/g	6	5.03	4	20061010.R13A
Calcium	2.5	µg/g	60	44.6	40	20061010.R13A
Chromium	0.05	µg/g	6	4.52	4	20061010.R13A
Cobalt	0.05	µg/g	6	4.58	4	20061010.R13A
Copper	0.05	µg/g	6	4.69	4	20061010.R13A
Iron	1	µg/g	30	23.5	20	20061010.R13A
Lead	0.05	µg/g	6	5.03	4	20061010.R13A
Magnesium	0.2	µg/g	60	46	40	20061010.R13A
Manganese	0.05	µg/g	6	4.62	4	20061010.R13A
Molybdenum	0.05	µg/g	6	4.89	4	20061010.R13A
Nickel	0.05	µg/g	6	4.66	4	20061010.R13A
Selenium	0.05	µg/g	6	4.25	4	20061010.R13A
Thallium	0.05	µg/g	6	4.95	4	20061010.R13A
Vanadium	0.05	µg/g	6	4.52	4	20061010.R13A
Zinc	0.05	µg/g	6	4.13	4	20061010.R13A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Aluminum	0.2	µg/g	0.2	<0.2	<0.2	20061010.R13A
Antimony	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Arsenic	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Barium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Beryllium	0.25	µg/g	0.25	<0.25	<0.25	20061010.R13A
Bismuth	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Cadmium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Calcium	0.25	µg/g	0.25	<0.25	<0.25	20061010.R13A
Cerium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Cesium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Chromium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Cobalt	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Copper	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Europium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Gallium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Iron	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Lanthanum	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Lead	0.005	µg/g	0.05	<0.005	<0.005	20061010.R13A
Magnesium	0.1	µg/g	0.1	<0.1	<0.1	20061010.R13A
Manganese	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Mercury	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Molybdenum	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A

ICPMS Soil

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Nickel	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Niobium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Rubidium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Scandium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Selenium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Silver	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Strontium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Thallium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Thorium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Tin	0.25	µg/g	0.25	<0.25	<0.25	20061010.R13A
Titanium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Tungsten	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Uranium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Vanadium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Yttrium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Zinc	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A
Zirconium	0.05	µg/g	0.05	<0.05	<0.05	20061010.R13A

TKN Soil

ERA 545						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.01	%(w/w)	5.32	4.12	1.08	20061006.R58A

Method Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.001	%(w/w)	0.02	<0.001	<0.001	20061006.R58A

TOC Soil

KHP (47%-C)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Organic Carbon	1	%	52	52	42	20061011.R55A

TP Soil

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.01	%(w/w)	20	<0.01	<0.01	20061011.R23A

ERA 545						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.24	%(w/w)	3.75	3.07	1.98	20061011.R23A

UCL Upper Control Limit
LCL Lower Control Limit

TESTMARK Laboratories Ltd.

Committed to Quality and Service

(Revised) Analytical Report

Client: Jan Linquist
Company: NAR Environmental Consulting
Address: 1130 Southlane Road
Sudbury, ON, P3G 1N6
Phone: (705) 522-5990
Fax: (705) 522-1898
Email: jan.linquist@bellnet.ca

Notes: Revised to include pH values.

Supercedes report printed :10/12/2006

Work Order Number: **27975**
Date Order Received: 10/2/2006
Regulation: PWQO
PO #:
Project #: Marathon PGM

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
LAKE #2	100465	Water		9/23/2006	11:30
LAKE #6	100466	Water		9/27/2006	17:26
LAKE #5	100467	Water		9/27/2006	15:12
LAKE #3	100468	Water		9/25/2006	10:15
LAKE #4	100469	Water		9/27/2006	11:35
LAKE #1	100470	Water		9/28/2006	11:00
LAKE #8	100471	Water		9/29/2006	15:00
LAKE #15	100472	Water		9/29/2006	10:08
LAKE #7	100473	Water		9/25/2006	15:20

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis **Instrument group:** Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis **Instrument group:** Skalar San++ FIA	Mod. APHA-4500
CONDWATER	Determination of conductivity in water **Instrument group:** Radiometer Meterlab Ion 450	Mod. APHA-2510
Hardness	Determination of Total Hardness **Instrument group:** Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS **Instrument group:** Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode **Instrument group:** Radiometer Meterlab Ion 450	Mod. APHA-4500
TKN Water	Determination of Total Kjedahl Nitrogen in Waters **Instrument group:** Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion **Instrument group:** Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry **Instrument group:** Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry **Instrument group:** Hach Ratio Nephelometer	Mod. APHA-2130

Sample Notes: Please note: The sample collection date and time on the Chain of Custody form did not match the information on the bottles. The date and time from the bottles have been used for this report.

This report has been approved by:

Dr. Xiaojing Li
Chief Chemist

Dr. Robert Hamel
Inorganic Section Head

Sample Data:

Sample Name: LAKE #2 **Date: 9/23/2006** **Matrix: Water** **Lab #: 100465**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.073	mg/L	20061006.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	24.9	µS/cm	20061002.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	7.63	mg/L	20061003.R90A

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	124	ug/L	20061003.R13A
Antimony	0.5	<0.5	ug/L	20061003.R13A
Arsenic	1	<1	ug/L	20061003.R13A
Barium	1	6.9	ug/L	20061003.R13A
Beryllium	0.5	<0.5	ug/L	20061003.R13A
Bismuth	1	<1	ug/L	20061003.R13A
Boron	2	7.5	ug/L	20061003.R13A
Cadmium	0.1	0.25	ug/L	20061003.R13A
Calcium	50	1830	ug/L	20061003.R13A
Cerium	1	<1	ug/L	20061003.R13A
Cesium	1	<1	ug/L	20061003.R13A
Chromium	1	<1	ug/L	20061003.R13A
Cobalt	0.1	0.28	ug/L	20061003.R13A
Copper	1	2	ug/L	20061003.R13A
Europium	1	<1	ug/L	20061003.R13A
Gallium	1	<1	ug/L	20061003.R13A
Iron	20	310	ug/L	20061003.R13A
Lanthanum	1	<1	ug/L	20061003.R13A
Lead	1	<1	ug/L	20061003.R13A
Lithium	5	<5	ug/L	20061003.R13A
Magnesium	4	742	ug/L	20061003.R13A
Manganese	1	13.2	ug/L	20061003.R13A
Mercury	0.1	<0.1	ug/L	20061003.R13A
Molybdenum	1	<1	ug/L	20061003.R13A
Nickel	1	4.7	ug/L	20061003.R13A
Niobium	1	<1	ug/L	20061003.R13A
Rubidium	1	1.1	ug/L	20061003.R13A
Scandium	1	<1	ug/L	20061003.R13A
Selenium	1	<1	ug/L	20061003.R13A

Sample Name: LAKE #2 **Date: 9/23/2006** **Matrix: Water** **Lab #: 100465**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Silver	0.1	<0.1	ug/L	20061003.R13A
Strontium	1	15	ug/L	20061003.R13A
Tellurium	1	<1	ug/L	20061003.R13A
Thallium	0.1	<0.1	ug/L	20061003.R13A
Thorium	1	<1	ug/L	20061003.R13A
Tin	1	<1	ug/L	20061003.R13A
Titanium	1	<1	ug/L	20061003.R13A
Tungsten	1	<1	ug/L	20061003.R13A
Uranium	1	<1	ug/L	20061003.R13A
Vanadium	1	<1	ug/L	20061003.R13A
Yttrium	1	<1	ug/L	20061003.R13A
Zinc	1	5.1	ug/L	20061003.R13A
Zirconium	1	<1	ug/L	20061003.R13A

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.68	pH	20061002.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.44	mg/L	20061004.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	<0.002	mg/L	20061006.R23.2B

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A
Total Suspended Solids (Dup)	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	4.9	NTU	20061003.R21A
Turbidity (Dup)	0.2	4.8	NTU	20061003.R21A

Sample Name: LAKE #6 **Date: 9/27/2006** **Matrix: Water** **Lab #: 100466**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.0806	mg/L	20061006.R42A

Sample Name: LAKE #6 **Date: 9/27/2006** **Matrix: Water** **Lab #: 100466**

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	22.2	µS/cm	20061002.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	5.58	mg/L	20061003.R90A

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	290	ug/L	20061003.R13A
Antimony	0.5	<0.5	ug/L	20061003.R13A
Arsenic	1	<1	ug/L	20061003.R13A
Barium	1	10.2	ug/L	20061003.R13A
Beryllium	0.5	<0.5	ug/L	20061003.R13A
Bismuth	1	<1	ug/L	20061003.R13A
Boron	2	5.1	ug/L	20061003.R13A
Cadmium	0.1	0.25	ug/L	20061003.R13A
Calcium	50	1720	ug/L	20061003.R13A
Cerium	1	1.2	ug/L	20061003.R13A
Cesium	1	<1	ug/L	20061003.R13A
Chromium	1	<1	ug/L	20061003.R13A
Cobalt	0.1	0.28	ug/L	20061003.R13A
Copper	1	<1	ug/L	20061003.R13A
Europium	1	<1	ug/L	20061003.R13A
Gallium	1	<1	ug/L	20061003.R13A
Iron	20	425	ug/L	20061003.R13A
Lanthanum	1	<1	ug/L	20061003.R13A
Lead	1	2.7	ug/L	20061003.R13A
Lithium	5	<5	ug/L	20061003.R13A
Magnesium	4	310	ug/L	20061003.R13A
Manganese	1	68.2	ug/L	20061003.R13A
Mercury	0.1	<0.1	ug/L	20061003.R13A
Molybdenum	1	<1	ug/L	20061003.R13A
Nickel	1	2.7	ug/L	20061003.R13A
Niobium	1	<1	ug/L	20061003.R13A
Rubidium	1	<1	ug/L	20061003.R13A
Scandium	1	1	ug/L	20061003.R13A
Selenium	1	<1	ug/L	20061003.R13A
Silver	0.1	<0.1	ug/L	20061003.R13A
Strontium	1	8.5	ug/L	20061003.R13A
Tellurium	1	<1	ug/L	20061003.R13A
Thallium	0.1	<0.1	ug/L	20061003.R13A
Thorium	1	<1	ug/L	20061003.R13A
Tin	1	1.6	ug/L	20061003.R13A
Titanium	1	1.5	ug/L	20061003.R13A
Tungsten	1	<1	ug/L	20061003.R13A
Uranium	1	<1	ug/L	20061003.R13A

Sample Name: LAKE #6 **Date: 9/27/2006** **Matrix: Water** **Lab #: 100466**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Vanadium	1	<1	ug/L	20061003.R13A
Yttrium	1	<1	ug/L	20061003.R13A
Zinc	1	6.7	ug/L	20061003.R13A
Zirconium	1	1.2	ug/L	20061003.R13A

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	5.64	pH	20061002.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.48	mg/L	20061004.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.016	mg/L	20061006.R23.2B

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	2.1	NTU	20061003.R21A

Sample Name: LAKE #5 **Date: 9/27/2006** **Matrix: Water** **Lab #: 100467**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.0506	mg/L	20061006.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	17.9	µS/cm	20061002.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	4.42	mg/L	20061003.R90A

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	141	ug/L	20061003.R13A
Antimony	0.5	<0.5	ug/L	20061003.R13A
Arsenic	1	<1	ug/L	20061003.R13A
Barium	1	7	ug/L	20061003.R13A

Sample Name: LAKE #5 **Date: 9/27/2006** **Matrix: Water** **Lab #: 100467**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Beryllium	0.5	<0.5	ug/L	20061003.R13A
Bismuth	1	<1	ug/L	20061003.R13A
Boron	2	5.1	ug/L	20061003.R13A
Cadmium	0.1	0.27	ug/L	20061003.R13A
Calcium	50	1280	ug/L	20061003.R13A
Cerium	1	<1	ug/L	20061003.R13A
Cesium	1	<1	ug/L	20061003.R13A
Chromium	1	<1	ug/L	20061003.R13A
Cobalt	0.1	0.14	ug/L	20061003.R13A
Copper	1	<1	ug/L	20061003.R13A
Europium	1	<1	ug/L	20061003.R13A
Gallium	1	<1	ug/L	20061003.R13A
Iron	20	170	ug/L	20061003.R13A
Lanthanum	1	<1	ug/L	20061003.R13A
Lead	1	2.9	ug/L	20061003.R13A
Lithium	5	<5	ug/L	20061003.R13A
Magnesium	4	297	ug/L	20061003.R13A
Manganese	1	28.5	ug/L	20061003.R13A
Mercury	0.1	<0.1	ug/L	20061003.R13A
Molybdenum	1	<1	ug/L	20061003.R13A
Nickel	1	1.9	ug/L	20061003.R13A
Niobium	1	<1	ug/L	20061003.R13A
Rubidium	1	<1	ug/L	20061003.R13A
Scandium	1	<1	ug/L	20061003.R13A
Selenium	1	<1	ug/L	20061003.R13A
Silver	0.1	<0.1	ug/L	20061003.R13A
Strontium	1	6.8	ug/L	20061003.R13A
Tellurium	1	<1	ug/L	20061003.R13A
Thallium	0.1	<0.1	ug/L	20061003.R13A
Thorium	1	<1	ug/L	20061003.R13A
Tin	1	1.4	ug/L	20061003.R13A
Titanium	1	<1	ug/L	20061003.R13A
Tungsten	1	<1	ug/L	20061003.R13A
Uranium	1	<1	ug/L	20061003.R13A
Vanadium	1	<1	ug/L	20061003.R13A
Yttrium	1	<1	ug/L	20061003.R13A
Zinc	1	5.2	ug/L	20061003.R13A
Zirconium	1	<1	ug/L	20061003.R13A

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	5.90	pH	20061002.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.3	mg/L	20061004.R58A

Sample Name: LAKE #5 **Date: 9/27/2006** **Matrix: Water** **Lab #: 100467**

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.002	mg/L	20061006.R23.2B

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	0.96	NTU	20061003.R21A

Sample Name: LAKE #3 **Date: 9/25/2006** **Matrix: Water** **Lab #: 100468**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.0304	mg/L	20061006.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	18.5	µS/cm	20061002.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	3.32	mg/L	20061003.R90A

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	190	ug/L	20061003.R13A
Antimony	0.5	<0.5	ug/L	20061003.R13A
Arsenic	1	<1	ug/L	20061003.R13A
Barium	1	9.4	ug/L	20061003.R13A
Beryllium	0.5	<0.5	ug/L	20061003.R13A
Bismuth	1	<1	ug/L	20061003.R13A
Boron	2	5.5	ug/L	20061003.R13A
Cadmium	0.1	0.31	ug/L	20061003.R13A
Calcium	50	817	ug/L	20061003.R13A
Cerium	1	<1	ug/L	20061003.R13A
Cesium	1	<1	ug/L	20061003.R13A
Chromium	1	<1	ug/L	20061003.R13A
Cobalt	0.1	0.41	ug/L	20061003.R13A
Copper	1	<1	ug/L	20061003.R13A
Europium	1	<1	ug/L	20061003.R13A

Sample Name: LAKE #3 **Date: 9/25/2006** **Matrix: Water** **Lab #: 100468**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Gallium	1	<1	ug/L	20061003.R13A
Iron	20	78	ug/L	20061003.R13A
Lanthanum	1	<1	ug/L	20061003.R13A
Lead	1	1.3	ug/L	20061003.R13A
Lithium	5	<5	ug/L	20061003.R13A
Magnesium	4	311	ug/L	20061003.R13A
Manganese	1	51.8	ug/L	20061003.R13A
Mercury	0.1	<0.1	ug/L	20061003.R13A
Molybdenum	1	<1	ug/L	20061003.R13A
Nickel	1	1.8	ug/L	20061003.R13A
Niobium	1	<1	ug/L	20061003.R13A
Rubidium	1	<1	ug/L	20061003.R13A
Scandium	1	<1	ug/L	20061003.R13A
Selenium	1	<1	ug/L	20061003.R13A
Silver	0.1	<0.1	ug/L	20061003.R13A
Strontium	1	6.1	ug/L	20061003.R13A
Tellurium	1	<1	ug/L	20061003.R13A
Thallium	0.1	<0.1	ug/L	20061003.R13A
Thorium	1	<1	ug/L	20061003.R13A
Tin	1	1.8	ug/L	20061003.R13A
Titanium	1	<1	ug/L	20061003.R13A
Tungsten	1	<1	ug/L	20061003.R13A
Uranium	1	<1	ug/L	20061003.R13A
Vanadium	1	<1	ug/L	20061003.R13A
Yttrium	1	<1	ug/L	20061003.R13A
Zinc	1	11.2	ug/L	20061003.R13A
Zirconium	1	<1	ug/L	20061003.R13A

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	5.07	pH	20061002.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.53	mg/L	20061004.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.013	mg/L	20061012.R23.2A

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	1.2	NTU	20061003.R21A

Sample Name: LAKE #4 **Date: 9/27/2006** **Matrix: Water** **Lab #: 100469**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.0246	mg/L	20061006.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	18.4	µS/cm	20061002.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	4.42	mg/L	20061003.R90A

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	207	ug/L	20061003.R13A
Antimony	0.5	<0.5	ug/L	20061003.R13A
Arsenic	1	<1	ug/L	20061003.R13A
Barium	1	7.2	ug/L	20061003.R13A
Beryllium	0.5	<0.5	ug/L	20061003.R13A
Bismuth	1	<1	ug/L	20061003.R13A
Boron	2	4.4	ug/L	20061003.R13A
Cadmium	0.1	0.18	ug/L	20061003.R13A
Calcium	50	1310	ug/L	20061003.R13A
Cerium	1	<1	ug/L	20061003.R13A
Cesium	1	<1	ug/L	20061003.R13A
Chromium	1	<1	ug/L	20061003.R13A
Cobalt	0.1	0.14	ug/L	20061003.R13A
Copper	1	<1	ug/L	20061003.R13A
Europium	1	<1	ug/L	20061003.R13A
Gallium	1	<1	ug/L	20061003.R13A
Iron	20	239	ug/L	20061003.R13A
Lanthanum	1	<1	ug/L	20061003.R13A
Lead	1	12	ug/L	20061003.R13A
Lithium	5	<5	ug/L	20061003.R13A
Magnesium	4	281	ug/L	20061003.R13A
Manganese	1	29.3	ug/L	20061003.R13A
Mercury	0.1	<0.1	ug/L	20061003.R13A
Molybdenum	1	<1	ug/L	20061003.R13A
Nickel	1	1.3	ug/L	20061003.R13A
Niobium	1	<1	ug/L	20061003.R13A
Rubidium	1	<1	ug/L	20061003.R13A
Scandium	1	<1	ug/L	20061003.R13A
Selenium	1	<1	ug/L	20061003.R13A
Silver	0.1	<0.1	ug/L	20061003.R13A
Strontium	1	7	ug/L	20061003.R13A

Sample Name: LAKE #4 **Date: 9/27/2006** **Matrix: Water** **Lab #: 100469**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Tellurium	1	<1	ug/L	20061003.R13A
Thallium	0.1	<0.1	ug/L	20061003.R13A
Thorium	1	<1	ug/L	20061003.R13A
Tin	1	<1	ug/L	20061003.R13A
Titanium	1	1.2	ug/L	20061003.R13A
Tungsten	1	<1	ug/L	20061003.R13A
Uranium	1	<1	ug/L	20061003.R13A
Vanadium	1	<1	ug/L	20061003.R13A
Yttrium	1	<1	ug/L	20061003.R13A
Zinc	1	5.5	ug/L	20061003.R13A
Zirconium	1	<1	ug/L	20061003.R13A

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	5.57	pH	20061002.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.36	mg/L	20061004.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.013	mg/L	20061012.R23.2A

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	2	NTU	20061003.R21A

Sample Name: LAKE #1 **Date: 9/28/2006** **Matrix: Water** **Lab #: 100470**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.018	mg/L	20061006.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	18.8	µS/cm	20061003.R12A
Conductivity (Dup)	1	18.6	µS/cm	20061003.R12A

Sample Name: LAKE #1 **Date: 9/28/2006** **Matrix: Water** **Lab #: 100470**

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	4.49	mg/L	20061003.R90A

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	152	ug/L	20061003.R13A
Antimony	0.5	<0.5	ug/L	20061003.R13A
Arsenic	1	<1	ug/L	20061003.R13A
Barium	1	10.1	ug/L	20061003.R13A
Beryllium	0.5	<0.5	ug/L	20061003.R13A
Bismuth	1	<1	ug/L	20061003.R13A
Boron	2	4.6	ug/L	20061003.R13A
Cadmium	0.1	0.25	ug/L	20061003.R13A
Calcium	50	1140	ug/L	20061003.R13A
Cerium	1	<1	ug/L	20061003.R13A
Cesium	1	<1	ug/L	20061003.R13A
Chromium	1	<1	ug/L	20061003.R13A
Cobalt	0.1	0.21	ug/L	20061003.R13A
Copper	1	<1	ug/L	20061003.R13A
Europium	1	<1	ug/L	20061003.R13A
Gallium	1	<1	ug/L	20061003.R13A
Iron	20	69	ug/L	20061003.R13A
Lanthanum	1	<1	ug/L	20061003.R13A
Lead	1	<1	ug/L	20061003.R13A
Lithium	5	<5	ug/L	20061003.R13A
Magnesium	4	399	ug/L	20061003.R13A
Manganese	1	19.6	ug/L	20061003.R13A
Mercury	0.1	<0.1	ug/L	20061003.R13A
Molybdenum	1	<1	ug/L	20061003.R13A
Nickel	1	1.5	ug/L	20061003.R13A
Niobium	1	<1	ug/L	20061003.R13A
Rubidium	1	<1	ug/L	20061003.R13A
Scandium	1	<1	ug/L	20061003.R13A
Selenium	1	<1	ug/L	20061003.R13A
Silver	0.1	<0.1	ug/L	20061003.R13A
Strontium	1	10.7	ug/L	20061003.R13A
Tellurium	1	<1	ug/L	20061003.R13A
Thallium	0.1	<0.1	ug/L	20061003.R13A
Thorium	1	<1	ug/L	20061003.R13A
Tin	1	1	ug/L	20061003.R13A
Titanium	1	<1	ug/L	20061003.R13A
Tungsten	1	<1	ug/L	20061003.R13A
Uranium	1	<1	ug/L	20061003.R13A
Vanadium	1	<1	ug/L	20061003.R13A
Yttrium	1	<1	ug/L	20061003.R13A
Zinc	1	3.9	ug/L	20061003.R13A

Sample Name: LAKE #1 **Date: 9/28/2006** **Matrix: Water** **Lab #: 100470**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Zirconium	1	<1	ug/L	20061003.R13A

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	5.89	pH	20061003.R2A
pH (Dup)	N/A	5.88	pH	20061003.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.31	mg/L	20061004.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.011	mg/L	20061012.R23.2A

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	1.5	NTU	20061003.R21A

Sample Name: LAKE #8 **Date: 9/29/2006** **Matrix: Water** **Lab #: 100471**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.0318	mg/L	20061006.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	36.6	µS/cm	20061003.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	12.1	mg/L	20061003.R90A

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	32.2	ug/L	20061003.R13A
Antimony	0.5	<0.5	ug/L	20061003.R13A
Arsenic	1	<1	ug/L	20061003.R13A
Barium	1	9.6	ug/L	20061003.R13A
Beryllium	0.5	<0.5	ug/L	20061003.R13A
Bismuth	1	<1	ug/L	20061003.R13A

Sample Name: LAKE #8 **Date: 9/29/2006** **Matrix: Water** **Lab #: 100471**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Boron	2	6	ug/L	20061003.R13A
Cadmium	0.1	0.31	ug/L	20061003.R13A
Calcium	50	2860	ug/L	20061003.R13A
Cerium	1	<1	ug/L	20061003.R13A
Cesium	1	<1	ug/L	20061003.R13A
Chromium	1	<1	ug/L	20061003.R13A
Cobalt	0.1	<0.1	ug/L	20061003.R13A
Copper	1	1.1	ug/L	20061003.R13A
Europium	1	<1	ug/L	20061003.R13A
Gallium	1	<1	ug/L	20061003.R13A
Iron	20	130	ug/L	20061003.R13A
Lanthanum	1	<1	ug/L	20061003.R13A
Lead	1	2.3	ug/L	20061003.R13A
Lithium	5	<5	ug/L	20061003.R13A
Magnesium	4	1210	ug/L	20061003.R13A
Manganese	1	11.7	ug/L	20061003.R13A
Mercury	0.1	<0.1	ug/L	20061003.R13A
Molybdenum	1	<1	ug/L	20061003.R13A
Nickel	1	1.3	ug/L	20061003.R13A
Niobium	1	<1	ug/L	20061003.R13A
Rubidium	1	<1	ug/L	20061003.R13A
Scandium	1	<1	ug/L	20061003.R13A
Selenium	1	<1	ug/L	20061003.R13A
Silver	0.1	<0.1	ug/L	20061003.R13A
Strontium	1	22.3	ug/L	20061003.R13A
Tellurium	1	<1	ug/L	20061003.R13A
Thallium	0.1	<0.1	ug/L	20061003.R13A
Thorium	1	<1	ug/L	20061003.R13A
Tin	1	1.2	ug/L	20061003.R13A
Titanium	1	<1	ug/L	20061003.R13A
Tungsten	1	<1	ug/L	20061003.R13A
Uranium	1	<1	ug/L	20061003.R13A
Vanadium	1	<1	ug/L	20061003.R13A
Yttrium	1	<1	ug/L	20061003.R13A
Zinc	1	2.3	ug/L	20061003.R13A
Zirconium	1	<1	ug/L	20061003.R13A

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.64	pH	20061003.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.35	mg/L	20061004.R58A

Sample Name: LAKE #8 **Date: 9/29/2006** **Matrix: Water** **Lab #: 100471**

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.017	mg/L	20061012.R23.2A

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	1.5	NTU	20061003.R21A

Sample Name: LAKE #15 **Date: 9/29/2006** **Matrix: Water** **Lab #: 100472**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	15	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.018	mg/L	20061006.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	64.6	µS/cm	20061003.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	19.7	mg/L	20061003.R90A

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	199	ug/L	20061003.R13A
Antimony	0.5	<0.5	ug/L	20061003.R13A
Arsenic	1	<1	ug/L	20061003.R13A
Barium	1	10.8	ug/L	20061003.R13A
Beryllium	0.5	<0.5	ug/L	20061003.R13A
Bismuth	1	<1	ug/L	20061003.R13A
Boron	2	5.5	ug/L	20061003.R13A
Cadmium	0.1	0.26	ug/L	20061003.R13A
Calcium	50	4900	ug/L	20061003.R13A
Cerium	1	<1	ug/L	20061003.R13A
Cesium	1	<1	ug/L	20061003.R13A
Chromium	1	<1	ug/L	20061003.R13A
Cobalt	0.1	0.24	ug/L	20061003.R13A
Copper	1	5.2	ug/L	20061003.R13A
Europium	1	<1	ug/L	20061003.R13A
Gallium	1	<1	ug/L	20061003.R13A
Iron	20	548	ug/L	20061003.R13A

Sample Name: LAKE #15 **Date: 9/29/2006** **Matrix: Water** **Lab #: 100472**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Lanthanum	1	<1	ug/L	20061003.R13A
Lead	1	2.1	ug/L	20061003.R13A
Lithium	5	<5	ug/L	20061003.R13A
Magnesium	4	1810	ug/L	20061003.R13A
Manganese	1	32.1	ug/L	20061003.R13A
Mercury	0.1	<0.1	ug/L	20061003.R13A
Molybdenum	1	<1	ug/L	20061003.R13A
Nickel	1	1.7	ug/L	20061003.R13A
Niobium	1	<1	ug/L	20061003.R13A
Rubidium	1	1.9	ug/L	20061003.R13A
Scandium	1	1.3	ug/L	20061003.R13A
Selenium	1	<1	ug/L	20061003.R13A
Silver	0.1	<0.1	ug/L	20061003.R13A
Strontium	1	32.4	ug/L	20061003.R13A
Tellurium	1	<1	ug/L	20061003.R13A
Thallium	0.1	<0.1	ug/L	20061003.R13A
Thorium	1	<1	ug/L	20061003.R13A
Tin	1	1.5	ug/L	20061003.R13A
Titanium	1	6.1	ug/L	20061003.R13A
Tungsten	1	<1	ug/L	20061003.R13A
Uranium	1	<1	ug/L	20061003.R13A
Vanadium	1	<1	ug/L	20061003.R13A
Yttrium	1	<1	ug/L	20061003.R13A
Zinc	1	3.6	ug/L	20061003.R13A
Zirconium	1	<1	ug/L	20061003.R13A

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.59	pH	20061003.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.58	mg/L	20061004.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.0348	mg/L	20061012.R23.2A

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	8.2	NTU	20061003.R21A

Sample Name: LAKE #7 **Date: 9/25/2006** **Matrix: Water** **Lab #: 100473**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061004.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.0528	mg/L	20061006.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	20.8	µS/cm	20061003.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	5.68	mg/L	20061003.R90A
Total Hardness (as CaCO3) (Dup)	0.1	5.69	mg/L	20061003.R90A

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	96.5	ug/L	20061003.R13A
Aluminum (Dup)	1	98.9	ug/L	20061003.R13A
Antimony	0.5	<0.5	ug/L	20061003.R13A
Antimony (Dup)	0.5	<0.5	ug/L	20061003.R13A
Arsenic	1	<1	ug/L	20061003.R13A
Arsenic (Dup)	1	<1	ug/L	20061003.R13A
Barium	1	5.4	ug/L	20061003.R13A
Barium (Dup)	1	5.6	ug/L	20061003.R13A
Beryllium	0.5	<0.5	ug/L	20061003.R13A
Beryllium (Dup)	0.5	<0.5	ug/L	20061003.R13A
Bismuth	1	<1	ug/L	20061003.R13A
Bismuth (Dup)	1	<1	ug/L	20061003.R13A
Boron	2	4.5	ug/L	20061003.R13A
Boron (Dup)	2	4.6	ug/L	20061003.R13A
Cadmium	0.1	0.29	ug/L	20061003.R13A
Cadmium (Dup)	0.1	0.32	ug/L	20061003.R13A
Calcium	50	1720	ug/L	20061003.R13A
Calcium (Dup)	50	1720	ug/L	20061003.R13A
Cerium	1	<1	ug/L	20061003.R13A
Cerium (Dup)	1	<1	ug/L	20061003.R13A
Cesium	1	<1	ug/L	20061003.R13A
Cesium (Dup)	1	<1	ug/L	20061003.R13A
Chromium	1	<1	ug/L	20061003.R13A
Chromium (Dup)	1	<1	ug/L	20061003.R13A
Cobalt	0.1	0.1	ug/L	20061003.R13A
Cobalt (Dup)	0.1	0.1	ug/L	20061003.R13A
Copper	1	<1	ug/L	20061003.R13A
Copper (Dup)	1	<1	ug/L	20061003.R13A
Europium	1	<1	ug/L	20061003.R13A
Europium (Dup)	1	<1	ug/L	20061003.R13A

Sample Name: LAKE #7 **Date: 9/25/2006** **Matrix: Water** **Lab #: 100473**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Gallium	1	<1	ug/L	20061003.R13A
Gallium (Dup)	1	<1	ug/L	20061003.R13A
Iron	20	160	ug/L	20061003.R13A
Iron (Dup)	20	160	ug/L	20061003.R13A
Lanthanum	1	<1	ug/L	20061003.R13A
Lanthanum (Dup)	1	<1	ug/L	20061003.R13A
Lead	1	3.3	ug/L	20061003.R13A
Lead (Dup)	1	3.3	ug/L	20061003.R13A
Lithium	5	<5	ug/L	20061003.R13A
Lithium (Dup)	5	<5	ug/L	20061003.R13A
Magnesium	4	336	ug/L	20061003.R13A
Magnesium (Dup)	4	340	ug/L	20061003.R13A
Manganese	1	40.9	ug/L	20061003.R13A
Manganese (Dup)	1	41.9	ug/L	20061003.R13A
Mercury	0.1	<0.1	ug/L	20061003.R13A
Mercury (Dup)	0.1	<0.1	ug/L	20061003.R13A
Molybdenum	1	<1	ug/L	20061003.R13A
Molybdenum (Dup)	1	<1	ug/L	20061003.R13A
Nickel	1	<1	ug/L	20061003.R13A
Nickel (Dup)	1	<1	ug/L	20061003.R13A
Niobium	1	<1	ug/L	20061003.R13A
Niobium (Dup)	1	<1	ug/L	20061003.R13A
Rubidium	1	<1	ug/L	20061003.R13A
Rubidium (Dup)	1	<1	ug/L	20061003.R13A
Scandium	1	<1	ug/L	20061003.R13A
Scandium (Dup)	1	<1	ug/L	20061003.R13A
Selenium	1	<1	ug/L	20061003.R13A
Selenium (Dup)	1	<1	ug/L	20061003.R13A
Silver	0.1	<0.1	ug/L	20061003.R13A
Silver (Dup)	0.1	<0.1	ug/L	20061003.R13A
Strontium	1	8	ug/L	20061003.R13A
Strontium (Dup)	1	7.8	ug/L	20061003.R13A
Tellurium	1	<1	ug/L	20061003.R13A
Tellurium (Dup)	1	<1	ug/L	20061003.R13A
Thallium	0.1	<0.1	ug/L	20061003.R13A
Thallium (Dup)	0.1	<0.1	ug/L	20061003.R13A
Thorium	1	<1	ug/L	20061003.R13A
Thorium (Dup)	1	<1	ug/L	20061003.R13A
Tin	1	1.1	ug/L	20061003.R13A
Tin (Dup)	1	1.1	ug/L	20061003.R13A
Titanium	1	<1	ug/L	20061003.R13A
Titanium (Dup)	1	<1	ug/L	20061003.R13A
Tungsten	1	<1	ug/L	20061003.R13A
Tungsten (Dup)	1	<1	ug/L	20061003.R13A
Uranium	1	<1	ug/L	20061003.R13A

Sample Name: LAKE #7 **Date: 9/25/2006** **Matrix: Water** **Lab #: 100473**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Uranium (Dup)	1	<1	ug/L	20061003.R13A
Vanadium	1	<1	ug/L	20061003.R13A
Vanadium (Dup)	1	<1	ug/L	20061003.R13A
Yttrium	1	<1	ug/L	20061003.R13A
Yttrium (Dup)	1	<1	ug/L	20061003.R13A
Zinc	1	5	ug/L	20061003.R13A
Zinc (Dup)	1	5.2	ug/L	20061003.R13A
Zirconium	1	<1	ug/L	20061003.R13A
Zirconium (Dup)	1	<1	ug/L	20061003.R13A

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.14	pH	20061003.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.39	mg/L	20061004.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.011	mg/L	20061012.R23.2A

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061006.R27A
Total Suspended Solids (Dup)	6	<6	mg/L	20061006.R27A

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	1	NTU	20061003.R21A

MDL Method detection limit or minimum reporting limit.
% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.
QAQCID This is a unique reference to the quality control data set used to generate the reported value.
Data reported for organic analysis in soil samples are corrected for moisture content
Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.
INT Interferences
TNTC To numerous to count
ND Not detected

Unless otherwise specified in the sample comments section of the report, the following statements apply to all samples which were analyzed using the CCME PHC method.

The method as performed complies with the Reference Method for the CWS PHC and is validated for use in this laboratory.
The Chromatogram descended to the baseline at or before nC50.
The nC6 and nC10 response factors were within 30% of the response factor for Toluene.
The nC10, nC16, and nC34 response factors were within 10% of their average.
The nC50 was at least 70% of the nC10-nC16-nC34 average.
The linearity of the calibration curve was within 15% based on response factor.
Any QC data is available on request.
Extraction and analysis hold times were met.
If F4G results are reported, they are not to be added to the C6 to C50 results.
BTEX and selected PAHs have been subtracted from the appropriate fractions only if the parameter names are F1-BTEX, F2-NAPTH, and F3-PAH, otherwise, these compounds have not been subtracted from their respective fractions.

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	205	180	20061004.R69A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	10	<10	<10	20061004.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Ammonia (as N)	0.002	mg/L	0.6	0.54	0.4	20061006.R42A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20061006.R42A

CONDWATER

100 µS Blank Spike						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Conductivity	2	µS/cm	110	104	90	20061002.R12A
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Conductivity	2	µS/cm	110	106	90	20061003.R12A

ICPMS Water

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Aluminum	1	ug/L	1	<1	<1	20061003.R13A
Antimony	0.5	ug/L	0.5	<0.5	<0.5	20061003.R13A
Arsenic	1	ug/L	1	<1	<1	20061003.R13A
Barium	0.5	ug/L	0.5	<0.5	<0.5	20061003.R13A
Beryllium	1	ug/L	1	<1	<1	20061003.R13A
Bismuth	50	ug/L	50	<50	<50	20061003.R13A
Boron	1	ug/L	1	<1	<1	20061003.R13A
Cadmium	1	ug/L	1	<1	<1	20061003.R13A
Calcium	0.1	ug/L	0.1	<0.1	<0.1	20061003.R13A
Cerium	0.1	ug/L	0.1	<0.1	<0.1	20061003.R13A
Cesium	1	ug/L	1	<1	<1	20061003.R13A
Chromium	1	ug/L	1	<1	<1	20061003.R13A
Cobalt	1	ug/L	1	<1	<1	20061003.R13A
Europium	1	ug/L	1	<1	<1	20061003.R13A
Gallium	1	ug/L	1	<1	<1	20061003.R13A
Iron	20	ug/L	20	<20	<20	20061003.R13A
Lanthanum	1	ug/L	1	<1	<1	20061003.R13A

ICPMS Water

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Lead	1	ug/L	1	<1	<1	20061003.R13A
Lithium	5	ug/L	5	<5	<5	20061003.R13A
Magnesium	4	ug/L	4	<4	<4	20061003.R13A
Manganese	1	ug/L	1	<1	<1	20061003.R13A
Mercury	0.1	ug/L	0.1	<0.1	<0.1	20061003.R13A
Molybdenum	1	ug/L	1	<1	<1	20061003.R13A
Nickel	1	ug/L	1	<1	<1	20061003.R13A
Niobium	1	ug/L	1	<1	<1	20061003.R13A
Rubidium	1	ug/L	1	<1	<1	20061003.R13A
Scandium	1	ug/L	1	<1	<1	20061003.R13A
Selenium	1	ug/L	1	<1	<1	20061003.R13A
Silver	0.1	ug/L	0.1	<0.1	<0.1	20061003.R13A
Strontium	1	ug/L	1	<1	<1	20061003.R13A
Tellurium	1	ug/L	1	<1	<1	20061003.R13A
Thallium	1	ug/L	1	<1	<1	20061003.R13A
Thorium	1	ug/L	1	<1	<1	20061003.R13A
Tin	1	ug/L	1	<1	<1	20061003.R13A
Titanium	0.1	ug/L	0.1	<0.1	<0.1	20061003.R13A
Tungsten	1	ug/L	1	<1	<1	20061003.R13A
Uranium	1	ug/L	1	<1	<1	20061003.R13A
Vanadium	1	ug/L	1	<1	<1	20061003.R13A
Yttrium	1	ug/L	1	<1	<1	20061003.R13A
Zinc	1	ug/L	1	<1	<1	20061003.R13A
Zirconium	1	ug/L	1	<1	<1	20061003.R13A

Blank Spike (1011)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Aluminum	1	ug/L	600	476	400	20061003.R13A
Arsenic	1	ug/L	120	92.2	80	20061003.R13A
Barium	1	ug/L	120	96.2	80	20061003.R13A
Beryllium	1	ug/L	125	93.3	75	20061003.R13A
Boron	2	ug/L	125	92.2	75	20061003.R13A
Cadmium	1	ug/L	120	94.9	80	20061003.R13A
Calcium	50	ug/L	1200	878	800	20061003.R13A
Chromium	1	ug/L	120	91.8	80	20061003.R13A
Cobalt	1	ug/L	120	92.9	80	20061003.R13A
Copper	1	ug/L	120	96.2	80	20061003.R13A
Iron	20	ug/L	600	460	400	20061003.R13A
Lead	1	ug/L	120	98.5	80	20061003.R13A
Magnesium	4	ug/L	1200	957	800	20061003.R13A
Manganese	1	ug/L	120	98.1	80	20061003.R13A
Molybdenum	1	ug/L	120	99.5	80	20061003.R13A
Nickel	1	ug/L	120	93.2	80	20061003.R13A
Selenium	1	ug/L	120	87.1	80	20061003.R13A
Thallium	1	ug/L	120	96.9	80	20061003.R13A
Vanadium	1	ug/L	120	93.6	80	20061003.R13A

ICPMS Water

Blank Spike (1011)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Zinc	1	ug/L	120	85.7	80	20061003.R13A

pHWATER

pH 7						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
pH	N/A	pH	7.1	6.98	6.9	20061002.R2A
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
pH	N/A	pH	7.1	6.99	6.9	20061003.R2A

TKN Water

Blank Spike (0.5 mg/L)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.008	mg/L	0.6	0.542	0.4	20061004.R58A

Method Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.008	mg/L	0.08	<0.008	<0.008	20061004.R58A

TP Water

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.002	mg/L	0.005	<0.002	<0.002	20061006.R23.2B
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.002	mg/L	0.005	<0.002	<0.002	20061012.R23.2A

Blank Spike (0.05 mg/L)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.002	mg/L	0.06	0.0446	0.04	20061006.R23.2B
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.002	mg/L	0.06	0.0514	0.04	20061012.R23.2A

TSS

160 mg/L Control						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Suspended Solids	6	mg/L	192	157	128	20061006.R27A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Suspended Solids	3	mg/L	<3	<3	<3	20061006.R27A

Turbidity

1 NTU Control						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Turbidity	N/A	NTU	0.84	0.78	0.72	20061003.R21A

Turbidity Water						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20061003.R21A

UCL Upper Control Limit
LCL Lower Control Limit

TESTMARK Laboratories Ltd.

Committed to Quality and Service

Analytical Report

Client: Jan Linquist
Company: NAR Environmental Consulting
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Notes: Please see sample notes.

Work Order Number: **27888**
Date Order Received: 9/27/2006
Regulation: PSQG
PO #:
Project #: Marathon PGM

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
Lake #11	100188	Sediment		9/26/2006	
Lake #16	100189	Sediment		9/26/2006	
Lake #10	100190	Sediment		9/26/2006	
Lake #14	100191	Sediment		9/26/2006	
Lake #9	100192	Sediment		9/26/2006	

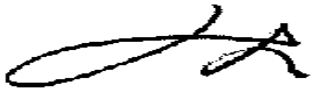
The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
ICPMS Soil	Determination of Metals in Soil by ICP/MS with Aqua Regia Digest **Instrument group:** Perkin Elmer Elan 5000	Mod. SW846-6020
Moisture	Determination of Percent Moisture **Instrument group:** Cahn Analytical Balance	In House
TKN Soil	Determination of Total Kjedahl Nitrogen in Soils **Instrument group:** Skalar San++ FIA	APHA 4500B
TOC Soil	Determination of Total Organic Carbon in Soil **Instrument group:** Leco TOC Analyzer	APHA
TP Sediment	Determination of Total Phosphorus in Sediment by Block Digest/FIA **Instrument group:** Skalar San++ FIA	Mod. APHA-4500

Sample Notes: Please note: Some of the sampling times shown on the sample containers did not match the chain-of-custody information. The sample containers for samples 100188 and 100190 indicated that they were sampled on the 24th, and the sample container for 100189 indicated that it was sampled on the 25th. The sampling dates shown on the chain-of-custody form have been included on this report.

This report has been approved by:

Rita Rienguette, Chem. Eng. Tech.
Organic Laboratory Supervisor



Dr. Xiaojing Li
Chief Chemist

Dr. Robert Hamel
Inorganic Section Head

Sample Data:

Sample Name: Lake #11 **Date: 9/26/2006** **Matrix: Sediment** **Lab #: 100188**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	9730	µg/g	20061005.R13A
Antimony	0.5	<0.5	µg/g	20061005.R13A
Arsenic	0.5	3.9	µg/g	20061005.R13A
Barium	0.5	92.9	µg/g	20061005.R13A
Beryllium	0.5	0.56	µg/g	20061005.R13A
Bismuth	0.5	<0.5	µg/g	20061005.R13A
Cadmium	0.05	1.35	µg/g	20061005.R13A
Calcium	25	4700	µg/g	20061005.R13A
Cerium	0.5	52.2	µg/g	20061005.R13A
Cesium	0.5	0.74	µg/g	20061005.R13A
Chromium	0.5	24.9	µg/g	20061005.R13A
Cobalt	0.05	28.5	µg/g	20061005.R13A
Copper	5	1360	µg/g	20061005.R13A
Europium	0.5	0.92	µg/g	20061005.R13A
Gallium	0.5	6.33	µg/g	20061005.R13A
Iron	100	8590	µg/g	20061005.R13A
Lanthanum	0.5	38	µg/g	20061005.R13A
Lead	0.5	42.6	µg/g	20061005.R13A
Lithium	2.5	4.3	µg/g	20061005.R13A
Magnesium	2	2190	µg/g	20061005.R13A
Manganese	0.5	116	µg/g	20061005.R13A
Mercury	0.05	0.19	µg/g	20061005.R13A
Molybdenum	0.5	1.7	µg/g	20061005.R13A
Nickel	5	125	µg/g	20061005.R13A
Niobium	0.5	2.2	µg/g	20061005.R13A
Rubidium	0.5	4.9	µg/g	20061005.R13A
Scandium	0.5	0.67	µg/g	20061005.R13A
Selenium	0.5	3	µg/g	20061005.R13A
Silver	0.5	1	µg/g	20061005.R13A
Strontium	0.5	53.9	µg/g	20061005.R13A
Thallium	0.5	<0.5	µg/g	20061005.R13A
Thorium	0.5	<0.5	µg/g	20061005.R13A
Tin	0.5	1.4	µg/g	20061005.R13A
Titanium	5	161	µg/g	20061005.R13A
Tungsten	0.5	0.81	µg/g	20061005.R13A
Uranium	0.5	0.8	µg/g	20061005.R13A
Vanadium	0.5	35.4	µg/g	20061005.R13A
Yttrium	0.5	14.1	µg/g	20061005.R13A
Zinc	5	113	µg/g	20061005.R13A
Zirconium	0.5	6.38	µg/g	20061005.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	92.9	%	20061011.R99B

Sample Name: Lake #11 **Date: 9/26/2006** **Matrix: Sediment** **Lab #: 100188**

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**

TKN Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.028	1.84	%(w/w)	20061006.R58B

TOC Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	1	17.1	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	550	1600	µg/g	20061011.R23A

Sample Name: Lake #16 **Date: 9/26/2006** **Matrix: Sediment** **Lab #: 100189**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	5410	µg/g	20061005.R13A
Antimony	0.5	<0.5	µg/g	20061005.R13A
Arsenic	0.5	2.4	µg/g	20061005.R13A
Barium	0.5	103	µg/g	20061005.R13A
Beryllium	0.5	<0.5	µg/g	20061005.R13A
Bismuth	0.5	<0.5	µg/g	20061005.R13A
Cadmium	0.05	1.11	µg/g	20061005.R13A
Calcium	250	17600	µg/g	20061005.R13A
Cerium	0.5	102	µg/g	20061005.R13A
Cesium	0.5	<0.5	µg/g	20061005.R13A
Chromium	0.5	9.8	µg/g	20061005.R13A
Cobalt	0.05	15.8	µg/g	20061005.R13A
Copper	5	529	µg/g	20061005.R13A
Europium	0.5	2.1	µg/g	20061005.R13A
Gallium	0.5	5.06	µg/g	20061005.R13A
Iron	99	33600	µg/g	20061005.R13A
Lanthanum	0.5	59.2	µg/g	20061005.R13A
Lead	0.5	21.3	µg/g	20061005.R13A
Lithium	2.5	2.7	µg/g	20061005.R13A
Magnesium	2	3110	µg/g	20061005.R13A
Manganese	0.5	223	µg/g	20061005.R13A
Mercury	0.05	0.1	µg/g	20061005.R13A
Molybdenum	0.5	0.68	µg/g	20061005.R13A
Nickel	0.5	30	µg/g	20061005.R13A
Niobium	0.5	2.6	µg/g	20061005.R13A
Rubidium	0.5	3.8	µg/g	20061005.R13A
Scandium	0.5	1.7	µg/g	20061005.R13A
Selenium	0.5	3.3	µg/g	20061005.R13A
Silver	0.5	<0.5	µg/g	20061005.R13A

Sample Name: Lake #16 **Date: 9/26/2006** **Matrix: Sediment** **Lab #: 100189**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Strontium	5	112	µg/g	20061005.R13A
Thallium	0.5	<0.5	µg/g	20061005.R13A
Thorium	0.5	1.2	µg/g	20061005.R13A
Tin	0.5	0.58	µg/g	20061005.R13A
Titanium	5	570	µg/g	20061005.R13A
Tungsten	0.5	<0.5	µg/g	20061005.R13A
Uranium	0.5	0.74	µg/g	20061005.R13A
Vanadium	0.5	75	µg/g	20061005.R13A
Yttrium	0.5	27	µg/g	20061005.R13A
Zinc	0.5	80.6	µg/g	20061005.R13A
Zirconium	0.5	3.9	µg/g	20061005.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	93.3	%	20061011.R99B

TKN Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.03	2.33	%(w/w)	20061006.R58B

TOC Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	1	29.8	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	600	7950	µg/g	20061011.R23A

Sample Name: Lake #10 **Date: 9/26/2006** **Matrix: Sediment** **Lab #: 100190**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	7310	µg/g	20061005.R13A
Antimony	0.5	<0.5	µg/g	20061005.R13A
Arsenic	0.5	1.9	µg/g	20061005.R13A
Barium	0.5	95.8	µg/g	20061005.R13A
Beryllium	0.5	0.54	µg/g	20061005.R13A
Bismuth	0.5	<0.5	µg/g	20061005.R13A
Cadmium	0.05	1.13	µg/g	20061005.R13A
Calcium	25	4680	µg/g	20061005.R13A
Cerium	0.5	77.8	µg/g	20061005.R13A
Cesium	0.5	0.52	µg/g	20061005.R13A
Chromium	0.5	21	µg/g	20061005.R13A
Cobalt	0.05	10.3	µg/g	20061005.R13A
Copper	5	368	µg/g	20061005.R13A
Europium	0.5	1.4	µg/g	20061005.R13A

Sample Name: Lake #10 **Date: 9/26/2006** **Matrix: Sediment** **Lab #: 100190**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Gallium	0.5	4.9	µg/g	20061005.R13A
Iron	100	6480	µg/g	20061005.R13A
Lanthanum	0.5	59.9	µg/g	20061005.R13A
Lead	0.5	20.8	µg/g	20061005.R13A
Lithium	2.5	2.9	µg/g	20061005.R13A
Magnesium	2	1280	µg/g	20061005.R13A
Manganese	0.5	105	µg/g	20061005.R13A
Mercury	0.05	0.081	µg/g	20061005.R13A
Molybdenum	0.5	0.75	µg/g	20061005.R13A
Nickel	0.5	44.9	µg/g	20061005.R13A
Niobium	0.5	2.1	µg/g	20061005.R13A
Rubidium	0.5	3.2	µg/g	20061005.R13A
Scandium	0.5	<0.5	µg/g	20061005.R13A
Selenium	0.5	3	µg/g	20061005.R13A
Silver	0.5	<0.5	µg/g	20061005.R13A
Strontium	0.5	49.1	µg/g	20061005.R13A
Thallium	0.5	<0.5	µg/g	20061005.R13A
Thorium	0.5	<0.5	µg/g	20061005.R13A
Tin	0.5	0.6	µg/g	20061005.R13A
Titanium	0.5	95.4	µg/g	20061005.R13A
Tungsten	0.5	<0.5	µg/g	20061005.R13A
Uranium	0.5	0.97	µg/g	20061005.R13A
Vanadium	0.5	21	µg/g	20061005.R13A
Yttrium	0.5	20.3	µg/g	20061005.R13A
Zinc	0.5	77.4	µg/g	20061005.R13A
Zirconium	0.5	2	µg/g	20061005.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	93.1	%	20061011.R99B

TKN Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.029	1.65	%(w/w)	20061006.R58B
Total Kjeldahl Nitrogen (Dup)	0.029	1.8	%(w/w)	20061006.R58B

TOC Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	1	20.8	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	610	1600	µg/g	20061011.R23A
Total Phosphorus (as P) (Dup)	540	1200	µg/g	20061011.R23A

Sample Name: Lake #14 **Date: 9/26/2006** **Matrix: Sediment** **Lab #: 100191**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	10300	µg/g	20061005.R13A
Antimony	0.5	<0.5	µg/g	20061005.R13A
Arsenic	0.5	3	µg/g	20061005.R13A
Barium	0.5	183	µg/g	20061005.R13A
Beryllium	0.5	0.63	µg/g	20061005.R13A
Bismuth	0.5	<0.5	µg/g	20061005.R13A
Cadmium	0.05	0.43	µg/g	20061005.R13A
Calcium	250	23400	µg/g	20061005.R13A
Cerium	0.5	67.2	µg/g	20061005.R13A
Cesium	0.5	1.8	µg/g	20061005.R13A
Chromium	0.5	68.9	µg/g	20061005.R13A
Cobalt	0.05	18.6	µg/g	20061005.R13A
Copper	0.5	78.2	µg/g	20061005.R13A
Europium	0.5	1.2	µg/g	20061005.R13A
Gallium	0.5	12.4	µg/g	20061005.R13A
Iron	99	37400	µg/g	20061005.R13A
Lanthanum	0.5	36.4	µg/g	20061005.R13A
Lead	0.5	13	µg/g	20061005.R13A
Lithium	2.5	22	µg/g	20061005.R13A
Magnesium	20	11400	µg/g	20061005.R13A
Manganese	5	692	µg/g	20061005.R13A
Mercury	0.05	<0.05	µg/g	20061005.R13A
Molybdenum	0.5	0.62	µg/g	20061005.R13A
Nickel	0.5	45	µg/g	20061005.R13A
Niobium	0.5	3.2	µg/g	20061005.R13A
Rubidium	0.5	25.1	µg/g	20061005.R13A
Scandium	0.5	3.3	µg/g	20061005.R13A
Selenium	0.5	1.1	µg/g	20061005.R13A
Silver	0.5	<0.5	µg/g	20061005.R13A
Strontium	0.5	66.5	µg/g	20061005.R13A
Thallium	0.5	<0.5	µg/g	20061005.R13A
Thorium	0.5	6.12	µg/g	20061005.R13A
Tin	0.5	1	µg/g	20061005.R13A
Titanium	5	1610	µg/g	20061005.R13A
Tungsten	0.5	<0.5	µg/g	20061005.R13A
Uranium	0.5	0.92	µg/g	20061005.R13A
Vanadium	0.5	71.5	µg/g	20061005.R13A
Yttrium	0.5	12.9	µg/g	20061005.R13A
Zinc	0.5	69.3	µg/g	20061005.R13A
Zirconium	0.5	16.8	µg/g	20061005.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	62.9	%	20061011.R99B

Sample Name: Lake #14 **Date: 9/26/2006** **Matrix: Sediment** **Lab #: 100191**

TKN Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.0054	0.374	%(w/w)	20061006.R58B

TOC Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	1	7.3	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	110	1000	µg/g	20061011.R23A

Sample Name: Lake #9 **Date: 9/26/2006** **Matrix: Sediment** **Lab #: 100192**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	5	5900	µg/g	20061005.R13A
Antimony	0.5	<0.5	µg/g	20061005.R13A
Arsenic	0.5	1.8	µg/g	20061005.R13A
Barium	0.5	111	µg/g	20061005.R13A
Beryllium	0.5	0.6	µg/g	20061005.R13A
Bismuth	0.5	<0.5	µg/g	20061005.R13A
Cadmium	0.05	1.16	µg/g	20061005.R13A
Calcium	250	5780	µg/g	20061005.R13A
Cerium	0.5	109	µg/g	20061005.R13A
Cesium	0.5	0.67	µg/g	20061005.R13A
Chromium	0.5	10.8	µg/g	20061005.R13A
Cobalt	0.05	6.64	µg/g	20061005.R13A
Copper	5	167	µg/g	20061005.R13A
Europium	0.5	1.4	µg/g	20061005.R13A
Gallium	0.5	5.62	µg/g	20061005.R13A
Iron	100	7560	µg/g	20061005.R13A
Lanthanum	0.5	78.3	µg/g	20061005.R13A
Lead	0.5	30.9	µg/g	20061005.R13A
Lithium	2.5	2.8	µg/g	20061005.R13A
Magnesium	2	1330	µg/g	20061005.R13A
Manganese	0.5	138	µg/g	20061005.R13A
Mercury	0.05	<0.05	µg/g	20061005.R13A
Molybdenum	0.5	0.85	µg/g	20061005.R13A
Nickel	0.5	19	µg/g	20061005.R13A
Niobium	0.5	9.95	µg/g	20061005.R13A
Rubidium	0.5	4.7	µg/g	20061005.R13A
Scandium	0.5	0.57	µg/g	20061005.R13A
Selenium	0.5	2.2	µg/g	20061005.R13A
Silver	0.5	<0.5	µg/g	20061005.R13A
Strontium	0.5	57.8	µg/g	20061005.R13A
Thallium	0.5	<0.5	µg/g	20061005.R13A

Sample Name: Lake #9 **Date: 9/26/2006** **Matrix: Sediment** **Lab #: 100192**

ICPMS Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Thorium	0.5	0.72	µg/g	20061005.R13A
Tin	0.5	1.4	µg/g	20061005.R13A
Titanium	5	201	µg/g	20061005.R13A
Tungsten	0.5	<0.5	µg/g	20061005.R13A
Uranium	0.5	1.2	µg/g	20061005.R13A
Vanadium	0.5	24.8	µg/g	20061005.R13A
Yttrium	0.5	24.1	µg/g	20061005.R13A
Zinc	0.5	66.6	µg/g	20061005.R13A
Zirconium	0.5	3.4	µg/g	20061005.R13A

Moisture				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
% Moisture	0.1	90.7	%	20061011.R99B

TKN Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.022	1.74	%(w/w)	20061006.R58B

TOC Soil				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Organic Carbon	1	25.6	%	20061011.R55A

TP Sediment				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	420	710	µg/g	20061011.R23A

MDL Method detection limit or minimum reporting limit.
% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.
QAQCID This is a unique reference to the quality control data set used to generate the reported value.
Data reported for organic analysis in soil samples are corrected for moisture content
Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.
INT Interferences
TNTC To numerous to count
ND Not detected

Quality Control Data:

ICPMS Soil

5 ppm Cal. Check						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Aluminum	0.05	µg/g	30	22.6	20	20061005.R13A
Arsenic	0.05	µg/g	6	4.57	4	20061005.R13A
Barium	0.05	µg/g	6	4.99	4	20061005.R13A
Beryllium	0.05	µg/g	6.25	4.37	3.75	20061005.R13A
Cadmium	0.05	µg/g	6	5.34	4	20061005.R13A
Calcium	2.5	µg/g	60	41	40	20061005.R13A
Chromium	0.05	µg/g	6	4.44	4	20061005.R13A
Cobalt	0.05	µg/g	6	4.59	4	20061005.R13A
Copper	0.05	µg/g	6	4.62	4	20061005.R13A
Iron	1	µg/g	30	23.6	20	20061005.R13A
Lead	0.05	µg/g	6	5.23	4	20061005.R13A
Magnesium	0.2	µg/g	60	44.7	40	20061005.R13A
Manganese	0.05	µg/g	6	4.81	4	20061005.R13A
Molybdenum	0.05	µg/g	6	5.13	4	20061005.R13A
Nickel	0.05	µg/g	6	4.57	4	20061005.R13A
Selenium	0.05	µg/g	6	4.67	4	20061005.R13A
Thallium	0.05	µg/g	6	5.25	4	20061005.R13A
Vanadium	0.05	µg/g	6	4.24	4	20061005.R13A
Zinc	0.05	µg/g	6	4.16	4	20061005.R13A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Aluminum	0.2	µg/g	0.2	<0.2	<0.2	20061005.R13A
Antimony	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Arsenic	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Barium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Beryllium	0.25	µg/g	0.25	<0.25	<0.25	20061005.R13A
Bismuth	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Cadmium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Calcium	0.25	µg/g	0.25	<0.25	<0.25	20061005.R13A
Cerium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Cesium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Chromium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Cobalt	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Copper	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Europium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Gallium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Iron	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Lanthanum	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Lead	0.005	µg/g	0.05	<0.005	<0.005	20061005.R13A
Magnesium	0.1	µg/g	0.1	<0.1	<0.1	20061005.R13A
Manganese	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Mercury	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Molybdenum	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A

ICPMS Soil

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Nickel	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Niobium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Rubidium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Scandium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Selenium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Silver	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Strontium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Thallium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Thorium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Tin	0.25	µg/g	0.25	<0.25	<0.25	20061005.R13A
Titanium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Tungsten	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Uranium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Vanadium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Yttrium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Zinc	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A
Zirconium	0.05	µg/g	0.05	<0.05	<0.05	20061005.R13A

TKN Soil

ERA 545						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.01	%(w/w)	5.32	4.12	1.08	20061006.R58B

Method Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.001	%(w/w)	0.02	<0.001	<0.001	20061006.R58B

TOC Soil

KHP (47%-C)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Organic Carbon	1	%	52	52	42	20061011.R55A

TP Soil

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.01	%(w/w)	20	<0.01	<0.01	20061011.R23A

ERA 545						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.24	%(w/w)	3.75	3.07	1.98	20061011.R23A

UCL Upper Control Limit
LCL Lower Control Limit

TESTMARK Laboratories Ltd.

Committed to Quality and Service

Analytical Report

Client: Jan Linquist
Company: NAR Environmental Consulting
Address: 1130 Southlane Road
Sudbury, ON, P3G 1N6
Phone: (705) 522-5990
Fax: (705) 522-1898
Email: jan.linquist@bellnet.ca

Notes: Please see sample notes.

Work Order Number: **27887**
Date Order Received: 9/27/2006
Regulation: PWQO
PO #:
Project #: Marathon PGM

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
Lake #11	100183	Water		9/26/2006	14:27
Lake #16	100184	Water		9/26/2006	
Lake #10	100185	Water		9/26/2006	13:20
Lake #14	100186	Water		9/26/2006	11:30
Lake #9	100187	Water		9/26/2006	13:30

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis **Instrument group:** Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis **Instrument group:** Skalar San++ FIA	Mod. APHA-4500
CONDWATER	Determination of conductivity in water **Instrument group:** Radiometer Meterlab Ion 450	Mod. APHA-2510
Hardness	Determination of Total Hardness **Instrument group:** Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS **Instrument group:** Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode **Instrument group:** Radiometer Meterlab Ion 450	Mod. APHA-4500
TKN Water	Determination of Total Kjedahl Nitrogen in Waters **Instrument group:** Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion **Instrument group:** Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry **Instrument group:** Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry **Instrument group:** Hach Ratio Nephelometer	Mod. APHA-2130

Sample Notes: Please note: The sample date for samples 100183 and 100185 shown on the sample containers (Sept 24th) did not match the chain-of-custody information. The dates from the chain have been shown on this report.

This report has been approved by:

Dr. Xiaojing Li
Chief Chemist

Dr. Robert Hamel
Inorganic Section Head

Sample Data:

Sample Name: Lake #11 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100183**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	14	mg/L	20061003.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.0732	mg/L	20061003.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	36	µS/cm	20060927.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	12.1	mg/L	20060927.R90C

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	48.3	ug/L	20060927.R13C
Antimony	0.5	<0.5	ug/L	20060927.R13C
Arsenic	1	<1	ug/L	20060927.R13C
Barium	1	6.5	ug/L	20060927.R13C
Beryllium	0.5	<0.5	ug/L	20060927.R13C
Bismuth	1	<1	ug/L	20060927.R13C
Boron	2	<2	ug/L	20060927.R13C
Cadmium	0.1	<0.1	ug/L	20060927.R13C
Calcium	50	2450	ug/L	20060927.R13C
Cerium	1	<1	ug/L	20060927.R13C
Cesium	1	<1	ug/L	20060927.R13C
Chromium	1	<1	ug/L	20060927.R13C
Cobalt	0.1	0.22	ug/L	20060927.R13C
Copper	1	9.4	ug/L	20060927.R13C
Europium	1	<1	ug/L	20060927.R13C
Gallium	1	<1	ug/L	20060927.R13C
Iron	20	140	ug/L	20060927.R13C
Lanthanum	1	<1	ug/L	20060927.R13C
Lead	1	2.8	ug/L	20060927.R13C
Lithium	5	<5	ug/L	20060927.R13C
Magnesium	4	1450	ug/L	20060927.R13C
Manganese	1	8.1	ug/L	20060927.R13C
Mercury	0.1	<0.1	ug/L	20060927.R13C
Molybdenum	1	<1	ug/L	20060927.R13C
Nickel	1	2.5	ug/L	20060927.R13C
Niobium	1	<1	ug/L	20060927.R13C
Rubidium	1	1	ug/L	20060927.R13C
Scandium	1	<1	ug/L	20060927.R13C
Selenium	1	<1	ug/L	20060927.R13C

Sample Name: Lake #11 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100183**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Silver	0.1	<0.1	ug/L	20060927.R13C
Strontium	1	21.2	ug/L	20060927.R13C
Tellurium	1	<1	ug/L	20060927.R13C
Thallium	0.1	<0.1	ug/L	20060927.R13C
Thorium	1	<1	ug/L	20060927.R13C
Tin	1	<1	ug/L	20060927.R13C
Titanium	1	<1	ug/L	20060927.R13C
Tungsten	1	<1	ug/L	20060927.R13C
Uranium	1	<1	ug/L	20060927.R13C
Vanadium	1	<1	ug/L	20060927.R13C
Yttrium	1	<1	ug/L	20060927.R13C
Zinc	1	6.3	ug/L	20060927.R13C
Zirconium	1	<1	ug/L	20060927.R13C

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.94	pH	20060927.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.42	mg/L	20060928.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.0054	mg/L	20061006.R23.2B

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061003.R27B

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	1.1	NTU	20060928.R21A

Sample Name: Lake #16 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100184**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	14	mg/L	20061003.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.0356	mg/L	20061003.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	95.1	µS/cm	20060928.R12A
Conductivity (Dup)	1	95	µS/cm	20060928.R12A

Sample Name: Lake #16 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100184**

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	30.9	mg/L	20060927.R90C

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	66.4	ug/L	20060927.R13C
Antimony	0.5	<0.5	ug/L	20060927.R13C
Arsenic	1	<1	ug/L	20060927.R13C
Barium	1	16.1	ug/L	20060927.R13C
Beryllium	0.5	<0.5	ug/L	20060927.R13C
Bismuth	1	<1	ug/L	20060927.R13C
Boron	2	<2	ug/L	20060927.R13C
Cadmium	0.1	0.15	ug/L	20060927.R13C
Calcium	50	6940	ug/L	20060927.R13C
Cerium	1	<1	ug/L	20060927.R13C
Cesium	1	<1	ug/L	20060927.R13C
Chromium	1	<1	ug/L	20060927.R13C
Cobalt	0.1	0.18	ug/L	20060927.R13C
Copper	1	7.5	ug/L	20060927.R13C
Europium	1	<1	ug/L	20060927.R13C
Gallium	1	<1	ug/L	20060927.R13C
Iron	20	214	ug/L	20060927.R13C
Lanthanum	1	<1	ug/L	20060927.R13C
Lead	1	10.6	ug/L	20060927.R13C
Lithium	5	<5	ug/L	20060927.R13C
Magnesium	4	3290	ug/L	20060927.R13C
Manganese	1	11.5	ug/L	20060927.R13C
Mercury	0.1	<0.1	ug/L	20060927.R13C
Molybdenum	1	<1	ug/L	20060927.R13C
Nickel	1	1.5	ug/L	20060927.R13C
Niobium	1	<1	ug/L	20060927.R13C
Rubidium	1	<1	ug/L	20060927.R13C
Scandium	1	<1	ug/L	20060927.R13C
Selenium	1	<1	ug/L	20060927.R13C
Silver	0.1	<0.1	ug/L	20060927.R13C
Strontium	1	57.7	ug/L	20060927.R13C
Tellurium	1	<1	ug/L	20060927.R13C
Thallium	0.1	<0.1	ug/L	20060927.R13C
Thorium	1	<1	ug/L	20060927.R13C
Tin	1	<1	ug/L	20060927.R13C
Titanium	1	1.4	ug/L	20060927.R13C
Tungsten	1	<1	ug/L	20060927.R13C
Uranium	1	<1	ug/L	20060927.R13C
Vanadium	1	<1	ug/L	20060927.R13C

Sample Name: Lake #16 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100184**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Yttrium	1	<1	ug/L	20060927.R13C
Zinc	1	8.7	ug/L	20060927.R13C
Zirconium	1	<1	ug/L	20060927.R13C

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.62	pH	20060928.R2A
pH (Dup)	N/A	6.70	pH	20060928.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.47	mg/L	20060928.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.015	mg/L	20061006.R23.2B

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061003.R27B

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	1.8	NTU	20060928.R21A

Sample Name: Lake #10 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100185**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061003.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.0767	mg/L	20061003.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	36.7	µS/cm	20060928.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	12.8	mg/L	20060927.R90C

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	54.4	ug/L	20060927.R13C
Antimony	0.5	<0.5	ug/L	20060927.R13C
Arsenic	1	<1	ug/L	20060927.R13C
Barium	1	7.3	ug/L	20060927.R13C

Sample Name: Lake #10 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100185**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Beryllium	0.5	<0.5	ug/L	20060927.R13C
Bismuth	1	<1	ug/L	20060927.R13C
Boron	2	<2	ug/L	20060927.R13C
Cadmium	0.1	0.11	ug/L	20060927.R13C
Calcium	50	2590	ug/L	20060927.R13C
Cerium	1	<1	ug/L	20060927.R13C
Cesium	1	<1	ug/L	20060927.R13C
Chromium	1	<1	ug/L	20060927.R13C
Cobalt	0.1	0.19	ug/L	20060927.R13C
Copper	1	7.8	ug/L	20060927.R13C
Europium	1	<1	ug/L	20060927.R13C
Gallium	1	<1	ug/L	20060927.R13C
Iron	20	200	ug/L	20060927.R13C
Lanthanum	1	<1	ug/L	20060927.R13C
Lead	1	3.4	ug/L	20060927.R13C
Lithium	5	<5	ug/L	20060927.R13C
Magnesium	4	1530	ug/L	20060927.R13C
Manganese	1	9.1	ug/L	20060927.R13C
Mercury	0.1	<0.1	ug/L	20060927.R13C
Molybdenum	1	<1	ug/L	20060927.R13C
Nickel	1	2	ug/L	20060927.R13C
Niobium	1	<1	ug/L	20060927.R13C
Rubidium	1	1.1	ug/L	20060927.R13C
Scandium	1	<1	ug/L	20060927.R13C
Selenium	1	<1	ug/L	20060927.R13C
Silver	0.1	<0.1	ug/L	20060927.R13C
Strontium	1	22.3	ug/L	20060927.R13C
Tellurium	1	<1	ug/L	20060927.R13C
Thallium	0.1	<0.1	ug/L	20060927.R13C
Thorium	1	<1	ug/L	20060927.R13C
Tin	1	<1	ug/L	20060927.R13C
Titanium	1	<1	ug/L	20060927.R13C
Tungsten	1	<1	ug/L	20060927.R13C
Uranium	1	<1	ug/L	20060927.R13C
Vanadium	1	<1	ug/L	20060927.R13C
Yttrium	1	<1	ug/L	20060927.R13C
Zinc	1	6.6	ug/L	20060927.R13C
Zirconium	1	<1	ug/L	20060927.R13C

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.67	pH	20060928.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.48	mg/L	20060928.R58A

Sample Name: Lake #10 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100185**

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.0075	mg/L	20061006.R23.2B

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061003.R27B

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	1.3	NTU	20060928.R21A

Sample Name: Lake #14 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100186**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	30	mg/L	20061003.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.0362	mg/L	20061003.R42A
Ammonia (as N) (Dup)	0.002	0.0371	mg/L	20061003.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	93.8	µS/cm	20060928.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	28.8	mg/L	20060927.R90C

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	340	ug/L	20060927.R13C
Antimony	0.5	<0.5	ug/L	20060927.R13C
Arsenic	1	<1	ug/L	20060927.R13C
Barium	1	12.8	ug/L	20060927.R13C
Beryllium	0.5	<0.5	ug/L	20060927.R13C
Bismuth	1	<1	ug/L	20060927.R13C
Boron	2	<2	ug/L	20060927.R13C
Cadmium	0.1	0.14	ug/L	20060927.R13C
Calcium	50	7240	ug/L	20060927.R13C
Cerium	1	<1	ug/L	20060927.R13C
Cesium	1	<1	ug/L	20060927.R13C
Chromium	1	1.4	ug/L	20060927.R13C
Cobalt	0.1	0.22	ug/L	20060927.R13C
Copper	1	8.3	ug/L	20060927.R13C

Sample Name: Lake #14 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100186**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Europium	1	<1	ug/L	20060927.R13C
Gallium	1	<1	ug/L	20060927.R13C
Iron	20	460	ug/L	20060927.R13C
Lanthanum	1	<1	ug/L	20060927.R13C
Lead	1	1.9	ug/L	20060927.R13C
Lithium	5	<5	ug/L	20060927.R13C
Magnesium	4	2600	ug/L	20060927.R13C
Manganese	1	16.7	ug/L	20060927.R13C
Mercury	0.1	<0.1	ug/L	20060927.R13C
Molybdenum	1	<1	ug/L	20060927.R13C
Nickel	1	1.3	ug/L	20060927.R13C
Niobium	1	<1	ug/L	20060927.R13C
Rubidium	1	1.9	ug/L	20060927.R13C
Scandium	1	<1	ug/L	20060927.R13C
Selenium	1	<1	ug/L	20060927.R13C
Silver	0.1	<0.1	ug/L	20060927.R13C
Strontium	1	54.3	ug/L	20060927.R13C
Tellurium	1	<1	ug/L	20060927.R13C
Thallium	0.1	<0.1	ug/L	20060927.R13C
Thorium	1	<1	ug/L	20060927.R13C
Tin	1	<1	ug/L	20060927.R13C
Titanium	1	17.1	ug/L	20060927.R13C
Tungsten	1	<1	ug/L	20060927.R13C
Uranium	1	<1	ug/L	20060927.R13C
Vanadium	1	<1	ug/L	20060927.R13C
Yttrium	1	<1	ug/L	20060927.R13C
Zinc	1	5.3	ug/L	20060927.R13C
Zirconium	1	1.5	ug/L	20060927.R13C

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.97	pH	20060928.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.38	mg/L	20060928.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.017	mg/L	20061006.R23.2B

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061003.R27B

Sample Name: Lake #14 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100186**

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	10.1	NTU	20060928.R21A
Turbidity (Dup)	0.2	10.2	NTU	20060928.R21A

Sample Name: Lake #9 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100187**

Alk by FIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20061003.R69A

AmmoniaFIA				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Ammonia (as N)	0.002	0.352	mg/L	20061003.R42A

CONDWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Conductivity	1	53	µS/cm	20060928.R12A

Hardness				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Hardness (as CaCO3)	0.1	17.6	mg/L	20060927.R90C
Total Hardness (as CaCO3) (Dup)	0.1	17.5	mg/L	20060927.R90C

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Aluminum	1	125	ug/L	20060927.R13C
Aluminum (Dup)	1	123	ug/L	20060927.R13C
Antimony	0.5	<0.5	ug/L	20060927.R13C
Antimony (Dup)	0.5	<0.5	ug/L	20060927.R13C
Arsenic	1	<1	ug/L	20060927.R13C
Arsenic (Dup)	1	<1	ug/L	20060927.R13C
Barium	1	13.7	ug/L	20060927.R13C
Barium (Dup)	1	13.7	ug/L	20060927.R13C
Beryllium	0.5	<0.5	ug/L	20060927.R13C
Beryllium (Dup)	0.5	<0.5	ug/L	20060927.R13C
Bismuth	1	<1	ug/L	20060927.R13C
Bismuth (Dup)	1	<1	ug/L	20060927.R13C
Boron	2	<2	ug/L	20060927.R13C
Boron (Dup)	2	<2	ug/L	20060927.R13C
Cadmium	0.1	0.24	ug/L	20060927.R13C
Cadmium (Dup)	0.1	0.29	ug/L	20060927.R13C
Calcium	50	4060	ug/L	20060927.R13C
Calcium (Dup)	50	4020	ug/L	20060927.R13C
Cerium	1	1.5	ug/L	20060927.R13C
Cerium (Dup)	1	1.4	ug/L	20060927.R13C
Cesium	1	<1	ug/L	20060927.R13C
Cesium (Dup)	1	<1	ug/L	20060927.R13C

Sample Name: Lake #9 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100187**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Chromium	1	<1	ug/L	20060927.R13C
Chromium (Dup)	1	<1	ug/L	20060927.R13C
Cobalt	0.1	0.17	ug/L	20060927.R13C
Cobalt (Dup)	0.1	0.15	ug/L	20060927.R13C
Copper	1	7.3	ug/L	20060927.R13C
Copper (Dup)	1	7.2	ug/L	20060927.R13C
Europium	1	<1	ug/L	20060927.R13C
Europium (Dup)	1	<1	ug/L	20060927.R13C
Gallium	1	<1	ug/L	20060927.R13C
Gallium (Dup)	1	<1	ug/L	20060927.R13C
Iron	20	170	ug/L	20060927.R13C
Iron (Dup)	20	150	ug/L	20060927.R13C
Lanthanum	1	1.1	ug/L	20060927.R13C
Lanthanum (Dup)	1	1.1	ug/L	20060927.R13C
Lead	1	8	ug/L	20060927.R13C
Lead (Dup)	1	8.1	ug/L	20060927.R13C
Lithium	5	<5	ug/L	20060927.R13C
Lithium (Dup)	5	<5	ug/L	20060927.R13C
Magnesium	4	1820	ug/L	20060927.R13C
Magnesium (Dup)	4	1800	ug/L	20060927.R13C
Manganese	1	7	ug/L	20060927.R13C
Manganese (Dup)	1	6.9	ug/L	20060927.R13C
Mercury	0.1	<0.1	ug/L	20060927.R13C
Mercury (Dup)	0.1	<0.1	ug/L	20060927.R13C
Molybdenum	1	<1	ug/L	20060927.R13C
Molybdenum (Dup)	1	<1	ug/L	20060927.R13C
Nickel	1	<1	ug/L	20060927.R13C
Nickel (Dup)	1	<1	ug/L	20060927.R13C
Niobium	1	<1	ug/L	20060927.R13C
Niobium (Dup)	1	<1	ug/L	20060927.R13C
Rubidium	1	<1	ug/L	20060927.R13C
Rubidium (Dup)	1	<1	ug/L	20060927.R13C
Scandium	1	<1	ug/L	20060927.R13C
Scandium (Dup)	1	<1	ug/L	20060927.R13C
Selenium	1	<1	ug/L	20060927.R13C
Selenium (Dup)	1	<1	ug/L	20060927.R13C
Silver	0.1	<0.1	ug/L	20060927.R13C
Silver (Dup)	0.1	<0.1	ug/L	20060927.R13C
Strontium	1	34.3	ug/L	20060927.R13C
Strontium (Dup)	1	33.7	ug/L	20060927.R13C
Tellurium	1	<1	ug/L	20060927.R13C
Tellurium (Dup)	1	<1	ug/L	20060927.R13C
Thallium	0.1	<0.1	ug/L	20060927.R13C
Thallium (Dup)	0.1	<0.1	ug/L	20060927.R13C
Thorium	1	<1	ug/L	20060927.R13C

Sample Name: Lake #9 **Date: 9/26/2006** **Matrix: Water** **Lab #: 100187**

ICPMS Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Thorium (Dup)	1	<1	ug/L	20060927.R13C
Tin	1	<1	ug/L	20060927.R13C
Tin (Dup)	1	<1	ug/L	20060927.R13C
Titanium	1	1	ug/L	20060927.R13C
Titanium (Dup)	1	<1	ug/L	20060927.R13C
Tungsten	1	<1	ug/L	20060927.R13C
Tungsten (Dup)	1	<1	ug/L	20060927.R13C
Uranium	1	<1	ug/L	20060927.R13C
Uranium (Dup)	1	<1	ug/L	20060927.R13C
Vanadium	1	<1	ug/L	20060927.R13C
Vanadium (Dup)	1	<1	ug/L	20060927.R13C
Yttrium	1	<1	ug/L	20060927.R13C
Yttrium (Dup)	1	<1	ug/L	20060927.R13C
Zinc	1	7.6	ug/L	20060927.R13C
Zinc (Dup)	1	7.3	ug/L	20060927.R13C
Zirconium	1	<1	ug/L	20060927.R13C
Zirconium (Dup)	1	<1	ug/L	20060927.R13C

pHWATER				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
pH	N/A	6.51	pH	20060928.R2A

TKN Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Kjeldahl Nitrogen	0.08	0.68	mg/L	20060928.R58A

TP Water				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Phosphorus (as P)	0.002	0.015	mg/L	20061006.R23.2B

TSS				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Total Suspended Solids	6	<6	mg/L	20061003.R27B
Total Suspended Solids (Dup)	6	<6	mg/L	20061003.R27B

Turbidity				
Parameter	**MDL**	**Result**	**Units**	**QAQCID**
Turbidity	0.2	0.92	NTU	20060928.R21A

MDL Method detection limit or minimum reporting limit.
% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.
QAQCID This is a unique reference to the quality control data set used to generate the reported value.
Data reported for organic analysis in soil samples are corrected for moisture content
Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.
INT Interferences
TNTC To numerous to count
ND Not detected

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	209	180	20061003.R69A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	10	<10	<10	20061003.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Ammonia (as N)	0.002	mg/L	0.6	0.525	0.4	20061003.R42A

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20061003.R42A

CONDWATER

100 µS Blank Spike						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Conductivity	2	µS/cm	110	105	90	20060927.R12A
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Conductivity	2	µS/cm	110	105	90	20060928.R12A

ICPMS Water

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Aluminum	1	ug/L	1	<1	<1	20060927.R13C
Antimony	0.5	ug/L	0.5	<0.5	<0.5	20060927.R13C
Arsenic	1	ug/L	1	<1	<1	20060927.R13C
Barium	0.5	ug/L	0.5	<0.5	<0.5	20060927.R13C
Beryllium	1	ug/L	1	<1	<1	20060927.R13C
Bismuth	50	ug/L	50	<50	<50	20060927.R13C
Boron	1	ug/L	1	<1	<1	20060927.R13C
Cadmium	1	ug/L	1	<1	<1	20060927.R13C
Calcium	0.1	ug/L	0.1	<0.1	<0.1	20060927.R13C
Cerium	0.1	ug/L	0.1	<0.1	<0.1	20060927.R13C
Cesium	1	ug/L	1	<1	<1	20060927.R13C
Chromium	1	ug/L	1	<1	<1	20060927.R13C
Cobalt	1	ug/L	1	<1	<1	20060927.R13C
Europium	1	ug/L	1	<1	<1	20060927.R13C
Gallium	1	ug/L	1	<1	<1	20060927.R13C
Iron	20	ug/L	20	<20	<20	20060927.R13C
Lanthanum	1	ug/L	1	<1	<1	20060927.R13C

ICPMS Water

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Lead	1	ug/L	1	<1	<1	20060927.R13C
Lithium	5	ug/L	5	<5	<5	20060927.R13C
Magnesium	4	ug/L	4	<4	<4	20060927.R13C
Manganese	1	ug/L	1	<1	<1	20060927.R13C
Mercury	0.1	ug/L	0.1	<0.1	<0.1	20060927.R13C
Molybdenum	1	ug/L	1	<1	<1	20060927.R13C
Nickel	1	ug/L	1	<1	<1	20060927.R13C
Niobium	1	ug/L	1	<1	<1	20060927.R13C
Rubidium	1	ug/L	1	<1	<1	20060927.R13C
Scandium	1	ug/L	1	<1	<1	20060927.R13C
Selenium	1	ug/L	1	<1	<1	20060927.R13C
Silver	0.1	ug/L	0.1	<0.1	<0.1	20060927.R13C
Strontium	1	ug/L	1	<1	<1	20060927.R13C
Tellurium	1	ug/L	1	<1	<1	20060927.R13C
Thallium	1	ug/L	1	<1	<1	20060927.R13C
Thorium	1	ug/L	1	<1	<1	20060927.R13C
Tin	1	ug/L	1	<1	<1	20060927.R13C
Titanium	0.1	ug/L	0.1	<0.1	<0.1	20060927.R13C
Tungsten	1	ug/L	1	<1	<1	20060927.R13C
Uranium	1	ug/L	1	<1	<1	20060927.R13C
Vanadium	1	ug/L	1	<1	<1	20060927.R13C
Yttrium	1	ug/L	1	<1	<1	20060927.R13C
Zinc	1	ug/L	1	<1	<1	20060927.R13C
Zirconium	1	ug/L	1	<1	<1	20060927.R13C

Blank Spike (1011)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Aluminum	1	ug/L	600	475	400	20060927.R13C
Arsenic	1	ug/L	120	105	80	20060927.R13C
Barium	1	ug/L	120	101	80	20060927.R13C
Beryllium	1	ug/L	125	110	75	20060927.R13C
Boron	2	ug/L	125	106	75	20060927.R13C
Cadmium	1	ug/L	120	99.8	80	20060927.R13C
Calcium	50	ug/L	1200	1060	800	20060927.R13C
Chromium	1	ug/L	120	97.9	80	20060927.R13C
Cobalt	1	ug/L	120	96.2	80	20060927.R13C
Copper	1	ug/L	120	103	80	20060927.R13C
Iron	20	ug/L	600	473	400	20060927.R13C
Lead	1	ug/L	120	97.8	80	20060927.R13C
Magnesium	4	ug/L	1200	1000	800	20060927.R13C
Manganese	1	ug/L	120	106	80	20060927.R13C
Molybdenum	1	ug/L	120	100	80	20060927.R13C
Nickel	1	ug/L	120	98.4	80	20060927.R13C
Selenium	1	ug/L	120	107	80	20060927.R13C
Thallium	1	ug/L	120	97.4	80	20060927.R13C
Vanadium	1	ug/L	120	98.1	80	20060927.R13C

ICPMS Water

Blank Spike (1011)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Zinc	1	ug/L	120	102	80	20060927.R13C

pHWATER

pH 7						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
pH	N/A	pH	7.1	7.06	6.9	20060927.R2A
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
pH	N/A	pH	7.1	7.06	6.9	20060928.R2A

TKN Water

Blank Spike (0.5 mg/L)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.008	mg/L	0.6	0.505	0.4	20060928.R58A

Method Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Kjeldahl Nitrogen	0.008	mg/L	0.08	<0.008	<0.008	20060928.R58A

TP Water

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.002	mg/L	0.005	<0.002	<0.002	20061006.R23.2B

Blank Spike (0.05 mg/L)						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Phosphorus (as P)	0.002	mg/L	0.06	0.0446	0.04	20061006.R23.2B

TSS

160 mg/L Control						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Suspended Solids	6	mg/L	192	172	128	20061003.R27B

Blank						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Total Suspended Solids	3	mg/L	<3	<3	<3	20061003.R27B

Turbidity

1 NTU Control						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Turbidity	N/A	NTU	0.84	0.77	0.72	20060928.R21A

Turbidity

Turbidity Water						
Parameter	**MDL**	**Units**	**UCL**	**Result**	**LCL**	**QAQCID**
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20060928.R21A

UCL Upper Control Limit
LCL Lower Control Limit