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July 8, 2013

File No. 11-1996-01

Manitoba Conservation and Water Stewardship
Environmental Approvals Branch
Suite 160, 123 Main Street
Winnipeg, Manitoba
R3C 1A5

ATTENTION: Ms. Elise Dagdick, B.Sc.

RE: Sunterra Horticulture (Canada) Inc.
Peat Mine Development; File No. 4254.10
Reply to Comments on Environment Act Proposal

Dear Ms. Dagdick:

KGS Group in conjunction with Sunterra Horticulture (Canada) Inc. (Sunterra) has prepared this response to various comments and requests for additional information raised by the public and Technical Advisory Committee (TAC) after review of the Environment Act Proposal (EAP) submitted December 8, 2011 for licensing approval for the Sunterra Peat Development. As discussed, responses are not being provided for all of the public and TAC comments included in your June 5, 2013 letter. Instead the responses listed below specifically address the four (4) comments and questions summarized in your June 24 letter to provide you the additional information to make a licensing decision.

1) Please provide a response to the following comments from the public (the original comments will provide context):

a. Proposed access road is too close to the neighbouring cottage development;

The comment from George Robson focuses on the proximity of the Bullhead Bog south staging area and access road to the Leaside Beach area. Sunterra is required to locate the staging area within their Quarry Lease boundary. The proposed staging area location as shown in Figure 3 of the EAP is the only location within Bullhead Bog south that has a large enough area with appropriate base conditions to accommodate the 10 ha staging area. As shown in Figure 6 of the EAP the proposed staging area is located along the boundary between drainage basins. As such this area is slightly higher and better drained than the surrounding land and will have more mineral soil and less peat providing a better base to construct the staging area.

Similarly the access road between PR 234 and the Bullhead Bog south staging area was located along the drainage basin boundary for better soil conditions to construct the road. In addition to the proposed access road being on the most appropriate base soil conditions this provides the shortest distance. While this reduces costs for Sunterra it also minimizes potential environmental impacts

because fewer trees need to be cleared and less road construction material is required. Based on the Transportation Association of Canada guidelines for spacing between access roads, given the volume of traffic the proposed access road should be at least 40 m from any nearby access roads. The proposed access road more that satisfies this guideline as it is approximately 450 m south of the Leaside Beach north access road. Additionally, Sunterra will comply with all of the Ministry of Infrastructure and Transportation (MIT) safety requirements that will be specified on the permit to construct the access off of PR 234.

b. Development would result in a loss of flood storage for the local area;

The proposed drainage system is designed to only lower the moisture content of the surficial peat by approximately 25%. During the initial construction of the field drains there will be a slight increase in drainage from the site. However, once the initial increased drainage is completed following drain cutting the amount of drainage from the developed areas would be the same as drainage prior to development. The timing of drainage, however, would be slightly modified. During a rain event there will be a slight lag (delay in time) before drainage from a developed area begins compared to undeveloped peat land as the partially drained peat is re-saturated and then the drainage rate would be slightly higher because of the constructed drains. As described in the EAP Section 3.6.1, the temporary drainage increase of 0.04 m^3/s at the discharge point represents an increase of 2% to 10.0% compared to the design flow at each PR 234 culvert crossing (33 year rainstorm). Additionally as described in the EAP the sedimentation ponds are equipped with gates to control the flow and hold water back (flood storage), if required.

c. Mill Creek Cottage Development was not listed as a stakeholder in the proposal;

In the cumulative effects section of the EAP (pg 94) Mill Creek was identified as a known proposed cottage development in the area. However, when the field work was being conducted in fall of 2010 and spring of 2011 there was no evidence of active cottage construction. Attempts were made while preparing the EAP to identify any cottage associations that could be consulted as stakeholders. As noted in the comments from the Beaver Creek Cottage Association (BCCA) Mill Creek currently does not have a Cottage Association. As such there was no way for KGS Group to contact Mill Creek cottagers beyond the public notices posted as part of the licencing process. The BCCA comment that Mill Creek residents are in the process of building their recreation homes, apparently unaware that they are located in an industrial area is an invalid comment. The new Mill Creek cottage development is located adjacent the existing Sunterra Peat development at Beaver Creek that has been in operation long before the Mill Creek cottage development began in the area.

d. Clearly identify the drainage route and flow rate from Ramsay Point Bog, particularly any drainage through the Pebblestone Beach Cottage Development

The constructed drainage proposed by Sunterra for Ramsay Point Bog is generally towards main drains adjacent the Ranger Lakes, which then flow toward two sedimentation ponds near the eastern edge of QL 2410, as shown in the EAP Figure 5. The outlet ditch from these two sedimentation ponds will discharge to the existing unnamed stream that flows east out of the Ranger Lakes to the existing roadside ditch on the west side of PR 234. The existing roadside ditch conveys the stream discharge south along PR 234, as shown in the EAP Figure 8. All of the Sunterra constructed drainage from the Ramsay Point Bog will be away from the Pebblestone Beach cottage area to a culvert crossing approximately 3.5 km south of Pebblestone Beach, which outlets to Lake Winnipeg.

The flow rate at any given time will depend on meteorological conditions, however, as part of the hydrological assessment conducted by KGS Group the flow rate during the design runoff (1:33 year return period) was calculated for each drainage basin of each bog area. The proposed Sunterra Ramsay Point Bog is primarily in a 3,284 ha drainage basin as shown in the EAP Figure 8. The Rational Method was used for flow calculations, as noted in the EAP (pages 14 and 15), utilizing the nearest recorded precipitation data at the City of Gimli. This method considers the precipitation and the land characteristics to calculate the anticipated runoff. Due to the prevalence of bog area, a reduction factor was applied to the flow value to account for water retention. The 1;33 year design runoff for this 3,284 ha drainage based was calculated to be 2.9 m^3/s.

e. Cottage communities are a significant economic contributor for the area and should be included in the economic analysis.

The contribution of tourism and recreational activities to employment and the economy in the regional area was noted in Sections 6.4.1 and 6.4.8 of the EAP. We acknowledge and appreciate the rough estimate of the local cottage economy provided by the Pebblestone Beach Cottagers (PBC). However, inclusion of the Grindstone cottage developments is not appropriate as these are outside of the Regional Study Area, are not accessed along PR 234 and will not be affected in any way by the proposed development. Using the numbers provided by the PBC for lot revenue, new cottage construction and operating costs at the remaining cottage developments the estimated local cottage economy is approximately $2.4 million/year when averaged over the 30 year life of the proposed development. The existing Sunterra Beaver Point Bog operation currently employs 35 to 40 residents from the surrounding communities with an aggregate seasonal payroll in excess of $1 million, as noted in the EAP Section 6.4.1. Additionally, Sunterra supports local businesses by purchasing supplies and contracting local companies for service works (e.g. trucking, sewage and waste disposal) having a minimum total annual expenses of $3 million with at least 50% of this spent within the Interlake area and another 25% within Manitoba. Based on these values the current Sunterra contribution to the local economy is approximately $2.5 million/year. Development of the proposed Sunterra expansion is not expected to decrease the value of recreational and residential property in the area or decrease the amount of cottage development, as suggested by the PBC comments, as the existing Sunterra operation, which is within 10 km of the cottage areas, was already operating when most of these lots started to be purchased and developed.

f. The statement in the proposal that there is an abundance of peat in Manitoba does not account for the varying types of peat deposits within Manitoba. Muskeg tend to be located in northern regions and peat bogs in the southern regions, where existing access makes them more vulnerable to development;

The term Muskeg is not used in either the Canadian Wetland Classification System (Second Edition) or the Terrestrial Ecozones, Ecoregions and Ecodistricts of Manitoba but it is synonymous with bogland. There are five classes of wetlands including bog, fen, marsh, swamp and shallow water, which can be grouped as either peatland or mineral wetland. Peatlands include wetlands ecosystems characterized by an accumulation of peat which includes bogs, fens and swamps. Bogs and fens are very similar as they are both peatland dominated by bryophytes and graminoids, with the main difference being fens have more graminoids present because they receive water that is richer in dissolved minerals, whereas swamps are peatlands dominated by trees, shrubs and forbs with waters rich in dissolved minerals.

Manitoba has approximately 19.3 million ha of peatland, as noted in the EAP Section 3.3. This accounts for approximately 35% of Manitoba's land surface, ranking second to glacial till. The organic deposits are distributed throughout the cool, Subhumid Boreal Forest Region of eastern and central Manitoba and in the cold, humid, Subarctic Region of the Hudson's Bay Lowland in the northeastern corner of the province. Approximately 5.1 million ha of these peatlands are located in the area north of Lake Winnipeg leaving approximately 14.2 million ha of peatland throughout eastern and central Manitoba. In, particular, the proposed development is located in an area where 81 to 100% of the land area is covered by peatland, as shown in EAP Figure 1.

g. While bogs and fens may be quite common in Manitoba and Canada, bogs such as these three bogs are not common;

Based on the biological investigations conducted as part of the environmental assessment the Bullhead, Little Deer Lake and Ramsay Point Bogs can predominately be described as lightly to moderately treed raised bog areas with open areas of *Sphagnum* moss, as described in the EAP Section 4.1.7. The observation that the bog areas were raised was provided just as a general description of the land form as a detailed classification of the wetland down to form and type (ie beyond class) was beyond the scope of this project. Regardless, the land forms and species observed at the proposed bogs are typical and consistent with the numerous other bogs present in the Washow Bay Peninsula area, which consists of 81 to 100% peat land as noted above. Additionally, there were no known historic resources or rare to very rare and federal protected vegetation and mammals in the vicinity of the proposed peat harvesting development to distinguish the three proposed bog areas.

h. The assessment report does not address or explain how the hydrological, ecological and carbon storage function of the peatlands will be restored;

Fully harvested areas will be restored based on the experience gained by Sunterra through the guidance of Canadian Sphagnum Peat Moss Association (CSPMA) and restoration research, and following the requirements of The Preservation and Reclamation Policy of the CSPMA. Sunterra will re-vegetate fully harvested plots in accordance with the Peatland Restoration Guide (2nd Edition) and conduct annual re-vegetation surveys at each re-vegetated plot in compliance with the Environment Act Licence. To restore the hydrological, ecological and carbon storage function of the peatlands, as noted in the Mine Closure Plan provided in the EAP Appendix C, progressive restoration activities will include;

- Backfilling the field ditches and leveling the field using a Profiler drawn by a tractor.
- Perimeter ditching will be backfilled whenever that section of perimeter ditch is no longer required for site drainage.
- When all production from a bog is complete, all drainage ditches and sedimentation ponds will be backfilled, leveled, and prepared for re-vegetation.
- Water levels will be allowed to rise and flood the surface due to the backfilling of the drainage ditches. Blocking ditches to form pools as part of restoration is strongly encouraged because it can increase the biodiversity in a bog area.
- Topspit (Sphagnum Moss mulch) will be spread over the leveled field to promote natural re-vegetation on the bog surface. Transfer of the moss layer from donor sites

also transfers the plants and propagates from the donor bog which ensures the continued presence of typical bog plants in the restored bog. Within 7 to 10 years, the bog surface will return to a functioning wetland ecosystem.

Final site closure will be initiated and completed after all phases of the bog have been fully harvested by approximately 2053 with the following closure activities:

- Decommissioning of all remaining drainage ditches, drainage flow control weirs, and drainage settling ponds constructed for the development.

- Removal/Decommissioning, reclamation and restoration of the affected operations area including parking facilities, office/lunchroom facility, chemical toilet/washrooms, septic storage tank, groundwater well (if installed), fuel storage and fuel transfer facility, equipment maintenance areas, generator, and any additional site infrastructure, concrete, and electrical services.

- Decommissioning of the site access roads and stream crossings from PR 234, unless Manitoba Conservation wants to retain this access.

- All waste material from decommissioning activities will be removed from the site and taken to a licensed waste disposal ground.

- Soil testing and remediation (if required) of pollutants from the harvesting operations of the development to the satisfaction of Manitoba Conservation Authorities.

- Restoration of any wildlife habitat disturbed as per the requirements of the Environment Act Licence.

- Seeding or transplanting with higher plant species will be completed in areas that may not re-vegetate naturally to Sphagnum if needed and as directed by Manitoba Conservation.

i. Provide examples of the effectiveness of restoration of peat in similar environments;

Restoration is still a developing science in Canada (and Manitoba) as noted in the EAP Section 6.2.6 Reclamation and Restoration, Canadian industries have little experience in reclamation and restoration of peat harvesting developments because only a few developments have reached the end of their production life. The Peatland Restoration Guide (2nd Edition), Appendix A, provides a list of 11 large-scale restoration sites in Canada, predominately in Quebec and New Brunswick. The Peatland Restoration Guide indicates that establishing a full plant carpet dominated by peatland species including Sphagnum and stabilizing the water table near the surface can be achieved in about five years. According to a recent study by the North American Wetlands Conservation Council (Canada), harvested peatlands can be restored to ecologically balanced systems within 5 to 20 years after peat harvesting.

The Peatland Ecology Research Group (PERG), working with the CSPMA and governmental agencies is conducting research to restore mined peatlands into functional peat accumulating systems. A restoration project on the 11.5 ha mined section of the Bois-des-Bel peatland (BDB), located close to Rivière-du-Loup, Québec was initiated in 1999. Mining activities at BDB were stopped in 1980 and since then, the mined section was left abandoned. A large data base is

being built at BDB for the long term intensive monitoring regarding the evolution of the vegetation cover, hydrology, carbon fluxes, microbiology and chemistry, as well as the return of fauna. Eight years post-restoration, restored areas at BDB were found to have a small peat accumulation potential, although still lower than natural peatland. The restoration techniques tested at BDB contributed to the recovery of hydrological conditions necessary for Sphagnum re-colonization however it was noted that successful application at different sites may be limited by specific peat and climate characteristics. Results of vegetation monitoring at BDB indicated that the moss carpet thickness increased from 2003 to 2007 and the amount of bare peat decreased indicating vegetation recovery. Establishment of Sphagnum diaspores resulted in Sphagnum cover of restored areas close to the range of cover found in natural sites. The restoration also successfully reintroduced numerous ericaceous and other shrub species and herbaceous species that should drive the restored peatland towards a functional and typical peatland ecosystem. The restoration success to re-establish vegetation at BDB is demonstrated in the following pictures showing the fields at ages 1, 4 and 8 (left to right).

2) Please provide responses to the following, referring to the June 25, 2012 comments from the Water Quality Management Section for context:

a. Provide a summary of water quality data from the sampling required in Licence No. 2288R and describe how it supports the environment assessment report conclusion that the proposed project is not likely to have adverse effects on downstream surface waters;

The results of the Water Quality sampling conducted by Sunterra at their existing sites are currently sent to Katie Martin, Environment Officer, Central Region (Selkirk), prior to which they were sent to various people within Manitoba Conservation. Ms. Martin indicated that the Central Region has 9 files for the Sunterra operation containing the raw data sheets sent by the lab and the annual summary reports. Given the large quantity of data since Sunterra began operation, the data summary being provided in the enclosed excel spreadsheet, in response to this request, is only for data collected during 2011 and 2012. Mr. Kevin Jacobs, Water Quality Management Section indicated that providing the two years of data would satisfy his request for supporting water quality data.

Ms. Martin indicated that when Manitoba Conservation receives the data a quick scan for compliance with the licence limits for pH and total suspended solids (TSS) or exceedance of the Manitoba Surface Water Quality criteria is completed. Additionally, Sunterra will normally contact the environment officer in the event that water quality results indicate parameters outside the licenced limits, to see what course of action Manitoba Conservation would approve or recommend.

Based on the 2011 and 2012 water quality monitoring the pH and TSS were typically within the licence limits and the other parameters were generally below the water quality criteria with a few exceptions described as follows;

- September 6, 2012 sample from Bog C Settling Pond had a pH of 4.6. This occurred as Sunterra began constructing the initial drainage for this bog in August of 2012. Constructing initial drainage typically results in lower pH, which was mitigated by adding limestone as discussed further in response 2.c. The effluent discharge did not appear to have had any effect as the downstream receiving water sample (#6 Drainage at Lake) had a pH of 7.44. Additionally, the limestone mitigation was effective as the pH (5.04) during the next weekly sampling on September 13, 2012 was again within the licence limit.
- There were two samples in the local creek downstream of Bog B and five samples in Mill Creek (downstream of Bog A) where the pH was less than 6.5. These lower pH values in the downstream receiving water are generally existing background conditions and not a result of the bog drainage as the sedimentation pond effluent typically had similar of higher pH values.
- July 11, 2012 sample from Bog B Settling Pond, the TSS of 93 mg/L exceeds the licence limit of 30 mg/L for discharge of effluent. This was likely a result of a sampling error (disturbing the sediment while sampling) and not a representative measure of TSS as the downstream receiving water sample (Drainage @ PR234) had no detectable TSS (<5.0 mg/L) indicating no effect from sediment pond effluent. Additionally, the prior (July 5) and subsequent (July 20) sampling events had TSS concentrations of <5.0 mg/L and 6 mg/L, respectively, which is more typical.
- There were two samples in the local creek (downstream of Bog B), three samples in Mill Creek (downstream of Bog A) and one sample in the Lake (downstream of Bog C) where the TSS was greater than the licence limit of 25 mg/L for the allowable discharge from the settling ponds. However, in each of these cases the TSS levels in the associated settling ponds were less than in the downstream receiving water so the effluent would dilute the TSS and not be the cause of the elevated levels.
- Aluminum concentrations measured at each sample location and Iron concentrations measured at most sample locations during each sample event exceeded the applicable Manitoba Surface Water Quality Objectives for Freshwater Aquatic Life (Note the table shows CCME as that is what ALS provides in their summary tables). Additionally, elevated Cadmium concentrations were measured at two locations (during separate events) and an elevated Copper concentration was measured at one location. However, elevated concentrations of these metals is typical of surface water quality in the region, as noted during the baseline water quality sampling KGS conducted, as described in the EAP Section 4.1.6. Additionally all of the concentrations for these parameters are within the range of concentrations observed in Lake Winnipeg as measured during 2008 and 2009 by Manitoba Water Stewardship (EAP, Appendix D). As such the elevated concentrations should not be adversely effecting Lake Winnipeg water quality, it is simply consistent with regional conditions

b. Provide background information to support the effectiveness of the settling ponds to achieve surface water quality objectives and guidelines in the water discharged from the ponds for nutrients, pH and metals given the proposed two hour residence time;

The sedimentation ponds will be constructed to the typical design criteria as noted in Section 3.6.1 (pg 17) of the EAP, which includes a minimum retention time of two hours. The retention

time will vary in response to the inflow rate of drainage water; however it will never be less than the minimum two hours to ensure adequate time to allow settling. Also as noted in the EAP sedimentation ponds proposed to mitigate potential TSS effects are also equipped with floating booms and have a control culvert with a sliding gate located in the inlet ditch upstream of the sedimentation pond which can be used to reduce or stop inflow to the sedimentation pond in the event that inflow rates exceed the design flow criteria. Sunterra has found that by providing a larger basin volume than the design standard of 25 cubic meters per hectare of drained peatland that monitoring results for TSS at their existing Beaver Creek Bog area are typically 7 mg/L or less. The results of the 2011 and 2012 water quality monitoring, as discussed in the response above (2.a.) shows the effectiveness of the settling ponds.

c. Provide performance and design criteria for the potential mitigation of pH through the use of a limestone lined ditch;

If control of the discharge rate from the sedimentation pond is not sufficient in maintaining the water chemistry, in particular the pH levels, a limestone or carbonate lined drainage ditch can be installed as noted in EAP Section 6.3.4, to mitigate the pH of the draining bog water before entering the sedimentation pond. As part of Sunterra's existing operation, when constructing the initial drainage to reduce the water level and open a new area of the bog, if the pH is too low, they have placed 15 to 20 yards of limestone in the sedimentation pond outlet ditch so that the water draining must pass over the limestone before reaching the downstream receiving water. During the spring of 2013, based on discussions with the former Regional Environment Officer, J.P. Perrault, an additional one to two yards of limestone was placed at the end of each field ditch in Bog A2 (referred to as Bog C) where it intersects the main ditch. In Sunterra's experience these mitigation measures have been enough to raise the pH to meet the licence limits. Once the water level has been brought down by initial drainage Sunterra has not had to take further corrective action and generally incidences of low pH, approaching the limit, corrects itself once it rained. Regardless as discussed Sunterra would also contact the Environment Officer for Central Region (currently Katie Martin), and ask them how Sunterra proceed. Typically Sunterra has not been directed to do anything different.

3) Please provide responses to the following, referring to the July 27, 2012 comments from the Lands Branch and the Sustainable Resources and Policy Management Branch for context:

a. Provide details and examples in regards to the claim that restoration of a site often results in a wider diversity of flora, which results in a wider variety of habitats to support more diverse fauna.

With regards to biodiversity bog pools are important because they support a wide variety of organisms that greatly contribute to the biological richness of peatlands. In southeastern Canada, natural bogs average 35 plant species but this figure drops to 24 if surveys around pools are omitted. Many plant and insect species are found only in or around bog pools and nowhere else in peatlands. As such, blocking ditches to create pools as part of restoration is strongly encouraged by the Peatland Restoration Guide because it can increase the biodiversity in a bog area. This is particularly true if there was an absence of pools prior to development, such as at the bullhead and little deer lake bog areas. The restoration of the Bois-des-Bel experimental site, as previously introduced (response 1.i.), included the creation of eight pools that appeared to be successful since many amphibians, insects and micro-organisms had settled back into pools after two years. They are also visited by migrating birds, ducks, geese and small and large mammals.

4) Please provide responses to the following, referring to the July 27, 2012 comments from the Wildlife Branch for context:

a. The environmental assessment indicates that wildlife surveys were conducted between September 2010 and October 2011, with site visits occurring in September, May and June. Provide more specific information regarding the exact days that site visits occurred.

The EAP Section 3.6.2 indicated that site investigations were completed between September 2010 and October 2011, while vegetation and wildlife surveys were conducted during site visits in September 2010 and May and June 2011. As requested the specific dates of all of the site investigations described in the EAP were as follows;

- September 6 to 10, 2010; biological survey for plants, birds, mammals, amphibians and reptiles.
- May 17 and 18, 2011; biological survey for fish.
- June 6 to 10, 2011; biological survey for plants, birds, mammals, amphibians and reptiles.
- October 11 to 13, 2011; baseline water quality sampling (was not conducted because of flooding in 2011).

We trust the above information is adequate for the comments, questions and concerns raised by the respondents, however please do not hesitate to contact the undersigned should you have further questions.

Sincerely,

Shaun Moffatt, M.Sc.
Senior Environmental Scientist

SM/jr
Enclosure

cc: Al Dorish
Sterling Dorish

ALS		ID			# 1 - SETTLING POND - BOG A	# 2 - MILLCREEK PR234 - BOG A	# 3 - SETTLING POND - BOG B	# 4 - DRAINAGE PR234 - BOG B	#5 SETTLING POND @ BOG A
6/26/2013		ALS ID			L1005019-1	L1005019-2	L1005019-3	L1005019-4	L1007657-1
Multiple Work Orders		Date Sampled			5/13/2011 9:00:00 AM	5/13/2011 9:00:00 AM	5/13/2011 9:00:00 AM	5/13/2011 9:00:00 AM	5/20/2011 9:30:00 AM
Analyte	Units	LOR	CCME-WATER-FAL(LL)	CCME-WATER-FAL	Water	Water	Water	Water	Water
Conductivity	umhos/cm	0.4	-	-	-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.3	-	-	-	-	-	-	-
Oxygen, Dissolved	mg/L	0.1	-	-	-	-	-	-	-
pH	pH units	0.1	6.5	9	6.45	6.56	6.84	6.61	-
Total Suspended Solids	mg/L	5	-	-	13	<5.0	6	<5.0	-
Total Dissolved Solids	mg/L	5	-	-	-	-	-	-	-
TDS (Calculated)	mg/L	5	-	-	-	-	-	-	-
Turbidity	NTU	0.1	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	1	-	-	-	-	-	-	-
Bicarbonate (HCO3)	mg/L	1.2	-	-	-	-	-	-	-
Carbonate (CO3)	mg/L	0.6	-	-	-	-	-	-	-
Chloride	mg/L	0.5	-	-	-	-	-	-	-
Chloride (Cl)	mg/L	0.5	-	-	-	-	-	-	-
Fluoride	mg/L	0.1	-	0.12	-	-	-	-	-
Hardness (as CaCO3)	mg/L	n/a	-	-	-	-	-	-	-
Hydroxide (OH)	mg/L	0.34	-	-	-	-	-	-	-
Ion Balance	%	n/a	-	-	-	-	-	-	-
Nitrate and Nitrite as N	mg/L	0.05	-	-	-	-	-	-	-
Nitrate-N	mg/L	0.05	-	3	-	-	-	-	-
Nitrite-N	mg/L	0.05	-	0.06	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	0.2	-	-	-	-	-	-	-
Phosphorus (P)-Total	mg/L	0.01	-	-	-	-	-	-	-
TDS (Calculated)	mg/L	n/a	-	-	-	-	-	-	-
Sulfate	mg/L	0.5	-	-	-	-	-	-	-
Sulfate (SO4)	mg/L	0.5	-	-	-	-	-	-	-
Sulphide	mg/L	0.002	-	-	-	-	-	-	0.033
Anion Sum	me/L	n/a	-	-	-	-	-	-	-
Cation Sum	me/L	n/a	-	-	-	-	-	-	-
Cation - Anion Balance	%	n/a	-	-	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	0.005	-	-	-	-	-
Antimony (Sb)-Total	mg/L	0.0002	-	-	-	-	-	-	-
Arsenic (As)-Total	mg/L	0.0002	-	0.005	-	-	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	-	-	-	-	-	-
Beryllium (Be)-Total	mg/L	0.0002	-	-	-	-	-	-	-
Bismuth (Bi)-Total	mg/L	0.0002	-	-	-	-	-	-	-
Boron (B)-Total	mg/L	0.01	-	-	-	-	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	0.00001	-	-	-	-	-
Calcium (Ca)-Total	mg/L	0.1	-	-	-	-	-	-	-
Cesium (Cs)-Total	mg/L	0.0001	-	-	-	-	-	-	-
Chromium (Cr)-Total	mg/L	0.001	-	0.001	-	-	-	-	-
Cobalt (Co)-Total	mg/L	0.0002	-	-	-	-	-	-	-
Copper (Cu)-Total	mg/L	0.0002	-	0.002	-	-	-	-	-
Iron (Fe)-Total	mg/L	0.1	-	0.3	-	-	-	-	-
Lead (Pb)-Total	mg/L	0.00009	-	0.001	-	-	-	-	-
Lithium (Li)-Total	mg/L	0.002	-	-	-	-	-	-	-
Magnesium (Mg)-Total	mg/L	0.01	-	-	-	-	-	-	-
Manganese (Mn)-Total	mg/L	0.0003	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.0002	-	0.073	-	-	-	-	-
Nickel (Ni)-Total	mg/L	0.002	-	0.025	-	-	-	-	-
Phosphorus (P)-Total	mg/L	0.2	-	-	-	-	-	-	-
Potassium (K)-Total	mg/L	0.02	-	-	-	-	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	-	-	-	-
Selenium (Se)-Total	mg/L	0.001	-	0.001	-	-	-	-	-
Silicon (Si)-Total	mg/L	0.05	-	-	-	-	-	-	-
Silver (Ag)-Total	mg/L	0.0001	-	0.0001	-	-	-	-	-
Sodium (Na)-Total	mg/L	0.03	-	-	-	-	-	-	-
Strontium (Sr)-Total	mg/L	0.0001	-	-	-	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	-	-	-	-
Thallium (Tl)-Total	mg/L	0.0001	-	0.0008	-	-	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	-	-	-	-	-	-
Tin (Sn)-Total	mg/L	0.0002	-	-	-	-	-	-	-
Titanium (Ti)-Total	mg/L	0.0002	-	-	-	-	-	-	-
Tungsten (W)-Total	mg/L	0.001	-	-	-	-	-	-	-
Uranium (U)-Total	mg/L	0.0001	-	-	-	-	-	-	-
Vanadium (V)-Total	mg/L	0.0002	-	-	-	-	-	-	-
Zinc (Zn)-Total	mg/L	0.005	-	0.03	-	-	-	-	-
Zirconium (Zr)-Total	mg/L	0.0004	-	-	-	-	-	-	-
Iron (Fe)-Extractable	mg/L	0.1	-	0.3	-	-	-	-	-
Biochemical Oxygen Deman	mg/L	1	-	-	-	-	-	-	-

* = Result Qualified — Mouse-over the result to see the qualification.

Applied Guideline: **Federal CCME Canadian Environmental Quality Guidelines (JUL, 2012) - CCME - Freshwater Aquatic Life**

Color Key: Exceeds Lower Threshold | Within Guideline | Exceeds Guideline | LOR exceeds Guideline

ALS	#6 SETTLING POND @ BOG A	#7 MILLCREEK @ PR234	#8 MILLCREEK @ PR234	#9 SETTLING POND @ BOG B	#10 SETTLING POND @ BOG B	#11 DRAINAGE @ PR234 BOG B	#12 DRAINAGE @ PR234 BOG B	#13 SETTLING POND @ BOG A	#14 MILLCREEK @ PR234
6/26/2013	L1007657-2	L1007657-3	L1007657-4	L1007657-5	L1007657-6	L1007657-7	L1007657-8	L1007657-9	L1007657-10
Multiple Work Orders	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	73.9	81.4
Hardness (as CaCO3)	-	-	-	-	-	-	-	38.6	43
Oxygen, Dissolved	6.3	-	6.4	-	6.1	-	6.6	-	-
pH	-	-	-	-	-	-	-	6.48	6.76
Total Suspended Solids	-	-	-	-	-	-	-	7	<5.0
Total Dissolved Solids	-	-	-	-	-	-	-	106	92
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	16.7	21.5
Bicarbonate (HCO3)	-	-	-	-	-	-	-	20.4	26.2
Carbonate (CO3)	-	-	-	-	-	-	-	<0.60	<0.60
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	<0.50	0.58
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	<1.0	<1.0
Hydroxide (OH)	-	-	-	-	-	-	-	<0.40	<0.40
Ion Balance	-	-	-	-	-	-	-	Low EC	Low EC
Nitrate and Nitrite as N	-	-	-	-	-	-	-	0.071	<0.050
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	1.37	1.2
Phosphorus (P)-Total	-	-	-	-	-	-	-	0.054	0.041
TDS (Calculated)	-	-	-	-	-	-	-	23.2	26.4
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	12.9	12.9
Sulphide	-	0.032	-	<0.020	-	<0.020	-	-	-
Anion Sum	-	-	-	-	-	-	-	0.61	0.71
Cation Sum	-	-	-	-	-	-	-	<0.10	<0.10
Cation - Anion Balance	-	-	-	-	-	-	-	Low EC	Low EC
Aluminum (Al)-Total	-	-	-	-	-	-	-	0.476	0.317
Antimony (Sb)-Total	-	-	-	-	-	-	-	<0.00020	<0.00020
Arsenic (As)-Total	-	-	-	-	-	-	-	0.00104	0.00088
Barium (Ba)-Total	-	-	-	-	-	-	-	0.00846	0.00664
Beryllium (Be)-Total	-	-	-	-	-	-	-	<0.00020	<0.00020
Bismuth (Bi)-Total	-	-	-	-	-	-	-	<0.00020	<0.00020
Boron (B)-Total	-	-	-	-	-	-	-	0.015	<0.010
Cadmium (Cd)-Total	-	-	-	-	-	-	-	<0.000010	0.000011
Calcium (Ca)-Total	-	-	-	-	-	-	-	6.78	7.83
Cesium (Cs)-Total	-	-	-	-	-	-	-	<0.00010	<0.00010
Chromium (Cr)-Total	-	-	-	-	-	-	-	<0.0010	<0.0010
Cobalt (Co)-Total	-	-	-	-	-	-	-	0.00041	0.00034
Copper (Cu)-Total	-	-	-	-	-	-	-	0.00091	0.00072
Iron (Fe)-Total	-	-	-	-	-	-	-	0.56	0.45
Lead (Pb)-Total	-	-	-	-	-	-	-	0.000254	0.000209
Lithium (Li)-Total	-	-	-	-	-	-	-	0.007	0.007
Magnesium (Mg)-Total	-	-	-	-	-	-	-	5.26	5.71
Manganese (Mn)-Total	-	-	-	-	-	-	-	0.107	0.0645
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	<0.00020	<0.00020
Nickel (Ni)-Total	-	-	-	-	-	-	-	<0.0020	<0.0020
Phosphorus (P)-Total	-	-	-	-	-	-	-	<0.20	<0.20
Potassium (K)-Total	-	-	-	-	-	-	-	1.32	1.28
Rubidium (Rb)-Total	-	-	-	-	-	-	-	0.00257	0.00233
Selenium (Se)-Total	-	-	-	-	-	-	-	<0.0010	<0.0010
Silicon (Si)-Total	-	-	-	-	-	-	-	3.94	1.61
Silver (Ag)-Total	-	-	-	-	-	-	-	<0.00010	<0.00010
Sodium (Na)-Total	-	-	-	-	-	-	-	2.54	2.42
Strontium (Sr)-Total	-	-	-	-	-	-	-	0.0318	0.0306
Tellurium (Te)-Total	-	-	-	-	-	-	-	<0.00020	<0.00020
Thallium (Tl)-Total	-	-	-	-	-	-	-	<0.00010	<0.00010
Thorium (Th)-Total	-	-	-	-	-	-	-	0.00011	<0.00010
Tin (Sn)-Total	-	-	-	-	-	-	-	<0.00020	<0.00020
Titanium (Ti)-Total	-	-	-	-	-	-	-	0.0157	0.011
Tungsten (W)-Total	-	-	-	-	-	-	-	<0.0010	<0.0010
Uranium (U)-Total	-	-	-	-	-	-	-	<0.00010	0.00013
Vanadium (V)-Total	-	-	-	-	-	-	-	0.00144	0.00121
Zinc (Zn)-Total	-	-	-	-	-	-	-	0.0138	0.0052
Zirconium (Zr)-Total	-	-	-	-	-	-	-	0.00054	0.00049
Iron (Fe)-Extractable	-	-	-	-	-	-	-	0.39	0.32
Biochemical Oxygen Deman	-	-	-	-	-	-	-	1.6	1.6
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	#15 SETTLING POND @ BOG B	#16 DRAINAGE PR 234 BOG B	#1 SETTLING POND @ BOG A	#2 MILLCREEK PR234 BOG A	#3 SETTLING POND @ BOG B	#4 DRAINAGE PR 234 BOG B	#1 - SETTLING POND @ BOG A	#2 -MILLCREEK @PR234 - BOG A
6/26/2013	L1007657-11	L1007657-12	L1007658-1	L1007658-2	L1007658-3	L1007658-4	L1009769-1	L1009769-2
Multiple Work Orders	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/20/2011 9:30:00 AM	5/27/2011 12:00:00 AM	5/27/2011 12:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	52.8	47.5	-	-	-	-	-	-
Hardness (as CaCO3)	28.4	25.6	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-
pH	6.08	6.92	6.11	6.43	5.54	6.5	6.56	6.84
Total Suspended Solids	<5.0	5	6	<5.0	<5.0	<5.0	8	<5.0
Total Dissolved Solids	124	58	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	11.6	18	-	-	-	-	-	-
Bicarbonate (HCO3)	14.2	22	-	-	-	-	-	-
Carbonate (CO3)	<0.60	<0.60	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-
Chloride (Cl)	<0.50	<0.50	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	<1.0	<1.0	-	-	-	-	-	-
Hydroxide (OH)	<0.40	<0.40	-	-	-	-	-	-
Ion Balance	Low EC	Low EC	-	-	-	-	-	-
Nitrate and Nitrite as N	<0.050	<0.050	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	1.31	0.87	-	-	-	-	-	-
Phosphorus (P)-Total	0.038	0.019	-	-	-	-	-	-
TDS (Calculated)	13.9	13.2	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfate (SO4)	6.89	2.44	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-
Anion Sum	0.38	0.41	-	-	-	-	-	-
Cation Sum	<0.10	<0.10	-	-	-	-	-	-
Cation - Anion Balance	Low EC	Low EC	-	-	-	-	-	-
Aluminum (Al)-Total	0.283	0.247	-	-	-	-	-	-
Antimony (Sb)-Total	<0.00020	<0.00020	-	-	-	-	-	-
Arsenic (As)-Total	0.00095	0.00057	-	-	-	-	-	-
Barium (Ba)-Total	0.00485	0.0046	-	-	-	-	-	-
Beryllium (Be)-Total	<0.00020	<0.00020	-	-	-	-	-	-
Bismuth (Bi)-Total	<0.00020	<0.00020	-	-	-	-	-	-
Boron (B)-Total	<0.010	<0.010	-	-	-	-	-	-
Cadmium (Cd)-Total	<0.000010	<0.000010	-	-	-	-	-	-
Calcium (Ca)-Total	5.01	5.11	-	-	-	-	-	-
Cesium (Cs)-Total	<0.00010	<0.00010	-	-	-	-	-	-
Chromium (Cr)-Total	<0.0010	<0.0010	-	-	-	-	-	-
Cobalt (Co)-Total	0.00043	<0.00020	-	-	-	-	-	-
Copper (Cu)-Total	0.00052	0.00049	-	-	-	-	-	-
Iron (Fe)-Total	0.59	0.27	-	-	-	-	-	-
Lead (Pb)-Total	0.00018	0.000115	-	-	-	-	-	-
Lithium (Li)-Total	0.0058	0.0035	-	-	-	-	-	-
Magnesium (Mg)-Total	3.87	3.11	-	-	-	-	-	-
Manganese (Mn)-Total	0.094	0.0288	-	-	-	-	-	-
Molybdenum (Mo)-Total	<0.00020	<0.00020	-	-	-	-	-	-
Nickel (Ni)-Total	<0.0020	<0.0020	-	-	-	-	-	-
Phosphorus (P)-Total	<0.20	<0.20	-	-	-	-	-	-
Potassium (K)-Total	1.35	1.02	-	-	-	-	-	-
Rubidium (Rb)-Total	0.00263	0.00255	-	-	-	-	-	-
Selenium (Se)-Total	<0.0010	<0.0010	-	-	-	-	-	-
Silicon (Si)-Total	2.5	3.61	-	-	-	-	-	-
Silver (Ag)-Total	<0.00010	<0.00010	-	-	-	-	-	-
Sodium (Na)-Total	1.96	1.49	-	-	-	-	-	-
Strontium (Sr)-Total	0.0236	0.018	-	-	-	-	-	-
Tellurium (Te)-Total	<0.00020	<0.00020	-	-	-	-	-	-
Thallium (Tl)-Total	<0.00010	<0.00010	-	-	-	-	-	-
Thorium (Th)-Total	<0.00010	<0.00010	-	-	-	-	-	-
Tin (Sn)-Total	<0.00020	<0.00020	-	-	-	-	-	-
Titanium (Ti)-Total	0.00544	0.00809	-	-	-	-	-	-
Tungsten (W)-Total	<0.0010	<0.0010	-	-	-	-	-	-
Uranium (U)-Total	<0.00010	<0.00010	-	-	-	-	-	-
Vanadium (V)-Total	0.00108	0.00062	-	-	-	-	-	-
Zinc (Zn)-Total	0.0052	0.0115	-	-	-	-	-	-
Zirconium (Zr)-Total	0.00042	<0.00040	-	-	-	-	-	-
Iron (Fe)-Extractable	0.48	0.17	-	-	-	-	-	-
Biochemical Oxygen Deman	1.5	1.4	-	-	-	-	1.9	1.2
* = Result Qualified								
Applied Guideline:								
Color Key:								

ALS	#3 -SETTLING POND @ BOG B	#4 - DRAINAGE @ PR234 - BOG B	#1 - SETTLING POND @ BOG A	#2 - MILLCREEK @ PR234 BOG A	# 3 - SELTTING POND @ BOG B	# 4 - DRAINAGE @ PR234 BOG B	#1 SETTLING POND @ BOG A	#2 MILLCREEK PR234 BOG A
6/26/2013	L1009769-3	L1009769-4	L1012213-1	L1012213-2	L1012213-3	L1012213-4	L1015387-1	L1015387-2
Multiple Work Orders	5/27/2011 12:00:00 AM	5/27/2011 12:00:00 AM	6/1/2011 9:00:00 AM	6/1/2011 9:00:00 AM	6/1/2011 9:00:00 AM	6/1/2011 9:00:00 AM	6/9/2011 8:00:00 AM	6/9/2011 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-
pH	5.95	6.91	6.68	6.42	5.97	6.63	6.15	6.51
Total Suspended Solids	<5.0	7	5	<5.0	7	<5.0	<5.0	<5.0
Total Dissolved Solids	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	1	1	-	-	-	-	-	-
* = Result Qualified								
Applied Guideline:								
Color Key:								

ALS	#3 SETTLING POND @ BOG B	#4 DRAINAGE @ PR234 BOG B	#1 - SETTLING POND @ BOG A	#2 - MILLCREEK @ PR234 BOG A	#3 - SETTLING POND @ BOG B	#4 - DRAINAGE @ PR234 BOG B	1 SETTLING POND @ BOG A	2 MILLCREEK PR234 BOG A
6/26/2013	L1015387-3	L1015387-4	L1019242-1	L1019242-2	L1019242-3	L1019242-4	L1022317-1	L1022317-2
Multiple Work Orders	6/9/2011 8:00:00 AM	6/9/2011 8:00:00 AM	6/17/2011 9:30:00 AM	6/17/2011 9:30:00 AM	6/17/2011 9:30:00 AM	6/17/2011 9:30:00 AM	6/23/2011 8:30:00 AM	6/23/2011 8:30:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-
pH	6.14	6.71	5.47	5.46	5.18	5.43	7.49	7.5
Total Suspended Solids	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	10
Total Dissolved Solids	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-
* = Result Qualified								
Applied Guideline:								
Color Key:								

ALS	3 SETTLING POND @ BOG B	4 DRAINAGE PR234 BOG B	SETTLING POND @ BOG A	-MILLCREEK @ PR234 BOG A	SETTLING POND @ BOG B	DRAINAGE @ PR234 BOG B	SETTLING POND @ BOG A	MILLCREEK @ PR 234 BOG A	SETTLING POND @ BOG B
6/26/2013	L1022317-3	L1022317-4	L1025652-1	L1025652-2	L1025652-3	L1025652-4	L1027680-1	L1027680-2	L1027680-3
Multiple Work Orders	6/23/2011 8:30:00 AM	6/23/2011 8:30:00 AM	6/30/2011 8:30:00 AM	6/30/2011 8:30:00 AM	6/30/2011 8:30:00 AM	6/30/2011 8:30:00 AM	7/6/2011 8:30:00 AM	7/6/2011 8:30:00 AM	7/6/2011 8:30:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-	-
pH	7.29	7.51	6.12	6.9	6.26	6.61	6.25	7.63	6.35
Total Suspended Solids	<5.0	<5.0	<5.0	8	<5.0	<5.0	<5.0	<5.0	<5.0
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	DRAINAGE @ PR 234 BOG B	SETTLING POND @ BOG A	MILLCREEK @ PR234 BOG A	SETTLING POND @ BOG B	DRAINAGE @ PR234 BOG B	SETTLING POND @ BOG A	MILLCREEK @ PR234 BOG A	SETTLING POND @ BOG B	DRAINAGE PR234 BOG B
6/26/2013	L1027680-4	L1030782-1	L1030782-2	L1030782-3	L1030782-4	L1034902-1	L1034902-2	L1034902-3	L1034902-4
Multiple Work Orders	7/6/2011 8:30:00 AM	7/13/2011 8:30:00 AM	7/13/2011 8:30:00 AM	7/13/2011 8:30:00 AM	7/13/2011 8:30:00 AM	7/22/2011 12:00:00 AM	7/22/2011 12:00:00 AM	7/22/2011 12:00:00 AM	7/22/2011 12:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-	-
pH	6.72	6.47	6.68	6.41	6.76	5.1	6.18	6.12	6.08
Total Suspended Solids	<5.0	5	8	6	11	5	12	<5.0	10
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	SETTLING POND @ BOG A	MILLCREEK @ PR234 BOG A	SETTLING POINT @ BOG B	DRAINAGE @ PR234 BOG B	1 - SETTLING POND @ BOG A	2 - MILL CREEK PR234 BOG A	3 - SETTLING POND @ BOG B	4 - DRAINAGE PR234 BOG B	#1 SETTLING POND @ BOG A
6/26/2013	L1037673-1	L1037673-2	L1037673-3	L1037673-4	L1040932-1	L1040932-2	L1040932-3	L1040932-4	L1043949-1
Multiple Work Orders	7/28/2011 8:00:00 AM	7/28/2011 8:00:00 AM	7/28/2011 8:00:00 AM	7/28/2011 8:00:00 AM	8/5/2011 9:30:00 AM	8/5/2011 9:30:00 AM	8/5/2011 9:30:00 AM	8/5/2011 9:30:00 AM	8/12/2011 8:30:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-	-
pH	6.23	6.71	6.63	6.86	6.75	7.1	6.89	6.93	6.97
Total Suspended Solids	<5.0	<5.0	5	<5.0	7	8	6	<5.0	<5.0
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	#2 MILLCREEK @ PR234 BOG A	#3 SETTLING POND @ BOG B	#4 DRAINAGE @ PR234 BOG B	#1 SETTLING POND AT BOG A	#2 MILLCREEK @ PR234 BOG A	#3 SETTLING POND AT BOG B	#4 DRAINAGE @ PR234 BOG B	1) SETTLING POND AT BOG A
6/26/2013	L1043949-2	L1043949-3	L1043949-4	L1047161-1	L1047161-2	L1047161-3	L1047161-4	L1049313-1
Multiple Work Orders	8/12/2011 8:30:00 AM	8/12/2011 8:30:00 AM	8/12/2011 8:30:00 AM	8/19/2011 7:30:00 AM	8/19/2011 7:30:00 AM	8/19/2011 7:30:00 AM	8/19/2011 7:30:00 AM	8/24/2011 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-
pH	7.3	7.25	7	6.77	6.87	7.01	6.89	6.33
Total Suspended Solids	<5.0	<5.0	<5.0	7	11	8	<5.0	7
Total Dissolved Solids	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-
* = Result Qualified								
Applied Guideline:								
Color Key:								

ALS	2) MILL CREEEK AT PR 234 BOG A	3) SETTLING POND BOG B	4) DRAINAGE AT PR 234 BOG B	1) SETTLING POND AT BOG A	2) MILL CREEK AT PR 234 BOG A	3) SETTLING POND AT BOG B	4) DRAINAGE AT PR 234 BOG B	SETTLING POND @ BOG A
6/26/2013	L1049313-2	L1049313-3	L1049313-4	L1049320-1	L1049320-2	L1049320-3	L1049320-4	L1053243-1
Multiple Work Orders	8/24/2011 8:00:00 AM	8/24/2011 8:00:00 AM	8/24/2011 8:00:00 AM	8/24/2011 8:00:00 AM	8/24/2011 8:00:00 AM	8/24/2011 8:00:00 AM	8/24/2011 8:00:00 AM	9/1/2011 4:00:00 PM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	195	253	146	85	-
Hardness (as CaCO3)	-	-	-	106	139	89.8	51.4	-
Oxygen, Dissolved	-	-	-	<0.10	0.1	1.8	2	-
pH	6.93	6.67	6.81	7.14	7.72	7.15	7.06	6.26
Total Suspended Solids	8	<5.0	<5.0	26	6	5	<5.0	<5.0
Total Dissolved Solids	-	-	-	148	198	102	64	-
TDS (Calculated)	-	-	-	128	173	92.4	48.2	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	73.2	96	53.9	34.8	-
Bicarbonate (HCO3)	-	-	-	89.3	117	65.8	42.4	-
Carbonate (CO3)	-	-	-	<0.60	<0.60	<0.60	<0.60	-
Chloride	-	-	-	5.12	8.05	<0.50	0.56	-
Chloride (Cl)	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	<0.40	<0.40	<0.40	<0.40	-
Ion Balance	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	<0.071	0.131	<0.071	<0.071	-
Nitrate-N	-	-	-	0.069	0.131	0.064	0.053	-
Nitrite-N	-	-	-	<0.050	<0.050	<0.050	<0.050	-
Total Kjeldahl Nitrogen	-	-	-	1.86	0.86	1.84	1.47	-
Phosphorus (P)-Total	-	-	-	0.14	0.084	0.074	0.061	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Sulfate	-	-	-	30.8	45.2	25.7	6.87	-
Sulfate (SO4)	-	-	-	-	-	-	-	-
Sulphide	-	-	-	0.175	0.159	0.137	0.0688	-
Anion Sum	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	0.771	1.01	0.235	0.238	-
Antimony (Sb)-Total	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-
Arsenic (As)-Total	-	-	-	0.0021	0.0022	0.0012	0.0013	-
Barium (Ba)-Total	-	-	-	0.0235	0.0311	0.00988	0.0067	-
Beryllium (Be)-Total	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-
Bismuth (Bi)-Total	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050	-
Boron (B)-Total	-	-	-	<0.030	<0.030	<0.030	<0.030	-
Cadmium (Cd)-Total	-	-	-	<0.00020	<0.00020	<0.00020	<0.00020	-
Calcium (Ca)-Total	-	-	-	21.2	30.4	13.3	9.12	-
Cesium (Cs)-Total	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050	-
Chromium (Cr)-Total	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	-
Cobalt (Co)-Total	-	-	-	0.0007	<0.00050	<0.00050	<0.00050	-
Copper (Cu)-Total	-	-	-	<0.0020	0.002	<0.0020	0.0025	-
Iron (Fe)-Total	-	-	-	1.1	0.92	0.79	0.57	-
Lead (Pb)-Total	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-
Lithium (Li)-Total	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	-
Magnesium (Mg)-Total	-	-	-	13	15.3	13.8	6.95	-
Manganese (Mn)-Total	-	-	-	0.188	0.0851	0.232	0.451	-
Molybdenum (Mo)-Total	-	-	-	<0.00050	0.00079	<0.00050	<0.00050	-
Nickel (Ni)-Total	-	-	-	0.0021	0.0025	<0.0020	<0.0020	-
Phosphorus (P)-Total	-	-	-	<0.50	<0.50	<0.50	<0.50	-
Potassium (K)-Total	-	-	-	2.99	3.76	0.99	0.85	-
Rubidium (Rb)-Total	-	-	-	0.00355	0.00385	0.00182	0.00222	-
Selenium (Se)-Total	-	-	-	<0.0050	<0.0050	<0.0050	<0.0050	-
Silicon (Si)-Total	-	-	-	7.37	6.78	3.67	7.29	-
Silver (Ag)-Total	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-
Sodium (Na)-Total	-	-	-	10.8	12.8	6.28	2.98	-
Strontium (Sr)-Total	-	-	-	0.0802	0.0965	0.0845	0.0434	-
Tellurium (Te)-Total	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-
Thallium (Tl)-Total	-	-	-	<0.0050	<0.0050	<0.0050	<0.0050	-
Thorium (Th)-Total	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-
Tin (Sn)-Total	-	-	-	<0.00060	<0.00060	<0.00060	<0.00060	-
Titanium (Ti)-Total	-	-	-	0.024	0.0331	0.005	0.0067	-
Tungsten (W)-Total	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	-
Uranium (U)-Total	-	-	-	0.00056	0.00105	<0.00050	<0.00050	-
Vanadium (V)-Total	-	-	-	0.0029	0.0037	<0.0020	<0.0020	-
Zinc (Zn)-Total	-	-	-	<0.020	<0.020	<0.020	<0.020	-
Zirconium (Zr)-Total	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	<6.0	<6.0	<6.0	<6.0	-

* = Result Qualified

Applied Guideline:

Color Key:

ALS	MILLCREEK @PR234 BOG A	SETTLING POND @ BOG B	DRAINAGE @ PR234 BOG B	#1 SETTLING POND @ BOG A	#2 MILLCREEK @ PR234 BOG A	#3 SETTLING POND @ BOG B	#4 DRAINAGE @ PR234 BOG B	#1 SETTLING POND @ BOG A
6/26/2013	L1053243-2	L1053243-3	L1053243-4	L1056173-1	L1056173-2	L1056173-3	L1056173-4	L1058322-1
Multiple Work Orders	9/1/2011 4:00:00 PM	9/1/2011 4:00:00 PM	9/1/2011 4:00:00 PM	9/9/2011 8:30:00 AM	9/9/2011 8:30:00 AM	9/9/2011 8:30:00 AM	9/9/2011 8:30:00 AM	9/14/2011 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-
pH	6.94	6.79	7	6.96	6.72	6.55	6.81	6.56
Total Suspended Solids	5	<5.0	10	<5.0	<5.0	<5.0	21	9
Total Dissolved Solids	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-
* = Result Qualified								
Applied Guideline:								
Color Key:								

ALS	#2 MILLCREEK @ PR234 BOG A	#3 SETTLING POND @ BOG B	#4 DRAINAGE @ PR234 BOG B	SETTLING POND @ BOG A	MILLCREEK @ PR234 BOG A	SETTLING POND @ BOG B	DRAINAGE @ PR234 BOG B	SETTLING POND @ BOG A	MILL CREEK @ PR234 BOG A
6/26/2013	L1058322-2	L1058322-3	L1058322-4	L1061869-1	L1061869-2	L1061869-3	L1061869-4	L1065019-1	L1065019-2
Multiple Work Orders	9/14/2011 8:00:00 AM	9/14/2011 8:00:00 AM	9/14/2011 8:00:00 AM	9/21/2011 4:00:00 PM	9/21/2011 4:00:00 PM	9/21/2011 4:00:00 PM	9/21/2011 4:00:00 PM	9/28/2011 10:00:00 AM	9/28/2011 10:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-	-
pH	7.43	6.32	6.99	6.98	7.02	7.09	6.94	6.82	7.13
Total Suspended Solids	14	8	35	<5.0	6	<5.0	24	<5.0	<5.0
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	SETTLING POND @ BOG B	DRAINAGE PR234 BOG B	SETTLING POND @ BOG A	MILL CREEK @ PR234 BOG A	SETTLING POND @ BOG B	DRAINAGE @ PR234 BOG B	SETTLING POND @ BOG A	MILL CREEK @ PPR234 BOG A	SETTLING POND @ BOG B
6/26/2013	L1065019-3	L1065019-4	L1068143-1	L1068143-2	L1068143-3	L1068143-4	L1074414-1	L1074414-2	L1074414-3
Multiple Work Orders	9/28/2011 10:00:00 AM	9/28/2011 10:00:00 AM	10/5/2011 10:00:00 AM	10/5/2011 10:00:00 AM	10/5/2011 10:00:00 AM	10/5/2011 10:00:00 AM	10/20/2011 9:00:00 AM	10/20/2011 9:00:00 AM	10/20/2011 9:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-	-
pH	6.89	7.23	6.61	7.18	6.77	7.17	6.81	6.6	6.72
Total Suspended Solids	<5.0	15	9	16	<5.0	41	<5.0	<5.0	7
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	DRAINAGE @ PR234 BOG B	#1 SETTLING POND @ BOG A	#2 MILLCREEK PR 234 BOG A	#3 SETTLING POND @ BOG B	#4 DRAINAGE @ PR234 BOG B	SETTLING POND @ BOG A	MILLCREEK @ PR234	SETTLING POND @ BOG B	DRAINAGE PR234 BOG B
6/26/2013	L1074414-4	L1078379-1	L1078379-2	L1078379-3	L1078379-4	L1078380-1	L1078380-2	L1078380-3	L1078380-4
Multiple Work Orders	10/20/2011 9:00:00 AM	10/28/2011 10:00:00 AM	10/28/2011 10:00:00 AM	10/28/2011 10:00:00 AM	10/28/2011 10:00:00 AM	10/28/2011 10:00:00 AM	10/28/2011 10:00:00 AM	10/28/2011 10:00:00 AM	10/28/2011 10:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	257	168	207	89
Hardness (as CaCO3)	-	-	-	-	-	134	95.4	111	51.8
Oxygen, Dissolved	-	-	-	-	-	3.4	7.6	5.5	7.5
pH	6.81	7.09	7.12	7.35	7.12	7.42	7.48	7.68	7.43
Total Suspended Solids	22	13	<5.0	<5.0	7	11	5	<5.0	8
Total Dissolved Solids	-	-	-	-	-	186	126	154	66
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	110	56.2	86.2	33
Bicarbonate (HCO3)	-	-	-	-	-	134	68.5	105	40.3
Carbonate (CO3)	-	-	-	-	-	<0.60	<0.60	<0.60	<0.60
Chloride	-	-	-	-	-	0.8	1.14	<0.50	1.68
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	134	95.4	111	51.8
Hydroxide (OH)	-	-	-	-	-	<0.40	<0.40	<0.40	<0.40
Ion Balance	-	-	-	-	-	110	132	114	Low EC
Nitrate and Nitrite as N	-	-	-	-	-	0.092	0.132	0.266	0.104
Nitrate-N	-	-	-	-	-	0.092	0.132	0.266	0.104
Nitrite-N	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050
Total Kjeldahl Nitrogen	-	-	-	-	-	4.79	2.25	2.34	1.2
Phosphorus (P)-Total	-	-	-	-	-	0.395	0.126	0.124	0.048
TDS (Calculated)	-	-	-	-	-	151	101	121	49.1
Sulfate	-	-	-	-	-	31.7	27.7	26.1	6.1
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	0.063	0.026	0.042	0.021
Anion Sum	-	-	-	-	-	2.89	1.74	2.28	0.84
Cation Sum	-	-	-	-	-	3.19	2.29	2.59	1.22
Cation - Anion Balance	-	-	-	-	-	5	13.7	6.3	Low EC
Aluminum (Al)-Total	-	-	-	-	-	0.311	0.23	0.161	0.594
Antimony (Sb)-Total	-	-	-	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	-	-	-	-	-	0.00075	0.00071	0.00081	0.00085
Barium (Ba)-Total	-	-	-	-	-	0.0135	0.00883	0.00777	0.00915
Beryllium (Be)-Total	-	-	-	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	-	-	-	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	-	-	-	-	-	0.021	0.012	0.017	<0.010
Cadmium (Cd)-Total	-	-	-	-	-	0.000012	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	-	-	-	-	-	19.7	14.3	16.3	9.39
Cesium (Cs)-Total	-	-	-	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	-	-	-	-	-	0.00052	0.00032	0.00034	0.00039
Copper (Cu)-Total	-	-	-	-	-	0.00071	0.0005	0.0004	0.00067
Iron (Fe)-Total	-	-	-	-	-	0.65	0.51	0.56	0.79
Lead (Pb)-Total	-	-	-	-	-	0.000223	0.000151	0.000109	0.00025
Lithium (Li)-Total	-	-	-	-	-	0.015	0.0142	0.0118	0.0078
Magnesium (Mg)-Total	-	-	-	-	-	20.5	14.5	17.1	6.89
Manganese (Mn)-Total	-	-	-	-	-	0.329	0.181	0.29	0.276
Molybdenum (Mo)-Total	-	-	-	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Nickel (Ni)-Total	-	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020
Phosphorus (P)-Total	-	-	-	-	-	0.41	<0.20	<0.20	<0.20
Potassium (K)-Total	-	-	-	-	-	1.63	1.41	1.09	1.27
Rubidium (Rb)-Total	-	-	-	-	-	0.00212	0.00212	0.00153	0.00298
Selenium (Se)-Total	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Silicon (Si)-Total	-	-	-	-	-	7.07	7.46	4.57	7.56
Silver (Ag)-Total	-	-	-	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Sodium (Na)-Total	-	-	-	-	-	11.9	8.08	7.88	3.51
Strontium (Sr)-Total	-	-	-	-	-	0.117	0.0714	0.104	0.0378
Tellurium (Te)-Total	-	-	-	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	-	-	-	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	-	-	-	-	-	<0.00010	<0.00010	<0.00010	0.0001
Tin (Sn)-Total	-	-	-	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	-	-	-	-	-	0.00941	0.0077	0.0037	0.022
Tungsten (W)-Total	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Uranium (U)-Total	-	-	-	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	-	-	-	-	-	0.00105	0.0008	0.00075	0.00144
Zinc (Zn)-Total	-	-	-	-	-	<0.0050	<0.0050	<0.0050	0.0082
Zirconium (Zr)-Total	-	-	-	-	-	<0.00040	<0.00040	<0.00040	0.00044
Iron (Fe)-Extractable	-	-	-	-	-	0.59	0.46	0.56	0.62
Biochemical Oxygen Deman	-	-	-	-	-	11.4	<6.0	<6.0	<6.0
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	#1 SETTLING POND@ BOG A	#2 MILLCREEK@PR234 BOGA	#3 SETTLING POND @ BOG B	#4 DRAINAGE @ PR234 BOG B	SETTLING POND @ BOG A	MILLCREEK @ PR234 BOG A	SETTING POND @ BOG B	DRAINAGE @ PR234	#1 SETTLING POND @ BOG A
6/26/2013	L1136869-1	L1136869-2	L1136869-3	L1136869-4	L1139673-1	L1139673-2	L1139673-3	L1139673-4	L1143038-1
Multiple Work Orders	4/19/2012 10:00:00 AM	4/19/2012 10:00:00 AM	4/19/2012 10:00:00 AM	4/19/2012 10:00:00 AM	4/26/2012 8:00:00 AM	4/26/2012 8:00:00 AM	4/26/2012 8:00:00 AM	4/26/2012 8:00:00 AM	5/4/2012 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-	-
pH	6.42	6.66	6.69	6.66	6.89	7.04	6.95	6.92	6.42
Total Suspended Solids	6	80	<5.0	24	<5.0	<5.0	6	<5.0	<5.0
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-

* = Result Qualified

Applied Guideline:

Color Key:

ALS	#2 MILLCREEK @ PR 234	#3 SETTLING POND @ BOG B	#4 DRAINAGE @ PR 234	#5 SETTLING POND @ BOG A	#6 SETTLING POND @ BOG A	#7 MILLCREEK @ PR 234	#8 MILLCREEK @ PR 234	#9 SETTLING POND @ BOG B	#10 SETTLING POND @ BOG B
6/26/2013	L1143038-2	L1143038-3	L1143038-4	L1143068-2	L1143068-3	L1143068-4	L1143068-5	L1143068-6	L1143068-7
Multiple Work Orders	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	8.6	-	8.8	-	7.8	-
pH	6.62	6.53	6.78	-	-	-	-	-	-
Total Suspended Solids	<5.0	<5.0	<5.0	-	-	-	-	-	-
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	0.0580 *	-	0.0367 *	-	0.0698 *
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	#11 DRAINAGE @ PR 234 BOG B	#12 DRAINAGE @ PR 234 BOG B	#13 SETTLING POND BOG B	#14 MILL CREEK @ PR 234	#15 SETTLING POND @ BOG B	#16 DRAINAGE @ PR 234 BOG B	SETTLING POND @ BOG A	MILLCREEK @ PR234 BOG A	SETTLING POND @ BOG B
6/26/2013	L1143068-8	L1143068-9	L1143068-10	L1143068-11	L1143068-12	L1143068-13	L1145656-1	L1145656-2	L1145656-3
Multiple Work Orders	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/4/2012 8:00:00 AM	5/10/2012 8:00:00 AM	5/10/2012 8:00:00 AM	5/10/2012 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	129	117	112	65	-	-	-
Hardness (as CaCO3)	-	-	6.52	5.89	5.86	3.65	-	-	-
Oxygen, Dissolved	11.4	-	-	-	-	-	-	-	-
pH	-	-	6.25	6.48	6.39	6.69	6.73	7.46	6.9
Total Suspended Solids	-	-	<5.0	<5.0	<5.0	5	<5.0	<5.0	7
Total Dissolved Solids	-	-	102	92	90	54	-	-	-
TDS (Calculated)	-	-	49.7	43.7	40.2	20.8	-	-	-
Turbidity	-	-	2.17	2.05	3.99	1.65	-	-	-
Alkalinity, Total (as CaCO3)	-	-	18.3 *	19.7 *	22	15.9 *	-	-	-
Bicarbonate (HCO3)	-	-	22.3 *	24.0 *	27	19.4 *	-	-	-
Carbonate (CO3)	-	-	<0.60 *	<0.60 *	<12	<0.60 *	-	-	-
Chloride	-	-	0.5	1.56	0.55	2.21	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	<0.10	<0.10	<0.10	<0.10	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	<0.34 *	<0.34 *	<6.8	<0.34 *	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	0.143	0.094	0.131	<0.071	-	-	-
Nitrate-N	-	-	0.143	0.094	0.131	<0.050	-	-	-
Nitrite-N	-	-	<0.050	<0.050	<0.050	<0.050	-	-	-
Total Kjeldahl Nitrogen	-	-	1.33	1.06	1.23	0.86	-	-	-
Phosphorus (P)-Total	-	-	0.042	0.033	0.051	0.021	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	35	27.6	23.3	7.37	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	0.0164 *	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	0.271	0.233	0.338	0.16	-	-	-
Antimony (Sb)-Total	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-	-	-
Arsenic (As)-Total	-	-	0.0017	0.0012	0.0016	<0.0010	-	-	-
Barium (Ba)-Total	-	-	0.00901	0.00756	0.00942	0.0117	-	-	-
Beryllium (Be)-Total	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-	-	-
Bismuth (Bi)-Total	-	-	<0.00050	<0.00050	<0.00050	<0.00050	-	-	-
Boron (B)-Total	-	-	<0.030	<0.030	<0.030	<0.030	-	-	-
Cadmium (Cd)-Total	-	-	<0.00020	<0.00020	<0.00020	<0.00020	-	-	-
Calcium (Ca)-Total	-	-	11	10.7	9.08	7.6	-	-	-
Cesium (Cs)-Total	-	-	<0.00050	<0.00050	<0.00050	<0.00050	-	-	-
Chromium (Cr)-Total	-	-	<0.0020	<0.0020	<0.0020	<0.0020	-	-	-
Cobalt (Co)-Total	-	-	<0.00050	<0.00050	0.00055	<0.00050	-	-	-
Copper (Cu)-Total	-	-	<0.0020	<0.0020	<0.0020	<0.0020	-	-	-
Iron (Fe)-Total	-	-	0.39	0.36	0.78	0.21	-	-	-
Lead (Pb)-Total	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-	-	-
Lithium (Li)-Total	-	-	0.0112	0.0129	0.0088	0.0094	-	-	-
Magnesium (Mg)-Total	-	-	9.14	7.85	8.73	4.27	-	-	-
Manganese (Mn)-Total	-	-	0.134	0.0658	0.161	0.0378	-	-	-
Molybdenum (Mo)-Total	-	-	<0.00050	<0.00050	<0.00050	<0.00050	-	-	-
Nickel (Ni)-Total	-	-	<0.0020	<0.0020	<0.0020	<0.0020	-	-	-
Phosphorus (P)-Total	-	-	<0.50	<0.50	<0.50	<0.50	-	-	-
Potassium (K)-Total	-	-	1.12	1.25	1.14	1.29	-	-	-
Rubidium (Rb)-Total	-	-	0.00202	0.00211	0.00216	0.00241	-	-	-
Selenium (Se)-Total	-	-	<0.0050	<0.0050	<0.0050	<0.0050	-	-	-
Silicon (Si)-Total	-	-	3.95	3.32	4.47	2.07	-	-	-
Silver (Ag)-Total	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-	-	-
Sodium (Na)-Total	-	-	3.92	3.71	4.21	3.63	-	-	-
Strontium (Sr)-Total	-	-	0.0557	0.0538	0.0503	0.0537	-	-	-
Tellurium (Te)-Total	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-	-	-
Thallium (Tl)-Total	-	-	<0.0050	<0.0050	<0.0050	<0.0050	-	-	-
Thorium (Th)-Total	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-	-	-
Tin (Sn)-Total	-	-	<0.00060	<0.00060	<0.00060	<0.00060	-	-	-
Titanium (Ti)-Total	-	-	0.0063	0.0071	0.0083	0.0049	-	-	-
Tungsten (W)-Total	-	-	<0.0020	<0.0020	<0.0020	<0.0020	-	-	-
Uranium (U)-Total	-	-	<0.00050	<0.00050	<0.00050	<0.00050	-	-	-
Vanadium (V)-Total	-	-	<0.0020	<0.0020	0.0021	<0.0020	-	-	-
Zinc (Zn)-Total	-	-	<0.020	<0.020	<0.020	<0.020	-	-	-
Zirconium (Zr)-Total	-	-	<0.0010	<0.0010	<0.0010	<0.0010	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	<6.0	<6.0	<6.0	<6.0	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	DRAINAGE @ PR234 BOG B	#1 SETTLING POND BOG A	#2 MILLCREEK @ PR234 BOG A	#3 SETTLING POND BOG B	#4 - DRAINAGE @ PR234	SETTLING POND @ BOG A	MILLCREEK PR234 BOG A	SETTLING POND @ BOG B	DRAINAGE @ PR234 BOG B
6/26/2013	L1145656-4	L1148679-1	L1148679-2	L1148679-3	L1148679-4	L1151746-1	L1151746-2	L1151746-3	L1151746-4
Multiple Work Orders	5/10/2012 8:00:00 AM	5/17/2012 8:00:00 AM	5/17/2012 8:00:00 AM	5/17/2012 8:00:00 AM	5/17/2012 8:00:00 AM	5/24/2012 10:00:00 AM	5/24/2012 10:00:00 AM	5/24/2012 10:00:00 AM	5/24/2012 10:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-	-
pH	6.98	6.15	6.61	6.18	6.75	6.54	6.85	6.69	6.86
Total Suspended Solids	6	6	<5.0	<5.0	5	6	<5.0	5	<5.0
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	#1 - SETTLING POND @ BOG A	#2 - MILLCREEK @ PR234 BOG A	#3 - SETTLING POND @ BOG B	#4 - DRAINAGE @ PR234 BOG B	SETTLING POND @ BOG A	MILLCREEK PR234 BOG A	SETTLING POND @ BOG B	DRAINAGE @ PR234 BOG B	#1 SETTLING POND @ BOG A
6/26/2013	L1155306-1	L1155306-2	L1155306-3	L1155306-4	L1158091-1	L1158091-2	L1158091-3	L1158091-4	L1161925-1
Multiple Work Orders	5/31/2012 8:00:00 AM	5/31/2012 8:00:00 AM	5/31/2012 8:00:00 AM	5/31/2012 8:00:00 AM	6/6/2012 8:00:00 AM	6/6/2012 8:00:00 AM	6/6/2012 8:00:00 AM	6/6/2012 8:00:00 AM	6/13/2012 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-	-
pH	6.49	6.51	7.05	6.7	6.58	6.69	6.78	6.73	6.92
Total Suspended Solids	<5.0	6	9	<5.0	<5.0	8	5	<5.0	9
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	#2 MILLCREEK @ PR234 BOG A	#3 SETTLING POND @ BOG B	#4 DRAINAGE @PR234 BOG B	#1 SETTLING POND @ BOG A	#2 MILLCREEK @ PR 234 BOG A	#3 SETTLING POND @ BOG B	#4 DRAINAGE @ PR234 BOG B	SETTLING POND @ BOG A
6/26/2013	L1161925-2	L1161925-3	L1161925-4	L1166093-1	L1166093-2	L1166093-3	L1166093-4	L1169863-1
Multiple Work Orders	6/13/2012 8:00:00 AM	6/13/2012 8:00:00 AM	6/13/2012 8:00:00 AM	6/21/2012 8:00:00 AM	6/21/2012 8:00:00 AM	6/21/2012 8:00:00 AM	6/21/2012 8:00:00 AM	6/28/2012 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-
pH	6.7	6.77	6.7	7.57	7.33	7.62	7.9	7.61
Total Suspended Solids	<5.0	<5.0	<5.0	7	<5.0	<5.0	<5.0	6
Total Dissolved Solids	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-
* = Result Qualified								
Applied Guideline:								
Color Key:								

ALS	MILLCREEK @ PR234 BOG A	SETTLING POND @ BOG B	DRAINAGE @ PR234 BOG B	SETTLING POND @ BOG A	MILLCREEK @ PR234 BOG A	SETTLING POND @ BOG B	DRAINAGE PR234 BOG B	1 - SETTLING POND @ BOG A	2 - MILLCREEK @ PR 234 BOG A
6/26/2013	L1169863-2	L1169863-3	L1169863-4	L1173675-1	L1173675-2	L1173675-3	L1173675-4	L1177581-1	L1177581-2
Multiple Work Orders	6/28/2012 8:00:00 AM	6/28/2012 8:00:00 AM	6/28/2012 8:00:00 AM	7/5/2012 8:00:00 AM	7/5/2012 8:00:00 AM	7/5/2012 8:00:00 AM	7/5/2012 8:00:00 AM	7/11/2012 8:00:00 AM	7/11/2012 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-	-
pH	7.59	7.45	7.3	6.89	6.91	7.13	6.89	6.76	6.77
Total Suspended Solids	<5.0	6	8	5	<5.0	<5.0	<5.0	11	30
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	3 - SETTLING POND @ BOG B	4 - DRAINAGE @ PR234 BOG B	#1 SETTLING POND @ BOG A	#2 MILLCREEK @ PR234 BOG A	#3 SETTLING POND @ BOG B	#4 DRAINAGE @ PR234 BOG B	#1 -SETTLING POND @ BOG A	#2 - MILLCREEK @ PR234 BOG A
6/26/2013	L1177581-3	L1177581-4	L1181641-1	L1181641-2	L1181641-3	L1181641-4	L1185161-1	L1185161-2
Multiple Work Orders	7/11/2012 8:00:00 AM	7/11/2012 8:00:00 AM	7/20/2012 8:00:00 AM	7/20/2012 8:00:00 AM	7/20/2012 8:00:00 AM	7/20/2012 8:00:00 AM	7/27/2012 8:00:00 AM	7/27/2012 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-
pH	6.85	6.81	7.07	6.99	7.1	6.99	7.01	7
Total Suspended Solids	93	<5.0	6	6	6	<5.0	<5.0	5
Total Dissolved Solids	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-
* = Result Qualified								
Applied Guideline:								
Color Key:								

ALS	#3 - SETTLING POND @ BOG B	#4 - DRAINAGE @ PR234 BOG B	# 1 - SETTLING POND @ BOG A	# 2 - MILLCREEK @ PR234 BOG A	# 3 - SETTLING POND @ BOG B	# 4 - DRAINAGE @ PR234 BOG B	#1 - SETTLING POND @ BOG A	#2 MILLCREEK @ PR234 BOG A
6/26/2013	L1185161-3	L1185161-4	L1189124-1	L1189124-2	L1189124-3	L1189124-4	L1190560-1	L1190560-2
Multiple Work Orders	7/27/2012 8:00:00 AM	7/27/2012 8:00:00 AM	8/3/2012 8:00:00 AM	8/3/2012 8:00:00 AM	8/3/2012 8:00:00 AM	8/3/2012 8:00:00 AM	8/8/2012 8:00:00 AM	8/8/2012 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-
pH	7.23	6.85	6.95	7.02	7.35	7.04	6.82	6.91
Total Suspended Solids	<5.0	<5.0	6	8	<5.0	<5.0	<5.0	<5.0
Total Dissolved Solids	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-
* = Result Qualified								
Applied Guideline:								
Color Key:								

ALS	#3 - SETTLING POND @ BOG B	#4 - DRAINAGE @PR234 BOG B	#1 SETTLING POND BOG A	#2 MILLCREEK PR234 BOG A	#3 SETTLING POND BOG B	#4 DRAINAGE PR234 BOG B	#5 SETTLING POND @ BOG A	#6 SETTLING POND @ BOG A	#7 MILLCREEK @ PR 234
6/26/2013	L1190560-3	L1190560-4	L1195258-1	L1195258-2	L1195258-3	L1195258-4	L1195317-1	L1195317-2	L1195317-3
Multiple Work Orders	8/8/2012 8:00:00 AM	8/8/2012 8:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	1.1	-
pH	7.04	6.89	6.77	6.77	6.91	6.66	-	-	-
Total Suspended Solids	<5.0	<5.0	12	10	<5.0	<5.0	-	-	-
Total Dissolved Solids	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	0.0709	-	0.0414
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-	-
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	#8 MILLCREEK @ PR 234	#9 SETTLING POND @ BOG B	#10 SETTLING POND @ BOG B	#11 DRAINAGE @ PR 234 BOG B	#12 DRAINAGE @ PR 234 BOG B	#13 SETTLING POND BOG B	#14 MILLCREEK @ PR 234	#15 SETTLING POND @ BOG B	#16 DRAINAGE @ PR 234 BOG B
6/26/2013	L1195317-4	L1195317-5	L1195317-6	L1195317-7	L1195317-8	L1195317-9	L1195317-10	L1195317-11	L1195317-12
Multiple Work Orders	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM	8/16/2012 10:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	202	194	182	85
Hardness (as CaCO3)	-	-	-	-	-	106	103	99.9	49
Oxygen, Dissolved	2.3	-	1.9	-	5.4	-	-	-	-
pH	-	-	-	-	-	7.19	7.24	7.35	7.05
Total Suspended Solids	-	-	-	-	-	9	8	5	<5.0
Total Dissolved Solids	-	-	-	-	-	140	112	106	52
TDS (Calculated)	-	-	-	-	-	119	109	109	43.2
Turbidity	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	84	65	65	28
Bicarbonate (HCO3)	-	-	-	-	-	102	79	79	34
Carbonate (CO3)	-	-	-	-	-	<12	<12	<12	<12
Chloride	-	-	-	-	-	0.58	4.39	0.6	3.38
Chloride (Cl)	-	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	<6.8	<6.8	<6.8	<6.8
Ion Balance	-	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	<0.071	0.115	0.28	<0.071
Nitrate-N	-	-	-	-	-	<0.050	0.115	0.28	<0.050
Nitrite-N	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050
Total Kjeldahl Nitrogen	-	-	-	-	-	2.55	2.06	1.85	1.24
Phosphorus (P)-Total	-	-	-	-	-	0.112	0.06	0.081	0.041
TDS (Calculated)	-	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	23	23	30	3.68
Sulfate (SO4)	-	-	-	-	-	-	-	-	-
Sulphide	-	0.0787	-	0.0258	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	0.167	0.555	0.084	0.18
Antimony (Sb)-Total	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic (As)-Total	-	-	-	-	-	0.001	0.0011	0.0012	0.0011
Barium (Ba)-Total	-	-	-	-	-	0.0133	0.0161	0.00519	0.00588
Beryllium (Be)-Total	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Bismuth (Bi)-Total	-	-	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Boron (B)-Total	-	-	-	-	-	<0.030	<0.030	<0.030	<0.030
Cadmium (Cd)-Total	-	-	-	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Calcium (Ca)-Total	-	-	-	-	-	16.5	18	15.7	10
Cesium (Cs)-Total	-	-	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Chromium (Cr)-Total	-	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020
Cobalt (Co)-Total	-	-	-	-	-	0.00054	0.00055	<0.00050	<0.00050
Copper (Cu)-Total	-	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020
Iron (Fe)-Total	-	-	-	-	-	0.81	0.92	0.58	0.51
Lead (Pb)-Total	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Lithium (Li)-Total	-	-	-	-	-	0.0119	0.0157	0.0059	0.0049
Magnesium (Mg)-Total	-	-	-	-	-	15.8	14.2	14.7	5.83
Manganese (Mn)-Total	-	-	-	-	-	0.279	0.203	0.156	0.129
Molybdenum (Mo)-Total	-	-	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Nickel (Ni)-Total	-	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020
Phosphorus (P)-Total	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50
Potassium (K)-Total	-	-	-	-	-	1.36	1.46	0.86	1.17
Rubidium (Rb)-Total	-	-	-	-	-	0.00195	0.00314	0.00128	0.00284
Selenium (Se)-Total	-	-	-	-	-	<0.0050	<0.0050	<0.0050	<0.0050
Silicon (Si)-Total	-	-	-	-	-	5.61	7.68	2.7	6.79
Silver (Ag)-Total	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Sodium (Na)-Total	-	-	-	-	-	10.9	8.23	7.17	2.49
Strontium (Sr)-Total	-	-	-	-	-	0.0944	0.0865	0.105	0.0389
Tellurium (Te)-Total	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Thallium (Tl)-Total	-	-	-	-	-	<0.0050	<0.0050	<0.0050	<0.0050
Thorium (Th)-Total	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Tin (Sn)-Total	-	-	-	-	-	<0.00060	<0.00060	<0.00060	<0.00060
Titanium (Ti)-Total	-	-	-	-	-	0.0083	0.0231	0.0035	0.0068
Tungsten (W)-Total	-	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020
Uranium (U)-Total	-	-	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Vanadium (V)-Total	-	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020
Zinc (Zn)-Total	-	-	-	-	-	0.025	<0.020	<0.020	<0.020
Zirconium (Zr)-Total	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	<6.0	<6.0	<6.0	<6.0
* = Result Qualified									
Applied Guideline:									
Color Key:									

ALS	#1 - SETTLING POND @ BOG A	#2 - MILLCREEK @ PR234 BOG A	#3 - SETTLING POND @ BOG B	#4 - DRAINAGE @ PR234 BOG B	#5 - SETTLING POND @ BOG C	#6 - DRAINAGE @ LAKE BOG C	#1 - SETTLING POND @ BOG A	#2 - MILLCREEK @ PR234 BOG A
6/26/2013	L1199478-1	L1199478-2	L1199478-3	L1199478-4	L1199478-5	L1199478-6	L1203121-1	L1203121-2
Multiple Work Orders	8/23/2012 2:00:00 PM	8/23/2012 2:00:00 PM	8/23/2012 2:00:00 PM	8/23/2012 2:00:00 PM	8/23/2012 2:00:00 PM	8/23/2012 2:00:00 PM	8/31/2012 8:00:00 AM	8/31/2012 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-
pH	6.71	6.75	6.85	6.93	5.26	7.89	6.91	6.86
Total Suspended Solids	15	14	17	<5.0	<5.0	13	<5.0	30
Total Dissolved Solids	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-
* = Result Qualified								
Applied Guideline:								
Color Key:								

ALS	#3 - SETTLING POND @ BOG B	#4 - DRAINAGE @ PR234 BOG B	#5 - SETTLING POND @ BOG C	#6 - DRAINAGE @ LAKE BOG C	#1 SETTLING POND @ BOG A	#2 MILLCREEK@PR234 BOG A	#3 SETTLING POND @ BOG B	#4 DRAINAGE@PR234 BOG B
6/26/2013	L1203121-3	L1203121-4	L1203121-5	L1203121-6	L1205426-1	L1205426-2	L1205426-3	L1205426-4
Multiple Work Orders	8/31/2012 8:00:00 AM	8/31/2012 8:00:00 AM	8/31/2012 8:00:00 AM	8/31/2012 8:00:00 AM	9/6/2012 10:00:00 AM	9/6/2012 10:00:00 AM	9/6/2012 10:00:00 AM	9/6/2012 10:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-	-
pH	6.65	7.02	5.79	7.79	6.68	6.69	7.06	7.21
Total Suspended Solids	<5.0	<5.0	18	72	11	16	9	<5.0
Total Dissolved Solids	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-	-
* = Result Qualified								
Applied Guideline:								
Color Key:								

ALS	#5 SETTLING POND @ BOG C	#6 DRAINAGE @ LAKE BOG C	# 1 - SETTLING POND @ BOG A	# 2 - MILL CREEK @ PR234 - BOG A	# 3 - SETTLING POND @ BOG B	# 4 - DRAINAGE @ PR234 - BOG B	# 5 - SETTLING POND @ BOG C
6/26/2013	L1205426-5	L1205426-6	L1208979-1	L1208979-2	L1208979-3	L1208979-4	L1208979-5
Multiple Work Orders	9/6/2012 10:00:00 AM	9/6/2012 10:00:00 AM	9/13/2012 8:00:00 AM	9/13/2012 8:00:00 AM	9/13/2012 8:00:00 AM	9/13/2012 8:00:00 AM	9/13/2012 8:00:00 AM
Analyte	Water	Water	Water	Water	Water	Water	Water
Conductivity	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-
Oxygen, Dissolved	-	-	-	-	-	-	-
pH	4.6	7.44	7.11	6.99	7.11	7.04	5.04
Total Suspended Solids	20	20	11	12	<5.0	<5.0	5
Total Dissolved Solids	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-
Turbidity	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	-	-	-	-	-	-
Bicarbonate (HCO3)	-	-	-	-	-	-	-
Carbonate (CO3)	-	-	-	-	-	-	-
Chloride	-	-	-	-	-	-	-
Chloride (Cl)	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-
Hardness (as CaCO3)	-	-	-	-	-	-	-
Hydroxide (OH)	-	-	-	-	-	-	-
Ion Balance	-	-	-	-	-	-	-
Nitrate and Nitrite as N	-	-	-	-	-	-	-
Nitrate-N	-	-	-	-	-	-	-
Nitrite-N	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-
TDS (Calculated)	-	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-	-
Sulfate (SO4)	-	-	-	-	-	-	-
Sulphide	-	-	-	-	-	-	-
Anion Sum	-	-	-	-	-	-	-
Cation Sum	-	-	-	-	-	-	-
Cation - Anion Balance	-	-	-	-	-	-	-
Aluminum (Al)-Total	-	-	-	-	-	-	-
Antimony (Sb)-Total	-	-	-	-	-	-	-
Arsenic (As)-Total	-	-	-	-	-	-	-
Barium (Ba)-Total	-	-	-	-	-	-	-
Beryllium (Be)-Total	-	-	-	-	-	-	-
Bismuth (Bi)-Total	-	-	-	-	-	-	-
Boron (B)-Total	-	-	-	-	-	-	-
Cadmium (Cd)-Total	-	-	-	-	-	-	-
Calcium (Ca)-Total	-	-	-	-	-	-	-
Cesium (Cs)-Total	-	-	-	-	-	-	-
Chromium (Cr)-Total	-	-	-	-	-	-	-
Cobalt (Co)-Total	-	-	-	-	-	-	-
Copper (Cu)-Total	-	-	-	-	-	-	-
Iron (Fe)-Total	-	-	-	-	-	-	-
Lead (Pb)-Total	-	-	-	-	-	-	-
Lithium (Li)-Total	-	-	-	-	-	-	-
Magnesium (Mg)-Total	-	-	-	-	-	-	-
Manganese (Mn)-Total	-	-	-	-	-	-	-
Molybdenum (Mo)-Total	-	-	-	-	-	-	-
Nickel (Ni)-Total	-	-	-	-	-	-	-
Phosphorus (P)-Total	-	-	-	-	-	-	-
Potassium (K)-Total	-	-	-	-	-	-	-
Rubidium (Rb)-Total	-	-	-	-	-	-	-
Selenium (Se)-Total	-	-	-	-	-	-	-
Silicon (Si)-Total	-	-	-	-	-	-	-
Silver (Ag)-Total	-	-	-	-	-	-	-
Sodium (Na)-Total	-	-	-	-	-	-	-
Strontium (Sr)-Total	-	-	-	-	-	-	-
Tellurium (Te)-Total	-	-	-	-	-	-	-
Thallium (Tl)-Total	-	-	-	-	-	-	-
Thorium (Th)-Total	-	-	-	-	-	-	-
Tin (Sn)-Total	-	-	-	-	-	-	-
Titanium (Ti)-Total	-	-	-	-	-	-	-
Tungsten (W)-Total	-	-	-	-	-	-	-
Uranium (U)-Total	-	-	-	-	-	-	-
Vanadium (V)-Total	-	-	-	-	-	-	-
Zinc (Zn)-Total	-	-	-	-	-	-	-
Zirconium (Zr)-Total	-	-	-	-	-	-	-
Iron (Fe)-Extractable	-	-	-	-	-	-	-
Biochemical Oxygen Deman	-	-	-	-	-	-	-
* = Result Qualified							
Applied Guideline:							
Color Key:							