MEMORANDUM

To:	Mr. John Boyle	Date:	March 5, 2014
		File No.:	VA101-447/5-A.01
From:	Jessica Mackie	Cont. No.:	VA14-00403
Re:	Sisson Project – Updated Predictive Water Quality Model Results		

1. Introduction

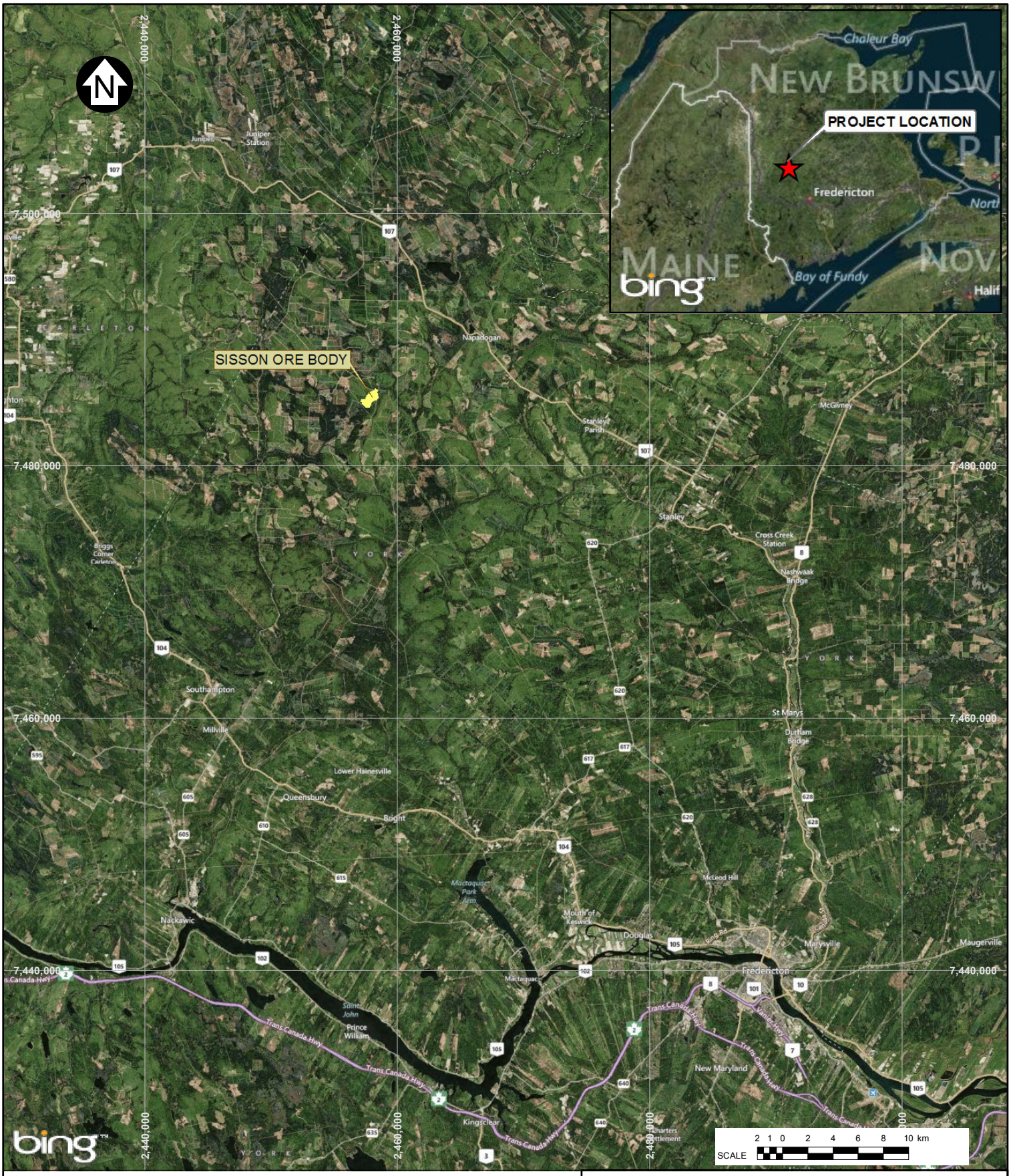
Since completion of the Sisson Project (the Project) Environmental Impact Assessment Report (EIAR), dated July 12, 2013, and the "Sisson Project – Predictive Water Quality Modelling" report (Rev 1), issued July 3, 2013, geochemical ML/ARD testing of site materials has continued. In particular, further humidity cell testing of quarry rock by SRK has demonstrated the need to revise the water quality modelling source terms for embankment runoff and infiltration. A correction has also been made to the treatment levels that can be conservatively assumed for chromium in the water treatment plant discharge at the current stage of Project planning. The previous model results were based on the incorrect assumption of water treatment for chromium to 0.001 mg/L and the new results are based upon the corrected assumption of 0.01 mg/L. The predictive water quality modelling was thus redone, and the results are presented in this memorandum.

This memorandum and supporting results summaries (Appendix B and C) supersedes the results and discussion presented in four documents:

1. Chapter 7.6 of the Environmental Impact Assessment Report (EIAR), specifically Section 7.6.3.6.3.
2. "Sisson Project – Predictive Water Quality Modelling" report (Rev 1), issued July 3, 2013.
3. "Sisson Project – Updated Predictive Water Quality Model Results" memorandum (VA13-02214), issued December 2, 2013.
4. "Sisson Project – Updated Predictive Water Quality Model Results" memorandum (VA14-00248), issued February 13, 2014.

This memo includes a summary of the water quality predictions for each of the modelled nodes presented in the original reports, and a discussion of each of the parameters that had been predicted to exceed guidelines. The Project site location map is shown on Figure 1 and the modelled node locations are shown on Figure 2.

All assumptions and background data presented in the original reports are still valid and have not been updated. All geochemical source terms used in the current predictive water quality model are shown in Appendix A (Table A1). For the embankment, both the previous source term and the updated source term are compared in Table 1; no other source terms have been updated since the original reports were issued.



LEGEND:

- SISSON ORE BODY

NOTES:

1. BASE MAP: BING AERIAL MAPS.
2. COORDINATE GRID IS IN METRES.
   COORDINATE SYSTEM: NAD 1983 CSRS NEW BRUNSWICK STEREOGRAPHIC.
3. THIS FIGURE IS PRODUCED AT A NOMINAL SCALE OF 1:400,000 FOR 8.5x11 (LETTER) PAPER. ACTUAL SCALE MAY DIFFER ACCORDING TO CHANGES IN PRINTER SETTINGS OR PRINTED PAPER SIZE.

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D
0	05MAR'14	ISSUED WITH MEMO	AMD	AMD	CJ	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PROJECT LOCATION

Knight Piésold CONSULTING

P/A NO. VA101-447/5

REF NO. VA14-00403

FIGURE 1

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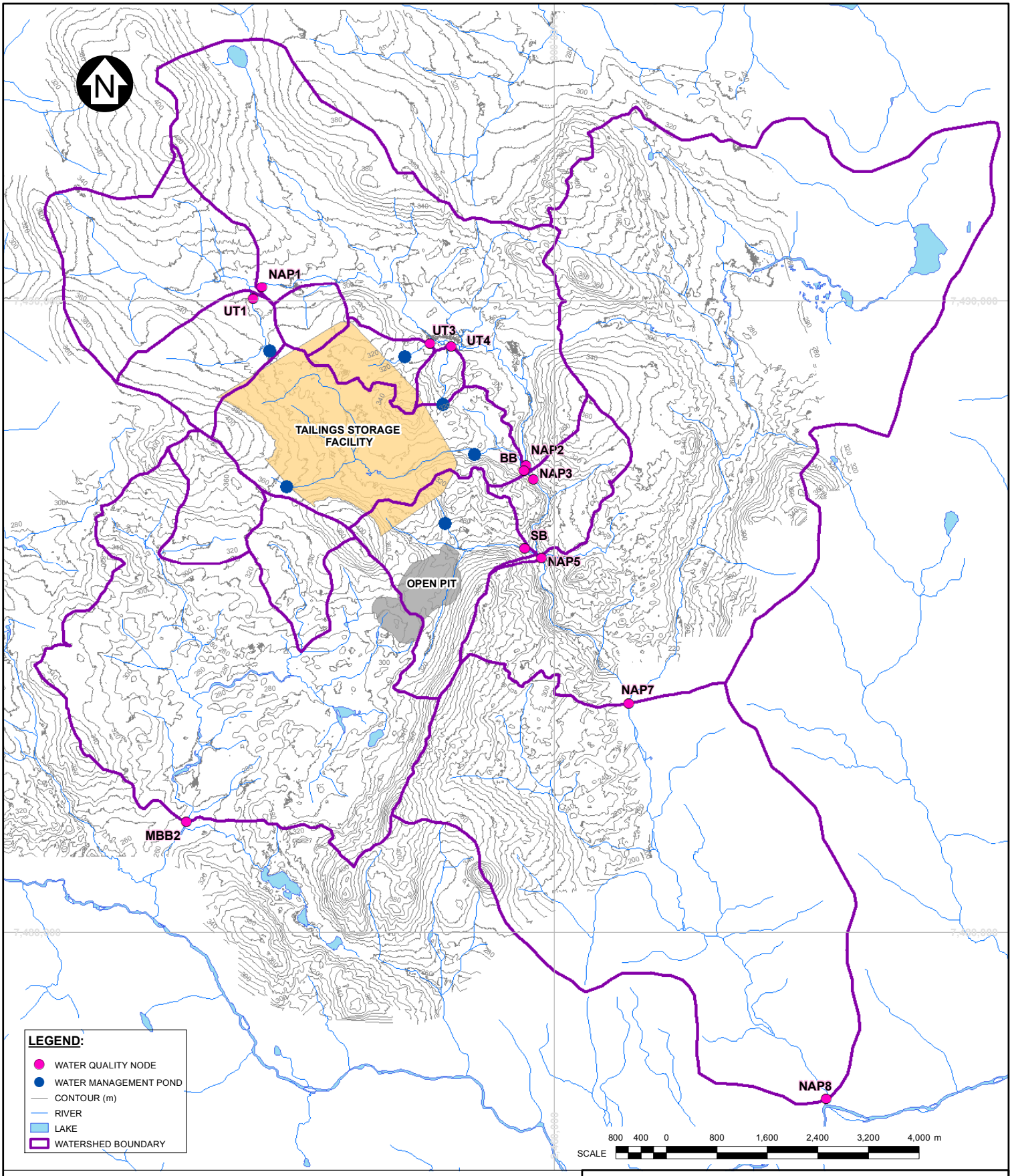

NOTES:

1. BASE MAP: CANADA NTS MAPS AND LIDAR CONTOURS.

2. COORDINATE GRID IS IN METRES.
COORDINATE SYSTEM: NAD 1983 CSRS NEW BRUNSWICK STEREOGRAPHIC.

3. THIS FIGURE IS PRODUCED AT A NOMINAL SCALE OF 1:80,000 FOR 8.5x11 (LETTER) PAPER. ACTUAL SCALE MAY DIFFER ACCORDING TO CHANGES IN PRINTER SETTINGS OR PRINTED PAPER SIZE.

4. CONTOUR INTERVAL IS 10 METRES (BASED ON 2 M LIDAR DATA).

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SISSON PROJECT

WATER QUALITY MODEL NODES

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P/A NO. VA101-447/5

REF NO. VA14-00403

FIGURE 2

REV 0

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Table 1 Contact Water Source Terms

	April 2013 Embankment Source Term	September 2013 Embankment Source Term
Units [1]	mg/L	mg/L
pH	7.7	8
Sulphate	270	36
Alkalinity	56	70
Chloride	80	2
Fluoride	3.8	3.8
Al	0.31	0.96
Sb	0.01	0.004
As	0.03	0.016
Ba	0.0093	0.11
Be	***0.0006***	***0.0004***
Bi	0.00033	0.00022
B	3.1	2.1
Cd	0.0004	0.0003
Ca	71	47
Cr	0.02	0.02
Cs	0.0077	0.0064
Co	0.0019	0.0014
Cu	0.071	0.02
Fe	0.00011	0.00019
La	0.0071	0.0054
Pb	0.006	0.004
Li	0.05	0.03
Mg	25	15
Mn	0.13	0.08
Hg	0.00014	0.00011
Mo	0.07	0.04
Ni	0.0096	0.0068
P	0.57	0.38
K	130	84
Rb	0.38	0.24
Se	0.0028	0.0019
Si	68	10
Ag	0.0003	0.00021
Na	21	14
Sr	0.77	0.48
S	490	270
Te	***0.0012***	***0.00083***
Tl	0.0019	0.0012
Th	***0.0003***	***0.00021***
Sn	***0.03***	***0.02***
Ti	0.044	0.029
W	0.29	0.22
U	0.0024	0.0015
V	0.13	0.09
Zn	0.09	0.05
Zr	0.006	0.0042
NO3		
NO2		
NH3		

NOTES:

1. Colour and italics scheme:
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   < 10X DL

2. Results

The following sections present the updated predicted water quality results for each of the ten parameters that were predicted to exceed guidelines and thus discussed in the EIAR, and in the same order. No new parameters were added to this list; however, based on the new results, lead is no longer predicted to exceed the guidelines. Predicted water quality is discussed in this section for the nodes along Napadogan Brook (NAP1 through NAP8), McBean Brook (MBB2), and the unnamed tributary immediately upstream of NAP1 (UT1).

The water quality predictions for the downstream environment have been compared against the following guidelines:

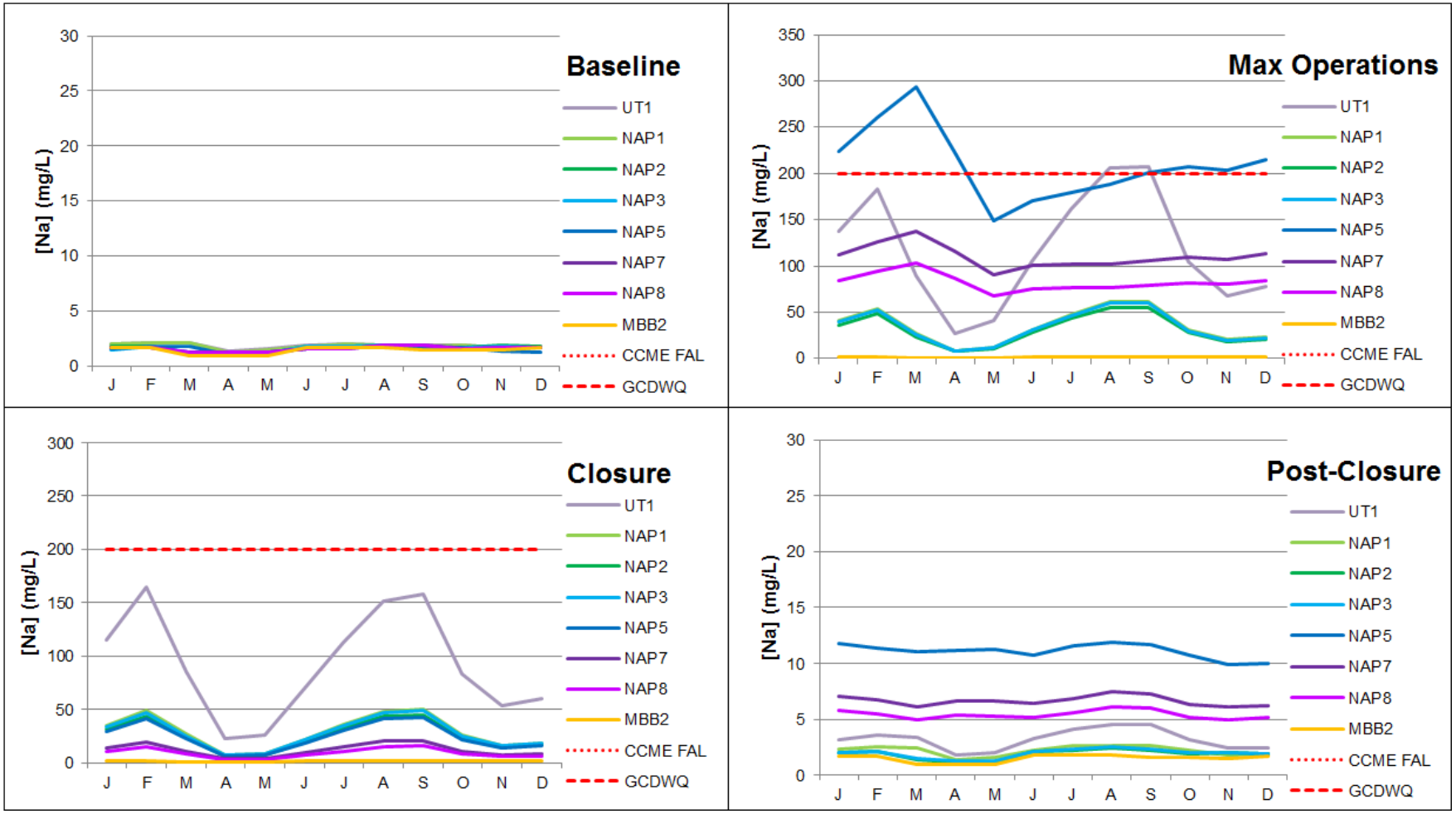
- Health Canada Guidelines for Canadian Drinking Water Quality (GCDWQ).
- Canadian Council of Minister of the Environment, Canadian Environmental Quality Guideline for the Protection of Aquatic Life (Freshwater) (CCME FAL).

As highlighted in the EIA Report (page 7-92), *while the results for the modelled location on the unnamed tributary to Napadogan Brook (UT1) are presented in the graphs along with results for other nodes on Napadogan Brook and McBean Brooks, the degree of uncertainty for the UT1 results at this node is greater than for the other nodes due to a lack of baseline water quality, hydrological, and hydrogeological information in this area. It is important to note that the UT1 results are indicative only and do not have the same level of accuracy or confidence as the results at other nodes. They represent a conservative assumption that all modelled seepage that bypasses the TSF water management systems becomes surface water before it enters Napadogan Brook and is accounted for at the NAP1 node, when some of it may well enter the brook as groundwater.*

2.1 Sodium (Na)

The annual distributions of predicted sodium concentrations for one year in each Project phase are provided on Figure 3. The guideline exceedances by Project phase are provided in Appendix B1, Table B1.1. The model output summary statistics by Project Phase are provided in Appendix B2 and the model outputs are provided numerically in Appendix B3 and graphically in Appendix C1.

Sodium concentrations are predicted to exceed the GCDWQ 200 mg/L aesthetic objective at NAP5 and at UT1 during Operation only; there is no CCME FAL guideline for this parameter. Sodium is used as a mill reagent, which is the primary loading source for this parameter; therefore, concentrations of sodium in the TSF and at the modelled nodes in the receiving environment decrease at the beginning of Closure, when mill inputs no longer contribute to the system. The objective exceedance at NAP5 is a result of treated water discharge from the TSF to Sisson Brook during Operation (Years 8 through 27); concentrations are predicted to decrease below the objectives at the next model node (NAP7). Sodium is predicted to exceed the GCDWQ objective at NAP5 year-round from Years 8 through 14 (Operation) and then seasonally in association with lower receiving water flow conditions from Years 15 through 27 (generally from September through April). The maximum sodium concentration of 293 mg/L is predicted at NAP5 in Model Year 17 (Operation). The predicted chemistry at UT1 is primarily affected by seepage water from the TSF. At this location sodium concentrations are highest during Operation. Concentrations decrease below the objective at the next model node (NAP1). Sodium exceeds the GCDWQ objective seasonally from Years 10 through 15 (generally in August and September). The maximum sodium concentration of 207 mg/L is predicted at UT1 in Model Year 14 (Operation).



NOTES:

1. "Baseline" refers to Model Years -1 and -2; "Closure" refers to Year 30; "Post-Closure" refers to Year 50.
2. "Maximum Operations" refers to the year for which sodium reaches its maximum value (Year 14 for NAP1, NAP2, NAP3, and MBB2; Year 16 for NAP5, NAP7, and NAP8).
3. ***There is no CCME FAL Guideline for sodium.***
4. The GCDWQ for sodium is an aesthetic guideline based on taste and is not within the scale of the baseline and Post-Closure graphs.
5. CCME FAL refers to the CCME Canadian Environmental Quality Guidelines for the Protection of Freshwater Aquatic Life.
6. GCDWQ refers to the Health Canada Guidelines for Canadian Drinking Water Quality.

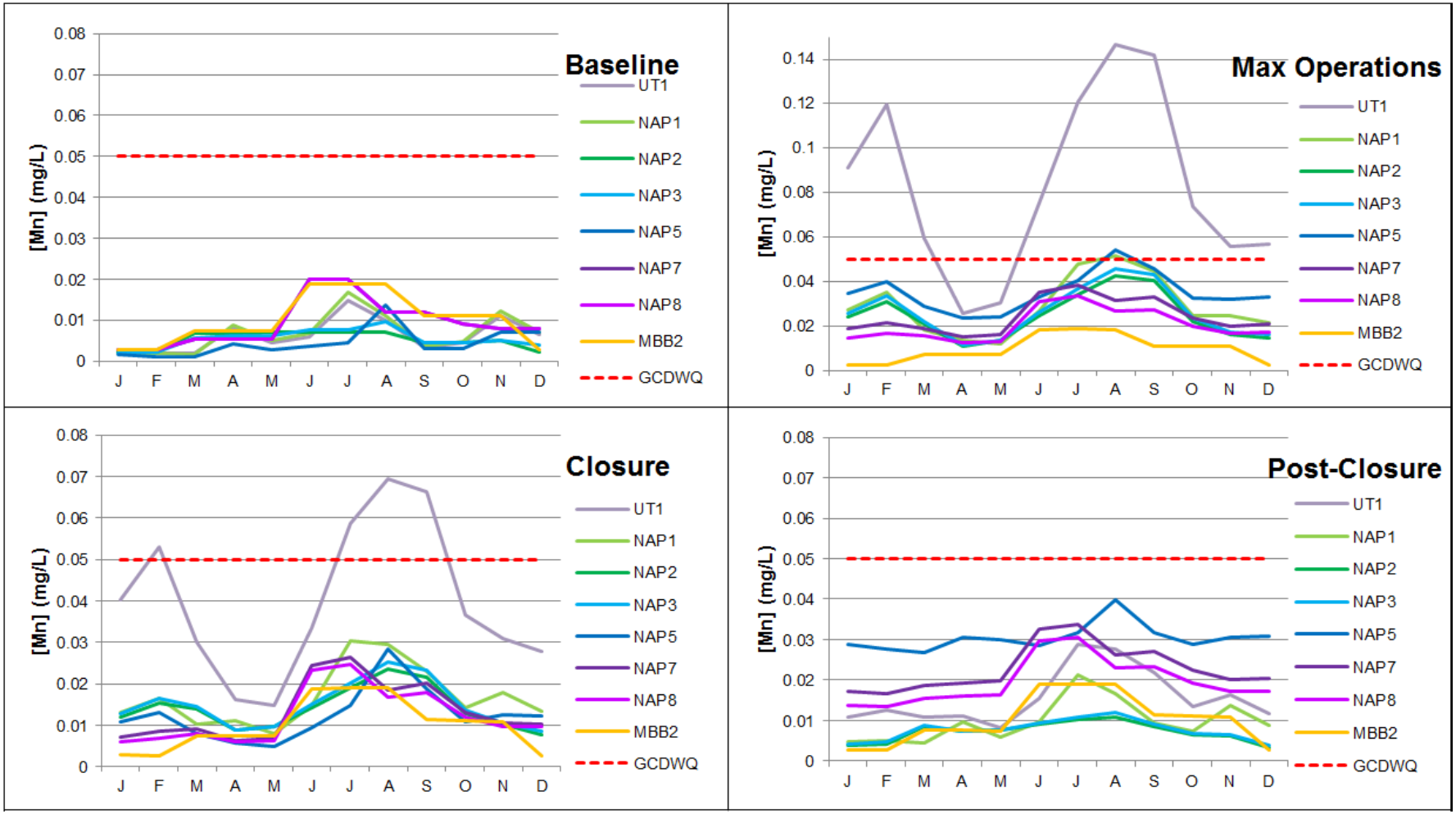
Figure 3 Predicted Sodium Concentrations at Downstream Nodes by Project Phase

2.2 Manganese (Mn)

The annual distributions of predicted manganese concentrations for one year in each Project phase are provided on Figure 4. The guideline exceedances by Project phase are provided in Appendix B1, Table B1.2. The model output summary statistics by Project phase are provided in Appendix B2 and the model outputs are provided numerically in Appendix B3 and graphically in Appendix C2.

Manganese concentrations are predicted to exceed the GCDWQ 0.05 mg/L aesthetic objective on a seasonal basis at UT1, NAP1, and NAP5 during Operation and at UT1 during Closure; there is no CCME FAL guideline for manganese. Maximum annual concentrations occur in August in association with low surface water flows; predicted concentrations remain below the objective for the remainder of the year with few exceptions. Maximum annual concentrations are predicted to exceed the objective during Operation in Years 10 through 25 at NAP5, and in Years 13 through 19 at NAP1; however, average annual concentrations at these sites remain below the objective. Maximum annual concentrations are predicted to exceed the objective at UT1 during Operation and Closure in Years 7 through 33; the annual average concentrations are predicted to exceed this objective at UT1 during Operation in Years 9 through 26.

The highest predicted value downstream of UT1 is 0.055 mg/L for NAP5 in Model Year 16 (Operation), followed by 0.052 mg/L for NAP1 in Model Year 14 (Operation). At UT1, the highest predicted value is 0.147 mg/L, occurring in Year 16 (Operation). Changes in manganese concentrations at NAP5 and downstream result from TSF seepage, embankment runoff, and WTP discharge, though WTP discharge does not result in a notable change at NAP5 compared to the upstream nodes affected by seepage and embankment runoff. Concentrations decrease below the guideline at the next downstream model node from both NAP1 and NAP5 (NAP2 and NAP7, respectively). It is noted that the seasonal distribution of manganese concentrations is slightly different at NAP7 and NAP8 compared to NAP5 due to manganese loading from background sources downstream of the Project area.



NOTES:

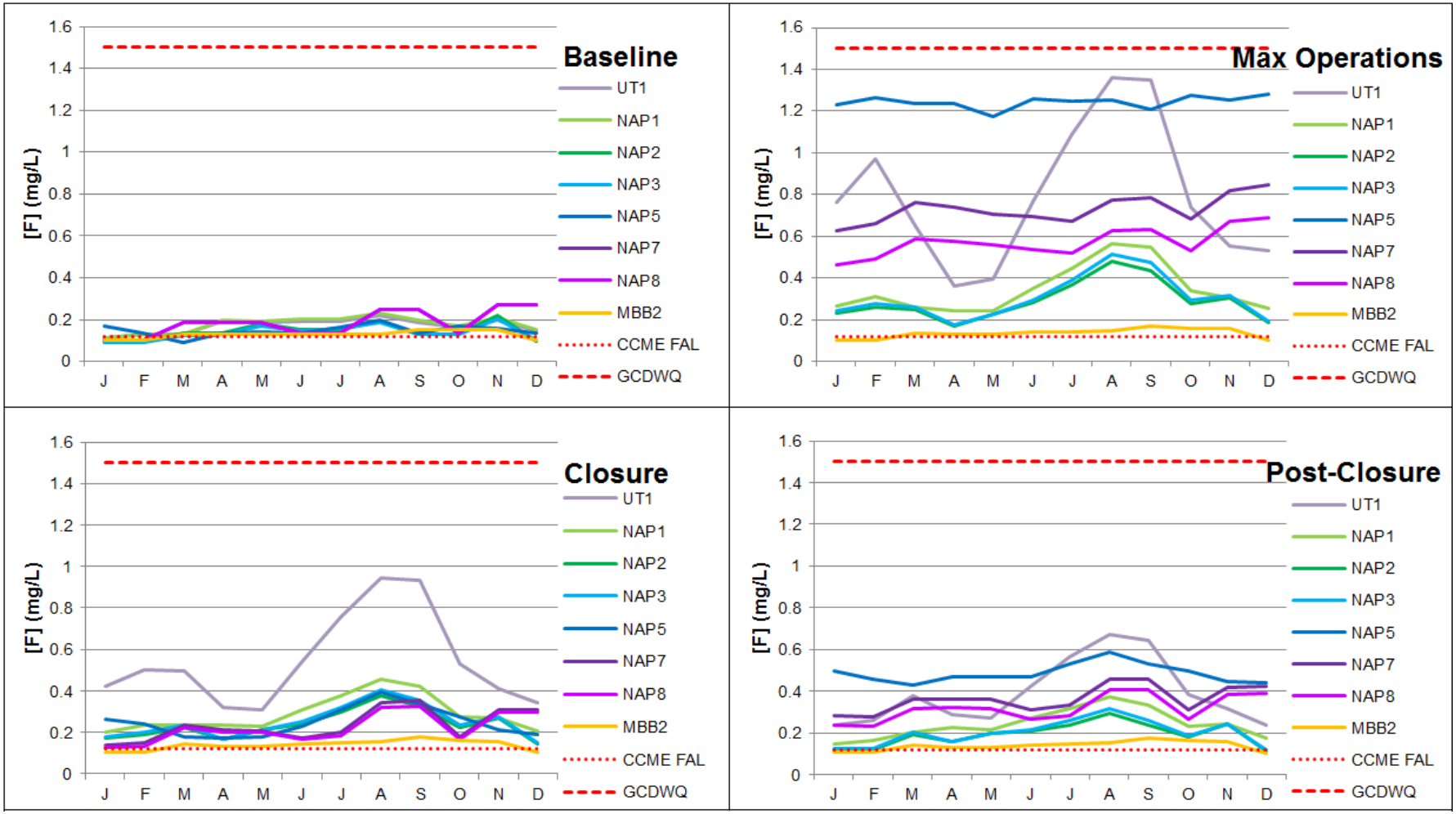
1. "Baseline" refers to Model Years -1 and -2; "Closure" refers to Year 30; "Post-Closure" refers to Year 50.
2. " Max Operations" refers to the year for which manganese reaches its maximum value (Year 14 for all nodes).
3. ***There is no CCME FAL guideline for manganese.***
4. GCDWQ refers to the Health Canada Guidelines for Canadian Drinking Water Quality.

Figure 4 Predicted Manganese Concentrations at Downstream Nodes by Project Phase

2.3 Fluoride (F)

The annual distributions of predicted fluoride concentrations for one year in each Project phase are provided on Figure 5. The guideline exceedances by Project phase are provided in Appendix B1, Table B1.3. The model output summary statistics by Project phase are provided in Appendix B2 and the model outputs are provided numerically in Appendix B3 and graphically in Appendix C3.

Fluoride concentrations are not predicted to exceed the 1.5 mg/L GCDWQ, but are predicted to exceed the 0.12 mg/L CCME FAL guideline at each node for the duration of the modelled Project life. Baseline fluoride concentrations were elevated throughout the Project area and average levels generally exceeded the CCME FAL guideline. Changes in fluoride concentrations are predicted as a result of seepage and point source effluent from the WTP. The greatest increase is noted at UT1 due to seepage from the TSF and Water Management Pond 5 (WMP5), reaching a maximum concentration of 1.4 mg/L in Year 17 (Operation). Peak concentrations decrease at NAP 1 (maximum concentration of 0.57 mg/L in Year 17) and continue to decrease downstream along Napadogan Brook, upstream of the discharge point for WTP effluent in Sisson Brook. The predicted variability at each of these nodes is seasonal with the highest concentrations in the lower flow months in late-summer. Peak concentrations of fluoride increase at NAP5 when compared to the upstream nodes (maximum concentration of 1.3 mg/L in Year 12) due to the WTP effluent during Operation, and to a lesser degree in Post-Closure. The concentration of fluoride in the WTP effluent is higher during Operation than in Post-Closure because ore processing, which is the main loading source for fluoride, ceases at the end of Operation.



NOTES:

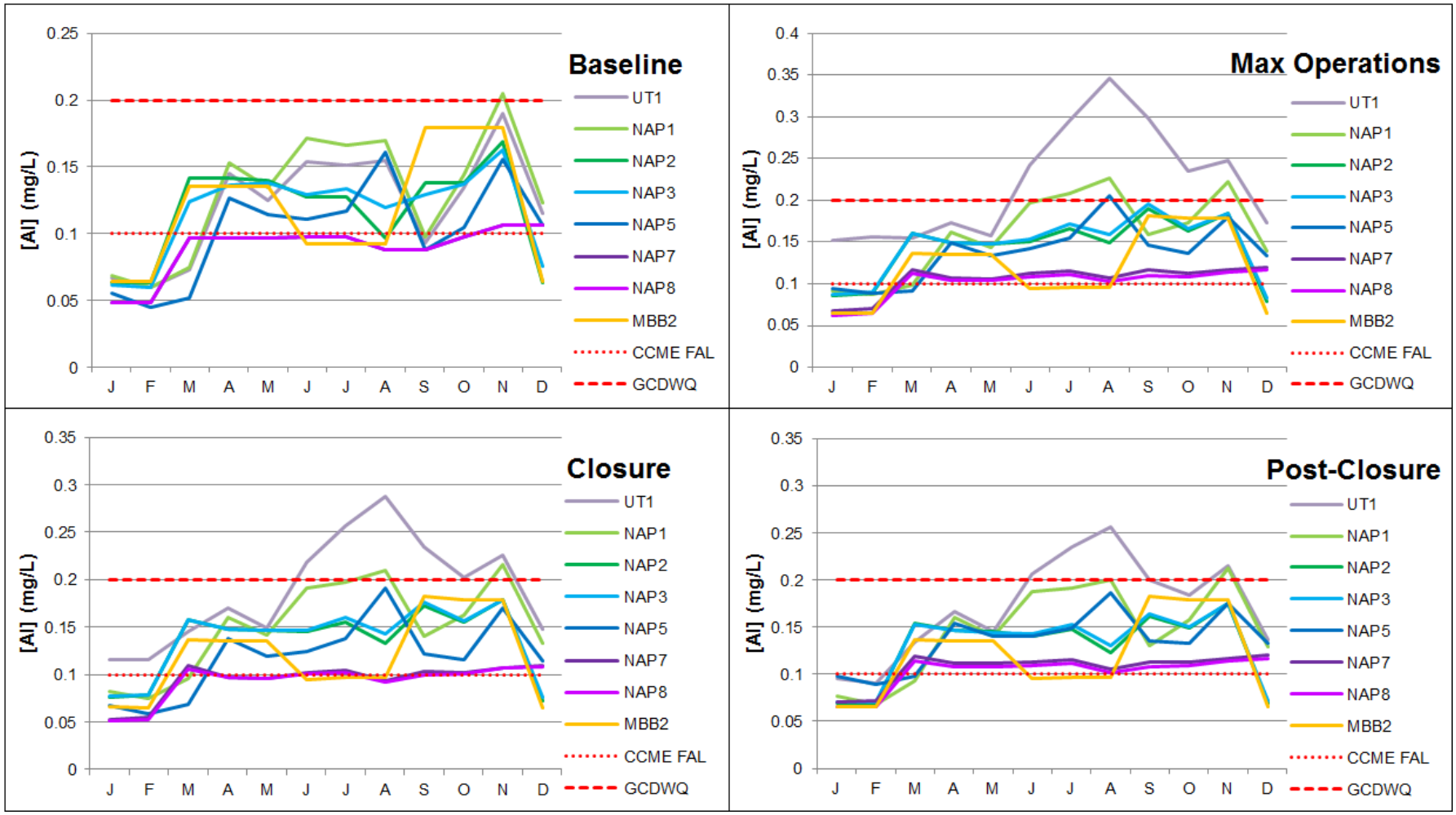
1. "Baseline" refers to Model Years -1 and -2; "Closure" refers to year 30; "Post-Closure" refers to Year 50.
2. "Max Operations" refers to the year for which fluoride reaches its maximum value (Year 24 for NAP1, NAP2, NAP3, and MBB2; Year 11 for NAP5, NAP7, and NAP8).
3. CCME FAL refers to the CCME Canadian Environmental Quality Guidelines for the Protection of Freshwater Aquatic Life.
4. GCDWQ refers to the Health Canada Guidelines for Canadian Drinking Water Quality.

Figure 5 Predicted Fluoride Concentrations at Downstream Nodes by Project Phase

2.4 Aluminum (Al)

The annual distributions of predicted aluminum concentrations for one year in each Project phase are provided on Figure 6. The guideline exceedances by Project phase are provided in Appendix B1, Table B1.4. The model output summary statistics by Project phase are provided in Appendix B2 and the model outputs are provided numerically in Appendix B3 and graphically in Appendix C4.

Aluminum concentrations are naturally elevated in the Project area, particularly in samples collected from the upper portion of the Napadogan Brook watershed; concentrations decrease with distance downstream. Average baseline dissolved aluminum concentrations exceeded the CCME FAL guideline at all sites except in lower Napadogan Brook and seasonally exceeded the GCDWQ at NAP1, UT1, and NAP5 (baseline values are from the average monthly dataset used for the model inputs for each of the nodes and measured maximum and minimum concentrations are under-represented). The predicted aluminum concentrations resulting from the Project are slightly higher than the baseline concentrations, but follow the same seasonal distribution. Aluminum concentrations are predicted to exceed the 0.1 mg/L CCME FAL guideline (pH > 6.5) on a regular basis at all modelled nodes for the duration of the model and are predicted to exceed the 0.2 mg/L GCDWQ on occasion, but only at NAP1, UT1, and NAP5 (maximum concentrations of 0.227 mg/L, 0.346 mg/L, and 0.206 mg/L respectively). Maximum concentrations are predicted to occur in Model Year 24 (Operation) for all nodes in Napadogan Brook.



NOTES:

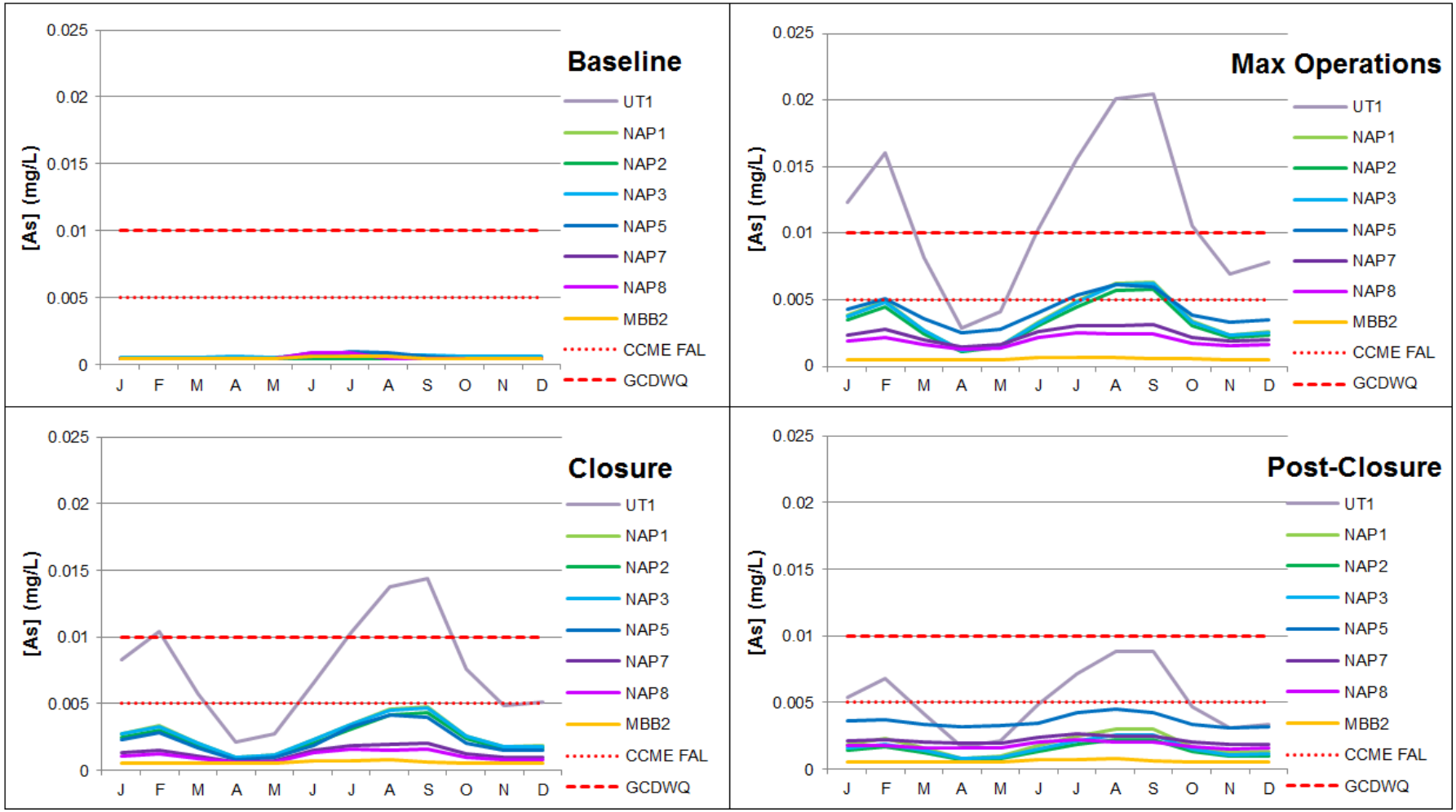
1. "Baseline" refers to Model Years -1 and -2; "Closure" refers to Year 30; "Post-Closure" refers to Year 50.
2. "Max Operations" refers to the year for which aluminum reaches its maximum value (Year 24 for all nodes).
3. CCME FAL refers to the CCME Canadian Environmental Quality Guidelines for the Protection of Freshwater Aquatic Life.
4. GCDWQ refers to the Health Canada Guidelines for Canadian Drinking Water Quality.

Figure 6 Predicted Aluminum Concentrations at Downstream Nodes by Project Phase

2.5 Arsenic (As)

The annual distributions of predicted arsenic concentrations for one year in each Project phase are provided on Figure 7. The guideline exceedances by Project phase are provided in Appendix B1, Table B1.5. The model output summary statistics by Project phase are provided in Appendix B2 and the model outputs are provided numerically in Appendix B3 and graphically in Appendix C5.

Arsenic concentrations are predicted to increase during Operation and seasonally exceed guidelines at several nodes. These guideline exceedances are driven mainly by seepage from the TSF, with minor increases in concentrations due to WTP effluent, and are predicted to decrease below guidelines at all nodes along Napadogan Brook at the start of Closure. Arsenic is predicted to exceed the 0.01 mg/L GCDWQ and the 0.005 mg/L CCME FAL guideline at UT1 on a seasonal basis from Year 10 to Year 13 (during Operation). After which arsenic seasonally exceeds the CCME FAL guideline for the duration of the model. Annual average concentrations at UT1 also exceed the GCDWQ guideline from Year 13 to 16 (Operation) and exceed the CCME FAL guideline from Year 10 onward. The predicted concentrations are highest at UT1; however, the results for this node have a lesser degree of certainty than those for other nodes. Downstream from UT1, arsenic is predicted to exceed the CCME FAL guidelines on a seasonal basis at NAP1 through NAP5 during Operation only. The predicted concentrations do not exceed the CCME FAL guidelines at the nodes downstream of NAP5 (NAP7 and NAP8). Changes in arsenic concentrations upstream of NAP5 are related to seepage from the TSF and Water Management Ponds (WMPs) as well as runoff from the embankment. The changes at NAP5 are also affected by WTP effluent during Operation and in Post-Closure. The predicted arsenic concentrations are higher under low flow conditions and are highest in the summer months (July, August, and September). Predicted arsenic concentrations peak at all sites in Model Year 14 (Operation) with a maximum concentration of 0.020 mg/L predicted at UT1. The next highest predicted concentration of arsenic downstream of UT1 is 0.0063 mg/L at NAP1.



NOTES:

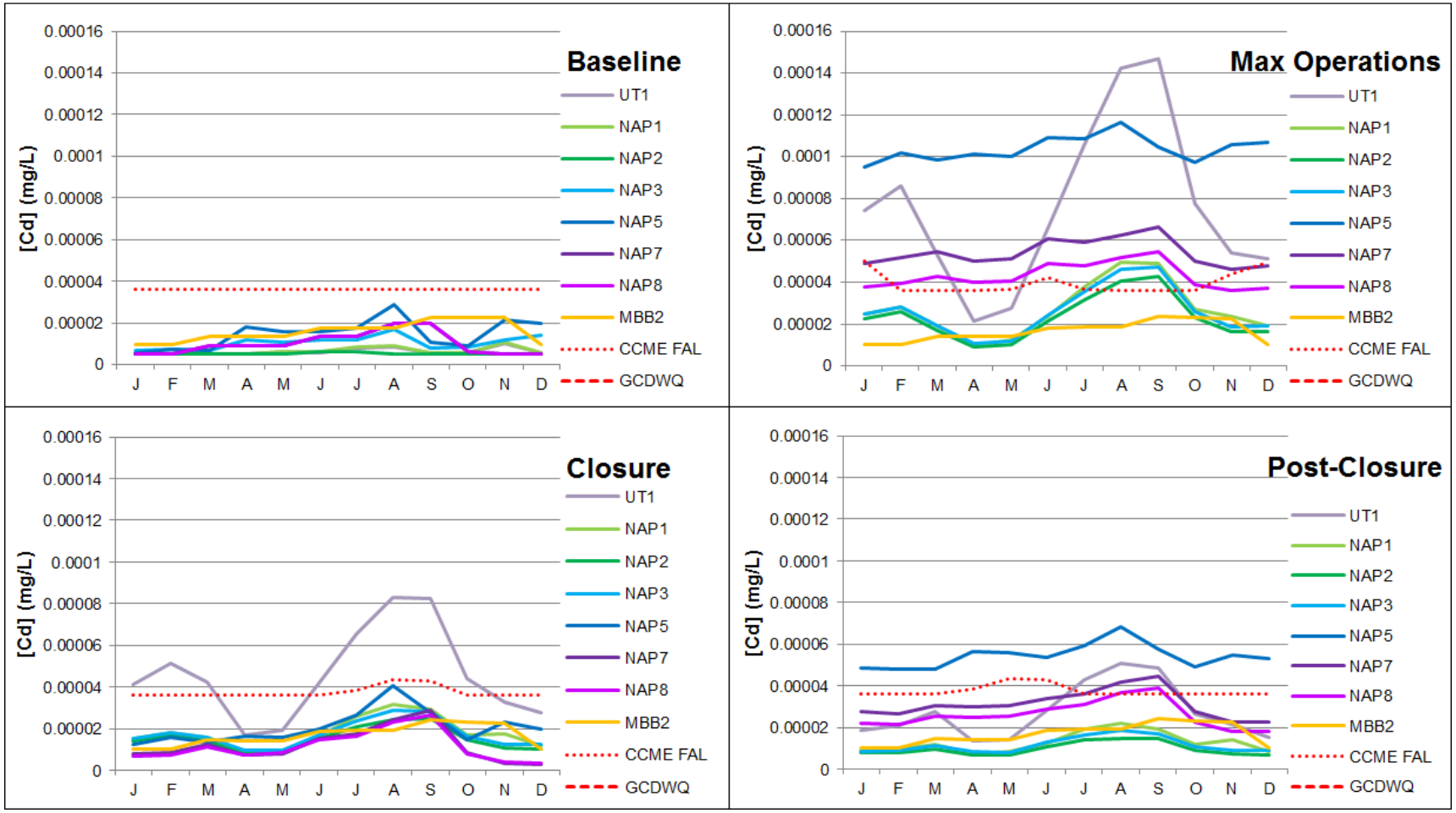
1. "Baseline" refers to Model Years -1 and -2; "Closure" refers to Year 30; "Post-Closure" refers to Year 50.
2. "Max Operations" refers to the year for which arsenic reaches its maximum value (Year 14 for all nodes).
3. CCME FAL refers to the CCME Canadian Environmental Quality Guidelines for the Protection of Freshwater Aquatic Life.
4. GCDWQ refers to the Health Canada Guidelines for Canadian Drinking Water Quality.

Figure 7 Predicted Arsenic Concentrations at Downstream Nodes by Project Phase

2.6 Cadmium (Cd)

The annual distributions of predicted cadmium concentrations for one year in each Project phase are provided on Figure 8. The guideline exceedances by Project phase are provided in Appendix B1, Table B1.6. The model output summary statistics by Project phase are provided in Appendix B2 and the model outputs are provided numerically in Appendix B3 and graphically in Appendix C6.

The elevated cadmium concentrations combined with low baseline and predicted hardness concentrations resulted in some exceedances of the hardness-dependent CEQG FAL guideline. The predicted cadmium concentrations do not exceed the short-term cadmium CCME FAL guideline at any node, but several exceedances of the long-term guideline have been noted. Annual minimum, average, and maximum concentrations predicted at NAP5 during Operation and Post-Closure exceed the long-term guideline (the baseline annual maximum concentration also exceeds this guideline). At NAP7, cadmium concentrations exceed the guideline year-round during Operation and the annual maximum exceeds the guideline during Post-Closure. Upstream from NAP5, cadmium concentrations are predicted to exceed the guideline seasonally during Operation, Closure, and Post-Closure at UT1 and during Operation only at NAP1 and NAP3. Changes in cadmium concentrations upstream of NAP5 are related to seepage from the TSF and WMPs as well as runoff from the embankment. The changes at NAP5 are also affected by WTP effluent during Operation and in Post-Closure. The predicted cadmium concentrations are higher under low flow conditions and are highest in the summer months (July, August, and September).



NOTES:

1. "Baseline" refers to Model Years -1 and -2; "Closure" refers to Year 30; "Post-Closure" refers to Year 50.
2. "Max Operations" refers to the year for which cadmium reaches its maximum value (Year 24 for NAP1, NAP2, NAP3, and MBB2; Year 20 for NAP5, NAP7, and NAP8).
3. The CCME FAL guideline is hardness-dependent; the guideline shown for long-term exposure and is calculated for hardness at NAP1; the CCME FAL guideline for short-term exposure is above the scale of these graphs
4. ***The GCDWQ guideline of 0.005 mg/L is not shown on these graphs***.
5. CCME FAL refers to the CCME Canadian Environmental Quality Guidelines for the Protection of Freshwater Aquatic Life.
6. GCDWQ refers to the Health Canada Guidelines for Canadian Drinking Water Quality.

Figure 8 Predicted Cadmium Concentrations at Downstream Nodes by Project Phase

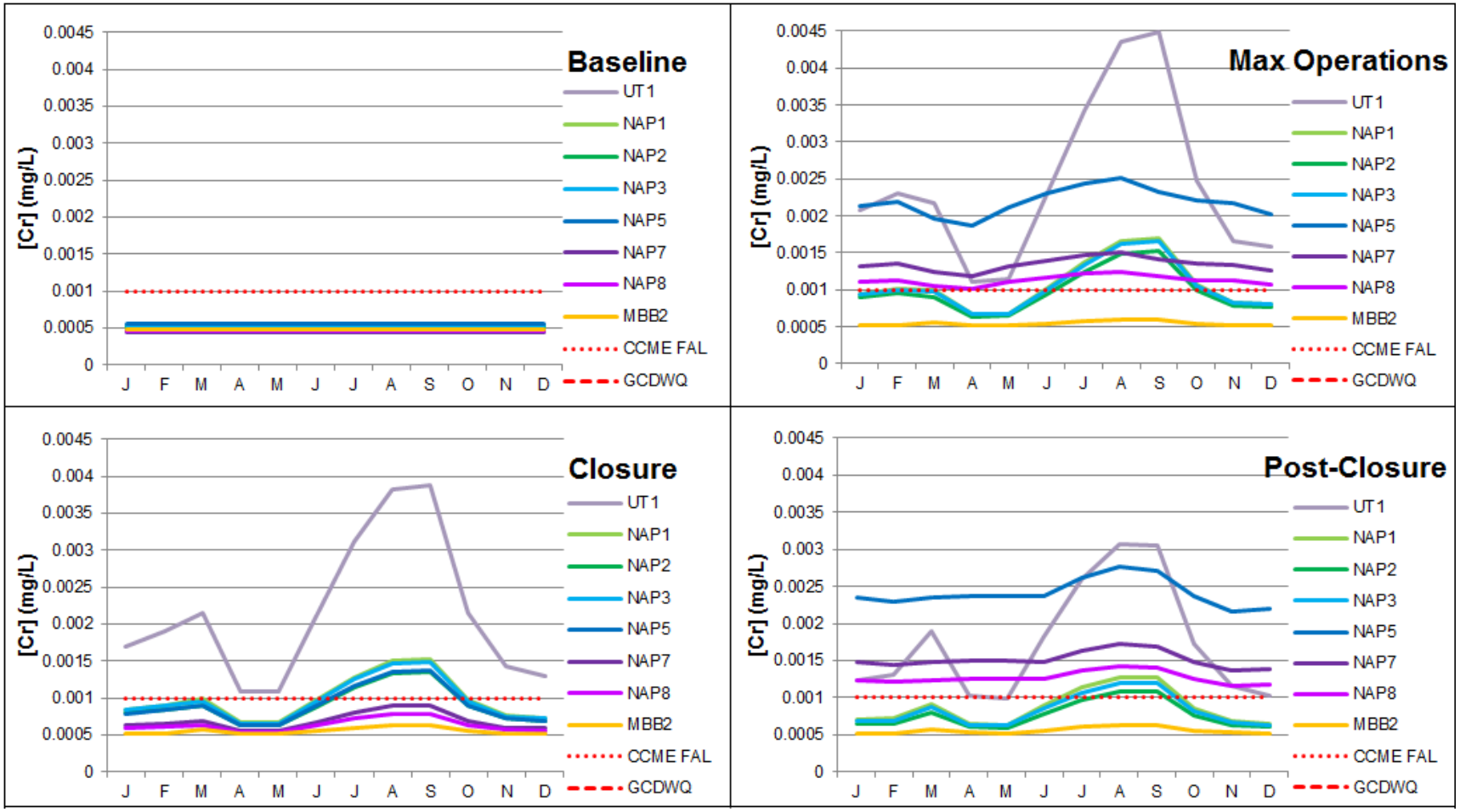
2.7 Chromium (Cr)

The annual distributions of predicted chromium concentrations for one year in each Project phase are provided on Figure 9. The guideline exceedances by Project phase are provided in Appendix B1, Table B1.7. The model output summary statistics by Project phase are provided in Appendix B2 and the model outputs are provided numerically in Appendix B3 and graphically in Appendix C7.

The hexavalent chromium (Cr VI) guideline has been used for comparison instead of the trivalent chromium guideline (CCME FAL guideline of 0.0089 mg/L), as Cr VI is the principal species found in surface waters (CCME 1999). Chromium concentrations are predicted to be equal to or greater than the 0.001 mg/L CCME FAL guideline for Cr VI year-round at UT1 from Year 6 of Operation, though Closure and Post-Closure. The predicted chromium concentrations exceed this guideline on a seasonal basis, concurrent with lower receiving water stream flow, at all model nodes from NAP1 to upstream of NAP5. The same seasonal variability is predicted at NAP5 for Closure, with similar seasonal exceedances of the CCME FAL. Chromium concentrations are predicted to decrease below the guideline at NAP7, and downstream, during Closure. Chromium concentrations are predicted to increase at NAP5, NAP7, and NAP8 during Operation and Post-Closure as a result of discharge from the WTP. Prior to Year 8 of Operation, the chromium concentrations are predicted to exceed the CCME FAL seasonally at NAP5 and are the result of seepage from the TSF. However, chromium is predicted to continuously exceed the CCME FAL for the remainder of Operation and in Post-Closure. The WTP influent chromium concentrations are below the water treatment threshold of 0.01 mg/L during Closure, and as a result, there is no removal of this parameter in the model for this phase; this is a conservative assumption. Chromium concentrations decrease downstream of NAP5 (at nodes NAP7 and NAP8), though they are predicted to remain above the CCME FAL during Operation (after Year 8), and through Post-Closure.

The changes upstream of NAP5 are predominantly driven by seepage and runoff from the embankment which results in season influences on downstream water quality, with higher concentrations occurring during periods of lower stream flow. These lower flow periods are from June through October, and a second lower peak is also evident in February. These seasonal influences continue to affect predicted water quality at NAP5 and downstream, but the predicted concentrations are more consistent throughout the year due to continuous discharge (seasonally variable) from the WTP in Operation and Post-Closure. Chromium concentrations are predicted to be highest during Operation at UT1 (0.0045 mg/L); seasonal peak concentrations are also predicted to be higher at this node for Closure and Post-Closure that the other model nodes. The maximum predicted concentrations for NAP5 and downstream are occur in Post-Closure under steady-state conditions (after model Year 50). The predicted concentrations in Post-Closure range from 0.0021 mg/L to 0.0028 mg/L with an average of 0.0023 mg/L.

Predicted concentrations remain well below the 0.05 mg/L GCDWQ at all nodes.



NOTES:

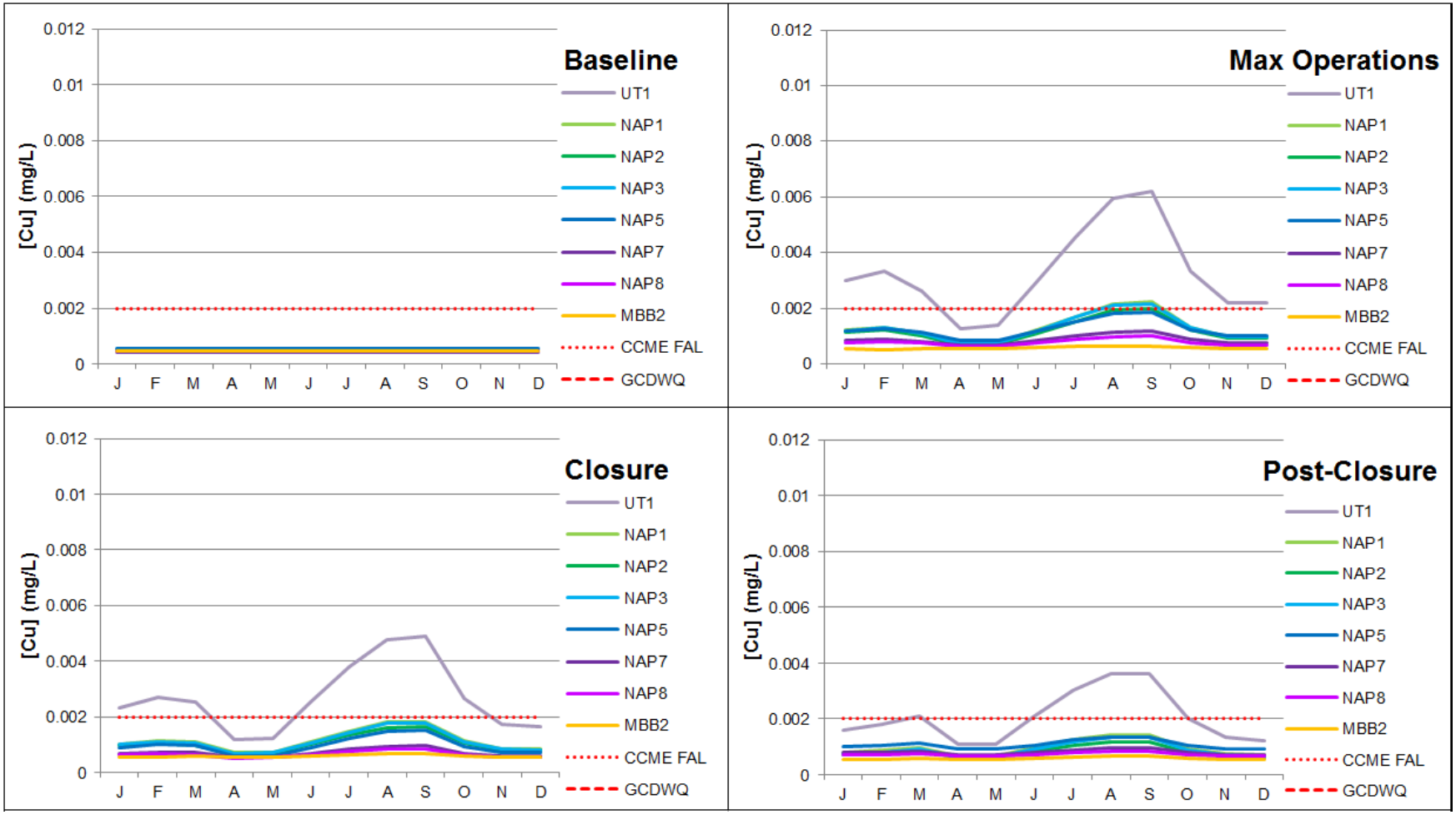
1. "Baseline" refers to Model Years -1 and -2; "Closure" refers to Year 30; "Post-Closure" refers to Year 50.
2. "Max Operations" refers to the year for which chromium reaches its maximum value during this phase (Year 26 for all nodes).
3. The CCME FAL guideline for trivalent chromium is 0.0089 mg/L; the CCME FAL guideline for hexavalent chromium is 0.001 mg/L.
4. ***The GCDWQ guideline of 0.05 mg/L is not shown on these graphs.***
5. The current conditions indicate that chromium is below the method detection limit at all nodes.
6. CCME FAL refers to the CCME Canadian Environmental Quality Guidelines for the Protection of Freshwater Aquatic Life.
7. GCDWQ refers to the Health Canada Guidelines for Canadian Drinking Water Quality.

Figure 9: Predicted Chromium Concentrations at Downstream Nodes by Project Phase

2.8 Copper (Cu)

The annual distributions of predicted copper concentrations for one year in each Project phase are provided on Figure 10. The guideline exceedances by Project phase are provided in Appendix B1, Table B1.8. The model output summary statistics by Project phase are provided in Appendix B2 and the model outputs are provided numerically in Appendix B3 and graphically in Appendix C8.

Maximum copper concentrations are predicted to exceed the hardness dependent CCME FAL guideline at UT1, and marginally at NAP1 and NAP3. Average annual concentrations exceed the guideline only at UT1. The applicable guideline for all model nodes is 0.002 mg/L for hardness of < 83 mg/L $CaCO_3$. Predicted concentrations remain well below the 1 mg/L GCDWQ at all nodes. Copper concentrations are influenced by seepage and by WTP effluent (effluent discharge limit of 0.002 mg/L); however, the point source effluent does not affect the trend to lower predicted concentrations moving from UT1 and NAP1 downstream. The predicted changes to copper concentrations for all sites are predominantly driven by seepage and embankment runoff and are therefore seasonal, with higher concentrations occurring in during periods of lower stream flow. Concentrations at UT1 are predicted to exceed the CCME FAL guideline from June through November, and again from January to March during Operation and Closure. During Post-Closure, concentrations of copper are predicted to exceed the CCME FAL guideline at UT1 from June to October and again in March. Seasonal fluctuations follow the same trends at the nodes downstream from UT1, but maximum concentrations (during August and September) are predicted to marginally exceed the CCME FAL guideline only during Operation at NAP1 and NAP3. Maximum copper concentrations are reached in late-Operation and early-Closure with a predicted peak concentration of 0.0062 mg/L at UT1. The next highest concentration is predicted at NAP1, with a maximum (rather than annual average) concentration of 0.0022 mg/L. Predicted copper concentrations decrease to levels at or below the CCME FAL guidelines in lower Napadogan Brook (NAP5 to NAP8) during all project Phases.



NOTES:

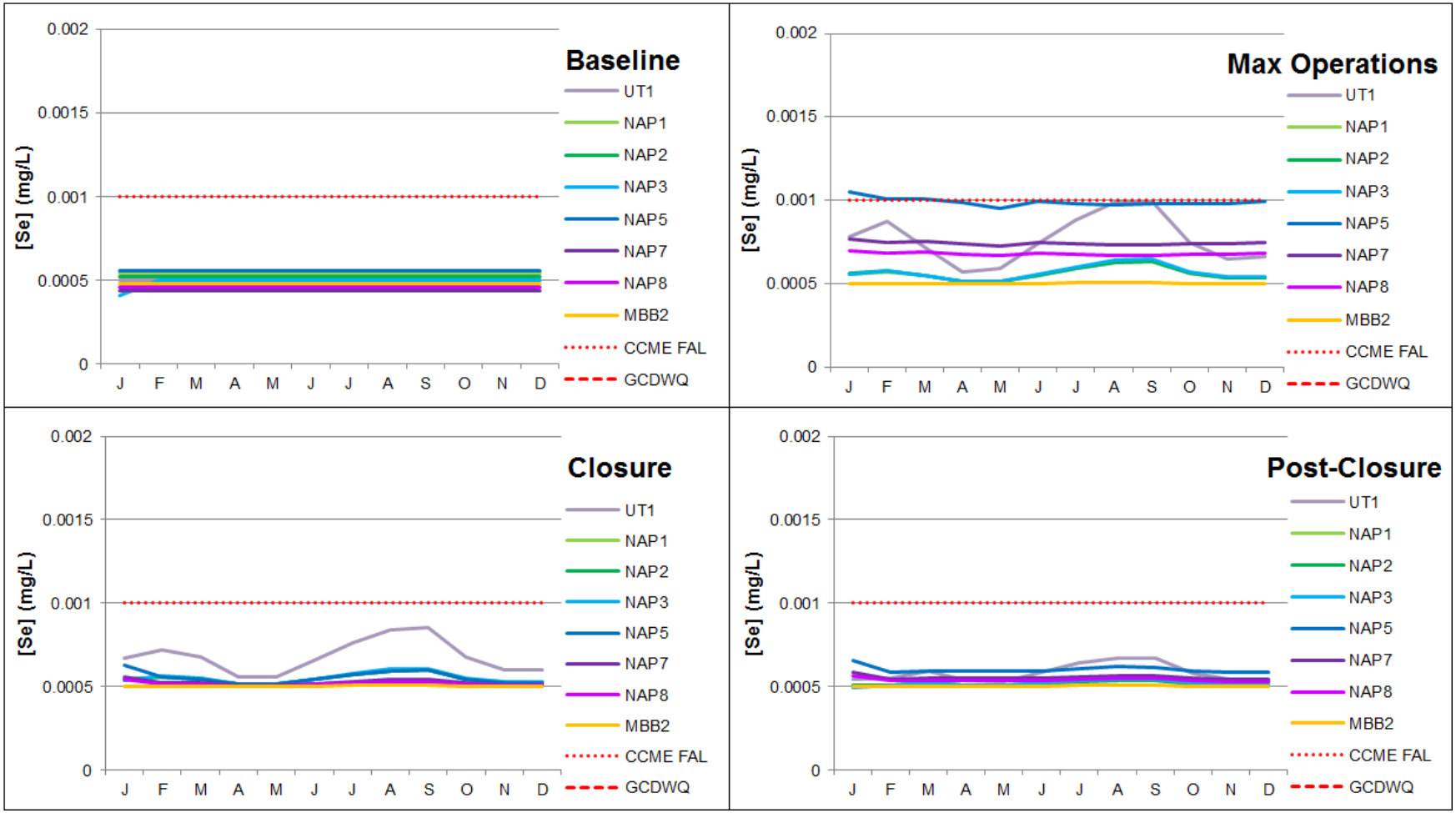
1. "Baseline" refers to Model Years -1 and -2; "Closure" refers to Year 30; "Post-Closure" refers to Year 50.
2. "Max Operations" refers to the year for which copper reaches its maximum value (Year 26 for all nodes).
3. ***The GCDWQ guideline is 1.0 mg/L and is not within the scale of these graphs.***
4. CCME FAL guideline is hardness-dependent, with a minimum of 0.002 mg/L for hardness <83 mg/L.
5. CCME FAL refers to the CCME Canadian Environmental Quality Guidelines for the Protection of Freshwater Aquatic Life.
6. GCDWQ refers to the Health Canada Guidelines for Canadian Drinking Water Quality.

Figure 10 Predicted Copper Concentrations at Downstream Nodes by Project Phase

2.9 Selenium (Se)

The annual distributions of predicted selenium concentrations for one year in each Project phase are provided on Figure 11. The guideline exceedances by Project phase are provided in Appendix B1, Table B1.9. The model output summary statistics by Project phase are provided in Appendix B2 and the model outputs are provided numerically in Appendix B3 and graphically in Appendix C9.

Selenium concentrations are predicted to fluctuate seasonally around the CCME FAL guideline at NAP5 during Operation as a result of WTP effluent being discharged via Sisson Brook, starting in Model Year 8 (Operation). Concentrations at this node are predicted to remain well below the 0.01 mg/L GCDWQ and to drop below the CCME FAL guideline by Year 17 (Operation phase). The predicted concentrations at NAP5 during Operation are effectively at the guideline (range of 0.00097 mg/L to 0.00105 mg/L).



NOTES:

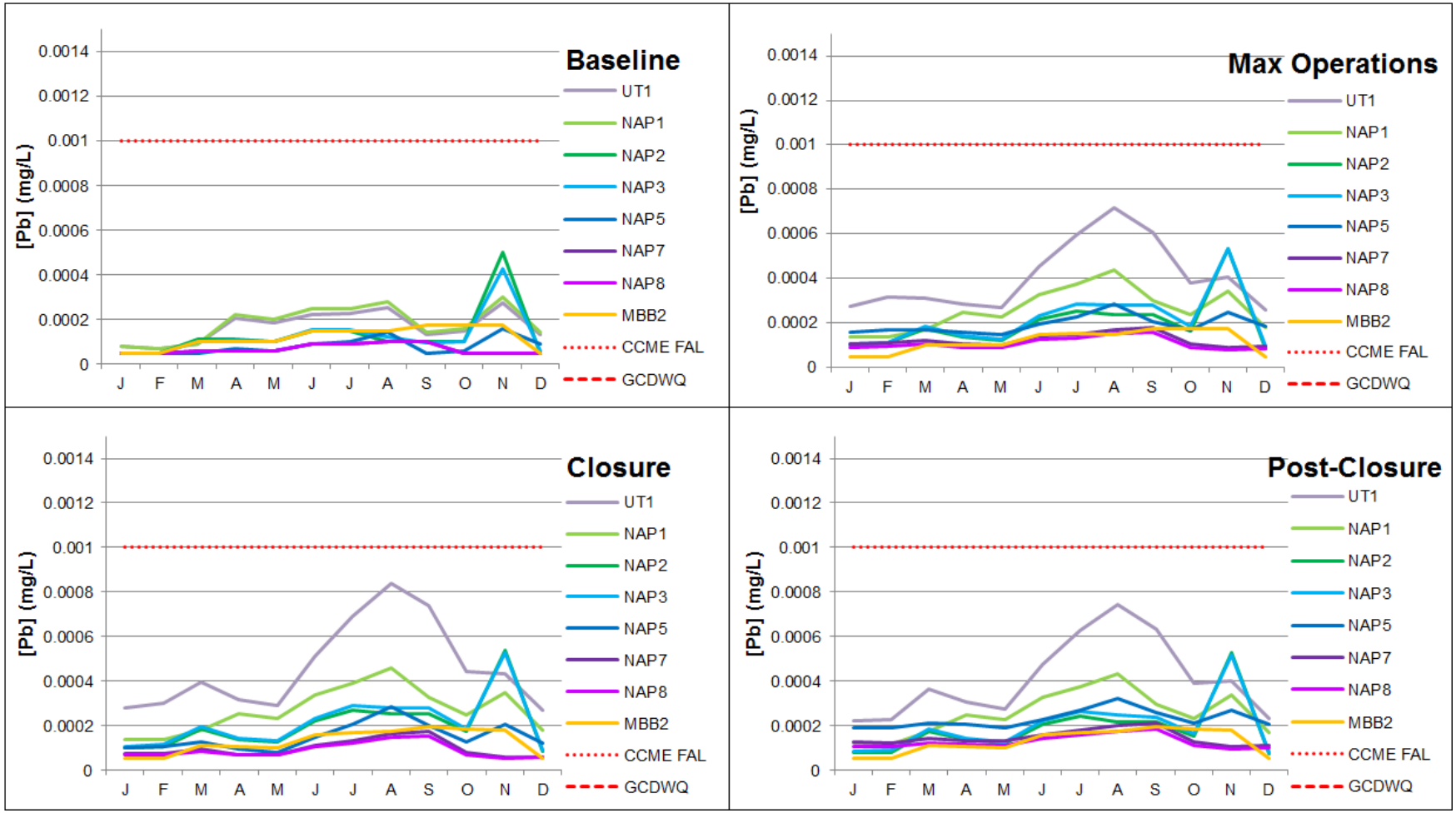
1. "Baseline" refers to Model Years -1 and -2; "Closure" refers to Year 30; "Post-Closure" refers to Year 50.
2. "Max Operations" refers to the year for which selenium reaches its maximum value (Year 24 for NAP1, NAP2, NAP3, and MBB2; Year 11 for NAP5, NAP7, and NAP8).
3. ***The GCDWQ guideline is 0.01 mg/L and is not within the scale of these graphs.***
4. The current conditions indicate that selenium is below the method detection limit at all nodes.
5. CCME FAL refers to the CCME Canadian Environmental Quality Guidelines for the Protection of Freshwater Aquatic Life.
6. GCDWQ refers to the Health Canada Guidelines for Canadian Drinking Water Quality.

Figure 11 Predicted Selenium Concentrations at Downstream Nodes by Project Phase

2.10 Lead (Pb)

The annual distributions of predicted lead concentrations for one year in each Project phase are provided on Figure 12. The guideline exceedances by Project phase are provided in Appendix B1, Table B1.10. The model output summary statistics by Project phase are provided in Appendix B2 and the model outputs are provided numerically in Appendix B3 and graphically in Appendix C10.

Lead concentrations are not predicted to exceed the hardness-dependent CCME FAL guideline or the GCDWQ of 0.1 mg/L at any node throughout the duration of the model.



NOTES:

1. "Baseline" refers to Model Years -1 and -2; "Closure" refers to Year 30; "Post-Closure" refers to Year 50.
2. "Max Operations" refers to the year for which selenium reaches its maximum value (Year 24 for NAP1, NAP2, NAP3, and MBB2; YEAR 11 for NAP5, NAP7, and NAP8).
3. ***The GCDWQ guideline is 0.01 mg/L and is not within the scale of these graphs.***
4. The current conditions indicate that selenium is below the method detection limit at all nodes.
5. CCME FAL refers to the CCME Canadian Environmental Quality Guidelines for the Protection of Freshwater Aquatic Life.
6. GCDWQ refers to the Health Canada Guidelines for Canadian Drinking Water Quality.

Figure 12 Predicted Lead Concentrations at Downstream Nodes by Project Phase

3. References

Canadian Council of Ministers of the Environment (CCME). 1999. *Canadian Water Quality Guidelines for the Protection of Aquatic Life: Chromium – Hexavalent chromium and trivalent chromium*. In: Canadian Environmental Quality Guidelines, 1999, CCME, Winnipeg.

Please do not hesitate to contact the undersigned with any questions or comments.

Signed: _____
for Catriona Jackson, EIT – Staff Engineer

Reviewed: _____
Jessica Mackie, EP – Senior Scientist

Approved: _____
for: Ken Brouwer, P.Eng. – President

Attachments:

Appendix A Water Quality Model Inputs – Contact Source Water Terms
Appendix B Data Tables
- Appendix B1 Colour-Coded Guideline Exceedance Tables
- Appendix B2 Model Output Summary Tables
- Appendix B3 Model Output Data

Appendix C Predictive Water Quality Results – Model Output Graphs
- Appendix C1 Sodium
- Appendix C2 Manganese
- Appendix C3 Fluoride
- Appendix C4 Aluminum
- Appendix C5 Arsenic
- Appendix C6 Cadmium
- Appendix C7 Chromium
- Appendix C8 Copper
- Appendix C9 Selenium
- Appendix C10 Lead

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APPENDIX A

WATER QUALITY MODEL INPUTS – CONTACT SOURCE WATER TERMS

(Page A-1)

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TABLE A1

NORTHCLIFF RESOURCES LIMITED
SISSON PROJECT

APPENDIX A - WATER QUALITY MODEL INPUTS
CONTACT WATER SOURCE TERMS

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	Milled Ore	Low Grade Ore	Waste Rock	Waste Rock Flooding (per tonne saturated)	TSF Beach Runoff	TSF Beach Infiltration (variable by years)							Previous TSF Embankment	Updated TSF Embankment	Quarry Sump	Pit Walls	Process Reagents
						Years 1 through 2	Years 3 through 9	Years 10 through 14	Years 14 through 19	Years 20 through 24	Years 25 through 26	Closure - Years 27 onward					
Units [1]	mg/L	mg/L	mg/L	mg/tonne saturated	mg/m2/week	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/tonne
pH		6.7	7		8.0	8	8	8	8	8	8	8	7.7	8	7.7	7	
Sulphate	9.5	520	230	53000	20	290	290	290	290	290	290	290	270	36	270	160	1200
Alkalinity	3	50	100	23000	110	110	110	110	110	110	110	110	56	70	56	100	867
Chloride	0.09	7.4	6	1400	1.4	70	70	70	70	70	70	70	80	2	80	5.1	
Fluoride	0.34	31	7.1	1600	4.4	7.1	7.1	7.1	7.1	7.1	7.1	7.1	3.8	3.8	3.8	6.2	
Al	0.014	7.7	0.86	200	0.61	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.31	0.96	0.31	0.72	
Sb	0.00061	0.0069	0.003	0.69	0.005	0.2	0.65	0.33	0.33	0.33	0.33	0.33	0.01	0.004	0.01	0.0042	
As	0.000031	0.21	0.0065	1.5	0.037	1.6	5.1	2.6	2.6	2.6	2.6	2.6	0.03	0.016	0.03	0.011	
Ba	0.0009	0.1	0.021	4.8	0.0058	0.25	0.8	0.41	0.4	0.41	0.41	0.41	0.0093	0.11	0.0093	0.017	
Be	*0.0000032*	*0.0051*	*0.000085*	*0.019*	*0.00003*	*0.00094*	*0.003*	*0.0015*	*0.0015*	*0.0015*	*0.0015*	*0.0015*	*0.0006*	*0.0004*	*0.0006*	*0.000061*	
Bi	0.00032	0.0034	0.00017	0.039	0.000029	0.0012	0.0039	0.002	0.002	0.002	0.002	0.002	0.00033	0.00022	0.00033	0.0002	
B	0.0073	0.4	0.39	90	0.078	3.4	11	5.4	5.4	5.5	5.4	5.4	3.1	2.1	3.1	0.3	
Cd	0.000055	0.011	0.00023	0.052	0.000041	0.0018	0.0056	0.0028	0.0028	0.0029	0.0028	0.0028	0.0004	0.0003	0.0004	0.00057	
Ca	4.6	200	110	26000	49	28	28	28	28	28	28	28	71	47	71	90	
Cr	0.00012	0.0086	0.021	4.7	0.0014	0.059	0.19	0.094	0.094	0.095	0.094	0.094	0.02	0.02	0.02	0.016	
Cs	0.000015	0.001	0.001	0.23	0.0003	0.013	0.041	0.021	0.02	0.021	0.021	0.021	0.0077	0.0064	0.0077	0.00079	
Co	0.000095	0.066	0.0075	1.7	0.0002	0.0085	0.027	0.014	0.014	0.014	0.014	0.014	0.0019	0.0014	0.0019	0.0059	
Cu	0.00032	0.18	0.018	4.1	0.0044	0.19	0.61	0.31	0.31	0.31	0.31	0.31	0.071	0.02	0.071	0.013	
Fe	0.0015	1.8	0.086	20	0.048	0.000092	0.000092	0.000092	0.000092	0.000092	0.000092	0.000092	0.00011	0.00019	0.00011	0.079	
La	0.000013	0.0082	0.00041	0.094	0.000078	0.0034	0.011	0.0054	0.0054	0.0055	0.0054	0.0054	0.0071	0.0054	0.0071	0.0003	
Pb	0.000038	0.0084	0.00071	0.16	0.00024	0.01	0.033	0.016	0.016	0.017	0.016	0.016	0.006	0.004	0.006	0.00089	
Li	0.001	0.087	0.034	7.7	0.011	0.46	1.5	0.74	0.74	0.75	0.74	0.74	0.05	0.03	0.05	0.024	
Mg	0.28	13	19	4300	2.1	110	110	110	110	110	110	110	25	15	25	13	
Mn	0.085	9.1	0.43	98	0.05	2.1	6.9	3.5	3.4	3.5	3.5	3.5	0.13	0.08	0.13	0.75	
Hg	0.00032	0.000017	0.000016	0.0038	0.0000072	0.00031	0.00099	0.0005	0.0005	0.00051	0.0005	0.0005	0.00014	0.00011	0.00014	0.000013	
Mo	0.00013	0.0016	0.023	5.3	0.034	1.5	4.7	2.4	2.4	2.4	2.4	2.4	0.07	0.04	0.07	0.035	
Ni	0.00014	0.12	0.0086	2	0.00057	0.025	0.079	0.04	0.039	0.04	0.04	0.04	0.0096	0.0068	0.0096	0.0078	
P	0.002	0.078	0.08	18	0.013	0.56	1.8	0.9	0.9	0.91	0.9	0.9	0.57	0.38	0.57	0.063	
K	0.91	41	17	3900	5.7	15	15	15	15	15	15	15	130	84	130	14	
Rb	0.0032	0.21	0.098	22	0.032	1.4	4.4	2.2	2.2	2.2	2.2	2.2	0.38	0.24	0.38	0.078	
Se	0.00048	0.021	0.0012	0.28	0.00015	0.0065	0.021	0.01	0.01	0.011	0.01	0.01	0.0028	0.0019	0.0028	0.0015	
Si	0.41	27	16	3600	8.1	88	88	88	88	88	88	88	68	10	68	14	758
Ag	0.00000073	0.000098	0.000039	0.009	0.0000089	0.00038	0.0012	0.00062	0.00062	0.00063	0.00062	0.00062	0.0003	0.00021	0.0003	0.000031	
Na	0.1	5.4	3.4	770	0.74	5.5	18	8.8	8.8	8.9	8.8	8.8	21	14	21	2.5	1147
Sr	0.017	0.8	0.42	97	0.13	5.6	18	9	9	9.1	9	9	0.77	0.48	0.77	0.3	
S	3.5	190	83	19000	4.7								490	270	490	62	
Te	*0.0000033*	*0.00017*	*0.00018*	*0.041*	*0.000038*	*0.0017*	*0.0053*	*0.0027*	*0.0027*	*0.0027*	*0.0027*	*0.0027*	*0.0012*	*0.00083*	*0.0012*	*0.00014*	
Tl	0.0000099	0.00081	0.00079	0.18	0.00011	0.0049	0.016	0.0079	0.0078	0.0079	0.0079	0.0079	0.0019	0.0012	0.0019	0.00048	
Th	*0.00000073*	*0.000055*	*0.000041*	*0.0095*	*0.0000078*	*0.00034*	*0.0011*	*0.00054*	*0.00054*	*0.00055*	*0.00054*	*0.00054*	*0.0003*	*0.00021*	*0.0003*	*0.000032*	
Sn	*0.000058*	*0.0033*	*0.004*	*0.9*	*0.0013*	*0.058*	*0.19*	*0.094*	*0.093*	*0.094*	*0.094*	*0.094*	*0.03*	*0.02*	*0.03*	*0.0032*	
Ti	0.00012	0.004	0.0049	1.1	0.003	0.13	0.41	0.21	0.21	0.21	0.21	0.21	0.044	0.029	0.044	0.0041	
W	0.0017	0.016	0.018	4.1	0.004	0.17	0.55	0.28	0.27	0.28	0.28	0.28	0.29	0.22	0.29	0.017	
U	0.00042	0.0047	0.0042	0.96	0.0025	0.11	0.35	0.17	0.17	0.18	0.17	0.17	0.0024	0.0015	0.0024	0.0051	
V	0.000045	0.0024	0.014	3.3	0.009	0.4	1.3	0.65	0.64	0.65	0.65	0.65	0.13	0.09	0.13	0.009	
Zn	0.0016	0.78	0.032	7.3	0.0027	0.12	0.37	0.19	0.19	0.19	0.19	0.19	0.09	0.05	0.09	0.022	
Zr	0.000015	0.0008	0.00078	0.18	0.00019								0.006	0.0042	0.006	0.0006	
NO3					0.19	8.3	8.3	8.3	8.3	8.3	8.3	8.3					
NO2					0.023	1	1	1	1	1	1	1					
NH3					0.44	19	19	19	19	19	19	19					

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix A\[Appendix A.xlsx]TABLE A1 - Source Terms

NOTES:

1. ALL PARAMETERS ARE PROVIDED IN MILLIGRAMS (mg) PER UNIT VOLUME (L), MASS (tonne), OR AREA/TIME (m2/week) EXCEPT FOR Hg WHICH IS PROVIDED IN MICROGRAMS (ug) AND pH WHICH IS UNITLESS.
2. COLOUR AND ITALICS SCHEME:
   - *< DL*
   - *< 10X DL*
3. PROCESS REAGENTS MASS LOADING VALUES ARE PROVIDED BASED ON THE ADDITION OF SODIUM HYDROXIDE, SODIUM CARBONATE, SODIUM SILICATE, AND SODIUM SULPHATE IN THE MILL CIRCUIT. OTHER REAGENTS ARE PROPOSED, BUT NONE OF THESE CONTAINED PARAMETERS THAT ARE CURRENTLY MODELLED.

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APPENDIX B

DATA TABLES

Appendix B1 Colour-Coded Guideline Exceedance Tables
Appendix B2 Model Output Summary Tables
Appendix B3 Model Output Data

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APPENDIX B1

COLOUR-CODED GUIDELINE EXCEEDANCE TABLES

(Pages B1-1 to B1-3)

Table B1.1 Guideline Exceedance Summary for Sodium

Node	Current						Node	Maximum Operations					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	1.33	1.83	2.10		200	current	UT1	27.31	116.93	205.00		200	16
NAP1	1.26	1.79	2.10		200	current	NAP1	8.63	34.96	61.51		200	14
NAP2	1.11	1.61	1.91		200	current	NAP2	7.73	31.53	55.73		200	14
NAP3	1.08	1.57	1.85		200	current	NAP3	8.29	33.99	60.09		200	14
NAP5	1.04	1.52	1.80		200	current	NAP5	179.57	220.04	273.98		200	16
NAP7	1.21	1.55	1.91		200	current	NAP7	90.35	110.30	137.28		200	16
NAP8	1.21	1.55	1.91		200	current	NAP8	67.77	82.66	102.82		200	16
MBB2	0.94	1.45	1.71		200	current	MBB2	0.95	1.46	1.73		200	14
Node	**Closure**						**Node**	**Post-Closure**					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	22.49	92.38	165.25		200	30	UT1	1.98	3.61	5.37		200	50
NAP1	7.36	28.61	50.14		200	30	NAP1	1.44	2.31	2.91		200	50
NAP2	6.59	25.86	45.48		200	30	NAP2	1.24	1.99	2.66		200	50
NAP3	7.06	27.83	48.94		200	30	NAP3	1.27	2.06	2.81		200	50
NAP5	6.24	24.48	43.21		200	30	NAP5	10.20	11.47	12.38		200	50
NAP7	3.60	12.04	20.96		200	30	NAP7	6.25	6.84	7.71		200	50
NAP8	2.96	9.22	15.85		200	30	NAP8	5.08	5.56	6.33		200	50
MBB2	0.97	1.51	1.84		200	30	MBB2	0.97	1.51	1.84		200	50

Table B1.2 Guideline Exceedance Summary for Manganese

Node	Current						Node	Maximum Operations					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.002	0.006	0.015		0.05	current	UT1	0.026	0.083	0.148		0.05	16
NAP1	0.002	0.007	0.017		0.05	current	NAP1	0.012	0.029	0.052		0.05	16
NAP2	0.002	0.005	0.007		0.05	current	NAP2	0.011	0.025	0.044		0.05	14
NAP3	0.002	0.005	0.010		0.05	current	NAP3	0.012	0.027	0.047		0.05	14
NAP5	0.001	0.004	0.014		0.05	current	NAP5	0.024	0.035	0.055		0.05	16
NAP7	0.003	0.009	0.020		0.05	current	NAP7	0.015	0.025	0.039		0.05	14
NAP8	0.003	0.009	0.020		0.05	current	NAP8	0.013	0.021	0.034		0.05	14
MBB2	0.003	0.010	0.019		0.05	current	MBB2	0.003	0.010	0.019		0.05	14
Node	**Closure**						**Node**	**Post-Closure**					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.016	0.043	0.076		0.05	30	UT1	0.009	0.019	0.034		0.05	50
NAP1	0.008	0.018	0.032		0.05	30	NAP1	0.005	0.011	0.023		0.05	50
NAP2	0.008	0.015	0.025		0.05	30	NAP2	0.004	0.008	0.012		0.05	50
NAP3	0.009	0.016	0.027		0.05	30	NAP3	0.004	0.008	0.014		0.05	50
NAP5	0.005	0.013	0.030		0.05	30	NAP5	0.027	0.031	0.041		0.05	50
NAP7	0.006	0.014	0.027		0.05	30	NAP7	0.017	0.023	0.034		0.05	50
NAP8	0.006	0.013	0.025		0.05	30	NAP8	0.013	0.020	0.031		0.05	50
MBB2	0.003	0.010	0.019		0.05	30	MBB2	0.003	0.010	0.019		0.05	50

Table B1.3 Guideline Exceedance Summary for Fluoride

Node	Current						Node	Maximum Operations					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.12	0.17	0.22	0.12	1.5	current	UT1	0.35	0.74	1.34	0.12	1.5	24
NAP1	0.11	0.18	0.23	0.12	1.5	current	NAP1	0.24	0.34	0.57	0.12	1.5	24
NAP2	0.09	0.14	0.22	0.12	1.5	current	NAP2	0.17	0.29	0.48	0.12	1.5	24
NAP3	0.09	0.14	0.20	0.12	1.5	current	NAP3	0.18	0.31	0.51	0.12	1.5	24
NAP5	0.09	0.15	0.20	0.12	1.5	current	NAP5	1.13	1.20	1.26	0.12	1.5	11
NAP7	0.10	0.18	0.27	0.12	1.5	current	NAP7	0.59	0.71	0.83	0.12	1.5	11
NAP8	0.10	0.18	0.27	0.12	1.5	current	NAP8	0.47	0.57	0.69	0.12	1.5	11
MBB2	0.10	0.13	0.15	0.12	1.5	current	MBB2	0.10	0.14	0.17	0.12	1.5	24
Node	**Closure**						**Node**	**Post-Closure**					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.31	0.54	0.94	0.12	1.5	30	UT1	0.24	0.39	0.67	0.12	1.5	50
NAP1	0.20	0.29	0.45	0.12	1.5	30	NAP1	0.15	0.24	0.37	0.12	1.5	50
NAP2	0.14	0.24	0.38	0.12	1.5	30	NAP2	0.11	0.19	0.29	0.12	1.5	50
NAP3	0.15	0.25	0.40	0.12	1.5	30	NAP3	0.12	0.20	0.32	0.12	1.5	50
NAP5	0.18	0.25	0.40	0.12	1.5	30	NAP5	0.43	0.49	0.58	0.12	1.5	50
NAP7	0.14	0.23	0.35	0.12	1.5	30	NAP7	0.28	0.36	0.46	0.12	1.5	50
NAP8	0.13	0.22	0.33	0.12	1.5	30	NAP8	0.23	0.32	0.41	0.12	1.5	50
MBB2	0.11	0.14	0.18	0.12	1.5	30	MBB2	0.11	0.14	0.18	0.12	1.5	50

NOTES:
1. Units are mg/L.
2. Blue highlighting indicates values that are at or below all guidelines.
3. Yellow highlighting indicates values that exceed at least one guideline.
4. Current statistics are based upon the average monthly dataset used for the model inputs for each of the nodes. Measured maximum and minimum concentrations are under-represented.
5. There is no CCME FAL guideline for sodium and manganese.

Table B1.4 Guideline Exceedance Summary for Aluminum

Node	Current						Node	Maximum Operations					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.060	0.122	0.190	0.1	0.2	current	UT1	0.152	0.219	0.346	0.1	0.2	24
NAP1	0.060	0.131	0.205	0.1	0.2	current	NAP1	0.087	0.159	0.227	0.1	0.2	24
NAP2	0.064	0.118	0.169	0.1	0.2	current	NAP2	0.079	0.143	0.190	0.1	0.2	24
NAP3	0.060	0.117	0.163	0.1	0.2	current	NAP3	0.083	0.146	0.195	0.1	0.2	24
NAP5	0.045	0.103	0.161	0.1	0.2	current	NAP5	0.089	0.138	0.206	0.1	0.2	24
NAP7	0.048	0.089	0.106	0.1	0.2	current	NAP7	0.067	0.106	0.120	0.1	0.2	24
NAP8	0.048	0.089	0.106	0.1	0.2	current	NAP8	0.063	0.101	0.116	0.1	0.2	24
MBB2	0.065	0.118	0.179	0.1	0.2	current	MBB2	0.065	0.119	0.182	0.1	0.2	24
Node	**Closure**						**Node**	**Post-Closure**					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.115	0.189	0.287	0.1	0.2	30	UT1	0.090	0.172	0.256	0.1	0.2	50
NAP1	0.075	0.150	0.216	0.1	0.2	30	NAP1	0.068	0.146	0.213	0.1	0.2	50
NAP2	0.073	0.135	0.179	0.1	0.2	30	NAP2	0.069	0.129	0.175	0.1	0.2	50
NAP3	0.075	0.137	0.178	0.1	0.2	30	NAP3	0.070	0.131	0.175	0.1	0.2	50
NAP5	0.059	0.119	0.192	0.1	0.2	30	NAP5	0.089	0.136	0.187	0.1	0.2	50
NAP7	0.053	0.094	0.109	0.1	0.2	30	NAP7	0.071	0.107	0.120	0.1	0.2	50
NAP8	0.052	0.093	0.108	0.1	0.2	30	NAP8	0.066	0.102	0.116	0.1	0.2	50
MBB2	0.065	0.119	0.183	0.1	0.2	30	MBB2	0.065	0.119	0.183	0.1	0.2	50

Table B1.5 Guideline Exceedance Summary for Arsenic

Node	Current						Node	Maximum Operations					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.0005	0.0005	0.0005	0.005	0.01	current	UT1	0.0029	0.0113	0.0204	0.005	0.01	14
NAP1	0.0005	0.0005	0.0005	0.005	0.01	current	NAP1	0.0012	0.0036	0.0063	0.005	0.01	14
NAP2	0.0005	0.0005	0.0005	0.005	0.01	current	NAP2	0.0011	0.0033	0.0058	0.005	0.01	14
NAP3	0.0006	0.0006	0.0008	0.005	0.01	current	NAP3	0.0012	0.0036	0.0062	0.005	0.01	14
NAP5	0.0005	0.0006	0.0010	0.005	0.01	current	NAP5	0.0025	0.0042	0.0062	0.005	0.01	14
NAP7	0.0005	0.0006	0.0009	0.005	0.01	current	NAP7	0.0015	0.0024	0.0032	0.005	0.01	14
NAP8	0.0005	0.0006	0.0009	0.005	0.01	current	NAP8	0.0012	0.0019	0.0025	0.005	0.01	14
MBB2	0.0005	0.0005	0.0006	0.005	0.01	current	MBB2	0.0005	0.0006	0.0007	0.005	0.01	14
Node	**Closure**						**Node**	**Post-Closure**					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.0022	0.0077	0.0144	0.005	0.01	30	UT1	0.0017	0.0051	0.0088	0.005	0.01	50
NAP1	0.0010	0.0026	0.0048	0.005	0.01	30	NAP1	0.0008	0.0019	0.0031	0.005	0.01	50
NAP2	0.0009	0.0024	0.0043	0.005	0.01	30	NAP2	0.0007	0.0014	0.0022	0.005	0.01	50
NAP3	0.0010	0.0026	0.0047	0.005	0.01	30	NAP3	0.0008	0.0016	0.0026	0.005	0.01	50
NAP5	0.0008	0.0022	0.0041	0.005	0.01	30	NAP5	0.0031	0.0036	0.0045	0.005	0.01	50
NAP7	0.0006	0.0013	0.0021	0.005	0.01	30	NAP7	0.0019	0.0022	0.0026	0.005	0.01	50
NAP8	0.0006	0.0011	0.0016	0.005	0.01	30	NAP8	0.0015	0.0018	0.0022	0.005	0.01	50
MBB2	0.0005	0.0006	0.0008	0.005	0.01	30	MBB2	0.0005	0.0006	0.0008	0.005	0.01	50

Table B1.6 Guideline Exceedance Summary for Cadmium

Node	Current						Node	Maximum Operations					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	5.0E-06	6.4E-06	1.0E-05	4.3E-06	0.005	current	UT1	2.4E-05	8.1E-05	1.6E-04	7.5E-06	0.005	24
NAP1	5.0E-06	6.6E-06	1.1E-05	4.3E-06	0.005	current	NAP1	1.0E-05	2.9E-05	5.3E-05	7.5E-06	0.005	24
NAP2	5.0E-06	5.2E-06	6.2E-06	4.1E-06	0.005	current	NAP2	9.6E-06	2.4E-05	4.5E-05	6.9E-06	0.005	24
NAP3	7.0E-06	1.1E-05	1.7E-05	4.0E-06	0.005	current	NAP3	1.1E-05	2.7E-05	5.0E-05	7.3E-06	0.005	24
NAP5	6.0E-06	1.5E-05	2.9E-05	4.1E-06	0.005	current	NAP5	9.5E-05	1.0E-04	1.2E-04	1.3E-05	0.005	20
NAP7	5.0E-06	1.0E-05	2.0E-05	4.7E-06	0.005	current	NAP7	4.7E-05	5.5E-05	6.8E-05	9.5E-06	0.005	20
NAP8	5.0E-06	1.0E-05	2.0E-05	4.7E-06	0.005	current	NAP8	3.6E-05	4.3E-05	5.6E-05	8.4E-06	0.005	20
MBB2	1.0E-05	1.6E-05	2.3E-05	4.9E-06	0.005	current	MBB2	1.0E-05	1.7E-05	2.5E-05	5.1E-06	0.005	24
Node	**Closure**						**Node**	**Post-Closure**					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	2.0E-05	5.2E-05	9.6E-05	6.8E-06	0.005	30	UT1	1.6E-05	3.3E-05	6.3E-05	6.1E-06	0.005	50
NAP1	9.3E-06	2.0E-05	3.6E-05	6.8E-06	0.005	30	NAP1	8.2E-06	1.5E-05	2.6E-05	6.1E-06	0.005	50
NAP2	8.5E-06	1.7E-05	2.8E-05	6.3E-06	0.005	30	NAP2	7.2E-06	1.1E-05	1.7E-05	5.5E-06	0.005	50
NAP3	1.0E-05	1.9E-05	3.3E-05	6.6E-06	0.005	30	NAP3	8.6E-06	1.3E-05	2.2E-05	5.8E-06	0.005	50
NAP5	1.3E-05	2.2E-05	4.4E-05	6.4E-06	0.005	30	NAP5	5.3E-05	6.0E-05	7.5E-05	1.2E-05	0.005	50
NAP7	3.2E-06	1.3E-05	3.0E-05	5.9E-06	0.005	30	NAP7	2.5E-05	3.4E-05	4.8E-05	9.0E-06	0.005	50
NAP8	3.7E-06	1.2E-05	2.8E-05	5.6E-06	0.005	30	NAP8	2.0E-05	2.8E-05	4.2E-05	8.0E-06	0.005	50
MBB2	1.0E-05	1.7E-05	2.5E-05	5.1E-06	0.005	30	MBB2	1.0E-05	1.7E-05	2.5E-05	5.1E-06	0.005	50

Table B1.7 Guideline Exceedance Summary for Chromium

Node	Current						Node	Maximum Operations					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.0005	0.0005	0.0005	0.001	0.05	current	UT1	0.0011	0.0024	0.0045	0.001	0.05	26
NAP1	0.0005	0.0005	0.0005	0.001	0.05	current	NAP1	0.0007	0.0011	0.0017	0.001	0.05	26
NAP2	0.0005	0.0005	0.0005	0.001	0.05	current	NAP2	0.0006	0.0010	0.0015	0.001	0.05	26
NAP3	0.0005	0.0005	0.0005	0.001	0.05	current	NAP3	0.0007	0.0010	0.0017	0.001	0.05	26
NAP5	0.0005	0.0005	0.0005	0.001	0.05	current	NAP5	0.0019	0.0022	0.0025	0.001	0.05	26
NAP7	0.0005	0.0005	0.0005	0.001	0.05	current	NAP7	0.0012	0.0013	0.0015	0.001	0.05	26
NAP8	0.0005	0.0005	0.0005	0.001	0.05	current	NAP8	0.0010	0.0011	0.0012	0.001	0.05	26
MBB2	0.0005	0.0005	0.0005	0.001	0.05	current	MBB2	0.0005	0.0005	0.0006	0.001	0.05	26
Node	**Closure**						**Node**	**Post-Closure**					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.0011	0.0021	0.0039	0.001	0.05	30	UT1	0.0010	0.0017	0.0031	0.001	0.05	50
NAP1	0.0007	0.0010	0.0015	0.001	0.05	30	NAP1	0.0006	0.0009	0.0013	0.001	0.05	50
NAP2	0.0006	0.0009	0.0014	0.001	0.05	30	NAP2	0.0006	0.0008	0.0011	0.001	0.05	50
NAP3	0.0007	0.0010	0.0015	0.001	0.05	30	NAP3	0.0006	0.0008	0.0012	0.001	0.05	50
NAP5	0.0006	0.0009	0.0014	0.001	0.05	30	NAP5	0.0022	0.0024	0.0028	0.001	0.05	50
NAP7	0.0006	0.0007	0.0009	0.001	0.05	30	NAP7	0.0014	0.0015	0.0017	0.001	0.05	50
NAP8	0.0005	0.0006	0.0008	0.001	0.05	30	NAP8	0.0012	0.0013	0.0014	0.001	0.05	50
MBB2	0.0005	0.0006	0.0006	0.001	0.05	30	MBB2	0.0005	0.0006	0.0006	0.001	0.05	50

NOTES:
1. Units are mg/L.
2. Blue highlighting indicates values that are at or below all guidelines.
3. Yellow highlighting indicates values that exceed at least one guideline.
4. Current statistics are based upon the average monthly dataset used for the model inputs for each of the nodes. Measured maximum and minimum concentrations are under-represented.

Table B1.8 Guideline Exceedance Summary for Copper

Node	Current						Node	Maximum Operations					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.0005	0.0005	0.0005	0.002	1	current	UT1	0.0013	0.0032	0.0062	0.002	1	24
NAP1	0.0005	0.0005	0.0005	0.002	1	current	NAP1	0.0007	0.0013	0.0022	0.002	1	24
NAP2	0.0005	0.0005	0.0005	0.002	1	current	NAP2	0.0007	0.0012	0.0020	0.002	1	24
NAP3	0.0005	0.0005	0.0005	0.002	1	current	NAP3	0.0007	0.0013	0.0022	0.002	1	24
NAP5	0.0005	0.0005	0.0005	0.002	1	current	NAP5	0.0008	0.0013	0.0019	0.002	1	24
NAP7	0.0005	0.0005	0.0005	0.002	1	current	NAP7	0.0007	0.0009	0.0012	0.002	1	24
NAP8	0.0005	0.0005	0.0005	0.002	1	current	NAP8	0.0006	0.0008	0.0010	0.002	1	24
MBB2	0.0005	0.0005	0.0005	0.002	1	current	MBB2	0.0005	0.0006	0.0007	0.002	1	24
Node	**Closure**						**Node**	**Post-Closure**					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.0012	0.0027	0.0049	0.002	1	30	UT1	0.0012	0.0027	0.0049	0.002	1	50
NAP1	0.0007	0.0011	0.0018	0.002	1	30	NAP1	0.0007	0.0010	0.0014	0.002	1	50
NAP2	0.0007	0.0010	0.0016	0.002	1	30	NAP2	0.0006	0.0008	0.0012	0.002	1	50
NAP3	0.0007	0.0011	0.0018	0.002	1	30	NAP3	0.0006	0.0009	0.0013	0.002	1	50
NAP5	0.0006	0.0010	0.0015	0.002	1	30	NAP5	0.0009	0.0011	0.0014	0.002	1	50
NAP7	0.0005	0.0007	0.0010	0.002	1	30	NAP7	0.0007	0.0008	0.0010	0.002	1	50
NAP8	0.0005	0.0007	0.0008	0.002	1	30	NAP8	0.0007	0.0007	0.0009	0.002	1	50
MBB2	0.0005	0.0006	0.0007	0.002	1	30	MBB2	0.0005	0.0006	0.0007	0.002	1	50

Table B1.9 Guideline Exceedance Summary for Selenium

Node	Current						Node	Maximum Operations					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.00050	0.00050	0.00050	0.001	0.01	current	UT1	0.00057	0.00077	0.00099	0.001	0.01	24
NAP1	0.00050	0.00050	0.00050	0.001	0.01	current	NAP1	0.00052	0.00057	0.00064	0.001	0.01	24
NAP2	0.00050	0.00050	0.00050	0.001	0.01	current	NAP2	0.00051	0.00056	0.00063	0.001	0.01	24
NAP3	0.00041	0.00049	0.00050	0.001	0.01	current	NAP3	0.00052	0.00057	0.00065	0.001	0.01	24
NAP5	0.00050	0.00050	0.00050	0.001	0.01	current	NAP5	0.00096	0.00100	0.00105	0.001	0.01	11
NAP7	0.00050	0.00050	0.00050	0.001	0.01	current	NAP7	0.00059	0.00064	0.00067	0.001	0.01	11
NAP8	0.00050	0.00050	0.00050	0.001	0.01	current	NAP8	0.00057	0.00061	0.00063	0.001	0.01	11
MBB2	0.00050	0.00050	0.00050	0.001	0.01	current	MBB2	0.00050	0.00050	0.00051	0.001	0.01	24
Node	**Closure**						**Node**	**Post-Closure**					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.00058	0.00074	0.00097	0.001	0.01	30	UT1	0.00055	0.00063	0.00078	0.001	0.01	50
NAP1	0.00052	0.00057	0.00064	0.001	0.01	30	NAP1	0.00051	0.00054	0.00058	0.001	0.01	50
NAP2	0.00052	0.00056	0.00063	0.001	0.01	30	NAP2	0.00051	0.00053	0.00056	0.001	0.01	50
NAP3	0.00052	0.00057	0.00065	0.001	0.01	30	NAP3	0.00051	0.00053	0.00058	0.001	0.01	50
NAP5	0.00052	0.00057	0.00064	0.001	0.01	30	NAP5	0.00063	0.00065	0.00070	0.001	0.01	50
NAP7	0.00051	0.00053	0.00056	0.001	0.01	30	NAP7	0.00057	0.00058	0.00061	0.001	0.01	50
NAP8	0.00051	0.00052	0.00055	0.001	0.01	30	NAP8	0.00055	0.00056	0.00058	0.001	0.01	50
MBB2	0.00050	0.00051	0.00052	0.001	0.01	30	MBB2	0.00050	0.00051	0.00052	0.001	0.01	50

Table B1.10 Guideline Exceedance Summary for Lead

Node	Current						Node	Maximum Operations					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.00007	0.00017	0.00028	0.001	0.01	current	UT1	0.00029	0.00047	0.00085	0.001	0.01	14
NAP1	0.00007	0.00018	0.00030	0.001	0.01	current	NAP1	0.00014	0.00027	0.00046	0.001	0.01	14
NAP2	0.00005	0.00013	0.00050	0.001	0.01	current	NAP2	0.00009	0.00021	0.00054	0.001	0.01	14
NAP3	0.00005	0.00013	0.00043	0.001	0.01	current	NAP3	0.00010	0.00022	0.00053	0.001	0.01	14
NAP5	0.00005	0.00008	0.00016	0.001	0.01	current	NAP5	0.00015	0.00021	0.00031	0.001	0.01	14
NAP7	0.00005	0.00007	0.00010	0.001	0.01	current	NAP7	0.00009	0.00013	0.00019	0.001	0.01	14
NAP8	0.00005	0.00007	0.00010	0.001	0.01	current	NAP8	0.00008	0.00011	0.00017	0.001	0.01	14
MBB2	0.00005	0.00012	0.00018	0.001	0.01	current	MBB2	0.00005	0.00012	0.00018	0.001	0.01	14
Node	**Closure**						**Node**	**Post-Closure**					
	Minimum	Annual Average	Maximum	CEQG	HCDW	Year		Minimum	Annual Average	Maximum	CEQG	HCDW	Year
UT1	0.00027	0.00046	0.00084	0.001	0.01	30	UT1	0.00028	0.00052	0.00098	0.001	0.01	50
NAP1	0.00014	0.00027	0.00046	0.001	0.01	30	NAP1	0.00013	0.00029	0.00050	0.001	0.01	50
NAP2	0.00008	0.00020	0.00054	0.001	0.01	30	NAP2	0.00008	0.00021	0.00054	0.001	0.01	50
NAP3	0.00009	0.00021	0.00053	0.001	0.01	30	NAP3	0.00009	0.00023	0.00053	0.001	0.01	50
NAP5	0.00008	0.00015	0.00029	0.001	0.01	30	NAP5	0.00020	0.00025	0.00037	0.001	0.01	50
NAP7	0.00006	0.00010	0.00018	0.001	0.01	30	NAP7	0.00011	0.00016	0.00023	0.001	0.01	50
NAP8	0.00005	0.00009	0.00016	0.001	0.01	30	NAP8	0.00010	0.00014	0.00020	0.001	0.01	50
MBB2	0.00005	0.00013	0.00020	0.001	0.01	30	MBB2	0.00005	0.00013	0.00021	0.001	0.01	50

NOTES:
1. Units are mg/L.
2. Blue highlighting indicates values that are at or below all guidelines.
3. Yellow highlighting indicates values that exceed at least one guideline.
4. Current statistics are based upon the average monthly dataset used for the model inputs for each of the nodes. Measured maximum and minimum concentrations are under-represented.

Knight Piésold
CONSULTING

APPENDIX B2

MODEL OUTPUT SUMMARY TABLES

(Pages B2-1 to B2-14)

SISSON PROJECT
TABLE C1.1 - TSF

	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	8.3	11.4	11.4	14.8	2.3	0.21	14.7	193.6	218.4	294.0	68.8	0.36	80.4	89.1	85.7	133.4	9.5	0.107	79.1	80.7	80.9	82.7	0.9	0.01
Alkalinity	mg/L	5.4	6.9	7.1	8.7	1.0	0.15	7.2	2591.1	2704.3	3635.4	517.2	0.20	94.3	415.4	264.0	2269.3	414.2	0.997	45.2	49.3	46.5	93.7	8.1	0.16
Ammonia	mg/L	0.025	0.031	0.033	0.036	0.004	0.13	0.034	0.434	0.491	0.659	0.163	0.38	0.544	0.650	0.657	0.679	0.027	0.042	0.657	0.672	0.672	0.682	0.007	0.01
Nitrate	mg/L	0.070	0.104	0.073	0.189	0.050	0.48	0.074	0.232	0.254	0.323	0.063	0.27	0.271	0.307	0.309	0.317	0.008	0.027	0.307	0.313	0.313	0.318	0.003	0.01
Phosphate	mg/L	0.009	0.011	0.010	0.016	0.002	0.19	0.002	0.004	0.003	0.009	0.002	0.45	0.001	0.002	0.001	0.003	0.000	0.176	0.001	0.001	0.001	0.001	0.000	0.01
Sulphate	mg/L	1.3	3.6	3.2	6.3	1.8	0.49	6.3	144.8	161.3	212.3	47.6	0.33	66.8	73.7	71.1	108.3	7.4	0.101	65.8	67.1	67.3	68.8	0.7	0.01
Bromide	mg/L	0.005	0.005	0.005	0.005	0.000	0.02	0.001	0.002	0.002	0.005	0.001	0.44	0.001	0.001	0.001	0.002	0.000	0.156	0.001	0.001	0.001	0.001	0.000	0.01
Chloride	mg/L	0.82	1.12	1.07	1.41	0.19	0.17	1.41	12.11	12.59	19.44	4.35	0.36	16.37	18.63	18.75	19.27	0.54	0.029	18.64	19.03	19.04	19.32	0.20	0.01
Fluoride	mg/L	0.092	0.185	0.176	0.272	0.064	0.35	0.271	4.227	4.875	6.536	1.644	0.39	1.150	1.356	1.265	2.470	0.243	0.179	1.118	1.141	1.143	1.179	0.013	0.01
Dissolved Aluminum	mg/L	0.0518	0.0941	0.1040	0.1196	0.0265	0.28	0.1194	0.5779	0.6854	0.9050	0.2488	0.43	0.1449	0.1639	0.1559	0.2641	0.0217	0.132	0.1420	0.1447	0.1450	0.1486	0.0015	0.01
Dissolved Antimony	mg/L	0.0000	0.0001	0.0001	0.0002	0.0000	0.40	0.0002	0.0124	0.0134	0.0190	0.0041	0.33	0.0121	0.0135	0.0136	0.0139	0.0003	0.024	0.0134	0.0137	0.0137	0.0139	0.0001	0.01
Dissolved Arsenic	mg/L	0.0009	0.0011	0.0011	0.0014	0.0002	0.16	0.0013	0.0802	0.0860	0.1327	0.0292	0.36	0.0795	0.0948	0.0958	0.0990	0.0039	0.042	0.0958	0.0979	0.0979	0.0995	0.0011	0.01
Dissolved Barium	mg/L	0.0020	0.0022	0.0022	0.0025	0.0002	0.08	0.0024	0.0234	0.0240	0.0352	0.0080	0.34	0.0165	0.0170	0.0170	0.0182	0.0003	0.018	0.0165	0.0168	0.0169	0.0171	0.0002	0.01
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0011	0.0011	0.0014	0.0002	0.17	0.0002	0.0003	0.0003	0.0009	0.0001	0.357	0.0002	0.0002	0.0002	0.0002	0.0000	0.01
Dissolved Boron	mg/L	0.0017	0.0125	0.0109	0.0237	0.0079	0.63	0.0237	0.5976	0.6496	0.9021	0.1937	0.32	0.7163	0.8102	0.8148	0.8367	0.0222	0.027	0.8090	0.8258	0.8264	0.8388	0.0089	0.01
Dissolved Cadmium	mg/L	0.000015	0.000031	0.000033	0.000040	0.000009	0.30	0.000040	0.000575	0.000658	0.000841	0.000219	0.38	0.000188	0.000209	0.000201	0.000313	0.000023	0.108	0.000185	0.000189	0.000189	0.000193	0.000002	0.01
Dissolved Calcium	mg/L	2.5	3.4	3.4	4.5	0.7	0.21	4.4	58.2	67.4	90.1	21.8	0.37	17.4	20.4	19.0	36.4	3.5	0.172	16.9	17.3	17.3	17.8	0.2	0.01
Dissolved Chromium	mg/L	0.0005	0.0007	0.0007	0.0010	0.0002	0.22	0.0010	0.0117	0.0129	0.0170	0.0041	0.35	0.0075	0.0078	0.0077	0.0090	0.0003	0.034	0.0074	0.0076	0.0076	0.0077	0.0001	0.01
Dissolved Cobalt	mg/L	0.00005	0.00013	0.00012	0.00020	0.00005	0.42	0.00020	0.00451	0.00540	0.00734	0.00221	0.49	0.00094	0.00108	0.00102	0.00185	0.00017	0.154	0.00092	0.00094	0.00094	0.00096	0.00001	0.01
Dissolved Copper	mg/L	0.0006	0.0010	0.0010	0.0014	0.0003	0.27	0.0014	0.0257	0.0272	0.0364	0.0080	0.31	0.0228	0.0253	0.0254	0.0260	0.0006	0.022	0.0251	0.0257	0.0257	0.0261	0.0003	0.01
Dissolved Iron	mg/L	0.07	0.09	0.09	0.10	0.01	0.15	0.04	0.12	0.14	0.17	0.04	0.37	0.02	0.02	0.02	0.05	0.01	0.253	0.02	0.02	0.02	0.02	0.00	0.01
Dissolved Lead	mg/L	0.00005	0.00009	0.00010	0.00013	0.00003	0.32	0.00013	0.00157	0.00171	0.00222	0.00045	0.29	0.00160	0.00178	0.00179	0.00183	0.00004	0.023	0.00177	0.00181	0.00181	0.00184	0.00002	0.01
Dissolved Lithium	mg/L	0.00042	0.00083	0.00075	0.00125	0.00029	0.35	0.00124	0.03953	0.04142	0.05842	0.01333	0.34	0.03332	0.03629	0.03641	0.03722	0.00064	0.018	0.03587	0.03657	0.03664	0.03714	0.00039	0.01
Dissolved Magnesium	mg/L	0.53	0.69	0.69	0.89	0.13	0.19	0.88	11.73	12.84	16.81	3.74	0.32	9.01	9.31	9.28	10.32	0.22	0.023	8.99	9.15	9.18	9.31	0.10	0.01
Dissolved Manganese	mg/L	0.002	0.011	0.011	0.019	0.006	0.56	0.020	0.643	0.713	0.937	0.243	0.38	0.159	0.191	0.177	0.361	0.037	0.196	0.154	0.157	0.158	0.163	0.002	0.01
Dissolved Mercury	mg/L	0.000012	0.000013	0.000012	0.000013	0.0000003	0.02	0.000004	0.000007	0.000005	0.000013	0.000003	0.40	0.000002	0.000002	0.000002	0.000005	0.000000	0.194	0.000002	0.000002	0.000002	0.000002	0.000000	0.01
Dissolved Molybdenum	mg/L	0.0011	0.0015	0.0015	0.0019	0.0003	0.22	0.0019	0.0813	0.0888	0.1275	0.0286	0.35	0.0834	0.0966	0.0974	0.1004	0.0033	0.034	0.0971	0.0991	0.0991	0.1007	0.0011	0.01
Dissolved Nickel	mg/L	0.00050	0.00060	0.00058	0.00069	0.00007	0.12	0.00069	0.00786	0.00904	0.01184	0.00323	0.41	0.00347	0.00364	0.00360	0.00437	0.00015	0.041	0.00345	0.00352	0.00353	0.00358	0.00004	0.01
Dissolved Phosphorous	mg/L	0.010	0.012	0.012	0.015	0.002	0.16	0.016	0.116	0.125	0.170	0.033	0.29	0.133	0.148	0.149	0.152	0.003	0.023	0.147	0.150	0.151	0.153	0.002	0.01
Dissolved Potassium	mg/L	0.36	0.81	0.74	1.28	0.33	0.40	1.28	21.36	22.87	33.05	6.65	0.31	24.96	27.12	27.20	27.86	0.47	0.017	26.80	27.31	27.37	27.74	0.29	0.01
Dissolved Rubidium	mg/L	0.0008	0.0028	0.0026	0.0047	0.0014	0.50	0.0047	0.1388	0.1543	0.1886	0.0432	0.31	0.1385	0.1538	0.1544	0.1580	0.0034	0.022	0.1528	0.1559	0.1561	0.1583	0.0017	0.01
Dissolved Selenium	mg/L	0.0002	0.0004	0.0005	0.0005	0.0001	0.24	0.0005	0.0026	0.0028	0.0034	0.0006	0.25	0.0010	0.0012	0.0011	0.0020	0.0002	0.146	0.0010	0.0010	0.0010	0.0011	0.0000	0.01
Dissolved Silicon	mg/L	2.38	6.65	6.93	8.21	1.51	0.23	7.58	193.24	200.35	267.67	36.70	0.19	23.88	45.85	35.55	173.38	28.40	0.619	20.15	20.74	20.59	23.84	0.59	0.03
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00008	0.00009	0.00011	0.00001	0.14	0.00008	0.00009	0.00009	0.00009	0.000001	0.015	0.00009	0.00009	0.00009	0.00009	0.000001	0.01
Dissolved Sodium	mg/L	0.39	1.19	1.28	1.38	0.29	0.24	1.37	1179.14	1227.00	1655.90	233.88	0.20	39.69	187.22	117.65	1038.70	190.25	1.016	17.26	19.06	17.72	39.44	3.71	0.19
Dissolved Strontium	mg/L	0.0035	0.0149	0.0146	0.0214	0.0055	0.37	0.0213	0.5068	0.5421	0.7278	0.1634	0.32	0.4410	0.4770	0.4780	0.4912	0.0078	0.016	0.4706	0.4796	0.4807	0.4870	0.0051	0.01
Dissolved Thallium	mg/L	0.00005	0.00006	0.00006	0.00007	0.00001	0.12	0.00007	0.00070	0.00075	0.00094	0.00021	0.30	0.00063	0.00067	0.00068	0.00070	0.00001	0.016	0.00067	0.00068	0.00068	0.00069	0.00001	0.01
Dissolved Titanium	mg/L	0.0010	0.0011	0.0011	0.0012	0.0001	0.08	0.0012	0.0123	0.0135	0.0172	0.0037	0.30	0.0142	0.0162	0.0163	0.0168	0.0005	0.030	0.0162	0.0166	0.0166	0.0168	0.0002	0.01
Dissolved Tungsten	mg/L	0.00057	0.00250	0.00257	0.00368	0.00099	0.40	0.00365	0.04644	0.04720	0.07198	0.01579	0.34	0.06096	0.06841	0.06873	0.07051	0.00172	0.025	0.06818	0.06957	0.06964	0.07067	0.00074	0.01
Dissolved Uranium	mg/L	0.00005	0.00011	0.00010	0.00016	0.00004	0.37	0.00016	0.00740	0.00781	0.01151	0.00249	0.34	0.00616	0.00653	0.00655	0.00681	0.00010	0.015	0.00641	0.00653	0.00655	0.00663	0.00007	0.01
Dissolved Vanadium	mg/L	0.0005	0.0009	0.0009	0.0013	0.0003	0.33	0.0013	0.0349	0.0386	0.0496	0.0115	0.33	0.0416	0.0483	0.0487	0.0502	0.0017	0.035	0.0486	0.0496	0.0496	0.0504	0.0005	0.01
Dissolved Zinc	mg/L	0.0004	0.0020	0.0023	0.0028	0.0008	0.39	0.0028	0.0441	0.0506	0.0676	0.0165	0.37	0.0253	0.0261	0.0260	0.0282	0.0005	0.019	0.0253	0.0257	0.0258	0.0262	0.0003	0.01
Total Aluminum	mg/L	0.0518	0.0941	0.1040	0.1196	0.0266	0.28	0.1194	0.5785	0.6857	0.9054	0.2487	0.43	0.1461	0.1651	0.1571	0.2651	0.0216	0.131	0.1432	0.1460	0.1462	0.1498	0.0015	0.01
Total Antimony	mg/L	0.00005	0.0001	0.0001	0.0002	0.00005	0.40	0.0002	0.0124	0.0134	0.0190	0.0041	0.33	0.0121	0.0135	0.0136	0.0139	0.0003	0.024	0.0134	0.0137	0.0137	0.0139	0.0001	0.01
Total Arsenic	mg/L	0.0009	0.0011	0.0011	0.0014	0.0002	0.16	0.0013	0.0802	0.0860	0.1327	0.0292	0.36	0.0795	0.0948	0.0958	0.0990	0.0039	0.042	0.0958	0.0979	0.0979	0.0995	0.0011	0.01
Total Barium	mg/L	0.0020	0.0022	0.0022	0.0025	0.0002	0.08	0.0024	0.0234	0.0240	0.0352	0.0080	0.34	0.0165	0.0170	0.0170	0.0182	0.0003	0.018	0.0165	0.0168	0.0169	0.0171	0.0002	0.01
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0011	0.0011	0.0014	0.0002	0.17	0.0002	0.0003	0.0003	0.0009	0.0001	0.357	0.0002	0.0002	0.0002	0.0002	0.0000	0.01
Total Boron	mg/L	0.0017	0.0125	0.0109	0.0237	0.0079	0.63	0.0237	0.5976	0.6496	0.9021	0.1937	0.32	0.7163	0.8102	0.8148	0.8367	0.0222	0.027	0.8090	0.8258	0.8264	0.8388	0.0089	0.01
Total Cadmium	mg/L	0.000015	0.000031	0.000033	0.000040	0.000009	0.30	0.000040	0.000575	0.000658	0.000841	0.000219	0.38	0.000188	0.000209	0.000201	0.000313	0.000023	0.108	0.000185	0.000189	0.000189	0.000193	0.000002	0.01
Total Calcium	mg/L	2.5	3.4	3.4	4.5	0.7	0.21	4.4	58.2	67.4	90.1	21.8	0.37	17.4	20.4	19.0	36.4	3.5	0.172	16.9	17.3	17.3	17.8	0.2	0.01
Total Chromium	mg/L	0.0005	0.0007	0.0007	0.0010	0.0002	0.22	0.0010	0.0117	0.0129	0.0170	0.0041	0.35	0.0075	0.0078	0.0077	0.0090	0.0003	0.034	0.0074	0.0076	0.0076	0.0077	0.0001	0.01
Total Cobalt	mg/L	0.00005	0.00013	0.00012	0.00020	0.00005	0.42	0.00020	0.00451	0.00540	0.00734	0.00221	0.49	0.00094	0.00108	0.00102	0.00185	0.00017	0.154	0.00092	0.00094	0.00094	0.00096	0.00001	0.01
Total Copper	mg/L	0.0006	0.0010	0.0010	0.0014	0.0003	0.27	0.0014	0.0257	0.0272	0.0364	0.0080	0.31	0.0228	0.0253	0.0254	0.0260	0.0006	0.022	0.0251	0.0257	0.0257	0.0261	0.0003	0.01
Total Iron	mg/L	0.07	0.09	0.09	0.10	0.01	0.15	0.04	0.12	0.14	0.17	0.04	0.37	0.02	0.02	0.02	0.05	0.01	0.243	0.02	0.02	0.02	0.02	0.00	0.01
Total Lead	mg/L	0.00005	0.00009	0.00010	0.00013	0.00003	0.32	0.00013	0.00157	0.00171	0.00222	0.00045	0.29	0.00160	0.00179	0.00179	0.00184	0.00004	0.023	0.00178	0.00181	0.00181	0.00184	0.00002	0.01
Total Lithium	mg/L	0.00042	0.00083	0.00075	0.00125	0.00029	0.35	0.00124	0.03953	0.04143	0.05842	0.01333	0.34	0.03332	0.03629	0.03641	0.03722	0.00064	0.018	0.03587	0.03657	0.03665	0.03714	0.00039	0.01
Total Magnesium	mg/L	0.53	0.69	0.69	0.89	0.13	0.19	0.88	11.73	12.84	16.81	3.74	0.32	9.01	9.31	9.28	10.32	0.22	0.023	8.99	9.15	9.18	9.31	0.10	0.01
Total Manganese	mg/L	0.002	0.011	0.011	0.019	0.006	0.56	0.020	0.643	0.713	0.937	0.243	0.38	0.159	0.191	0.177	0.361	0.037	0.196	0.154	0.158	0.158	0.163	0.002	0.01
Total Mercury	mg/L	0.000012	0.000013	0.000012	0.000013	0.000000	0.02	0.000004	0.000007	0.000005	0.000013	0.000003	0.40	0.000002	0.000002	0.000002	0.000005	0.000000	0.194	0.000002	0.000002	0.000002	0.000002	0.00000002	0.01
Total Molybdenum	mg/L	0.0011	0.0015	0.0015	0.0019	0.0003	0.22	0.0019	0.0813	0.0888	0.1275	0.0286	0.35	0.0834	0.0966	0.0974	0.1004	0.0033	0.034	0.0971	0.0991	0.0991	0.1007	0.0011	0.01
Total Nickel	mg/L	0.00050	0.00060	0.00058	0.00069	0.00007	0.12	0.00069	0.00786	0.00904	0.01184	0.00323	0.41	0.00347	0.00364	0.00360	0.00437	0.00015	0.041	0.00345	0.00352	0.00353	0.00358	0.00004	0.01
Total Phosphorous	mg/L	0.010	0.012	0.012	0.015	0.002	0.16	0.016	0.116	0.125	0.170	0.033	0.29	0.133	0.148	0.149	0.152	0.003	0.023	0.147	0.150	0.151	0.153	0.002	0.01
Total Potassium	mg/L	0.36	0.81	0.74	1.28	0.33	0.40	1.28	21.36	22.87	33.05	6.65	0.31	24.97	27.12	27.20	27.86	0.47	0.017	26.80	27.31	27.37	27.74	0.29	0.01
Total Rubidium	mg/L	0.0008	0.0028	0.0026	0.0047	0.0014	0.50	0.0047	0.1388	0.1543	0.1886	0.0432	0.31	0.1385	0.1538	0.1544	0.1580	0.0034	0.022	0.1528	0.1559	0.1561	0.1583	0.0017	0.01
Total Selenium	mg/L	0.0002	0.0004	0.0005	0.0005	0.0001	0.24	0.0005	0.0026	0.0028	0.0034	0.0006	0.25	0.0010	0.0012	0.0011	0.0020	0.0002	0.146	0.0010	0.0010	0.0010	0.0011	0.0000	0.01
Total Silicon	mg/L	2.38	6.65	6.93	8.21	1.51	0.23	7.58	193.24	200.35	267.67	36.70	0.19	23.88	45.85	35.55	173.38	28.40	0.619	20.15	20.74	20.59	23.84	0.59	0.03
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00008	0.00009	0.00011	0.00001	0.14	0.00008	0.00009	0.00009	0.00009	0.00000	0.015	0.00009	0.00009	0.00009	0.00009	0.0000009	0.01
Total Sodium	mg/L	0.39	1.19	1.28	1.38	0.29	0.24	1.37	1179.14	1227.00	1655.90	233.88	0.20	39.69	187.22	117.65	1038.70	190.25	1.016	17.26	19.06	17.72	39.44	3.71	0.19
Total Strontium	mg/L	0.0035	0.0149	0.0146	0.0214	0.0055	0.37	0.0213	0.5069	0.5421	0.7278	0.1634	0.32	0.4411	0.4770	0.4780	0.4912	0.0078	0.016	0.4706	0.4796	0.4807	0.4870	0.0051	0.01
Total Thallium	mg/L	0.00005	0.00006	0.00006	0.00007	0.00001	0.12	0.00007	0.00070	0.00075	0.00094	0.00021	0.30	0.00063	0.00067	0.00068	0.00070	0.00001	0.016	0.00067	0.00068	0.00068	0.00069	0.00001	0.01
Total Titanium	mg/L	0.0010	0.0011	0.0011	0.0012	0.0001	0.08	0.0012	0.0123	0.0135	0.0172	0.0037	0.30	0.0142	0.0162	0.0163	0.0168	0.0005	0.030	0.0162	0.0166	0.0166	0.0168	0.0002	0.01
Total Tungsten	mg/L	0.00057	0.00250	0.00257	0.00368	0.00099	0.40	0.00365	0.04644	0.04720	0.07199	0.01579	0.34	0.06096	0.06842	0.06873	0.07051	0.00172	0.025	0.06818	0.06957	0.06965	0.07067	0.00074	0.01
Total Uranium	mg/L	0.00005	0.00011	0.00010	0.00016	0.00004	0.37	0.00016	0.00740	0.00781	0.01151	0.00249	0.34	0.00616	0.00653	0.00655	0.00681	0.00010	0.015	0.00641	0.00653	0.00655	0.00663	0.00007	0.01
Total Vanadium	mg/L	0.0005	0.0009	0.0009	0.0013	0.0003	0.33	0.0013	0.0349	0.0386	0.0497	0.0115	0.33	0.0416	0.0483	0.0487	0.0502	0.0017	0.035	0.0486	0.0496	0.0496	0.0504	0.0005	0.01
Total Zinc	mg/L	0.0004	0.0020	0.0023	0.0028	0.0008	0.39	0.0028	0.0441	0.0506	0.0676	0.0165	0.37	0.0253	0.0261	0.0260	0.0283	0.0005	0.019	0.0253	0.0257	0.0258	0.0262	0.0003	0.01
Total Carbon	mg/L	3.09	4.70	5.10	5.74	1.05	0.22	1.03	2.45	1.85	5.71	1.26	0.52	0.85	0.96	0.92	1.52	0.12	0.128	0.84	0.85	0.85	0.88	0.01	0.01

NOTES:
1. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.2 - OPEN PIT

Parameter	Units	Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions													
Hardness	mg/L	73.2	99.1	100.8	103.3	4.8	0.05	76.5	79.2	77.0	94.5	4.1	0.05
Alkalinity	mg/L	105.4	257.8	257.5	331.5	50.2	0.19	41.3	65.8	47.0	189.8	36.6	0.56
Ammonia	mg/L	0.037	0.479	0.500	0.515	0.079	0.16	0.515	0.533	0.535	0.536	0.005	0.01
Nitrate	mg/L	0.100	0.247	0.256	0.258	0.024	0.10	0.256	0.257	0.257	0.257	0.000	0.00
Phosphate	mg/L	0.0025	0.003	0.003	0.006	0.000	0.14	0.002	0.002	0.002	0.002	0.000	0.08
Sulphate	mg/L	44.2	74.4	75.9	77.7	5.2	0.07	61.1	62.8	61.5	72.4	2.6	0.04
Bromide	mg/L	0.0014	0.002	0.002	0.003	0.000	0.16	0.001	0.001	0.001	0.001	0.000	0.07
Chloride	mg/L	3.67	15.18	15.82	16.02	2.08	0.14	15.96	16.04	16.04	16.07	0.02	0.00
Fluoride	mg/L	1.476	1.691	1.722	1.999	0.073	0.04	1.160	1.218	1.169	1.557	0.091	0.08
Dissolved Aluminum	mg/L	0.1964	0.2122	0.2154	0.2476	0.0084	0.04	0.1493	0.1562	0.1504	0.1968	0.0109	0.07
Dissolved Antimony	mg/L	0.00151	0.0098	0.0100	0.0106	0.0014	0.15	0.0100	0.0100	0.0100	0.0100	0.0000	0.00
Dissolved Arsenic	mg/L	0.0063	0.0271	0.0100	0.0722	0.0268	0.99	0.0100	0.0100	0.0100	0.0100	0.0000	0.00
Dissolved Barium	mg/L	0.0057	0.0146	0.0150	0.0153	0.0016	0.11	0.0142	0.0143	0.0142	0.0149	0.0002	0.01
Dissolved Bismuth	mg/L	0.00031	0.0003	0.0003	0.0004	0.0000	0.05	0.0002	0.0002	0.0002	0.0003	0.0000	0.08
Dissolved Boron	mg/L	0.1428	0.6574	0.6853	0.6940	0.0918	0.14	0.6905	0.6924	0.6924	0.6936	0.0007	0.00
Dissolved Cadmium	mg/L	0.000131	0.000208	0.000211	0.000216	0.000012	0.06	0.000174	0.000178	0.000175	0.000201	0.000006	0.03
Dissolved Calcium	mg/L	22.7	25.5	26.0	30.2	1.1	0.04	17.5	18.4	17.7	23.5	1.4	0.07
Dissolved Chromium	mg/L	0.00430	0.0077	0.0079	0.0081	0.0006	0.08	0.0068	0.0069	0.0068	0.0076	0.0002	0.03
Dissolved Cobalt	mg/L	0.00134	0.00146	0.00148	0.00183	0.00007	0.05	0.00097	0.00102	0.00097	0.00133	0.00008	0.08
Dissolved Copper	mg/L	0.0054	0.0209	0.0217	0.0220	0.0028	0.13	0.0215	0.0216	0.0216	0.0218	0.0001	0.00
Dissolved Iron	mg/L	0.038	0.04	0.04	0.08	0.01	0.14	0.03	0.03	0.03	0.04	0.00	0.10
Dissolved Lead	mg/L	0.000364	0.00146	0.00152	0.00154	0.00019	0.13	0.00152	0.00152	0.00152	0.00153	0.00000	0.00
Dissolved Lithium	mg/L	0.00755	0.02965	0.03089	0.03123	0.00394	0.13	0.03026	0.03041	0.03035	0.03090	0.00014	0.00
Dissolved Magnesium	mg/L	3.99	8.62	8.87	9.03	0.82	0.09	7.96	8.07	7.99	8.69	0.17	0.02
Dissolved Manganese	mg/L	0.154	0.206	0.209	0.221	0.010	0.05	0.152	0.158	0.153	0.191	0.009	0.06
Dissolved Mercury	mg/L	0.0000036	0.000004	0.000004	0.000008	0.000001	0.15	0.000003	0.000003	0.000003	0.000004	0.000000	0.08
Dissolved Molybdenum	mg/L	0.0139	0.0557	0.0500	0.0769	0.0127	0.23	0.0500	0.0500	0.0500	0.0500	0.0000	0.00
Dissolved Nickel	mg/L	0.00221	0.00366	0.00373	0.00380	0.00025	0.07	0.00318	0.00324	0.00319	0.00360	0.00010	0.03
Dissolved Phosphorous	mg/L	0.034	0.123	0.128	0.129	0.016	0.13	0.127	0.127	0.127	0.128	0.000	0.00
Dissolved Potassium	mg/L	6.26	22.75	23.67	23.95	2.91	0.13	23.24	23.36	23.32	23.70	0.10	0.00
Dissolved Rubidium	mg/L	0.0290	0.1247	0.1300	0.1314	0.0171	0.14	0.1295	0.1299	0.1299	0.1307	0.0002	0.00
Dissolved Selenium	mg/L	0.00073	0.0011	0.0011	0.0011	0.0001	0.06	0.0009	0.0009	0.0009	0.0011	0.0000	0.04
Dissolved Silicon	mg/L	15.54	33.12	33.57	37.64	3.86	0.12	17.90	19.71	18.35	28.79	2.67	0.14
Dissolved Silver	mg/L	0.000041	0.00008	0.00008	0.00009	0.00001	0.09	0.00008	0.00008	0.00008	0.00008	0.00000	0.01
Dissolved Sodium	mg/L	35.17	110.98	110.64	145.14	23.18	0.21	14.45	25.46	17.11	80.58	16.35	0.64
Dissolved Strontium	mg/L	0.1043	0.3904	0.4065	0.4110	0.0512	0.13	0.3978	0.3999	0.3991	0.4065	0.0019	0.00
Dissolved Thallium	mg/L	0.000195	0.00058	0.00060	0.00061	0.00007	0.12	0.00057	0.00058	0.00058	0.00060	0.00000	0.01
Dissolved Titanium	mg/L	0.00277	0.0129	0.0134	0.0136	0.0018	0.14	0.0136	0.0137	0.0137	0.0138	0.0000	0.00
Dissolved Tungsten	mg/L	0.01196	0.05515	0.05745	0.05818	0.00774	0.14	0.05805	0.05843	0.05844	0.05856	0.00009	0.00
Dissolved Uranium	mg/L	0.00132	0.00526	0.00547	0.00551	0.00069	0.13	0.00537	0.00540	0.00539	0.00547	0.00002	0.00
Dissolved Vanadium	mg/L	0.0061	0.0377	0.0394	0.0401	0.0057	0.15	0.0401	0.0407	0.0408	0.0409	0.0002	0.00
Dissolved Zinc	mg/L	0.0084	0.0227	0.0235	0.0239	0.0025	0.11	0.0221	0.0223	0.0222	0.0233	0.0003	0.01
Total Aluminum	mg/L	0.1964	0.2131	0.2163	0.2476	0.0084	0.04	0.1503	0.1571	0.1514	0.1978	0.0109	0.07
Total Antimony	mg/L	0.00151	0.0098	0.0100	0.0106	0.0014	0.15	0.0100	0.0100	0.0100	0.0100	0.0000	0.00
Total Arsenic	mg/L	0.0063	0.0271	0.0100	0.0722	0.0268	0.99	0.0100	0.0100	0.0100	0.0100	0.0000	0.00
Total Barium	mg/L	0.0057	0.0146	0.0150	0.0153	0.0016	0.11	0.0142	0.0143	0.0142	0.0149	0.0002	0.01
Total Bismuth	mg/L	0.00031	0.0003	0.0003	0.0004	0.0000	0.05	0.0002	0.0002	0.0002	0.0003	0.0000	0.08
Total Boron	mg/L	0.1428	0.6574	0.6853	0.6940	0.0918	0.14	0.6905	0.6924	0.6924	0.6936	0.0007	0.00
Total Cadmium	mg/L	0.000131	0.000208	0.000211	0.000216	0.000012	0.06	0.000174	0.000178	0.000175	0.000201	0.000006	0.03
Total Calcium	mg/L	22.7	25.5	26.0	30.2	1.1	0.04	17.5	18.4	17.7	23.5	1.4	0.07
Total Chromium	mg/L	0.00430	0.0077	0.0079	0.0081	0.0006	0.08	0.0068	0.0069	0.0068	0.0076	0.0002	0.03
Total Cobalt	mg/L	0.00134	0.00146	0.00148	0.00183	0.00007	0.05	0.00097	0.00102	0.00097	0.00133	0.00008	0.08
Total Copper	mg/L	0.0054	0.0209	0.0217	0.0220	0.0028	0.13	0.0215	0.0216	0.0216	0.0218	0.0001	0.00
Total Iron	mg/L	0.038	0.04	0.04	0.08	0.01	0.13	0.03	0.03	0.03	0.04	0.00	0.10
Total Lead	mg/L	0.000364	0.00146	0.00152	0.00154	0.00019	0.13	0.00152	0.00153	0.00153	0.00153	0.00000	0.00
Total Lithium	mg/L	0.00755	0.02965	0.03089	0.03123	0.00394	0.13	0.03026	0.03041	0.03036	0.03090	0.00014	0.00
Total Magnesium	mg/L	3.99	8.62	8.87	9.03	0.82	0.09	7.96	8.07	7.99	8.69	0.17	0.02
Total Manganese	mg/L	0.154	0.206	0.209	0.221	0.010	0.05	0.152	0.158	0.153	0.192	0.009	0.06
Total Mercury	mg/L	0.0000036	0.000004	0.000004	0.000008	0.000001	0.15	0.000003	0.000003	0.000003	0.000004	0.000000	0.08
Total Molybdenum	mg/L	0.0139	0.0557	0.0500	0.0769	0.0127	0.23	0.0500	0.0500	0.0500	0.0500	0.0000	0.00
Total Nickel	mg/L	0.00221	0.00366	0.00373	0.00380	0.00025	0.07	0.00318	0.00324	0.00319	0.00360	0.00010	0.03
Total Phosphorous	mg/L	0.034	0.123	0.128	0.129	0.016	0.13	0.127	0.127	0.127	0.128	0.000	0.00
Total Potassium	mg/L	6.26	22.75	23.68	23.95	2.91	0.13	23.24	23.36	23.32	23.70	0.10	0.00
Total Rubidium	mg/L	0.0290	0.1247	0.1300	0.1314	0.0171	0.14	0.1295	0.1299	0.1299	0.1307	0.0002	0.00
Total Selenium	mg/L	0.0007	0.0011	0.0011	0.0011	0.0001	0.06	0.0009	0.0009	0.0009	0.0011	0.0000	0.04
Total Silicon	mg/L	15.54	33.12	33.57	37.64	3.86	0.12	17.90	19.71	18.35	28.79	2.67	0.14
Total Silver	mg/L	0.000041	0.00008	0.00008	0.00009	0.00001	0.09	0.00008	0.00008	0.00008	0.00008	0.00000	0.01
Total Sodium	mg/L	35.17	110.98	110.64	145.14	23.18	0.21	14.45	25.46	17.11	80.58	16.35	0.64
Total Strontium	mg/L	0.1043	0.3904	0.4065	0.4110	0.0512	0.13	0.3979	0.3999	0.3991	0.4066	0.0019	0.00
Total Thallium	mg/L	0.000195	0.00058	0.00060	0.00061	0.00007	0.12	0.00057	0.00058	0.00058	0.00060	0.00000	0.01
Total Titanium	mg/L	0.00277	0.0129	0.0134	0.0136	0.0018	0.14	0.0136	0.0137	0.0137	0.0138	0.0000	0.00
Total Tungsten	mg/L	0.01196	0.05515	0.05745	0.05818	0.00774	0.14	0.05805	0.05843	0.05845	0.05856	0.00009	0.00
Total Uranium	mg/L	0.00132	0.00526	0.00547	0.00552	0.00069	0.13	0.00538	0.00540	0.00539	0.00547	0.00002	0.00
Total Vanadium	mg/L	0.0061	0.0377	0.0394	0.0401	0.0057	0.15	0.0401	0.0407	0.0408	0.0409	0.0002	0.00
Total Zinc	mg/L	0.0084	0.0227	0.0235	0.0239	0.0025	0.11	0.0221	0.0223	0.0222	0.0233	0.0003	0.01
Total Carbon	mg/L	1.34	1.49	1.50	2.19	0.11	0.07	1.11	1.15	1.12	1.40	0.07	0.06

NOTES:
1. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.
2. THE OPEN PIT BEGINS TO FILL IN CLOSURE, WATETR QUALITY PREDICTIONS FOR OPERATIONS ARE NOT PROVIDED HERE.

SISSON PROJECT
TABLE C1.3 - WTP EFFLUENT

Parameter	Units	Operations						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions													
Hardness	mg/L	106.0	206.3	231.0	294.0	56.8	0.28	76.5	79.1	77.0	94.0	4.0	0.05
Alkalinity	mg/L	1581.4	2632.5	2658.2	3635.4	397.2	0.15	41.3	65.3	47.0	187.0	35.8	0.55
Ammonia	mg/L	0.347	0.518	0.526	0.659	0.066	0.13	0.515	0.533	0.535	0.536	0.005	0.01
Nitrate	mg/L	0.191	0.264	0.267	0.323	0.027	0.10	0.256	0.257	0.257	0.257	0.000	0.00
Phosphate	mg/L	0.002	0.003	0.003	0.005	0.001	0.21	0.002	0.002	0.002	0.002	0.000	0.08
Sulphate	mg/L	84.7	155.0	171.6	212.3	37.1	0.24	61.1	62.8	61.5	72.1	2.5	0.04
Bromide	mg/L	0.001	0.002	0.002	0.003	0.000	0.21	0.001	0.001	0.001	0.001	0.000	0.07
Chloride	mg/L	9.46	14.13	13.88	19.44	2.71	0.19	15.96	16.04	16.04	16.07	0.02	0.00
Fluoride	mg/L	1.991	4.459	5.214	6.536	1.485	0.33	1.160	1.216	1.169	1.547	0.089	0.07
Dissolved Aluminum	mg/L	0.2000	0.2000	0.2000	0.2000	0.0000	0.00	0.1493	0.1560	0.1504	0.1955	0.0106	0.07
Dissolved Antimony	mg/L	0.0093	0.0100	0.0100	0.0100	0.0001	0.01	0.0100	0.0100	0.0100	0.0100	0.0000	0.00
Dissolved Arsenic	mg/L	0.0100	0.0100	0.0100	0.0100	0.0000	0.00	0.0100	0.0100	0.0100	0.0100	0.0000	0.00
Dissolved Barium	mg/L	0.0151	0.0253	0.0263	0.0352	0.0061	0.24	0.0142	0.0143	0.0142	0.0149	0.0002	0.01
Dissolved Bismuth	mg/L	0.0007	0.0011	0.0011	0.0014	0.0002	0.17	0.0002	0.0002	0.0002	0.0003	0.0000	0.07
Dissolved Boron	mg/L	0.5043	0.6887	0.6663	0.9021	0.0765	0.11	0.6905	0.6924	0.6924	0.6936	0.0007	0.00
Dissolved Cadmium	mg/L	0.000271	0.000443	0.000500	0.000500	0.000081	0.18	0.000174	0.000178	0.000175	0.000200	0.000006	0.03
Dissolved Calcium	mg/L	28.9	61.3	69.7	90.1	19.0	0.31	17.5	18.4	17.7	23.4	1.3	0.07
Dissolved Chromium	mg/L	0.0073	0.0096	0.0100	0.0100	0.0007	0.07	0.0068	0.0069	0.0068	0.0076	0.0002	0.03
Dissolved Cobalt	mg/L	0.00151	0.00474	0.00583	0.00734	0.00214	0.45	0.00097	0.00102	0.00097	0.00132	0.00008	0.08
Dissolved Copper	mg/L	0.0020	0.0020	0.0020	0.0020	0.0000	0.00	0.0020	0.0020	0.0020	0.0020	0.0000	0.00
Dissolved Iron	mg/L	0.04	0.11	0.13	0.16	0.05	0.42	0.03	0.03	0.03	0.04	0.00	0.10
Dissolved Lead	mg/L	0.00050	0.00050	0.00050	0.00050	0.00000	0.00	0.00050	0.00050	0.00050	0.00050	0.00000	0.00
Dissolved Lithium	mg/L	0.02905	0.04379	0.04451	0.05842	0.00797	0.18	0.03026	0.03040	0.03035	0.03088	0.00013	0.00
Dissolved Magnesium	mg/L	8.22	12.94	13.42	16.81	2.36	0.18	7.96	8.07	7.99	8.67	0.16	0.02
Dissolved Manganese	mg/L	0.100	0.100	0.100	0.100	0.000	0.00	0.100	0.100	0.100	0.100	0.000	0.00
Dissolved Mercury	mg/L	0.000004	0.000005	0.000005	0.000008	0.000001	0.21	0.000003	0.000003	0.000003	0.000004	0.000000	0.07
Dissolved Molybdenum	mg/L	0.0500	0.0500	0.0500	0.0500	0.0000	0.00	0.0500	0.0500	0.0500	0.0500	0.0000	0.00
Dissolved Nickel	mg/L	0.00359	0.00837	0.00999	0.01184	0.00300	0.36	0.00318	0.00324	0.00319	0.00359	0.00009	0.03
Dissolved Phosphorous	mg/L	0.098	0.131	0.128	0.170	0.013	0.10	0.127	0.127	0.127	0.128	0.000	0.00
Dissolved Potassium	mg/L	18.59	24.43	24.16	33.05	3.30	0.14	23.24	23.36	23.32	23.69	0.09	0.00
Dissolved Rubidium	mg/L	0.1141	0.1565	0.1600	0.1886	0.0173	0.11	0.1295	0.1299	0.1299	0.1306	0.0002	0.00
Dissolved Selenium	mg/L	0.0016	0.0027	0.0029	0.0034	0.0005	0.20	0.0009	0.0009	0.0009	0.0011	0.0000	0.03
Dissolved Silicon	mg/L	122.98	197.26	199.39	267.67	27.25	0.14	17.90	19.67	18.35	28.58	2.61	0.13
Dissolved Silver	mg/L	0.00007	0.00009	0.00009	0.00011	0.00001	0.08	0.00008	0.00008	0.00008	0.00008	0.00000	0.01
Dissolved Sodium	mg/L	713.16	1197.33	1212.60	1655.90	179.84	0.15	14.45	25.23	17.09	79.39	15.99	0.63
Dissolved Strontium	mg/L	0.3818	0.5618	0.5696	0.7278	0.0911	0.16	0.3978	0.3998	0.3991	0.4063	0.0018	0.00
Dissolved Thallium	mg/L	0.00053	0.00077	0.00079	0.00094	0.00011	0.14	0.00057	0.00058	0.00058	0.00060	0.00000	0.01
Dissolved Titanium	mg/L	0.0096	0.0140	0.0139	0.0172	0.0014	0.10	0.0136	0.0137	0.0137	0.0138	0.0000	0.00
Dissolved Tungsten	mg/L	0.03935	0.05378	0.05162	0.07198	0.00900	0.17	0.05805	0.05843	0.05844	0.05856	0.00009	0.00
Dissolved Uranium	mg/L	0.00569	0.00819	0.00809	0.01151	0.00151	0.18	0.00537	0.00540	0.00539	0.00547	0.00002	0.00
Dissolved Vanadium	mg/L	0.0269	0.0402	0.0401	0.0496	0.0042	0.10	0.0401	0.0407	0.0408	0.0409	0.0002	0.00
Dissolved Zinc	mg/L	0.0226	0.0474	0.0552	0.0676	0.0147	0.31	0.0221	0.0223	0.0222	0.0233	0.0003	0.01
Total Aluminum	mg/L	0.2200	0.5979	0.7295	0.9054	0.2471	0.41	0.1503	0.1570	0.1514	0.1964	0.0106	0.07
Total Antimony	mg/L	0.0093	0.0100	0.0100	0.0100	0.0001	0.01	0.0100	0.0100	0.0100	0.0100	0.0000	0.00
Total Arsenic	mg/L	0.0100	0.0100	0.0100	0.0100	0.0000	0.00	0.0100	0.0100	0.0100	0.0100	0.0000	0.00
Total Barium	mg/L	0.0151	0.0253	0.0263	0.0352	0.0061	0.24	0.0142	0.0143	0.0142	0.0149	0.0002	0.01
Total Bismuth	mg/L	0.0007	0.0011	0.0011	0.0014	0.0002	0.17	0.0002	0.0002	0.0002	0.0003	0.0000	0.07
Total Boron	mg/L	0.5043	0.6887	0.6663	0.9021	0.0765	0.11	0.6905	0.6924	0.6924	0.6936	0.0007	0.00
Total Cadmium	mg/L	0.000271	0.000443	0.000500	0.000500	0.000081	0.18	0.000174	0.000178	0.000175	0.000200	0.000006	0.03
Total Calcium	mg/L	28.9	61.3	69.8	90.1	19.0	0.31	17.5	18.4	17.7	23.4	1.3	0.07
Total Chromium	mg/L	0.0073	0.0096	0.0100	0.0100	0.0007	0.07	0.0068	0.0069	0.0068	0.0076	0.0002	0.03
Total Cobalt	mg/L	0.00151	0.00474	0.00583	0.00734	0.00214	0.45	0.00097	0.00102	0.00097	0.00132	0.00008	0.08
Total Copper	mg/L	0.0020	0.0020	0.0020	0.0020	0.0000	0.00	0.0020	0.0020	0.0020	0.0020	0.0000	0.00
Total Iron	mg/L	0.04	0.11	0.13	0.16	0.05	0.42	0.03	0.03	0.03	0.04	0.00	0.10
Total Lead	mg/L	0.00050	0.00050	0.00050	0.00050	0.00000	0.00	0.00050	0.00050	0.00050	0.00050	0.00000	0.00
Total Lithium	mg/L	0.02905	0.04379	0.04451	0.05842	0.00797	0.18	0.03026	0.03041	0.03035	0.03088	0.00013	0.00
Total Magnesium	mg/L	8.22	12.94	13.42	16.81	2.36	0.18	7.96	8.07	7.99	8.67	0.16	0.02
Total Manganese	mg/L	0.100	0.100	0.100	0.100	0.000	0.00	0.100	0.100	0.100	0.100	0.000	0.00
Total Mercury	mg/L	0.000004	0.000005	0.000005	0.000008	0.000001	0.21	0.000003	0.000003	0.000003	0.000004	0.000000	0.07
Total Molybdenum	mg/L	0.0500	0.0500	0.0500	0.0500	0.0000	0.00	0.0500	0.0500	0.0500	0.0500	0.0000	0.00
Total Nickel	mg/L	0.00359	0.00837	0.00999	0.01184	0.00300	0.36	0.00318	0.00324	0.00319	0.00359	0.00009	0.03
Total Phosphorous	mg/L	0.098	0.131	0.128	0.170	0.013	0.10	0.127	0.127	0.127	0.128	0.000	0.00
Total Potassium	mg/L	18.59	24.43	24.16	33.05	3.30	0.14	23.24	23.36	23.32	23.69	0.09	0.00
Total Rubidium	mg/L	0.1141	0.1565	0.1600	0.1886	0.0173	0.11	0.1295	0.1299	0.1299	0.1307	0.0002	0.00
Total Selenium	mg/L	0.0016	0.0027	0.0029	0.0034	0.0005	0.20	0.0009	0.0009	0.0009	0.0011	0.0000	0.03
Total Silicon	mg/L	122.98	197.26	199.39	267.67	27.25	0.14	17.90	19.67	18.35	28.58	2.61	0.13
Total Silver	mg/L	0.00007	0.00009	0.00009	0.00011	0.00001	0.08	0.00008	0.00008	0.00008	0.00008	0.00000	0.01
Total Sodium	mg/L	713.16	1197.33	1212.60	1655.90	179.84	0.15	14.45	25.24	17.09	79.39	15.99	0.63
Total Strontium	mg/L	0.3818	0.5619	0.5696	0.7278	0.0911	0.16	0.3979	0.3998	0.3991	0.4063	0.0018	0.00
Total Thallium	mg/L	0.00053	0.00077	0.00079	0.00094	0.00011	0.14	0.00057	0.00058	0.00058	0.00060	0.00000	0.01
Total Titanium	mg/L	0.0096	0.0140	0.0139	0.0172	0.0014	0.10	0.0136	0.0137	0.0137	0.0138	0.0000	0.00
Total Tungsten	mg/L	0.03935	0.05378	0.05162	0.07199	0.00900	0.17	0.05805	0.05843	0.05845	0.05856	0.00009	0.00
Total Uranium	mg/L	0.00569	0.00819	0.00809	0.01151	0.00151	0.18	0.00538	0.00540	0.00539	0.00547	0.00002	0.00
Total Vanadium	mg/L	0.0269	0.0402	0.0401	0.0497	0.0042	0.10	0.0401	0.0407	0.0408	0.0409	0.0002	0.00
Total Zinc	mg/L	0.0226	0.0474	0.0552	0.0676	0.0147	0.31	0.0221	0.0223	0.0222	0.0233	0.0003	0.01
Total Carbon	mg/L	1.03	1.79	1.60	3.09	0.49	0.27	1.11	1.15	1.12	1.39	0.07	0.06

NOTES:
1. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.
2. THE WTP DISCHARGES WATER DURING OPERTAIONS BEGINNING IN YEAR 8. POST-CLOSURE WTP DISCHARGE BEGINS WHEN THE OPEN PIT IS FULL AND CONTINUES INTO PERPETUITY.

SISSON PROJECT
TABLE C1.4 - UT1

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	6.8	9.7	10.4	11.7	1.7	0.18	7.0	29.8	25.5	71.8	17.2	0.58	13.4	28.7	26.8	58.2	12.9	0.45	13.3	25.5	20.4	44.7	10.9	0.43
Alkalinity	mg/L	4.8	8.5	9.3	11.0	2.0	0.24	4.9	187.1	174.1	461.2	139.8	0.75	8.1	105.7	51.2	382.7	109.2	1.03	6.3	12.8	12.8	27.5	3.9	0.31
Ammonia	mg/L	0.026	0.045	0.033	0.159	0.039	0.86	0.026	0.068	0.052	0.196	0.044	0.65	0.030	0.074	0.056	0.195	0.041	0.56	0.031	0.067	0.056	0.175	0.038	0.56
Nitrate	mg/L	0.049	0.101	0.086	0.206	0.055	0.54	0.041	0.107	0.086	0.212	0.055	0.52	0.048	0.108	0.086	0.212	0.055	0.51	0.048	0.108	0.086	0.209	0.055	0.51
Phosphate	mg/L	0.008	0.013	0.013	0.021	0.004	0.31	0.008	0.012	0.012	0.021	0.004	0.31	0.008	0.012	0.011	0.018	0.004	0.30	0.008	0.012	0.011	0.018	0.004	0.30
Sulphate	mg/L	0.9	1.4	1.5	1.9	0.3	0.23	1.2	18.5	15.6	54.1	13.8	0.75	7.1	19.7	17.1	46.0	11.3	0.57	7.1	17.0	10.3	34.3	9.7	0.57
Bromide	mg/L	0.005	0.005	0.005	0.006	0.000	0.08	0.004	0.005	0.005	0.006	0.000	0.07	0.004	0.005	0.005	0.005	0.000	0.06	0.004	0.005	0.005	0.005	0.000	0.05
Chloride	mg/L	0.79	1.20	1.23	1.64	0.27	0.23	0.85	3.87	3.06	11.94	2.51	0.65	2.72	5.92	5.14	12.02	3.07	0.52	2.75	5.70	3.81	10.86	2.93	0.52
Fluoride	mg/L	0.128	0.180	0.195	0.229	0.032	0.18	0.118	0.571	0.521	1.363	0.329	0.58	0.242	0.461	0.409	0.947	0.193	0.42	0.238	0.390	0.316	0.676	0.150	0.38
Dissolved Aluminum	mg/L	0.0600	0.1271	0.1350	0.1897	0.0389	0.31	0.0602	0.1669	0.1579	0.2855	0.0500	0.30	0.0707	0.1409	0.1475	0.2036	0.0392	0.28	0.0700	0.1345	0.1302	0.1952	0.0389	0.29
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.16	0.0001	0.0011	0.0009	0.0034	0.0009	0.80	0.0004	0.0013	0.0011	0.0032	0.0007	0.56	0.0004	0.0011	0.0010	0.0021	0.0006	0.51
Dissolved Arsenic	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.05	0.0005	0.0067	0.0057	0.0214	0.0054	0.80	0.0019	0.0069	0.0056	0.0167	0.0037	0.54	0.0021	0.0059	0.0057	0.0105	0.0027	0.46
Dissolved Barium	mg/L	0.0017	0.0020	0.0020	0.0024	0.0003	0.13	0.0015	0.0037	0.0035	0.0075	0.0015	0.41	0.0021	0.0033	0.0032	0.0056	0.0009	0.27	0.0021	0.0029	0.0029	0.0041	0.0006	0.22
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0006	0.0000	0.06	0.0005	0.0005	0.0005	0.0006	0.0000	0.04	0.0005	0.0005	0.0005	0.0005	0.0000	0.02
Dissolved Boron	mg/L	0.0011	0.0047	0.0039	0.0102	0.0032	0.69	0.0032	0.1209	0.0907	0.4419	0.1032	0.85	0.0723	0.1970	0.1674	0.4452	0.1201	0.61	0.0735	0.1863	0.1105	0.3878	0.1138	0.61
Dissolved Cadmium	mg/L	0.000005	0.000007	0.000006	0.000011	0.000002	0.27	0.000005	0.000059	0.000054	0.000159	0.000043	0.72	0.000016	0.000042	0.000035	0.000099	0.000022	0.53	0.000016	0.000033	0.000025	0.000063	0.000016	0.49
Dissolved Calcium	mg/L	2.2	3.0	3.0	3.6	0.5	0.17	2.2	8.8	7.7	20.1	4.9	0.56	3.8	7.8	7.3	15.5	3.3	0.42	3.8	6.8	5.7	11.7	2.7	0.39
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.04	0.0005	0.0018	0.0016	0.0045	0.0011	0.59	0.0010	0.0019	0.0017	0.0039	0.0009	0.45	0.0010	0.0017	0.0013	0.0031	0.0007	0.43
Dissolved Cobalt	mg/L	0.00005	0.00006	0.00005	0.00009	0.00001	0.20	0.00005	0.00045	0.00041	0.00123	0.00034	0.75	0.00010	0.00023	0.00019	0.00053	0.00012	0.50	0.00010	0.00018	0.00014	0.00032	0.00008	0.43
Dissolved Copper	mg/L	0.0005	0.0006	0.0006	0.0007	0.0001	0.12	0.0006	0.0041	0.0033	0.0122	0.0030	0.72	0.0022	0.0053	0.0048	0.0117	0.0029	0.55	0.0022	0.0050	0.0034	0.0097	0.0027	0.54
Dissolved Iron	mg/L	0.10	0.17	0.15	0.26	0.05	0.32	0.09	0.16	0.15	0.26	0.05	0.31	0.09	0.15	0.14	0.23	0.05	0.31	0.09	0.15	0.13	0.23	0.05	0.31
Dissolved Lead	mg/L	0.00007	0.00018	0.00018	0.00028	0.00007	0.38	0.00007	0.00042	0.00035	0.00110	0.00023	0.54	0.00028	0.00055	0.00050	0.00111	0.00025	0.46	0.00028	0.00052	0.00046	0.00098	0.00024	0.45
Dissolved Lithium	mg/L	0.00157	0.00225	0.00229	0.00273	0.00036	0.16	0.00161	0.00603	0.00529	0.01391	0.00331	0.55	0.00298	0.00647	0.00599	0.01296	0.00268	0.41	0.00300	0.00592	0.00561	0.01002	0.00228	0.38
Dissolved Magnesium	mg/L	0.31	0.44	0.47	0.55	0.07	0.16	0.34	1.85	1.56	5.01	1.20	0.65	0.93	2.16	2.00	4.54	1.08	0.50	0.93	1.97	1.48	3.70	0.96	0.49
Dissolved Manganese	mg/L	0.002	0.007	0.006	0.015	0.004	0.61	0.002	0.057	0.054	0.151	0.042	0.74	0.009	0.030	0.025	0.079	0.018	0.60	0.009	0.019	0.015	0.035	0.008	0.43
Dissolved Mercury	mg/L	0.000012	0.000012	0.000012	0.000012	0.000000	0.00	0.000010	0.000012	0.000012	0.000012	0.000001	0.05	0.000010	0.000011	0.000012	0.000012	0.000001	0.05	0.000010	0.000011	0.000012	0.000012	0.000001	0.05
Dissolved Molybdenum	mg/L	0.0001	0.0002	0.0001	0.0003	0.0001	0.59	0.0001	0.0074	0.0061	0.0227	0.0062	0.84	0.0025	0.0087	0.0073	0.0214	0.0050	0.57	0.0026	0.0075	0.0072	0.0145	0.0040	0.53
Dissolved Nickel	mg/L	0.00050	0.00051	0.00051	0.00053	0.00001	0.02	0.00051	0.00129	0.00117	0.00292	0.00065	0.50	0.00072	0.00115	0.00107	0.00208	0.00040	0.34	0.00072	0.00107	0.00086	0.00168	0.00034	0.32
Dissolved Phosphorous	mg/L	0.010	0.020	0.028	0.029	0.010	0.47	0.010	0.041	0.037	0.105	0.022	0.55	0.023	0.054	0.045	0.105	0.026	0.48	0.023	0.052	0.045	0.095	0.025	0.47
Dissolved Potassium	mg/L	0.27	0.42	0.37	0.66	0.14	0.33	0.36	5.03	3.78	17.90	4.13	0.82	3.12	8.15	6.86	18.04	4.89	0.60	3.15	7.72	4.40	15.96	4.65	0.60
Dissolved Rubidium	mg/L	0.0013	0.0018	0.0016	0.0026	0.0005	0.26	0.0015	0.0205	0.0160	0.0645	0.0159	0.78	0.0105	0.0284	0.0259	0.0643	0.0162	0.57	0.0107	0.0261	0.0181	0.0526	0.0148	0.57
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0007	0.0007	0.0011	0.0002	0.23	0.0006	0.0007	0.0007	0.0010	0.0001	0.17	0.0006	0.0006	0.0006	0.0008	0.0001	0.13
Dissolved Silicon	mg/L	7.46	10.26	10.36	13.06	1.74	0.17	7.52	24.25	23.18	46.09	11.40	0.47	8.94	20.00	17.20	42.85	9.01	0.45	8.75	13.54	14.02	19.00	2.77	0.20
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00006	0.00006	0.00008	0.00001	0.13	0.00006	0.00006	0.00006	0.00008	0.00001	0.14	0.00006	0.00006	0.00006	0.00008	0.00001	0.14
Dissolved Sodium	mg/L	1.33	1.83	1.91	2.10	0.24	0.13	1.36	83.09	77.05	207.17	63.26	0.76	2.77	46.26	21.54	172.90	49.88	1.08	1.93	3.59	3.44	9.60	1.23	0.34
Dissolved Strontium	mg/L	0.0114	0.0164	0.0168	0.0203	0.0029	0.17	0.0121	0.0692	0.0574	0.1778	0.0449	0.65	0.0330	0.0789	0.0737	0.1683	0.0386	0.49	0.0332	0.0713	0.0614	0.1306	0.0332	0.47
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00006	0.00000	0.03	0.00005	0.00014	0.00012	0.00035	0.00008	0.54	0.00009	0.00018	0.00016	0.00034	0.00008	0.43	0.00009	0.00017	0.00012	0.00029	0.00007	0.42
Dissolved Titanium	mg/L	0.0010	0.0010	0.0010	0.0011	0.0000	0.04	0.0010	0.0029	0.0024	0.0077	0.0016	0.55	0.0020	0.0039	0.0036	0.0077	0.0018	0.45	0.0021	0.0037	0.0028	0.0067	0.0016	0.44
Dissolved Tungsten	mg/L	0.00202	0.00259	0.00267	0.00326	0.00044	0.17	0.00223	0.01256	0.00958	0.04212	0.00911	0.73	0.00870	0.01997	0.01707	0.04243	0.01104	0.55	0.00875	0.01907	0.01161	0.03763	0.01052	0.55
Dissolved Uranium	mg/L	0.00022	0.00028	0.00028	0.00034	0.00005	0.16	0.00022	0.00082	0.00076	0.00205	0.00048	0.58	0.00033	0.00075	0.00068	0.00161	0.00031	0.42	0.00033	0.00063	0.00057	0.00098	0.00020	0.32
Dissolved Vanadium	mg/L	0.0005	0.0006	0.0006	0.0009	0.0001	0.20	0.0006	0.0061	0.0047	0.0207	0.0048	0.78	0.0036	0.0094	0.0084	0.0208	0.0053	0.57	0.0037	0.0088	0.0060	0.0177	0.0050	0.56
Dissolved Zinc	mg/L	0.0012	0.0018	0.0017	0.0030	0.0005	0.28	0.0014	0.0071	0.0065	0.0185	0.0043	0.60	0.0035	0.0075	0.0067	0.0147	0.0034	0.45	0.0035	0.0070	0.0057	0.0124	0.0031	0.44
Total Aluminum	mg/L	0.0889	0.1662	0.1550	0.2540	0.0527	0.32	0.0826	0.2031	0.2052	0.3496	0.0609	0.30	0.0918	0.1763	0.1670	0.2815	0.0521	0.30	0.0913	0.1699	0.1571	0.2647	0.0520	0.31
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.16	0.0001	0.0011	0.0009	0.0034	0.0009	0.80	0.0004	0.0013	0.0011	0.0032	0.0007	0.56	0.0004	0.0011	0.0010	0.0021	0.0006	0.51
Total Arsenic	mg/L	0.0005	0.0006	0.0005	0.0008	0.0001	0.18	0.0005	0.0067	0.0057	0.0215	0.0054	0.80	0.0019	0.0069	0.0057	0.0169	0.0037	0.54	0.0021	0.0059	0.0057	0.0107	0.0028	0.46
Total Barium	mg/L	0.0017	0.0022	0.0020	0.0028	0.0004	0.17	0.0017	0.0039	0.0037	0.0078	0.0016	0.40	0.0023	0.0035	0.0033	0.0059	0.0009	0.27	0.0023	0.0031	0.0029	0.0044	0.0007	0.23
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0006	0.0000	0.06	0.0005	0.0005	0.0005	0.0006	0.0000	0.04	0.0005	0.0005	0.0005	0.0005	0.0000	0.02
Total Boron	mg/L	0.0012	0.0047	0.0039	0.0102	0.0032	0.68	0.0032	0.1209	0.0908	0.4419	0.1032	0.85	0.0723	0.1971	0.1676	0.4452	0.1201	0.61	0.0735	0.1864	0.1106	0.3878	0.1138	0.61
Total Cadmium	mg/L	0.000005	0.000008	0.000007	0.000015	0.000003	0.39	0.000005	0.000060	0.000056	0.000159	0.000043	0.71	0.000016	0.000043	0.000037	0.000099	0.000022	0.52	0.000016	0.000034	0.000026	0.000063	0.000016	0.47
Total Calcium	mg/L	2.2	3.1	3.1	3.7	0.5	0.16	2.3	8.9	7.8	20.2	4.9	0.55	3.9	8.0	7.3	15.5	3.3	0.41	3.9	7.0	5.8	11.7	2.7	0.38
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.04	0.0005	0.0018	0.0016	0.0045	0.0011	0.59	0.0010	0.0019	0.0017	0.0039	0.0009	0.45	0.0010	0.0017	0.0013	0.0031	0.0007	0.43
Total Cobalt	mg/L	0.00005	0.00006	0.00006	0.00013	0.00002	0.36	0.00005	0.00045	0.00041	0.00123	0.00034	0.74	0.00010	0.00024	0.00019	0.00053	0.00012	0.50	0.00010	0.00019	0.00014	0.00033	0.00008	0.44
Total Copper	mg/L	0.0005	0.0006	0.0006	0.0007	0.0001	0.12	0.0006	0.0041	0.0033	0.0122	0.0030	0.72	0.0022	0.0053	0.0048	0.0117	0.0029	0.55	0.0022	0.0050	0.0034	0.0097	0.0027	0.54
Total Iron	mg/L	0.12	0.20	0.19	0.32	0.06	0.32	0.11	0.19	0.18	0.32	0.06	0.31	0.11	0.18	0.17	0.29	0.05	0.30	0.11	0.18	0.15	0.29	0.05	0.30
Total Lead	mg/L	0.00013	0.00027	0.00026	0.00048	0.00013	0.46	0.00011	0.00050	0.00042	0.00124	0.00026	0.52	0.00030	0.00063	0.00054	0.00125	0.00029	0.46	0.00031	0.00060	0.00051	0.00112	0.00027	0.45
Total Lithium	mg/L	0.00166	0.00241	0.00240	0.00287	0.00040	0.17	0.00170	0.00619	0.00540	0.01404	0.00334	0.54	0.00307	0.00662	0.00611	0.01309	0.00272	0.41	0.00309	0.00607	0.00583	0.01014	0.00233	0.38
Total Magnesium	mg/L	0.33	0.46	0.48	0.56	0.07	0.16	0.35	1.86	1.58	5.02	1.19	0.64	0.94	2.18	2.01	4.55	1.08	0.50	0.93	1.99	1.49	3.71	0.96	0.48
Total Manganese	mg/L	0.003	0.009	0.008	0.027	0.007	0.70	0.003	0.059	0.055	0.153	0.043	0.72	0.011	0.032	0.026	0.081	0.019	0.59	0.010	0.021	0.017	0.045	0.010	0.47
Total Mercury	mg/L	0.000012	0.000013	0.000012	0.000015	0.000001	0.07	0.000010	0.000012	0.000012	0.000015	0.000001	0.07	0.000010	0.000012	0.000012	0.000013	0.000001	0.06	0.000010	0.000012	0.000012	0.000013	0.000001	0.06
Total Molybdenum	mg/L	0.0001	0.0002	0.0001	0.0003	0.0001	0.59	0.0001	0.0074	0.0061	0.0227	0.0062	0.84	0.0025	0.0087	0.0073	0.0214	0.0050	0.57	0.0026	0.0075	0.0072	0.0145	0.0040	0.53
Total Nickel	mg/L	0.00050	0.00051	0.00051	0.00053	0.00001	0.02	0.00051	0.00129	0.00117	0.00292	0.00065	0.50	0.00072	0.00115	0.00107	0.00208	0.00040	0.34	0.00072	0.00107	0.00086	0.00168	0.00034	0.32
Total Phosphorous	mg/L	0.010	0.028	0.037	0.038	0.013	0.45	0.010	0.048	0.044	0.112	0.024	0.51	0.023	0.061	0.053	0.113	0.028	0.46	0.023	0.059	0.049	0.102	0.027	0.45
Total Potassium	mg/L	0.28	0.44	0.38	0.66	0.13	0.31	0.37	5.05	3.79	17.91	4.13	0.82	3.14	8.16	6.87	18.06	4.89	0.60	3.16	7.74	4.42	15.96	4.65	0.60
Total Rubidium	mg/L	0.0013	0.0019	0.0017	0.0028	0.0005	0.25	0.0016	0.0206	0.0160	0.0646	0.0160	0.77	0.0106	0.0285	0.0259	0.0643	0.0162	0.57	0.0108	0.0262	0.0182	0.0528	0.0148	0.56
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0007	0.0007	0.0011	0.0002	0.23	0.0006	0.0007	0.0007	0.0010	0.0001	0.17	0.0006	0.0006	0.0006	0.0008	0.0001	0.13
Total Silicon	mg/L	7.46	10.26	10.36	13.06	1.74	0.17	7.52	24.25	23.18	46.09	11.40	0.47	8.94	20.00	17.20	42.85	9.01	0.45	8.75	13.54	14.02	19.00	2.77	0.20
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00006	0.00006	0.00008	0.00001	0.13	0.00006	0.00006	0.00006	0.00008	0.00001	0.14	0.00006	0.00006	0.00006	0.00008	0.00001	0.14
Total Sodium	mg/L	1.38	1.91	1.97	2.21	0.26	0.14	1.41	83.17	77.13	207.23	63.27	0.76	2.81	46.33	21.59	173.01	49.88	1.08	1.97	3.67	3.49	9.76	1.25	0.34
Total Strontium	mg/L	0.0118	0.0172	0.0175	0.0217	0.0031	0.18	0.0125	0.0700	0.0584	0.1782	0.0449	0.64	0.0334	0.0797	0.0745	0.1688	0.0387	0.49	0.0336	0.0720	0.0622	0.1318	0.0333	0.46
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00006	0.00000	0.03	0.00005	0.00014	0.00012	0.00035	0.00008	0.54	0.00009	0.00018	0.00016	0.00034	0.00008	0.43	0.00009	0.00017	0.00012	0.00029	0.00007	0.42
Total Titanium	mg/L	0.0010	0.0010	0.0010	0.0011	0.0000	0.04	0.0010	0.0029	0.0024	0.0077	0.0016	0.55	0.0020	0.0039	0.0036	0.0077	0.0018	0.45	0.0021	0.0037	0.0028	0.0067	0.0016	0.44
Total Tungsten	mg/L	0.00202	0.00271	0.00268	0.00349	0.00050	0.18	0.00223	0.01267	0.00977	0.04212	0.00904	0.71	0.00891	0.02008	0.01707	0.04243	0.01094	0.54	0.00900	0.01918	0.01161	0.03764	0.01042	0.54
Total Uranium	mg/L	0.00024	0.00032	0.00029	0.00042	0.00006	0.20	0.00024	0.00086	0.00079	0.00213	0.00049	0.57	0.00035	0.00079	0.00073	0.00164	0.00033	0.41	0.00035	0.00067	0.00060	0.00105	0.00022	0.33
Total Vanadium	mg/L	0.0005	0.0010	0.0007	0.0022	0.0006	0.63	0.0006	0.0064	0.0049	0.0219	0.0049	0.76	0.0036	0.0097	0.0086	0.0220	0.0055	0.57	0.0037	0.0091	0.0060	0.0188	0.0051	0.56
Total Zinc	mg/L	0.0012	0.0023	0.0020	0.0040	0.0009	0.40	0.0014	0.0075	0.0073	0.0185	0.0043	0.56	0.0041	0.0079	0.0070	0.0147	0.0033	0.42	0.0041	0.0074	0.0059	0.0125	0.0030	0.41
Total Carbon	mg/L	4.12	8.86	9.58	12.20	2.72	0.31	3.71	8.15	8.38	12.20	2.67	0.33	3.72	7.88	8.22	11.85	2.55	0.32	3.84	7.90	8.20	11.85	2.55	0.32

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.5 UT3 AND UT4

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	4.6	9.3	10.1	13.6	2.6	0.284	7.1	93.1	85.3	235.9	64.8	0.696	27.4	72.1	62.8	164.6	37.5	0.520	27.3	56.3	38.4	103.7	26.7	0.475
Alkalinity	mg/L	1.5	8.0	8.8	11.2	3.2	0.395	2.3	819.5	793.5	2018.4	620.1	0.757	13.3	390.3	112.6	1741.6	469.5	1.203	8.8	19.5	17.1	50.2	7.5	0.384
Ammonia	mg/L	0.004	0.027	0.025	0.053	0.014	0.534	0.004	0.140	0.130	0.362	0.099	0.703	0.037	0.132	0.098	0.353	0.085	0.645	0.040	0.082	0.083	0.123	0.025	0.298
Nitrate	mg/L	0.030	0.088	0.067	0.212	0.064	0.731	0.0005	0.100	0.082	0.226	0.066	0.660	0.032	0.104	0.083	0.224	0.065	0.626	0.034	0.095	0.078	0.206	0.062	0.651
Phosphate	mg/L	0.005	0.013	0.008	0.036	0.011	0.862	0.003	0.011	0.007	0.035	0.009	0.864	0.003	0.009	0.007	0.029	0.008	0.842	0.004	0.010	0.006	0.029	0.008	0.815
Sulphate	mg/L	0.4	2.1	1.8	6.3	1.5	0.720	1.4	71.4	64.7	183.9	51.8	0.726	22.0	61.6	54.0	144.8	34.0	0.552	21.8	48.2	32.6	91.9	25.4	0.526
Bromide	mg/L	0.005	0.005	0.005	0.005	0.000	0.037	0.001	0.004	0.004	0.005	0.001	0.264	0.001	0.003	0.004	0.005	0.001	0.247	0.003	0.004	0.004	0.005	0.001	0.166
Chloride	mg/L	0.81	1.28	1.01	2.06	0.47	0.366	1.02	11.05	8.89	34.57	7.94	0.719	6.64	16.25	15.34	34.72	8.40	0.517	6.68	14.70	9.76	27.79	7.59	0.516
Fluoride	mg/L	0.077	0.134	0.132	0.214	0.040	0.300	0.091	1.832	1.676	4.723	1.325	0.723	0.374	1.098	0.917	2.644	0.607	0.553	0.368	0.776	0.586	1.421	0.361	0.465
Dissolved Aluminum	mg/L	0.0409	0.1090	0.1262	0.1568	0.0377	0.346	0.0420	0.3029	0.2739	0.6831	0.1588	0.524	0.0646	0.1711	0.1649	0.3165	0.0535	0.313	0.0640	0.1435	0.1465	0.2048	0.0398	0.277
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.282	0.0001	0.0047	0.0041	0.0138	0.0037	0.787	0.0011	0.0041	0.0029	0.0109	0.0026	0.625	0.0012	0.0028	0.0028	0.0050	0.0013	0.461
Dissolved Arsenic	mg/L	0.0005	0.0006	0.0005	0.0007	0.0001	0.107	0.0006	0.0274	0.0245	0.0887	0.0226	0.826	0.0047	0.0215	0.0175	0.0592	0.0145	0.671	0.0050	0.0139	0.0138	0.0235	0.0060	0.430
Dissolved Barium	mg/L	0.0019	0.0024	0.0021	0.0033	0.0005	0.219	0.0020	0.0099	0.0093	0.0252	0.0062	0.633	0.0030	0.0065	0.0054	0.0151	0.0031	0.474	0.0030	0.0048	0.0045	0.0072	0.0012	0.254
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.001	0.0005	0.0007	0.0007	0.0010	0.0002	0.224	0.0004	0.0005	0.0005	0.0008	0.0001	0.170	0.0004	0.0004	0.0005	0.0005	0.0000	0.052
Dissolved Boron	mg/L	0.0021	0.0087	0.0071	0.0204	0.0064	0.731	0.0108	0.4431	0.3619	1.3749	0.3408	0.769	0.2380	0.6195	0.5672	1.3798	0.3394	0.548	0.2411	0.5465	0.3327	1.0556	0.2989	0.547
Dissolved Cadmium	mg/L	0.000003	0.000005	0.000005	0.000007	0.000001	0.194	0.000005	0.000231	0.000211	0.000588	0.000176	0.760	0.000038	0.000122	0.000098	0.000320	0.000075	0.612	0.000038	0.000081	0.000061	0.000152	0.000040	0.494
Dissolved Calcium	mg/L	1.4	2.9	3.1	4.4	0.9	0.293	2.1	27.2	25.1	69.0	18.9	0.696	7.1	18.9	16.4	43.3	9.8	0.520	7.1	14.4	10.2	26.4	6.7	0.464
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.074	0.0006	0.0058	0.0052	0.0146	0.0041	0.698	0.0021	0.0051	0.0045	0.0115	0.0026	0.512	0.0021	0.0041	0.0029	0.0074	0.0019	0.471
Dissolved Cobalt	mg/L	0.00004	0.00005	0.00005	0.00006	0.00001	0.098	0.00005	0.00177	0.00163	0.00484	0.00143	0.807	0.00021	0.00065	0.00050	0.00170	0.00040	0.620	0.00021	0.00041	0.00032	0.00074	0.00019	0.459
Dissolved Copper	mg/L	0.0005	0.0007	0.0006	0.0009	0.0001	0.220	0.0007	0.0145	0.0121	0.0395	0.0105	0.729	0.0061	0.0159	0.0148	0.0359	0.0085	0.533	0.0062	0.0135	0.0090	0.0254	0.0070	0.517
Dissolved Iron	mg/L	0.06	0.13	0.15	0.18	0.04	0.328	0.05	0.13	0.13	0.20	0.04	0.305	0.05	0.10	0.10	0.15	0.03	0.317	0.05	0.10	0.10	0.15	0.03	0.309
Dissolved Lead	mg/L	0.00002	0.00012	0.00009	0.00053	0.00014	1.176	0.00004	0.00107	0.00104	0.00295	0.00073	0.682	0.00049	0.00133	0.00127	0.00287	0.00067	0.503	0.00049	0.00116	0.00110	0.00212	0.00057	0.493
Dissolved Lithium	mg/L	0.00040	0.00113	0.00123	0.00160	0.00038	0.338	0.00089	0.01723	0.01570	0.04601	0.01263	0.733	0.00533	0.01525	0.01284	0.03671	0.00824	0.540	0.00542	0.01169	0.00984	0.02085	0.00529	0.452
Dissolved Magnesium	mg/L	0.26	0.49	0.53	0.71	0.14	0.282	0.41	6.13	5.50	16.12	4.34	0.707	2.29	6.03	5.49	13.74	3.17	0.525	2.29	4.95	3.43	9.21	2.45	0.495
Dissolved Manganese	mg/L	0.001	0.005	0.005	0.008	0.002	0.517	0.001	0.230	0.217	0.598	0.182	0.790	0.019	0.088	0.056	0.268	0.072	0.817	0.019	0.037	0.037	0.067	0.016	0.427
Dissolved Mercury	mg/L	0.000012	0.000012	0.000012	0.000012	0.000000	0.002	0.000004	0.000010	0.000010	0.000012	0.000002	0.225	0.000005	0.000009	0.000010	0.000011	0.000002	0.211	0.000007	0.000010	0.000010	0.000011	0.000001	0.143
Dissolved Molybdenum	mg/L	0.0001	0.0002	0.0002	0.0006	0.0002	0.721	0.0003	0.0307	0.0270	0.0930	0.0246	0.804	0.0076	0.0281	0.0205	0.0740	0.0174	0.618	0.0079	0.0197	0.0196	0.0355	0.0092	0.467
Dissolved Nickel	mg/L	0.00050	0.00052	0.00051	0.00056	0.00002	0.036	0.00053	0.00379	0.00347	0.00933	0.00257	0.677	0.00123	0.00261	0.00234	0.00561	0.00120	0.460	0.00122	0.00216	0.00158	0.00369	0.00089	0.415
Dissolved Phosphorous	mg/L	0.003	0.007	0.006	0.011	0.003	0.479	0.005	0.086	0.070	0.251	0.061	0.706	0.046	0.117	0.105	0.252	0.060	0.512	0.046	0.105	0.068	0.194	0.053	0.508
Dissolved Potassium	mg/L	0.28	0.61	0.56	1.15	0.29	0.481	0.70	17.66	14.32	55.07	13.44	0.761	9.89	25.11	23.41	54.95	13.71	0.546	9.90	22.43	13.21	43.38	12.34	0.550
Dissolved Rubidium	mg/L	0.0009	0.0020	0.0020	0.0036	0.0009	0.459	0.0022	0.0757	0.0634	0.2109	0.0566	0.747	0.0314	0.0873	0.0798	0.2029	0.0477	0.546	0.0318	0.0727	0.0501	0.1379	0.0380	0.523
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.009	0.0005	0.0014	0.0013	0.0027	0.0007	0.476	0.0007	0.0011	0.0010	0.0021	0.0004	0.349	0.0007	0.0009	0.0007	0.0013	0.0002	0.245
Dissolved Silicon	mg/L	5.63	9.25	10.18	11.51	1.96	0.211	6.28	71.09	69.44	159.09	46.43	0.653	11.82	45.24	28.57	136.78	34.87	0.771	11.35	19.08	17.66	30.58	5.79	0.303
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.010	0.00005	0.00008	0.00008	0.00015	0.00002	0.303	0.00007	0.00010	0.00009	0.00015	0.00003	0.269	0.00007	0.00009	0.00007	0.00013	0.00002	0.257
Dissolved Sodium	mg/L	0.83	1.60	1.75	2.01	0.39	0.243	1.17	370.90	358.15	915.42	281.85	0.760	5.13	176.59	48.67	797.96	215.34	1.219	3.00	6.41	5.75	19.23	2.75	0.429
Dissolved Strontium	mg/L	0.0056	0.0129	0.0137	0.0199	0.0043	0.332	0.0104	0.2308	0.2043	0.6037	0.1694	0.734	0.0745	0.2171	0.1834	0.5205	0.1191	0.548	0.0755	0.1689	0.1342	0.3107	0.0813	0.481
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00006	0.00000	0.070	0.00006	0.00041	0.00035	0.00106	0.00027	0.663	0.00020	0.00045	0.00042	0.00098	0.00022	0.492	0.00020	0.00039	0.00027	0.00070	0.00018	0.469
Dissolved Titanium	mg/L	0.0010	0.0011	0.0011	0.0013	0.0001	0.081	0.0011	0.0080	0.0069	0.0222	0.0054	0.672	0.0044	0.0103	0.0097	0.0222	0.0051	0.495	0.0045	0.0089	0.0062	0.0162	0.0043	0.476
Dissolved Tungsten	mg/L	0.00187	0.00285	0.00288	0.00415	0.00080	0.281	0.00268	0.03960	0.03203	0.12538	0.02939	0.742	0.02348	0.05806	0.05421	0.12586	0.03089	0.532	0.02361	0.05195	0.03128	0.09897	0.02767	0.533
Dissolved Uranium	mg/L	0.00017	0.00025	0.00023	0.00040	0.00008	0.312	0.00019	0.00267	0.00241	0.00770	0.00199	0.747	0.00054	0.00187	0.00134	0.00505	0.00120	0.643	0.00054	0.00115	0.00110	0.00178	0.00039	0.339
Dissolved Vanadium	mg/L	0.0005	0.0008	0.0007	0.0013	0.0003	0.336	0.0009	0.0218	0.0182	0.0648	0.0163	0.751	0.0108	0.0286	0.0270	0.0649	0.0154	0.538	0.0110	0.0246	0.0167	0.0467	0.0129	0.523
Dissolved Zinc	mg/L	0.0004	0.0016	0.0009	0.0091	0.0025	1.572	0.0006	0.0235	0.0237	0.0619	0.0165	0.704	0.0074	0.0201	0.0187	0.0443	0.0103	0.511	0.0074	0.0171	0.0172	0.0315	0.0085	0.499
Total Aluminum	mg/L	0.0512	0.1330	0.1411	0.1987	0.0498	0.375	0.0524	0.3244	0.2855	0.7196	0.1609	0.496	0.0753	0.1911	0.1876	0.3494	0.0594	0.311	0.0747	0.1635	0.1628	0.2375	0.0475	0.291
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.363	0.0001	0.0047	0.0041	0.0138	0.0037	0.786	0.0011	0.0041	0.0030	0.0109	0.0026	0.624	0.0012	0.0028	0.0028	0.0050	0.0013	0.461
Total Arsenic	mg/L	0.0005	0.0006	0.0006	0.0008	0.0001	0.130	0.0006	0.0274	0.0245	0.0887	0.0226	0.825	0.0048	0.0216	0.0175	0.0593	0.0144	0.670	0.0051	0.0139	0.0138	0.0235	0.0060	0.428
Total Barium	mg/L	0.0019	0.0024	0.0021	0.0036	0.0006	0.243	0.0020	0.0099	0.0093	0.0254	0.0063	0.632	0.0030	0.0066	0.0055	0.0153	0.0031	0.474	0.0030	0.0048	0.0045	0.0074	0.0013	0.261
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.001	0.0005	0.0007	0.0007	0.0010	0.0002	0.224	0.0004	0.0005	0.0005	0.0008	0.0001	0.170	0.0004	0.0004	0.0005	0.0005	0.0000	0.052
Total Boron	mg/L	0.0021	0.0087	0.0071	0.0204	0.0064	0.731	0.0108	0.4431	0.3619	1.3749	0.3408	0.769	0.2380	0.6195	0.5672	1.3798	0.3394	0.548	0.2411	0.5465	0.3327	1.0556	0.2989	0.547
Total Cadmium	mg/L	0.000005	0.000006	0.000006	0.000012	0.000002	0.325	0.000006	0.000232	0.000218	0.000589	0.000176	0.756	0.000038	0.000123	0.000098	0.000321	0.000074	0.606	0.000038	0.000082	0.000061	0.000153	0.000040	0.486
Total Calcium	mg/L	1.5	3.0	3.2	4.4	0.8	0.280	2.2	27.3	25.2	69.0	18.9	0.694	7.1	19.0	16.5	43.3	9.8	0.516	7.1	14.5	10.2	26.4	6.6	0.458
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.074	0.0006	0.0058	0.0052	0.0146	0.0041	0.698	0.0021	0.0051	0.0045	0.0115	0.0026	0.512	0.0021	0.0041	0.0029	0.0074	0.0019	0.471
Total Cobalt	mg/L	0.00005	0.00006	0.00005	0.00008	0.00001	0.180	0.00005	0.00177	0.00163	0.00484	0.00143	0.806	0.00021	0.00065	0.00051	0.00170	0.00040	0.618	0.00021	0.00041	0.00032	0.00074	0.00019	0.459
Total Copper	mg/L	0.0005	0.0007	0.0006	0.0009	0.0001	0.220	0.0007	0.0145	0.0121	0.0395	0.0105	0.729	0.0061	0.0159	0.0148	0.0359	0.0085	0.533	0.0062	0.0135	0.0090	0.0254	0.0070	0.517
Total Iron	mg/L	0.07	0.15	0.15	0.22	0.06	0.368	0.06	0.15	0.14	0.24	0.05	0.330	0.06	0.11	0.12	0.18	0.04	0.344	0.06	0.12	0.11	0.18	0.04	0.338
Total Lead	mg/L	0.00002	0.00016	0.00015	0.00053	0.00014	0.859	0.00004	0.00111	0.00106	0.00301	0.00072	0.653	0.00049	0.00136	0.00133	0.00293	0.00066	0.486	0.00049	0.00119	0.00110	0.00218	0.00057	0.476
Total Lithium	mg/L	0.00047	0.00128	0.00129	0.00179	0.00041	0.318	0.00096	0.01735	0.01574	0.04604	0.01269	0.731	0.00533	0.01536	0.01292	0.03673	0.00832	0.542	0.00542	0.01180	0.00989	0.02123	0.00538	0.455
Total Magnesium	mg/L	0.27	0.50	0.54	0.71	0.14	0.277	0.41	6.14	5.51	16.13	4.34	0.706	2.29	6.05	5.51	13.75	3.17	0.524	2.29	4.96	3.45	9.21	2.45	0.494
Total Manganese	mg/L	0.002	0.007	0.008	0.015	0.004	0.535	0.003	0.233	0.217	0.601	0.182	0.781	0.021	0.090	0.059	0.270	0.072	0.797	0.020	0.040	0.039	0.069	0.016	0.412
Total Mercury	mg/L	0.000012	0.000012	0.000012	0.000012	0.000000	0.002	0.000004	0.000010	0.000010	0.000012	0.000002	0.225	0.000005	0.000009	0.000010	0.000011	0.000002	0.211	0.000007	0.000010	0.000010	0.000011	0.000001	0.143
Total Molybdenum	mg/L	0.0001	0.0003	0.0002	0.0006	0.0002	0.727	0.0003	0.0307	0.0270	0.0930	0.0247	0.803	0.0076	0.0281	0.0206	0.0740	0.0174	0.618	0.0079	0.0198	0.0196	0.0355	0.0092	0.467
Total Nickel	mg/L	0.00050	0.00052	0.00051	0.00056	0.00002	0.036	0.00053	0.00379	0.00347	0.00933	0.00257	0.677	0.00123	0.00261	0.00234	0.00561	0.00120	0.460	0.00122	0.00216	0.00158	0.00369	0.00089	0.415
Total Phosphorous	mg/L	0.003	0.007	0.006	0.011	0.003	0.479	0.005	0.086	0.070	0.251	0.061	0.706	0.046	0.117	0.105	0.252	0.060	0.512	0.046	0.105	0.068	0.194	0.053	0.508
Total Potassium	mg/L	0.28	0.63	0.57	1.16	0.30	0.482	0.70	17.68	14.34	55.07	13.44	0.761	9.90	25.13	23.42	54.96	13.72	0.546	9.91	22.44	13.21	43.42	12.34	0.550
Total Rubidium	mg/L	0.0010	0.0020	0.0020	0.0036	0.0009	0.441	0.0022	0.0757	0.0635	0.2109	0.0566	0.747	0.0315	0.0874	0.0799	0.2029	0.0477	0.546	0.0319	0.0727	0.0501	0.1380	0.0380	0.523
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.009	0.0005	0.0014	0.0013	0.0027	0.0007	0.476	0.0007	0.0011	0.0010	0.0021	0.0004	0.349	0.0007	0.0009	0.0007	0.0013	0.0002	0.245
Total Silicon	mg/L	5.63	9.25	10.18	11.51	1.96	0.211	6.28	71.09	69.44	159.09	46.43	0.653	11.82	45.24	28.57	136.78	34.87	0.771	11.35	19.08	17.66	30.58	5.79	0.303
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.010	0.00005	0.00008	0.00008	0.00015	0.00002	0.303	0.00007	0.00010	0.00009	0.00015	0.00003	0.269	0.00007	0.00009	0.00007	0.00013	0.00002	0.257
Total Sodium	mg/L	0.86	1.66	1.78	2.23	0.42	0.253	1.20	370.95	358.18	915.45	281.87	0.760	5.18	176.64	48.72	798.02	215.35	1.219	3.00	6.46	5.78	19.39	2.77	0.428
Total Strontium	mg/L	0.0058	0.0133	0.0146	0.0199	0.0043	0.324	0.0104	0.2311	0.2047	0.6040	0.1694	0.733	0.0745	0.2175	0.1836	0.5208	0.1190	0.547	0.0755	0.1693	0.1349	0.3107	0.0812	0.480
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00006	0.00000	0.070	0.00006	0.00041	0.00035	0.00106	0.00027	0.663	0.00020	0.00045	0.00042	0.00098	0.00022	0.492	0.00020	0.00039	0.00027	0.00070	0.00018	0.469
Total Titanium	mg/L	0.0010	0.0011	0.0011	0.0013	0.0001	0.081	0.0011	0.0080	0.0069	0.0222	0.0054	0.672	0.0044	0.0103	0.0097	0.0222	0.0051	0.495	0.0045	0.0089	0.0062	0.0162	0.0043	0.476
Total Tungsten	mg/L	0.00187	0.00285	0.00288	0.00415	0.00080	0.281	0.00268	0.03960	0.03203	0.12538	0.02939	0.742	0.02348	0.05806	0.05421	0.12586	0.03089	0.532	0.02361	0.05195	0.03128	0.09897	0.02767	0.533
Total Uranium	mg/L	0.00022	0.00029	0.00028	0.00040	0.00006	0.215	0.00023	0.00271	0.00243	0.00774	0.00200	0.739	0.00059	0.00191	0.00137	0.00507	0.00121	0.635	0.00059	0.00118	0.00114	0.00189	0.00040	0.338
Total Vanadium	mg/L	0.0005	0.0008	0.0007	0.0013	0.0003	0.336	0.0009	0.0218	0.0182	0.0648	0.0163	0.751	0.0108	0.0286	0.0270	0.0649	0.0154	0.538	0.0110	0.0246	0.0167	0.0467	0.0129	0.523
Total Zinc	mg/L	0.0004	0.0018	0.0010	0.0091	0.0025	1.427	0.0006	0.0236	0.0239	0.0619	0.0166	0.702	0.0074	0.0202	0.0187	0.0443	0.0104	0.513	0.0074	0.0172	0.0172	0.0322	0.0086	0.502
Total Carbon	mg/L	2.02	6.37	6.56	11.04	2.48	0.390	1.51	5.38	5.64	11.31	2.38	0.442	1.51	4.81	5.38	10.07	2.22	0.461	1.84	4.98	5.37	10.06	2.16	0.434

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.6 - BIRD BROOK (BB)

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	5.3	8.1	8.0	9.8	1.6	0.20	6.2	28.9	24.5	72.6	17.1	0.59	15.3	32.3	29.7	63.9	15.2	0.47	15.2	30.0	21.6	54.5	14.1	0.47
Alkalinity	mg/L	2.8	6.3	6.8	9.3	2.2	0.35	3.6	147.1	137.2	361.2	109.2	0.74	7.5	86.9	44.9	301.2	82.9	0.95	5.6	12.2	12.4	28.0	4.4	0.36
Ammonia	mg/L	0.025	0.039	0.025	0.080	0.025	0.63	0.024	0.055	0.051	0.124	0.025	0.45	0.029	0.062	0.057	0.123	0.022	0.35	0.030	0.060	0.057	0.104	0.020	0.33
Nitrate	mg/L	0.025	0.086	0.067	0.205	0.060	0.70	0.032	0.106	0.101	0.208	0.054	0.51	0.033	0.107	0.100	0.207	0.054	0.50	0.033	0.107	0.111	0.207	0.054	0.50
Phosphate	mg/L	0.005	0.009	0.006	0.024	0.006	0.65	0.004	0.009	0.006	0.020	0.005	0.54	0.004	0.008	0.006	0.017	0.004	0.54	0.004	0.008	0.007	0.017	0.004	0.54
Sulphate	mg/L	0.5	0.9	0.7	1.4	0.4	0.43	0.8	19.0	15.2	57.7	14.6	0.77	9.2	24.1	20.5	53.1	14.1	0.59	9.1	22.2	12.5	45.5	13.2	0.60
Bromide	mg/L	0.005	0.005	0.005	0.006	0.000	0.07	0.004	0.005	0.005	0.006	0.000	0.06	0.004	0.005	0.005	0.005	0.000	0.06	0.004	0.005	0.005	0.005	0.000	0.06
Chloride	mg/L	0.78	1.06	1.01	1.48	0.20	0.19	0.95	4.54	3.47	14.55	3.11	0.68	3.47	7.35	6.24	14.66	3.92	0.53	3.49	7.26	4.50	14.07	3.86	0.53
Fluoride	mg/L	0.075	0.123	0.121	0.176	0.028	0.23	0.079	0.490	0.432	1.228	0.306	0.62	0.234	0.463	0.421	0.961	0.221	0.48	0.232	0.411	0.284	0.774	0.195	0.48
Dissolved Aluminum	mg/L	0.04	0.12	0.13	0.21	0.05	0.37	0.04	0.14	0.13	0.28	0.05	0.35	0.06	0.13	0.13	0.22	0.04	0.32	0.06	0.12	0.12	0.20	0.04	0.32
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.05	0.0001	0.0011	0.0009	0.0031	0.0008	0.77	0.0005	0.0014	0.0013	0.0031	0.0007	0.52	0.0005	0.0013	0.0012	0.0025	0.0007	0.51
Dissolved Arsenic	mg/L	0.0008	0.0012	0.0011	0.0018	0.0004	0.30	0.0008	0.0064	0.0054	0.0185	0.0046	0.71	0.0028	0.0075	0.0068	0.0154	0.0035	0.47	0.0030	0.0071	0.0066	0.0126	0.0032	0.45
Dissolved Barium	mg/L	0.0020	0.0023	0.0020	0.0033	0.0004	0.19	0.0020	0.0037	0.0035	0.0072	0.0013	0.36	0.0024	0.0035	0.0033	0.0058	0.0009	0.25	0.0024	0.0033	0.0031	0.0050	0.0008	0.23
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0006	0.0000	0.05	0.0005	0.0005	0.0005	0.0005	0.0000	0.04	0.0005	0.0005	0.0005	0.0005	0.0000	0.03
Dissolved Boron	mg/L	0.0012	0.0025	0.0023	0.0040	0.0009	0.36	0.0052	0.1482	0.1072	0.5416	0.1267	0.86	0.1002	0.2552	0.2044	0.5458	0.1552	0.61	0.1015	0.2506	0.1395	0.5172	0.1523	0.61
Dissolved Cadmium	mg/L	0.000015	0.000034	0.000035	0.000065	0.000015	0.45	0.000016	0.000076	0.000072	0.000182	0.000038	0.51	0.000036	0.000068	0.000059	0.000142	0.000026	0.38	0.000035	0.000062	0.000054	0.000119	0.000023	0.37
Dissolved Calcium	mg/L	1.6	2.4	2.4	3.0	0.5	0.20	1.9	8.2	7.0	20.0	4.7	0.58	4.1	8.6	8.0	16.8	3.9	0.46	4.1	7.8	5.7	14.0	3.5	0.45
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0019	0.0016	0.0048	0.0011	0.59	0.0012	0.0023	0.0020	0.0044	0.0010	0.46	0.0012	0.0021	0.0015	0.0039	0.0010	0.46
Dissolved Cobalt	mg/L	0.00005	0.00006	0.00005	0.00009	0.00001	0.21	0.00005	0.00039	0.00035	0.00106	0.00028	0.72	0.00012	0.00026	0.00024	0.00055	0.00012	0.48	0.00012	0.00022	0.00016	0.00042	0.00010	0.46
Dissolved Copper	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.03	0.0006	0.0045	0.0035	0.0138	0.0033	0.74	0.0028	0.0066	0.0056	0.0137	0.0037	0.55	0.0029	0.0064	0.0041	0.0127	0.0036	0.55
Dissolved Iron	mg/L	0.05	0.13	0.13	0.23	0.06	0.45	0.05	0.11	0.10	0.20	0.04	0.38	0.05	0.10	0.09	0.17	0.04	0.37	0.05	0.10	0.09	0.17	0.04	0.37
Dissolved Lead	mg/L	0.00005	0.00012	0.00010	0.00022	0.00005	0.47	0.00006	0.00040	0.00031	0.00122	0.00027	0.68	0.00028	0.00059	0.00049	0.00123	0.00032	0.54	0.00028	0.00058	0.00038	0.00116	0.00031	0.54
Dissolved Lithium	mg/L	0.00033	0.00050	0.00051	0.00063	0.00009	0.18	0.00043	0.00446	0.00361	0.01259	0.00324	0.73	0.00231	0.00570	0.00532	0.01208	0.00301	0.53	0.00235	0.00541	0.00422	0.01042	0.00283	0.52
Dissolved Magnesium	mg/L	0.33	0.48	0.49	0.58	0.09	0.18	0.40	2.02	1.69	5.57	1.28	0.63	1.21	2.65	2.36	5.31	1.33	0.50	1.21	2.54	1.78	4.77	1.27	0.50
Dissolved Manganese	mg/L	0.002	0.007	0.005	0.020	0.005	0.76	0.002	0.047	0.042	0.129	0.035	0.74	0.010	0.029	0.025	0.076	0.016	0.56	0.009	0.021	0.017	0.045	0.010	0.50
Dissolved Mercury	mg/L	0.000012	0.000013	0.000012	0.000017	0.000001	0.10	0.000010	0.000012	0.000012	0.000016	0.000001	0.11	0.000010	0.000011	0.000011	0.000015	0.000001	0.12	0.000010	0.000012	0.000011	0.000015	0.000001	0.12
Dissolved Molybdenum	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.23	0.0001	0.0069	0.0056	0.0209	0.0056	0.82	0.0032	0.0095	0.0086	0.0208	0.0051	0.54	0.0033	0.0090	0.0085	0.0174	0.0047	0.53
Dissolved Nickel	mg/L	0.00050	0.00050	0.00050	0.00051	0.00000	0.00	0.00051	0.00127	0.00113	0.00289	0.00062	0.49	0.00080	0.00131	0.00119	0.00231	0.00048	0.37	0.00080	0.00126	0.00095	0.00206	0.00046	0.36
Dissolved Phosphorous	mg/L	0.010	0.016	0.020	0.020	0.005	0.34	0.011	0.040	0.033	0.114	0.024	0.60	0.028	0.059	0.051	0.115	0.030	0.50	0.028	0.058	0.042	0.109	0.029	0.50
Dissolved Potassium	mg/L	0.32	0.38	0.37	0.47	0.05	0.13	0.51	6.28	4.51	22.34	5.17	0.82	4.28	10.66	8.50	22.53	6.39	0.60	4.29	10.45	5.74	21.38	6.27	0.60
Dissolved Rubidium	mg/L	0.0008	0.0010	0.0010	0.0013	0.0002	0.18	0.0010	0.0224	0.0169	0.0737	0.0179	0.80	0.0137	0.0346	0.0294	0.0741	0.0201	0.58	0.0139	0.0336	0.0212	0.0679	0.0195	0.58
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0002	0.0007	0.0007	0.0011	0.0002	0.27	0.0003	0.0007	0.0007	0.0010	0.0002	0.24	0.0003	0.0007	0.0006	0.0009	0.0002	0.23
Dissolved Silicon	mg/L	6.18	9.26	9.43	11.83	1.87	0.20	4.74	21.16	20.08	40.16	9.67	0.46	7.55	18.86	18.10	38.78	7.79	0.41	6.81	13.67	13.91	21.05	4.03	0.29
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00006	0.00006	0.00009	0.00001	0.16	0.00006	0.00007	0.00007	0.00009	0.00001	0.18	0.00006	0.00007	0.00006	0.00009	0.00001	0.17
Dissolved Sodium	mg/L	0.99	1.55	1.62	1.87	0.28	0.18	0.74	65.29	61.11	161.94	49.33	0.76	2.78	38.02	18.18	136.09	37.73	0.99	1.91	3.72	3.61	10.30	1.51	0.41
Dissolved Strontium	mg/L	0.0090	0.0123	0.0123	0.0150	0.0021	0.17	0.0062	0.0668	0.0542	0.1849	0.0455	0.68	0.0379	0.0875	0.0811	0.1808	0.0450	0.51	0.0384	0.0835	0.0647	0.1588	0.0427	0.51
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00015	0.00013	0.00040	0.00009	0.56	0.00011	0.00021	0.00018	0.00040	0.00010	0.46	0.00011	0.00020	0.00014	0.00037	0.00009	0.45
Dissolved Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.01	0.0010	0.0032	0.0026	0.0089	0.0019	0.59	0.0024	0.0047	0.0040	0.0090	0.0022	0.47	0.0024	0.0046	0.0032	0.0084	0.0022	0.47
Dissolved Tungsten	mg/L	0.00172	0.00222	0.00195	0.00271	0.00040	0.18	0.00107	0.01498	0.01091	0.05162	0.01156	0.77	0.01072	0.02514	0.02049	0.05201	0.01450	0.58	0.01077	0.02474	0.01458	0.04960	0.01426	0.58
Dissolved Uranium	mg/L	0.00005	0.00005	0.00005	0.00006	0.00000	0.08	0.00005	0.00053	0.00046	0.00153	0.00040	0.75	0.00019	0.00055	0.00048	0.00124	0.00027	0.49	0.00019	0.00048	0.00045	0.00086	0.00022	0.45
Dissolved Vanadium	mg/L	0.0004	0.0005	0.0005	0.0006	0.0000	0.09	0.0006	0.0071	0.0053	0.0244	0.0056	0.79	0.0048	0.0117	0.0097	0.0246	0.0067	0.57	0.0049	0.0115	0.0072	0.0231	0.0066	0.57
Dissolved Zinc	mg/L	0.0012	0.0020	0.0020	0.0031	0.0006	0.29	0.0006	0.0075	0.0062	0.0207	0.0047	0.63	0.0043	0.0092	0.0075	0.0185	0.0046	0.50	0.0043	0.0089	0.0057	0.0173	0.0045	0.51
Total Aluminum	mg/L	0.04	0.12	0.13	0.21	0.05	0.37	0.04	0.14	0.13	0.28	0.05	0.35	0.06	0.13	0.13	0.22	0.04	0.32	0.06	0.12	0.12	0.20	0.04	0.32
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.05	0.0001	0.0011	0.0009	0.0031	0.0008	0.77	0.0005	0.0014	0.0013	0.0031	0.0007	0.52	0.0005	0.0013	0.0012	0.0025	0.0007	0.51
Total Arsenic	mg/L	0.0008	0.0012	0.0011	0.0018	0.0004	0.30	0.0008	0.0064	0.0054	0.0185	0.0046	0.71	0.0028	0.0075	0.0068	0.0154	0.0035	0.47	0.0030	0.0071	0.0066	0.0126	0.0032	0.45
Total Barium	mg/L	0.0020	0.0023	0.0020	0.0033	0.0004	0.19	0.0020	0.0037	0.0035	0.0072	0.0013	0.36	0.0024	0.0035	0.0033	0.0058	0.0009	0.25	0.0024	0.0033	0.0031	0.0050	0.0008	0.23
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0006	0.0000	0.05	0.0005	0.0005	0.0005	0.0005	0.0000	0.04	0.0005	0.0005	0.0005	0.0005	0.0000	0.03
Total Boron	mg/L	0.0012	0.0025	0.0023	0.0040	0.0009	0.36	0.0052	0.1482	0.1072	0.5416	0.1267	0.86	0.1002	0.2552	0.2044	0.5458	0.1552	0.61	0.1015	0.2506	0.1395	0.5172	0.1523	0.61
Total Cadmium	mg/L	0.000015	0.000034	0.000035	0.000065	0.000015	0.45	0.000016	0.000076	0.000072	0.000182	0.000038	0.51	0.000036	0.000068	0.000059	0.000142	0.000026	0.38	0.000035	0.000062	0.000054	0.000119	0.000023	0.37
Total Calcium	mg/L	1.6	2.4	2.4	3.0	0.5	0.20	1.9	8.2	7.0	20.0	4.7	0.58	4.1	8.6	8.0	16.8	3.9	0.46	4.1	7.8	5.7	14.0	3.5	0.45
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0019	0.0016	0.0048	0.0011	0.59	0.0012	0.0023	0.0020	0.0044	0.0010	0.46	0.0012	0.0021	0.0015	0.0039	0.0010	0.46
Total Cobalt	mg/L	0.00005	0.00006	0.00005	0.00009	0.00001	0.21	0.00005	0.00039	0.00035	0.00106	0.00028	0.72	0.00012	0.00026	0.00024	0.00055	0.00012	0.48	0.00012	0.00022	0.00016	0.00042	0.00010	0.46
Total Copper	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.03	0.0006	0.0045	0.0035	0.0138	0.0033	0.74	0.0028	0.0066	0.0056	0.0137	0.0037	0.55	0.0029	0.0064	0.0041	0.0127	0.0036	0.55
Total Iron	mg/L	0.05	0.13	0.13	0.23	0.06	0.45	0.05	0.11	0.10	0.20	0.04	0.38	0.05	0.10	0.09	0.17	0.04	0.37	0.05	0.10	0.09	0.17	0.04	0.37
Total Lead	mg/L	0.00005	0.00012	0.00010	0.00022	0.00005	0.47	0.00006	0.00040	0.00031	0.00122	0.00027	0.68	0.00028	0.00059	0.00049	0.00123	0.00032	0.54	0.00028	0.00058	0.00038	0.00116	0.00031	0.54
Total Lithium	mg/L	0.00033	0.00050	0.00051	0.00063	0.00009	0.18	0.00043	0.00446	0.00361	0.01259	0.00324	0.73	0.00231	0.00570	0.00532	0.01208	0.00301	0.53	0.00235	0.00541	0.00422	0.01042	0.00283	0.52
Total Magnesium	mg/L	0.33	0.48	0.49	0.58	0.09	0.18	0.40	2.02	1.69	5.57	1.28	0.63	1.21	2.65	2.36	5.31	1.33	0.50	1.21	2.54	1.78	4.77	1.27	0.50
Total Manganese	mg/L	0.002	0.007	0.005	0.020	0.005	0.76	0.002	0.047	0.042	0.129	0.035	0.74	0.010	0.029	0.025	0.076	0.016	0.56	0.009	0.021	0.017	0.045	0.010	0.50
Total Mercury	mg/L	0.000012	0.000013	0.000012	0.000017	0.000001	0.10	0.000010	0.000012	0.000012	0.000016	0.000001	0.11	0.000010	0.000011	0.000011	0.000015	0.000001	0.12	0.000010	0.000012	0.000011	0.000015	0.000001	0.12
Total Molybdenum	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.23	0.0001	0.0069	0.0056	0.0209	0.0056	0.82	0.0032	0.0095	0.0086	0.0208	0.0051	0.54	0.0033	0.0090	0.0085	0.0174	0.0047	0.53
Total Nickel	mg/L	0.00050	0.00050	0.00050	0.00051	0.00000	0.00	0.00051	0.00127	0.00113	0.00289	0.00062	0.49	0.00080	0.00131	0.00119	0.00231	0.00048	0.37	0.00080	0.00126	0.00095	0.00206	0.00046	0.36
Total Phosphorous	mg/L	0.010	0.016	0.020	0.020	0.005	0.34	0.011	0.040	0.033	0.114	0.024	0.60	0.028	0.059	0.051	0.115	0.030	0.50	0.028	0.058	0.042	0.109	0.029	0.50
Total Potassium	mg/L	0.32	0.38	0.37	0.47	0.05	0.13	0.51	6.28	4.51	22.34	5.17	0.82	4.28	10.66	8.50	22.53	6.39	0.60	4.29	10.45	5.74	21.38	6.27	0.60
Total Rubidium	mg/L	0.0008	0.0010	0.0010	0.0013	0.0002	0.18	0.0010	0.0224	0.0169	0.0737	0.0179	0.80	0.0137	0.0346	0.0294	0.0741	0.0201	0.58	0.0139	0.0336	0.0212	0.0679	0.0195	0.58
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0002	0.0007	0.0007	0.0011	0.0002	0.27	0.0003	0.0007	0.0007	0.0010	0.0002	0.24	0.0003	0.0007	0.0006	0.0009	0.0002	0.23
Total Silicon	mg/L	6.18	9.26	9.43	11.83	1.87	0.20	4.74	21.16	20.08	40.16	9.67	0.46	7.55	18.86	18.10	38.78	7.79	0.41	6.81	13.67	13.91	21.05	4.03	0.29
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00006	0.00006	0.00009	0.00001	0.16	0.00006	0.00007	0.00007	0.00009	0.00001	0.18	0.00006	0.00007	0.00006	0.00009	0.00001	0.17
Total Sodium	mg/L	0.99	1.55	1.62	1.87	0.28	0.18	0.74	65.29	61.11	161.94	49.33	0.76	2.78	38.02	18.18	136.09	37.73	0.99	1.91	3.72	3.61	10.30	1.51	0.41
Total Strontium	mg/L	0.0090	0.0123	0.0123	0.0150	0.0021	0.17	0.0062	0.0668	0.0542	0.1849	0.0455	0.68	0.0379	0.0875	0.0811	0.1808	0.0450	0.51	0.0384	0.0835	0.0647	0.1588	0.0427	0.51
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00015	0.00013	0.00040	0.00009	0.56	0.00011	0.00021	0.00018	0.00040	0.00010	0.46	0.00011	0.00020	0.00014	0.00037	0.00009	0.45
Total Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.01	0.0010	0.0032	0.0026	0.0089	0.0019	0.59	0.0024	0.0047	0.0040	0.0090	0.0022	0.47	0.0024	0.0046	0.0032	0.0084	0.0022	0.47
Total Tungsten	mg/L	0.00172	0.00222	0.00195	0.00271	0.00040	0.18	0.00107	0.01498	0.01091	0.05162	0.01156	0.77	0.01072	0.02514	0.02049	0.05201	0.01450	0.58	0.01077	0.02474	0.01458	0.04960	0.01426	0.58
Total Uranium	mg/L	0.00005	0.00005	0.00005	0.00006	0.00000	0.08	0.00005	0.00053	0.00046	0.00153	0.00040	0.75	0.00019	0.00055	0.00048	0.00124	0.00027	0.49	0.00019	0.00048	0.00045	0.00086	0.00022	0.45
Total Vanadium	mg/L	0.0004	0.0005	0.0005	0.0006	0.0000	0.09	0.0006	0.0071	0.0053	0.0244	0.0056	0.79	0.0048	0.0117	0.0097	0.0246	0.0067	0.57	0.0049	0.0115	0.0072	0.0231	0.0066	0.57
Total Zinc	mg/L	0.0012	0.0020	0.0020	0.0031	0.0006	0.29	0.0006	0.0075	0.0062	0.0207	0.0047	0.63	0.0043	0.0092	0.0075	0.0185	0.0046	0.50	0.0043	0.0089	0.0057	0.0173	0.0045	0.51
Total Carbon	mg/L	2.90	7.23	7.34	12.82	2.79	0.39	2.68	5.89	6.06	10.75	2.07	0.35	2.69	5.60	5.86	9.20	1.91	0.34	2.69	5.60	5.77	9.17	1.91	0.34

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.7 - SISSON BROOK (SB)

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	5.8	8.1	8.3	9.8	1.5	0.18	5.8	122.1	118.3	233.1	77.4	0.63	5.8	8.1	8.4	9.8	1.4	0.17	8.4	69.4	68.2	83.1	5.2	0.08
Alkalinity	mg/L	3.2	5.9	6.3	7.8	1.6	0.26	3.2	1516.3	1927.6	2857.8	933.7	0.62	3.2	5.9	6.1	7.8	1.4	0.24	6.0	57.2	41.4	163.8	31.2	0.55
Ammonia	mg/L	0.025	0.034	0.025	0.070	0.017	0.50	0.025	0.312	0.394	0.517	0.171	0.55	0.025	0.033	0.025	0.070	0.016	0.47	0.025	0.465	0.466	0.477	0.028	0.06
Nitrate	mg/L	0.034	0.093	0.066	0.218	0.065	0.70	0.034	0.194	0.218	0.268	0.068	0.35	0.034	0.100	0.077	0.218	0.064	0.64	0.182	0.236	0.233	0.252	0.009	0.04
Phosphate	mg/L	0.005	0.008	0.008	0.016	0.003	0.36	0.003	0.005	0.004	0.016	0.002	0.45	0.005	0.008	0.008	0.016	0.003	0.36	0.002	0.003	0.003	0.010	0.001	0.19
Sulphate	mg/L	0.8	1.5	1.6	2.4	0.5	0.31	0.8	89.8	94.3	167.1	57.8	0.64	0.8	1.6	1.6	2.4	0.5	0.29	1.4	54.4	53.8	63.1	4.1	0.07
Bromide	mg/L	0.005	0.005	0.005	0.005	0.000	0.00	0.002	0.003	0.003	0.005	0.001	0.37	0.005	0.005	0.005	0.005	0.000	0.00	0.002	0.002	0.002	0.005	0.000	0.14
Chloride	mg/L	0.79	1.09	1.06	1.54	0.22	0.20	0.79	8.58	10.09	15.43	4.79	0.56	0.79	1.08	1.06	1.54	0.20	0.18	0.98	13.99	14.07	14.23	0.85	0.06
Fluoride	mg/L	0.102	0.132	0.134	0.166	0.023	0.17	0.102	2.619	2.229	5.160	1.776	0.68	0.102	0.130	0.126	0.166	0.022	0.17	0.105	1.067	1.036	1.365	0.099	0.09
Dissolved Aluminum	mg/L	0.0518	0.0928	0.0950	0.1230	0.0224	0.24	0.0518	0.1533	0.1734	0.1834	0.0394	0.26	0.0518	0.0901	0.0950	0.1230	0.0225	0.25	0.0518	0.1468	0.1443	0.1842	0.0113	0.08
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.00	0.0001	0.0058	0.0077	0.0080	0.0034	0.59	0.0001	0.0000	0.0001	0.0001	0.0000	0.00	0.0001	0.0086	0.0086	0.0088	0.0006	0.06
Dissolved Arsenic	mg/L	0.0005	0.0012	0.0010	0.0023	0.0006	0.48	0.0005	0.0062	0.0080	0.0083	0.0030	0.48	0.0005	0.0012	0.0010	0.0023	0.0005	0.46	0.0008	0.0088	0.0088	0.0090	0.0005	0.06
Dissolved Barium	mg/L	0.0017	0.0021	0.0020	0.0026	0.0002	0.11	0.0017	0.0154	0.0165	0.0281	0.0089	0.57	0.0017	0.0021	0.0020	0.0026	0.0002	0.11	0.0020	0.0126	0.0126	0.0133	0.0007	0.06
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0008	0.0009	0.0012	0.0002	0.27	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0003	0.0003	0.0003	0.0005	0.0000	0.08
Dissolved Boron	mg/L	0.0008	0.0014	0.0014	0.0020	0.0004	0.29	0.0008	0.3964	0.5014	0.7004	0.2390	0.60	0.0008	0.0013	0.0013	0.0020	0.0004	0.29	0.0009	0.5978	0.5987	0.6088	0.0390	0.07
Dissolved Cadmium	mg/L	0.000020	0.000027	0.000028	0.000043	0.000008	0.28	0.000015	0.000266	0.000304	0.000404	0.000152	0.57	0.000015	0.000026	0.000025	0.000043	0.000008	0.29	0.000015	0.000157	0.000156	0.000179	0.000010	0.07
Dissolved Calcium	mg/L	1.6	2.3	2.3	2.8	0.4	0.20	1.6	36.2	32.4	71.4	23.8	0.66	1.6	2.3	2.3	2.8	0.4	0.18	2.3	16.2	15.7	20.7	1.5	0.09
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0008	0.0009	0.0009	0.0002	0.22	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0009	0.0009	0.0009	0.0000	0.03
Dissolved Cobalt	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00274	0.00169	0.00578	0.00214	0.78	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00088	0.00086	0.00116	0.00009	0.10
Dissolved Copper	mg/L	0.0009	0.0015	0.0016	0.0021	0.0004	0.24	0.0009	0.0018	0.0019	0.0021	0.0003	0.15	0.0009	0.0015	0.0016	0.0021	0.0004	0.25	0.0009	0.0019	0.0019	0.0020	0.0001	0.04
Dissolved Iron	mg/L	0.07	0.15	0.14	0.28	0.07	0.47	0.04	0.12	0.13	0.28	0.05	0.39	0.07	0.14	0.13	0.28	0.06	0.46	0.03	0.04	0.04	0.11	0.01	0.22
Dissolved Lead	mg/L	0.00005	0.00007	0.00006	0.00011	0.00002	0.31	0.00005	0.00032	0.00040	0.00041	0.00015	0.47	0.00005	0.00007	0.00006	0.00011	0.00002	0.30	0.00005	0.00044	0.00044	0.00045	0.00003	0.06
Dissolved Lithium	mg/L	0.00030	0.00039	0.00040	0.00045	0.00004	0.11	0.00030	0.02534	0.02971	0.04615	0.01570	0.62	0.00030	0.00039	0.00040	0.00045	0.00004	0.11	0.00034	0.02629	0.02641	0.02714	0.00170	0.06
Dissolved Magnesium	mg/L	0.43	0.58	0.60	0.68	0.09	0.16	0.43	7.69	8.96	13.31	4.49	0.58	0.43	0.58	0.60	0.68	0.08	0.14	0.61	7.05	7.03	7.67	0.44	0.06
Dissolved Manganese	mg/L	0.002	0.006	0.006	0.010	0.003	0.45	0.002	0.060	0.078	0.081	0.032	0.54	0.002	0.006	0.006	0.010	0.003	0.46	0.002	0.087	0.087	0.089	0.006	0.06
Dissolved Mercury	mg/L	0.000013	0.000014	0.000013	0.000020	0.000003	0.18	0.000005	0.000009	0.000007	0.000020	0.000003	0.37	0.000013	0.000013	0.000013	0.000020	0.000002	0.17	0.000004	0.000004	0.000004	0.000013	0.000001	0.15
Dissolved Molybdenum	mg/L	0.0021	0.0042	0.0048	0.0067	0.0016	0.38	0.0021	0.0306	0.0395	0.0408	0.0156	0.51	0.0021	0.0042	0.0044	0.0067	0.0015	0.35	0.0040	0.0437	0.0438	0.0448	0.0026	0.06
Dissolved Nickel	mg/L	0.00050	0.00050	0.00050	0.00050	0.00000	0.00	0.00050	0.00502	0.00401	0.00935	0.00334	0.67	0.00050	0.00050	0.00050	0.00050	0.00000	0.00	0.00050	0.00287	0.00285	0.00320	0.00017	0.06
Dissolved Phosphorous	mg/L	0.010	0.010	0.010	0.010	0.000	0.00	0.010	0.080	0.098	0.134	0.042	0.53	0.010	0.010	0.010	0.010	0.000	0.00	0.010	0.111	0.112	0.114	0.007	0.06
Dissolved Potassium	mg/L	0.32	0.37	0.39	0.42	0.03	0.09	0.32	14.20	17.81	25.74	8.47	0.60	0.32	0.37	0.37	0.42	0.03	0.08	0.36	20.21	20.31	20.84	1.30	0.06
Dissolved Rubidium	mg/L	0.0014	0.0016	0.0016	0.0020	0.0002	0.13	0.0014	0.0906	0.1161	0.1467	0.0539	0.59	0.0014	0.0016	0.0015	0.0020	0.0002	0.12	0.0015	0.1124	0.1129	0.1149	0.0072	0.06
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0018	0.0019	0.0028	0.0008	0.47	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0009	0.0009	0.0010	0.0000	0.04
Dissolved Silicon	mg/L	4.83	7.47	7.84	10.04	1.66	0.22	4.83	116.67	147.62	212.32	67.18	0.58	4.83	7.62	7.87	10.04	1.60	0.21	9.28	18.03	16.97	25.77	2.33	0.13
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00007	0.00008	0.00009	0.00001	0.19	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00008	0.00008	0.00008	0.00000	0.02
Dissolved Sodium	mg/L	1.12	1.43	1.47	1.68	0.21	0.15	1.12	689.11	877.04	1301.30	424.95	0.62	1.12	1.43	1.48	1.68	0.19	0.13	1.48	21.98	14.97	69.48	13.90	0.63
Dissolved Strontium	mg/L	0.0096	0.0132	0.0136	0.0158	0.0023	0.18	0.0096	0.3286	0.3909	0.5756	0.1963	0.60	0.0096	0.0132	0.0135	0.0158	0.0021	0.16	0.0134	0.3469	0.3486	0.3584	0.0218	0.06
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00046	0.00056	0.00074	0.00025	0.55	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00051	0.00051	0.00053	0.00003	0.06
Dissolved Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.00	0.0010	0.0085	0.0106	0.0135	0.0045	0.53	0.0010	0.0010	0.0010	0.0010	0.0000	0.00	0.0010	0.0120	0.0120	0.0122	0.0007	0.06
Dissolved Tungsten	mg/L	0.00206	0.00235	0.00250	0.00250	0.00021	0.09	0.00206	0.03190	0.03724	0.05642	0.01848	0.58	0.00206	0.00233	0.00250	0.00250	0.00021	0.09	0.00208	0.05075	0.05086	0.05168	0.00318	0.06
Dissolved Uranium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00473	0.00554	0.00909	0.00295	0.62	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00466	0.00469	0.00480	0.00030	0.06
Dissolved Vanadium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0233	0.0299	0.0386	0.0138	0.59	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0352	0.0353	0.0359	0.0023	0.06
Dissolved Zinc	mg/L	0.0015	0.0021	0.0022	0.0030	0.0005	0.22	0.0015	0.0281	0.0252	0.0530	0.0183	0.65	0.0015	0.0021	0.0021	0.0030	0.0004	0.21	0.0016	0.0195	0.0196	0.0207	0.0012	0.06
Total Aluminum	mg/L	0.0518	0.0928	0.0950	0.1230	0.0224	0.24	0.0518	0.3820	0.2614	0.7316	0.2392	0.63	0.0518	0.0901	0.0950	0.1230	0.0225	0.25	0.0518	0.1477	0.1452	0.1851	0.0113	0.08
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.00	0.0001	0.0058	0.0077	0.0080	0.0034	0.59	0.0001	0.0000	0.0001	0.0001	0.0000	0.00	0.0001	0.0086	0.0086	0.0088	0.0006	0.06
Total Arsenic	mg/L	0.0005	0.0012	0.0010	0.0023	0.0006	0.48	0.0005	0.0062	0.0080	0.0083	0.0030	0.48	0.0005	0.0012	0.0010	0.0023	0.0005	0.46	0.0008	0.0088	0.0088	0.0090	0.0005	0.06
Total Barium	mg/L	0.0017	0.0021	0.0020	0.0026	0.0002	0.11	0.0017	0.0154	0.0165	0.0281	0.0089	0.57	0.0017	0.0021	0.0020	0.0026	0.0002	0.11	0.0020	0.0126	0.0126	0.0133	0.0007	0.06
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0008	0.0009	0.0012	0.0002	0.27	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0003	0.0003	0.0003	0.0005	0.0000	0.08
Total Boron	mg/L	0.0008	0.0014	0.0014	0.0020	0.0004	0.29	0.0008	0.3964	0.5014	0.7004	0.2390	0.60	0.0008	0.0013	0.0013	0.0020	0.0004	0.29	0.0009	0.5978	0.5987	0.6088	0.0390	0.07
Total Cadmium	mg/L	0.000020	0.000027	0.000028	0.000043	0.000008	0.28	0.000015	0.000266	0.000304	0.000404	0.000152	0.57	0.000015	0.000026	0.000025	0.000043	0.000008	0.29	0.000015	0.000157	0.000156	0.000179	0.000010	0.07
Total Calcium	mg/L	1.6	2.3	2.3	2.8	0.4	0.20	1.6	36.2	32.4	71.4	23.8	0.66	1.6	2.3	2.3	2.8	0.4	0.18	2.3	16.2	15.7	20.7	1.5	0.09
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0008	0.0009	0.0009	0.0002	0.22	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0009	0.0009	0.0009	0.0000	0.03
Total Cobalt	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00274	0.00169	0.00578	0.00214	0.78	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00089	0.00086	0.00116	0.00009	0.10
Total Copper	mg/L	0.0009	0.0015	0.0016	0.0021	0.0004	0.24	0.0009	0.0018	0.0019	0.0021	0.0003	0.15	0.0009	0.0015	0.0016	0.0021	0.0004	0.25	0.0009	0.0019	0.0019	0.0020	0.0001	0.04
Total Iron	mg/L	0.07	0.15	0.14	0.28	0.07	0.47	0.05	0.12	0.13	0.28	0.05	0.39	0.07	0.14	0.13	0.28	0.06	0.46	0.03	0.04	0.04	0.11	0.01	0.21
Total Lead	mg/L	0.00005	0.00007	0.00006	0.00011	0.00002	0.31	0.00005	0.00032	0.00040	0.00041	0.00015	0.47	0.00005	0.00007	0.00006	0.00011	0.00002	0.30	0.00005	0.00044	0.00044	0.00045	0.00003	0.06
Total Lithium	mg/L	0.00030	0.00039	0.00040	0.00045	0.00004	0.11	0.00030	0.02534	0.02971	0.04616	0.01570	0.62	0.00030	0.00039	0.00040	0.00045	0.00004	0.11	0.00034	0.02630	0.02642	0.02715	0.00170	0.06
Total Magnesium	mg/L	0.43	0.58	0.60	0.68	0.09	0.16	0.43	7.69	8.96	13.31	4.49	0.58	0.43	0.58	0.60	0.68	0.08	0.14	0.61	7.05	7.03	7.67	0.44	0.06
Total Manganese	mg/L	0.002	0.006	0.006	0.010	0.003	0.45	0.002	0.060	0.078	0.081	0.032	0.54	0.002	0.006	0.006	0.010	0.003	0.46	0.002	0.087	0.087	0.089	0.006	0.06
Total Mercury	mg/L	0.000013	0.000014	0.000013	0.000020	0.000003	0.18	0.000005	0.000009	0.000007	0.000020	0.000003	0.37	0.000013	0.000013	0.000013	0.000020	0.000002	0.17	0.000004	0.000004	0.000004	0.000013	0.000001	0.15
Total Molybdenum	mg/L	0.0021	0.0042	0.0048	0.0067	0.0016	0.38	0.0021	0.0306	0.0395	0.0408	0.0156	0.51	0.0021	0.0042	0.0044	0.0067	0.0015	0.35	0.0040	0.0437	0.0438	0.0448	0.0026	0.06
Total Nickel	mg/L	0.00050	0.00050	0.00050	0.00050	0.00000	0.00	0.00050	0.00502	0.00401	0.00935	0.00334	0.67	0.00050	0.00050	0.00050	0.00050	0.00000	0.00	0.00050	0.00287	0.00285	0.00320	0.00017	0.06
Total Phosphorous	mg/L	0.010	0.010	0.010	0.010	0.000	0.00	0.010	0.080	0.098	0.134	0.042	0.53	0.010	0.010	0.010	0.010	0.000	0.00	0.010	0.111	0.112	0.114	0.007	0.06
Total Potassium	mg/L	0.32	0.37	0.39	0.42	0.03	0.09	0.32	14.20	17.81	25.74	8.47	0.60	0.32	0.37	0.37	0.42	0.03	0.08	0.36	20.21	20.31	20.84	1.30	0.06
Total Rubidium	mg/L	0.0014	0.0016	0.0016	0.0020	0.0002	0.13	0.0014	0.0906	0.1161	0.1467	0.0539	0.59	0.0014	0.0016	0.0015	0.0020	0.0002	0.12	0.0015	0.1124	0.1129	0.1149	0.0072	0.06
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0018	0.0019	0.0028	0.0008	0.47	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0009	0.0009	0.0010	0.0000	0.04
Total Silicon	mg/L	4.83	7.47	7.84	10.04	1.66	0.22	4.83	116.67	147.62	212.32	67.18	0.58	4.83	7.62	7.87	10.04	1.60	0.21	9.28	18.03	16.97	25.77	2.33	0.13
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00007	0.00008	0.00009	0.00001	0.19	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00008	0.00008	0.00008	0.00000	0.02
Total Sodium	mg/L	1.12	1.43	1.47	1.68	0.21	0.15	1.12	689.12	877.04	1301.30	424.95	0.62	1.12	1.43	1.48	1.68	0.19	0.13	1.48	21.98	14.97	69.48	13.90	0.63
Total Strontium	mg/L	0.0096	0.0132	0.0136	0.0158	0.0023	0.18	0.0096	0.3286	0.3910	0.5756	0.1963	0.60	0.0096	0.0132	0.0135	0.0158	0.0021	0.16	0.0134	0.3469	0.3486	0.3584	0.0218	0.06
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00046	0.00056	0.00074	0.00025	0.55	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00051	0.00051	0.00053	0.00003	0.06
Total Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.00	0.0010	0.0085	0.0106	0.0135	0.0045	0.53	0.0010	0.0010	0.0010	0.0010	0.0000	0.00	0.0010	0.0120	0.0120	0.0122	0.0007	0.06
Total Tungsten	mg/L	0.00206	0.00235	0.00250	0.00250	0.00021	0.09	0.00206	0.03190	0.03724	0.05642	0.01848	0.58	0.00206	0.00233	0.00250	0.00250	0.00021	0.09	0.00208	0.05075	0.05086	0.05168	0.00318	0.06
Total Uranium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00473	0.00554	0.00909	0.00295	0.62	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00467	0.00469	0.00480	0.00030	0.06
Total Vanadium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0233	0.0299	0.0386	0.0138	0.59	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0352	0.0353	0.0359	0.0023	0.06
Total Zinc	mg/L	0.0015	0.0021	0.0022	0.0030	0.0005	0.22	0.0015	0.0281	0.0252	0.0530	0.0183	0.65	0.0015	0.0021	0.0021	0.0030	0.0004	0.21	0.0016	0.0195	0.0196	0.0207	0.0012	0.06
Total Carbon	mg/L	3.30	6.23	6.78	9.24	2.09	0.34	1.81	3.59	3.07	9.24	1.85	0.52	3.30	6.00	5.92	9.24	2.07	0.34	1.41	1.80	1.89	3.68	0.29	0.16

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.8 - NAP1

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	6.4	9.3	10.0	11.3	1.8	0.19	6.4	15.1	13.5	28.9	5.9	0.39	8.2	14.9	14.6	25.2	4.9	0.33	8.2	14.0	13.4	21.3	4.3	0.31
Alkalinity	mg/L	4.2	8.2	9.0	11.0	2.2	0.27	4.2	59.9	55.2	141.6	41.7	0.70	5.1	37.0	20.2	118.3	33.2	0.90	4.6	9.5	10.5	15.2	2.6	0.27
Ammonia	mg/L	0.025	0.047	0.032	0.174	0.044	0.94	0.025	0.052	0.035	0.185	0.042	0.80	0.026	0.054	0.040	0.185	0.041	0.77	0.026	0.052	0.033	0.179	0.041	0.78
Nitrate	mg/L	0.025	0.086	0.068	0.206	0.063	0.74	0.019	0.092	0.068	0.206	0.064	0.70	0.022	0.092	0.068	0.205	0.064	0.69	0.023	0.093	0.071	0.205	0.064	0.69
Phosphate	mg/L	0.008	0.014	0.014	0.023	0.005	0.34	0.008	0.013	0.013	0.023	0.004	0.34	0.008	0.013	0.013	0.022	0.004	0.34	0.008	0.013	0.013	0.022	0.004	0.33
Sulphate	mg/L	0.8	1.2	1.1	1.8	0.3	0.24	0.9	6.2	5.5	17.2	4.1	0.66	2.7	6.7	5.9	14.9	3.4	0.51	2.7	5.9	4.1	11.3	2.9	0.50
Bromide	mg/L	0.005	0.005	0.005	0.006	0.000	0.09	0.005	0.005	0.005	0.006	0.000	0.08	0.005	0.005	0.005	0.006	0.000	0.07	0.005	0.005	0.005	0.006	0.000	0.07
Chloride	mg/L	0.79	1.19	1.25	1.65	0.26	0.22	0.81	1.95	1.69	4.53	0.83	0.43	1.45	2.58	2.42	4.57	1.04	0.40	1.45	2.52	2.16	4.25	1.00	0.40
Fluoride	mg/L	0.128	0.185	0.200	0.237	0.035	0.19	0.114	0.293	0.260	0.572	0.107	0.36	0.149	0.263	0.236	0.455	0.077	0.29	0.148	0.242	0.227	0.373	0.067	0.28
Dissolved Aluminum	mg/L	0.0600	0.1365	0.1439	0.2052	0.0443	0.32	0.0601	0.1436	0.1432	0.2174	0.0446	0.31	0.0626	0.1362	0.1424	0.2094	0.0445	0.33	0.0624	0.1343	0.1364	0.2071	0.0446	0.33
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.06	0.0001	0.0004	0.0003	0.0010	0.0003	0.73	0.0001	0.0004	0.0003	0.0010	0.0002	0.53	0.0002	0.0004	0.0003	0.0007	0.0002	0.48
Dissolved Arsenic	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0023	0.0020	0.0066	0.0016	0.69	0.0009	0.0024	0.0020	0.0055	0.0011	0.48	0.0009	0.0021	0.0020	0.0036	0.0008	0.40
Dissolved Barium	mg/L	0.0017	0.0021	0.0020	0.0025	0.0003	0.15	0.0014	0.0025	0.0024	0.0039	0.0006	0.23	0.0016	0.0024	0.0023	0.0034	0.0004	0.19	0.0016	0.0023	0.0021	0.0029	0.0004	0.18
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0005	0.0005	0.0005	0.0000	0.01
Dissolved Boron	mg/L	0.0010	0.0025	0.0023	0.0042	0.0012	0.48	0.0015	0.0363	0.0267	0.1365	0.0312	0.86	0.0219	0.0598	0.0496	0.1377	0.0376	0.63	0.0223	0.0567	0.0324	0.1204	0.0356	0.63
Dissolved Cadmium	mg/L	0.000005	0.000007	0.000006	0.000011	0.000002	0.29	0.000005	0.000022	0.000020	0.000053	0.000013	0.59	0.000008	0.000017	0.000015	0.000037	0.000007	0.43	0.000008	0.000015	0.000014	0.000026	0.000006	0.39
Dissolved Calcium	mg/L	2.0	2.9	2.9	3.5	0.6	0.19	2.0	4.6	4.0	8.4	1.7	0.37	2.5	4.3	4.2	7.1	1.3	0.30	2.5	4.0	3.9	5.9	1.1	0.28
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0009	0.0008	0.0017	0.0003	0.36	0.0006	0.0009	0.0009	0.0015	0.0003	0.29	0.0006	0.0009	0.0007	0.0013	0.0002	0.27
Dissolved Cobalt	mg/L	0.00005	0.00006	0.00005	0.00009	0.00001	0.22	0.00005	0.00017	0.00016	0.00040	0.00010	0.59	0.00006	0.00011	0.00009	0.00020	0.00004	0.36	0.00006	0.00009	0.00009	0.00015	0.00003	0.31
Dissolved Copper	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.04	0.0005	0.0015	0.0013	0.0041	0.0009	0.57	0.0010	0.0019	0.0017	0.0039	0.0009	0.47	0.0010	0.0018	0.0013	0.0033	0.0008	0.46
Dissolved Iron	mg/L	0.10	0.18	0.16	0.28	0.06	0.35	0.09	0.17	0.16	0.28	0.06	0.35	0.09	0.17	0.15	0.27	0.06	0.35	0.09	0.17	0.15	0.27	0.06	0.35
Dissolved Lead	mg/L	0.00007	0.00019	0.00020	0.00030	0.00008	0.40	0.00007	0.00026	0.00024	0.00054	0.00011	0.41	0.00013	0.00030	0.00026	0.00054	0.00011	0.39	0.00013	0.00029	0.00026	0.00050	0.00011	0.39
Dissolved Lithium	mg/L	0.00146	0.00216	0.00214	0.00264	0.00039	0.18	0.00147	0.00325	0.00297	0.00600	0.00112	0.34	0.00186	0.00341	0.00342	0.00573	0.00100	0.29	0.00187	0.00326	0.00320	0.00485	0.00089	0.27
Dissolved Magnesium	mg/L	0.30	0.42	0.41	0.51	0.07	0.17	0.30	0.83	0.73	1.85	0.38	0.46	0.47	0.93	0.89	1.72	0.36	0.39	0.47	0.87	0.75	1.47	0.33	0.37
Dissolved Manganese	mg/L	0.002	0.007	0.007	0.017	0.005	0.64	0.002	0.022	0.020	0.053	0.013	0.61	0.005	0.014	0.012	0.032	0.007	0.51	0.005	0.011	0.009	0.023	0.005	0.50
Dissolved Mercury	mg/L	0.000012	0.000012	0.000012	0.000012	0.000000	0.00	0.000012	0.000012	0.000012	0.000012	0.000000	0.02	0.000012	0.000012	0.000012	0.000012	0.000000	0.02	0.000012	0.000012	0.000012	0.000012	0.000000	0.02
Dissolved Molybdenum	mg/L	0.0001	0.0001	0.0001	0.0002	0.0001	0.48	0.0001	0.0022	0.0018	0.0068	0.0018	0.84	0.0007	0.0026	0.0022	0.0067	0.0016	0.59	0.0008	0.0023	0.0022	0.0046	0.0013	0.55
Dissolved Nickel	mg/L	0.00050	0.00050	0.00050	0.00051	0.00000	0.01	0.00050	0.00073	0.00069	0.00123	0.00019	0.26	0.00056	0.00069	0.00067	0.00098	0.00012	0.18	0.00056	0.00067	0.00060	0.00086	0.00011	0.16
Dissolved Phosphorous	mg/L	0.010	0.021	0.030	0.030	0.011	0.50	0.010	0.027	0.028	0.054	0.012	0.46	0.014	0.031	0.030	0.054	0.014	0.44	0.014	0.031	0.025	0.051	0.013	0.44
Dissolved Potassium	mg/L	0.23	0.32	0.31	0.44	0.06	0.18	0.26	1.67	1.26	5.67	1.25	0.75	1.06	2.63	2.21	5.72	1.53	0.58	1.06	2.50	1.47	5.13	1.46	0.58
Dissolved Rubidium	mg/L	0.0012	0.0015	0.0014	0.0020	0.0002	0.15	0.0013	0.0069	0.0055	0.0206	0.0048	0.70	0.0038	0.0094	0.0086	0.0206	0.0051	0.54	0.0039	0.0088	0.0062	0.0173	0.0047	0.53
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0005	0.0007	0.0000	0.08	0.0005	0.0006	0.0005	0.0006	0.0000	0.06	0.0005	0.0005	0.0005	0.0006	0.0000	0.05
Dissolved Silicon	mg/L	6.65	9.82	9.99	13.06	1.95	0.20	6.63	13.92	13.79	21.47	4.22	0.30	7.02	12.77	12.45	20.96	3.58	0.28	6.97	10.89	11.21	13.75	2.06	0.19
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.04	0.00005	0.00005	0.00005	0.00006	0.00000	0.05	0.00005	0.00005	0.00005	0.00006	0.00000	0.05
Dissolved Sodium	mg/L	1.26	1.78	1.84	2.10	0.27	0.15	1.26	25.33	23.11	61.88	18.57	0.73	1.67	14.95	7.40	51.86	14.96	1.00	1.43	2.31	2.30	4.21	0.50	0.22
Dissolved Strontium	mg/L	0.0107	0.0156	0.0157	0.0190	0.0029	0.19	0.0108	0.0308	0.0263	0.0658	0.0143	0.46	0.0168	0.0341	0.0325	0.0636	0.0132	0.39	0.0169	0.0319	0.0305	0.0527	0.0117	0.37
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00008	0.00007	0.00014	0.00002	0.30	0.00006	0.00009	0.00008	0.00014	0.00002	0.27	0.00006	0.00008	0.00007	0.00012	0.00002	0.26
Dissolved Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.01	0.0010	0.0015	0.0014	0.0030	0.0005	0.31	0.0013	0.0019	0.0017	0.0030	0.0005	0.29	0.0013	0.0018	0.0015	0.0027	0.0005	0.28
Dissolved Tungsten	mg/L	0.00201	0.00242	0.00257	0.00276	0.00031	0.13	0.00207	0.00529	0.00434	0.01464	0.00281	0.53	0.00393	0.00757	0.00656	0.01474	0.00353	0.47	0.00394	0.00731	0.00506	0.01330	0.00337	0.46
Dissolved Uranium	mg/L	0.00022	0.00028	0.00028	0.00035	0.00005	0.18	0.00022	0.00044	0.00042	0.00083	0.00016	0.36	0.00025	0.00042	0.00041	0.00070	0.00012	0.28	0.00025	0.00038	0.00036	0.00052	0.00009	0.24
Dissolved Vanadium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.07	0.0005	0.0021	0.0017	0.0067	0.0014	0.67	0.0014	0.0031	0.0028	0.0067	0.0017	0.53	0.0014	0.0030	0.0021	0.0058	0.0016	0.52
Dissolved Zinc	mg/L	0.0010	0.0018	0.0016	0.0031	0.0006	0.33	0.0011	0.0033	0.0031	0.0064	0.0012	0.37	0.0019	0.0034	0.0034	0.0054	0.0010	0.29	0.0019	0.0033	0.0032	0.0047	0.0009	0.28
Total Aluminum	mg/L	0.0928	0.1815	0.1663	0.2853	0.0603	0.33	0.0868	0.1863	0.1761	0.3132	0.0610	0.33	0.0891	0.1785	0.1691	0.2931	0.0607	0.34	0.0889	0.1767	0.1662	0.2884	0.0607	0.34
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.06	0.0001	0.0004	0.0003	0.0010	0.0003	0.73	0.0001	0.0004	0.0003	0.0010	0.0002	0.53	0.0002	0.0004	0.0003	0.0007	0.0002	0.48
Total Arsenic	mg/L	0.0005	0.0006	0.0005	0.0008	0.0001	0.19	0.0005	0.0024	0.0020	0.0068	0.0016	0.68	0.0009	0.0025	0.0022	0.0057	0.0012	0.48	0.0009	0.0022	0.0020	0.0038	0.0009	0.41
Total Barium	mg/L	0.0017	0.0023	0.0020	0.0030	0.0004	0.19	0.0017	0.0027	0.0026	0.0043	0.0007	0.24	0.0018	0.0026	0.0025	0.0038	0.0005	0.21	0.0018	0.0025	0.0023	0.0034	0.0005	0.20
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0005	0.0005	0.0005	0.0000	0.01
Total Boron	mg/L	0.0012	0.0025	0.0023	0.0042	0.0012	0.47	0.0016	0.0364	0.0268	0.1365	0.0312	0.86	0.0219	0.0599	0.0498	0.1377	0.0376	0.63	0.0223	0.0567	0.0326	0.1204	0.0356	0.63
Total Cadmium	mg/L	0.000005	0.000008	0.000006	0.000016	0.000004	0.42	0.000005	0.000023	0.000022	0.000053	0.000013	0.56	0.000008	0.000019	0.000016	0.000037	0.000008	0.42	0.000008	0.000016	0.000014	0.000026	0.000006	0.39
Total Calcium	mg/L	2.1	3.0	3.0	3.7	0.6	0.18	2.1	4.7	4.2	8.4	1.7	0.35	2.6	4.5	4.3	7.2	1.3	0.29	2.6	4.2	4.0	6.0	1.1	0.26
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0009	0.0008	0.0017	0.0003	0.36	0.0006	0.0009	0.0009	0.0015	0.0003	0.29	0.0006	0.0009	0.0007	0.0013	0.0002	0.27
Total Cobalt	mg/L	0.00005	0.00006	0.00005	0.00014	0.00003	0.41	0.00005	0.00017	0.00016	0.00040	0.00010	0.59	0.00006	0.00011	0.00010	0.00024	0.00005	0.40	0.00006	0.00010	0.00009	0.00020	0.00004	0.38
Total Copper	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.04	0.0005	0.0015	0.0013	0.0041	0.0009	0.57	0.0010	0.0019	0.0017	0.0039	0.0009	0.47	0.0010	0.0018	0.0013	0.0033	0.0008	0.46
Total Iron	mg/L	0.13	0.21	0.20	0.36	0.07	0.34	0.12	0.20	0.19	0.36	0.07	0.34	0.12	0.20	0.19	0.35	0.07	0.34	0.12	0.20	0.18	0.35	0.07	0.34
Total Lead	mg/L	0.00014	0.00030	0.00028	0.00052	0.00014	0.47	0.00011	0.00035	0.00031	0.00071	0.00016	0.46	0.00017	0.00039	0.00036	0.00072	0.00017	0.44	0.00017	0.00039	0.00032	0.00068	0.00017	0.44
Total Lithium	mg/L	0.00156	0.00235	0.00232	0.00284	0.00043	0.18	0.00157	0.00343	0.00310	0.00616	0.00117	0.34	0.00196	0.00359	0.00361	0.00589	0.00106	0.30	0.00197	0.00344	0.00335	0.00501	0.00095	0.28
Total Magnesium	mg/L	0.31	0.43	0.44	0.52	0.07	0.16	0.31	0.84	0.76	1.86	0.38	0.45	0.48	0.95	0.90	1.73	0.36	0.38	0.48	0.89	0.77	1.48	0.32	0.36
Total Manganese	mg/L	0.003	0.010	0.009	0.031	0.008	0.73	0.003	0.025	0.022	0.062	0.015	0.61	0.006	0.017	0.014	0.045	0.009	0.56	0.006	0.013	0.011	0.036	0.008	0.59
Total Mercury	mg/L	0.000012	0.000013	0.000012	0.000016	0.000001	0.08	0.000012	0.000012	0.000012	0.000016	0.000001	0.07	0.000012	0.000012	0.000012	0.000015	0.000001	0.07	0.000012	0.000012	0.000012	0.000015	0.000001	0.07
Total Molybdenum	mg/L	0.0001	0.0001	0.0001	0.0002	0.0001	0.48	0.0001	0.0022	0.0018	0.0068	0.0018	0.83	0.0007	0.0026	0.0022	0.0067	0.0016	0.59	0.0008	0.0023	0.0022	0.0046	0.0013	0.55
Total Nickel	mg/L	0.00050	0.00050	0.00050	0.00051	0.00000	0.01	0.00050	0.00073	0.00069	0.00123	0.00019	0.26	0.00056	0.00069	0.00067	0.00098	0.00012	0.18	0.00056	0.00067	0.00060	0.00086	0.00011	0.16
Total Phosphorous	mg/L	0.010	0.030	0.040	0.040	0.014	0.47	0.010	0.035	0.042	0.063	0.016	0.45	0.014	0.039	0.045	0.063	0.017	0.44	0.014	0.039	0.044	0.060	0.017	0.44
Total Potassium	mg/L	0.25	0.34	0.34	0.44	0.06	0.16	0.27	1.68	1.28	5.69	1.25	0.74	1.07	2.64	2.23	5.74	1.53	0.58	1.08	2.52	1.49	5.14	1.45	0.58
Total Rubidium	mg/L	0.0013	0.0016	0.0015	0.0022	0.0003	0.16	0.0013	0.0071	0.0056	0.0207	0.0048	0.69	0.0039	0.0095	0.0087	0.0208	0.0051	0.54	0.0040	0.0089	0.0063	0.0175	0.0047	0.53
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0005	0.0007	0.0000	0.08	0.0005	0.0006	0.0005	0.0006	0.0000	0.06	0.0005	0.0005	0.0005	0.0006	0.0000	0.05
Total Silicon	mg/L	6.65	9.82	9.99	13.06	1.95	0.20	6.63	13.92	13.79	21.47	4.22	0.30	7.02	12.77	12.45	20.96	3.58	0.28	6.97	10.89	11.21	13.75	2.06	0.19
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.04	0.00005	0.00005	0.00005	0.00006	0.00000	0.05	0.00005	0.00005	0.00005	0.00006	0.00000	0.05
Total Sodium	mg/L	1.31	1.87	1.91	2.23	0.29	0.15	1.31	25.42	23.21	62.01	18.59	0.73	1.72	15.04	7.45	51.93	14.97	1.00	1.47	2.40	2.38	4.42	0.52	0.22
Total Strontium	mg/L	0.0111	0.0165	0.0165	0.0206	0.0032	0.19	0.0112	0.0317	0.0275	0.0674	0.0144	0.45	0.0172	0.0350	0.0335	0.0652	0.0134	0.38	0.0173	0.0328	0.0315	0.0543	0.0118	0.36
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00008	0.00007	0.00014	0.00002	0.30	0.00006	0.00009	0.00008	0.00014	0.00002	0.27	0.00006	0.00008	0.00007	0.00012	0.00002	0.26
Total Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.01	0.0010	0.0015	0.0014	0.0030	0.0005	0.31	0.0013	0.0019	0.0017	0.0030	0.0005	0.29	0.0013	0.0018	0.0015	0.0027	0.0005	0.28
Total Tungsten	mg/L	0.00201	0.00255	0.00258	0.00356	0.00044	0.17	0.00207	0.00542	0.00459	0.01464	0.00275	0.51	0.00412	0.00770	0.00665	0.01474	0.00343	0.45	0.00414	0.00743	0.00545	0.01330	0.00327	0.44
Total Uranium	mg/L	0.00024	0.00033	0.00030	0.00045	0.00007	0.22	0.00024	0.00048	0.00046	0.00093	0.00017	0.35	0.00027	0.00047	0.00043	0.00080	0.00014	0.29	0.00027	0.00043	0.00039	0.00062	0.00011	0.26
Total Vanadium	mg/L	0.0005	0.0009	0.0006	0.0021	0.0006	0.70	0.0005	0.0025	0.0021	0.0082	0.0016	0.66	0.0014	0.0035	0.0029	0.0082	0.0019	0.54	0.0014	0.0033	0.0024	0.0072	0.0018	0.54
Total Zinc	mg/L	0.0010	0.0023	0.0021	0.0042	0.0010	0.44	0.0011	0.0038	0.0036	0.0067	0.0014	0.37	0.0022	0.0039	0.0040	0.0061	0.0012	0.30	0.0021	0.0038	0.0036	0.0057	0.0011	0.29
Total Carbon	mg/L	4.12	9.56	10.43	13.31	3.13	0.33	3.94	9.01	9.40	13.35	3.18	0.35	3.94	8.92	9.36	13.10	3.15	0.35	4.01	8.93	8.77	13.09	3.14	0.35

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.9 - NAP2

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	5.8	8.9	9.4	12.4	2.1	0.24	5.8	14.0	13.3	27.4	5.3	0.38	7.2	13.4	12.8	24.0	4.3	0.32	7.2	12.4	11.2	19.8	3.6	0.29
Alkalinity	mg/L	3.5	7.9	8.8	11.0	2.7	0.34	3.5	54.6	50.5	130.0	37.8	0.69	4.1	32.8	16.6	107.9	30.6	0.93	3.8	8.8	9.4	14.5	2.8	0.31
Ammonia	mg/L	0.025	0.032	0.025	0.046	0.010	0.32	0.025	0.039	0.037	0.069	0.011	0.30	0.026	0.039	0.034	0.068	0.011	0.28	0.027	0.036	0.031	0.053	0.010	0.26
Nitrate	mg/L	0.025	0.074	0.050	0.182	0.060	0.81	0.022	0.084	0.049	0.186	0.063	0.75	0.024	0.084	0.049	0.186	0.063	0.75	0.024	0.083	0.049	0.183	0.062	0.75
Phosphate	mg/L	0.006	0.014	0.010	0.032	0.010	0.68	0.006	0.014	0.010	0.033	0.009	0.67	0.006	0.013	0.010	0.032	0.009	0.67	0.006	0.013	0.010	0.032	0.009	0.67
Sulphate	mg/L	0.5	1.5	1.3	5.0	1.3	0.86	0.6	5.7	5.6	14.4	3.4	0.60	2.0	5.7	5.2	12.1	2.6	0.46	2.0	4.9	4.3	8.5	2.1	0.43
Bromide	mg/L	0.005	0.005	0.005	0.005	0.000	0.00	0.005	0.005	0.005	0.005	0.000	0.01	0.005	0.005	0.005	0.005	0.000	0.01	0.005	0.005	0.005	0.005	0.000	0.01
Chloride	mg/L	0.83	1.17	0.96	1.91	0.37	0.31	0.84	1.78	1.55	4.11	0.73	0.41	1.21	2.23	2.12	4.13	0.87	0.39	1.21	2.14	1.94	3.67	0.82	0.38
Fluoride	mg/L	0.095	0.148	0.135	0.221	0.038	0.26	0.096	0.246	0.237	0.490	0.092	0.37	0.115	0.212	0.209	0.380	0.064	0.30	0.114	0.192	0.191	0.296	0.054	0.28
Dissolved Aluminum	mg/L	0.0637	0.1226	0.1378	0.1690	0.0336	0.27	0.0638	0.1301	0.1425	0.1810	0.0344	0.26	0.0656	0.1228	0.1399	0.1739	0.0348	0.28	0.0655	0.1208	0.1333	0.1713	0.0350	0.29
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.04	0.0001	0.0003	0.0003	0.0009	0.0002	0.72	0.0001	0.0003	0.0003	0.0009	0.0002	0.56	0.0001	0.0003	0.0002	0.0005	0.0001	0.46
Dissolved Arsenic	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0021	0.0018	0.0060	0.0014	0.67	0.0008	0.0020	0.0017	0.0049	0.0010	0.51	0.0008	0.0016	0.0015	0.0026	0.0006	0.37
Dissolved Barium	mg/L	0.0020	0.0023	0.0020	0.0030	0.0004	0.19	0.0020	0.0027	0.0027	0.0044	0.0006	0.22	0.0021	0.0026	0.0024	0.0039	0.0005	0.19	0.0021	0.0025	0.0022	0.0034	0.0004	0.18
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0005	0.0005	0.0005	0.0000	0.00
Dissolved Boron	mg/L	0.0014	0.0024	0.0025	0.0038	0.0008	0.34	0.0020	0.0298	0.0228	0.1097	0.0250	0.84	0.0169	0.0465	0.0396	0.1106	0.0291	0.63	0.0171	0.0424	0.0234	0.0902	0.0266	0.63
Dissolved Cadmium	mg/L	0.000005	0.000005	0.000005	0.000006	0.000001	0.10	0.000005	0.000019	0.000017	0.000045	0.000011	0.60	0.000007	0.000014	0.000012	0.000029	0.000006	0.43	0.000007	0.000011	0.000009	0.000017	0.000004	0.34
Dissolved Calcium	mg/L	1.8	2.8	3.0	4.0	0.7	0.25	1.8	4.3	4.2	8.3	1.6	0.37	2.1	3.9	3.7	7.0	1.2	0.30	2.1	3.7	3.4	5.8	1.0	0.28
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0008	0.0008	0.0015	0.0003	0.33	0.0006	0.0008	0.0008	0.0014	0.0002	0.26	0.0006	0.0008	0.0007	0.0011	0.0002	0.22
Dissolved Cobalt	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00015	0.00014	0.00036	0.00009	0.58	0.00006	0.00009	0.00008	0.00018	0.00003	0.33	0.00006	0.00008	0.00007	0.00011	0.00002	0.22
Dissolved Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.03	0.0005	0.0014	0.0012	0.0034	0.0007	0.54	0.0009	0.0016	0.0015	0.0033	0.0007	0.44	0.0009	0.0015	0.0011	0.0026	0.0006	0.42
Dissolved Iron	mg/L	0.08	0.15	0.18	0.20	0.05	0.34	0.08	0.15	0.15	0.21	0.05	0.34	0.08	0.14	0.15	0.20	0.05	0.34	0.08	0.14	0.12	0.20	0.05	0.34
Dissolved Lead	mg/L	0.00005	0.00014	0.00010	0.00050	0.00012	0.89	0.00005	0.00019	0.00015	0.00055	0.00012	0.64	0.00008	0.00022	0.00020	0.00055	0.00012	0.56	0.00008	0.00021	0.00018	0.00054	0.00012	0.58
Dissolved Lithium	mg/L	0.00093	0.00133	0.00143	0.00171	0.00032	0.24	0.00094	0.00232	0.00226	0.00440	0.00089	0.39	0.00123	0.00235	0.00218	0.00414	0.00071	0.30	0.00123	0.00214	0.00209	0.00308	0.00056	0.26
Dissolved Magnesium	mg/L	0.29	0.43	0.46	0.58	0.10	0.22	0.29	0.78	0.74	1.71	0.34	0.43	0.42	0.83	0.78	1.59	0.31	0.37	0.42	0.77	0.67	1.30	0.27	0.35
Dissolved Manganese	mg/L	0.002	0.005	0.007	0.007	0.002	0.34	0.002	0.018	0.016	0.045	0.011	0.60	0.004	0.011	0.010	0.026	0.005	0.47	0.004	0.008	0.008	0.012	0.003	0.34
Dissolved Mercury	mg/L	0.000012	0.000012	0.000012	0.000012	0.000000	0.00	0.000012	0.000012	0.000012	0.000013	0.000000	0.01	0.000012	0.000012	0.000012	0.000012	0.000000	0.01	0.000012	0.000012	0.000012	0.000012	0.000000	0.01
Dissolved Molybdenum	mg/L	0.0001	0.0001	0.0001	0.0002	0.0001	0.57	0.0001	0.0019	0.0016	0.0059	0.0016	0.84	0.0005	0.0021	0.0016	0.0057	0.0013	0.64	0.0006	0.0016	0.0015	0.0033	0.0009	0.55
Dissolved Nickel	mg/L	0.00050	0.00050	0.00050	0.00051	0.00000	0.00	0.00050	0.00070	0.00067	0.00114	0.00017	0.24	0.00055	0.00065	0.00063	0.00090	0.00010	0.15	0.00055	0.00062	0.00057	0.00077	0.00008	0.13
Dissolved Phosphorous	mg/L	0.010	0.010	0.010	0.010	0.000	0.01	0.010	0.015	0.014	0.030	0.005	0.30	0.013	0.018	0.017	0.030	0.005	0.29	0.013	0.017	0.014	0.026	0.005	0.28
Dissolved Potassium	mg/L	0.21	0.34	0.33	0.44	0.07	0.20	0.23	1.42	1.13	4.64	1.00	0.71	0.82	2.11	1.82	4.68	1.19	0.57	0.82	1.96	1.21	3.95	1.10	0.56
Dissolved Rubidium	mg/L	0.0008	0.0013	0.0014	0.0016	0.0003	0.19	0.0009	0.0058	0.0048	0.0172	0.0040	0.69	0.0028	0.0074	0.0066	0.0171	0.0041	0.55	0.0028	0.0066	0.0044	0.0129	0.0035	0.53
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0005	0.0007	0.0000	0.08	0.0005	0.0005	0.0005	0.0006	0.0000	0.06	0.0005	0.0005	0.0005	0.0006	0.0000	0.04
Dissolved Silicon	mg/L	6.25	9.10	10.01	11.31	1.97	0.22	6.24	12.89	12.80	19.39	3.95	0.31	6.57	11.67	11.77	18.82	3.34	0.29	6.53	9.96	10.90	11.94	1.98	0.20
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.04	0.00005	0.00005	0.00005	0.00006	0.00000	0.04	0.00005	0.00005	0.00005	0.00006	0.00000	0.04
Dissolved Sodium	mg/L	1.11	1.60	1.79	1.92	0.32	0.20	1.11	22.85	20.97	56.04	16.79	0.73	1.38	12.97	5.82	47.05	13.79	1.06	1.23	1.98	2.01	3.49	0.44	0.22
Dissolved Strontium	mg/L	0.0080	0.0125	0.0130	0.0174	0.0031	0.25	0.0081	0.0257	0.0241	0.0574	0.0126	0.49	0.0123	0.0271	0.0242	0.0551	0.0111	0.41	0.0124	0.0243	0.0213	0.0421	0.0090	0.37
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00007	0.00007	0.00013	0.00002	0.26	0.00006	0.00008	0.00007	0.00012	0.00002	0.24	0.00006	0.00008	0.00006	0.00010	0.00002	0.22
Dissolved Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.01	0.0010	0.0014	0.0013	0.0027	0.0004	0.27	0.0012	0.0017	0.0016	0.0027	0.0004	0.26	0.0012	0.0016	0.0013	0.0023	0.0004	0.24
Dissolved Tungsten	mg/L	0.00189	0.00235	0.00255	0.00269	0.00035	0.15	0.00193	0.00466	0.00392	0.01224	0.00230	0.49	0.00328	0.00631	0.00560	0.01232	0.00281	0.45	0.00329	0.00596	0.00439	0.01056	0.00261	0.44
Dissolved Uranium	mg/L	0.00020	0.00026	0.00023	0.00040	0.00007	0.28	0.00020	0.00040	0.00038	0.00070	0.00013	0.33	0.00024	0.00037	0.00036	0.00060	0.00010	0.27	0.00024	0.00033	0.00029	0.00046	0.00007	0.22
Dissolved Vanadium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.05	0.0005	0.0018	0.0015	0.0055	0.0012	0.64	0.0012	0.0025	0.0023	0.0056	0.0013	0.51	0.0012	0.0023	0.0016	0.0044	0.0012	0.50
Dissolved Zinc	mg/L	0.0006	0.0016	0.0010	0.0080	0.0021	1.32	0.0006	0.0029	0.0023	0.0092	0.0021	0.73	0.0011	0.0029	0.0023	0.0088	0.0020	0.69	0.0011	0.0027	0.0022	0.0086	0.0020	0.73
Total Aluminum	mg/L	0.0850	0.1544	0.1810	0.1873	0.0433	0.28	0.0853	0.1612	0.1812	0.2223	0.0439	0.27	0.0870	0.1538	0.1787	0.2001	0.0440	0.29	0.0869	0.1518	0.1718	0.1929	0.0441	0.29
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.26	0.0001	0.0003	0.0003	0.0009	0.0002	0.71	0.0001	0.0003	0.0003	0.0009	0.0002	0.56	0.0001	0.0003	0.0002	0.0005	0.0001	0.47
Total Arsenic	mg/L	0.0005	0.0006	0.0005	0.0006	0.0001	0.12	0.0005	0.0021	0.0018	0.0061	0.0014	0.66	0.0008	0.0020	0.0017	0.0050	0.0010	0.50	0.0009	0.0016	0.0015	0.0027	0.0006	0.36
Total Barium	mg/L	0.0020	0.0024	0.0020	0.0033	0.0005	0.22	0.0020	0.0028	0.0027	0.0046	0.0007	0.24	0.0021	0.0027	0.0025	0.0042	0.0006	0.22	0.0021	0.0026	0.0022	0.0036	0.0005	0.21
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0005	0.0005	0.0005	0.0000	0.00
Total Boron	mg/L	0.0014	0.0024	0.0025	0.0038	0.0008	0.34	0.0020	0.0298	0.0228	0.1097	0.0250	0.84	0.0169	0.0465	0.0396	0.1106	0.0291	0.63	0.0171	0.0424	0.0235	0.0902	0.0266	0.63
Total Cadmium	mg/L	0.000005	0.000006	0.000005	0.000012	0.000002	0.33	0.000005	0.000019	0.000018	0.000047	0.000011	0.57	0.000007	0.000014	0.000015	0.000030	0.000006	0.41	0.000007	0.000012	0.000011	0.000019	0.000004	0.34
Total Calcium	mg/L	1.8	2.9	3.2	4.0	0.7	0.24	1.8	4.4	4.3	8.3	1.6	0.36	2.1	4.1	3.9	7.0	1.2	0.29	2.1	3.8	3.7	5.8	1.0	0.26
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0008	0.0008	0.0015	0.0003	0.33	0.0006	0.0008	0.0008	0.0014	0.0002	0.26	0.0006	0.0008	0.0007	0.0011	0.0002	0.22
Total Cobalt	mg/L	0.00005	0.00005	0.00005	0.00008	0.00001	0.19	0.00005	0.00016	0.00014	0.00036	0.00009	0.57	0.00006	0.00010	0.00008	0.00018	0.00003	0.34	0.00006	0.00008	0.00007	0.00012	0.00002	0.26
Total Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.03	0.0005	0.0014	0.0012	0.0034	0.0007	0.54	0.0009	0.0016	0.0015	0.0033	0.0007	0.44	0.0009	0.0015	0.0011	0.0026	0.0006	0.42
Total Iron	mg/L	0.09	0.18	0.19	0.25	0.06	0.35	0.09	0.17	0.17	0.26	0.06	0.36	0.09	0.17	0.17	0.25	0.06	0.36	0.09	0.17	0.15	0.25	0.06	0.36
Total Lead	mg/L	0.00006	0.00019	0.00020	0.00050	0.00012	0.61	0.00006	0.00024	0.00023	0.00055	0.00012	0.49	0.00010	0.00027	0.00027	0.00055	0.00012	0.45	0.00010	0.00026	0.00026	0.00054	0.00012	0.46
Total Lithium	mg/L	0.00100	0.00150	0.00163	0.00193	0.00033	0.22	0.00101	0.00248	0.00238	0.00478	0.00098	0.39	0.00129	0.00251	0.00229	0.00454	0.00083	0.33	0.00130	0.00231	0.00215	0.00357	0.00067	0.29
Total Magnesium	mg/L	0.29	0.45	0.48	0.58	0.10	0.22	0.29	0.80	0.76	1.71	0.34	0.43	0.42	0.85	0.80	1.59	0.31	0.37	0.42	0.78	0.68	1.30	0.26	0.34
Total Manganese	mg/L	0.004	0.009	0.008	0.015	0.004	0.45	0.004	0.021	0.017	0.045	0.012	0.54	0.006	0.014	0.012	0.029	0.006	0.45	0.006	0.011	0.010	0.020	0.004	0.40
Total Mercury	mg/L	0.000012	0.000012	0.000012	0.000012	0.000000	0.00	0.000012	0.000012	0.000012	0.000013	0.000000	0.01	0.000012	0.000012	0.000012	0.000012	0.000000	0.01	0.000012	0.000012	0.000012	0.000012	0.000000	0.01
Total Molybdenum	mg/L	0.0001	0.0001	0.0001	0.0003	0.0001	0.73	0.0001	0.0019	0.0016	0.0059	0.0016	0.83	0.0005	0.0021	0.0016	0.0057	0.0013	0.64	0.0006	0.0016	0.0015	0.0033	0.0009	0.55
Total Nickel	mg/L	0.00050	0.00050	0.00050	0.00051	0.00000	0.00	0.00050	0.00070	0.00067	0.00114	0.00017	0.24	0.00055	0.00065	0.00063	0.00090	0.00010	0.15	0.00055	0.00062	0.00057	0.00077	0.00008	0.13
Total Phosphorous	mg/L	0.010	0.010	0.010	0.010	0.000	0.01	0.010	0.015	0.014	0.030	0.005	0.30	0.013	0.018	0.017	0.030	0.005	0.29	0.013	0.018	0.014	0.026	0.005	0.28
Total Potassium	mg/L	0.21	0.36	0.35	0.50	0.08	0.21	0.23	1.44	1.14	4.65	1.01	0.70	0.82	2.13	1.84	4.70	1.20	0.57	0.82	1.97	1.21	4.00	1.11	0.56
Total Rubidium	mg/L	0.0009	0.0014	0.0015	0.0017	0.0002	0.18	0.0010	0.0059	0.0048	0.0172	0.0040	0.68	0.0029	0.0075	0.0066	0.0172	0.0041	0.55	0.0029	0.0067	0.0045	0.0130	0.0035	0.53
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0005	0.0007	0.0000	0.08	0.0005	0.0005	0.0005	0.0006	0.0000	0.06	0.0005	0.0005	0.0005	0.0006	0.0000	0.04
Total Silicon	mg/L	6.25	9.10	10.01	11.31	1.97	0.22	6.24	12.89	12.80	19.39	3.95	0.31	6.57	11.67	11.77	18.82	3.34	0.29	6.53	9.96	10.90	11.94	1.98	0.20
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.04	0.00005	0.00005	0.00005	0.00006	0.00000	0.04	0.00005	0.00005	0.00005	0.00006	0.00000	0.04
Total Sodium	mg/L	1.12	1.68	1.83	2.17	0.36	0.21	1.13	22.92	21.06	56.29	16.81	0.73	1.44	13.05	5.99	47.10	13.80	1.06	1.24	2.06	2.10	3.74	0.48	0.23
Total Strontium	mg/L	0.0080	0.0130	0.0140	0.0174	0.0032	0.24	0.0081	0.0263	0.0245	0.0574	0.0126	0.48	0.0123	0.0276	0.0242	0.0552	0.0111	0.40	0.0124	0.0249	0.0218	0.0421	0.0090	0.36
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00007	0.00007	0.00013	0.00002	0.26	0.00006	0.00008	0.00007	0.00012	0.00002	0.24	0.00006	0.00008	0.00006	0.00010	0.00002	0.22
Total Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.01	0.0010	0.0014	0.0013	0.0027	0.0004	0.27	0.0012	0.0017	0.0016	0.0027	0.0004	0.26	0.0012	0.0016	0.0013	0.0023	0.0004	0.24
Total Tungsten	mg/L	0.00189	0.00235	0.00255	0.00269	0.00035	0.15	0.00193	0.00466	0.00392	0.01224	0.00230	0.49	0.00330	0.00631	0.00560	0.01232	0.00281	0.45	0.00331	0.00596	0.00439	0.01056	0.00260	0.44
Total Uranium	mg/L	0.00025	0.00031	0.00028	0.00040	0.00006	0.21	0.00025	0.00045	0.00043	0.00086	0.00014	0.32	0.00029	0.00042	0.00041	0.00074	0.00011	0.26	0.00029	0.00038	0.00033	0.00054	0.00008	0.21
Total Vanadium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.05	0.0005	0.0018	0.0015	0.0055	0.0012	0.64	0.0012	0.0025	0.0023	0.0056	0.0013	0.51	0.0012	0.0023	0.0016	0.0044	0.0012	0.50
Total Zinc	mg/L	0.0006	0.0017	0.0010	0.0080	0.0021	1.21	0.0006	0.0030	0.0024	0.0092	0.0021	0.71	0.0011	0.0030	0.0023	0.0088	0.0020	0.68	0.0011	0.0028	0.0022	0.0086	0.0020	0.71
Total Carbon	mg/L	3.52	7.73	7.30	12.50	2.60	0.34	3.47	7.38	7.23	12.58	2.65	0.36	3.47	7.31	7.19	12.49	2.64	0.36	3.47	7.30	7.18	12.49	2.63	0.36

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.10 - NAP3

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	5.7	8.7	9.3	11.8	1.9	0.21	5.9	14.6	13.8	29.4	5.8	0.40	7.6	14.2	13.5	25.8	4.7	0.33	7.6	13.2	11.6	21.4	4.1	0.31
Alkalinity	mg/L	3.3	7.6	8.3	10.2	2.3	0.31	3.5	58.4	53.9	139.6	40.8	0.70	4.3	35.1	17.9	115.7	32.9	0.94	3.9	9.0	9.5	15.1	2.8	0.31
Ammonia	mg/L	0.025	0.034	0.036	0.052	0.009	0.28	0.025	0.039	0.038	0.071	0.011	0.29	0.028	0.040	0.035	0.071	0.011	0.27	0.028	0.038	0.033	0.055	0.009	0.25
Nitrate	mg/L	0.025	0.076	0.054	0.187	0.054	0.72	0.024	0.085	0.051	0.187	0.061	0.72	0.025	0.084	0.051	0.187	0.061	0.72	0.025	0.084	0.051	0.184	0.061	0.73
Phosphate	mg/L	0.006	0.013	0.010	0.031	0.009	0.67	0.006	0.013	0.010	0.032	0.009	0.66	0.006	0.013	0.010	0.031	0.009	0.66	0.006	0.013	0.010	0.031	0.009	0.66
Sulphate	mg/L	0.5	1.4	1.2	4.2	1.0	0.76	0.6	6.2	6.1	16.3	3.9	0.62	2.4	6.5	5.8	14.0	3.1	0.48	2.3	5.7	5.1	10.1	2.6	0.46
Bromide	mg/L	0.005	0.005	0.005	0.005	0.000	0.02	0.005	0.005	0.005	0.005	0.000	0.01	0.005	0.005	0.005	0.005	0.000	0.01	0.005	0.005	0.005	0.005	0.000	0.01
Chloride	mg/L	0.87	1.15	0.93	1.75	0.32	0.27	0.84	1.89	1.63	4.58	0.82	0.44	1.30	2.45	2.37	4.61	1.00	0.41	1.30	2.37	2.19	4.14	0.95	0.40
Fluoride	mg/L	0.091	0.143	0.133	0.202	0.034	0.24	0.095	0.256	0.247	0.521	0.100	0.39	0.120	0.223	0.213	0.406	0.070	0.31	0.119	0.202	0.200	0.317	0.059	0.29
Dissolved Aluminum	mg/L	0.0596	0.1223	0.1294	0.1629	0.0294	0.24	0.0630	0.1306	0.1421	0.1802	0.0338	0.26	0.0653	0.1229	0.1407	0.1725	0.0340	0.28	0.0652	0.1208	0.1346	0.1698	0.0342	0.28
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.04	0.0001	0.0004	0.0003	0.0010	0.0003	0.73	0.0001	0.0004	0.0003	0.0010	0.0002	0.56	0.0001	0.0003	0.0003	0.0006	0.0001	0.48
Dissolved Arsenic	mg/L	0.0006	0.0007	0.0006	0.0008	0.0001	0.12	0.0005	0.0023	0.0020	0.0065	0.0015	0.68	0.0009	0.0022	0.0019	0.0054	0.0011	0.50	0.0009	0.0018	0.0017	0.0030	0.0007	0.38
Dissolved Barium	mg/L	0.0020	0.0023	0.0023	0.0030	0.0004	0.17	0.0020	0.0028	0.0027	0.0045	0.0006	0.22	0.0021	0.0026	0.0025	0.0040	0.0005	0.19	0.0021	0.0025	0.0022	0.0034	0.0004	0.18
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0005	0.0005	0.0005	0.0000	0.01
Dissolved Boron	mg/L	0.0014	0.0025	0.0025	0.0039	0.0009	0.35	0.0021	0.0347	0.0261	0.1292	0.0294	0.85	0.0203	0.0555	0.0464	0.1302	0.0349	0.63	0.0205	0.0515	0.0282	0.1095	0.0324	0.63
Dissolved Cadmium	mg/L	0.000007	0.000011	0.000012	0.000017	0.000003	0.28	0.000005	0.000021	0.000019	0.000050	0.000012	0.59	0.000009	0.000016	0.000014	0.000034	0.000007	0.42	0.000009	0.000013	0.000010	0.000022	0.000005	0.35
Dissolved Calcium	mg/L	1.8	2.7	2.8	3.8	0.6	0.22	1.8	4.4	4.2	8.7	1.7	0.38	2.2	4.1	3.8	7.5	1.3	0.32	2.2	3.8	3.5	6.2	1.1	0.29
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0009	0.0008	0.0017	0.0003	0.35	0.0006	0.0009	0.0008	0.0015	0.0003	0.28	0.0006	0.0008	0.0007	0.0012	0.0002	0.25
Dissolved Cobalt	mg/L	0.00005	0.00005	0.00005	0.00006	0.00000	0.05	0.00005	0.00016	0.00015	0.00039	0.00010	0.60	0.00006	0.00010	0.00009	0.00019	0.00003	0.34	0.00006	0.00008	0.00007	0.00012	0.00002	0.25
Dissolved Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.03	0.0005	0.0015	0.0013	0.0039	0.0008	0.57	0.0009	0.0018	0.0017	0.0038	0.0008	0.46	0.0009	0.0017	0.0012	0.0031	0.0008	0.45
Dissolved Iron	mg/L	0.08	0.15	0.17	0.21	0.05	0.34	0.08	0.15	0.15	0.21	0.05	0.34	0.08	0.14	0.15	0.20	0.05	0.34	0.08	0.14	0.12	0.20	0.05	0.34
Dissolved Lead	mg/L	0.00005	0.00014	0.00010	0.00043	0.00010	0.75	0.00005	0.00020	0.00016	0.00055	0.00012	0.61	0.00009	0.00024	0.00022	0.00055	0.00013	0.53	0.00009	0.00023	0.00020	0.00053	0.00012	0.54
Dissolved Lithium	mg/L	0.00081	0.00116	0.00126	0.00146	0.00026	0.22	0.00092	0.00241	0.00231	0.00476	0.00098	0.41	0.00128	0.00249	0.00231	0.00450	0.00080	0.32	0.00128	0.00229	0.00216	0.00341	0.00064	0.28
Dissolved Magnesium	mg/L	0.30	0.44	0.47	0.58	0.09	0.19	0.30	0.83	0.77	1.88	0.38	0.45	0.45	0.91	0.85	1.75	0.36	0.39	0.45	0.84	0.71	1.45	0.31	0.37
Dissolved Manganese	mg/L	0.002	0.006	0.006	0.010	0.002	0.36	0.002	0.020	0.017	0.048	0.012	0.62	0.004	0.012	0.010	0.028	0.006	0.48	0.004	0.008	0.008	0.014	0.003	0.35
Dissolved Mercury	mg/L	0.000012	0.000013	0.000012	0.000013	0.000000	0.02	0.000012	0.000012	0.000012	0.000013	0.000000	0.01	0.000012	0.000012	0.000012	0.000013	0.000000	0.01	0.000012	0.000012	0.000012	0.000013	0.000000	0.01
Dissolved Molybdenum	mg/L	0.0000	0.0001	0.0001	0.0002	0.0000	0.51	0.0001	0.0021	0.0017	0.0065	0.0018	0.84	0.0007	0.0024	0.0018	0.0063	0.0015	0.62	0.0007	0.0019	0.0018	0.0039	0.0011	0.56
Dissolved Nickel	mg/L	0.00050	0.00050	0.00050	0.00051	0.00000	0.00	0.00050	0.00072	0.00069	0.00121	0.00019	0.26	0.00056	0.00068	0.00066	0.00097	0.00012	0.17	0.00056	0.00065	0.00059	0.00083	0.00010	0.15
Dissolved Phosphorous	mg/L	0.010	0.011	0.012	0.012	0.001	0.10	0.010	0.016	0.015	0.034	0.005	0.33	0.013	0.020	0.018	0.034	0.006	0.32	0.013	0.019	0.015	0.030	0.006	0.31
Dissolved Potassium	mg/L	0.23	0.35	0.33	0.44	0.06	0.18	0.24	1.62	1.27	5.44	1.19	0.73	0.96	2.48	2.10	5.48	1.43	0.58	0.97	2.32	1.40	4.74	1.34	0.58
Dissolved Rubidium	mg/L	0.0008	0.0012	0.0013	0.0016	0.0002	0.19	0.0009	0.0065	0.0053	0.0197	0.0046	0.71	0.0032	0.0086	0.0077	0.0197	0.0048	0.56	0.0033	0.0078	0.0051	0.0154	0.0043	0.55
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0005	0.0007	0.0000	0.09	0.0005	0.0006	0.0005	0.0006	0.0000	0.07	0.0005	0.0005	0.0005	0.0006	0.0000	0.05
Dissolved Silicon	mg/L	6.25	9.13	9.96	11.41	1.82	0.20	6.27	13.24	13.00	20.23	4.14	0.31	6.68	11.98	11.72	19.72	3.48	0.29	6.63	10.13	11.06	12.29	1.97	0.19
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.04	0.00005	0.00005	0.00005	0.00006	0.00000	0.05	0.00005	0.00005	0.00005	0.00006	0.00000	0.05
Dissolved Sodium	mg/L	1.08	1.59	1.72	1.86	0.28	0.18	1.11	24.59	22.57	60.44	18.15	0.74	1.44	14.04	6.56	50.63	14.81	1.05	1.26	2.06	2.06	3.80	0.48	0.23
Dissolved Strontium	mg/L	0.0083	0.0125	0.0129	0.0169	0.0028	0.22	0.0082	0.0274	0.0255	0.0629	0.0139	0.51	0.0134	0.0297	0.0261	0.0607	0.0126	0.42	0.0135	0.0269	0.0231	0.0474	0.0105	0.39
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00008	0.00007	0.00014	0.00002	0.29	0.00006	0.00008	0.00008	0.00014	0.00002	0.26	0.00006	0.00008	0.00007	0.00012	0.00002	0.24
Dissolved Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.01	0.0010	0.0015	0.0014	0.0030	0.0005	0.30	0.0013	0.0018	0.0017	0.0030	0.0005	0.29	0.0013	0.0017	0.0014	0.0026	0.0005	0.27
Dissolved Tungsten	mg/L	0.00188	0.00232	0.00244	0.00269	0.00035	0.15	0.00190	0.00509	0.00418	0.01402	0.00270	0.53	0.00358	0.00712	0.00622	0.01411	0.00334	0.47	0.00359	0.00678	0.00480	0.01233	0.00314	0.46
Dissolved Uranium	mg/L	0.00017	0.00022	0.00019	0.00033	0.00006	0.26	0.00019	0.00041	0.00039	0.00073	0.00014	0.35	0.00024	0.00038	0.00037	0.00062	0.00010	0.27	0.00024	0.00034	0.00030	0.00047	0.00007	0.22
Dissolved Vanadium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.06	0.0005	0.0021	0.0016	0.0064	0.0014	0.66	0.0013	0.0029	0.0026	0.0064	0.0016	0.53	0.0013	0.0027	0.0018	0.0052	0.0014	0.52
Dissolved Zinc	mg/L	0.0008	0.0017	0.0013	0.0068	0.0017	1.00	0.0006	0.0031	0.0025	0.0091	0.0021	0.69	0.0012	0.0031	0.0026	0.0087	0.0020	0.63	0.0012	0.0030	0.0024	0.0084	0.0019	0.65
Total Aluminum	mg/L	0.0765	0.1477	0.1629	0.1809	0.0357	0.24	0.0838	0.1605	0.1793	0.2215	0.0426	0.27	0.0861	0.1526	0.1757	0.1976	0.0426	0.28	0.0859	0.1505	0.1702	0.1915	0.0427	0.28
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.22	0.0001	0.0004	0.0003	0.0010	0.0003	0.72	0.0001	0.0004	0.0003	0.0010	0.0002	0.56	0.0001	0.0003	0.0003	0.0006	0.0002	0.48
Total Arsenic	mg/L	0.0006	0.0007	0.0007	0.0008	0.0001	0.13	0.0005	0.0023	0.0020	0.0066	0.0015	0.67	0.0009	0.0023	0.0019	0.0055	0.0011	0.50	0.0010	0.0018	0.0018	0.0031	0.0007	0.38
Total Barium	mg/L	0.0020	0.0024	0.0023	0.0032	0.0005	0.19	0.0020	0.0029	0.0028	0.0047	0.0007	0.24	0.0021	0.0027	0.0025	0.0042	0.0006	0.21	0.0021	0.0026	0.0022	0.0036	0.0005	0.20
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0005	0.0005	0.0005	0.0000	0.01
Total Boron	mg/L	0.0014	0.0025	0.0025	0.0039	0.0009	0.35	0.0021	0.0347	0.0261	0.1292	0.0294	0.85	0.0203	0.0555	0.0464	0.1302	0.0349	0.63	0.0205	0.0515	0.0282	0.1095	0.0324	0.63
Total Cadmium	mg/L	0.000007	0.000012	0.000012	0.000018	0.000004	0.30	0.000005	0.000022	0.000020	0.000052	0.000012	0.56	0.000009	0.000017	0.000016	0.000034	0.000007	0.40	0.000009	0.000014	0.000013	0.000022	0.000005	0.34
Total Calcium	mg/L	1.8	2.8	3.0	3.8	0.6	0.21	1.8	4.6	4.4	8.7	1.7	0.37	2.2	4.3	4.0	7.5	1.3	0.30	2.2	4.0	3.7	6.2	1.1	0.28
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0009	0.0008	0.0017	0.0003	0.35	0.0006	0.0009	0.0008	0.0015	0.0003	0.28	0.0006	0.0008	0.0007	0.0012	0.0002	0.25
Total Cobalt	mg/L	0.00005	0.00006	0.00005	0.00007	0.00001	0.16	0.00005	0.00017	0.00015	0.00039	0.00010	0.59	0.00006	0.00010	0.00009	0.00019	0.00004	0.36	0.00006	0.00009	0.00007	0.00013	0.00002	0.28
Total Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.03	0.0005	0.0015	0.0013	0.0039	0.0008	0.57	0.0009	0.0018	0.0017	0.0038	0.0008	0.46	0.0009	0.0017	0.0012	0.0031	0.0008	0.45
Total Iron	mg/L	0.09	0.17	0.18	0.25	0.06	0.35	0.09	0.17	0.17	0.26	0.06	0.35	0.09	0.16	0.17	0.25	0.06	0.35	0.09	0.16	0.15	0.25	0.06	0.35
Total Lead	mg/L	0.00006	0.00018	0.00017	0.00043	0.00010	0.54	0.00006	0.00025	0.00024	0.00055	0.00012	0.48	0.00010	0.00029	0.00030	0.00055	0.00012	0.43	0.00010	0.00028	0.00027	0.00053	0.00012	0.44
Total Lithium	mg/L	0.00088	0.00130	0.00138	0.00166	0.00028	0.21	0.00099	0.00256	0.00243	0.00512	0.00107	0.42	0.00133	0.00265	0.00239	0.00488	0.00092	0.35	0.00134	0.00244	0.00221	0.00388	0.00076	0.31
Total Magnesium	mg/L	0.30	0.45	0.49	0.58	0.09	0.19	0.30	0.85	0.79	1.88	0.38	0.45	0.45	0.92	0.87	1.75	0.35	0.38	0.45	0.86	0.72	1.45	0.31	0.36
Total Manganese	mg/L	0.004	0.008	0.007	0.014	0.003	0.41	0.004	0.022	0.018	0.049	0.013	0.56	0.006	0.015	0.013	0.030	0.007	0.45	0.006	0.011	0.010	0.020	0.004	0.39
Total Mercury	mg/L	0.000012	0.000013	0.000012	0.000013	0.000000	0.02	0.000012	0.000012	0.000012	0.000013	0.000000	0.01	0.000012	0.000012	0.000012	0.000013	0.000000	0.01	0.000012	0.000012	0.000012	0.000013	0.000000	0.01
Total Molybdenum	mg/L	0.0000	0.0001	0.0001	0.0002	0.0001	0.66	0.0001	0.0021	0.0017	0.0065	0.0018	0.83	0.0007	0.0024	0.0018	0.0063	0.0015	0.62	0.0007	0.0020	0.0018	0.0039	0.0011	0.56
Total Nickel	mg/L	0.00050	0.00050	0.00050	0.00051	0.00000	0.00	0.00050	0.00072	0.00069	0.00121	0.00019	0.26	0.00056	0.00068	0.00066	0.00097	0.00012	0.17	0.00056	0.00065	0.00059	0.00083	0.00010	0.15
Total Phosphorous	mg/L	0.010	0.011	0.012	0.012	0.001	0.10	0.010	0.016	0.015	0.034	0.005	0.33	0.013	0.020	0.018	0.034	0.006	0.32	0.013	0.019	0.015	0.030	0.006	0.31
Total Potassium	mg/L	0.23	0.36	0.34	0.48	0.07	0.19	0.24	1.64	1.28	5.45	1.19	0.73	0.96	2.49	2.11	5.50	1.44	0.58	0.97	2.34	1.40	4.79	1.35	0.58
Total Rubidium	mg/L	0.0009	0.0013	0.0014	0.0016	0.0002	0.17	0.0010	0.0066	0.0053	0.0197	0.0046	0.70	0.0033	0.0087	0.0078	0.0197	0.0048	0.56	0.0034	0.0078	0.0052	0.0155	0.0043	0.54
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0005	0.0007	0.0000	0.09	0.0005	0.0006	0.0005	0.0006	0.0000	0.07	0.0005	0.0005	0.0005	0.0006	0.0000	0.05
Total Silicon	mg/L	6.25	9.13	9.96	11.41	1.82	0.20	6.27	13.24	13.00	20.23	4.14	0.31	6.68	11.98	11.72	19.72	3.48	0.29	6.63	10.13	11.06	12.29	1.97	0.19
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.04	0.00005	0.00005	0.00005	0.00006	0.00000	0.05	0.00005	0.00005	0.00005	0.00006	0.00000	0.05
Total Sodium	mg/L	1.13	1.65	1.76	2.06	0.31	0.19	1.14	24.67	22.65	60.68	18.17	0.74	1.50	14.11	6.72	50.68	14.83	1.05	1.28	2.13	2.11	4.03	0.51	0.24
Total Strontium	mg/L	0.0083	0.0129	0.0134	0.0169	0.0028	0.22	0.0083	0.0280	0.0258	0.0629	0.0139	0.50	0.0134	0.0302	0.0266	0.0607	0.0125	0.41	0.0135	0.0274	0.0241	0.0474	0.0105	0.38
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00008	0.00007	0.00014	0.00002	0.29	0.00006	0.00008	0.00008	0.00014	0.00002	0.26	0.00006	0.00008	0.00007	0.00012	0.00002	0.24
Total Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.01	0.0010	0.0015	0.0014	0.0030	0.0005	0.30	0.0013	0.0018	0.0017	0.0030	0.0005	0.29	0.0013	0.0017	0.0014	0.0026	0.0005	0.27
Total Tungsten	mg/L	0.00188	0.00232	0.00244	0.00269	0.00035	0.15	0.00190	0.00509	0.00418	0.01402	0.00270	0.53	0.00360	0.00712	0.00622	0.01411	0.00334	0.47	0.00361	0.00678	0.00480	0.01233	0.00314	0.46
Total Uranium	mg/L	0.00021	0.00026	0.00023	0.00033	0.00005	0.20	0.00024	0.00045	0.00043	0.00089	0.00015	0.34	0.00029	0.00042	0.00041	0.00076	0.00011	0.27	0.00029	0.00038	0.00034	0.00055	0.00008	0.22
Total Vanadium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0000	0.06	0.0005	0.0021	0.0016	0.0064	0.0014	0.66	0.0013	0.0029	0.0026	0.0064	0.0016	0.53	0.0013	0.0027	0.0018	0.0052	0.0014	0.52
Total Zinc	mg/L	0.0008	0.0018	0.0013	0.0068	0.0017	0.94	0.0006	0.0032	0.0025	0.0091	0.0021	0.67	0.0013	0.0033	0.0026	0.0087	0.0020	0.62	0.0013	0.0031	0.0025	0.0084	0.0020	0.64
Total Carbon	mg/L	3.40	7.62	8.42	11.51	2.37	0.31	3.44	7.32	7.24	12.36	2.59	0.35	3.44	7.24	7.21	12.25	2.57	0.36	3.44	7.23	7.15	12.25	2.57	0.35

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.11 - NAPS

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	6.2	8.8	9.6	10.4	1.6	0.18	6.4	36.6	40.6	62.1	17.8	0.49	8.0	13.7	13.5	22.8	4.2	0.31	11.2	30.0	29.4	39.3	3.3	0.11
Alkalinity	mg/L	3.8	7.0	7.8	9.3	2.0	0.29	4.1	354.3	442.6	649.4	209.3	0.59	4.7	31.1	16.1	102.7	28.9	0.93	10.8	23.0	19.1	59.7	9.7	0.42
Ammonia	mg/L	0.019	0.036	0.025	0.064	0.018	0.49	0.017	0.097	0.111	0.159	0.041	0.42	0.022	0.042	0.033	0.079	0.017	0.40	0.028	0.167	0.161	0.194	0.017	0.10
Nitrate	mg/L	0.025	0.083	0.044	0.227	0.074	0.90	0.008	0.111	0.077	0.243	0.071	0.64	0.010	0.091	0.051	0.237	0.078	0.86	0.072	0.134	0.112	0.239	0.057	0.43
Phosphate	mg/L	0.006	0.015	0.011	0.051	0.012	0.85	0.005	0.015	0.011	0.064	0.013	0.89	0.005	0.017	0.012	0.064	0.015	0.91	0.004	0.013	0.009	0.064	0.011	0.88
Sulphate	mg/L	1.0	1.2	1.2	1.8	0.2	0.17	1.1	23.0	27.3	40.2	13.4	0.58	2.7	5.7	5.0	12.8	2.9	0.50	3.3	19.9	19.1	26.6	2.5	0.12
Bromide	mg/L	0.005	0.005	0.005	0.005	0.000	0.00	0.004	0.005	0.004	0.005	0.000	0.06	0.005	0.005	0.005	0.005	0.000	0.02	0.004	0.004	0.004	0.005	0.000	0.03
Chloride	mg/L	0.88	1.08	1.05	1.30	0.14	0.13	0.90	3.17	3.40	5.73	1.33	0.42	1.28	2.22	2.14	3.84	0.77	0.35	1.59	5.74	5.46	6.96	0.65	0.11
Fluoride	mg/L	0.090	0.147	0.140	0.202	0.028	0.19	0.089	0.746	0.767	1.279	0.401	0.54	0.148	0.226	0.213	0.397	0.061	0.27	0.148	0.468	0.463	0.656	0.052	0.11
Dissolved Aluminum	mg/L	0.0453	0.1075	0.1110	0.1609	0.0360	0.34	0.0447	0.1229	0.1289	0.1921	0.0345	0.28	0.0469	0.1065	0.1104	0.1702	0.0367	0.34	0.0469	0.1178	0.1204	0.1711	0.0277	0.24
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.04	0.0001	0.0015	0.0019	0.0021	0.0008	0.56	0.0001	0.0003	0.0003	0.0009	0.0002	0.55	0.0002	0.0028	0.0027	0.0031	0.0002	0.09
Dissolved Arsenic	mg/L	0.0005	0.0006	0.0005	0.0010	0.0002	0.30	0.0003	0.0029	0.0031	0.0064	0.0016	0.57	0.0007	0.0019	0.0016	0.0047	0.0010	0.54	0.0014	0.0037	0.0035	0.0048	0.0006	0.15
Dissolved Barium	mg/L	0.0040	0.0045	0.0043	0.0056	0.0005	0.12	0.0046	0.0079	0.0082	0.0112	0.0019	0.24	0.0046	0.0054	0.0052	0.0068	0.0006	0.11	0.0047	0.0077	0.0076	0.0086	0.0005	0.06
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0006	0.0007	0.0001	0.09	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0004	0.0004	0.0004	0.0005	0.0000	0.02
Dissolved Boron	mg/L	0.0014	0.0023	0.0023	0.0035	0.0008	0.32	0.0019	0.1072	0.1271	0.2076	0.0622	0.58	0.0180	0.0488	0.0408	0.1146	0.0306	0.63	0.0235	0.2126	0.2035	0.2617	0.0277	0.13
Dissolved Cadmium	mg/L	0.000007	0.000016	0.000016	0.000029	0.000007	0.43	0.000004	0.000073	0.000091	0.000119	0.000038	0.52	0.000007	0.000019	0.000017	0.000045	0.000008	0.42	0.000007	0.000059	0.000058	0.000080	0.000007	0.12
Dissolved Calcium	mg/L	1.9	2.8	3.0	3.3	0.5	0.19	2.0	11.0	11.7	19.1	5.4	0.49	2.4	4.1	4.1	6.5	1.2	0.29	3.4	7.6	7.5	10.3	0.9	0.12
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0019	0.0022	0.0027	0.0008	0.42	0.0006	0.0008	0.0008	0.0014	0.0002	0.26	0.0007	0.0024	0.0023	0.0029	0.0002	0.09
Dissolved Cobalt	mg/L	0.00005	0.00005	0.00005	0.00008	0.00001	0.18	0.00005	0.00069	0.00058	0.00137	0.00048	0.70	0.00006	0.00010	0.00008	0.00020	0.00003	0.35	0.00007	0.00032	0.00031	0.00047	0.00004	0.11
Dissolved Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.03	0.0004	0.0013	0.0012	0.0032	0.0007	0.51	0.0008	0.0016	0.0014	0.0032	0.0007	0.46	0.0010	0.0016	0.0013	0.0025	0.0005	0.30
Dissolved Iron	mg/L	0.06	0.12	0.13	0.21	0.05	0.39	0.06	0.12	0.11	0.21	0.04	0.35	0.06	0.12	0.11	0.20	0.04	0.38	0.05	0.09	0.09	0.16	0.03	0.35
Dissolved Lead	mg/L	0.00005	0.00008	0.00007	0.00016	0.00004	0.45	0.00005	0.00018	0.00018	0.00037	0.00007	0.41	0.00009	0.00017	0.00015	0.00035	0.00007	0.43	0.00009	0.00025	0.00023	0.00037	0.00005	0.21
Dissolved Lithium	mg/L	0.00068	0.00101	0.00105	0.00123	0.00019	0.19	0.00079	0.00698	0.00821	0.01146	0.00356	0.51	0.00110	0.00218	0.00206	0.00413	0.00082	0.38	0.00170	0.00935	0.00920	0.01084	0.00084	0.09
Dissolved Magnesium	mg/L	0.32	0.45	0.48	0.53	0.08	0.17	0.31	2.20	2.64	3.55	1.07	0.49	0.45	0.85	0.80	1.56	0.32	0.37	0.63	2.67	2.60	3.30	0.28	0.10
Dissolved Manganese	mg/L	0.001	0.005	0.004	0.014	0.004	0.76	0.001	0.026	0.029	0.055	0.014	0.55	0.003	0.010	0.008	0.031	0.006	0.62	0.003	0.031	0.030	0.041	0.004	0.12
Dissolved Mercury	mg/L	0.000012	0.000013	0.000012	0.000016	0.000001	0.08	0.000010	0.000012	0.000011	0.000016	0.000001	0.09	0.000012	0.000012	0.000012	0.000016	0.000001	0.09	0.000009	0.000010	0.000010	0.000013	0.000001	0.08
Dissolved Molybdenum	mg/L	0.0001	0.0002	0.0002	0.0004	0.0001	0.52	0.0001	0.0074	0.0094	0.0116	0.0042	0.57	0.0006	0.0023	0.0019	0.0058	0.0014	0.60	0.0015	0.0141	0.0138	0.0162	0.0013	0.09
Dissolved Nickel	mg/L	0.00050	0.00050	0.00050	0.00051	0.00000	0.00	0.00050	0.00159	0.00161	0.00255	0.00076	0.47	0.00055	0.00066	0.00064	0.00091	0.00010	0.16	0.00057	0.00131	0.00128	0.00156	0.00010	0.07
Dissolved Phosphorous	mg/L	0.010	0.014	0.010	0.020	0.005	0.37	0.009	0.032	0.033	0.056	0.012	0.38	0.013	0.022	0.021	0.041	0.007	0.34	0.014	0.049	0.046	0.062	0.006	0.12
Dissolved Potassium	mg/L	0.28	0.34	0.34	0.41	0.04	0.12	0.29	4.12	4.77	8.03	2.28	0.55	0.92	2.20	1.88	4.84	1.25	0.57	1.16	7.57	7.21	9.56	1.06	0.14
Dissolved Rubidium	mg/L	0.0010	0.0012	0.0012	0.0015	0.0002	0.16	0.0011	0.0234	0.0296	0.0384	0.0130	0.55	0.0031	0.0076	0.0070	0.0174	0.0042	0.55	0.0043	0.0387	0.0379	0.0461	0.0042	0.11
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0008	0.0009	0.0011	0.0002	0.24	0.0005	0.0006	0.0005	0.0006	0.0000	0.07	0.0005	0.0006	0.0006	0.0007	0.0000	0.04
Dissolved Silicon	mg/L	5.66	8.53	8.63	11.18	1.70	0.20	5.58	33.99	40.85	56.01	15.29	0.45	5.95	11.20	10.83	17.93	3.30	0.29	9.19	12.20	12.35	16.94	1.60	0.13
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00006	0.00006	0.00006	0.00000	0.07	0.00005	0.00005	0.00005	0.00006	0.00000	0.05	0.00005	0.00006	0.00006	0.00006	0.00000	0.03
Dissolved Sodium	mg/L	1.04	1.52	1.63	1.81	0.25	0.16	1.05	159.59	199.71	293.54	95.23	0.60	1.33	12.42	5.85	44.69	12.99	1.05	2.55	7.97	5.94	23.86	4.26	0.53
Dissolved Strontium	mg/L	0.0090	0.0130	0.0144	0.0162	0.0026	0.20	0.0092	0.0890	0.1067	0.1422	0.0456	0.51	0.0139	0.0283	0.0270	0.0549	0.0115	0.41	0.0233	0.1226	0.1202	0.1435	0.0116	0.09
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00015	0.00018	0.00023	0.00006	0.40	0.00006	0.00008	0.00008	0.00013	0.00002	0.24	0.00006	0.00021	0.00020	0.00024	0.00002	0.09
Dissolved Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.01	0.0010	0.0029	0.0034	0.0045	0.0011	0.38	0.0012	0.0017	0.0016	0.0027	0.0005	0.26	0.0013	0.0048	0.0047	0.0055	0.0004	0.09
Dissolved Tungsten	mg/L	0.00189	0.00227	0.00206	0.00266	0.00033	0.14	0.00192	0.01042	0.01139	0.02020	0.00505	0.48	0.00340	0.00650	0.00570	0.01268	0.00295	0.45	0.00392	0.01970	0.01867	0.02427	0.00254	0.13
Dissolved Uranium	mg/L	0.00010	0.00018	0.00018	0.00030	0.00006	0.33	0.00010	0.00126	0.00150	0.00219	0.00066	0.52	0.00017	0.00032	0.00028	0.00070	0.00013	0.40	0.00017	0.00160	0.00157	0.00189	0.00015	0.09
Dissolved Vanadium	mg/L	0.0004	0.0005	0.0005	0.0006	0.0000	0.07	0.0005	0.0063	0.0078	0.0111	0.0034	0.54	0.0012	0.0026	0.0024	0.0057	0.0014	0.52	0.0016	0.0123	0.0121	0.0147	0.0014	0.11
Dissolved Zinc	mg/L	0.0009	0.0015	0.0012	0.0046	0.0011	0.69	0.0005	0.0079	0.0092	0.0160	0.0044	0.55	0.0010	0.0028	0.0022	0.0060	0.0014	0.49	0.0017	0.0077	0.0073	0.0099	0.0011	0.14
Total Aluminum	mg/L	0.0642	0.1387	0.1414	0.2025	0.0454	0.33	0.0692	0.2050	0.2089	0.3347	0.0651	0.32	0.0713	0.1461	0.1493	0.2225	0.0472	0.32	0.0713	0.1474	0.1495	0.2099	0.0353	0.24
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.30	0.0001	0.0015	0.0019	0.0022	0.0008	0.56	0.0001	0.0003	0.0003	0.0009	0.0002	0.56	0.0002	0.0028	0.0028	0.0032	0.0002	0.09
Total Arsenic	mg/L	0.0005	0.0007	0.0006	0.0013	0.0002	0.33	0.0004	0.0030	0.0031	0.0064	0.0016	0.55	0.0008	0.0020	0.0018	0.0047	0.0010	0.51	0.0014	0.0038	0.0037	0.0048	0.0006	0.15
Total Barium	mg/L	0.0042	0.0050	0.0052	0.0060	0.0006	0.13	0.0048	0.0084	0.0087	0.0115	0.0019	0.23	0.0050	0.0060	0.0060	0.0076	0.0008	0.13	0.0050	0.0081	0.0078	0.0093	0.0006	0.07
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0006	0.0007	0.0001	0.09	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0004	0.0004	0.0004	0.0005	0.0000	0.02
Total Boron	mg/L	0.0014	0.0024	0.0023	0.0035	0.0007	0.31	0.0019	0.1072	0.1272	0.2076	0.0622	0.58	0.0180	0.0488	0.0411	0.1146	0.0306	0.63	0.0235	0.2126	0.2035	0.2617	0.0277	0.13
Total Cadmium	mg/L	0.000007	0.000016	0.000016	0.000029	0.000006	0.39	0.000004	0.000073	0.000093	0.000119	0.000038	0.52	0.000007	0.000020	0.000017	0.000045	0.000008	0.41	0.000007	0.000059	0.000058	0.000080	0.000007	0.12
Total Calcium	mg/L	2.1	2.9	3.1	3.5	0.5	0.19	2.2	11.2	11.9	19.3	5.4	0.49	2.6	4.2	4.2	6.8	1.2	0.28	3.6	7.7	7.6	10.4	0.9	0.12
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0010	0.0002	0.28	0.0005	0.0019	0.0022	0.0032	0.0008	0.43	0.0006	0.0009	0.0008	0.0020	0.0003	0.39	0.0007	0.0024	0.0023	0.0033	0.0003	0.12
Total Cobalt	mg/L	0.00005	0.00006	0.00005	0.00011	0.00002	0.31	0.00005	0.00070	0.00060	0.00137	0.00048	0.69	0.00006	0.00010	0.00010	0.00024	0.00004	0.37	0.00007	0.00033	0.00032	0.00049	0.00004	0.12
Total Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.03	0.0004	0.0013	0.0012	0.0032	0.0007	0.51	0.0008	0.0016	0.0014	0.0032	0.0007	0.46	0.0010	0.0016	0.0013	0.0025	0.0005	0.30
Total Iron	mg/L	0.08	0.16	0.17	0.25	0.06	0.37	0.07	0.15	0.15	0.25	0.05	0.34	0.08	0.15	0.16	0.25	0.06	0.37	0.06	0.12	0.12	0.19	0.04	0.34
Total Lead	mg/L	0.00006	0.00014	0.00013	0.00021	0.00005	0.35	0.00005	0.00023	0.00023	0.00043	0.00008	0.34	0.00009	0.00023	0.00021	0.00042	0.00009	0.38	0.00009	0.00029	0.00027	0.00041	0.00006	0.22
Total Lithium	mg/L	0.00074	0.00109	0.00111	0.00133	0.00021	0.19	0.00086	0.00707	0.00828	0.01159	0.00356	0.50	0.00118	0.00228	0.00214	0.00425	0.00084	0.37	0.00183	0.00943	0.00928	0.01094	0.00085	0.09
Total Magnesium	mg/L	0.33	0.47	0.50	0.56	0.08	0.17	0.33	2.22	2.66	3.58	1.07	0.48	0.47	0.87	0.82	1.59	0.32	0.37	0.66	2.69	2.62	3.32	0.28	0.10
Total Manganese	mg/L	0.004	0.009	0.009	0.021	0.005	0.53	0.002	0.031	0.032	0.064	0.015	0.48	0.004	0.015	0.013	0.040	0.008	0.51	0.004	0.035	0.033	0.048	0.005	0.15
Total Mercury	mg/L	0.000012	0.000013	0.000012	0.000016	0.000001	0.08	0.000010	0.000012	0.000011	0.000017	0.000002	0.13	0.000012	0.000013	0.000012	0.000017	0.000002	0.13	0.000009	0.000010	0.000010	0.000017	0.000001	0.12
Total Molybdenum	mg/L	0.0001	0.0002	0.0002	0.0004	0.0001	0.54	0.0001	0.0074	0.0094	0.0117	0.0042	0.57	0.0006	0.0023	0.0019	0.0058	0.0014	0.60	0.0015	0.0141	0.0138	0.0162	0.0013	0.10
Total Nickel	mg/L	0.00050	0.00050	0.00050	0.00051	0.00000	0.00	0.00050	0.00159	0.00161	0.00255	0.00076	0.47	0.00055	0.00066	0.00064	0.00091	0.00010	0.16	0.00057	0.00131	0.00128	0.00156	0.00010	0.07
Total Phosphorous	mg/L	0.010	0.014	0.010	0.020	0.005	0.37	0.009	0.032	0.033	0.056	0.012	0.38	0.013	0.022	0.021	0.041	0.007	0.34	0.014	0.049	0.046	0.062	0.006	0.12
Total Potassium	mg/L	0.29	0.35	0.36	0.43	0.04	0.12	0.31	4.14	4.79	8.05	2.28	0.55	0.94	2.22	1.90	4.86	1.25	0.56	1.17	7.58	7.22	9.57	1.06	0.14
Total Rubidium	mg/L	0.0011	0.0013	0.0013	0.0016	0.0002	0.15	0.0012	0.0235	0.0297	0.0385	0.0130	0.55	0.0032	0.0078	0.0070	0.0175	0.0042	0.54	0.0044	0.0388	0.0380	0.0462	0.0042	0.11
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0008	0.0009	0.0011	0.0002	0.24	0.0005	0.0006	0.0005	0.0006	0.0000	0.07	0.0005	0.0006	0.0006	0.0007	0.0000	0.04
Total Silicon	mg/L	5.66	8.53	8.63	11.18	1.70	0.20	5.58	33.99	40.85	56.01	15.29	0.45	5.95	11.20	10.83	17.93	3.30	0.29	9.19	12.20	12.35	16.94	1.60	0.13
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00006	0.00006	0.00006	0.00000	0.07	0.00005	0.00005	0.00005	0.00006	0.00000	0.05	0.00005	0.00006	0.00006	0.00006	0.00000	0.03
Total Sodium	mg/L	1.08	1.59	1.70	1.90	0.27	0.17	1.11	159.67	199.78	293.65	95.23	0.60	1.39	12.51	5.95	44.80	13.00	1.04	2.68	8.04	6.00	23.91	4.26	0.53
Total Strontium	mg/L	0.0096	0.0137	0.0148	0.0170	0.0027	0.20	0.0099	0.0898	0.1075	0.1431	0.0455	0.51	0.0147	0.0292	0.0275	0.0564	0.0117	0.40	0.0241	0.1233	0.1209	0.1443	0.0117	0.09
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00015	0.00018	0.00023	0.00006	0.40	0.00006	0.00008	0.00008	0.00013	0.00002	0.24	0.00006	0.00021	0.00020	0.00024	0.00002	0.09
Total Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.01	0.0010	0.0029	0.0034	0.0045	0.0011	0.38	0.0012	0.0017	0.0016	0.0027	0.0005	0.26	0.0013	0.0048	0.0047	0.0055	0.0004	0.09
Total Tungsten	mg/L	0.00189	0.00227	0.00206	0.00266	0.00033	0.14	0.00192	0.01042	0.01139	0.02020	0.00505	0.48	0.00341	0.00650	0.00570	0.01268	0.00295	0.45	0.00392	0.01971	0.01867	0.02427	0.00254	0.13
Total Uranium	mg/L	0.00013	0.00020	0.00020	0.00032	0.00006	0.29	0.00014	0.00129	0.00152	0.00222	0.00065	0.51	0.00023	0.00035	0.00031	0.00072	0.00012	0.35	0.00023	0.00163	0.00161	0.00190	0.00015	0.09
Total Vanadium	mg/L	0.0005	0.0007	0.0005	0.0023	0.0005	0.78	0.0005	0.0065	0.0078	0.0130	0.0035	0.54	0.0012	0.0028	0.0024	0.0078	0.0018	0.63	0.0016	0.0125	0.0121	0.0160	0.0016	0.13
Total Zinc	mg/L	0.0009	0.0016	0.0013	0.0046	0.0011	0.67	0.0005	0.0080	0.0092	0.0160	0.0044	0.55	0.0010	0.0029	0.0025	0.0060	0.0014	0.47	0.0017	0.0078	0.0074	0.0099	0.0010	0.13
Total Carbon	mg/L	2.80	6.98	6.76	11.67	2.55	0.36	2.49	6.07	6.19	11.81	2.35	0.39	2.68	6.57	6.58	11.42	2.57	0.39	2.28	5.15	5.17	8.63	1.88	0.37

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.12 - NAP7

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	7.6	10.5	11.2	13.3	2.1	0.20	7.4	24.3	26.6	37.2	9.1	0.37	8.5	12.9	12.5	19.3	3.1	0.24	9.4	21.6	20.9	28.8	2.8	0.13
Alkalinity	mg/L	4.6	7.5	8.0	9.0	1.9	0.26	4.2	180.4	224.5	324.6	104.2	0.58	5.1	18.7	11.8	52.2	13.5	0.72	5.0	16.1	14.5	36.7	5.4	0.33
Ammonia	mg/L	0.025	0.030	0.030	0.040	0.006	0.19	0.019	0.060	0.067	0.088	0.020	0.34	0.022	0.032	0.031	0.048	0.007	0.23	0.027	0.100	0.099	0.116	0.009	0.09
Nitrate	mg/L	0.025	0.117	0.090	0.232	0.089	0.76	0.014	0.136	0.108	0.259	0.087	0.64	0.015	0.128	0.095	0.258	0.093	0.73	0.046	0.145	0.119	0.258	0.081	0.56
Phosphate	mg/L	0.005	0.015	0.013	0.030	0.009	0.62	0.004	0.014	0.013	0.033	0.010	0.70	0.004	0.014	0.013	0.033	0.010	0.70	0.003	0.013	0.012	0.028	0.009	0.68
Sulphate	mg/L	0.5	2.1	1.4	5.0	1.5	0.71	0.5	12.9	15.5	23.8	6.8	0.53	2.1	4.2	3.5	7.3	1.8	0.43	2.2	11.9	11.2	15.8	1.6	0.14
Bromide	mg/L	0.005	0.005	0.005	0.005	0.000	0.00	0.005	0.005	0.005	0.005	0.000	0.03	0.005	0.005	0.005	0.005	0.000	0.01	0.004	0.004	0.004	0.005	0.000	0.02
Chloride	mg/L	1.16	1.47	1.26	2.11	0.36	0.25	1.18	2.51	2.47	3.94	0.76	0.30	1.37	2.02	1.93	2.92	0.51	0.25	1.42	3.91	3.70	4.75	0.47	0.12
Fluoride	mg/L	0.103	0.192	0.186	0.270	0.061	0.32	0.105	0.484	0.535	0.845	0.209	0.43	0.117	0.224	0.207	0.354	0.073	0.32	0.117	0.353	0.346	0.494	0.065	0.18
Dissolved Aluminum	mg/L	0.0483	0.0925	0.0964	0.1060	0.0157	0.17	0.0472	0.0978	0.1049	0.1187	0.0181	0.19	0.0482	0.0887	0.0952	0.1075	0.0185	0.21	0.0481	0.0972	0.1028	0.1175	0.0162	0.17
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.02	0.0001	0.0007	0.0010	0.0011	0.0004	0.54	0.0001	0.0002	0.0002	0.0004	0.0001	0.47	0.0001	0.0015	0.0015	0.0017	0.0001	0.09
Dissolved Arsenic	mg/L	0.0005	0.0006	0.0005	0.0009	0.0002	0.27	0.0004	0.0017	0.0018	0.0032	0.0008	0.47	0.0006	0.0012	0.0010	0.0023	0.0005	0.39	0.0009	0.0022	0.0021	0.0028	0.0003	0.14
Dissolved Barium	mg/L	0.0042	0.0049	0.0050	0.0055	0.0005	0.10	0.0045	0.0066	0.0067	0.0085	0.0010	0.16	0.0045	0.0053	0.0054	0.0062	0.0005	0.10	0.0046	0.0065	0.0066	0.0073	0.0005	0.07
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0006	0.0000	0.05	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0005	0.0005	0.0005	0.0000	0.01
Dissolved Boron	mg/L	0.0013	0.0021	0.0022	0.0029	0.0007	0.33	0.0014	0.0542	0.0641	0.1041	0.0311	0.57	0.0085	0.0233	0.0195	0.0539	0.0143	0.62	0.0113	0.1139	0.1090	0.1426	0.0159	0.14
Dissolved Cadmium	mg/L	0.000005	0.000011	0.000009	0.000020	0.000006	0.54	0.000001	0.000039	0.000046	0.000068	0.000020	0.51	0.000002	0.000011	0.000008	0.000031	0.000008	0.67	0.000005	0.000033	0.000032	0.000051	0.000007	0.22
Dissolved Calcium	mg/L	2.4	3.3	3.6	4.3	0.7	0.21	2.3	7.4	8.0	11.6	2.8	0.37	2.6	4.0	3.9	6.0	1.0	0.24	2.8	5.9	5.7	8.1	0.8	0.14
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0012	0.0014	0.0016	0.0004	0.33	0.0005	0.0007	0.0006	0.0009	0.0001	0.16	0.0006	0.0015	0.0015	0.0018	0.0001	0.08
Dissolved Cobalt	mg/L	0.00005	0.00006	0.00005	0.00009	0.00002	0.27	0.00005	0.00037	0.00031	0.00073	0.00024	0.64	0.00005	0.00008	0.00007	0.00013	0.00002	0.29	0.00006	0.00020	0.00019	0.00029	0.00002	0.12
Dissolved Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0009	0.0009	0.0018	0.0003	0.37	0.0006	0.0010	0.0009	0.0018	0.0003	0.34	0.0007	0.0011	0.0009	0.0016	0.0003	0.24
Dissolved Iron	mg/L	0.09	0.17	0.16	0.26	0.07	0.41	0.09	0.17	0.16	0.27	0.07	0.40	0.10	0.17	0.17	0.27	0.07	0.41	0.09	0.15	0.15	0.24	0.06	0.39
Dissolved Lead	mg/L	0.00005	0.00007	0.00006	0.00010	0.00002	0.31	0.00004	0.00012	0.00011	0.00023	0.00004	0.37	0.00006	0.00011	0.00008	0.00021	0.00005	0.43	0.00007	0.00016	0.00014	0.00023	0.00004	0.25
Dissolved Lithium	mg/L	0.00046	0.00068	0.00070	0.00091	0.00016	0.24	0.00047	0.00363	0.00424	0.00588	0.00180	0.50	0.00061	0.00118	0.00105	0.00221	0.00043	0.36	0.00088	0.00513	0.00499	0.00614	0.00052	0.10
Dissolved Magnesium	mg/L	0.36	0.50	0.52	0.61	0.09	0.19	0.34	1.37	1.56	2.10	0.54	0.40	0.42	0.68	0.67	1.09	0.19	0.27	0.52	1.68	1.62	2.11	0.19	0.11
Dissolved Manganese	mg/L	0.003	0.010	0.008	0.020	0.006	0.59	0.003	0.020	0.020	0.039	0.009	0.46	0.004	0.012	0.009	0.027	0.007	0.56	0.004	0.023	0.020	0.034	0.006	0.25
Dissolved Mercury	mg/L	0.000012	0.000012	0.000012	0.000013	0.000000	0.00	0.000011	0.000012	0.000012	0.000013	0.000000	0.03	0.000012	0.000012	0.000012	0.000012	0.000000	0.01	0.000011	0.000011	0.000011	0.000012	0.000000	0.02
Dissolved Molybdenum	mg/L	0.0001	0.0002	0.0001	0.0004	0.0001	0.82	0.0001	0.0037	0.0047	0.0060	0.0021	0.56	0.0003	0.0011	0.0008	0.0029	0.0007	0.63	0.0007	0.0075	0.0073	0.0090	0.0008	0.11
Dissolved Nickel	mg/L	0.00050	0.00050	0.00050	0.00050	0.00000	0.00	0.00050	0.00104	0.00105	0.00152	0.00038	0.36	0.00052	0.00057	0.00056	0.00069	0.00005	0.08	0.00053	0.00093	0.00091	0.00107	0.00005	0.06
Dissolved Phosphorous	mg/L	0.010	0.010	0.010	0.010	0.000	0.01	0.009	0.019	0.021	0.027	0.005	0.29	0.011	0.013	0.013	0.019	0.002	0.18	0.012	0.029	0.028	0.034	0.003	0.09
Dissolved Potassium	mg/L	0.29	0.34	0.33	0.40	0.04	0.13	0.30	2.22	2.55	4.18	1.14	0.51	0.59	1.19	1.02	2.43	0.58	0.49	0.70	4.19	3.98	5.36	0.60	0.14
Dissolved Rubidium	mg/L	0.0009	0.0011	0.0011	0.0015	0.0002	0.19	0.0009	0.0122	0.0153	0.0197	0.0065	0.53	0.0018	0.0040	0.0037	0.0088	0.0020	0.51	0.0025	0.0211	0.0206	0.0256	0.0025	0.12
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0007	0.0007	0.0008	0.0001	0.15	0.0005	0.0005	0.0005	0.0006	0.0000	0.03	0.0005	0.0006	0.0006	0.0006	0.0000	0.02
Dissolved Silicon	mg/L	5.32	7.06	7.60	9.43	1.34	0.19	4.70	19.75	23.28	29.43	7.72	0.39	5.17	8.23	8.09	12.42	2.05	0.25	5.16	9.16	9.07	12.91	1.40	0.15
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.04	0.00005	0.00005	0.00005	0.00005	0.00000	0.02	0.00005	0.00006	0.00006	0.00006	0.00000	0.02
Dissolved Sodium	mg/L	1.21	1.54	1.53	1.92	0.25	0.16	1.15	80.19	100.16	147.11	47.44	0.59	1.37	6.54	3.54	21.64	5.98	0.92	1.52	4.98	4.04	13.92	2.29	0.46
Dissolved Strontium	mg/L	0.0102	0.0144	0.0150	0.0182	0.0030	0.21	0.0100	0.0523	0.0621	0.0797	0.0229	0.44	0.0124	0.0216	0.0198	0.0366	0.0067	0.31	0.0161	0.0727	0.0703	0.0870	0.0075	0.10
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00010	0.00012	0.00014	0.00003	0.30	0.00005	0.00006	0.00006	0.00008	0.00001	0.14	0.00006	0.00013	0.00013	0.00015	0.00001	0.08
Dissolved Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.00	0.0010	0.0020	0.0022	0.0027	0.0006	0.29	0.0011	0.0013	0.0013	0.0018	0.0002	0.16	0.0012	0.0030	0.0030	0.0034	0.0003	0.08
Dissolved Tungsten	mg/L	0.00189	0.00234	0.00252	0.00258	0.00029	0.12	0.00190	0.00637	0.00682	0.01128	0.00255	0.40	0.00267	0.00426	0.00387	0.00718	0.00143	0.34	0.00281	0.01159	0.01089	0.01428	0.00147	0.13
Dissolved Uranium	mg/L	0.00005	0.00010	0.00010	0.00020	0.00006	0.54	0.00005	0.00064	0.00075	0.00112	0.00033	0.53	0.00006	0.00016	0.00012	0.00038	0.00009	0.56	0.00008	0.00086	0.00083	0.00106	0.00010	0.12
Dissolved Vanadium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0034	0.0041	0.0058	0.0017	0.50	0.0008	0.0015	0.0013	0.0029	0.0006	0.43	0.0010	0.0068	0.0067	0.0082	0.0008	0.11
Dissolved Zinc	mg/L	0.0005	0.0015	0.0013	0.0030	0.0008	0.54	0.0004	0.0046	0.0052	0.0087	0.0023	0.49	0.0007	0.0020	0.0020	0.0034	0.0008	0.42	0.0007	0.0047	0.0047	0.0059	0.0007	0.15
Total Aluminum	mg/L	0.0787	0.1430	0.1346	0.2713	0.0665	0.47	0.0816	0.1727	0.1512	0.3441	0.0697	0.40	0.0824	0.1433	0.1224	0.2919	0.0696	0.49	0.0824	0.1444	0.1176	0.2779	0.0599	0.41
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.02	0.0001	0.0007	0.0010	0.0011	0.0004	0.54	0.0001	0.0002	0.0002	0.0004	0.0001	0.47	0.0001	0.0015	0.0015	0.0017	0.0001	0.09
Total Arsenic	mg/L	0.0005	0.0007	0.0005	0.0014	0.0004	0.51	0.0004	0.0018	0.0018	0.0036	0.0009	0.48	0.0006	0.0013	0.0011	0.0027	0.0006	0.45	0.0009	0.0023	0.0022	0.0032	0.0004	0.18
Total Barium	mg/L	0.0046	0.0055	0.0050	0.0080	0.0013	0.23	0.0049	0.0072	0.0072	0.0110	0.0015	0.21	0.0050	0.0060	0.0055	0.0090	0.0013	0.22	0.0050	0.0071	0.0067	0.0097	0.0011	0.16
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0006	0.0000	0.05	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0005	0.0005	0.0005	0.0000	0.01
Total Boron	mg/L	0.0013	0.0021	0.0022	0.0029	0.0007	0.33	0.0014	0.0542	0.0641	0.1041	0.0311	0.57	0.0085	0.0233	0.0195	0.0539	0.0143	0.62	0.0113	0.1139	0.1090	0.1426	0.0159	0.14
Total Cadmium	mg/L	0.000005	0.000012	0.000011	0.000021	0.000007	0.56	0.000001	0.000040	0.000048	0.000069	0.000020	0.50	0.000002	0.000013	0.000010	0.000031	0.000009	0.66	0.000005	0.000035	0.000034	0.000051	0.000008	0.24
Total Calcium	mg/L	2.5	3.5	3.6	4.4	0.7	0.20	2.5	7.6	8.1	11.7	2.8	0.36	2.8	4.1	4.1	6.0	0.9	0.23	3.0	6.0	5.8	8.1	0.8	0.14
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0012	0.0014	0.0016	0.0004	0.33	0.0005	0.0007	0.0006	0.0009	0.0001	0.16	0.0006	0.0015	0.0015	0.0018	0.0001	0.08
Total Cobalt	mg/L	0.00005	0.00011	0.00005	0.00035	0.00012	1.14	0.00005	0.00042	0.00049	0.00100	0.00026	0.63	0.00005	0.00013	0.00007	0.00043	0.00013	1.01	0.00006	0.00024	0.00020	0.00054	0.00011	0.46
Total Copper	mg/L	0.0005	0.0005	0.0005	0.0006	0.0001	0.10	0.0005	0.0009	0.0009	0.0018	0.0003	0.37	0.0006	0.0010	0.0009	0.0018	0.0004	0.35	0.0007	0.0011	0.0009	0.0016	0.0003	0.25
Total Iron	mg/L	0.13	0.24	0.16	0.48	0.14	0.57	0.13	0.23	0.16	0.53	0.13	0.55	0.13	0.24	0.17	0.52	0.14	0.57	0.12	0.21	0.15	0.46	0.12	0.56
Total Lead	mg/L	0.00005	0.00013	0.00009	0.00036	0.00012	0.87	0.00004	0.00018	0.00014	0.00047	0.00012	0.67	0.00006	0.00017	0.00012	0.00047	0.00013	0.75	0.00008	0.00021	0.00016	0.00046	0.00011	0.52
Total Lithium	mg/L	0.00050	0.00074	0.00073	0.00091	0.00017	0.23	0.00051	0.00370	0.00436	0.00597	0.00179	0.49	0.00065	0.00125	0.00113	0.00221	0.00043	0.35	0.00093	0.00519	0.00507	0.00614	0.00053	0.10
Total Magnesium	mg/L	0.38	0.52	0.55	0.62	0.09	0.18	0.36	1.39	1.59	2.11	0.54	0.39	0.44	0.71	0.68	1.10	0.19	0.26	0.54	1.70	1.65	2.12	0.19	0.11
Total Manganese	mg/L	0.007	0.023	0.010	0.080	0.028	1.22	0.008	0.033	0.022	0.101	0.028	0.85	0.009	0.026	0.013	0.094	0.029	1.12	0.009	0.035	0.024	0.091	0.025	0.72
Total Mercury	mg/L	0.000012	0.000013	0.000012	0.000017	0.000001	0.10	0.000011	0.000013	0.000012	0.000017	0.000002	0.14	0.000012	0.000013	0.000012	0.000017	0.000002	0.14	0.000011	0.000012	0.000011	0.000017	0.000002	0.14
Total Molybdenum	mg/L	0.0001	0.0002	0.0001	0.0004	0.0001	0.80	0.0001	0.0037	0.0047	0.0060	0.0021	0.56	0.0003	0.0011	0.0008	0.0029	0.0007	0.63	0.0007	0.0075	0.0073	0.0090	0.0008	0.11
Total Nickel	mg/L	0.00050	0.00052	0.00050	0.00063	0.00005	0.10	0.00050	0.00107	0.00109	0.00165	0.00038	0.36	0.00052	0.00060	0.00056	0.00078	0.00008	0.13	0.00053	0.00095	0.00091	0.00115	0.00008	0.08
Total Phosphorous	mg/L	0.010	0.010	0.010	0.010	0.000	0.01	0.009	0.019	0.021	0.027	0.005	0.29	0.011	0.014	0.013	0.019	0.002	0.18	0.012	0.029	0.028	0.034	0.003	0.09
Total Potassium	mg/L	0.31	0.35	0.35	0.40	0.03	0.10	0.32	2.23	2.56	4.18	1.14	0.51	0.61	1.21	1.04	2.43	0.58	0.48	0.72	4.20	3.99	5.36	0.60	0.14
Total Rubidium	mg/L	0.0009	0.0012	0.0011	0.0015	0.0002	0.19	0.0010	0.0122	0.0154	0.0197	0.0065	0.53	0.0019	0.0041	0.0037	0.0088	0.0021	0.50	0.0025	0.0211	0.0206	0.0256	0.0025	0.12
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0007	0.0007	0.0008	0.0001	0.15	0.0005	0.0005	0.0005	0.0006	0.0000	0.03	0.0005	0.0006	0.0006	0.0006	0.0000	0.02
Total Silicon	mg/L	5.32	7.06	7.60	9.43	1.34	0.19	4.70	19.75	23.28	29.43	7.72	0.39	5.17	8.23	8.09	12.42	2.05	0.25	5.16	9.16	9.07	12.91	1.40	0.15
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.04	0.00005	0.00005	0.00005	0.00005	0.00000	0.02	0.00005	0.00006	0.00006	0.00006	0.00000	0.02
Total Sodium	mg/L	1.26	1.58	1.58	1.92	0.24	0.15	1.20	80.23	100.21	147.15	47.44	0.59	1.42	6.58	3.59	21.64	5.98	0.91	1.57	5.02	4.06	13.92	2.28	0.46
Total Strontium	mg/L	0.0106	0.0150	0.0150	0.0192	0.0033	0.22	0.0104	0.0530	0.0625	0.0810	0.0229	0.43	0.0128	0.0223	0.0201	0.0377	0.0070	0.31	0.0165	0.0733	0.0708	0.0880	0.0078	0.11
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00010	0.00012	0.00014	0.00003	0.30	0.00005	0.00006	0.00006	0.00008	0.00001	0.14	0.00006	0.00013	0.00013	0.00015	0.00001	0.08
Total Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.00	0.0010	0.0020	0.0022	0.0027	0.0006	0.29	0.0011	0.0013	0.0013	0.0018	0.0002	0.16	0.0012	0.0030	0.0030	0.0034	0.0003	0.08
Total Tungsten	mg/L	0.00189	0.00234	0.00252	0.00258	0.00029	0.12	0.00190	0.00637	0.00682	0.01128	0.00255	0.40	0.00267	0.00426	0.00387	0.00718	0.00143	0.34	0.00281	0.01159	0.01090	0.01428	0.00147	0.13
Total Uranium	mg/L	0.00006	0.00011	0.00010	0.00020	0.00005	0.49	0.00006	0.00064	0.00075	0.00112	0.00033	0.52	0.00007	0.00016	0.00014	0.00038	0.00008	0.52	0.00009	0.00087	0.00084	0.00106	0.00010	0.12
Total Vanadium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0001	0.10	0.0005	0.0034	0.0041	0.0058	0.0017	0.50	0.0008	0.0015	0.0013	0.0029	0.0006	0.43	0.0010	0.0068	0.0067	0.0082	0.0008	0.12
Total Zinc	mg/L	0.0005	0.0015	0.0013	0.0030	0.0008	0.54	0.0004	0.0046	0.0052	0.0087	0.0023	0.49	0.0007	0.0020	0.0020	0.0034	0.0008	0.42	0.0007	0.0047	0.0047	0.0059	0.0007	0.15
Total Carbon	mg/L	3.10	7.63	8.62	9.80	2.28	0.30	2.95	6.99	7.91	10.35	2.36	0.34	3.07	7.28	8.14	10.31	2.49	0.34	2.79	6.43	6.99	9.15	2.15	0.33

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.13- NAP8

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	7.6	10.5	11.2	13.3	2.1	0.20	7.5	20.8	21.8	31.1	6.9	0.33	8.2	12.2	12.1	17.7	2.8	0.23	8.9	18.9	18.4	25.1	2.5	0.13
Alkalinity	mg/L	4.6	7.5	8.0	9.0	1.9	0.26	4.3	136.5	169.5	243.5	77.7	0.57	4.9	15.7	11.1	40.6	10.1	0.64	4.9	14.1	13.2	30.1	4.2	0.30
Ammonia	mg/L	0.025	0.030	0.030	0.040	0.006	0.19	0.021	0.052	0.057	0.075	0.016	0.30	0.023	0.031	0.029	0.046	0.007	0.21	0.026	0.083	0.081	0.097	0.008	0.09
Nitrate	mg/L	0.025	0.117	0.090	0.232	0.089	0.76	0.017	0.133	0.103	0.252	0.087	0.65	0.018	0.127	0.093	0.251	0.091	0.72	0.041	0.140	0.112	0.252	0.082	0.58
Phosphate	mg/L	0.005	0.015	0.013	0.030	0.009	0.62	0.004	0.014	0.013	0.032	0.009	0.68	0.004	0.014	0.013	0.032	0.010	0.69	0.004	0.013	0.012	0.029	0.009	0.67
Sulphate	mg/L	0.5	2.1	1.4	5.0	1.5	0.72	0.5	10.1	12.0	19.1	5.2	0.51	1.7	3.6	2.9	6.3	1.6	0.44	2.0	9.6	8.8	12.5	1.4	0.15
Bromide	mg/L	0.005	0.005	0.005	0.005	0.000	0.00	0.005	0.005	0.005	0.005	0.000	0.02	0.005	0.005	0.005	0.005	0.000	0.01	0.004	0.005	0.005	0.005	0.000	0.01
Chloride	mg/L	1.16	1.47	1.26	2.10	0.36	0.25	1.17	2.23	2.20	3.37	0.62	0.28	1.31	1.86	1.78	2.57	0.45	0.24	1.35	3.32	3.10	4.00	0.41	0.12
Fluoride	mg/L	0.103	0.192	0.186	0.270	0.061	0.32	0.105	0.408	0.445	0.700	0.161	0.40	0.114	0.213	0.201	0.326	0.069	0.32	0.113	0.312	0.307	0.436	0.063	0.20
Dissolved Aluminum	mg/L	0.0483	0.0925	0.0964	0.1060	0.0157	0.17	0.0475	0.0955	0.1028	0.1155	0.0180	0.19	0.0482	0.0887	0.0955	0.1071	0.0186	0.21	0.0482	0.0952	0.1015	0.1147	0.0168	0.18
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.01	0.0001	0.0006	0.0007	0.0008	0.0003	0.53	0.0001	0.0001	0.0001	0.0003	0.0001	0.43	0.0001	0.0012	0.0011	0.0013	0.0001	0.10
Dissolved Arsenic	mg/L	0.0005	0.0006	0.0005	0.0009	0.0002	0.27	0.0004	0.0014	0.0015	0.0025	0.0006	0.43	0.0006	0.0010	0.0009	0.0018	0.0004	0.35	0.0008	0.0018	0.0017	0.0023	0.0003	0.14
Dissolved Barium	mg/L	0.0042	0.0049	0.0050	0.0055	0.0005	0.10	0.0044	0.0061	0.0063	0.0077	0.0008	0.14	0.0044	0.0052	0.0053	0.0060	0.0005	0.10	0.0045	0.0061	0.0062	0.0069	0.0005	0.07
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0006	0.0000	0.04	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.01
Dissolved Boron	mg/L	0.0013	0.0020	0.0022	0.0027	0.0006	0.31	0.0014	0.0408	0.0483	0.0781	0.0232	0.57	0.0065	0.0175	0.0147	0.0400	0.0105	0.60	0.0086	0.0869	0.0831	0.1092	0.0123	0.14
Dissolved Cadmium	mg/L	0.000005	0.000011	0.000009	0.000020	0.000006	0.54	0.000002	0.000031	0.000036	0.000056	0.000015	0.49	0.000003	0.000011	0.000008	0.000028	0.000007	0.63	0.000005	0.000028	0.000027	0.000044	0.000007	0.24
Dissolved Calcium	mg/L	2.4	3.3	3.6	4.3	0.7	0.21	2.3	6.4	6.7	9.7	2.1	0.33	2.5	3.8	3.8	5.5	0.9	0.23	2.7	5.2	5.2	7.2	0.8	0.15
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0010	0.0011	0.0013	0.0003	0.29	0.0005	0.0006	0.0006	0.0008	0.0001	0.12	0.0006	0.0013	0.0012	0.0015	0.0001	0.08
Dissolved Cobalt	mg/L	0.00005	0.00006	0.00005	0.00009	0.00002	0.27	0.00005	0.00029	0.00025	0.00057	0.00018	0.61	0.00005	0.00007	0.00006	0.00012	0.00002	0.27	0.00006	0.00017	0.00016	0.00024	0.00002	0.13
Dissolved Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0008	0.0008	0.0015	0.0003	0.31	0.0006	0.0009	0.0008	0.0014	0.0002	0.29	0.0007	0.0009	0.0008	0.0013	0.0002	0.21
Dissolved Iron	mg/L	0.09	0.17	0.16	0.26	0.07	0.41	0.09	0.17	0.16	0.27	0.07	0.40	0.10	0.17	0.16	0.27	0.07	0.41	0.09	0.15	0.15	0.24	0.06	0.40
Dissolved Lead	mg/L	0.00005	0.00007	0.00006	0.00010	0.00002	0.30	0.00004	0.00010	0.00010	0.00019	0.00004	0.35	0.00006	0.00010	0.00007	0.00018	0.00004	0.40	0.00006	0.00014	0.00012	0.00020	0.00003	0.26
Dissolved Lithium	mg/L	0.00046	0.00067	0.00070	0.00091	0.00016	0.24	0.00047	0.00288	0.00334	0.00457	0.00135	0.47	0.00057	0.00104	0.00096	0.00186	0.00034	0.33	0.00077	0.00405	0.00395	0.00489	0.00043	0.11
Dissolved Magnesium	mg/L	0.36	0.50	0.52	0.61	0.09	0.19	0.35	1.15	1.29	1.72	0.41	0.36	0.41	0.63	0.62	0.96	0.15	0.24	0.48	1.39	1.35	1.75	0.16	0.11
Dissolved Manganese	mg/L	0.003	0.010	0.008	0.020	0.006	0.59	0.003	0.017	0.016	0.034	0.008	0.46	0.004	0.011	0.009	0.025	0.006	0.57	0.004	0.020	0.017	0.031	0.006	0.29
Dissolved Mercury	mg/L	0.000012	0.000012	0.000012	0.000013	0.000000	0.00	0.000012	0.000012	0.000012	0.000013	0.000000	0.02	0.000012	0.000012	0.000012	0.000012	0.000000	0.01	0.000011	0.000011	0.000011	0.000012	0.000000	0.01
Dissolved Molybdenum	mg/L	0.0001	0.0002	0.0001	0.0004	0.0001	0.82	0.0001	0.0028	0.0035	0.0046	0.0016	0.56	0.0002	0.0008	0.0006	0.0023	0.0005	0.64	0.0005	0.0058	0.0056	0.0069	0.0007	0.12
Dissolved Nickel	mg/L	0.00050	0.00050	0.00050	0.00050	0.00000	0.00	0.00050	0.00091	0.00091	0.00126	0.00028	0.31	0.00052	0.00055	0.00055	0.00064	0.00003	0.06	0.00052	0.00083	0.00081	0.00094	0.00004	0.05
Dissolved Phosphorous	mg/L	0.010	0.010	0.010	0.010	0.000	0.00	0.009	0.017	0.018	0.023	0.004	0.24	0.010	0.013	0.012	0.016	0.002	0.14	0.011	0.024	0.024	0.028	0.002	0.08
Dissolved Potassium	mg/L	0.29	0.34	0.32	0.39	0.04	0.12	0.30	1.74	1.98	3.20	0.85	0.49	0.51	0.96	0.84	1.88	0.43	0.44	0.60	3.26	3.09	4.17	0.47	0.14
Dissolved Rubidium	mg/L	0.0009	0.0011	0.0011	0.0015	0.0002	0.19	0.0009	0.0093	0.0117	0.0150	0.0048	0.52	0.0016	0.0033	0.0030	0.0068	0.0015	0.47	0.0021	0.0163	0.0159	0.0199	0.0020	0.12
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0006	0.0007	0.0001	0.12	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0006	0.0006	0.0006	0.0000	0.02
Dissolved Silicon	mg/L	5.32	7.06	7.60	9.43	1.34	0.19	4.87	16.57	19.23	24.32	5.84	0.35	5.21	7.96	7.89	11.61	1.84	0.23	5.20	8.70	8.67	12.07	1.38	0.16
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.03	0.00005	0.00005	0.00005	0.00005	0.00000	0.02	0.00005	0.00005	0.00005	0.00006	0.00000	0.01
Dissolved Sodium	mg/L	1.21	1.54	1.52	1.91	0.25	0.16	1.17	60.20	75.08	110.16	35.40	0.59	1.33	5.19	2.96	16.35	4.40	0.85	1.43	4.15	3.46	11.07	1.74	0.42
Dissolved Strontium	mg/L	0.0102	0.0144	0.0150	0.0182	0.0030	0.21	0.0100	0.0426	0.0497	0.0638	0.0172	0.40	0.0118	0.0196	0.0185	0.0316	0.0055	0.28	0.0145	0.0586	0.0567	0.0706	0.0063	0.11
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00009	0.00010	0.00012	0.00002	0.26	0.00005	0.00006	0.00006	0.00008	0.00001	0.11	0.00005	0.00011	0.00011	0.00013	0.00001	0.07
Dissolved Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.00	0.0010	0.0017	0.0019	0.0023	0.0004	0.24	0.0011	0.0012	0.0012	0.0016	0.0002	0.12	0.0011	0.0025	0.0025	0.0029	0.0002	0.08
Dissolved Tungsten	mg/L	0.00189	0.00233	0.00252	0.00256	0.00028	0.12	0.00190	0.00533	0.00566	0.00904	0.00193	0.36	0.00249	0.00372	0.00344	0.00592	0.00109	0.29	0.00256	0.00934	0.00876	0.01148	0.00117	0.13
Dissolved Uranium	mg/L	0.00005	0.00010	0.00010	0.00020	0.00006	0.54	0.00005	0.00050	0.00059	0.00086	0.00025	0.51	0.00006	0.00014	0.00012	0.00033	0.00008	0.55	0.00007	0.00068	0.00065	0.00086	0.00009	0.13
Dissolved Vanadium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0027	0.0032	0.0044	0.0013	0.48	0.0007	0.0012	0.0011	0.0022	0.0005	0.38	0.0009	0.0053	0.0052	0.0064	0.0006	0.11
Dissolved Zinc	mg/L	0.0005	0.0015	0.0013	0.0030	0.0008	0.54	0.0004	0.0038	0.0042	0.0072	0.0018	0.46	0.0006	0.0019	0.0018	0.0033	0.0008	0.44	0.0006	0.0039	0.0039	0.0052	0.0007	0.18
Total Aluminum	mg/L	0.0787	0.1429	0.1346	0.2713	0.0665	0.47	0.0808	0.1637	0.1430	0.3257	0.0672	0.41	0.0814	0.1418	0.1218	0.2864	0.0679	0.48	0.0814	0.1427	0.1148	0.2763	0.0607	0.43
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.01	0.0001	0.0006	0.0007	0.0008	0.0003	0.53	0.0001	0.0001	0.0001	0.0003	0.0001	0.43	0.0001	0.0012	0.0011	0.0013	0.0001	0.10
Total Arsenic	mg/L	0.0005	0.0007	0.0005	0.0014	0.0004	0.51	0.0004	0.0015	0.0015	0.0031	0.0007	0.45	0.0006	0.0011	0.0010	0.0023	0.0005	0.43	0.0008	0.0019	0.0018	0.0028	0.0004	0.20
Total Barium	mg/L	0.0046	0.0055	0.0050	0.0080	0.0013	0.23	0.0049	0.0067	0.0066	0.0103	0.0014	0.20	0.0049	0.0058	0.0053	0.0087	0.0013	0.22	0.0049	0.0067	0.0063	0.0093	0.0011	0.17
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0006	0.0000	0.04	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.01
Total Boron	mg/L	0.0013	0.0020	0.0022	0.0027	0.0006	0.31	0.0014	0.0408	0.0483	0.0781	0.0232	0.57	0.0065	0.0175	0.0147	0.0400	0.0105	0.60	0.0086	0.0869	0.0831	0.1092	0.0123	0.14
Total Cadmium	mg/L	0.000005	0.000012	0.000011	0.000021	0.000007	0.56	0.000002	0.000033	0.000037	0.000057	0.000016	0.47	0.000003	0.000013	0.000010	0.000028	0.000008	0.63	0.000005	0.000030	0.000029	0.000044	0.000008	0.27
Total Calcium	mg/L	2.5	3.5	3.6	4.4	0.7	0.20	2.5	6.5	6.8	9.8	2.1	0.32	2.7	4.0	4.0	5.6	0.9	0.22	2.9	5.4	5.2	7.2	0.8	0.14
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0010	0.0011	0.0013	0.0003	0.29	0.0005	0.0006	0.0006	0.0008	0.0001	0.12	0.0006	0.0013	0.0012	0.0015	0.0001	0.08
Total Cobalt	mg/L	0.00005	0.00011	0.00005	0.00035	0.00012	1.14	0.00005	0.00034	0.00038	0.00084	0.00021	0.62	0.00005	0.00012	0.00007	0.00041	0.00012	1.03	0.00006	0.00021	0.00016	0.00049	0.00011	0.53
Total Copper	mg/L	0.0005	0.0005	0.0005	0.0006	0.0001	0.10	0.0005	0.0008	0.0008	0.0015	0.0003	0.31	0.0006	0.0009	0.0008	0.0014	0.0003	0.30	0.0007	0.0010	0.0008	0.0013	0.0002	0.22
Total Iron	mg/L	0.13	0.24	0.16	0.48	0.14	0.57	0.13	0.23	0.16	0.52	0.13	0.55	0.13	0.24	0.16	0.51	0.13	0.57	0.12	0.22	0.15	0.47	0.12	0.56
Total Lead	mg/L	0.00005	0.00013	0.00009	0.00036	0.00012	0.87	0.00004	0.00017	0.00012	0.00044	0.00012	0.70	0.00006	0.00016	0.00011	0.00044	0.00012	0.77	0.00008	0.00019	0.00015	0.00044	0.00011	0.57
Total Lithium	mg/L	0.00050	0.00074	0.00073	0.00091	0.00017	0.23	0.00051	0.00295	0.00348	0.00469	0.00134	0.46	0.00061	0.00111	0.00104	0.00186	0.00035	0.32	0.00081	0.00412	0.00404	0.00489	0.00043	0.10
Total Magnesium	mg/L	0.38	0.52	0.55	0.62	0.09	0.18	0.36	1.17	1.30	1.73	0.41	0.35	0.42	0.65	0.64	0.97	0.16	0.24	0.50	1.41	1.37	1.76	0.16	0.11
Total Manganese	mg/L	0.007	0.023	0.010	0.080	0.028	1.22	0.007	0.030	0.019	0.095	0.028	0.91	0.008	0.025	0.012	0.090	0.028	1.14	0.008	0.032	0.021	0.088	0.025	0.80
Total Mercury	mg/L	0.000012	0.000013	0.000012	0.000017	0.000001	0.10	0.000012	0.000013	0.000012	0.000017	0.000002	0.14	0.000012	0.000013	0.000012	0.000017	0.000002	0.14	0.000011	0.000012	0.000011	0.000017	0.000002	0.14
Total Molybdenum	mg/L	0.0001	0.0002	0.0001	0.0004	0.0001	0.80	0.0001	0.0028	0.0035	0.0046	0.0016	0.55	0.0002	0.0008	0.0006	0.0023	0.0005	0.63	0.0005	0.0058	0.0056	0.0069	0.0007	0.12
Total Nickel	mg/L	0.00050	0.00052	0.00050	0.00063	0.00005	0.10	0.00050	0.00093	0.00096	0.00139	0.00028	0.31	0.00052	0.00058	0.00055	0.00074	0.00007	0.12	0.00052	0.00085	0.00081	0.00103	0.00007	0.08
Total Phosphorous	mg/L	0.010	0.010	0.010	0.010	0.000	0.00	0.009	0.017	0.018	0.023	0.004	0.24	0.010	0.013	0.012	0.016	0.002	0.14	0.011	0.024	0.024	0.028	0.002	0.08
Total Potassium	mg/L	0.31	0.35	0.35	0.39	0.03	0.09	0.32	1.75	2.00	3.20	0.85	0.49	0.53	0.97	0.85	1.88	0.42	0.44	0.62	3.27	3.11	4.17	0.46	0.14
Total Rubidium	mg/L	0.0009	0.0012	0.0011	0.0015	0.0002	0.19	0.0010	0.0094	0.0118	0.0150	0.0048	0.51	0.0016	0.0033	0.0030	0.0068	0.0015	0.47	0.0021	0.0163	0.0159	0.0199	0.0020	0.12
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0006	0.0007	0.0001	0.12	0.0005	0.0005	0.0005	0.0005	0.0000	0.02	0.0005	0.0006	0.0006	0.0006	0.0000	0.02
Total Silicon	mg/L	5.32	7.06	7.60	9.43	1.34	0.19	4.87	16.57	19.23	24.32	5.84	0.35	5.21	7.96	7.89	11.61	1.84	0.23	5.20	8.70	8.67	12.07	1.38	0.16
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.03	0.00005	0.00005	0.00005	0.00005	0.00000	0.02	0.00005	0.00005	0.00005	0.00006	0.00000	0.01
Total Sodium	mg/L	1.26	1.58	1.58	1.91	0.24	0.15	1.22	60.24	75.12	110.20	35.40	0.59	1.38	5.24	3.01	16.35	4.40	0.84	1.48	4.19	3.51	11.07	1.74	0.42
Total Strontium	mg/L	0.0106	0.0150	0.0150	0.0192	0.0033	0.22	0.0105	0.0433	0.0501	0.0650	0.0173	0.40	0.0122	0.0203	0.0186	0.0327	0.0059	0.29	0.0149	0.0592	0.0572	0.0716	0.0066	0.11
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00009	0.00010	0.00012	0.00002	0.26	0.00005	0.00006	0.00006	0.00008	0.00001	0.11	0.00005	0.00011	0.00011	0.00013	0.00001	0.07
Total Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.00	0.0010	0.0017	0.0019	0.0023	0.0004	0.24	0.0011	0.0012	0.0012	0.0016	0.0002	0.12	0.0011	0.0025	0.0025	0.0029	0.0002	0.08
Total Tungsten	mg/L	0.00189	0.00233	0.00252	0.00256	0.00028	0.12	0.00190	0.00533	0.00566	0.00904	0.00193	0.36	0.00249	0.00372	0.00344	0.00592	0.00109	0.29	0.00256	0.00934	0.00876	0.01148	0.00117	0.13
Total Uranium	mg/L	0.00006	0.00011	0.00010	0.00020	0.00005	0.49	0.00006	0.00050	0.00059	0.00086	0.00025	0.50	0.00007	0.00015	0.00012	0.00033	0.00007	0.51	0.00008	0.00068	0.00065	0.00086	0.00009	0.13
Total Vanadium	mg/L	0.0005	0.0005	0.0005	0.0006	0.0001	0.10	0.0005	0.0027	0.0032	0.0044	0.0013	0.47	0.0007	0.0012	0.0011	0.0023	0.0005	0.38	0.0009	0.0053	0.0052	0.0064	0.0006	0.12
Total Zinc	mg/L	0.0005	0.0015	0.0013	0.0030	0.0008	0.54	0.0004	0.0038	0.0042	0.0072	0.0018	0.46	0.0006	0.0019	0.0018	0.0033	0.0008	0.44	0.0006	0.0039	0.0039	0.0052	0.0007	0.18
Total Carbon	mg/L	3.10	7.63	8.62	9.80	2.28	0.30	2.99	7.05	8.01	10.20	2.38	0.34	3.07	7.27	8.18	10.17	2.47	0.34	2.87	6.63	7.22	9.31	2.22	0.33

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

SISSON PROJECT
TABLE C1.14 - MBB2

Parameter	Units	Background						Operations						Closure						Post-Closure					
		Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation	Minimum	Mean	Median	Maximum	Standard Deviation	Coefficient of Variation
Conventional Parameters and Major Ions																									
Hardness	mg/L	6.2	10.7	11.2	13.8	3.0	0.28	6.2	10.9	11.8	15.3	2.8	0.26	6.5	11.5	12.1	15.4	3.0	0.26	6.5	11.5	12.1	15.4	3.0	0.26
Alkalinity	mg/L	3.5	8.4	7.5	13.0	3.8	0.45	3.5	8.5	8.9	13.1	3.5	0.41	3.5	8.6	9.0	13.1	3.5	0.41	3.5	8.6	10.1	13.1	3.5	0.40
Ammonia	mg/L	0.025	0.039	0.044	0.059	0.015	0.38	0.024	0.038	0.035	0.059	0.014	0.37	0.024	0.038	0.035	0.059	0.014	0.37	0.024	0.038	0.026	0.059	0.014	0.37
Nitrate	mg/L	0.045	0.088	0.055	0.193	0.055	0.63	0.045	0.093	0.074	0.193	0.053	0.57	0.045	0.093	0.074	0.193	0.053	0.57	0.045	0.093	0.092	0.193	0.053	0.57
Phosphate	mg/L	0.005	0.009	0.010	0.011	0.003	0.29	0.005	0.009	0.009	0.011	0.002	0.26	0.005	0.009	0.009	0.011	0.002	0.26	0.005	0.009	0.009	0.011	0.002	0.26
Sulphate	mg/L	0.6	1.0	1.0	1.4	0.3	0.27	0.6	1.3	1.2	2.8	0.4	0.35	0.9	1.8	1.7	2.9	0.6	0.33	0.9	1.8	1.7	2.9	0.6	0.33
Bromide	mg/L	0.005	0.005	0.005	0.006	0.001	0.11	0.005	0.005	0.005	0.006	0.001	0.10	0.005	0.005	0.005	0.006	0.001	0.10	0.005	0.005	0.005	0.006	0.001	0.10
Chloride	mg/L	0.90	1.20	1.08	1.78	0.37	0.31	0.90	1.25	1.07	2.27	0.37	0.30	0.99	1.41	1.25	2.28	0.42	0.30	0.99	1.41	1.18	2.28	0.42	0.30
Fluoride	mg/L	0.103	0.131	0.130	0.154	0.018	0.14	0.102	0.131	0.131	0.176	0.020	0.15	0.105	0.139	0.143	0.177	0.023	0.16	0.105	0.139	0.142	0.177	0.023	0.16
Dissolved Aluminum	mg/L	0.0645	0.1227	0.1353	0.1793	0.0443	0.36	0.0642	0.1171	0.1136	0.1785	0.0430	0.37	0.0644	0.1175	0.1137	0.1785	0.0430	0.37	0.0644	0.1174	0.0934	0.1785	0.0429	0.37
Dissolved Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.00	0.0001	0.0001	0.0001	0.0001	0.0000	0.23	0.0001	0.0001	0.0001	0.0001	0.0000	0.26	0.0001	0.0001	0.0001	0.0001	0.0000	0.26
Dissolved Arsenic	mg/L	0.0005	0.0005	0.0005	0.0006	0.0001	0.11	0.0005	0.0006	0.0005	0.0009	0.0001	0.15	0.0005	0.0006	0.0006	0.0009	0.0001	0.18	0.0005	0.0006	0.0006	0.0009	0.0001	0.18
Dissolved Barium	mg/L	0.0020	0.0028	0.0030	0.0040	0.0009	0.31	0.0020	0.0027	0.0025	0.0040	0.0008	0.30	0.0020	0.0028	0.0025	0.0040	0.0008	0.30	0.0020	0.0028	0.0020	0.0040	0.0008	0.30
Dissolved Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.00
Dissolved Boron	mg/L	0.0018	0.0019	0.0018	0.0020	0.0001	0.07	0.0017	0.0044	0.0024	0.0220	0.0041	0.94	0.0050	0.0111	0.0086	0.0225	0.0065	0.59	0.0050	0.0110	0.0063	0.0225	0.0065	0.59
Dissolved Cadmium	mg/L	0.000010	0.000016	0.000018	0.000023	0.000005	0.28	0.000010	0.000016	0.000016	0.000025	0.000005	0.29	0.000010	0.000017	0.000017	0.000025	0.000005	0.30	0.000010	0.000017	0.000015	0.000025	0.000005	0.30
Dissolved Calcium	mg/L	1.9	3.3	3.5	4.3	1.0	0.29	1.9	3.4	3.7	4.7	0.9	0.26	2.0	3.5	3.7	4.7	0.9	0.26	2.0	3.5	3.8	4.7	0.9	0.26
Dissolved Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0006	0.0000	0.05	0.0005	0.0006	0.0005	0.0006	0.0000	0.07	0.0005	0.0006	0.0005	0.0006	0.0000	0.07
Dissolved Cobalt	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.05	0.00005	0.00006	0.00005	0.00006	0.00000	0.07	0.00005	0.00006	0.00005	0.00006	0.00000	0.07
Dissolved Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0006	0.0010	0.0001	0.17	0.0006	0.0007	0.0007	0.0010	0.0002	0.21	0.0006	0.0007	0.0006	0.0010	0.0002	0.21
Dissolved Iron	mg/L	0.08	0.15	0.16	0.22	0.05	0.37	0.08	0.14	0.14	0.22	0.05	0.38	0.08	0.14	0.13	0.22	0.05	0.38	0.08	0.14	0.11	0.22	0.05	0.37
Dissolved Lead	mg/L	0.00005	0.00012	0.00015	0.00018	0.00005	0.38	0.00005	0.00012	0.00013	0.00021	0.00005	0.41	0.00005	0.00013	0.00014	0.00021	0.00006	0.42	0.00005	0.00013	0.00012	0.00021	0.00006	0.42
Dissolved Lithium	mg/L	0.00035	0.00050	0.00055	0.00060	0.00010	0.20	0.00035	0.00055	0.00055	0.00092	0.00012	0.23	0.00041	0.00065	0.00060	0.00093	0.00017	0.26	0.00041	0.00065	0.00058	0.00093	0.00017	0.25
Dissolved Magnesium	mg/L	0.34	0.57	0.61	0.70	0.15	0.27	0.34	0.59	0.64	0.86	0.15	0.25	0.37	0.65	0.67	0.86	0.16	0.25	0.37	0.65	0.67	0.86	0.16	0.25
Dissolved Manganese	mg/L	0.003	0.011	0.011	0.019	0.006	0.56	0.003	0.010	0.009	0.019	0.006	0.59	0.003	0.010	0.009	0.019	0.006	0.59	0.003	0.010	0.008	0.019	0.006	0.59
Dissolved Mercury	mg/L	0.000013	0.000013	0.000013	0.000013	0.000000	0.00	0.000012	0.000013	0.000013	0.000013	0.000000	0.01	0.000012	0.000012	0.000012	0.000013	0.000000	0.01	0.000012	0.000012	0.000012	0.000013	0.000000	0.01
Dissolved Molybdenum	mg/L	0.0001	0.0004	0.0003	0.0008	0.0003	0.77	0.0001	0.0005	0.0004	0.0014	0.0003	0.60	0.0002	0.0007	0.0005	0.0014	0.0004	0.57	0.0002	0.0007	0.0005	0.0014	0.0004	0.57
Dissolved Nickel	mg/L	0.00050	0.00050	0.00050	0.00050	0.00000	0.00	0.00050	0.00051	0.00050	0.00056	0.00001	0.02	0.00051	0.00053	0.00052	0.00056	0.00002	0.04	0.00051	0.00053	0.00051	0.00056	0.00002	0.04
Dissolved Phosphorous	mg/L	0.010	0.010	0.010	0.010	0.000	0.00	0.010	0.010	0.010	0.014	0.001	0.07	0.010	0.012	0.011	0.014	0.001	0.10	0.010	0.012	0.011	0.014	0.001	0.10
Dissolved Potassium	mg/L	0.37	0.41	0.41	0.46	0.03	0.08	0.37	0.52	0.46	1.30	0.18	0.35	0.52	0.80	0.70	1.32	0.29	0.36	0.52	0.80	0.60	1.32	0.29	0.36
Dissolved Rubidium	mg/L	0.0009	0.0010	0.0011	0.0012	0.0002	0.15	0.0009	0.0014	0.0012	0.0037	0.0006	0.43	0.0012	0.0022	0.0020	0.0038	0.0009	0.42	0.0012	0.0022	0.0017	0.0038	0.0009	0.42
Dissolved Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0005	0.0005	0.0005	0.0000	0.01
Dissolved Silicon	mg/L	5.23	7.80	7.75	10.78	1.97	0.25	5.24	8.11	8.30	10.81	1.95	0.24	5.31	8.24	8.35	10.82	1.94	0.24	5.31	8.24	8.50	10.82	1.94	0.23
Dissolved Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00005	0.00005	0.00005	0.00000	0.01
Dissolved Sodium	mg/L	0.94	1.43	1.50	1.71	0.33	0.23	0.95	1.47	1.65	1.84	0.30	0.21	0.97	1.51	1.66	1.84	0.31	0.21	0.97	1.51	1.67	1.84	0.31	0.21
Dissolved Strontium	mg/L	0.0075	0.0135	0.0143	0.0178	0.0041	0.30	0.0075	0.0141	0.0146	0.0224	0.0040	0.28	0.0084	0.0157	0.0154	0.0226	0.0046	0.29	0.0084	0.0157	0.0155	0.0226	0.0046	0.29
Dissolved Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.05	0.00005	0.00006	0.00005	0.00006	0.00000	0.07	0.00005	0.00006	0.00005	0.00006	0.00000	0.07
Dissolved Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.00	0.0010	0.0010	0.0010	0.0013	0.0001	0.06	0.0010	0.0011	0.0011	0.0013	0.0001	0.08	0.0010	0.0011	0.0011	0.0013	0.0001	0.08
Dissolved Tungsten	mg/L	0.00189	0.00222	0.00250	0.00250	0.00032	0.14	0.00189	0.00243	0.00250	0.00436	0.00056	0.23	0.00217	0.00305	0.00293	0.00441	0.00084	0.27	0.00217	0.00305	0.00292	0.00441	0.00084	0.27
Dissolved Uranium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00007	0.00000	0.06	0.00005	0.00006	0.00006	0.00007	0.00000	0.09	0.00005	0.00006	0.00005	0.00007	0.00000	0.09
Dissolved Vanadium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0005	0.0013	0.0002	0.29	0.0006	0.0009	0.0008	0.0014	0.0003	0.31	0.0006	0.0009	0.0007	0.0014	0.0003	0.31
Dissolved Zinc	mg/L	0.0015	0.0021	0.0016	0.0033	0.0008	0.37	0.0015	0.0021	0.0019	0.0038	0.0007	0.33	0.0017	0.0023	0.0020	0.0038	0.0007	0.31	0.0017	0.0023	0.0020	0.0038	0.0007	0.31
Total Aluminum	mg/L	0.0823	0.1543	0.1565	0.2100	0.0447	0.29	0.0811	0.1467	0.1492	0.2084	0.0449	0.31	0.0814	0.1470	0.1494	0.2084	0.0450	0.31	0.0814	0.1469	0.1441	0.2084	0.0449	0.31
Total Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0000	0.00	0.0001	0.0001	0.0001	0.0001	0.0000	0.23	0.0001	0.0001	0.0001	0.0001	0.0000	0.26	0.0001	0.0001	0.0001	0.0001	0.0000	0.26
Total Arsenic	mg/L	0.0005	0.0006	0.0006	0.0006	0.0001	0.08	0.0005	0.0006	0.0006	0.0009	0.0001	0.13	0.0005	0.0007	0.0007	0.0009	0.0001	0.16	0.0005	0.0007	0.0007	0.0009	0.0001	0.16
Total Barium	mg/L	0.0020	0.0030	0.0030	0.0045	0.0010	0.33	0.0020	0.0030	0.0027	0.0045	0.0009	0.31	0.0020	0.0030	0.0028	0.0045	0.0009	0.31	0.0020	0.0030	0.0025	0.0045	0.0009	0.31
Total Bismuth	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.00
Total Boron	mg/L	0.0018	0.0019	0.0020	0.0020	0.0001	0.06	0.0017	0.0045	0.0025	0.0220	0.0041	0.92	0.0050	0.0111	0.0086	0.0225	0.0065	0.58	0.0050	0.0111	0.0063	0.0225	0.0065	0.58
Total Cadmium	mg/L	0.000013	0.000019	0.000023	0.000025	0.000006	0.29	0.000012	0.000019	0.000019	0.000028	0.000006	0.30	0.000013	0.000020	0.000020	0.000028	0.000006	0.30	0.000013	0.000020	0.000015	0.000028	0.000006	0.30
Total Calcium	mg/L	2.1	3.5	3.7	4.4	1.0	0.28	2.1	3.6	4.0	4.8	0.9	0.25	2.1	3.7	4.1	4.8	0.9	0.25	2.1	3.7	4.1	4.8	0.9	0.25
Total Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0006	0.0000	0.05	0.0005	0.0006	0.0005	0.0006	0.0000	0.07	0.0005	0.0006	0.0005	0.0006	0.0000	0.07
Total Cobalt	mg/L	0.00005	0.00006	0.00005	0.00008	0.00001	0.21	0.00005	0.00006	0.00005	0.00009	0.00001	0.20	0.00005	0.00006	0.00005	0.00009	0.00001	0.21	0.00005	0.00006	0.00005	0.00009	0.00001	0.21
Total Copper	mg/L	0.0005	0.0005	0.0005	0.0006	0.0001	0.10	0.0005	0.0006	0.0006	0.0010	0.0001	0.16	0.0006	0.0008	0.0007	0.0010	0.0001	0.17	0.0006	0.0008	0.0007	0.0010	0.0001	0.17
Total Iron	mg/L	0.09	0.17	0.19	0.25	0.06	0.36	0.09	0.16	0.16	0.25	0.06	0.37	0.09	0.16	0.16	0.25	0.06	0.37	0.09	0.16	0.12	0.25	0.06	0.37
Total Lead	mg/L	0.00011	0.00020	0.00023	0.00028	0.00007	0.34	0.00011	0.00020	0.00019	0.00031	0.00006	0.32	0.00012	0.00021	0.00020	0.00031	0.00007	0.32	0.00012	0.00021	0.00017	0.00031	0.00007	0.32
Total Lithium	mg/L	0.00038	0.00054	0.00060	0.00065	0.00011	0.21	0.00038	0.00058	0.00059	0.00097	0.00013	0.23	0.00043	0.00068	0.00063	0.00097	0.00018	0.26	0.00043	0.00068	0.00058	0.00097	0.00018	0.26
Total Magnesium	mg/L	0.36	0.59	0.63	0.73	0.16	0.26	0.36	0.62	0.68	0.88	0.15	0.24	0.39	0.67	0.71	0.89	0.17	0.25	0.39	0.67	0.71	0.89	0.16	0.24
Total Manganese	mg/L	0.004	0.014	0.013	0.026	0.008	0.61	0.004	0.013	0.011	0.026	0.008	0.63	0.004	0.013	0.011	0.026	0.008	0.63	0.004	0.013	0.009	0.026	0.008	0.63
Total Mercury	mg/L	0.000013	0.000013	0.000013	0.000013	0.000000	0.00	0.000012	0.000013	0.000013	0.000013	0.000000	0.01	0.000012	0.000012	0.000012	0.000013	0.000000	0.01	0.000012	0.000012	0.000012	0.000013	0.000000	0.01
Total Molybdenum	mg/L	0.0001	0.0004	0.0003	0.0008	0.0003	0.79	0.0001	0.0005	0.0004	0.0014	0.0003	0.61	0.0002	0.0007	0.0005	0.0014	0.0004	0.58	0.0002	0.0007	0.0005	0.0014	0.0004	0.57
Total Nickel	mg/L	0.00050	0.00050	0.00050	0.00050	0.00000	0.00	0.00050	0.00051	0.00050	0.00056	0.00001	0.02	0.00051	0.00053	0.00052	0.00056	0.00002	0.04	0.00051	0.00053	0.00051	0.00056	0.00002	0.04
Total Phosphorous	mg/L	0.010	0.010	0.010	0.010	0.000	0.00	0.010	0.010	0.010	0.014	0.001	0.07	0.010	0.012	0.011	0.014	0.001	0.10	0.010	0.012	0.011	0.014	0.001	0.10
Total Potassium	mg/L	0.39	0.44	0.44	0.48	0.04	0.08	0.39	0.55	0.48	1.31	0.18	0.33	0.54	0.83	0.72	1.34	0.28	0.34	0.54	0.82	0.62	1.34	0.28	0.34
Total Rubidium	mg/L	0.0009	0.0011	0.0012	0.0013	0.0002	0.16	0.0009	0.0014	0.0012	0.0038	0.0006	0.41	0.0013	0.0022	0.0020	0.0039	0.0009	0.41	0.0013	0.0022	0.0017	0.0039	0.0009	0.41
Total Selenium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0005	0.0005	0.0005	0.0000	0.01	0.0005	0.0005	0.0005	0.0005	0.0000	0.01
Total Silicon	mg/L	5.23	7.80	7.75	10.78	1.97	0.25	5.24	8.11	8.30	10.81	1.95	0.24	5.31	8.24	8.35	10.82	1.94	0.24	5.31	8.24	8.50	10.82	1.94	0.23
Total Silver	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00005	0.00005	0.00005	0.00000	0.01	0.00005	0.00005	0.00005	0.00005	0.00000	0.01
Total Sodium	mg/L	0.99	1.52	1.59	1.83	0.35	0.23	0.99	1.56	1.74	1.89	0.33	0.21	1.02	1.60	1.78	1.89	0.34	0.21	1.02	1.60	1.83	1.89	0.34	0.21
Total Strontium	mg/L	0.0080	0.0143	0.0153	0.0188	0.0043	0.30	0.0079	0.0149	0.0156	0.0234	0.0042	0.28	0.0088	0.0165	0.0164	0.0235	0.0048	0.29	0.0088	0.0165	0.0164	0.0235	0.0047	0.29
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00000	0.00	0.00005	0.00005	0.00005	0.00006	0.00000	0.05	0.00005	0.00006	0.00005	0.00006	0.00000	0.07	0.00005	0.00006	0.00005	0.00006	0.00000	0.07
Total Titanium	mg/L	0.0010	0.0010	0.0010	0.0010	0.0000	0.00	0.0010	0.0010	0.0010	0.0013	0.0001	0.06	0.0010	0.0011	0.0011	0.0013	0.0001	0.08	0.0010	0.0011	0.0011	0.0013	0.0001	0.08
Total Tungsten	mg/L	0.00189	0.00222	0.00250	0.00250	0.00032	0.14	0.00189	0.00243	0.00250	0.00436	0.00056	0.23	0.00217	0.00305	0.00293	0.00441	0.00084	0.27	0.00217	0.00305	0.00292	0.00441	0.00084	0.27
Total Uranium	mg/L	0.00005	0.00005	0.00005	0.00006	0.00001	0.11	0.00005	0.00006	0.00005	0.00008	0.00001	0.12	0.00005	0.00006	0.00006	0.00008	0.00001	0.15	0.00005	0.00006	0.00005	0.00008	0.00001	0.15
Total Vanadium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0000	0.00	0.0005	0.0006	0.0005	0.0013	0.0002	0.29	0.0006	0.0009	0.0008	0.0014	0.0003	0.31	0.0006	0.0009	0.0007	0.0014	0.0003	0.31
Total Zinc	mg/L	0.0015	0.0024	0.0016	0.0034	0.0009	0.39	0.0015	0.0025	0.0027	0.0038	0.0009	0.34	0.0017	0.0027	0.0027	0.0038	0.0008	0.31	0.0017	0.0027	0.0034	0.0038	0.0008	0.31
Total Carbon	mg/L	4.13	8.58	8.10	13.43	3.41	0.40	4.05	8.10	7.51	13.25	3.30	0.41	4.05	8.08	7.51	13.22	3.29	0.41	4.05	8.07	7.11	13.22	3.28	0.41

NOTES:
1. BACKGROUND WATER QUALITY PROVIDED IN THIS TABLE REFER TO THE NON-CONTACT WATER QUALITY USED AT INPUTS TO THE MODEL FOR THIS NODE.
2. DATA ARE SUMMARIZED FROM MODEL OUTPUTS FOR EACH PHASE ON THE MINE LIFE.

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APPENDIX B3

MODEL OUTPUT DATA

(Pages B3-1 to B3-44)

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TABLE B3.1

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE TSF

Print Mar/06/14 9:18:35

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
-2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-0.92	8.3369	7.3002	0	0.024999	0.17679	0.016147	1.324	0.0049997	0.82089	0.09199	0.055301	5.00E-05	0.0008814	0.0019999	0.0005	0.0017174	1.50E-05	2.452	0.0005	5.00E-05	0.0006284	0.072444	5.00E-05	0.0004217	0.52771	0.0017311	1.25E-05	0.0010737	0.0005	0.0099995	0.35812	0.0007517	0.0001656	2.3839	5.00E-05	0.39078	0.0034785	5.00E-05	0.001	0.0005713	5.00E-05	0.0005	0.0004109	0.055301	5.00E-05	0.0008814	0.0019999	0.0005	0.0017174	1.50E-05	2.452	0.0005	5.00E-05	0.0006284	0.072444	5.00E-05	0.0004217	0.52771	0.0017311	1.25E-05	0.0010737	0.0005	0.0099995	0.35812	0.0007517	0.0001656	2.3839	5.00E-05	0.39078	0.0034785	5.00E-05	0.001	0.0005713	5.00E-05	0.0005	0.0004109	3.1686
-0.83	9.0371	7.8253	0	0.029707	0.18907	0.012028	1.3429	0.0049848	0.96483	0.094785	0.051833	5.35E-05	0.0008884	0.0020227	0.0004987	0.0021794	1.67E-05	2.6759	0.0005159	5.55E-05	0.0006309	0.068686	5.10E-05	0.0004649	0.56264	0.0023355	1.25E-05	0.0011809	0.0005061	0.010074	0.38646	0.0009347	0.0003045	6.0977	4.99E-05	0.96412	0.0080697	5.05E-05	0.0010041	0.0011766	5.40E-05	0.0005185	0.0008422	0.051833	5.35E-05	0.0008884	0.0020227	0.0004987	0.0021794	1.67E-05	2.6759	0.0005159	5.55E-05	0.0006309	0.068686	5.10E-05	0.0004649	0.56264	0.0023355	1.25E-05	0.0011809	0.0005061	0.010074	0.38646	0.0009347	0.0003045	6.0977	4.99E-05	0.96412	0.0080697	5.05E-05	0.0010041	0.0011766	5.40E-05	0.0005185	0.0008422	3.0907
-0.75	11.342	8.7638	0	0.02689	0.18029	0.0092854	2.2599	0.0048891	0.93485	0.14001	0.057894	7.83E-05	0.0009287	0.0021914	0.0004904	0.0058538	1.92E-05	3.4089	0.0006312	9.48E-05	0.0007191	0.073716	5.85E-05	0.0006659	0.68031	0.0061423	1.22E-05	0.0014862	0.000551	0.01063	0.55689	0.0016952	0.0004004	8.1546	4.93E-05	1.3681	0.013378	5.42E-05	0.0010367	0.0018245	8.28E-05	0.000653	0.0014367	0.057894	7.83E-05	0.0009287	0.0021914	0.0004904	0.0058538	1.92E-05	3.4089	0.0006312	9.48E-05	0.0007191	0.073716	5.85E-05	0.0006659	0.68031	0.0061423	1.22E-05	0.0014862	0.000551	0.01063	0.55689	0.0016952	0.0004004	8.1546	4.93E-05	1.3681	0.013378	5.42E-05	0.0010367	0.0018245	8.28E-05	0.000653	0.0014367	3.2229
-0.67	9.2688	5.666	0	0.025305	0.09506	0.0099177	2.2212	0.0048686	0.85368	0.15072	0.092425	8.16E-05	0.001022	0.0022384	0.0004885	0.0065563	3.07E-05	2.7823	0.000646	9.82E-05	0.0008351	0.076208	7.67E-05	0.000609	0.56354	0.0086327	1.22E-05	0.001111	0.0005556	0.010782	0.56729	0.0019196	0.0004604	6.8318	4.92E-05	1.1668	0.012745	5.48E-05	0.0010469	0.0021617	8.55E-05	0.000694	0.0019755	0.092435	8.16E-05	0.001022	0.0022384	0.0004885	0.0065563	3.07E-05	2.7823	0.000646	9.82E-05	0.0008351	0.076215	7.67E-05	0.000609	0.56354	0.0086332	1.22E-05	0.001111	0.0005556	0.010783	0.56729	0.0019197	0.0004604	6.8318	4.92E-05	1.1669	0.012745	5.48E-05	0.0010469	0.0021617	8.55E-05	0.0006941	0.0019755	4.4093
-0.58	9.114	5.4438	0	0.035747	0.07684	0.0098406	2.2584	0.0048677	0.89154	0.15894	0.10094	8.36E-05	0.0009904	0.002261	0.0004886	0.0071058	3.13E-05	2.7323	0.0006559	0.000101	0.0008579	0.079544	8.28E-05	0.000628	0.55447	0.0087523	1.30E-05	0.0011508	0.0005597	0.010862	0.57683	0.0020022	0.0004719	6.5499	4.93E-05	1.1869	0.012893	5.52E-05	0.0010526	0.002275	8.76E-05	0.0007111	0.0020686	0.10095	8.36E-05	0.0009905	0.002261	0.0004886	0.0071058	3.13E-05	2.7324	0.0006559	0.000101	0.0008579	0.07955	8.29E-05	0.000628	0.55447	0.0087529	1.30E-05	0.0011508	0.0005597	0.010863	0.57684	0.0020022	0.0004719	6.5499	4.93E-05	1.1869	0.012894	5.52E-05	0.0010526	0.002275	8.76E-05	0.0007112	0.0020686	4.9114
-0.50	9.9371	5.8414	0	0.034833	0.073418	0.010076	2.681	0.0048575	0.91442	0.17639	0.10531	9.332E-05	0.0010646	0.0023701	0.0004881	0.0088755	3.27E-05	2.9886	0.0007025	0.0001162	0.0009072	0.085542	9.27E-05	0.00071	0.59883	0.010527	1.29E-05	0.001278	0.0005792	0.011172	0.64722	0.0023028	0.0004772	6.6366	4.93E-05	1.2275	0.014028	5.69E-05	0.0010739	0.0024313	9.826E-05	0.0007697	0.0021836	0.10533	9.332E-05	0.0010646	0.0023702	0.0004881	0.0088755	3.27E-05	2.9887	0.0007025	0.0001162	0.0009072	0.085549	9.27E-05	0.00071	0.59883	0.010527	1.29E-05	0.001278	0.0005792	0.011173	0.64723	0.0023028	0.0004772	6.6366	4.93E-05	1.2275	0.014028	5.69E-05	0.0010739	0.0024313	9.827E-05	0.0007697	0.0021836	5.0984
-0.42	11.082	6.3239	0	0.034253	0.0728	0.010537	3.2832	0.004846	0.93559	0.20105	0.11043	0.0001071	0.0011491	0.0025127	0.0004876	0.01132	3.46E-05	3.3439	0.0007686	0.000137	0.0009692	0.093186	0.0001018	0.0008194	0.65971	0.01272	1.29E-05	0.0014359	0.0006069	0.011993	0.74832	0.0027305	0.000483	6.7768	4.95E-05	1.2639	0.015589	5.94E-05	0.0011042	0.00266	0.0001134	0.0008621	0.0023098	0.11045	0.0001071	0.0011491	0.0025128	0.0004876	0.01132	3.46E-05	3.3439	0.0007686	0.000137	0.0009692	0.093196	0.0001018	0.0008194	0.65972	0.012721	1.29E-05	0.001436	0.0006069	0.011994	0.74833	0.0027305	0.000483	6.7768	4.95E-05	1.2639	0.015589	5.94E-05	0.0011042	0.00266	0.0001134	0.0008622	0.0023098	5.3118
-0.33	12.272	6.7554	0	0.033692	0.071259	0.010408	3.9142	0.0048583	0.95506	0.22691	0.11629	0.0001218	0.001217	0.0026788	0.0004861	0.013941	3.72E-05	3.7127	0.000839	0.0001599	0.0010364	0.098429	0.0001107	0.000936	0.72331	0.015273	1.28E-05	0.0015948	0.0006358	0.012711	0.85799	0.0031912	0.0004876	6.8815	4.95E-05	1.2919	0.017197	6.20E-05	0.001135	0.0028903	0.00013	0.0009608	0.0024573	0.1163	0.0001218	0.001217	0.0026789	0.0004861	0.013941	3.72E-05	3.7127	0.000839	0.0001599	0.0010364	0.098439	0.0001107	0.0009361	0.72332	0.015274	1.28E-05	0.0015948	0.0006358	0.012712	0.85799	0.0031912	0.0004876	6.8815	4.95E-05	1.2919	0.017197	6.20E-05	0.001135	0.0028903	0.00013	0.0009608	0.0024574	5.5328
-0.25	13.42	7.1926	0	0.034705	0.069631	0.010113	4.5639	0.0048018	0.97517	0.25047	0.11808	0.0001364	0.0012624	0.0027966	0.0004814	0.016571	3.82E-05	4.0707	0.0009068	0.0001816	0.0010954	0.099256	0.0001149	0.001049	0.78508	0.017355	1.26E-05	0.0017292	0.0006618	0.013334	0.96685	0.0036432	0.0004892	6.9988	4.92E-05	1.3181	0.018717	6.43E-05	0.0011597	0.0031077	0.0001461	0.0010573	0.002535	0.11809	0.0001364	0.0012624	0.0027966	0.0004814	0.016571	3.82E-05	4.0707	0.0009068	0.0001816	0.0010954	0.099266	0.0001149	0.001049	0.78509	0.017356	1.26E-05	0.0017292	0.0006618	0.013336	0.96686	0.0036433	0.0004892	6.9988	4.92E-05	1.3181	0.018717	6.43E-05	0.0011597	0.0031077	0.0001461	0.0010574	0.0025351	5.5316
-0.17	14.177	7.4472	0	0.033418	0.071276	0.0097179	4.9946	0.0047301	1.0159	0.26679	0.12036	0.0001462	0.0012925	0.0029233	0.0004751	0.018409	3.85E-05	4.3047	0.0009509	0.0001962	0.0011343	0.10242	0.0001176	0.0011285	0.82599	0.018711	1.24E-05	0.0017924	0.0006768	0.013977	1.0422	0.0039573	0.0004884	7.1023	4.87E-05	1.3369	0.019739	6.56E-05	0.0011709	0.0032724	0.0001569	0.0011221	0.0025776	0.12038	0.0001462	0.0012925	0.0029234	0.0004751	0.018409	3.85E-05	4.3047	0.0009509	0.0001962	0.0011343	0.10243	0.0001176	0.0011286	0.82599	0.018713	1.24E-05	0.0017924	0.0006768	0.013979	1.0422	0.0039573	0.0004884	7.1023	4.87E-05	1.3369	0.01974	6.56E-05	0.0011709	0.0032724	0.0001569	0.0011223	0.0025778	5.6258
-0.08	14.355	7.3671	0	0.032114	0.072534	0.0091796	5.1339	0.0046815	1.0325	0.27182	0.12269	0.0001486	0.0012723	0.002951	0.0004707	0.018914	3.92E-05	4.3585	0.0009599	0.0001996	0.0011429	0.10373	0.0001209	0.0011515	0.83773	0.019111	1.22E-05	0.0017843	0.0006781	0.014515	1.0614	0.0040405	0.0004872	7.2218	4.83E-05	1.3446	0.020033	6.57E-05	0.0011686	0.0033444	0.0001594	0.0011378	0.0026187	0.12271	0.0001486	0.0012724	0.0029511	0.0004707	0.018914	3.92E-05	4.3585	0.0009599	0.0001996	0.0011429	0.10374	0.0001209	0.0011516	0.83774	0.019113	1.22E-05	0.0017843	0.0006781	0.014517	1.0614	0.0040406	0.0004872	7.2218	4.83E-05	1.3446	0.020033	6.57E-05	0.0011686	0.0033444	0.0001595	0.0011379	0.0026188	5.7425

TABLE B3.1

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE TSF

TABLE B3.1

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE TSF

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
67.83	60.701	49.295	0	0.6807	0.3167	0.0013091	19.471	0.0007869	3.1238	1.153	0.28073	0.012648	0.096323	0.037876	0.000204	0.62962
67.92	60.385	49.149	0	0.67698	0.31508	0.0013049	19.372	0.0007871	3.1085	1.147	0.27935	0.012579	0.095795	0.037671	0.0002033	0.62616
68.00	60.154	49.263	0	0.67401	0.31399	0.001307	19.302	0.000793	3.0968	1.1425	0.27826	0.012522	0.095367	0.037506	0.0002035	0.62336
68.08	59.998	49.527	0	0.6718	0.31329	0.001313	19.258	0.000799	3.0887	1.1394	0.27747	0.012481	0.095048	0.037384	0.0002038	0.62127
68.17	59.887	49.85	0	0.67008	0.3128	0.0013193	19.228	0.0008052	3.0828	1.1372	0.27687	0.012448	0.094798	0.037289	0.0002042	0.61962
68.25	59.424	49.112	0	0.66531	0.31042	0.0012909	19.074	0.000789	3.0583	1.1284	0.27467	0.01236	0.094132	0.037023	0.0002016	0.61528
68.33	58.873	48.101	0	0.65974	0.30753	0.0012971	18.887	0.0007805	3.0308	1.1182	0.27241	0.012257	0.093346	0.036712	0.0001996	0.61015
68.42	59.031	48.218	0	0.6615	0.30829	0.0013136	18.938	0.000789	3.04	1.1213	0.27327	0.012289	0.09359	0.03681	0.0002007	0.61174
68.50	59.519	48.576	0	0.66702	0.31076	0.0013221	19.094	0.0007921	3.0647	1.1306	0.2755	0.012392	0.094375	0.037117	0.0002021	0.61687
68.58	60.145	48.992	0	0.67418	0.31397	0.0013286	19.294	0.0007941	3.0962	1.1425	0.27834	0.012526	0.095393	0.037515	0.0002035	0.62353
68.67	60.661	49.346	0	0.68006	0.3166	0.0013286	19.458	0.0007948	3.1221	1.1523	0.28065	0.012636	0.096232	0.037843	0.0002047	0.62901
68.75	60.854	49.437	0	0.68236	0.31755	0.0013186	19.52	0.0007911	3.1315	1.1559	0.28146	0.012679	0.09656	0.037969	0.0002047	0.63116
68.83	60.698	49.294	0	0.68066	0.31669	0.0013093	19.47	0.0007871	3.1237	1.153	0.28071	0.012647	0.096318	0.037874	0.000204	0.62958
68.92	60.383	49.147	0	0.67695	0.31507	0.0013051	19.371	0.0007873	3.1084	1.147	0.27934	0.012578	0.09579	0.037669	0.0002034	0.62612
69.00	60.151	49.262	0	0.67397	0.31398	0.0013072	19.301	0.0007931	3.0967	1.1425	0.27825	0.012522	0.095361	0.037504	0.0002035	0.62332
69.08	59.996	49.526	0	0.67176	0.31328	0.0013132	19.257	0.0007991	3.0886	1.1394	0.27745	0.01248	0.095043	0.037382	0.0002038	0.62123
69.17	59.889	49.837	0	0.6701	0.31281	0.0013192	19.228	0.0008051	3.0829	1.1372	0.27688	0.012448	0.094801	0.03729	0.0002042	0.61964
69.25	59.425	49.1	0	0.66533	0.31042	0.0012909	19.074	0.0007889	3.0584	1.1284	0.27467	0.012361	0.094135	0.037024	0.0002016	0.6153
69.33	58.874	48.089	0	0.65975	0.30753	0.0012971	18.888	0.0007804	3.0309	1.1182	0.27241	0.012257	0.093349	0.036713	0.0001996	0.61016
69.42	59.032	48.206	0	0.66152	0.30829	0.0013135	18.938	0.0007889	3.04	1.1213	0.27328	0.012289	0.093592	0.036811	0.0002007	0.61175
69.50	59.52	48.564	0	0.66704	0.31077	0.001322	19.094	0.0007921	3.0647	1.1306	0.27551	0.012392	0.094377	0.037118	0.000202	0.61689
69.58	60.146	48.981	0	0.6742	0.31397	0.0013285	19.294	0.000794	3.0963	1.1425	0.27834	0.012526	0.095396	0.037516	0.0002035	0.62355
69.67	60.662	49.335	0	0.68008	0.31661	0.0013285	19.458	0.0007947	3.1222	1.1523	0.28065	0.012636	0.096235	0.037844	0.0002046	0.62903
69.75	60.855	49.427	0	0.68237	0.31755	0.0013186	19.52	0.000791	3.1315	1.156	0.28146	0.012679	0.096562	0.03797	0.0002047	0.63118
69.83	60.699	49.283	0	0.68068	0.31669	0.0013092	19.47	0.000787	3.1238	1.153	0.28072	0.012647	0.09632	0.037875	0.000204	0.62959
69.92	60.383	49.137	0	0.67696	0.31507	0.001305	19.371	0.0007872	3.1085	1.147	0.27934	0.012578	0.095792	0.03767	0.0002033	0.62614
70.00	60.152	49.252	0	0.67399	0.31398	0.0013071	19.301	0.000793	3.0968	1.1425	0.27826	0.012522	0.095364	0.037505	0.0002035	0.62334
70.08	59.996	49.516	0	0.67177	0.31328	0.0013131	19.257	0.000799	3.0886	1.1394	0.27746	0.01248	0.095045	0.037383	0.0002038	0.62124
70.17	59.889	49.827	0	0.67011	0.31281	0.0013192	19.228	0.0008051	3.0829	1.1372	0.27689	0.012449	0.094803	0.037291	0.0002042	0.61966
70.25	59.426	49.091	0	0.66534	0.31043	0.0012908	19.074	0.0007889	3.0585	1.1284	0.27468	0.012361	0.094137	0.037025	0.0002016	0.61531
70.33	58.875	48.08	0	0.65977	0.30754	0.001297	18.888	0.0007804	3.0309	1.1182	0.27242	0.012258	0.093351	0.036714	0.0001996	0.61018
70.42	59.033	48.198	0	0.66154	0.3083	0.0013134	18.938	0.0007889	3.0401	1.1213	0.27328	0.01229	0.093594	0.036812	0.0002007	0.61177
89.17	59.888	49.807	0	0.6701	0.31281	0.0013192	19.228	0.0008051	3.0829	1.1372	0.27688	0.012448	0.094801	0.03729	0.0002042	0.61964
89.25	59.425	49.071	0	0.66533	0.31042	0.0012908	19.073	0.0007889	3.0584	1.1284	0.27467	0.012361	0.094135	0.037024	0.0002016	0.6153
89.33	58.873	48.062	0	0.65976	0.30753	0.001297	18.887	0.0007804	3.0309	1.1182	0.27241	0.012257	0.093349	0.036713	0.0001995	0.61016
89.42	59.031	48.18	0	0.66152	0.30829	0.0013135	18.937	0.0007889	3.04	1.1213	0.27328	0.012289	0.093593	0.036811	0.0002007	0.61175
89.50	59.519	48.538	0	0.66704	0.31077	0.001322	19.093	0.0007921	3.0647	1.1306	0.2755	0.012392	0.094378	0.037118	0.000202	0.61689
89.58	60.146	48.955	0	0.6742	0.31398	0.0013285	19.293	0.000794	3.0963	1.1425	0.27834	0.012526	0.095396	0.037516	0.0002035	0.62355
89.67	60.661	49.31	0	0.68008	0.31661	0.0013285	19.458	0.0007947	3.1222	1.1523	0.28065	0.012636	0.096235	0.037844	0.0002046	0.62903
89.75	60.854	49.402	0	0.68238	0.31755	0.0013186	19.52	0.000791	3.1315	1.1559	0.28146	0.012679	0.096563	0.03797	0.0002047	0.63118
89.83	60.699	49.259	0	0.68068	0.31669	0.0013092	19.469	0.000787	3.1238	1.153	0.28072	0.012647	0.09632	0.037875	0.000204	0.62959
89.92	60.383	49.113	0	0.67696	0.31507	0.001305	19.371	0.0007872	3.1085	1.147	0.27934	0.012578	0.095792	0.03767	0.0002033	0.62614
90.00	60.151	49.228	0	0.67399	0.31398	0.0013071	19.301	0.000793	3.0968	1.1425	0.27826	0.012522	0.095364	0.037505	0.0002035	0.62334
90.08	59.996	49.492	0	0.67178	0.31328	0.0013131	19.256	0.000799	3.0886	1.1394	0.27746	0.01248	0.095045	0.037383	0.0002038	0.62125
90.17	59.889	49.804	0	0.67012	0.31281	0.0013192	19.228	0.0008051	3.0829	1.1372	0.27688	0.012449	0.094804	0.037291	0.0002042	0.61966
90.25	59.426	49.068	0	0.66534	0.31043	0.0012908	19.073	0.0007889	3.0585	1.1284	0.27468	0.012361	0.094137	0.037025	0.0002016	0.61531
90.33	58.874	48.059	0	0.65977	0.30754	0.001297	18.887	0.0007804	3.0309	1.1182	0.27242	0.012258	0.093351	0.036714	0.0001995	0.61018
90.42	59.032	48.177	0	0.66154	0.3083	0.0013134	18.937	0.0007889	3.0401	1.1213	0.27328	0.01229	0.093595	0.036812	0.0002007	0.61177
90.50	59.52	48.535	0	0.66706	0.31077	0.0013219	19.093	0.000792	3.0648	1.1306	0.27551	0.012393	0.09438	0.037119	0.000202	0.6169
90.58	60.147	48.953	0	0.67421	0.31398	0.0013284	19.293	0.000794	3.0963	1.1425	0.27835	0.012526	0.095398	0.037517	0.0002035	0.62356
90.67	60.662	49.307	0	0.6801	0.31661	0.0013284	19.458	0.0007946	3.1222	1.1523	0.28066	0.012636	0.096237	0.037845	0.0002046	0.62905
90.75	60.855	49.399	0	0.68239	0.31755	0.0013185	19.52	0.000791	3.1316	1.156	0.28146	0.012679	0.096565	0.037971	0.0002047	0.63119
90.83	60.699	49.256	0	0.6807	0.3167	0.0013091	19.469	0.0007869	3.1238	1.153	0.28072	0.012648	0.096322	0.037876	0.000204	0.62961
90.92	60.384	49.111	0	0.67698	0.31508	0.0013049	19.371	0.0007872	3.1085	1.147	0.27935	0.012578	0.095794	0.037671	0.0002033	0.62615
91.00	60.152	49.226	0	0.674	0.31398	0.0013071	19.301	0.000793	3.0968	1.1425	0.27826	0.012522	0.095366	0.037506	0.0002035	0.62335
91.08	59.997	49.49	0	0.67179	0.31329	0.001313	19.257	0.000799	3.0886	1.1394	0.27746	0.012481	0.095047	0.037384	0.0002038	0.62126
91.17	59.89	49.802	0	0.67013	0.31282	0.0013191	19.228	0.000805	3.083	1.1372	0.27689	0.012449	0.094805	0.037292	0.0002042	0.61967
91.25	59.426	49.066	0	0.66536	0.31043	0.0012907	19.074	0.0007888	3.0585	1.1284	0.27468	0.012361	0.094139	0.037025	0.0002016	0.61532
91.33	58.875	48.057	0	0.65978	0.30754	0.0012969	18.887	0.0007803	3.031	1.1182	0.27242	0.012258	0.093353	0.036714	0.0001995	0.61019
91.42	59.033	48.175	0	0.66155	0.3083	0.0013134	18.938	0.0007888	3.0401	1.1213	0.27329	0.01229	0.093596	0.036812	0.0002007	0.61178
91.50	59.521	48.533	0	0.66707	0.31078	0.0013219	19.094	0.000792	3.0648	1.1306	0.27551	0.012393	0.094381	0.03712	0.000202	0.61691
91.58	60.147	48.951	0	0.67422	0.31398	0.0013284	19.294	0.0007939	3.0964	1.1425	0.27835	0.012527	0.0954	0.037518	0.0002035	0.62357
91.67	60.663	49.305	0	0.68011	0.31661	0.0013284	19.458	0.0007946	3.1223	1.1523	0.28066	0.012637	0.096238	0.037845	0.0002046	0.62906
91.75	60.856	49.397	0	0.6824	0.31756	0.0013185	19.52	0.0007909	3.1316	1.156	0.28147	0.01268	0.096566	0.037972	0.0002047	0.6312
91.83	60.7	49.254	0	0.68071	0.3167	0.0013091	19.47	0.0007869	3.1238	1.153	0.28072	0.012648	0.096324	0.037876	0.000204	0.62962
91.92	60.384	49.109	0	0.67699	0.31508	0.0013049	19.371	0.0007871	3.1085	1.147	0.27935	0.012579	0.095796	0.037671	0.0002033	0.62616
92.00	60.153	49.224	0	0.67401	0.31399	0.001307	19.301	0.0007929	3.0968	1.1425	0.27826	0.012522	0.095367	0.037506	0.0002035	0.62336
92.08	59.997	49.488	0	0.6718	0.31329	0.001313	19.257	0.000799	3.0887	1.1394	0.27747	0.012481	0.095048	0.037384	0.0002038	0.62127
92.17	59.886	49.811	0	0.67008	0.3128	0.0013193	19.227	0.0008052	3.0828	1.1371	0.27687	0.012448	0.094798	0.037289	0.0002042	0.61962
92.25	59.423	49.075	0	0.66531	0.31042	0.0012909	19.073	0.000789	3.0583	1.1284	0.27467	0.012361	0.094132	0.037023	0.0002016	0.61528
92.33	58.872	48.065	0	0.65974	0.30753	0.0012971	18.887	0.0007805	3.0308	1.1182	0.2724	0.012257	0.093346	0.036712	0.0001996	0.61015
92.42	59.03	48.183	0	0.6615	0.30829	0.0013135	18.937	0.000789	3.04	1.1213	0.27327	0.012289	0.09359	0.03681	0.0002007	0.61174
92.50	59.518	48.541	0	0.66702	0.31076	0.001322	19.093	0.0007921	3.0647	1.1305	0.2755	0.012392	0.094375	0.037117	0.000202	0.61687
92.58	60.144	48.959	0	0.67418	0.31397	0.0013285	19.293	0.0007941	3.0962	1.1425	0.27833	0.012526	0.095394	0.037515	0.0002035	0.62353
92.67	60.66	49.313	0	0.68007	0.3166	0.0013286	19.458	0.0007947	3.1221	1.1523	0.28064	0.012636	0.096232	0.037843	0.0002046	0.62902
92.75	60.853	49.405	0	0.68236	0.31755	0.0013186	19.519	0.0007911	3.1315	1.1559	0.28145	0.012679	0.09656	0.037969	0.0002047	0.63116
92.83	60.698	49.262	0	0.68067	0.31669	0.0013092	19.469	0.0007871	3.1237	1.153	0.28071	0.012647	0.096318	0.037874	0.000204	0.62958
92.92	60.382	49.116	0	0.67695	0.31507	0.001305	19.371	0.0007873	3.1084	1.147	0.27934	0.012578	0.09579	0.037669	0.0002033	0.62613
93.00	60.15	49.231	0	0.67397	0.31398	0.0013072	19.3	0.0007931	3.0967	1.1424	0.27825	0.012522	0.095362	0.037504	0.0002035	0.62332
93.08	59.995	49.495	0	0.67176	0.31328	0.0013132	19.256	0.0007991	3.0885	1.1393	0.27745	0.01248	0.095043	0.037382	0.0002038	0.62123
93.17	59.888	49.807	0	0.6701	0.31281	0.0013192	19.228	0.0008051	3.0829	1.1372	0.27688	0.012448	0.094801	0.03729	0.0002042	0.61964
93.25	59.425	49.071	0	0.66533	0.31042	0.0012908	19.073	0.0007889	3.0584	1.1284	0.27467	0.012361	0.094135	0.037024	0.0002016	0.6153
93.33	58.873	48.062	0	0.65976	0.30753	0.001297	18.887	0.0007804	3.0309	1.1182	0.27241	0.012257	0.093349	0.036713	0.0001995	0.61016
99.08	59.997	49.49	0	0.67179	0.31329	0.001313	19.257	0.000799	3.0886	1.1394	0.27746	0.012481	0.095047	0.037384	0.0002038	0.62126
99.17	59.89	49.801	0	0.67013	0.31282	0.0013191	19.228	0.000805	3.083	1.1372	0.27689	0.012449	0.094805	0.037292	0.0002042	0.61967
99.25	59.426	49.066	0	0.66536	0.31043	0.0012907	19.074	0.0007888	3.0585	1.1284	0.27468	0.012361	0.094139	0.037025	0.0002016	0.61532
99.33	58.875	48.057	0	0.65978	0.30754	0.0012969	18.887	0.0007803	3.031	1.1182	0.27242	0.012258	0.093353	0.036714	0.0001995	0.61019
99.42	59.033	48.175	0	0.66155	0.3083	0.0013134	18.938	0.0007888	3.0401	1.1213	0.27329	0.01229	0.093596	0.036812	0.0002007	0.61178
99.50	59.521	48.533	0	0.66707	0.31078	0.0013219	19.094	0.000792	3.0648	1.1306	0.27551	0.012393	0.094381	0.03712	0.000202	0.61691
99.58	60.147	48.951	0	0.67422	0.31398	0.0013284	19.294	0.0007939	3.0964	1.1425	0.27835	0.012527	0.0954	0.037518	0.0002035	0.62357
99.67	60.663	49.305	0	0.68011	0.31661	0.0013284	19.458	0.0007946	3.1223	1.1523	0.28066	0.012637	0.096238	0.037845	0.0002046	0.62906
99.75	60.856	49.397	0	0.6824	0.31756	0.0013185	19.52	0.0007909	3.1316	1.156	0.28147	0.01268	0.096566	0.037972	0.0002047	0.6312
99.83	60.7	49.254	0	0.68071	0.3167	0.0013091	19.47	0.0007869	3.1238	1.153	0.28072	0.012648	0.096324	0.037876	0.000204	0.62962
99.92	60.384	49.109	0	0.67699	0.31508	0.0013049	19.371	0.0007871	3.1085	1.147	0.27935	0.012579	0.095796	0.037671	0.0002033	0.62616
100.00	60.153	49.224	0	0.67401	0.31399	0.001307	19.301	0.0007929	3.0968	1.1425	0.27826	0.012522	0.095367	0.037506	0.0002035	0.62336

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB

TABLE B3.2

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE OPEN PIT

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]
29.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0
29.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0
29.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0
29.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0
29.58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0
29.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0
29.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0
29.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0
29.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0
30.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
30.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
31.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0
31.08	72.339	123.41	0	0.051317	0.13412	0.0047914	39.514	0.0031456	1.8761	1.5136	0.21643	0.0013697	0.0059587	0.0080591	0.000387	0.12246	1.32E-04	22.659	0.0043931	0.0013712	0.0043218	0.07685	0.0003253	0.0071694	3.8101	0.15853	7.90E-06	0.013225	0.0021888	0.030088	5.3276	0.026163
31.17	70.927	136.34	0	0.060048	0.14348	0.0056251	38.823	0.0032474	1.8775	1.4755	0.21134	0.0013683	0.0060976	0.0079644	0.0003991	0.11983	1.28E-04	22.184	0.0042958	0.0013346	0.0042649	0.078516	0.0003185	0.0070887	3.7555	0.1531	8.16E-06	0.013304	0.0021448	0.029742	5.2042	0.025749
31.25	93.023	105.84	0	0.037032	0.10048	0.0039204	50.911	0.0022478	2.075	1.9991	0.26756	0.0016023	0.0058489	0.0096198	0.000308	0.15791	1.79E-04	29.425	0.0056343	0.0018189	0.0051371	0.068164	0.0004112	0.0088335	4.7364	0.21941	5.65E-06	0.014914	0.0027421	0.035461	6.9223	0.032729
31.33	78.413	292.89	0	0.35454	0.19815	0.00337	37.527	0.0015736	2.5919	1.6282	0.27975	0.0071738	0.050672	0.023744	0.0003156	0.39192	1.84E-04	21.569	0.0066351	0.0013432	0.010341	0.042239	0.0009151	0.020891	5.9687	0.19815	4.05E-06	0.053994	0.0028746	0.074098	12.596	0.080784
31.42	76.881	304.71	0	0.38066	0.2055	0.0031102	36.183	0.0015775	2.6395	1.5905	0.27998	0.0076174	0.0543	0.024874	0.000321	0.41026	1.83E-04	20.816	0.0066976	0.0012967	0.010753	0.040642	0.0009549	0.021831	6.0541	0.1952	4.07E-06	0.057186	0.0028796	0.077214	13.029	0.08455
31.50	78.336	312.09	0	0.39468	0.21006	0.0029512	36.735	0.0015404	2.7016	1.6201	0.28584	0.007889	0.05633	0.02568	0.0003217	0.42397	1.88E-04	21.141	0.0068654	0.0013179	0.011077	0.041165	0.0009859	0.02254	6.2105	0.19938	3.98E-06	0.059185	0.0029433	0.079576	13.431	0.087336
31.58	80.125	318.05	0	0.40631	0.21428	0.0028527	37.509	0.0015001	2.7621	1.6575	0.29219	0.0081244	0.058049	0.026402	0.0003217	0.43641	1.92E-04	21.596	0.0070404	0.0013475	0.011373	0.042035	0.0010143	0.023184	6.3691	0.20433	3.91E-06	0.060922	0.0030123	0.081728	13.81	0.089861
31.67	81.331	323.01	0	0.41723	0.21827	0.0027642	37.976	0.0014614	2.8096	1.682	0.2968	0.0083387	0.059645	0.027037	0.0003211	0.44732	1.96E-04	21.872	0.0071764	0.0013658	0.011629	0.04197	0.0010387	0.023748	6.4952	0.20772	3.81E-06	0.062493	0.0030637	0.083591	14.131	0.092077
31.75	81.612	328.03	0	0.43079	0.22304	0.002651	37.896	0.0014121	2.846	1.6853	0.29907	0.0085843	0.061559	0.027705	0.0003192	0.45869	1.97E-04	21.826	0.0072717	0.001364	0.011882	0.041053	0.0010633	0.024335	6.592	0.20878	3.69E-06	0.064256	0.0030927	0.085474	14.434	0.094394
31.83	80.882	331.1	0	0.44325	0.22732	0.0025639	37.262	0.0013748	2.8671	1.6665	0.29866	0.0087975	0.063305	0.028241	0.0003172	0.46757	1.97E-04	21.465	0.0073013	0.0013423	0.012072	0.040154	0.001082	0.024791	6.634	0.20717	3.59E-06	0.065763	0.0030922	0.086908	14.642	0.096214
31.92	79.702	331.24	0	0.45028	0.23014	0.002514	36.468	0.0013654	2.8687	1.639	0.29684	0.008905	0.06425	0.028474	0.0003163	0.47126	1.95E-04	21.015	0.0072724	0.0013144	0.012142	0.039769	0.0010895	0.024978	6.6207	0.20427	3.57E-06	0.066512	0.0030711	0.087477	14.702	0.096975
32.00	78.728	330.29	0	0.45265	0.23139	0.0024941	35.876	0.0013749	2.8592	1.6167	0.29464	0.0089303	0.06453	0.028495	0.0003167	0.47144	1.94E-04	20.679	0.007228	0.0012933	0.012137	0.039362	0.0010895	0.024983	6.5879	0.20179	3.65E-06	0.066682	0.0030484	0.087485	14.677	0.097018
32.08	79.819	331.29	0	0.45451	0.2338	0.0025631	36.533	0.0014206	2.8889	1.6368	0.29792	0.0089627	0.064752	0.028669	0.000322	0.47423	1.94E-04	20.995	0.007304	0.0013136	0.012228	0.040425	0.001095	0.025149	6.6609	0.20246	3.77E-06	0.066954	0.0030793	0.088095	14.779	0.097594
32.17	80.833	332.28	0	0.45561	0.23571	0.0026466	37.155	0.0014628	2.9145	1.6559	0.30086	0.0089797	0.06485	0.028793	0.0003269	0.47621	1.94E-04	21.298	0.0073696	0.0013328	0.012298	0.04145	0.0010989	0.025271	6.7233	0.2032	3.87E-06	0.067114	0.0031069	0.088554	14.857	0.098004
32.25	81.291	333.62	0	0.46583	0.24002	0.0025739	37.257	0.0014303	2.9455	1.6618	0.30313	0.0091666	0.066318	0.029327	0.0003253	0.48535	1.95E-04	21.331	0.0074598	0.0013367	0.012506	0.040637	0.001118	0.025751	6.8149	0.20341	3.78E-06	0.068464	0.0031341	0.090091	15.105	0.099861

Year	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]
29.25	0.00E+00	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
29.33	0.00E+00	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
29.42	0.00E+00	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
29.50	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
29.58	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
29.67	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
29.75	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
29.83	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
29.92	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.00	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.08	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.17	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.25	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.33	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.42	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.50	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.58	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.67	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.75	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.83	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
30.92	0	0	0.00E+00	0	0	0	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
31.00	0	0	0.00E+00	0	0	0	0	0	0	0	0	-2.124E-11	0	0	0	0.00E+00	0	0.00E+00	0
31.08	0.0007098	16.039	4.39E-05	46.439	0.098313	0.0001802	0.0024338	0.010516	0.0013176	0.0052272	0.0075356	0.21646	0.0013697	0.0059588	0.0080591	0.000387	0.12246	1.32E-04	22.659
31.17	0.0007128	17.163	4.47E-05	52.646	0.0976	0.0001787	0.0024277	0.010347	0.0012959	0.0051902	0.0074704	0.21137	0.0013683	0.0060977	0.0079645	0.0003991	0.11983	1.28E-04	22.185
31.25	0.0007433	13.764	3.85E-05	34.952	0.11823	0.0002113	0.0026978	0.01291	0.001665	0.006186	0.0091593	0.26758	0.0016023	0.0058489	0.0096198	0.000308	0.15791	1.79E-04	29.425
31.33	0.0008799	25.8	5.65E-05	125.16	0.27266	0.0003762	0.0081589	0.034488	0.004089	0.023898	0.013735	0.28036	0.0071738	0.050673	0.023746	0.0003156	0.39192	1.84E-04	21.571
31.42	0.0008935	26.578	5.84E-05	130.95	0.28478	0.0003892	0.0086037	0.03623	0.0042777	0.025315	0.014054	0.28065	0.0076174	0.054301	0.024876	0.000321	0.41026	1.83E-04	20.818
31.50	0.0009098	27.129	5.95E-05	134.19	0.29391	0.0004005	0.0088871	0.037436	0.0044182	0.026206	0.014426	0.28655	0.007889	0.056331	0.025683	0.0003217	0.42397	1.88E-04	21.144
31.58	0.0009256	27.589	6.04E-05	136.72	0.30221	0.000411	0.0091357	0.038513	0.0045454	0.026985	0.014793	0.29292	0.0081244	0.05805	0.026404	0.0003217	0.43641	1.92E-04	21.599
31.67	0.0009375	27.967	6.11E-05	138.87	0.30946	0.0004199	0.0093585	0.039464	0.0046568	0.027691	0.015095	0.29756	0.0083387	0.059646	0.027039	0.0003211	0.44732	1.96E-04	21.875
31.75	0.000945	28.321	6.18E-05	141.2	0.31699	0.0004285	0.0096045	0.040474	0.0047729	0.028488	0.015354	0.29985	0.0085843	0.06156	0.027707	0.0003192	0.45869	1.97E-04	21.829
31.83	0.0009467	28.52	6.24E-05	142.79	0.32284	0.0004345	0.0098121	0.041289	0.0048633	0.029171	0.015511	0.29946	0.0087975	0.063306	0.028243	0.0003172	0.46757	1.97E-04	21.468
31.92	0.000944	28.516	6.27E-05	143.07	0.32522	0.0004365	0.009913	0.041652	0.0049003	0.029511	0.01554	0.29765	0.008905	0.064251	0.028477	0.0003163	0.47126	1.95E-04	21.018
32.00	0.0009408	28.458	6.28E-05	142.78	0.3253	0.000436	0.0099343	0.041696	0.0049017	0.029586	0.015499	0.29545	0.0089304	0.064531	0.028497	0.0003167	0.47144	1.94E-04	20.682
32.08	0.0009495	28.641	6.36E-05	143.13	0.3275	0.00044	0.0099903	0.041925	0.0049231	0.029738	0.015646	0.29874	0.0089628	0.064753	0.028671	0.000322	0.47423	1.94E-04	20.998
32.17	0.0009573	28.813	6.42E-05	143.47	0.32912	0.0004432	0.010028	0.042082	0.0049372	0.029834	0.015769	0.30168	0.0089797	0.064852	0.028796	0.0003269	0.47621	1.95E-04	21.301
32.25	0.0009626	28.921	6.48E-05	144.09	0.33527	0.0004507	0.010223	0.042878	0.0050256	0.030467	0.015998	0.30397	0.0091666	0.066319	0.02933	0.0003253	0.48535	1.95E-04	21.334

Year	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
29.25	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
29.33	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
29.42	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0	0.00E+00	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
29.50	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
29.58	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
29.67	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
29.75	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
29.83	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
29.92	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.00	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.08	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.17	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.25	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.33	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.42	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.50	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.58	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.67	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.75	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.83	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0.00E+00	0	0	0	0	0	0
30.92	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
31.00	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
31.08	0.0043931	0.0013712	0.0043218	0.076872	0.0003254	0.0071695	3.8101	0.15853	7.90E-06	0.013225	0.0021888	0.030092	5.3276	0.026163	0.0007098	16.039	4.39E-05	46.439	0.098314	0.0001802	0.0024338	0.010517	0.0013176	0.0052273	0.007536	2.1376
31.17	0.0042958	0.0013346	0.0042649	0.07854	0.0003185	0.0070888	3.7555	0.1531	8.16E-06	0.013304	0.0021448	0.029746	5.2042	0.025749	0.0007128	17.163	4.47E-05	52.647	0.097601	0.0001787	0.0024277	0.010347	0.001296	0.0051903	0.0074708	2.1883
31.25	0.0056343	0.0018189	0.0051371	0.068179	0.0004112	0.0088336	4.7365	0.21941	5.65E-06	0.014914	0.0027421	0.035463	6.9223	0.032729	0.0007433	13.764	3.85E-05	34.952	0.11823	0.0002113	0.0026978	0.01291	0.001665	0.006186	0.0091595	1.5476
31.33	0.0066351	0.0013433	0.010341	0.042658	0.0009163	0.020893	5.969	0.1982	4.05E-06	0.053994	0.0028746	0.074156	12.596	0.080785	0.0008799	25.8	5.65E-05	125.16	0.27267	0.0003762	0.0081589	0.034489	0.0040897	0.023901	0.013739	1.3938
31.42	0.0066976	0.0012968	0.010753	0.041101	0.0009562	0.021834	6.0544	0.19525	4.07E-06	0.057186	0.0028796	0.077277	13.03	0.084552	0.0008935	26.578	5.84E-05	130.95	0.28479	0.0003892	0.0086037	0.036231	0.0042784	0.025318	0.014059	1.4262
31.50	0.0068654	0.001318	0.011077	0.041644	0.0009872	0.022543	6.2108	0.19943	3.98E-06	0.059185	0.0029433	0.079641	13.431	0.087338	0.0009098	27.129	5.95E-05	134.19	0.29393	0.0004005	0.0088871	0.037437	0.0044189	0.02621	0.014431	1.4222
31.58	0.0070404	0.0013476	0.011373	0.042532	0.0010157	0.023187	6.3694	0.20438	3.91E-06	0.060922	0.0030123	0.081795	13.81	0.089863	0.0009256	27.589	6.04E-05	136.72	0.30222	0.000411	0.0091357	0.038515	0.0045462	0.026989	0.014798	1.4122
31.67	0.0071764	0.0013659	0.011629	0.042482	0.0010402	0.023751	6.4956	0.20778	3.81E-06	0.062493	0.0030637	0.083661	14.131	0.092079	0.0009375	27.967	6.11E-05	138.87	0.30947	0.0004199	0.0093585	0.039465	0.0046576	0.027694	0.0151	1.3951
31.75	0.0072717	0.0013641	0.011882	0.041582	0.0010649	0.024337	6.5923	0.20883	3.69E-06	0.064256	0.0030927	0.085547	14.435	0.094396	0.000945	28.321	6.18E-05	141.2	0.317	0.0004285	0.0096045	0.040475	0.0047737	0.028491	0.01536	1.359
31.83	0.0073013	0.0013424	0.012072	0.040698	0.0010835	0.024794	6.6344	0.20723	3.59E-06	0.065763	0.0030922	0.086982	14.643	0.096216	0.0009467	28.52	6.24E-05	142.79	0.32285	0.0004345	0.0098121	0.04129	0.0048642	0.029175	0.015516	1.3378
31.92	0.0072724	0.0013145	0.012142	0.040321	0.0010911	0.024981	6.6211	0.20433	3.57E-06	0.066513	0.0030711	0.087552	14.702	0.096978	0.000944	28.516	6.27E-05	143.07	0.32523	0.0004365	0.009913	0.041654	0.0049012	0.029514	0.015546	1.3593
32.00	0.007228	0.0012934	0.012137	0.039916	0.0010911	0.024986	6.5882	0.20185	3.65E-06	0.066682	0.0030484	0.087561	14.677	0.097021	0.0009408	28.458	6.28E-05	142.78	0.32531	0.000436	0.0099343	0.041697	0.0049025	0.029589	0.015504	1.3587
32.08	0.007304	0.0013137	0.012228	0.04098	0.0010966	0.025152	6.6612	0.20252	3.77E-06	0.066954	0.0030793	0.088171	14.779	0.097597	0.0009495	28.641	6.36E-05	143.13	0.32751	0.00044	0.0099903	0.041926	0.004924	0.029742	0.015652	1.3907
32.17	0.0073696	0.0013329	0.012298	0.042005	0.0011005	0.025274	6.7236	0.20325	3.87E-06	0.067114	0.0031069	0.088631	14.858	0.098006	0.0009573	28.813	6.42E-05	143.47	0.32914	0.0004432	0.010028	0.042084	0.0049381	0.029838	0.015774	1.4215
32.25	0.0074598	0.0013368	0.012506	0.041205	0.0011196	0.025754	6.8152	0.20347	3.79E-06	0.068464	0.0031341	0.090169	15.106	0.099863	0.0009626	28.921	6.48E-05	144.09	0.33528	0.0004507	0.010223	0.04288	0.0050265	0.030471	0.016004	1.3848

TABLE B3.2

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE OPEN PIT

TABLE B3.2

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE OPEN PIT

Knight Piésold CONSULTING

TABLE B3.2

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE OPEN PIT

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
98.83	59.713	43.776	0	0.53571	0.25644	0.0017853	21.459	0.0010278	2.731	1.1688	0.26123	0.01	0.01	0.031377	0.0002101	0.52175
98.92	59.678	43.755	0	0.53567	0.25643	0.0017838	21.441	0.001028	2.7307	1.168	0.26116	0.01	0.01	0.031371	0.0002101	0.52164
99.00	59.64	43.733	0	0.53555	0.2564	0.0017826	21.424	0.0010292	2.7298	1.1672	0.26104	0.0099978	0.01	0.031361	0.0002102	0.52145
99.08	59.618	43.723	0	0.53551	0.25643	0.0017817	21.413	0.0010298	2.7294	1.1667	0.26096	0.0099972	0.01	0.031356	0.0002102	0.52137
99.17	59.603	43.717	0	0.53549	0.25647	0.0017829	21.405	0.0010302	2.7291	1.1664	0.2609	0.0099966	0.01	0.031352	0.0002102	0.5213
99.25	59.583	43.725	0	0.53565	0.25658	0.0017753	21.392	0.0010268	2.7286	1.1658	0.26079	0.01	0.01	0.031356	0.0002099	0.52138
99.33	59.478	43.666	0	0.53513	0.25635	0.0017938	21.347	0.0010283	2.7251	1.1637	0.26046	0.0099916	0.01	0.03132	0.0002099	0.52075
99.42	59.451	43.638	0	0.53472	0.25615	0.0017956	21.339	0.0010317	2.7239	1.1632	0.26036	0.0099849	0.01	0.031299	0.0002102	0.52038
99.50	59.507	43.658	0	0.53476	0.25614	0.001794	21.367	0.0010321	2.7251	1.1644	0.26054	0.009987	0.01	0.031308	0.0002103	0.52053
99.58	59.591	43.694	0	0.53494	0.25621	0.0017933	21.408	0.0010318	2.727	1.1663	0.26081	0.0099919	0.01	0.031326	0.0002103	0.52086
99.67	59.67	43.729	0	0.53518	0.2563	0.0017918	21.445	0.001031	2.729	1.1679	0.26107	0.009998	0.01	0.031347	0.0002103	0.52123
99.75	59.721	43.755	0	0.53548	0.25639	0.0017883	21.468	0.0010293	2.7304	1.169	0.26123	0.01	0.01	0.031366	0.0002102	0.52157
99.83	59.727	43.758	0	0.53567	0.25643	0.0017857	21.468	0.001028	2.7312	1.1691	0.26126	0.01	0.01	0.031376	0.0002101	0.52173
99.92	59.692	43.737	0	0.53564	0.25642	0.0017842	21.45	0.0010282	2.7309	1.1684	0.26119	0.01	0.01	0.03137	0.0002101	0.52162
100.00	59.654	43.715	0	0.53551	0.25639	0.001783	21.432	0.0010294	2.73	1.1675	0.26107	0.0099978	0.01	0.031359	0.0002102	0.52143

Year	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]
98.83	0.0001583	13.583	0.0067835	0.000889	0.012839	0.025747	0.0011815	0.026919	6.2783	0.14469	2.69E-06	0.05	0.0027136	0.094727	15.455
98.92	0.0001582	13.572	0.0067811	0.0008883	0.012836	0.025769	0.0011812	0.026914	6.2764	0.1446	2.69E-06	0.05	0.0027126	0.094707	15.451
99.00	0.0001581	13.561	0.006778	0.0008876	0.012832	0.025761	0.0011808	0.026905	6.2737	0.14451	2.70E-06	0.05	0.0027113	0.094674	15.444
99.08	0.0001581	13.555	0.0067763	0.0008872	0.01283	0.025759	0.0011806	0.026901	6.2723	0.14445	2.70E-06	0.05	0.0027106	0.094659	15.441
99.17	0.0001581	13.55	0.006775	0.0008869	0.012828	0.02576	0.0011805	0.026898	6.2713	0.14441	2.70E-06	0.05	0.0027101	0.094648	15.439
99.25	0.000158	13.542	0.0067746	0.0008864	0.012829	0.025672	0.0011806	0.026904	6.2713	0.14437	2.69E-06	0.05	0.0027096	0.094655	15.44
99.33	0.0001578	13.514	0.0067651	0.0008847	0.012815	0.025607	0.0011792	0.026873	6.2627	0.14412	2.69E-06	0.05	0.0027058	0.094544	15.42
99.42	0.0001577	13.51	0.0067613	0.0008844	0.012807	0.02562	0.0011784	0.026853	6.2589	0.14405	2.70E-06	0.05	0.0027046	0.094485	15.409
99.50	0.0001578	13.527	0.006765	0.0008854	0.012811	0.025669	0.0011787	0.02686	6.262	0.14418	2.70E-06	0.05	0.0027063	0.094515	15.415
99.58	0.000158	13.552	0.0067713	0.000887	0.012818	0.025741	0.0011795	0.026875	6.2673	0.14438	2.70E-06	0.05	0.002709	0.094575	15.427
99.67	0.0001582	13.575	0.0067777	0.0008884	0.012827	0.025772	0.0011803	0.026892	6.2728	0.14458	2.70E-06	0.05	0.0027116	0.09464	15.44
99.75	0.0001583	13.588	0.0067826	0.0008893	0.012835	0.025761	0.0011811	0.02691	6.2773	0.14471	2.69E-06	0.05	0.0027135	0.094699	15.45
99.83	0.0001583	13.588	0.0067841	0.0008893	0.012838	0.025755	0.0011814	0.026918	6.2787	0.14472	2.69E-06	0.05	0.002714	0.094724	15.454
99.92	0.0001583	13.577	0.0067816	0.0008886	0.012836	0.025778	0.0011812	0.026914	6.2768	0.14464	2.69E-06	0.05	0.0027129	0.094704	15.45
100.00	0.0001582	13.566	0.0067785	0.0008879	0.012832	0.025769	0.0011808	0.026905	6.274	0.14455	2.70E-06	0.05	0.0027116	0.094672	15.444

Year	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]
98.83	0.10593	0.0007768	8.0446	6.47E-05	13.282	0.34934	0.0004557	0.01119	0.046508	0.0052332	0.034001	0.015311	0.26221	0.01	0.01	0.03138
98.92	0.10591	0.0007766	8.0428	6.47E-05	13.278	0.34928	0.0004556	0.011189	0.046499	0.0052323	0.033996	0.015307	0.26214	0.01	0.01	0.031374
99.00	0.10588	0.0007764	8.0422	6.47E-05	13.273	0.34916	0.0004554	0.011186	0.046483	0.0052307	0.033986	0.015302	0.26202	0.0099978	0.01	0.031364
99.08	0.10586	0.0007763	8.0426	6.47E-05	13.271	0.34911	0.0004554	0.011184	0.046475	0.0052299	0.033981	0.015299	0.26194	0.0099972	0.01	0.031359
99.17	0.10585	0.0007762	8.0434	6.47E-05	13.271	0.34907	0.0004553	0.011183	0.046469	0.0052294	0.033978	0.015296	0.26188	0.0099966	0.01	0.031355
99.25	0.10587	0.0007759	8.0416	6.46E-05	13.278	0.34914	0.0004553	0.011185	0.046475	0.0052305	0.033986	0.015296	0.26177	0.01	0.01	0.031359
99.33	0.10574	0.0007751	8.0315	6.46E-05	13.265	0.34874	0.0004548	0.011173	0.04642	0.0052246	0.033948	0.015278	0.26144	0.0099916	0.01	0.031323
99.42	0.10567	0.000775	8.0285	6.46E-05	13.255	0.34849	0.0004545	0.011165	0.046389	0.0052208	0.033923	0.015268	0.26134	0.0099849	0.01	0.031302
99.50	0.10569	0.0007754	8.0315	6.46E-05	13.255	0.34858	0.0004547	0.011168	0.046402	0.005222	0.03393	0.015274	0.26152	0.009987	0.01	0.031311
99.58	0.10576	0.000776	8.0364	6.46E-05	13.26	0.34877	0.000455	0.011173	0.046431	0.0052248	0.033947	0.015286	0.26179	0.0099919	0.01	0.031329
99.67	0.10583	0.0007765	8.0412	6.47E-05	13.265	0.349	0.0004553	0.01118	0.046463	0.0052281	0.033967	0.015298	0.26205	0.009998	0.01	0.03135
99.75	0.10589	0.0007768	8.0439	6.47E-05	13.27	0.34922	0.0004556	0.011187	0.046492	0.0052314	0.033988	0.015308	0.26222	0.01	0.01	0.031369
99.83	0.10593	0.0007769	8.044	6.47E-05	13.271	0.34933	0.0004557	0.01119	0.046506	0.0052331	0.033999	0.015311	0.26224	0.01	0.01	0.031379
99.92	0.10591	0.0007767	8.0421	6.47E-05	13.267	0.34927	0.0004556	0.011188	0.046496	0.0052323	0.033994	0.015308	0.26217	0.01	0.01	0.031373
100.00	0.10587	0.0007765	8.0416	6.47E-05	13.262	0.34915	0.0004554	0.011185	0.04648	0.0052306	0.033984	0.015302	0.26205	0.0099978	0.01	0.031362

Year	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]
98.83	0.0002101	0.52175	0.0001583	13.587	0.0067835	0.0008891	0.012839	0.026412	0.0011834	0.026922	6.2787	0.14476
98.92	0.0002101	0.52164	0.0001583	13.576	0.0067811	0.0008884	0.012836	0.026434	0.0011831	0.026917	6.2768	0.14467
99.00	0.0002102	0.52145	0.0001582	13.565	0.006778	0.0008877	0.012832	0.026426	0.0011827	0.026909	6.2741	0.14458
99.08	0.0002102	0.52137	0.0001581	13.558	0.0067763	0.0008873	0.01283	0.026423	0.0011825	0.026905	6.2727	0.14452
99.17	0.0002102	0.5213	0.0001581	13.554	0.006775	0.000887	0.012828	0.026424	0.0011824	0.026902	6.2717	0.14448
99.25	0.0002099	0.52138	0.000158	13.546	0.0067746	0.0008866	0.012829	0.026337	0.0011825	0.026907	6.2717	0.14444
99.33	0.0002099	0.52075	0.0001578	13.518	0.0067651	0.0008848	0.012815	0.026271	0.0011811	0.026876	6.2631	0.14419
99.42	0.0002102	0.52038	0.0001577	13.514	0.0067613	0.0008845	0.012807	0.026284	0.0011803	0.026857	6.2593	0.14412
99.50	0.0002103	0.52053	0.0001578	13.531	0.006765	0.0008855	0.012811	0.026333	0.0011806	0.026863	6.2624	0.14425
99.58	0.0002103	0.52086	0.000158	13.556	0.0067713	0.0008871	0.012818	0.026405	0.0011814	0.026878	6.2677	0.14445
99.67	0.0002103	0.52123	0.0001582	13.578	0.0067777	0.0008885	0.012827	0.026436	0.0011822	0.026896	6.2732	0.14464
99.75	0.0002102	0.52157	0.0001583	13.592	0.0067826	0.0008894	0.012835	0.026425	0.001183	0.026913	6.2776	0.14478
99.83	0.0002101	0.52173	0.0001583	13.591	0.0067841	0.0008894	0.012838	0.02642	0.0011833	0.026922	6.2791	0.14479
99.92	0.0002101	0.52162	0.0001583	13.581	0.0067816	0.0008887	0.012836	0.026443	0.0011831	0.026917	6.2772	0.14471
100.00	0.0002102	0.52143	0.0001582	13.57	0.0067785	0.000888	0.012832	0.026434	0.0011827	0.026908	6.2744	0.14462

Year	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
98.83	2.69E-06	0.05	0.0027136	0.094818	15.455	0.10593	0.0007768	8.0446	6.47E-05	13.284	0.34935	0.0004557	0.01119	0.04651	0.0052342	0.034006	0.015318	1.1087
98.92	2.69E-06	0.05	0.0027126	0.094798	15.451	0.10591	0.0007766	8.0428	6.47E-05	13.28	0.34929	0.0004556	0.011189	0.046501	0.0052334	0.034001	0.015314	1.1114
99.00	2.70E-06	0.05	0.0027113	0.094766	15.445	0.10588	0.0007764	8.0422	6.47E-05	13.275	0.34918	0.0004554	0.011186	0.046484	0.0052317	0.03399	0.015309	1.1116
99.08	2.70E-06	0.05	0.0027106	0.094751	15.441	0.10586	0.0007763	8.0426	6.47E-05	13.273	0.34913	0.0004554	0.011184	0.046477	0.0052309	0.033986	0.015305	1.1112
99.17	2.70E-06	0.05	0.0027101	0.094739	15.439	0.10585	0.0007762	8.0434	6.47E-05	13.272	0.34909	0.0004553	0.011183	0.046471	0.0052304	0.033982	0.015303	1.1109
99.25	2.69E-06	0.05	0.0027096	0.094746	15.44	0.10587	0.0007759	8.0416	6.46E-05	13.28	0.34916	0.0004553	0.011185	0.046477	0.0052315	0.03399	0.015303	1.1057
99.33	2.69E-06	0.05	0.0027058	0.094635	15.42	0.10575	0.0007751	8.0315	6.46E-05	13.267	0.34875	0.0004548	0.011173	0.046421	0.0052256	0.033953	0.015285	1.1063
99.42	2.70E-06	0.05	0.0027046	0.094577	15.41	0.10567	0.000775	8.0285	6.46E-05	13.256	0.3485	0.0004545	0.011165	0.04639	0.0052218	0.033928	0.015275	1.109
99.50	2.70E-06	0.05	0.0027063	0.094607	15.416	0.1057	0.0007754	8.0315	6.46E-05	13.257	0.34859	0.0004547	0.011168	0.046404	0.005223	0.033934	0.015281	1.11
99.58	2.70E-06	0.05	0.002709	0.094667	15.428	0.10576	0.000776	8.0364	6.46E-05	13.261	0.34879	0.000455	0.011173	0.046432	0.0052258	0.033951	0.015293	1.1108
99.67	2.70E-06	0.05	0.0027116	0.094732	15.44	0.10583	0.0007765	8.0412	6.47E-05	13.267	0.34902	0.0004553	0.01118	0.046464	0.0052291	0.033972	0.015305	1.1109
99.75	2.69E-06	0.05	0.0027135	0.09479	15.451	0.1059	0.0007768	8.0439	6.47E-05	13.272	0.34924	0.0004556	0.011187	0.046494	0.0052324	0.033993	0.015314	1.1095
99.83	2.69E-06	0.05	0.002714	0.094816	15.455	0.10593	0.0007769	8.044	6.47E-05	13.273	0.34935	0.0004557	0.01119	0.046507	0.0052341	0.034004	0.015318	1.1088
99.92	2.69E-06	0.05	0.0027129	0.094795	15.451	0.10591	0.0007767	8.0421	6.47E-05	13.269	0.34928	0.0004556	0.011188	0.046498	0.0052333	0.033999	0.015314	1.1114
100.00	2.70E-06	0.05	0.0027116	0.094763	15.444	0.10588	0.0007765	8.0416	6.47E-05	13.264	0.34917	0.0004554	0.011185	0.046482	0.0052316	0.033988	0.015309	1.1117

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB

TABLE B3.3

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE WTP EFFLUENT

Print Mar/06/14 9:18:35

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]
-2.00	0	0	0	0	0	0	0	0	0
-1.92	0	0	0	0	0	0	0	0	0
-1.83	0	0	0	0	0	0	0	0	0
-1.75	0	0	0	0	0	0	0	0	0
-1.67	0	0	0	0	0	0	0	0	0
-1.58	0	0	0	0	0	0	0	0	0
-1.50	0	0	0	0	0	0	0	0	0
-1.42	0	0	0	0	0	0	0	0	0
-1.33	0	0	0	0	0	0	0	0	0
-1.25	0	0	0	0	0	0	0	0	0
-1.17	0	0	0	0	0	0	0	0	0
-1.08	0	0	0	0	0	0	0	0	0
-1.00	0	0	0	0	0	0	0	0	0
-0.92	0	0	0	0	0	0	0	0	0
-0.83	0	0	0	0	0	0	0	0	0
-0.75	0	0	0	0	0	0	0	0	0
-0.67	0	0	0	0	0	0	0	0	0
-0.58	0	0	0	0	0	0	0	0	0
-0.50	0	0	0	0	0	0	0	0	0
-0.42	0	0	0	0	0	0	0	0	0
-0.33	0	0	0	0	0	0	0	0	0
-0.25	0	0	0	0	0	0	0	0	0
-0.17	0	0	0	0	0	0	0	0	0
-0.08	0	0	0	0	0	0	0	0	0
1.00	0	0	0	0	0	0	0	0	0
1.08	0	0	0	0	0	0	0	0	0
1.17	0	0	0	0	0	0	0	0	0
1.25	0	0	0	0	0	0	0	0	0
1.33	0	0	0	0	0	0	0	0	0
1.42	0	0	0	0	0	0	0	0	0
1.50	0	0	0	0	0	0	0	0	0
1.58	0	0	0	0	0	0	0	0	0
1.67	0	0	0	0	0	0	0	0	0
1.75	0	0	0	0	0	0	0	0	0
1.83	0	0	0	0	0	0	0	0	0
1.92	0	0	0	0	0	0	0	0	0
2.00	0	0	0	0	0	0	0	0	0
2.08	0	0	0	0	0	0	0	0	0
2.17	0	0	0	0	0	0	0	0	0
2.25	0	0	0	0	0	0	0	0	0
2.33	0	0	0	0	0	0	0	0	0
2.42	0	0	0	0	0	0	0	0	0
2.50	0	0	0	0	0	0	0	0	0
2.58	0	0	0	0	0	0	0	0	0
2.67	0	0	0	0	0	0	0	0	0
2.75	0	0	0	0	0	0	0	0	0
2.83	0	0	0	0	0	0	0	0	0
2.92	0	0	0	0	0	0	0	0	0
3.00	0	0	0	0	0	0	0	0	0
3.08	0	0	0	0	0	0	0	0	0
3.17	0	0	0	0	0	0	0	0	0
3.25	0	0	0	0	0	0	0	0	0
3.33	0	0	0	0	0	0	0	0	0
3.42	0	0	0	0	0	0	0	0	0
3.50	0	0	0	0	0	0	0	0	0
3.58	0	0	0	0	0	0	0	0	0
3.67	0	0	0	0	0	0	0	0	0
3.75	0	0	0	0	0	0	0	0	0
3.83	0	0	0	0	0	0	0	0	0
3.92	0	0	0	0	0	0	0	0	0
4.00	0	0	0	0	0	0	0	0	0
4.08	0	0	0	0	0	0	0	0	0
4.17	0	0	0	0	0	0	0	0	0
4.25	0	0	0	0	0	0	0	0	0
4.33	0	0	0	0	0	0	0	0	0
4.42	0	0	0	0	0	0	0	0	0
4.50	0	0	0	0	0	0	0	0	0
4.58	0	0	0	0	0	0	0	0	0
4.67	0	0	0	0	0	0	0	0	0
4.75	0	0	0	0	0	0	0	0	0
4.83	0	0	0	0	0	0	0	0	0
4.92	0	0	0	0	0	0	0	0	0
5.00	0	0	0	0	0	0	0	0	0
5.08	0	0	0	0	0	0	0	0	0
5.17	0	0	0	0	0	0	0	0	0
5.25	0	0	0	0	0	0	0	0	0
5.33	0	0	0	0	0	0	0	0	0
5.42	0	0	0	0	0	0	0	0	0
5.50	0	0	0	0	0	0	0	0	0
5.58	0	0	0	0	0	0	0	0	0
5.67	0	0	0	0	0	0	0	0	0
5.75	0	0	0	0	0	0	0	0	0
5.83	0	0	0	0	0	0	0	0	0
5.92	0	0	0	0	0	0	0	0	0
6.00	0	0	0	0	0	0	0	0	0
6.08	0	0	0	0	0	0	0	0	0
6.17	0	0	0	0	0	0	0	0	0
6.25	0	0	0	0	0	0	0	0	0
6.33	0	0	0	0	0	0	0	0	0
6.42	0	0	0	0	0	0	0	0	0
6.50	0	0	0	0	0	0	0	0	0
6.58	0	0	0	0	0	0	0	0	0
6.67	0	0	0	0	0	0	0	0	0
6.75	0	0	0	0	0	0	0	0	0
6.83	0	0	0	0	0	0	0	0	0
6.92	0	0	0	0	0	0	0	0	0
7.00	0	0	0	0	0	0	0	0	0
7.08	0	0	0	0	0	0	0	0	0
7.17	0	0	0	0	0	0	0	0	0
7.25	0	0	0	0	0	0	0	0	0
7.33	0	0	0	0	0	0	0	0	0
7.42	0	0	0	0	0	0	0	0	0
7.50	0	0	0	0	0	0	0	0	0
7.58	0	0	0	0	0	0	0	0	0
7.67	0	0	0	0	0	0	0	0	0
7.75	0	0	0	0	0	0	0	0	0
7.83	0	0	0	0	0	0	0	0	0
7.92	0	0	0	0	0	0	0	0	0
8.00	243.76	3057	0	0.38129	0.21241	0.0047948	168.11	0.0026948	5.3806
8.08	244.65	3102.9	0	0.38115	0.21317	0.0048154	168.9	0.0027034	5.3916
8.17	246.13	3165	0	0.38122	0.21401	0.0048282	170.14	0.002715	5.4136
8.25	241.31	3098	0	0.38491	0.21536	0.0046817	166.72	0.0026418	5.3378
8.33	231.53	2956.8	0	0.38411	0.21343	0.0047076	159.78	0.0025953	5.1731
8.42	229.51	2941.9	0	0.3866	0.21375	0.0047167	158.38	0.0026098	5.1488
8.50	230.86	2970.8	0	0.39456	0.21703	0.0047084	159.34	0.0026052	5.1928
8.58	232.96	3003	0	0.40487	0.22148	0.0047078	160.79	0.002594	5.2547
8.67	234.94	3034.7	0	0.41442	0.22551	0.0046744	162.17	0.0025797	5.3117
8.75	235.62	3051.3	0	0.42162	0.22823	0.0046101	162.66	0.0025508	5.3394
8.83	234.49	3044	0	0.42471	0.22923	0.0045452	161.89	0.0025214	5.3296
8.92	232.69	3038	0	0.42398	0.22898	0.004493	160.71	0.0025106	5.2995
9.00	232.43	3062.2	0	0.42277	0.22882	0.0044684	160.66	0.0025204	5.2902
9.08	234.27	3114	0	0.42248	0.22962	0.0044924	162.09	0.0025314	5.3168
9.17	236.56	3181.6	0	0.42244	0.23048	0.0045087	163.88	0.002545	5.3519
9.25	232.87	3104	0	0.426	0.23174	0.0043564	161.12	0.0024683	5.2953
9.33	224.1	2945.4	0	0.42382	0.2291	0.0043966	154.74	0.0024235	5.1452
9.42	223.06	2927.5	0	0.42582	0.22917	0.0044087	153.96	0.0024408	5.1369
9.50	225.49	2956.1	0	0.43418	0.23259	0.0043966	155.6	0.0024342	5.2001
9.58	228.73	2987.2	0	0.44501	0.23723	0.0043909	157.76	0.0024196	5.2826
9.67	231.82	3018.1	0	0.45486	0.24135	0.0043515	159.84	0.0024022	5.359
9.75	233.52	3033.5	0	0.46188	0.24395	0.0042819	160.97	0.0023708	5.4031
9.83	233.32	3024.2	0	0.46406	0.24454	0.0042161	160.77	0.0023414	5.4067
9.92	232.3	3018.2	0	0.46205	0.24379	0.0041667	160.09	0.0023333	5.3868
10.00	232.89	3046.7	0	0.45982	0.24328	0.0041464	160.61	0.0023472	5.3889
10.08	236.39	3106.9	0	0.45901	0.24402	0.0041784	163.14	0.002363	5.4418
10.17	240.23	3185.3	0	0.4587	0.24491	0.0042021	165.97	0.0023808	5.5021
10.25	237.81	3095.3	0	0.46058	0.24541	0.0040447	163.95	0.0023013	5.4625
10.33	229.67	2915.3	0	0.45536	0.24132	0.0041055	157.86	0.0022597	5.316
10.42	230.01	2895.2	0	0.45629	0.24089	0.0041247	157.95	0.0022823	5.3288
10.50	234.17	2925	0	0.46475	0.24432	0.0041108	160.68	0.0022751	5.4214
10.58	239.23	2955.9	0	0.47596	0.2491	0.0041019	163.99	0.002579	5.5356
10.67	244.08	2987.1	0	0.48613	0.25334	0.0040574	167.18	0.002238	5.6425
10.75	247.29	3002.3	0	0.49315	0.2559	0.0039825	169.26	0.0022044	5.712
10.83	248.35	2991.7	0	0.49476	0.25625	0.0039168	169.86	0.0021755	5.7358
10.92	248.42	2987.3	0	0.49182	0.25518	0.0038723	169.88	0.0021718	5.7325
11.00	250.42	3023.2	0	0.4889	0.25452	0.0038591	171.34	0.0021923	5.7566
11.08	255.25	3094.4	0	0.48771	0.25528	0.0038983	174.78	0.0022125	5.8304
11.17	260.43	3186.9	0	0.48717	0.25625	0.003929	178.53	0.0022347	5.9122
11.25	257.7	3078.4	0	0.48816	0.25628	0.0037583	176.22	0.0021478	5.8652
11.33	247.78	2867.8	0	0.48038	0.25083	0.0038405	168.84	0.0021065	5.6831
11.42	248.48	2845.3	0	0.48061	0.25003	0.0038658	169.13	0.0021349	5.7008
11.50	253.75	2878.6	0	0.48992	0.25381	0.0038494	172.58	0.0021268	5.8146
11.58	260.02	2912.5	0	0.50244	0.25914	0.0038377	176.65	0.0021072	5.9527
11.67	265.97	2947.3	0	0.51369	0.26384	0.0037881	180.53	0.0020851	6.0807
11.75	269.69	2963.4	0	0.52098	0.26648	0.0037054	182.93	0.002083	6.1592
11.83	270.6	2950	0	0.52158	0.26634	0.0036356	183.42	0.002018	6.1779
11.92	270.38	2945.9	0	0.51688	0.26457	0.0035917	183.25	0.0020171	6.1654
12.00	272.91	2989.9	0	0.51259	0.26349	0.0035833	185.1	0.002044	6.1943
12.08	277.37	3075.8	0	0.51064	0.26418	0.0036314	188.37	0.00207	6.2587
12.17	282.73	3192	0	0.5096	0.26524	0.0036733	192.34	0.0020991	6.3409
12.25	275.86	3052.4	0	0.50839	0.26412	0.0034787	187.22	0.0019987	6.2176
12.33	260.19	2797.1	0	0.49664	0.25655	0.003587	175.96	0.0019556	5.929
12.42	259.42	2775.6	0	0.49656	0.25556	0.0036247	175.3	0.0019945	5.922
12.50	264.45	2819.1	0	0.50777	0.2602	0.003611	178.6	0.0019889	6.0368
12.58	270.64	2862.3	0	0.52284	0.26671	0.0036021	182.62	0.0019699	6.1803
12.67	276.36	2905.4	0	0.5361	0.27232	0.0035503	186.36	0.0019475	6.3095
12.75	279.15	2924	0	0.54389	0.27513	0.0034583	188.15	0.0019072	6.373
12.83	278.36	2906.1	0	0.54306	0.27431	0.0033826	187.53	0.0018749	6.3591
12.92	276.45	2900.7	0	0.53598	0.27159	0.0033388	186.29	0.0018773	6.3122
13.00	278.23	2956.4	0	0.52995	0.26998	0.0033368	187.73	0.0019127	6.3231
13.08	281.53	3061.9	0	0.52704	0.27059	0.0033968	190.36	0.0019465	6.364
13.17	285.98	3200	0	0.52546	0.27171	0.0034504	193.86	0.0019825	6.4281
13.25	274.33	3017.6	0	0.5216	0.26912	0.003224	185.46	0.0018638	6.2163
13.33	252.93	2704.8	0	0.50531	0.25902	0.0033647	170.27	0.0018176	5.8206
13.42	250.57	2686.3	0	0.50529	0.25802	0.0034171	168.58	0.0018699	5.788
13.50	255.12	2743.7	0	0.51922	0.26389	0.0034061	171.58	0.0018673	5.9019
13.58	260.97	2799.1	0	0.53771	0.27197	0.0033998	175.38	0.0018487	6.0486
13.67	266.17	2852.6	0	0.55353	0.27874	0.0033442	178.76	0.0018255	6.1751
13.75	267.75	2873.4	0	0.56177	0.28169	0.0032402	179.75	0.0017807	6.2182
13.83	265.04	2849.4	0	0.55895	0.27993	0.0031568	177.86	0.0017457	6.1665
13.92	261.26	2842.6	0	0.54886	0.27599	0.0031131	175.44	0.0017521	6.0802
14.00	261.83	2911.9	0	0.54067	0.27372	0.0031194	176.17	0.0017977	6.0636
14.08	265.17	3041.8	0	0.53655	0.27424	0.003194	178.95	0.0018412	6.1004
14.17	269.88	3212.6	0	0.53425	0.27547	0.0032644	182.78	0.0018871	6.1653
14.25	255.6	2972.6	0	0.5272	0.27102	0.002997	172.4	0.0017442	5.8997
14.33	231.31	2588.5	0	0.50593	0.25804	0.0031802	155.02	0.0016946	5.4444
14.42	229.29	2576.8	0	0.5065	0.25725	0.0032508	153.55	0.0017647	5.4207
14.50	235.03	2653.6	0	0.52429	0.26488	0.0032427	157.32	0.0017662	5.5647
14.58	242.19	2726.2	0	0.54749	0.27512	0.00324	161.93	0.0017486	5.7457
14.67	248.34	2794.1	0	0.56677	0.2835	0.0031804	165.91	0.0017251	5.8966
14.75	249.98	2818.9	0	0.57572	0.28669	0.003062	166.93	0.0016754	5.9416
14.83	246.53	2788.2	0	0.57046	0.28379	0.0029716	164.55	0.0016388	5.8711
14.92	241.88	2780.4	0	0.55657	0.27838	0.0029312	161.62	0.0016525	5.7611
15.00	242.22	2867.3	0	0.54564	0.27532	0.00295	162.34	0.0017135	5.7325
15.08	246.6	3029.3	0	0.54003	0.27582	0.0030463	165.95	0.0017709	5.7809
15.17	252.54	3244.6	0	0.53681	0.27727	0.0031415	170.8	0.0018312	5.8621
15.25	236.08	2922.9	0	0.52671	0.27084	0.0028174	158.66	0.0016543	5.5515
15.33	208.97	2439.4	0	0.49982	0.25433	0.003077	139.07	0.0016036	5.0385
15.42	208.52	2442.3	0	0.502	0.25417	0.0031733	138.65	0.001702	5.0487
15.50	217.13	2552.9	0	0.52636	0.2648	0.0031669	144.3	0.0017089	5.2584
15.58	227.33	2655.1	0	0.55746	0.27869	0.0031669	150.85	0.0016908	5.511
15.67	235.86	2747.6	0	0.58249	0.28969	0.0030954	156.36	0.0016645	5.7162
15.75	238.23	2779.2	0	0.59246	0.29321	0.0029469	157.84	0.0016038	5.7742
15.83	233.95	2736.2	0	0.58279	0.28826	0.0028387	154.95	0.0015615	5.679
15.92	228.23	2725.8	0	0.56221	0.28023	0.0027982	151.43	0.0015854	5.5352
16.00	229.02	2844.9	0	0.54644	0.27578	0.0028353	152.68	0.0016722	5.4996
16.08	234.25	3067.5	0	0.53827	0.27633	0.0029712	157.18	0.0017538	5.5518
16.17	242	3379.7	0	0.53334	0.27836	0.0031171	163.67	0.0018435	5.6544
16.25	219.66	2881.1	0	0.51954	0.26863	0.0026628	146.98	0.0015861	5.2356
16.33	186.61	2214.9	0	0.48516	0.24659	0.0030555	122.88	0.0015266	4.6124
16.42	188.92	2255.9	0	0.49136	0.24806	0.0031813	124.36	0.0016742	4.6847
16.50	202.62	2431.5	0	0.52766	0.26409	0.0031574	133.39	0.0016818	5.0105
16.58	217.88	2581.3	0	0.57121	0.28368	0.0031404	143.2	0.001652	5.3791
16.67	229.96	2707.9	0	0.6035	0.29798	0.003029	151.04	0.0016117	5.6602
16.75	233.17	2743.8	0	0.61266	0.30091	0.0028206	153.12	0.0015283	5.7267
16.83	227.52	2679.5	0	0.59453	0.29213	0.0026875	149.42	0.0014787	5.5878
16.92	220.24	2669.8	0	0.56339	0.28013	0.0026573	145.11	0.0015241	5.3936
17.00	221.63	2847.2	0	0.54036	0.2738	0.0027328	147.19	0.0016571	5.346
17.08	230.94	3178.3	0	0.52866	0.27488	0.0029417	154.9	0.0017812	5.4515
17.17	243.31	3637	0	0.52183	0.27807	0.003168	165.09	0.0019149	5.6203
17.25	213.3	2780.4	0	0.50679	0.26393	0.0024659	141.85	0.0014968	5.0738
17.33	172.57	1833.9	0	0.46441	0.23442	0.0031326	111.69	0.0014405	4.319
17.42	174.39	1908.9	0	0.45685	0.2287	0.0031158	113.27	0.0016035	4.3432
17.50	188.81	2102.5	0	0.48739	0.24139	0.0028815	122.95	0.0015203	4.6515
17.58	214.01	2345.8	0	0.55152	0.27094	0.0028616	139.24	0.0014868	5.2396
17.67	232.86	2541.7	0	0.59639	0.2915	0.0027357	151.54	0.0014484	5.666
17.75	238.06	2606.4	0	0.60764	0.29565	0.002502	155.02	0.0013617	5.77
17.83	231.15	2542.8	0	0.58353	0.28471	0.0024002	150.63	0.0013329	5.5995
17.92	222.27	2559.5	0	0.54411	0.27039	0.0024336	145.6	0.0014287	5.3639
18.00	198.39	2494.2	0	0.45381	0.23211	0.0022813	131.48	0.0014406	4.6898
18.08	190.01	2593	0	0.39316	0.20889	0.0022749	127.58	0.0014244	4.3502
18.17	184.44	2771.6	0	0.34679	0.19076	0.0022718	125.61	0.0014072	4.1022
18.25	184.26	2247	0	0.40467	0.21263	0.0019211	121.89	0.0011842	4.2745
18.33	167.11	1589.1	0	0.42264	0.21319	0.0028749	107.29	0.0012868	4.0952
18.42	174.65	1728.2	0	0.42589	0.21308	0.0028892	112.68	0.0014766	4.2469
18.50	194.59	1966.4	0	0.46596	0.23061	0.0027041	125.92	0.0014234	4.6764
18.58	223.12	2220.9	0	0.53276	0.26157	0.0026946	144.3	0.0014003	5.3282
18.67	243.31	2414.1	0	0.57699	0.28194	0.0025808	157.42	0.0013659	5.7757
18.75	249.63	2486.8	0	0.5898	0.28697	0.0023731	161.61	0.0012905	5.9038
18.83	243.98	2444.4	0	0.57009	0.2781	0.0023001	158.09	0.0012746	5.7671
18.92	236.35	2481.3	0	0.53545	0.266	0.0023568	153.9	0.0013773	5.5661
19.00	216.96	2488	0	0.45911	0.23477	0.0022776	142.84	0.0014292	5.0106
19.08	204.67	2590.4	0	0.39841	0.21156	0.0022678	136.52	0.0014187	4.6066
19.17	196.4	2771.4	0	0.35185	0.19339	0.0022756	132.87	0.001406	4.3132
19.25	194.45	2236.4	0	0.40869	0.21445	0.0019174	127.95	0.0011766	4.4517
19.33	176.06	1583	0	0.42617	0.21481	0.0028289	112.57	0.0012617	4.2473
19.42	185.83	1747.4	0	0.43654	0.21846	0.0028824	119.38	0.00147	4.4577
19.50	205.89	1982.2	0	0.47657	0.236	0.0026989	132.65	0.0014204	4.889
19.58	231.96	2202.2	0	0.53613	0.26339	0.0026502	149.35	0.0013811	5.4777
19.67	249.96	2367.8	0	0.57444	0.28093	0.0025251	161	0.0013373	5.8713
19.75	255.19	2428.6	0	0.58475	0.28479	0.002324	164.47	0.0012623	5.9747
19.83	249.56	2390.8	0	0.56629	0.27639	0.0022595	160.99	0.001248	5.8409
19.92	242.23	2434.1	0	0.53459	0.26543	0.0023221	157.01	0.001347	5.6522
20.00	234.65	2579.3	0	0.48708	0.24864	0.002377	153.71	0.0014749	5.3819
20.08	218.09	2664.4	0	0.42138	0.22302	0.002342	144.71	0.001458	4.893
20.17	207.94	2864.9	0	0.37347	0.20457	0.0023682	139.99	0.0014552	4.5645
20.25	197.55	2277.7	0	0.42051	0.22037	0.0019636	129.18	0.0011973	4.5358
20.33	171.01	1606.8	0	0.43123	0.21748	0.0027793	108.13	0.0012456	4.1761
20.42	182.04	1814	0	0.45708	0.22904	0.0029337	115.32	0.0014923	4.4573
20.50	201.06	2093.5	0	0.51052	0.25325	0.0028429	127.36	0.0014922	4.9171
20.58	220.93	2329	0	0.57584	0.28342	0.0028199	139.36	0.0014701	5.4249
20.67	233.26	2514.6	0	0.6206	0.30407	0.0027241	146.69	0.0014401	5.7478
20.75	230.93	2563.4	0	0.62876	0.30681	0.00251	144.83	0.001358	5.7223
20.83	216.33	2478.8	0	0.59904	0.29277	0.0023968	135.34	0.0013169	5.4076
20.92	201.81	2469.9	0	0.55542	0.27583	0.0024067	126.68	0.0013842	5.064
21.00	200.59	2696.5	0	0.52519	0.26775	0.0025419	127.52	0.001558	4.953
21.08	175.83	2852	0	0.47162	0.24852	0.0025711	113.66	0.0015865	4.3589
21.17	158.84	3075.4	0	0.42794	0.23238	0.0026265	104.91	0.0016032	3.9247
21.25	128.9	2360.8	0	0.44617	0.23346	0.0020947	81.053	0.0012698	3.4868
21.33	101.44	1652.9	0	0.43989	0.22234	0.0027565	59.702	0.001259	3.0568
21.42	104.04	1847.8	0	0.46997	0.23614	0.0029535	61.278	0.0015022	3.2081
21.50	115.09	2156.3	0	0.53501	0.26632	0.0029797	67.823	0.0015576	3.5728
21.58	127.1	2407.7	0	0.60572	0.29925	0.0030129	74.564	0.0015674	3.9667
21.67	135.14	2595.9	0	0.6527	0.32101	0.0029467	79.196	0.0015507	4.2235
21.75	134.85	2629.5	0	0.65773	0.32218	0.0027266	79.036	0.0014633	4.2192
21.83	127.53	2527.2	0	0.62394	0.30586	0.0025748	74.876	0.0014008	4.0064
21.92	119.51	2496.1	0	0.57913	0.28766	0.0025424	70.931	0.001438	3.7595
22.00	116.6	2672.5	0	0.54929	0.27879	0.0026368	70.858	0.0015747	3.6179
22.08	117.66	2991.9	0	0.53349	0.27824	0.0028235	73.585	0.0017047	3.5724
22.17	120.2	3422.7	0	0.5239	0.2802	0.0030695	77.594	0.0018411	3.5679
22.25	107.25	2579.5	0	0.5021	0.26155	0.0023727	65.796	0.0014186	3.2909
22.33	92.466	1775.2	0	0.46713	0.23631	0.0028571	53.395	0.0013245	2.983
22.42	97.54	1926.9	0	0.48903	0.24612	0.0030183	56.684	0.0015389	3.1501
22.50	109.5	2202.3	0	0.54749	0.27315	0.003032	63.897	0.0015848	3.5108
22.58	122.16	2427.1	0	0.61218	0.3032	0.0030525	71.134	0.0015889	3.898
22.67	130.85	2596	0	0.65512	0.32303	0.0029838	76.234	0.0015686	4.1543
22.75	131.56	2621.2	0	0.65865	0.32347	0.0027671	76.742	0.0014812	4.163
22.83	125.47	2519.4	0	0.6255	0.30733	0.0026134	73.364	0.0014167	3.9719
22.92	118.37	2487	0	0.58201	0.28952	0.0025761	69.977	0.0014513	3.7438
23.00	115.83	2651.7	0	0.55283	0.28075	0.0026642	70.06	0.0015761	3.611
23.08	116.8	2949.7	0	0.53684	0.27979	0.0028375	72.636	0.0016996	3.5653
23.17	119.08	3351.1	0	0.5268	0.28123	0.0030706	76.341	0.0018288	3.5566
23.25	107.32	2567.9	0	0.50413	0.26269	0.0024065	65.643	0.0014294	3.2959
23.33	93.663	1805	0	0.46987	0.23818	0.0028364	54.161	0.0013284	3.0054
23.42	98.376	1935.8	0	0.4896	0.24699	0.0029893	57.188	0.0015259	3.1592
23.50	109.63	2186	0	0.54376	0.27204	0.0030065	63.955	0.0015702	3.4961
23.58	121.64	2391.8	0	0.60421	0.30011	0.0030281	70.822	0.0015761	3.8609
23.67	130.03	2548.5	0	0.64494	0.31892	0.0029694	75.738	0.0015591	4.1064
23.75	131.01	2574.5	0	0.64944	0.31987	0.0027705	76.395	0.0014788	4.1231
23.83	125.56	2483.5	0	0.61977	0.3053	0.0026265	73.39	0.0014181	3.9522
23.92	119.03	2456.1	0	0.57985	0.28892	0.0025908	70.293	0.0014461	3.7429
24.00	116.65	2610.2	0	0.55267	0.2808	0.0026743	70.369	0.0015656	3.6194
24.08	117.5	2886.3	0	0.53754	0.27983	0.0028336	72.736	0.0016821	3.5757
24.17	119.61	3269.7	0	0.52755	0.28112	0.0030609	76.25	0.0018082	3.5656
24.25	108.76	2560.4	0	0.50575	0.26364	0.002444	66.49	0.0014406	3.3214
24.33	95.885	1848.1	0	0.47328	0.24048	0.0028153	55.723	0.0013348	3.0453
24.42	100.05	1956	0	0.49076	0.24825	0.0029571	58.358	0.0015126	3.1819
24.50	110.37	2177.9	0	0.5401	0.27105	0.0029776	64.548	0.001555	3.49
24.58	121.53	2362.3	0	0.5957	0.29686	0.0030002	70.913	0.0015627	3.8272
24.67	129.44	2504.6	0	0.63384	0.31446	0.0029525	75.533	0.001549	4.0582
24.75	130.59	2530.5	0	0.63934	0.31593	0.0027738	76.272	0.0014769	4.0818
24.83	125.79	2450.5	0	0.61356	0.30312	0.0026412	73.615	0.0014207	3.9323
24.92	119.86	2427.8	0	0.57771	0.28837	0.0026074	70.796	0.0014449	3.7437
25.00	117.64	2569.1	0	0.5529	0.281	0.0026847	70.832	0.0015541	3.6306
25.08	118.35	2820.6	0	0.53888	0.28006	0.0028282	72.956	0.0016621	3.5896
25.17	120.12	3154.8	0	0.52985	0.28111	0.0030302	75.985	0.0017742	3.579
25.25	110.34	2538.6	0	0.50888	0.26498	0.0024765	67.344	0.0014479	3.3539
25.33	98.361	1893.2	0	0.47808	0.24337	0.0027941	57.431	0.0013439	3.0936
25.42	101.84	1978.7	0	0.49285	0.24988	0.0029259	59.6	0.0015014	3.2096
25.50	111.05	2171.1	0	0.53669	0.27015	0.0029507	65.095	0.0015414	3.484
25.58	121.15	2333.3	0	0.5868	0.29339	0.0029761	70.834	0.0015508	3.7887
25.67	128.43	2460.8	0	0.62194	0.30962	0.0029393	75.062	0.0015409	4.0018
25.75	129.73	2487.1	0	0.62847	0.31164	0.0027824	75.848	0.0014779	4.0321
25.83	125.61	2419.2	0	0.60687	0.30078	0.0026637	73.543	0.0014279	3.9057
25.92	120.29	2401.2	0	0.57536	0.28782	0.0026334	70.998	0.0014501	3.739
26.00	118.17	2528.6	0	0.55308	0.28126	0.0027048	70.942	0.001548	3.6361
26.08	118.66	2753.6	0	0.54028	0.28039	0.0028373	72.744	0.0016491	3.597
26.17	120.08	3051	0	0.53197	0.28132	0.0030208	75.338	0.0017517	3.5847
26.25	111.4	2521.9	0	0.51251	0.26679	0.0025278	67.769	0.0014654	3.3818
26.33	100.35	1940.8	0	0.48344	0.24667	0.0027964	58.698	0.0013659	3.1386
26.42	103.05	2004.4	0	0.49543	0.25186	0.0029192	60.34	0.001504	3.2326
26.50	111.02	2167.6	0	0.53379	0.26957	0.0029463	65.047	0.00154	3.4715
26.58	119.9	2307	0	0.57834	0.29021	0.0029728	70.05	0.0015492	3.7411
26.67	126.42	2418.8	0	0.61033	0.30497	0.0029431	73.793	0.0015414	3.9336
26.75	127.78	2444.3	0	0.61765	0.30742	0.0028047	74.576	0.001486	3.9682
26.83	124.32	2386.9	0	0.59999	0.29841	0.0026977	72.626	0.0014412	3.8637
26.92	119.66	2372.8	0	0.57272	0.2872	0.0026693	70.393	0.0014608	3.7191
27.00	117.68	2486.5	0	0.55302	0.28145	0.0027336	70.288	0.0015505	3.6269
27.08	117.64	2653.1	0	0.54155	0.28068	0.0028533	71.413	0.00164	3.5874
27.17	118.48	2881.8	0	0.53412	0.2815	0.0030167	73.269	0.0017319	3.5726
27.25	111.07	2427.9	0	0.51672	0.26884	0.0025858	66.82	0.0014856	3.3975
27.33	101.37	1916.5	0	0.49007	0.25062	0.0028041	58.891	0.0013921	3.1801
27.42	103.3	1942.6	0	0.50354	0.25451	0.002914	59.934	0.0015088	3.2536
27.50	109.87	2056.4	0	0.53172	0.26942	0.0029414	63.677	0.0015398	3.4548
27.58	117.35	2154.8	0	0.56985	0.28705	0.002967	67.758	0.001548	3.6852
27.67	122.95	2234.8	0	0.59786	0.29994	0.0029441	70.86	0.0015421	3.8535
27.75	124.33	2249.9	0	0.60552	0.30265	0.0028269	71.589	0.0014951	3.8916
27.83	121.66	2201.1	0	0.59203	0.29562	0.0027343	70.057	0.0014563	3.8119
27.92	117.81	2186.5	0	0.56969	0.28643	0.0027082	68.2	0.0014724	3.6939
28.00	0	0	0	0	0	0	0	0	0
28.08	0	0	0	0	0	0	0	0	0
28.17	0	0	0	0	0	0	0	0	0
28.25	0	0	0	0	0	0	0	0	0
28.33	0	0	0	0	0	0	0	0	0
28.42	0	0	0	0	0	0	0	0	0
28.50	0	0	0	0	0	0	0	0	0
28.58	0	0	0	0	0	0	0	0	0
28.67	0	0	0	0	0	0	0	0	0
28.75	0	0	0	0	0	0	0	0	0
28.83	0	0	0	0	0	0	0	0	0
28.92	0	0	0	0	0	0	0	0	0
29.00	0	0	0	0	0	0	0	0	0
29.08	0	0	0	0	0	0	0	0	0
29.17	0	0	0	0	0	0	0	0	0
29.25	0	0	0	0	0	0	0	0	0
29.33	0	0	0	0	0	0	0	0	0
29.42	0	0	0	0	0	0	0	0	0
29.50	0	0	0	0	0	0	0	0	0
29.58	0	0	0	0	0	0	0	0	0
29.67	0	0	0	0	0	0	0	0	0
29.75	0	0	0	0	0	0	0	0	0
29.83	0	0	0	0	0	0	0	0	0
29.92	0	0	0	0	0	0	0	0	0
30.00	0	0	0	0	0	0	0	0	0
30.08	0	0	0	0	0	0	0	0	0
30.17	0	0	0	0	0	0	0	0	0
30.25	0	0	0	0	0	0	0	0	0
30.33	0	0	0	0	0	0	0	0	0
30.42	0	0	0	0	0	0	0	0	0
30.50	0	0	0	0	0	0	0	0	0
30.58	0	0	0	0	0	0	0	0	0
30.67	0	0	0	0	0	0	0	0	0
30.75	0	0	0	0	0	0	0	0	0
30.83	0	0	0	0	0	0	0	0	0
30.92	0	0	0	0	0	0	0	0	0
31.00	0	0	0	0	0	0	0	0	0
31.08	0	0	0	0	0	0	0	0	0
31.17	0	0	0	0	0	0	0	0	0
31.25	0	0	0	0	0	0	0	0	0
31.33	0	0	0	0	0	0	0	0	0
31.42	0	0	0	0	0	0	0	0	0
31.50	0	0	0	0	0	0	0	0	0
31.58	0	0	0	0	0	0	0	0	0
31.67	0	0	0	0	0	0	0	0	0
31.75	0	0	0	0	0	0	0	0	0
31.83	0	0	0	0	0	0	0	0	0
31.92	0	0	0	0	0	0	0	0	0
32.00	0	0	0	0	0	0	0	0	0
32.08	0	0	0	0	0	0	0	0	0
32.17	0	0	0	0	0	0	0	0	0
32.25	0	0	0	0	0	0	0	0	0

TABLE B3.3

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE WTP EFFLUENT

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
32.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
32.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
32.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
32.58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
32.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
32.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
32.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
32.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
33.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
34.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
34.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
34.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
34.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
34.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0.00E+00	0	0	0	0	0	0	0	0	0
40.25	77.219	189.37	0	0.51554	0.25721	0.0024319	33.171	0.0013606	3.0131	1.5465	0.2	0.0099325	0.01	0.031648	0.0002855	0.52542	0.0001833	19.389	0.001	0.0012401	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40.33	76.729	186.84	0	0.51549	0.25698	0.0024339	32.872	0.0013546	3.0034	1.536	0.2	0.0099262	0.01	0.031608	0.000284	0.52474	0.0001825	19.234	0.001	0.0012305	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40.42	76.545	185.81	0	0.51533	0.2568	0.0024296	32.76	0.0013546	2.9998	1.5322	0.2	0.0099211	0.01	0.031588	0.0002837	0.52439	0.0001822	19.177	0.001	0.0012269	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40.50	76.488	185.18	0	0.5155	0.2568	0.0024243	32.715	0.001353	2.9991	1.5309	0.2	0.0099239	0.01	0.031595	0.0002833	0.52452	0.0001821	19.156	0.001	0.0012256	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40.58	76.458	184.59	0	0.51581	0.25686	0.0024199	32.682	0.0013508	2.9992	1.5303	0.2	0.0099292	0.01	0.031611	0.000283	0.52482	0.0001822	19.143	0.001	0.0012249	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40.67	76.419	183.98	0	0.51617	0.25695	0.0024146	32.644	0.0013481	2.9992	1.5294	0.2	0.0099355	0.01	0.031629	0.0002826	0.52514	0.0001822	19.127	0.001	0.0012239	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40.75	76.325	183.13	0	0.5166	0.25703	0.0024064	32.572	0.001344	2.9982	1.5274	0.2	0.0099423	0.01	0.031645	0.000282	0.52542	0.0001821	19.092	0.001	0.0012218	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40.83	76.153	182.02	0	0.51697	0.25705	0.0023975	32.456	0.0013395	2.996	1.5236	0.2	0.0099472	0.01	0.031651	0.0002812	0.52552	0.0001818	19.034	0.001	0.0012183	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40.92	75.961	180.95	0	0.51712	0.25704	0.0023901	32.335	0.0013366	2.9931	1.5195	0.2	0.0099477	0.01	0.031643	0.0002806	0.52539	0.0001815	18.971	0.001	0.0012144	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.00	75.821	180.22	0	0.51714	0.257	0.002385	32.249	0.0013356	2.9906	1.5165	0.2	0.0099463	0.01	0.031632	0.0002803	0.5252	0.0001813	18.926	0.001	0.0012116	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.08	75.732	179.75	0	0.51719	0.25703	0.0023813	32.193	0.0013346	2.9891	1.5146	0.2	0.0099462	0.01	0.031627	0.00028	0.52512	0.0001812	18.897	0.001	0.0012098	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.17	75.673	179.44	0	0.51724	0.25706	0.0023803	32.156	0.0013341	2.9881	1.5132	0.2	0.0099461	0.01	0.031624	0.0002798	0.52506	0.0001811	18.878	0.001	0.0012086	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.25	75.371	177.6	0	0.51768	0.25714	0.0023633	31.958	0.0013257	2.983	1.5067	0.2	0.0099509	0.01	0.031622	0.0002785	0.52505	0.0001806	18.777	0.001	0.0012025	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.33	74.916	175.16	0	0.51759	0.25692	0.0023667	31.682	0.0013205	2.9739	1.497	0.2	0.0099442	0.01	0.031582	0.0002771	0.52438	0.0001799	18.633	0.001	0.0011936	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.42	74.748	174.16	0	0.51741	0.25674	0.0023629	31.579	0.0013208	2.9705	1.4934	0.2	0.009939	0.01	0.031562	0.0002768	0.52403	0.0001796	18.581	0.001	0.0011904	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.50	74.7	173.56	0	0.51758	0.25674	0.002358	31.54	0.0013194	2.97	1.4924	0.2	0.0099417	0.01	0.03157	0.0002765	0.52417	0.0001796	18.564	0.001	0.0011893	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.58	74.679	172.99	0	0.51788	0.2568	0.0023539	31.513	0.0013174	2.9702	1.492	0.2	0.0099469	0.01	0.031586	0.0002762	0.52447	0.0001796	18.554	0.001	0.0011887	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.67	74.651	172.39	0	0.51822	0.25689	0.002349	31.481	0.0013149	2.9704	1.4913	0.2	0.0099531	0.01	0.031605	0.0002758	0.52479	0.0001796	18.541	0.001	0.001188	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.75	74.569	171.58	0	0.51865	0.25697	0.0023413	31.417	0.001311	2.9697	1.4895	0.2	0.0099599	0.01	0.031621	0.0002752	0.52508	0.0001796	18.51	0.001	0.0011862	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.83	74.414	170.51	0	0.519	0.257	0.002333	31.312	0.0013068	2.9677	1.4861	0.2	0.0099645	0.01	0.031626	0.0002745	0.52519	0.0001794	18.457	0.001	0.0011829	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41.92	74.237	169.48	0	0.51913	0.25698	0.0023262	31.2	0.0013042	2.9651	1.4823	0.2	0.0099649	0.01	0.031619	0.0002739	0.52506	0.0001791	18.399	0.001	0.0011794	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.00	74.107	168.79	0	0.51914	0.25695	0.0023214	31.121	0.0013034	2.9627	1.4795	0.2	0.0099634	0.01	0.031608	0.0002736	0.52487	0.0001789	18.358	0.001	0.0011768	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.08	74.025	168.33	0	0.51918	0.25697	0.002318	31.069	0.0013025	2.9613	1.4777	0.2	0.0099632	0.01	0.031604	0.0002734	0.52479	0.0001787	18.331	0.001	0.0011752	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.17	73.969	168.03	0	0.51923	0.25701	0.0023172	31.035	0.0013021	2.9604	1.4765	0.2	0.0099631	0.01	0.0316	0.0002732	0.52473	0.0001787	18.313	0.001	0.0011741	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.25	73.694	166.28	0	0.51964	0.25709	0.0023012	30.854	0.0012942	2.9558	1.4705	0.2	0.0099677	0.01	0.031599	0.0002719	0.52473	0.0001782	18.221	0.001	0.0011684	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.33	73.273	163.95	0	0.51952	0.25687	0.0023059	30.599	0.0012896	2.9473	1.4615	0.2	0.0099607	0.01	0.03156	0.0002706	0.52407	0.0001776	18.088	0.001	0.0011603	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.42	73.119	163	0	0.51933	0.25669	0.0023026	30.505	0.0012902	2.9441	1.4583	0.2	0.0099553	0.01	0.03154	0.0002704	0.52373	0.0001773	18.04	0.001	0.0011573	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.50	73.08	162.43	0	0.51949	0.25669	0.002298	30.472	0.0012889	2.9437	1.4574	0.2	0.0099579	0.01	0.031548	0.0002701	0.52387	0.0001773	18.026	0.001	0.0011564	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.58	73.068	161.88	0	0.51977	0.25676	0.0022943	30.45	0.0012871	2.9441	1.4572	0.2	0.0099631	0.01	0.031565	0.0002698	0.52417	0.0001773	18.019	0.001	0.001156	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.67	73.048	161.32	0	0.52011	0.25684	0.0022897	30.424	0.0012848	2.9445	1.4567	0.2	0.0099692	0.01	0.031583	0.0002695	0.5245	0.0001773	18.009	0.001	0.0011555	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.75	72.979	160.55	0	0.52052	0.25693	0.0022824	30.368	0.0012811	2.9439	1.4552	0.2	0.0099759	0.01	0.031599	0.000269	0.52479	0.0001773	17.983	0.001	0.0011539	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42.83	72.839	159.52	0	0.52085	0.25695	0.0022748	30.272	0.0012772	2.9422	1.4521	0.2	0.0099804	0.01	0.031605	0.0002683	0.5249	0.0001771	17.935	0.001	0.001151	0.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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TABLE B3.3

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE WTP EFFLUENT

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
66.17	60.058	52.881	0	0.53576	0.25677	0.0018028	21.735	0.0010407	2.7379	1.1757	0.2	0.0099973	0.01	0.031413	0.0002138	0.52228
66.25	60.022	52.719	0	0.53591	0.25686	0.0017951	21.711	0.0010372	2.7371	1.1748	0.2	0.01	0.01	0.031415	0.0002134	0.52234
66.33	59.901	52.45	0	0.53542	0.25665	0.0018118	21.654	0.0010383	2.7334	1.1723	0.2	0.0099922	0.01	0.03138	0.0002133	0.52172
66.42	59.867	52.338	0	0.53506	0.25646	0.0018132	21.64	0.0010413	2.7322	1.1716	0.2	0.0099861	0.01	0.03136	0.0002135	0.52137
66.50	59.911	52.301	0	0.53511	0.25646	0.0018114	21.662	0.0010416	2.7332	1.1726	0.2	0.0099884	0.01	0.031369	0.0002135	0.52153
66.58	59.982	52.279	0	0.5353	0.25652	0.0018105	21.694	0.0010412	2.7349	1.1741	0.2	0.0099934	0.01	0.031387	0.0002136	0.52185
66.67	60.048	52.256	0	0.53555	0.25661	0.0018089	21.724	0.0010403	2.7366	1.1755	0.2	0.0099994	0.01	0.031407	0.0002135	0.5222
66.75	60.088	52.205	0	0.53584	0.2567	0.0018053	21.739	0.0010386	2.7379	1.1764	0.2	0.01	0.01	0.031425	0.0002134	0.52252
66.83	60.084	52.114	0	0.53603	0.25673	0.0018025	21.732	0.0010371	2.7384	1.1762	0.2	0.01	0.01	0.031434	0.0002133	0.52267
66.92	60.042	52.008	0	0.536	0.25672	0.0018007	21.71	0.0010372	2.738	1.1754	0.2	0.01	0.01	0.031428	0.0002132	0.52256
67.00	60.002	51.93	0	0.53589	0.25669	0.0017994	21.69	0.0010381	2.7371	1.1745	0.2	0.0099981	0.01	0.031418	0.0002133	0.52238
67.08	59.979	51.883	0	0.53586	0.25672	0.0017982	21.678	0.0010385	2.7366	1.174	0.2	0.0099977	0.01	0.031413	0.0002133	0.5223
67.17	59.963	51.852	0	0.53585	0.25676	0.0017991	21.669	0.0010389	2.7364	1.1736	0.2	0.0099973	0.01	0.03141	0.0002133	0.52224
67.25	59.928	51.708	0	0.53601	0.25686	0.0017915	21.646	0.0010354	2.7356	1.1728	0.2	0.01	0.01	0.031413	0.0002129	0.5223
67.33	59.809	51.462	0	0.53551	0.25664	0.0018084	21.591	0.0010365	2.732	1.1703	0.2	0.0099922	0.01	0.031377	0.0002128	0.52168
67.42	59.776	51.359	0	0.53515	0.25645	0.0018097	21.579	0.0010396	2.7307	1.1697	0.2	0.0099861	0.01	0.031357	0.000213	0.52134
67.50	59.822	51.328	0	0.5352	0.25645	0.001808	21.6	0.0010398	2.7317	1.1707	0.2	0.0099883	0.01	0.031366	0.0002131	0.52149
67.58	59.893	51.313	0	0.53539	0.25652	0.0018071	21.634	0.0010394	2.7335	1.1722	0.2	0.0099933	0.01	0.031384	0.0002131	0.52181

Year	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]
66.17	0.0001585	13.691	0.001	0.0008945	0.002	0.026072	0.0005	0.026952	6.2969	0.1	2.73E-06	0.05	0.0027209	0.094857	15.481	0.10604	0.0007819	8.6985	6.49E-05	17.466	0.34982	0.0004566	0.0112	0.046558	0.005237	0.034023	0.015356
66.25	0.0001585	13.677	0.001	0.0008938	0.002	0.025979	0.0005	0.026956	6.2959	0.1	2.72E-06	0.05	0.0027199	0.094859	15.481	0.10605	0.0007814	8.6843	6.48E-05	17.397	0.34986	0.0004566	0.011201	0.046562	0.0052378	0.034029	0.015354
66.33	0.0001582	13.644	0.001	0.0008917	0.002	0.025906	0.0005	0.026925	6.2868	0.1	2.72E-06	0.05	0.0027158	0.094749	15.461	0.10593	0.0007805	8.6591	6.48E-05	17.289	0.34945	0.0004561	0.011189	0.046508	0.0052319	0.033993	0.015335
66.42	0.0001581	13.637	0.001	0.0008912	0.002	0.025912	0.0005	0.026907	6.2829	0.1	2.73E-06	0.05	0.0027144	0.094693	15.451	0.10586	0.0007803	8.6499	6.48E-05	17.24	0.34922	0.0004558	0.011182	0.04648	0.0052284	0.03397	0.015326
66.50	0.0001582	13.65	0.001	0.000892	0.002	0.025953	0.0005	0.026913	6.2856	0.1	2.73E-06	0.05	0.0027159	0.094722	15.457	0.10589	0.0007806	8.6486	6.48E-05	17.216	0.34931	0.000456	0.011185	0.046493	0.0052295	0.033978	0.015331
66.58	0.0001584	13.671	0.001	0.0008933	0.002	0.026016	0.0005	0.026928	6.2904	0.1	2.73E-06	0.05	0.0027183	0.09478	15.468	0.10595	0.0007811	8.6491	6.48E-05	17.196	0.3495	0.0004562	0.011191	0.046521	0.0052322	0.033995	0.015341
66.67	0.0001585	13.689	0.001	0.0008945	0.002	0.026039	0.0005	0.026944	6.2953	0.1	2.72E-06	0.05	0.0027206	0.094842	15.48	0.10601	0.0007816	8.6494	6.49E-05	17.176	0.34971	0.0004565	0.011197	0.046552	0.0052354	0.034015	0.015352
66.75	0.0001586	13.699	0.001	0.0008951	0.002	0.026024	0.0005	0.02696	6.2991	0.1	2.72E-06	0.05	0.0027222	0.094896	15.49	0.10608	0.0007819	8.6464	6.49E-05	17.148	0.34991	0.0004568	0.011203	0.04658	0.0052384	0.034035	0.015361
66.83	0.0001586	13.696	0.001	0.0008949	0.002	0.026012	0.0005	0.026968	6.3	0.1	2.72E-06	0.05	0.0027223	0.094918	15.493	0.10611	0.0007818	8.6395	6.49E-05	17.107	0.35001	0.0004569	0.011206	0.046592	0.00524	0.034045	0.015363
66.92	0.0001586	13.683	0.001	0.0008942	0.002	0.026028	0.0005	0.026963	6.2978	0.1	2.71E-06	0.05	0.0027211	0.094898	15.489	0.10609	0.0007815	8.6313	6.49E-05	17.064	0.34995	0.0004568	0.011205	0.046583	0.0052391	0.034041	0.01536
67.00	0.0001585	13.671	0.001	0.0008934	0.002	0.026015	0.0005	0.026954	6.2951	0.1	2.72E-06	0.05	0.0027198	0.094867	15.483	0.10605	0.0007813	8.6265	6.49E-05	17.033	0.34984	0.0004566	0.011202	0.046568	0.0052375	0.034031	0.015354
67.08	0.0001584	13.664	0.001	0.000893	0.002	0.02601	0.0005	0.026951	6.2937	0.1	2.72E-06	0.05	0.0027191	0.094853	15.48	0.10604	0.0007812	8.6241	6.49E-05	17.015	0.34979	0.0004566	0.0112	0.046561	0.0052369	0.034027	0.015351
67.17	0.0001584	13.659	0.001	0.0008926	0.002	0.026009	0.0005	0.026948	6.2928	0.1	2.72E-06	0.05	0.0027186	0.094843	15.478	0.10603	0.0007811	8.6229	6.49E-05	17.003	0.34976	0.0004565	0.0112	0.046557	0.0052364	0.034024	0.015349
67.25	0.0001583	13.646	0.001	0.0008919	0.002	0.025917	0.0005	0.026952	6.2919	0.1	2.71E-06	0.05	0.0027177	0.094845	15.478	0.10604	0.0007806	8.61	6.48E-05	16.942	0.3498	0.0004565	0.011201	0.046561	0.0052373	0.034031	0.015347
67.33	0.0001581	13.614	0.001	0.0008899	0.002	0.025846	0.0005	0.026921	6.2829	0.1	2.71E-06	0.05	0.0027137	0.094735	15.457	0.10592	0.0007797	8.5865	6.48E-05	16.844	0.3494	0.000456	0.011189	0.046507	0.0052314	0.033995	0.015328
67.42	0.000158	13.607	0.001	0.0008894	0.002	0.025852	0.0005	0.026903	6.2791	0.1	2.72E-06	0.05	0.0027123	0.09468	15.448	0.10585	0.0007795	8.5781	6.48E-05	16.8	0.34916	0.0004557	0.011182	0.046478	0.0052278	0.033972	0.015318
67.50	0.0001581	13.621	0.001	0.0008903	0.002	0.025894	0.0005	0.026909	6.2817	0.1	2.72E-06	0.05	0.0027138	0.094709	15.454	0.10588	0.0007799	8.5772	6.48E-05	16.778	0.34925	0.0004558	0.011185	0.046491	0.005229	0.033979	0.015324
67.58	0.0001582	13.642	0.001	0.0008916	0.002	0.025957	0.0005	0.026924	6.2866	0.1	2.72E-06	0.05	0.0027162	0.094766	15.465	0.10594	0.0007804	8.5782	6.48E-05	16.761	0.34944	0.0004561	0.01119	0.046519	0.0052317	0.033996	0.015334

Year	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
66.17	0.26313	0.0099973	0.01	0.031416	0.0002138	0.52228	0.0001585	13.694	0.001	0.0008946	0.002	0.026737	0.0005	0.026956	6.2973	0.1	2.73E-06	0.05	0.0027209	0.094949	15.482	0.10604	0.0007819	8.6985	6.49E-05	17.468	0.34983	0.0004566	0.0112	0.04656	0.005238	0.034027	0.015363	1.1223
66.25	0.26298	0.01	0.01	0.031418	0.0002134	0.52234	0.0001585	13.681	0.001	0.0008939	0.002	0.026644	0.0005	0.02696	6.2963	0.1	2.72E-06	0.05	0.0027199	0.09495	15.482	0.10606	0.0007814	8.6843	6.48E-05	17.399	0.34987	0.0004566	0.011201	0.046564	0.0052388	0.034034	0.015361	1.1172
66.33	0.26261	0.0099922	0.01	0.031383	0.0002133	0.52172	0.0001582	13.648	0.001	0.0008918	0.002	0.02657	0.0005	0.026929	6.2872	0.1	2.72E-06	0.05	0.0027158	0.09484	15.462	0.10593	0.0007805	8.6591	6.48E-05	17.291	0.34947	0.0004561	0.011189	0.04651	0.005233	0.033997	0.015342	1.1174
66.42	0.2625	0.0099861	0.01	0.031363	0.0002135	0.52137	0.0001581	13.64	0.001	0.0008913	0.002	0.026576	0.0005	0.02691	6.2833	0.1	2.73E-06	0.05	0.0027144	0.094785	15.452	0.10586	0.0007803	8.6499	6.48E-05	17.242	0.34924	0.0004558	0.011182	0.046481	0.0052294	0.033975	0.015332	1.1198
66.50	0.26265	0.0099884	0.01	0.031372	0.0002135	0.52153	0.0001582	13.654	0.001	0.0008921	0.002	0.026617	0.0005	0.026917	6.286	0.1	2.73E-06	0.05	0.0027159	0.094814	15.458	0.10589	0.0007806	8.6486	6.48E-05	17.218	0.34932	0.000456	0.011185	0.046495	0.0052306	0.033982	0.015338	1.1207
66.58	0.26289	0.0099934	0.01	0.03139	0.0002136	0.52185	0.0001584	13.674	0.001	0.0008934	0.002	0.02668	0.0005	0.026931	6.2908	0.1	2.73E-06	0.05	0.0027183	0.094871	15.469	0.10595	0.0007811	8.6491	6.48E-05	17.198	0.34951	0.0004562	0.011191	0.046523	0.0052333	0.033999	0.015348	1.1213
66.67	0.26311	0.0099994	0.01	0.03141	0.0002135	0.5222	0.0001585	13.693	0.001	0.0008946	0.002	0.026704	0.0005	0.026948	6.2957	0.1	2.73E-06	0.05	0.0027206	0.094934	15.48	0.10602	0.0007816	8.6494	6.49E-05	17.178	0.34973	0.0004565	0.011197	0.046554	0.0052364	0.034019	0.015359	1.1213
66.75	0.26325	0.01	0.01	0.031428	0.0002134	0.52252	0.0001586	13.702	0.001	0.0008952	0.002	0.026689	0.0005	0.026963	6.2995	0.1	2.72E-06	0.05	0.0027222	0.094988	15.49	0.10608	0.0007819	8.6464	6.49E-05	17.15	0.34993	0.0004568	0.011203	0.046582	0.0052395	0.034039	0.015368	1.1199
66.83	0.26325	0.01	0.01	0.031436	0.0002133	0.52267	0.0001587	13.699	0.001	0.000895	0.002	0.026677	0.0005	0.026971	6.3004	0.1	2.72E-06	0.05	0.0027223	0.09501	15.494	0.10611	0.0007818	8.6395	6.49E-05	17.108	0.35003	0.0004569	0.011206	0.046594	0.005241	0.03405	0.01537	1.119
66.92	0.26316	0.01	0.01	0.031431	0.0002132	0.52256	0.0001586	13.686	0.001	0.0008943	0.002	0.026693	0.0005	0.026966	6.2982	0.1	2.72E-06	0.05	0.0027211	0.094989	15.489	0.10609	0.0007815	8.6313	6.49E-05	17.066	0.34996	0.0004568	0.011205	0.046585	0.0052401	0.034045	0.015366	1.1214
67.00	0.26304	0.0099981	0.01	0.031421	0.0002133	0.52238	0.0001585	13.674	0.001	0.0008935	0.002	0.02668	0.0005	0.026958	6.2955	0.1	2.72E-06	0.05	0.0027198	0.094959	15.483	0.10606	0.0007813	8.6265	6.49E-05	17.035	0.34985	0.0004566	0.011202	0.04657	0.0052385	0.034035	0.015361	1.1215
67.08	0.26296	0.0099977	0.01	0.031416	0.0002133	0.5223	0.0001584	13.667	0.001	0.0008931	0.002	0.026675	0.0005	0.026954	6.2941	0.1	2.72E-06	0.05	0.0027191	0.094945	15.48	0.10604	0.0007812	8.6241	6.49E-05	17.016	0.34981	0.0004566	0.0112	0.046563	0.0052379	0.034032	0.015358	1.121
67.17	0.2629	0.0099973	0.01	0.031413	0.0002133	0.52224	0.0001584	13.663	0.001	0.0008928	0.002	0.026674	0.0005	0.026952	6.2932	0.1	2.72E-06	0.05	0.0027186	0.094935	15.478	0.10603	0.0007811	8.6229	6.49E-05	17.004	0.34977	0.0004565	0.0112	0.046558	0.0052374	0.034029	0.015356	1.1207
67.25	0.26275	0.01	0.01	0.031416	0.0002129	0.5223	0.0001584	13.65	0.001	0.000892	0.002	0.026582	0.0005	0.026955	6.2923	0.1	2.71E-06	0.05	0.0027177	0.094937	15.478	0.10605	0.0007806	8.61	6.48E-05	16.943	0.34982	0.0004565	0.011201	0.046562	0.0052383	0.034036	0.015354	1.1156
67.33	0.26239	0.0099922	0.01	0.03138	0.0002128	0.52168	0.0001581	13.617	0.001	0.00089	0.002	0.02651	0.0005	0.026925	6.2833	0.1	2.72E-06	0.05	0.0027137	0.094827	15.458	0.10592	0.0007797	8.5865	6.48E-05	16.846	0.34942	0.000456	0.011189	0.046508	0.0052324	0.033999	0.015335	1.1158
67.42	0.26228	0.0099861	0.01	0.03136	0.000213	0.52134	0.000158	13.611	0.001	0.0008895	0.002	0.026516	0.0005	0.026906	6.2795	0.1	2.72E-06	0.05	0.0027123	0.094771	15.448	0.10585	0.0007795	8.5781	6.48E-05	16.801	0.34918	0.0004557	0.011182	0.046479	0.0052288	0.033976	0.015325	1.1182
67.50	0.26243	0.0099883	0.01	0.031369	0.0002131	0.52149	0.0001581	13.624	0.001	0.0008904	0.002	0.026558	0.0005	0.026913	6.2821	0.1	2.72E-06	0.05	0.0027138	0.0948	15.454	0.10588	0.0007799	8.5772	6.48E-05	16.78	0.34927	0.0004558	0.011185	0.046493	0.00523	0.033984	0.01533	1.1191
67.58	0.26267	0.0099933	0.01	0.031387	0.0002131	0.52181	0.0001583	13.645	0.001	0.0008917	0.002	0.026622	0.0005	0.026927	6.287	0.1	2.72E-06	0.05	0.0027162	0.094858	15.465	0.10594	0.0007804	8.5782	6.48E-05	16.763	0.34946	0.0004561	0.01119	0.046521	0.0052327	0.034001	0.015341	1.1198

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB

TABLE B3.3

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR THE WTP EFFLUENT

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]

TABLE B3.4

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR UT1

TABLE B3.4

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR UT1

Knight Piésold CONSULTING

TABLE B3.4

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR UT1

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
67.83	13.819	8.6747	0.00E+00	0.040436	0.086499	0.0085935	2.9273	4.78E-03	1.4598	0.31456	0.21459	4.45E-04	0.0031354	0.0059016	0.000486	0.069257
67.92	12.515	9.9248	0.00E+00	0.043015	0.11812	0.0077745	2.5261	4.80E-03	1.1414	0.23896	0.13611	4.56E-04	0.0033397	0.0045297	0.0004872	0.053882
68.00	15.676	13.037	0	0.05671	0.19048	0.0084489	2.8366	4.70E-03	1.0503	0.23843	0.095631	7.31E-04	0.0053871	0.0053691	0.0004801	0.073194
68.08	16.973	14.536	0	0.073856	0.20904	0.0083472	2.8048	4.64E-03	0.95831	0.25997	0.09042	9.12E-04	0.0067868	0.0060559	0.0004761	0.07902
68.17	22.295	15.385	0.00E+00	0.042993	0.19495	0.011549	3.4946	4.57E-03	1.1048	0.38085	0.13337	6.51E-04	0.0041892	0.0094184	0.0004744	0.14674
68.25	11.209	6.6532	0.00E+00	0.030831	0.087638	0.016766	2.3458	4.84E-03	0.91051	0.288	0.1665	2.54E-04	0.001708	0.0046693	0.0004907	0.056032
68.33	11.033	7.9767	0.00E+00	0.047429	0.048529	0.015989	1.8335	4.84E-03	1.0041	0.26919	0.14462	3.02E-04	0.0021321	0.004587	0.0004903	0.051185
68.42	20.218	13.4	0	0.048646	0.054192	0.0090235	3.7725	4.57E-03	1.288	0.42593	0.20607	7.26E-04	0.004851	0.0091434	0.0004737	0.13836
68.50	28.065	16.682	0	0.065357	0.081775	0.014488	5.0757	5.31E-03	1.3863	0.56612	0.2346	1.09E-03	0.0071204	0.013797	0.000459	0.21992
68.58	32.289	19.136	0	0.084925	0.061711	0.018363	5.8375	4.95E-03	1.4764	0.67012	0.25573	1.35E-03	0.0088395	0.01623	0.0004497	0.26755
68.67	31.78	18.501	0	0.099835	0.084608	0.011411	6.0653	4.18E-03	1.4319	0.64192	0.20001	1.35E-03	0.008843	0.015826	0.00045	0.26689
68.75	20.21	13.604	0.00E+00	0.17457	0.075601	0.013382	3.3182	4.60E-03	1.6399	0.38232	0.18398	6.98E-04	0.0047052	0.008987	0.0004756	0.12847
68.83	13.819	8.6738	0.00E+00	0.040434	0.086498	0.0085935	2.9272	4.78E-03	1.4598	0.31455	0.21459	4.45E-04	0.0031352	0.0059015	0.000486	0.069256
68.92	12.515	9.924	0.00E+00	0.043014	0.11811	0.0077745	2.5261	4.80E-03	1.1414	0.23896	0.13611	4.56E-04	0.0033394	0.0045296	0.0004872	0.05388
69.00	15.675	13.036	0	0.056708	0.19048	0.0084489	2.8365	4.70E-03	1.0502	0.23842	0.09563	7.31E-04	0.0053868	0.005369	0.0004801	0.073192
69.08	16.973	14.534	0	0.073854	0.20904	0.0083472	2.8047	4.64E-03	0.9583	0.25997	0.090419	9.12E-04	0.0067865	0.0060558	0.0004761	0.079018
69.17	22.295	15.385	0.00E+00	0.042995	0.19495	0.011549	3.4946	4.57E-03	1.1048	0.38085	0.13337	6.51E-04	0.0041895	0.0094185	0.0004744	0.14675
69.25	11.209	6.6533	0.00E+00	0.030832	0.087639	0.016766	2.3458	4.84E-03	0.91051	0.288	0.1665	2.54E-04	0.0017081	0.0046693	0.0004907	0.056033
69.33	11.033	7.9764	0.00E+00	0.047428	0.048529	0.015989	1.8334	4.84E-03	1.0041	0.26918	0.14462	3.02E-04	0.0021319	0.0045869	0.0004903	0.051184
69.42	20.218	13.398	0.00E+00	0.048639	0.05419	0.0090235	3.7723	4.57E-03	1.2879	0.42592	0.20606	7.26E-04	0.00485	0.009143	0.0004737	0.13835
69.50	28.064	16.681	0	0.065345	0.08177	0.014488	5.0754	5.31E-03	1.3863	0.5661	0.2346	1.09E-03	0.0071187	0.013797	0.000459	0.21991
69.58	32.288	19.134	0	0.084912	0.061706	0.018363	5.8372	4.95E-03	1.4764	0.6701	0.25572	1.35E-03	0.0088376	0.01623	0.0004497	0.26754
69.67	31.779	18.5	0	0.099828	0.084606	0.011411	6.0651	4.18E-03	1.4319	0.6419	0.2	1.35E-03	0.008842	0.015826	0.00045	0.26688
69.75	20.21	13.603	0.00E+00	0.17457	0.075601	0.013382	3.3182	4.60E-03	1.6399	0.38232	0.18398	6.98E-04	0.0047052	0.008987	0.0004756	0.12847
69.83	13.819	8.6734	0.00E+00	0.040436	0.086498	0.0085935	2.9273	4.78E-03	1.4598	0.31456	0.21459	4.45E-04	0.0031354	0.0059015	0.000486	0.069257
69.92	12.515	9.9234	0.00E+00	0.043015	0.11811	0.0077745	2.5261	4.80E-03	1.1414	0.23896	0.13611	4.56E-04	0.0033396	0.0045297	0.0004872	0.053881
70.00	15.675	13.035	0.00E+00	0.056709	0.19048	0.0084489	2.8365	4.70E-03	1.0502	0.23842	0.09563	7.31E-04	0.0053869	0.005369	0.0004801	0.073192
70.08	16.973	14.533	0	0.073854	0.20904	0.0083472	2.8047	4.64E-03	0.95831	0.25997	0.090419	9.12E-04	0.0067865	0.0060558	0.0004761	0.079018
70.17	22.296	15.384	0.00E+00	0.042995	0.19495	0.011549	3.4946	4.57E-03	1.1048	0.38085	0.13337	6.51E-04	0.0041896	0.0094185	0.0004744	0.14675
70.25	11.209	6.653	0.00E+00	0.030832	0.087639	0.016766	2.3458	4.84E-03	0.91052	0.288	0.1665	2.54E-04	0.0017081	0.0046693	0.0004907	0.056033
70.33	11.033	7.976	0.00E+00	0.047428	0.048529	0.015989	1.8334	4.84E-03	1.0041	0.26918	0.14462	3.02E-04	0.0021319	0.0045869	0.0004903	0.051184
70.42	20.218	13.398	0.00E+00	0.04864	0.05419	0.0090235	3.7723	4.57E-03	1.2879	0.42592	0.20606	7.26E-04	0.0048501	0.009143	0.0004737	0.13835
[illegible]																
80.92	12.515	9.9211	0.00E+00	0.043014	0.11811	0.0077745	2.526	4.80E-03	1.1414	0.23896	0.13611	4.56E-04	0.0033395	0.0045296	0.0004872	0.053881
81.00	15.675	13.031	0.00E+00	0.056709	0.19048	0.0084489	2.8364	4.70E-03	1.0502	0.23842	0.09563	7.31E-04	0.0053868	0.005369	0.0004801	0.073192
81.08	16.973	14.528	0.00E+00	0.073854	0.20904	0.0083472	2.8045	4.64E-03	0.9583	0.25997	0.090419	9.12E-04	0.0067865	0.0060558	0.0004761	0.079018
81.17	22.295	15.382	0.00E+00	0.042995	0.19495	0.011549	3.4946	4.57E-03	1.1048	0.38085	0.13337	6.51E-04	0.0041895	0.0094185	0.0004744	0.14675
81.25	11.209	6.6524	0.00E+00	0.030832	0.087639	0.016766	2.3458	4.84E-03	0.91051	0.288	0.1665	2.54E-04	0.0017081	0.0046693	0.0004907	0.056033
81.33	11.033	7.975	0.00E+00	0.047428	0.048529	0.015989	1.8334	4.84E-03	1.0041	0.26918	0.14462	3.02E-04	0.0021319	0.0045869	0.0004903	0.051184
81.42	20.218	13.395	0.00E+00	0.048639	0.05419	0.0090235	3.7722	4.57E-03	1.2879	0.42591	0.20606	7.26E-04	0.0048501	0.009143	0.0004737	0.13835
81.50	28.064	16.676	0.00E+00	0.065346	0.08177	0.014488	5.0752	5.31E-03	1.3863	0.5661	0.2346	1.09E-03	0.0071188	0.013797	0.000459	0.21991
81.58	32.288	19.128	0.00E+00	0.084912	0.061706	0.018363	5.837	4.95E-03	1.4764	0.6701	0.25572	1.35E-03	0.0088377	0.01623	0.0004497	0.26754
81.67	31.779	18.494	0.00E+00	0.099828	0.084606	0.011411	6.0649	4.18E-03	1.4319	0.6419	0.2	1.35E-03	0.0088421	0.015826	0.00045	0.26688
81.75	20.21	13.6	0.00E+00	0.17457	0.075601	0.013382	3.3181	4.60E-03	1.6399	0.38231	0.18398	6.98E-04	0.0047052	0.008987	0.0004756	0.12847
81.83	13.819	8.6715	0.00E+00	0.040436	0.086498	0.0085935	2.9272	4.78E-03	1.4598	0.31456	0.21459	4.45E-04	0.0031354	0.0059015	0.000486	0.069257
81.92	12.515	9.9212	0.00E+00	0.043015	0.11811	0.0077745	2.526	4.80E-03	1.1414	0.23896	0.13611	4.56E-04	0.0033396	0.0045297	0.0004872	0.053881
82.00	15.675	13.031	0.00E+00	0.056709	0.19048	0.0084489	2.8364	4.70E-03	1.0502	0.23842	0.09563	7.31E-04	0.0053869	0.005369	0.0004801	0.073192
82.08	16.973	14.527	0.00E+00	0.073855	0.20904	0.0083472	2.8045	4.64E-03	0.9583	0.25997	0.090419	9.12E-04	0.0067866	0.0060558	0.0004761	0.079019
82.17	22.295	15.382	0.00E+00	0.042995	0.19495	0.011549	3.4946	4.57E-03	1.1048	0.38085	0.13337	6.51E-04	0.0041896	0.0094185	0.0004744	0.14675
82.25	11.209	6.6523	0.00E+00	0.030832	0.087639	0.016766	2.3458	4.84E-03	0.91052	0.288	0.1665	2.54E-04	0.0017081	0.0046693	0.0004907	0.056033
82.33	11.033	7.975	0.00E+00	0.047428	0.048529	0.015989	1.8334	4.84E-03	1.0041	0.26918	0.14462	3.02E-04	0.0021319	0.0045869	0.0004903	0.051184
82.42	20.218	13.395	0.00E+00	0.04864	0.05419	0.0090235	3.7722	4.57E-03	1.2879	0.42591	0.20606	7.26E-04	0.0048502	0.009143	0.0004737	0.13835
82.50	28.064	16.676	0.00E+00	0.065347	0.081771	0.014488	5.0753	5.31E-03	1.3863	0.5661	0.2346	1.09E-03	0.0071189	0.013797	0.000459	0.21991
82.58	32.288	19.127	0.00E+00	0.084914	0.061706	0.018363	5.837	4.95E-03	1.4764	0.6701	0.25572	1.35E-03	0.0088379	0.01623	0.0004497	0.26754
82.67	31.779	18.494	0.00E+00	0.099829	0.084606	0.011411	6.065	4.18E-03	1.4319	0.6419	0.2	1.35E-03	0.0088422	0.015826	0.00045	0.26688
82.75	20.21	13.6	0.00E+00	0.17457	0.075601	0.013382	3.3181	4.60E-03	1.64	0.38232	0.18398	6.98E-04	0.0047053	0.0089871	0.0004756	0.12847
82.83	13.819	8.6714	0.00E+00	0.040436	0.086499	0.0085935	2.9272	4.78E-03	1.4598	0.31456	0.21459	4.45E-04	0.0031354	0.0059016	0.000486	0.069257
82.92	12.515	9.9211	0.00E+00	0.043015	0.11811	0.0077745	2.5261	4.80E-03	1.1414	0.23896	0.13611	4.56E-04	0.0033396	0.0045297	0.0004872	0.053882
83.00	15.675	13.031	0.00E+00	0.05671	0.19048	0.0084489	2.8364	4.70E-03	1.0502	0.23842	0.09563	7.31E-04	0.005387	0.0053691	0.0004801	0.073193
83.08	16.973	14.527	0.00E+00	0.073856	0.20904	0.0083472	2.8046	4.64E-03	0.95831	0.25997	0.090419	9.12E-04	0.0067867	0.0060559	0.0004761	0.07902
83.17	22.295	15.382	0.00E+00	0.042996	0.19495	0.011549	3.4946	4.57E-03	1.1048	0.38085	0.13337	6.51E-04	0.0041897	0.0094186	0.0004744	0.14675
83.25	11.209	6.6523	0.00E+00	0.030832	0.087639	0.016766	2.3458	4.84E-03	0.91052	0.288	0.1665	2.54E-04	0.0017081	0.0046693	0.0004907	0.056033
83.33	11.033	7.9749	0.00E+00	0.047428	0.048529	0.015989	1.8334	4.84E-03	1.0041	0.26918	0.14462	3.02E-04	0.002132	0.004587	0.0004903	0.051184
83.42	20.218	13.395	0.00E+00	0.04864	0.05419	0.0090235	3.7722	4.57E-03	1.2879	0.42592	0.20606	7.26E-04	0.0048502	0.0091431	0.0004737	0.13835
83.50	28.064	16.675	0.00E+00	0.065348	0.081771	0.014488	5.0753	5.31E-03	1.3863	0.5661	0.2346	1.09E-03	0.007119	0.013797	0.000459	0.21991
83.58	32.288	19.127	0.00E+00	0.084915	0.061707	0.018363	5.8371	4.95E-03	1.4764	0.6701	0.25572	1.35E-03	0.008838	0.01623	0.0004497	0.26754
83.67	31.779	18.493	0.00E+00	0.09983	0.084606	0.011411	6.065	4.18E-03	1.4319	0.6419	0.20001	1.35E-03	0.0088424	0.015826	0.00045	0.26688
83.75	20.21	13.6	0.00E+00	0.17457	0.075602	0.013382	3.3181	4.60E-03	1.64	0.38232	0.18398	6.98E-04	0.0047054	0.0089871	0.0004756	0.12847
83.83	13.819	8.6713	0.00E+00	0.040437	0.086499	0.0085935	2.9272	4.78E-03	1.4598	0.31456	0.21459	4.45E-04	0.0031355	0.0059016	0.000486	0.069257
83.92	12.515	9.921	0.00E+00	0.043016	0.11812	0.0077745	2.5261	4.80E-03	1.1414	0.23896	0.13611	4.56E-04	0.0033397	0.0045297	0.0004872	0.053882
84.00	15.675	13.031	0.00E+00	0.056711	0.19048	0.0084489	2.8364	4.70E-03	1.0503	0.23842	0.095631	7.31E-04	0.0053871	0.0053691	0.0004801	0.073194
84.08	16.973	14.527	0.00E+00	0.073856	0.20904	0.0083472	2.8046	4.64E-03	0.95831	0.25997	0.09042	9.12E-04	0.0067868	0.0060559	0.0004761	0.07902
84.17	22.295	15.381	0.00E+00	0.042993	0.19495	0.011549	3.4945	4.57E-03	1.1048	0.38085	0.13337	6.51E-04	0.0041893	0.0094184	0.0004744	0.14674
84.25	11.209	6.6521	0.00E+00	0.030831	0.087638	0.016766	2.3458	4.84E-03	0.91051	0.288	0.1665	2.54E-04	0.001708	0.0046693	0.0004907	0.056032
84.33	11.033	7.9749	0.00E+00	0.047429	0.048529	0.015989	1.8334	4.84E-03	1.0041	0.26918	0.14462	3.02E-04	0.0021321	0.004587	0.0004903	0.051185
84.42	20.218	13.395	0.00E+00	0.048646	0.054192	0.0090235	3.7724	4.57E-03	1.288	0.42592	0.20607	7.26E-04	0.004851	0.0091434	0.0004737	0.13836
84.50	28.065	16.676	0.00E+00	0.065358	0.081775	0.014488	5.0756	5.31E-03	1.3863	0.56612	0.2346	1.09E-03	0.0071205	0.013797	0.000459	0.21992
84.58	32.289	19.128	0.00E+00	0.084925	0.061711	0.018363	5.8373	4.95E-03	1.4764	0.67012	0.25573	1.35E-03	0.0088395	0.01623	0.0004497	0.26755
84.67	31.779	18.493	0.00E+00	0.099835	0.084608	0.011411	6.0651	4.18E-03	1.4319	0.64191	0.20001	1.35E-03	0.0088431	0.015826	0.00045	0.26689
84.75	20.21	13.6	0.00E+00	0.17457	0.075601	0.013382	3.3181	4.60E-03	1.6399	0.38231	0.18398	6.98E-04	0.0047052	0.008987	0.0004756	0.12847
84.83	13.819	8.6712	0.00E+00	0.040435	0.086498	0.0085935	2.9272	4.78E-03	1.4598	0.31455	0.21459	4.45E-04	0.0031352	0.0059015	0.000486	0.069256
84.92	12.515	9.9211	0.00E+00	0.043014	0.11811	0.0077745	2.526	4.80E-03	1.1414	0.23896	0.13611	4.56E-04	0.0033395	0.0045296	0.0004872	0.053881
85.00	15.675	13.031	0.00E+00	0.056709	0.19048	0.0084489	2.8364	4.70E-03	1.0502	0.23842	0.09563	7.31E-04	0.0053868	0.005369	0.0004801	0.073192
85.08	16.973	14.527	0.00E+00	0.073854	0.20904	0.0083472	2.8045	4.64E-03	0.9583	0.25997	0.090419	9.12E-04	0.0067865	0.0060558	0.0004761	0.079018
85.17	22.295	15.382	0.00E+00	0.042995	0.19495	0.011549	3.4946	4.57E-03	1.1048	0.38085	0.13337	6.51E-04	0.0041895	0.0094185	0.0004744	0.14675
85.25	11.209	6.6524	0.00E+00	0.030832	0.087639	0.016766	2.3458	4.84E-03	0.91051	0.288	0.1665	2.54E-04	0.0017081	0.0046693	0.0004907	0.056033
85.33	11.033	7.975	0.00E+00	0.047428	0.048529	0.015989	1.8334	4.84E-03	1.0041	0.26918	0.14462	3.02E-04	0.0021319	0.0045869	0.0004903	0.051184
85.42	20.218	13.395	0.00E+00	0.048639	0.05419	0.0090235	3.7722	4.57E-03	1.2879	0.42591	0.20606	7.26E-04	0.0048501	0.009143	0.0004737	0.13835
[illegible]																
98.08	16.973	14.527	0.00E+00	0.073855	0.20904	0.0083472	2.8045	4.64E-03	0.9583	0.25997	0.090419	9.12E-04	0.0067866	0.0060558	0.0004761	0.079019
98.17	22.295	15.382	0.00E+00	0.042995	0.19495	0.011549	3.4946	4.57E-03	1.1048	0.38085	0.13337	6.51E-04	0.0041896	0.0094185	0.0004744	0.14675
98.25	11.209	6.6523	0.00E+00	0.030832	0.087639	0.016766	2.3458	4.84E-03	0.91052	0.288	0.1665	2.54E-04	0.0017081	0.0046693	0.0004907	0.056033
98.33	11.033	7.9749	0.00E+00	0.047428	0.048529	0.015989	1.8334	4.84E-03	1.0041	0.26918	0.14462	3.02E-04	0.002132	0.0045869	0.0004903	0.051184
98.42	20.218	13.395	0.00E+00	0.04864	0.05419	0.0090235	3.7722	4.57E-03	1.2879	0.42591	0.20606	7.26E-04	0.0048502	0.009143	0.0004737	0.13835
98.50	28.064	16.675	0.00E+00	0.065347	0.081771	0.014488	5.0753	5.31E-03	1.3863	0.5661	0.2346	1.09E-03	0.0071189	0.013797	0.000459	0.21991
98.58	32.288	19.127	0.00E+00	0.084914	0.061706	0.018363	5.837	4.95E-03	1.4764	0.6701	0.25572	1.35E-03	0.0088379	0.01623	0.0004497	0.26754
98.67	31.779	18.493	0.00E+00	0.099829	0.084606	0.011411	6.065	4.18E-03	1.4319	0.6419	0.2	1.35E-03	0.0088422	0.015826	0.00045	0.26688
98.75	20.21	13.6	0.00E+00	0.17457	0.075601	0.013382	3.3181	4.60E-03	1.64	0.38232	0.18398	6.98E-04	0.0047053	0.0089871	0.0004756	0.12847
98.83	13.819	8.6713	0.00E+00	0.040436	0.086499	0.0085935	2.9272	4.78E-03	1.4598	0.31456	0.21459	4.45E-04	0.0031354	0.0059016	0.000486	0.069257
98.92	12.515	9.921	0.00E+00	0.043015	0.11811	0.0077745	2.5261	4.80E-03	1.1414	0.23896	0.13611	4.56E-04	0.0033396	0.0045297	0.0004872	0.053882
99.00	15.675	13.031	0.00E+00	0.05671	0.19048	0.0084489	2.8364	4.70E-03	1.0502	0.23842	0.09563	7.31E-04	0.0053871	0.0053691	0.0004801	0.073193
99.08	16.973	14.527	0.00E+00	0.073856	0.20904	0.0083472	2.8046	4.64E-03	0.95831	0.25997	0.090419	9.12E-04	0.0067867	0.0060559	0.0004761	0.07902
99.17	22.295	15.382	0.00E+00	0.042996	0.19495	0.011549	3.4946	4.57E-03	1.1048	0.38085	0.13337	6.51E-04	0.0041897	0.0094186	0.0004744	0.14675
99.25	11.209	6.6523	0.00E+00	0.030832	0.087639	0.016766	2.3458	4.84E-03	0.91052	0.288	0.1665	2.54E-04	0.0017081	0.0046693	0.0004907	0.056033
99.33	11.033	7.9749	0.00E+00	0.047428	0.048529	0.015989	1.8334	4.84E-03	1.0041	0.26918	0.14462	3.02E-04	0.002132	0.004587	0.0004903	0.051184
99.42	20.218	13.395	0.00E+00	0.04864	0.05419	0.0090235	3.7722	4.57E-03	1.2879	0.42592	0.20606	7.26E-04	0.0048502	0.0091431	0.0004737	0.13835
99.50	28.064	16.675	0.00E+00	0.065348	0.081771	0.014488	5.0753	5.31E-03	1.3863	0.5661	0.2346	1.09E-03	0.007119	0.013797	0.000459	0.21991
99.58	32.288	19.127	0.00E+00	0.084915	0.061707	0.018363	5.8371	4.95E-03	1.4764	0.6701	0.25572	1.35E-03	0.008838	0.01623	0.0004497	0.26754
99.67	31.779	18.493	0.00E+00	0.09983	0.084606	0.011411	6.065	4.18E-03	1.4319	0.6419	0.20001	1.35E-03	0.0088424	0.015826	0.00045	0.26688
99.75	20.21	13.6	0.00E+00	0.17457	0.075602	0.013382	3.3181	4.60E-03	1.64	0.38232	0.18398	6.98E-04	0.0047054	0.0089871	0.0004756	0.12847
99.83	13.819	8.6713	0.00E+00	0.040437	0.086499	0.0085935	2.9272	4.78E-03	1.4598	0.31456	0.21459	4.45E-04	0.0031355	0.0059016	0.000486	0.069257
99.92	12.515	9.921	0.00E+00	0.043016	0.11812	0.0077745	2.5261	4.80E-03	1.1414	0.23896	0.13611	4.56E-04	0.0033397	0.0045297	0.0004872	0.053882
100.00	15.675	13.031	0.00E+00	0.056711	0.19048	0.0084489	2.8364	4.70E-03	1.0502	0.23842	0.095631	7.31E-04	0.0053871	0.0053691	0.0004801	0.073194

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB

Knight Piésold CONSULTING

TABLE B3.5

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR UT3and4

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
-2.00	9.0745	8.3366	0	0.024916	0.18091	0.0052009	1.4051	0.0049973	0.78199	0.087987	0.062013	5.00E-05	0.0004997	0.002224	0.0004997	0.0017273
-1.92	8.7071	7.9029	0	0.021619	0.17359	0.0052178	1.5142	0.0049964	0.83749	0.082599	0.065106	5.00E-05	0.0004996	0.0020733	0.0004996	0.0017232
-1.83	4.4045	1.4598	0	0.051434	0.030097	0.0098169	0.51137	0.0049983	0.91216	0.13169	0.15669	5.00E-05	0.0004998	0.0020791	0.0004998	0.0013877
-1.75	5.9352	3.7562	0	0.052679	0.044235	0.0079359	0.22479	0.0049995	0.96971	0.10392	0.12881	5.00E-05	0.0005	0.0020829	0.0005	0.0013818
-1.67	6.2389	5.3825	0	0.019136	0.049695	0.0064886	2.3385	0.0049992	1.2279	0.1615	0.13	5.00E-05	0.0004999	0.0020011	0.0004999	0.0021181
-1.58	10.306	10.977	0	0.024918	0.084457	0.035779	1.2764	0.0049978	0.70602	0.12463	0.099139	5.00E-05	0.0004998	0.0022954	0.0004998	0.0020008
-1.50	9.7004	10.755	0	0.022057	0.066835	0.033767	1.3682	0.0045197	0.69284	0.12549	0.10224	5.00E-05	0.0004997	0.0021125	0.0004997	0.0019189
-1.42	12.125	10.987	0	0.016871	0.16144	0.016549	0.53145	0.0046126	1.3426	0.1571	0.063578	5.00E-05	0.0004996	0.0018465	0.0004996	0.0019967
-1.33	8.7888	8.5537	0	0.033996	0.033419	0.006301	0.87004	0.0049957	1.4606	0.099396	0.14119	5.00E-05	0.0004996	0.0032629	0.0004996	0.0015414
-1.25	8.9897	8.6335	0	0.0038377	0.031511	0.0059105	0.93231	0.0049979	1.3317	0.11121	0.12562	5.00E-05	0.0004998	0.0031083	0.0004998	0.001463
-1.17	10.795	9.0402	0	0.024941	0.08377	0.0098897	5.8428	0.0049987	1.9345	0.20817	0.14076	5.00E-05	0.0004999	0.0031088	0.0004999	0.0020971
-1.08	9.7774	9.2595	0	0.024933	0.21254	0.0055472	1.3282	0.0049985	0.71766	0.07251	0.040475	5.00E-05	0.0004999	0.0021178	0.0004999	0.0016205
-1.00	9.0745	8.3366	0	0.024916	0.18091	0.0052009	1.4051	0.0049973	0.78199	0.087987	0.062013	5.00E-05	0.0004997	0.002224	0.0004997	0.0017273
-0.92	8.7257	7.9097	0	0.021617	0.17357	0.0052173	1.5179	0.0049959	0.83762	0.083006	0.065203	5.04E-05	0.0005013	0.0020851	0.0004996	0.0019519
-0.83	4.532	1.5102	0	0.051395	0.030078	0.0098101	0.53722	0.0049947	0.91296	0.13437	0.15727	5.29E-05	0.0005111	0.0021577	0.0004996	0.0029164
-0.75	6.0159	3.7872	0	0.052657	0.044219	0.0079345	0.24152	0.0049977	0.97028	0.10565	0.12921	5.18E-05	0.0005072	0.0021331	0.0004999	0.0023548
-0.67	6.3305	5.4171	0	0.019133	0.049662	0.0064884	2.3563	0.0049974	1.2284	0.16345	0.13046	5.21E-05	0.0005082	0.0020582	0.0004999	0.003221
-0.58	10.638	11.096	0	0.02488	0.084303	0.035723	1.3443	0.0049903	0.70895	0.13183	0.10087	5.77E-05	0.0005301	0.0025052	0.0004995	0.00607
-0.50	10.35	10.987	0	0.021991	0.06661	0.033661	1.5005	0.004506	0.69841	0.13954	0.10559	6.499E-05	0.0005588	0.0025235	0.0004989	0.0098825
-0.42	13.038	11.316	0	0.016803	0.16066	0.016477	0.72383	0.004592	1.3474	0.17698	0.06852	7.138E-05	0.0005839	0.0024335	0.0004985	0.013353
-0.33	9.8305	8.9343	0	0.033832	0.033234	0.006271	1.0841	0.0049696	1.4652	0.12199	0.14628	7.399E-05	0.0005941	0.0039136	0.0004983	0.014287
-0.25	9.4975	8.8191	0	0.0038831	0.031422	0.0058992	1.0365	0.0049852	1.3344	0.12221	0.12816	6.17E-05	0.0005459	0.0034261	0.0004992	0.0076817

Year	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]
-2.00	5.00E-06	2.9083	0.0004997	5.00E-05	0.0004997	0.072852	3.86E-05	0.0011556	0.45753	0.0022693	1.25E-05	6.33E-05	0.0004997	0.0062699	0.32952	0.0010575	0.0004997	10.856	5.00E-05	1.7151	0.011686	5.00E-05	0.0009995	0.0018399	0.0001921	0.0004997	0.000368	0.080389	5.00E-05	0.0004997	0.0020749
-1.92	5.00E-06	2.7814	0.0004996	5.00E-05	0.0004996	0.077396	4.25E-05	0.0010953	0.44639	0.0023418	1.25E-05	5.97E-05	0.0004996	0.0099929	0.32263	0.0010438	0.0004996	10.634	5.00E-05	1.6743	0.011047	5.00E-05	0.0009993	0.0018403	0.0001849	0.0004996	0.0003723	0.074513	5.00E-05	0.0004996	0.0020002
-1.83	5.00E-06	1.3694	0.0004998	5.00E-05	0.0004998	0.12145	0.0001121	0.0003596	0.24662	0.0080391	1.25E-05	4.39E-05	0.0004998	0.0099966	0.27725	0.0009608	0.0004998	5.5876	5.00E-05	0.81705	0.0050771	5.00E-05	0.0009997	0.001838	0.0001995	0.0004998	0.0008615	0.19857	5.00E-05	0.0006165	0.0020006
-1.75	5.00E-06	1.8872	0.0005	5.00E-05	0.0005	0.10771	6.17E-05	0.0007608	0.31195	0.0054334	1.25E-05	5.13E-05	0.0005	0.009999	0.2895	0.0010114	0.0005	6.4994	5.00E-05	1.1162	0.0077611	5.00E-05	0.0009999	0.0018364	0.0002242	0.0005	0.0006274	0.15121	5.00E-05	0.000663	0.0020008
-1.67	4.52E-06	1.8969	0.0004999	5.00E-05	0.0004999	0.079046	5.33E-05	0.0008491	0.31163	0.007024	1.25E-05	5.19E-05	0.0004999	0.0099984	0.2086	0.0007144	0.0004999	6.9409	5.00E-05	1.1075	0.0074961	5.00E-05	0.0009998	0.0024021	0.0003129	0.0004999	0.0005012	0.13659	5.00E-05	0.0004999	0.0020011
-1.58	6.01E-06	3.2936	0.0004998	5.00E-05	0.0004998	0.17854	9.35E-05	0.0014543	0.48841	0.0061814	1.25E-05	8.81E-05	0.0004998	0.0099956	0.30378	0.0012827	0.0004998	9.6203	5.00E-05	1.7909	0.014384	5.00E-05	0.0009996	0.0023806	0.0003208	0.0004998	0.0006442	0.14665	9.42E-05	0.0004998	0.0024046
-1.50	5.08E-06	3.1157	0.0004997	3.57E-05	0.0004997	0.15459	9.48E-05	0.0013393	0.46646	0.0023825	1.25E-05	7.93E-05	0.0004997	0.0023618	0.29668	0.0012109	0.0004997	9.037	5.00E-05	1.7125	0.013281	5.00E-05	0.0009993	0.0023944	0.0003243	0.0004997	0.0005499	0.12899	9.54E-05	0.000452	0.0022248
-1.42	3.46E-06	3.9933	0.0004996	4.61E-05	0.0004996	0.15279	2.26E-05	0.0005308	0.58068	0.0046043	1.25E-05	0.0002116	0.0004996	0.0023302	0.36238	0.0012523	0.0004996	10.505	5.00E-05	1.9033	0.015753	5.00E-05	0.0009991	0.0023961	0.0001536	0.0004996	0.0008177	0.052622	5.00E-05	0.0004996	0.0016932
-1.33	4.61E-06	2.7195	0.0004996	5.00E-05	0.0004996	0.17571	7.64E-05	0.000945	0.47953	0.0044465	1.25E-05	1.72E-05	0.0004996	0.0022848	0.35747	0.0013114	0.0004996	9.8153	5.00E-05	1.6263	0.010881	5.00E-05	0.0009991	0.0023991	0.0001916	0.0004996	0.0009731	0.1874	5.00E-05	0.0005756	0.003569
-1.25	4.60E-06	2.7733	0.0004998	5.00E-05	0.0004998	0.16307	6.94E-05	0.0010872	0.45719	0.0040854	1.25E-05	3.96E-05	0.0004998	0.0020197	0.33676	0.0012589	0.0004998	10.05	5.00E-05	1.6083	0.010739	5.00E-05	0.0009996	0.0024181	0.0002194	0.0004998	0.0007073	0.17847	5.00E-05	0.0005386	0.0032656
-1.17	2.61E-06	3.4598	0.0004999	4.20E-05	0.0004999	0.16144	0.0005206	0.0015234	0.53265	0.0017682	1.25E-05	0.000111	0.0004999	0.0020196	0.40981	0.0013623	0.0004999	10.165	5.00E-05	1.9015	0.013835	5.00E-05	0.0009997	0.0024185	0.0003974	0.0004999	0.0089833	0.1272	5.00E-05	0.0004999	0.0031088
-1.08	4.61E-06	3.1456	0.0004999	5.00E-05	0.0004999	0.060727	1.47E-05	0.0012973	0.48368	0.0003811	1.25E-05	6.34E-05	0.0004999	0.0021914	0.33884	0.0010628	0.0004999	11.434	5.00E-05	1.8359	0.012806	5.00E-05	0.0009997	0.0018384	0.0001763	0.0004999	0.000357	0.050832	5.00E-05	0.0004999	0.0021178
-1.00	5.00E-06	2.9083	0.0004997	5.00E-05	0.0004997	0.072852	3.86E-05	0.0011556	0.45753	0.0022693	1.25E-05	6.33E-05	0.0004997	0.0062699	0.32952	0.0010575	0.0004997	10.856	5.00E-05	1.7151	0.011686	5.00E-05	0.0009995	0.0018399	0.0001921	0.0004997	0.000368	0.080389	5.00E-05	0.0004997	0.0020749
-0.92	5.03E-06	2.7863	0.0005018	5.01E-05	0.0005018	0.077388	4.29E-05	0.0010985	0.44797	0.0023503	1.25E-05	6.40E-05	0.0005003	0.010033	0.33175	0.0010699	0.0004998	10.634	5.00E-05	1.6757	0.011099	5.01E-05	0.0010023	0.0018641	0.0001851	0.0005094	0.0003777	0.074611	5.04E-05	0.0005013	0.002012
-0.83	5.21E-06	1.4028	0.000514	5.10E-05	0.000514	0.12137	0.0001149	0.0003814	0.25738	0.0080912	1.25E-05	7.30E-05	0.0005044	0.010266	0.33824	0.001135	0.0005009	5.591	5.01E-05	0.82673	0.0054239	5.08E-05	0.0010201	0.0019969	0.0002004	0.000565	0.0008973	0.19912	5.29E-05	0.0006277	0.0020792
-0.75	5.14E-06	1.9083	0.000509	5.06E-05	0.000509	0.10767	6.35E-05	0.0007745	0.31879	0.0054691	1.25E-05	6.98E-05	0.0005029	0.010172	0.32833	0.0011223	0.0005007	6.5016	5.01E-05	1.1223	0.007981	5.05E-05	0.001013	0.0019377	0.0002248	0.0005415	0.0006506	0.15161	5.18E-05	0.0006702	0.002051
-0.67	4.67E-06	1.9209	0.0005103	5.07E-05	0.0005103	0.079024	5.54E-05	0.0008647	0.31938	0.0070635	1.25E-05	7.292E-05	0.0005033	0.010194	0.25267	0.0008403	0.0005007	6.9432	5.01E-05	1.1145	0.007746	5.06E-05	0.0010147	0.0025169	0.0003136	0.000547	0.0005276	0.13706	5.21E-05	0.0005082	0.0020582
-0.58	6.58E-06	3.3797	0.0005378	5.26E-05	0.0005378	0.1783	0.0001012	0.0015105	0.51675	0.0063278	1.25E-05	0.0001655	0.0005122	0.010717	0.46619	0.0017462	0.0005027	9.6247	5.03E-05	1.8153	0.015293	5.22E-05	0.0010543	0.0028037	0.0003232	0.0006736	0.0007405	0.14833	0.0001018	0.0005301	0.0026144
-0.50	6.21E-06	3.2845	0.000574	4.09E-05	0.000574	0.15415	0.0001097	0.0014492	0.52193	0.002683	1.25E-05	0.0002308	0.0005239	0.0038037	0.61452	0.002118	0.0005053	9.0465	5.06E-05	1.7604	0.015063	5.44E-05	0.0011063	0.003222	0.000329	0.0008397	0.0007383	0.13228	0.0001103	0.0005113	0.0026356
-0.42	5.07E-06	4.2295	0.0006055	5.35E-05	0.0006055	0.15215	4.42E-05	0.0006911	0.65921	0.0050188	1.24E-05	0.0004271	0.0005341	0.0043844	0.81533	0.0025457	0.0005076	10.511	5.09E-05	1.9704	0.018281	5.62E-05	0.0011515	0.0035759	0.0001611	0.0009844	0.0010847	0.057626	7.138E-05	0.0005839	0.0022811
-0.33	6.41E-06	2.9908	0.0006184	5.82E-05	0.0006184	0.1748	0.0001003	0.0011228	0.5681	0.0049092	1.24E-05	0.0002601	0.0005383	0.0045899	0.86573	0.0027622	0.0005085	9.8253	5.10E-05	1.7029	0.013741	5.70E-05	0.00117	0.0037228	0.0001998	0.0010436	0.0012717	0.19225	7.399E-05	0.0006698	0.004218
-0.25	5.48E-06	2.9055	0.0005578	5.40E-05	0.0005578	0.16268	8.109E-05	0.0011737	0.50046	0.0043126	1.25E-05	0.000158	0.0005187	0.0031513	0.58479	0.0019669	0.0005042	10.054	5.05E-05	1.6457	0.012136	5.34E-05	0.001083	0.0030639	0.0002233	0.0007652	0.000854	0.18087	6.17E-05	0.0005847	0.0035832

Year	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
-2.00	0.0004997	0.0017273	5.00E-06	3.0926	0.0004997	5.00E-05	0.0004997	0.085394	4.23E-05	0.0012588	0.48189	0.0042644	1.25E-05	6.33E-05	0.0004997	0.0062699	0.34057	0.0011091	0.0004997	10.856	5.00E-05	1.7919	0.012497	5.00E-05	0.0009995	0.0018399	0.0002364	0.0004997	0.000368	3.2447
-1.92	0.0004996	0.0016501	4.63E-06	3.0018	0.0004996	5.00E-05	0.0004996	0.082394	3.14E-05	0.0011455	0.47394	0.0040073	1.25E-05	5.97E-05	0.0004996	0.0099929	0.3342	0.0010798	0.0004996	10.634	5.00E-05	1.7314	0.011843	5.00E-05	0.0009993	0.0018403	0.0002211	0.0004996	0.0003723	3.3001
-1.83	0.0004998	0.0013877	5.00E-06	1.4631	0.0004998	5.00E-05	0.0004998	0.14633	0.0002016	0.0004294	0.252	0.011231	1.25E-05	4.39E-05	0.0004998	0.0099966	0.29981	0.0010542	0.0004998	5.5876	5.00E-05	0.84167	0.0052298	5.00E-05	0.0009997	0.001838	0.000254	0.0004998	0.0010947	7.4226
-1.75	0.0005	0.0013818	5.00E-06	2.0379	0.0005	4.59E-05	0.0005	0.12634	0.0001512	0.0008502	0.32251	0.0082802	1.25E-05	5.13E-05	0.0005	0.0058937	0.30982	0.0010597	0.0005	6.4994	5.00E-05	1.1716	0.0082492	5.00E-05	0.0009999	0.0018364	0.0002812	0.0001305	0.0009536	6.0777
-1.67	0.0004999	0.0021181	4.52E-06	1.8419	0.0004999	5.00E-05	0.0004999	0.071315	0.0001762	0.0008008	0.30777	0.0077694	1.25E-05	5.19E-05	0.0004999	0.0099984	0.2028	0.0008083	0.0004999	6.9409	5.00E-05	1.0843	0.0073029	5.00E-05	0.0009998	0.0024021	0.0002936	0.0004999	0.0005012	6.2571
-1.58	0.0004998	0.0020008	6.01E-06	3.4148	0.0004998	7.94E-05	0.0004998	0.22451	0.0001634	0.0015461	0.51029	0.014979	1.25E-05	0.0002649	0.0004998	0.0021702	0.31681	0.001345	0.0004998	9.6203	5.00E-05	1.8655	0.014896	5.00E-05	0.0009996	0.0023806	0.0003224	0.0004534	0.0006442	6.9139
-1.50	0.0004997	0.0018234	4.13E-06	3.2156	0.0004997	4.69E-05	0.0004997	0.18661	9.99E-05	0.0014337	0.48802	0.0072362	1.25E-05	0.0002612	0.0004997	0.0019137	0.30724	0.0012559	0.0004997	9.037	5.00E-05	1.7826	0.013809	5.00E-05	0.0009993	0.0023944	0.0003164	0.0004997	0.0003591	6.5818
-1.42	0.0004996	0.0019967	3.46E-06	3.9603	0.0004996	4.61E-05	0.0004996	0.14131	1.08E-05	0.001526	0.57685	0.0034551	1.25E-05	0.0002116	0.0004996	0.0018761	0.43313	0.0012822	0.0004996	10.505	5.00E-05	2.1272	0.01514	5.00E-05	0.0009991	0.0023961	0.0003588	0.0004996	0.0019968	4.3616
-1.33	0.0004996	0.0015414	6.14E-06	2.7964	0.0004996	5.00E-05	0.0004996	0.21237	0.0001605	0.0009752	0.49022	0.0074269	1.11E-05	1.72E-05	0.0004996	0.0018218	0.36737	0.0013341	0.0004996	9.8153	5.00E-05	1.6652	0.011262	5.00E-05	0.0009991	0.0023991	0.0002068	9.11E-05	0.0009731	8.1094
-1.25	0.0004998	0.0013832	2.20E-06	2.8665	0.0004998	5.00E-05	0.0004998	0.20739	2.09E-05	0.0011423	0.46665	0.0070106	1.25E-05	3.16E-05	0.0004998	0.0015023	0.35258	0.0013063	0.0004998	10.05	5.00E-05	1.6485	0.011134	5.00E-05	0.0009996	0.0024181	0.0002431	7.51E-05	9.82E-05	8.1206
-1.17	0.0004999	0.0020971	1.11E-05	3.3744	0.0004999	4.20E-05	0.0004999	0.15506	0.0004967	0.0014756	0.52069	0.0010503	1.25E-05	0.000111	0.0004999	0.001502	0.39944	0.0013065	0.0004999	10.165	5.00E-05	1.856	0.013357	5.00E-05	0.0009997	0.0024185	0.0003894	0.0004999	0.0089033	11.048
-1.08	0.0004999	0.0015425	3.44E-06	3.3723	0.0004999	4.61E-05	0.0004999	0.070746	8.51E-06	0.0013899	0.50842	0.0020974	1.25E-05	6.34E-05	0.0004999	0.0017092	0.34653	0.0011168	0.0004999	11.434	5.00E-05	1.91	0.013656	5.00E-05	0.0009997	0.0012529	0.0002227	0.0004999	0.0001186	2.0155
-1.00	0.0004997	0.0017273	5.00E-06	3.0926	0.0004997	5.00E-05	0.0004997	0.085394	4.23E-05	0.0012588	0.48189	0.0042644	1.25E-05	6.33E-05	0.0004997	0.0062699	0.34057	0.0011091	0.0004997	10.856	5.00E-05	1.7919	0.012497	5.00E-05	0.0009995	0.0018399	0.0002364	0.0004997	0.000368	3.2447
-0.92	0.0004996	0.0018788	4.66E-06	3.0066	0.0005018	5.01E-05	0.0005018	0.082386	3.19E-05	0.0011487	0.47553	0.0040156	1.25E-05	6.40E-05	0.0005003	0.010033	0.34332	0.0011058	0.0004998	10.634	5.00E-05	1.7328	0.011894	5.01E-05	0.0010023	0.0018641	0.0002212	0.0005094	0.0003777	3.2998
-0.83	0.0004996	0.0029164	5.21E-06	1.4964	0.000514	5.10E-05	0.000514	0.14623	0.0002044	0.0004511	0.26276	0.011281	1.25E-05	7.30E-05	0.0005044	0.010266	0.36079	0.0012283	0.0005009	5.591	5.01E-05	0.85134	0.0055766	5.08E-05	0.0010201	0.0019969	0.0002549	0.000565	0.0011304	7.4171
-0.75	0.0004999	0.0023548	5.14E-06	2.0589	0.000509	4.65E-05	0.000509	0.12631	0.000153	0.0008639	0.32935	0.0083149	1.25E-05	6.98E-05	0.0005029	0.0060695	0.34865	0.0011706	0.0005007	6.5016	5.01E-05	1.1776	0.0084689	5.05E-05	0.001013	0.0019377	0.0002818	0.0001723	0.0009766	6.076
-0.67	0.0004999	0.003221	4.67E-06	1.8659	0.0005103	5.07E-05	0.0005103	0.0713	0.0001782	0.0008164	0.31553	0.0078087	1.25E-05	7.292E-05	0.0005033	0.010194	0.24687	0.0009342	0.0005007	6.9432	5.01E-05	1.0913	0.007553	5.06E-05	0.0010147	0.0025169	0.0002943	0.000547	0.0005276	6.2554
-0.58	0.0004995	0.00607	6.58E-06	3.5008	0.0005378	8.20E-05	0.0005378	0.22419	0.000171	0.0016021	0.5386	0.015112	1.25E-05	0.0003421	0.0005122	0.0029099	0.47922	0.0018084	0.0005027	9.6247	5.03E-05	1.8899	0.015806	5.22E-05	0.0010543	0.0028037	0.0003249	0.0006273	0.0007405	6.905
-0.50	0.0004989	0.0097875	5.26E-06	3.3841	0.000574	5.21E-05	0.000574	0.18609	0.0001149	0.0015434	0.54343	0.0075247	1.25E-05	0.0004122	0.0005239	0.0033574	0.62506	0.0021629	0.0005053	9.0465	5.06E-05	1.8303	0.015589	5.44E-05	0.0011063	0.003222	0.0003212	0.0008397	0.0005483	6.5634
-0.42	0.0004985	0.013353	5.07E-06	4.1966	0.0006055	5.35E-05	0.0006055	0.14073	3.25E-05	0.0016818	0.6554	0.0038762	1.24E-05	0.0004271	0.0005341	0.0039329	0.88575	0.0025754	0.0005076	10.511	5.09E-05	2.1933	0.017671	5.62E-05	0.0011515	0.0035759	0.0003653	0.0009844	0.0022583	4.3449
-0.33	0.0004983	0.014287	7.93E-06	3.0673	0.0006184	5.82E-05	0.0006184	0.21127	0.000184	0.0011529	0.57873	0.0078741	1.11E-05	0.0002601	0.0005383	0.0041298	0.87558	0.0027848	0.0005085	9.8253	5.10E-05	1.7416	0.01412	5.70E-05	0.00117	0.0037228	0.0002149	0.0006377	0.0012717	8.0687
-0.25	0.0004992	0.0076022	3.08E-06	2.9985	0.0005578	5.40E-05	0.0005578	0.20688	3.29E-05	0.0012287	0.50991	0.0072304	1.25E-05	0.0001501	0.0005187	0.0026358	0.60057	0.0020142	0.0005042	10.054	5.05E-05	1.6859	0.01253	5.34E-05	0.001083	0.0030639	0.000247	0.0003422	0.0002474	8.1017

TABLE B3.5

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR UT3and4

Knight Piésold CONSULTING

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TABLE B3.5

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR UT3and4

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
67.83	28.272	16.561	0	0.060327	0.083173	0.0087634	9.4309	0.0043269	2.0702	0.5811	0.22645	0.0011135	0.0073285	0.014422	0.0004589	0.21992	3.80E-05	7.7616	0.0026003	0.0002057	0.003045
67.92	23.28	15.56	0	0.067319	0.20644	0.0049435	4.6125	0.0044195	0.95689	0.36761	0.11178	0.0011285	0.0078352	0.010949	0.0004635	0.16889	3.33E-05	6.3851	0.0021427	0.0001836	0.0026625
68.00	27.035	17.505	0	0.1005	0.18422	0.0043379	5.9566	0.0041515	1.1418	0.47282	0.15052	0.0018115	0.012882	0.013971	0.0004453	0.22245	4.51E-05	7.116	0.0027069	0.0002379	0.003623
68.08	27.808	18.441	0	0.12287	0.18391	0.0041808	6.5673	0.0040137	1.2709	0.48948	0.15682	0.0022732	0.016468	0.014656	0.0004352	0.23562	4.99E-05	7.1422	0.0028797	0.0002613	0.0040933
68.17	41.241	17.392	0	0.0834	0.033872	0.0077224	8.4714	0.0037713	1.2712	0.9024	0.32346	0.0016163	0.0096284	0.025044	0.0004273	0.44359	7.21E-05	10.751	0.0046939	0.0003595	0.0051935
68.25	21.099	10.006	0	0.062064	0.043405	0.0074398	3.5443	0.0045013	1.1015	0.42958	0.20207	0.000643	0.0038282	0.011622	0.0004707	0.18551	3.25E-05	5.7545	0.0022394	0.0001769	0.0024071
68.33	19.71	11.13	0	0.040797	0.048711	0.0061584	5.2196	0.0045118	1.3568	0.44654	0.19467	0.0007508	0.004842	0.01057	0.0004704	0.16623	3.03E-05	5.2779	0.0020704	0.0001689	0.0023371
68.42	43.833	24.562	0	0.075396	0.07835	0.02895	8.8076	0.0037739	1.1317	0.85247	0.26853	0.0017881	0.011198	0.023968	0.000426	0.41835	7.081E-05	11.659	0.0044794	0.0003503	0.005129
68.50	59.607	30.804	0	0.092694	0.063848	0.024365	12.445	0.0028862	1.3086	1.2034	0.35158	0.0025382	0.015653	0.034275	0.0003925	0.61914	0.0001008	15.607	0.0063893	0.0004826	0.007292
68.58	69.797	34.542	0	0.10556	0.12943	0.011073	13.804	0.002649	1.8722	1.4087	0.36697	0.0030336	0.018806	0.039592	0.0003735	0.72434	0.0001165	18.319	0.0074015	0.0005676	0.0085066
68.67	67.521	32.868	0	0.11795	0.042259	0.0038517	14.051	0.0028969	1.9537	1.3688	0.41912	0.0030386	0.018844	0.040574	0.0003739	0.72429	0.0001173	17.44	0.0074049	0.0005704	0.008513
68.75	40.567	21.831	0	0.060298	0.037179	0.0047676	8.0532	0.0038535	1.6401	0.79247	0.27851	0.0017232	0.010891	0.023231	0.000431	0.39035	6.569E-05	10.662	0.0042227	0.0003322	0.0048633
68.83	28.272	16.559	0	0.060323	0.083171	0.0087634	9.4307	0.0043269	2.0702	0.5811	0.22645	0.0011134	0.0073278	0.014422	0.0004589	0.21991	3.80E-05	7.7615	0.0026002	0.0002057	0.0030449
68.92	23.279	15.558	0	0.067315	0.20644	0.0049435	4.6124	0.0044195	0.95688	0.36761	0.11178	0.0011284	0.0078347	0.010948	0.0004635	0.16888	3.33E-05	6.385	0.0021427	0.0001836	0.0026624
69.00	27.035	17.501	0	0.10049	0.18422	0.0043379	5.9564	0.0041515	1.1418	0.47281	0.15052	0.0018114	0.012881	0.01397	0.0004453	0.22245	4.51E-05	7.1159	0.0027068	0.0002379	0.0036229
69.08	27.808	18.437	0	0.12286	0.1839	0.0041808	6.5671	0.0040138	1.2709	0.48947	0.15682	0.0022731	0.016467	0.014656	0.0004352	0.23562	4.99E-05	7.1421	0.0028796	0.0002613	0.0040932
69.17	41.242	17.391	0	0.083404	0.033874	0.0077225	8.4715	0.0037713	1.2713	0.90241	0.32347	0.0016164	0.009629	0.025045	0.0004273	0.44359	7.21E-05	10.751	0.004694	0.0003596	0.0051936
69.25	21.099	10.006	0	0.062066	0.043406	0.0074398	3.5444	0.0045013	1.1015	0.42958	0.20207	0.000643	0.0038285	0.011622	0.0004707	0.18551	3.25E-05	5.7546	0.0022394	0.0001769	0.0024071
69.33	19.709	11.13	0	0.040794	0.04871	0.0061584	5.2195	0.0045118	1.3568	0.44653	0.19466	0.0007508	0.0048416	0.01057	0.0004704	0.16622	3.03E-05	5.2778	0.0020703	0.0001689	0.002337
69.42	43.831	24.559	0	0.075381	0.078344	0.02895	8.8071	0.0037739	1.1316	0.85244	0.26852	0.0017878	0.011196	0.023967	0.000426	0.41834	7.081E-05	11.658	0.0044792	0.0003503	0.0051286
69.50	59.605	30.801	0	0.092669	0.063838	0.024365	12.444	0.0028863	1.3085	1.2033	0.35157	0.0025377	0.015649	0.034273	0.0003925	0.61912	0.0001008	15.606	0.006389	0.0004825	0.0072915
69.58	69.795	34.538	0	0.10553	0.12942	0.011073	13.803	0.002649	1.8721	1.4086	0.36696	0.0030331	0.018802	0.03959	0.0003735	0.72432	0.0001165	18.319	0.0074012	0.0005676	0.008506
69.67	67.52	32.865	0	0.11794	0.042254	0.0038518	14.051	0.002897	1.9536	1.3687	0.41912	0.0030383	0.018842	0.040573	0.0003739	0.72427	0.0001173	17.44	0.0074048	0.0005704	0.0085127
69.75	40.567	21.83	0	0.060298	0.037179	0.0047676	8.0532	0.0038536	1.6401	0.79247	0.27851	0.0017232	0.010891	0.023231	0.000431	0.39035	6.569E-05	10.662	0.0042227	0.0003322	0.0048633
98.08	27.808	18.42	0	0.12286	0.1839	0.0041808	6.5668	0.0040138	1.2709	0.48946	0.15681	0.0022731	0.016468	0.014656	0.0004352	0.23562	4.99E-05	7.142	0.0028796	0.0002613	0.0040932
98.17	41.242	17.384	0	0.083406	0.033875	0.0077225	8.4714	0.0037713	1.2713	0.90241	0.32347	0.0016164	0.0096292	0.025045	0.0004273	0.44359	7.21E-05	10.751	0.004694	0.0003596	0.0051936
98.25	21.099	10.004	0	0.062066	0.043406	0.0074398	3.5444	0.0045013	1.1015	0.42958	0.20207	0.000643	0.0038285	0.011622	0.0004707	0.18551	3.25E-05	5.7546	0.0022394	0.0001769	0.0024072
98.33	19.709	11.126	0	0.040795	0.048711	0.0061584	5.2195	0.0045118	1.3568	0.44653	0.19466	0.0007508	0.0048417	0.01057	0.0004704	0.16622	3.03E-05	5.2778	0.0020703	0.0001689	0.002337
98.42	43.831	24.551	0	0.075383	0.078344	0.02895	8.807	0.0037739	1.1316	0.85244	0.26852	0.0017879	0.011196	0.023967	0.000426	0.41834	7.081E-05	11.658	0.0044792	0.0003503	0.0051287
98.50	59.605	30.79	0	0.092672	0.063839	0.024365	12.444	0.0028862	1.3085	1.2033	0.35157	0.0025378	0.01565	0.034273	0.0003925	0.61912	0.0001008	15.606	0.006389	0.0004825	0.0072915
98.58	69.795	34.524	0	0.10553	0.12942	0.011073	13.803	0.002649	1.8721	1.4086	0.36696	0.0030332	0.018803	0.039591	0.0003735	0.72432	0.0001165	18.319	0.0074012	0.0005676	0.0085061
98.67	67.519	32.852	0	0.11794	0.042255	0.0038518	14.051	0.002897	1.9536	1.3687	0.41912	0.0030384	0.018843	0.040573	0.0003739	0.72428	0.0001173	17.44	0.0074048	0.0005704	0.0085128
98.75	40.567	21.822	0	0.0603	0.03718	0.0047676	8.0531	0.0038535	1.6401	0.79246	0.27851	0.0017232	0.010891	0.023231	0.000431	0.39035	6.569E-05	10.662	0.0042227	0.0003322	0.0048633
98.83	28.272	16.553	0	0.060327	0.083173	0.0087634	9.4307	0.0043269	2.0702	0.5811	0.22645	0.0011135	0.0073284	0.014422	0.0004589	0.21992	3.80E-05	7.7615	0.0026003	0.0002057	0.003045
98.92	23.279	15.551	0	0.067319	0.20644	0.0049435	4.6123	0.0044195	0.95689	0.36761	0.11178	0.0011285	0.0078352	0.010949	0.0004635	0.16889	3.33E-05	6.385	0.0021427	0.0001836	0.0026625
99.00	27.035	17.488	0	0.1005	0.18422	0.0043379	5.9562	0.0041515	1.1418	0.47281	0.15052	0.0018115	0.012881	0.013971	0.0004453	0.22245	4.51E-05	7.1158	0.0027068	0.0002379	0.003623
99.08	27.808	18.419	0	0.12287	0.18391	0.0041808	6.5668	0.0040137	1.2709	0.48946	0.15682	0.0022731	0.016468	0.014656	0.0004352	0.23562	4.99E-05	7.142	0.0028797	0.0002613	0.0040933
99.17	41.242	17.384	0	0.083407	0.033875	0.0077225	8.4714	0.0037713	1.2713	0.90241	0.32347	0.0016164	0.0096294	0.025045	0.0004273	0.4436	7.21E-05	10.751	0.004694	0.0003596	0.0051937
99.25	21.099	10.004	0	0.062066	0.043406	0.0074398	3.5444	0.0045013	1.1015	0.42958	0.20207	0.0006431	0.0038286	0.011622	0.0004707	0.18551	3.25E-05	5.7546	0.0022394	0.0001769	0.0024072
99.33	19.709	11.126	0	0.040795	0.048711	0.0061584	5.2195	0.0045118	1.3568	0.44653	0.19466	0.0007508	0.0048418	0.01057	0.0004704	0.16623	3.03E-05	5.2778	0.0020703	0.0001689	0.002337
99.42	43.831	24.551	0	0.075384	0.078345	0.02895	8.807	0.0037739	1.1316	0.85244	0.26852	0.0017879	0.011196	0.023968	0.000426	0.41834	7.081E-05	11.658	0.0044792	0.0003503	0.0051287
99.50	59.605	30.789	0	0.092673	0.063839	0.024365	12.444	0.0028862	1.3085	1.2033	0.35158	0.0025378	0.01565	0.034273	0.0003925	0.61912	0.0001008	15.606	0.0063891	0.0004825	0.0072915
99.58	69.795	34.524	0	0.10554	0.12942	0.011073	13.803	0.002649	1.8721	1.4086	0.36696	0.0030332	0.018803	0.039591	0.0003735	0.72432	0.0001165	18.319	0.0074012	0.0005676	0.0085061
99.67	67.52	32.852	0	0.11795	0.042255	0.0038518	14.051	0.002897	1.9536	1.3687	0.41912	0.0030384	0.018843	0.040573	0.0003739	0.72428	0.0001173	17.44	0.0074048	0.0005704	0.0085128
99.75	40.567	21.822	0	0.060301	0.03718	0.0047676	8.0531	0.0038535	1.6401	0.79247	0.27851	0.0017232	0.010891	0.023231	0.000431	0.39035	6.569E-05	10.662	0.0042227	0.0003322	0.0048633
99.83	28.272	16.553	0	0.060328	0.083173	0.0087634	9.4307	0.0043269	2.0702	0.5811	0.22645	0.0011135	0.0073285	0.014422	0.0004589	0.21992	3.80E-05	7.7616	0.0026003	0.0002057	0.003045
99.92	23.279	15.551	0	0.06732	0.20644	0.0049435	4.6123	0.0044195	0.95689	0.36761	0.11178	0.0011285	0.0078353	0.010949	0.0004635	0.16889	3.33E-05	6.385	0.0021427	0.0001836	0.0026625
100.00	27.035	17.488	0	0.1005	0.18422	0.0043379	5.9563	0.0041515	1.1418	0.47281	0.15052	0.0018115	0.012882	0.013971	0.0004453	0.22245	4.51E-05	7.1158	0.0027069	0.0002379	0.003623

Year	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]
67.83	0.14602	0.0008993	0.0058039	2.1708	0.017182	1.08E-05	0.0089589	0.0011882	0.041292	8.675	0.029369	0.0006415	9.9957	6.524E-05	3.7687	0.077892	0.0001779	0.0041536	0.024386	0.0008497	0.010633	0.01345	0.21517	0.0011135	0.0073286	0.014423	0.0004589	0.21992
67.92	0.054543	0.000347	0.005128	1.7991	0.015086	1.11E-05	0.0087476	0.0010419	0.032262	6.5237	0.02388	0.0006069	11.168	6.11E-05	3.526	0.068323	0.0001515	0.0035197	0.018485	0.0006737	0.0086171	0.0044895	0.1225	0.0011285	0.0078354	0.010949	0.0004635	0.16882
68.00	0.060878	0.0004778	0.006902	2.2694	0.024985	1.04E-05	0.01396	0.0012326	0.044829	8.2798	0.032835	0.0006389	10.531	6.395E-05	4.3031	0.093198	0.0001883	0.0044522	0.023474	0.0010182	0.011647	0.0058811	0.16801	0.0018115	0.012882	0.013844	0.0004453	0.22245
68.08	0.06259	0.0005129	0.0078995	2.4427	0.030269	1.01E-05	0.017355	0.0012948	0.050013	8.523	0.036476	0.0006448	10.245	6.40E-05	4.7937	0.10601	0.0002012	0.004792	0.024414	0.0012433	0.01277	0.0062833	0.16669	0.0022732	0.016468	0.014594	0.0004352	0.23556
68.17	0.094334	0.0009446	0.0080931	3.5088	0.031163	9.45E-06	0.01375	0.0018658	0.08746	17.455	0.054955	0.0007905	6.3164	8.215E-05	4.318	0.12277	0.0003018	0.0071765	0.047092	0.0008506	0.020303	0.011392	0.35724	0.0016163	0.0097235	0.024987	0.0004273	0.44359
68.25	0.098895	0.0004152	0.0038273	1.65	0.014763	1.13E-05	0.0053314	0.0010655	0.042293	7.4779	0.0232	0.0006212	6.7058	6.35E-05	2.4804	0.055089	0.0001541	0.0035494	0.020741	0.0004623	0.0086699	0.0050493	0.22399	0.000643	0.0039752	0.011553	0.0004707	0.18551
68.33	0.072282	0.0003722	0.0039186	1.5392	0.017013	1.13E-05	0.0059992	0.0010128	0.038667	6.5135	0.021367	0.0006068	6.9982	6.165E-05	2.481	0.0538	0.000145	0.0033372	0.019053	0.0006062	0.0080051	0.0044934	0.20138	0.0007508	0.0048421	0.01057	0.0004704	0.16623
68.42	0.14399	0.0008893	0.0090418	3.5672	0.031289	9.46E-06	0.014884	0.0017992	0.082756	16.308	0.053366	0.0007713	9.4068	7.966E-05	5.1151	0.12967	0.0002905	0.0069147	0.044651	0.0010476	0.019488	0.010662	0.30878	0.0018242	0.011198	0.024069	0.000426	0.41835
68.50	0.1102	0.0012703	0.012441	5.0201	0.039831	8.06E-06	0.021378	0.0024218	0.11276	24.08	0.078005	0.0009033	8.9709	9.421E-05	6.5794	0.1824	0.0004054	0.0097357	0.065134	0.0013541	0.028535	0.015398	0.37366	0.0025714	0.015621	0.034367	0.0003925	0.61908
68.58	0.10044	0.001422	0.013911	5.8905	0.048332	7.28E-06	0.025612	0.0027536	0.13138	28.133	0.091473	0.0009722	9.9798	0.0001017	7.5991	0.21461	0.0004669	0.011252	0.075755	0.0014482	0.033403	0.018107	0.36016	0.0030336	0.018806	0.039495	0.0003735	0.72434
68.67	0.11405	0.0014569	0.014219	5.8223	0.048137	7.29E-06	0.025516	0.0027551	0.1314	28.137	0.09156	0.0009729	9.5452	0.0001017	7.4109	0.21138	0.0004672	0.011258	0.075781	0.0014766	0.033421	0.018214	0.45174	0.0030386	0.0189	0.040785	0.0003739	0.72429
68.75	0.13308	0.0008158	0.0083447	3.3498	0.028387	9.66E-06	0.014224	0.0017168	0.071807	15.246	0.050152	0.0007541	9.8533	7.769E-05	4.7871	0.12025	0.0002753	0.0065441	0.041838	0.000939	0.018297	0.010061	0.3227	0.0017232	0.01093	0.02337	0.000431	0.39028
68.83	0.14602	0.0008993	0.0058036	2.1707	0.017181	1.08E-05	0.0089583	0.0011882	0.041292	8.6749	0.029368	0.0006415	9.9955	6.524E-05	3.7678	0.077889	0.0001778	0.0041535	0.024386	0.0008497	0.010633	0.01345	0.21516	0.0011134	0.0073279	0.014422	0.0004589	0.21991
68.92	0.054543	0.000347	0.0051278	1.7991	0.015085	1.11E-05	0.008747	0.0010419	0.032261	6.5236	0.023879	0.0006069	11.168	6.11E-05	3.5251	0.06832	0.0001515	0.0035196	0.018485	0.0006736	0.0086168	0.0044894	0.12249	0.0011284	0.0078348	0.010949	0.0004635	0.16882
69.00	0.060879	0.0004778	0.0069017	2.2693	0.024983	1.04E-05	0.013959	0.0012326	0.044828	8.2797	0.032834	0.0006389	10.531	6.395E-05	4.3017	0.093195	0.0001883	0.0044521	0.023474	0.0010182	0.011646	0.0058809	0.168	0.0018114	0.012881	0.013844	0.0004453	0.22245
69.08	0.06259	0.0005129	0.0078992	2.4427	0.030267	1.01E-05	0.017354	0.0012948	0.050012	8.5229	0.036475	0.0006448	10.245	6.40E-05	4.7919	0.10601	0.0002012	0.0047919	0.024414	0.0012433	0.01277	0.0062832	0.16669	0.0022731	0.016467	0.014594	0.0004352	0.23555
69.17	0.094334	0.0009446	0.0080933	3.5088	0.031164	9.45E-06	0.013751	0.0018658	0.087461	17.455	0.054956	0.0007905	6.3164	8.215E-05	4.3179	0.12278	0.0003018	0.0071766	0.047093	0.0008506	0.020304	0.011393	0.35725	0.0016164	0.009724	0.024987	0.0004273	0.44359
69.25	0.098895	0.0004152	0.0038274	1.6501	0.014763	1.13E-05	0.0053316	0.0010655	0.042293	7.478	0.0232	0.0006212	6.7058	6.35E-05	2.4804	0.05509	0.0001541	0.0035494	0.020741	0.0004623	0.00867	0.0050493	0.22399	0.000643	0.0039755	0.011553	0.0004707	0.18551
69.33	0.072282	0.0003722	0.0039184	1.5392	0.017012	1.13E-05	0.0059988	0.0010128	0.038667	6.5135	0.021367	0.0006067	6.9981	6.165E-05	2.4806	0.053798	0.000145	0.0033372	0.019053	0.0006061	0.0080049	0.0044933	0.20138	0.0007508	0.0048417	0.01057	0.0004704	0.16622
69.42	0.14399	0.0008893	0.0090411	3.567	0.031285	9.46E-06	0.014882	0.0017991	0.082753	16.307	0.053363	0.0007713	9.4065	7.966E-05	5.1141	0.12966	0.0002905	0.0069144	0.04465	0.0010475	0.019487	0.010661	0.30878	0.001824	0.011196	0.024068	0.000426	0.41834
69.50	0.1102	0.0012703	0.01244	5.0199	0.039825	8.06E-06	0.021375	0.0024217	0.11275	24.079	0.078	0.0009033	8.9705	9.421E-05	6.578	0.18239	0.0004054	0.0097352	0.065132	0.0013539	0.028533	0.015398	0.37365	0.0025709	0.015617	0.034366	0.0003925	0.61906
69.58	0.10044	0.0014219	0.01391	5.8903	0.048326	7.28E-06	0.025608	0.0027534	0.13138	28.133	0.091468	0.0009722	9.9794	0.0001017	7.5976	0.2146	0.0004669	0.011252	0.075753	0.0014479	0.033402	0.018107	0.36015	0.0030332	0.018803	0.039493	0.0003735	0.72432
69.67	0.11405	0.0014568	0.014219	5.8221	0.048134	7.29E-06	0.025514	0.002755	0.13139	28.136	0.091558	0.0009729	9.545	0.0001017	7.4097	0.21137	0.0004671	0.011258	0.07578	0.0014764	0.03342	0.018214	0.45173	0.0030384	0.018898	0.040784	0.0003739	0.72427
69.75	0.13308	0.0008158	0.0083447	3.3498	0.028387	9.66E-06	0.014224	0.0017168	0.071807	15.246	0.050152	0.0007541	9.8532	7.769E-05	4.7866	0.12025	0.0002753	0.0065441	0.041838	0.000939	0.018297	0.010061	0.3227	0.0017232	0.01093	0.02337	0.000431	0.39028

Year	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
67.83	4.57E-05	7.6904	0.0026003	0.0002057	0.003045	0.14073	0.0008794	0.0057641	2.1608	0.016586	1.08E-05	0.0089589	0.0011882	0.040866	8.6664	0.029322	0.0006415	9.9957	6.524E-05	3.7308	0.077493	0.0001779	0.0041536	0.024386	0.0008431	0.010634	0.013384	10.054
67.92	3.23E-05	6.5996	0.0021427	0.0001803	0.0026625	0.064433	0.0003429	0.005218	1.8226	0.01673	1.11E-05	0.0087476	0.0010419	0.031855	6.5316	0.023932	0.0006069	11.168	6.11E-05	3.5973	0.069137	0.0001515	0.0035197	0.017982	0.0007177	0.0086175	0.0042852	1.8394
68.00	4.51E-05	7.2924	0.0027069	0.0002379	0.003623	0.072851	0.0004822	0.0070004	2.2924	0.026853	1.04E-05	0.01396	0.0012326	0.044843	8.2905	0.032885	0.0006389	10.531	6.395E-05	4.3759	0.093972	0.0001883	0.0044522	0.023474	0.00106	0.011647	0.0058821	2.7253
68.08	4.96E-05	7.3505	0.0028797	0.0002614	0.0040933	0.06814	0.0005047	0.0079527	2.4686	0.031866	1.01E-05	0.017355	0.0012948	0.050031	8.5342	0.036513	0.0006448	10.245	6.40E-05	4.899	0.10677	0.0002012	0.004792	0.024414	0.0012784	0.012771	0.0062847	2.6845
68.17	7.21E-05	10.83	0.0046939	0.0003596	0.0051935	0.1147	0.001017	0.0081519	3.5137	0.033738	9.45E-06	0.01375	0.0018658	0.087468	17.473	0.055031	0.0007905	6.3164	8.215E-05	4.3404	0.12292	0.0003018	0.0071765	0.047092	0.0008944	0.020304	0.011583	5.8129
68.25	3.25E-05	5.8929	0.0022394	0.0001734	0.0024071	0.11673	0.0004974	0.0039104	1.6599	0.017393	1.13E-05	0.0053314	0.0010655	0.038839	7.4968	0.023249	0.0006212	6.7058	6.35E-05	2.5315	0.055539	0.0001541	0.0035494	0.020741	0.0005142	0.0083589	0.0053434	5.6093
68.33	3.03E-05	5.2312	0.0020704	0.0001689	0.0023371	0.065725	0.000485	0.0038776	1.5359	0.017732	1.13E-05	0.0059992	0.0010128	0.038671	6.5086	0.021455	0.0006068	6.9982	6.165E-05	2.4613	0.053636	0.000145	0.0033372	0.019053	0.0005897	0.0080053	0.0044937	5.8161
68.42	7.081E-05	11.759	0.0044794	0.0003744	0.005129	0.18237	0.0009477	0.0091204	3.5854	0.038537	9.46E-06	0.015029	0.0017992	0.076836	16.319	0.05342	0.0007713	9.4068	7.966E-05	5.1772	0.13011	0.0002905	0.0069147	0.044651	0.0010507	0.019454	0.010662	5.6267
68.50	0.0001002	15.683	0.0063893	0.0004918	0.007292	0.13519	0.0012789	0.012513	5.0362	0.043656	8.06E-06	0.021511	0.0024218	0.11247	24.088	0.078042	0.0009033	8.9709	9.421E-05	6.6321	0.18281	0.0004054	0.0097357	0.065134	0.0013505	0.028535	0.01527	4.711
68.58	0.0001165	18.299	0.0074015	0.0005676	0.0085066	0.093228	0.0014148	0.014608	5.8882	0.047612	7.28E-06	0.025612	0.0027536	0.13111	28.182	0.091498	0.0009722	9.9798	0.0001017	7.7575	0.21423	0.0004669	0.011252	0.075755	0.0015914	0.033404	0.018922	2.8458
68.67	0.0001184	17.496	0.0074049	0.0005704	0.008513	0.13997	0.0015154	0.014244	5.8299	0.050233	6.42E-06	0.025516	0.0027551	0.13112	28.144	0.091578	0.0009729	9.5452	0.0001017	7.4392	0.21165	0.0004672	0.011258	0.075782	0.001488	0.03316	0.018215	5.3674
68.75	6.394E-05	10.741	0.0042227	0.0003322	0.0048633	0.17006	0.0007843	0.0083928	3.358	0.030856	9.66E-06	0.014218	0.0017168	0.07142	15.259	0.050192	0.0007541	9.8533	7.769E-05	4.822	0.12059	0.0002753	0.0065441	0.041838	0.0009591	0.017971	0.0095942	6.6981
68.83	4.57E-05	7.6903	0.0026002	0.0002057	0.0030449	0.14073	0.0008794	0.0057638	2.1608	0.016585	1.08E-05	0.0089583	0.0011882	0.040865	8.6663	0.029321	0.0006415	9.9955	6.524E-05	3.7299	0.077488	0.0001778	0.0041535	0.024386	0.0008431	0.010633	0.013383	10.054
68.92	3.23E-05	6.5995	0.0021427	0.0001803	0.0026624	0.064433	0.0003429	0.0052178	1.8226	0.016729	1.11E-05	0.008747	0.0010419	0.031855	6.5315	0.023932	0.0006069	11.168	6.11E-05	3.5964	0.069134	0.0001515	0.0035196	0.017982	0.0007177	0.0086172	0.0042851	1.8394
69.00	4.51E-05	7.2923	0.0027068	0.0002379	0.0036229	0.072852	0.0004822	0.0070001	2.2923	0.026851	1.04E-05	0.013959	0.0012326	0.044842	8.2904	0.032884	0.0006389	10.531	6.395E-05	4.3745	0.093968	0.0001883	0.0044521	0.023474	0.00106	0.011647	0.005882	2.7253
69.08	4.96E-05	7.3504	0.0028796	0.0002614	0.0040932	0.06814	0.0005046	0.0079524	2.4686	0.031865	1.01E-05	0.017354	0.0012948	0.050031	8.534	0.036512	0.0006448	10.245	6.40E-05	4.8481	0.10677	0.0002012	0.0047919	0.024414	0.0012783	0.012771	0.0062846	2.6845
69.17	7.21E-05	10.83	0.004694	0.0003596	0.0051936	0.1147	0.001017	0.0081521	3.5137	0.033739	9.45E-06	0.013751	0.0018658	0.087469	17.473	0.055032	0.0007905	6.3164	8.215E-05	4.3402	0.12293	0.0003018	0.0071766	0.047093	0.0008945	0.020304	0.011583	5.8129
69.25	3.25E-05	5.8929	0.0022394	0.0001734	0.0024071	0.11673	0.0004974	0.0039105	1.6599	0.017393	1.13E-05	0.0053316	0.0010655	0.03884	7.4968	0.023249	0.0006212	6.7058	6.35E-05	2.5315	0.05554	0.0001541	0.0035494	0.020741	0.0005142	0.0083591	0.0053434	5.6093
69.33	0.0000303	5.2311	0.0020703	0.0001689	0.002337	0.065725	0.000485	0.0038774	1.5359	0.017731	1.13E-05	0.0059988	0.0010128	0.038671	6.5085	0.021455	0.0006067	6.9981	6.165E-05	2.4609	0.053634	0.000145	0.0033372	0.019053	0.0005897	0.0080051	0.0044936	5.8161
69.42	7.081E-05	11.759	0.0044792	0.0003744	0.0051286	0.18237	0.0009476	0.0091196	3.5852	0.038534	9.46E-06	0.015027	0.0017991	0.076833	16.318	0.053417	0.0007713	9.4065	7.966E-05	5.1763	0.1301	0.0002905	0.0069144	0.04465	0.0010506	0.019453	0.010662	5.6267
69.50	0.0001002	15.682	0.006389	0.0004918	0.0072915	0.13519	0.0012788	0.012512	5.036	0.043651	8.06E-06	0.021508	0.0024217	0.11246	24.087	0.078037	0.0009033	8.9705	9.421E-05	6.6307	0.1828	0.0004054	0.0097352	0.065132	0.0013503	0.028534	0.01527	4.711
69.58	0.0001165	18.298	0.0074012	0.0005676	0.008506	0.093229	0.0014147	0.014606	5.8879	0.047606	7.28E-06	0.025608	0.0027534	0.13111	28.182	0.091493	0.0009722	9.9794	0.0001017	7.7559	0.21421	0.0004669	0.011252	0.075753	0.0015912	0.033402	0.018921	2.8458
69.67	0.0001184	17.496	0.0074048	0.0005704	0.0085127	0.13997	0.0015154	0.014243	5.8298	0.05023	6.42E-06	0.025514	0.002755	0.13111	28.144	0.091576	0.0009729	9.545	0.0001017	7.4379	0.21165	0.0004671	0.011258	0.07578	0.0014878	0.033159	0.018215	5.3674
69.75	6.394E-05	10.741	0.0042227	0.0003322	0.0048633	0.17006	0.0007843	0.0083928	3.358	0.030856	9.66E-06	0.014218	0.0017168	0.07142	15.259	0.050192	0.0007541	9.8532	7.769E-05	4.8215	0.12059	0.0002753	0.0065441	0.041838	0.0009591	0.017971	0.0095942	6.6981

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB

Knight Piésold
CONSULTING

TABLE B3.6

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR BIRD BROOK

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
-2.00	8.3021	7.7496	0	0.024999	0.17499	0.019999	1.125	0.0049998	0.76246	0.087496	0.053748	5.00E-05	0.000875	0.0019999	0.0005	0.0019999	1.50E-05	2.4949	0.0005	5.00E-05	0.0005
-1.92	9.3994	8.7495	0	0.024998	0.20499	0.0049997	0.49997	0.0049997	1.1999	0.074995	0.043247	5.00E-05	0.000875	0.0019999	0.0005	0.0017499	1.75E-05	2.8473	0.0005	5.00E-05	0.0005
-1.83	9.8097	9.2497	0	0.024999	0.165	0.0062498	0.49999	0.0049999	0.82498	0.092497	0.053249	5.00E-05	0.000875	0.0019999	0.0005	0.0015	1.50E-05	2.9775	0.0005	5.00E-05	0.0005
-1.75	5.31	2.75	0	0.025	0.025	0.0087499	0.5	0.005	0.77499	0.105	0.11425	5.00E-05	0.001125	0.002	0.0005	0.001	4.00E-05	1.59	0.0005	5.00E-05	0.0005
-1.67	5.7249	3.75	0	0.079999	0.025	0.01125	0.49999	0.0049999	0.99999	0.11999	0.13124	5.00E-05	0.00075	0.002	0.0005	0.00175	3.25E-05	1.71	0.0005	5.00E-05	0.0005
-1.58	7.7422	6.7497	0	0.024999	0.042498	0.016249	0.62497	0.0049998	0.99996	0.12249	0.13475	5.00E-05	0.0015	0.0022499	0.0005	0.0019999	3.50E-05	2.3499	0.0005	6.25E-05	0.0005
-1.50	9.027	7.9996	0	0.024999	0.067496	0.023749	1.2499	0.0049997	0.92494	0.15999	0.15574	5.00E-05	0.0017499	0.0024998	0.0005	0.0019999	3.50E-05	2.7099	0.0005	6.25E-05	0.0005
-1.42	9.2968	6.9995	0	0.024998	0.038747	0.0087494	0.87494	0.0062495	0.96243	0.17373	0.20623	5.00E-05	0.0017499	0.0032498	0.0005	0.0019998	6.50E-05	2.7573	0.0005	8.75E-05	0.0005
-1.33	9.3743	8.4993	0	0.077494	0.047497	0.0049996	1.1249	0.0049996	1.1999	0.12749	0.095994	5.00E-05	0.0014999	0.0019999	0.0005	0.0017499	2.00E-05	2.8323	0.0005	5.00E-05	0.0005
-1.25	7.9097	6.2498	0	0.024999	0.135	0.0062498	0.49998	0.0049998	1.45	0.11875	0.13649	5.00E-05	0.00125	0.0029999	0.0005	0.0017499	2.12E-05	2.345	0.0005	5.00E-05	0.0005
-1.17	7.6998	4.3332	0	0.024999	0.096665	0.0049999	1	0.0049999	1.0999	0.13	0.13866	5.00E-05	0.001	0.0023333	0.0005	0.0016666	4.00E-05	2.2866	0.0005	5.00E-05	0.0005
-1.08	6.4665	4.3332	0	0.076665	0.098331	0.0049999	1.3333	0.0049999	0.99997	0.12	0.12233	5.00E-05	0.001	0.0019999	0.0005	0.0016666	5.00E-05	1.92	0.0005	6.67E-05	0.0005
-1.00	8.3021	7.7496	0	0.024999	0.17499	0.019999	1.125	0.0049998	0.76246	0.087496	0.053748	5.00E-05	0.000875	0.0019999	0.0005	0.0019999	1.50E-05	2.4949	0.0005	5.00E-05	0.0005
-0.92	9.4017	8.7503	0	0.024998	0.20498	0.0049996	0.50044	0.0049996	1.1999	0.075044	0.043259	5.00E-05	0.0008752	0.0020013	0.0005	0.0017776	1.75E-05	2.8479	0.0005002	5.00E-05	0.0005002
-0.83	9.8286	9.2567	0	0.024997	0.16498	0.0062493	0.5039	0.0049995	0.82513	0.092907	0.05335	5.04E-05	0.0008767	0.0020119	0.0005	0.0017304	1.50E-05	2.9824	0.0005021	5.01E-05	0.0005021
-0.75	5.3195	2.7537	0	0.024999	0.024999	0.0087495	0.50193	0.0049997	0.77506	0.1052	0.11429	5.02E-05	0.0011258	0.0020059	0.0005	0.001114	4.00E-05	1.5925	0.0005011	5.01E-05	0.0005011
-0.67	5.7356	3.7541	0	0.079995	0.024998	0.01125	0.50217	0.0049997	1.0001	0.12022	0.1313	5.02E-05	0.0007509	0.0020066	0.0005	0.0018782	3.25E-05	1.7127	0.0005012	5.01E-05	0.0005012
-0.58	7.781	6.7642	0	0.024994	0.042491	0.016246	0.63293	0.0049989	1.0002	0.12332	0.13494	5.09E-05	0.0015033	0.0022742	0.0004999	0.0024707	3.51E-05	2.36	0.0005044	6.28E-05	0.0005044
-0.50	9.1027	8.0275	0	0.024989	0.06747	0.023739	1.2653	0.0049978	0.92547	0.16161	0.15611	5.175E-05	0.0017563	0.0025475	0.0004999	0.0029279	3.51E-05	2.7296	0.0005086	6.31E-05	0.0005086
-0.42	9.4049	7.0399	0	0.024984	0.038725	0.0087445	0.89725	0.006246	0.96316	0.17604	0.20672	5.25E-05	0.001759	0.0033176	0.0004998	0.0033288	6.51E-05	2.7855	0.0005124	8.83E-05	0.0005124
-0.33	9.4962	8.5439	0	0.077445	0.047466	0.0049964	1.1499	0.0049964	1.2006	0.13012	0.096619	5.282E-05	0.0015104	0.0020771	0.0004998	0.0032488	2.02E-05	2.8641	0.0005139	5.10E-05	0.0005139
-0.25	7.9698	6.2723	0	0.024991	0.13496	0.0062478	0.51242	0.0049983	1.4502	0.12004	0.13679	5.138E-05	0.0012552	0.0030374	0.0004999	0.002484	2.13E-05	2.3607	0.0005068	5.05E-05	0.0005068
-0.17	7.7328	4.3459	0	0.024995	0.096648	0.004999	1.0067	0.004999	1.1001	0.1307	0.13882	5.08E-05	0.0010029	0.0023539	0.0005	0.0020678	4.01E-05	2.2952	0.0005037	5.03E-05	0.0005037
-0.08	6.4914	4.3428	0	0.076656	0.09832	0.0049993	1.3383	0.0049993	1.0001	0.12053	0.12245	5.06E-05	0.0010022	0.0020154	0.0005	0.0019667	5.00E-05	1.9265	0.0005028	6.69E-05	0.0005028

Year	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]
-2.00	0.064997	5.00E-05	0.00045	0.49997	0.0014999	1.25E-05	6.25E-05	0.0005	0.0099995	0.35748	0.0005	5E-05	0.0008448	5.00E-05	0.012987	5E-05	5.00E-05	0.001	4.999E-05	5E-05	0.0005	0.0002647	0.053748	5.00E-05	0.000875	0.0019999
-1.92	0.052497	5.00E-05	0.0005	0.55247	0.0017499	1.25E-05	5.00E-05	0.0005	0.0099994	0.36998	0.000775	0.0005	11.824	5.00E-05	1.8249	0.013499	5.00E-05	0.0009999	0.0018874	5E-05	0.0005	0.0012499	0.043247	5.00E-05	0.000875	0.0019999
-1.83	0.069998	5E-05	0.0005	0.57498	0.0016249	1.25E-05	6.25E-05	0.0005	0.0099997	0.38749	0.000775	0.0005	10.925	5.00E-05	1.8449	0.013749	5.00E-05	0.001	0.0018874	5E-05	0.0005	0.0016249	0.053249	5.00E-05	0.000875	0.0019999
-1.75	0.079999	8.75E-05	0.000325	0.33	0.005	1.25E-05	5.00E-05	0.0005	0.0099999	0.3175	0.000925	0.0005	6.225	5.00E-05	0.98749	0.0089999	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.002	0.11425	5.00E-05	0.001125	0.002
-1.67	0.097495	1.00E-04	0.0004	0.35	0.0037499	1.69E-05	5.00E-05	0.0005	0.0099999	0.31499	0.0009	0.0005	6.1749	5.00E-05	1.245	0.0092499	5.00E-05	0.001	0.0018875	5E-05	0.0005	0.00225	0.13124	5.00E-05	0.00075	0.002
-1.58	0.14749	1.75E-04	0.0005	0.45748	0.0105	1.25E-05	5.00E-05	0.0005	0.0099996	0.31249	0.000875	0.0005	7.8997	5.00E-05	1.5649	0.011499	5.00E-05	0.001	0.0018874	5E-05	0.0003875	0.0026249	0.13475	5.00E-05	0.0015	0.0022499
-1.50	0.21248	1.75E-04	0.00055	0.50997	0.0097497	1.25E-05	5.00E-05	0.0005	0.019999	0.33248	0.0010249	0.0005	9.3994	5.00E-05	1.6649	0.01375	5.00E-05	0.0009999	0.0024998	5E-05	0.0005	0.0022499	0.15574	5.00E-05	0.0017499	0.0024998
-1.42	0.23499	2.12E-04	0.0006	0.52746	0.020249	1.25E-05	5E-05	0.0005	0.019999	0.34997	0.0011	0.0005	9.2243	5.00E-05	1.6049	0.014499	5.00E-05	0.0009999	0.0024998	6.25E-05	0.0005	0.0029998	0.20623	5.00E-05	0.0017499	0.0032498
-1.33	0.12999	7.50E-05	0.00055	0.55995	0.0049997	1.25E-05	5.00E-05	0.0005	0.019998	0.37497	0.001025	0.0005	11.324	5.00E-05	1.8574	0.013999	5.00E-05	0.0009999	0.0024998	5E-05	0.0005	0.0011249	0.095994	5.00E-05	0.0014999	0.0019999
-1.25	0.16749	1.00E-04	0.000525	0.47998	0.0042498	1.25E-05	5.00E-05	0.0005	0.019999	0.35998	0.001	0.0005	9.8496	5.00E-05	1.6224	0.011999	5.00E-05	0.001	0.0024999	5E-05	0.0005	0.0015	0.13649	5.00E-05	0.00125	0.0029999
-1.17	0.12666	0.0001333	0.0005	0.48666	0.0056665	1.25E-05	5E-05	0.0005	0.019999	0.33999	0.0009	0.0005	9.7664	5.00E-05	1.5233	0.012	5.00E-05	0.001	0.0024999	5E-05	0.0005	0.0019999	0.13866	5.00E-05	0.001	0.0023333
-1.08	0.10333	1.00E-04	0.0004	0.40332	0.010333	1.25E-05	5.00E-05	0.0005	0.019999	0.29999	0.0008667	0.0005	9.0331	5.00E-05	1.2466	0.010333	5.00E-05	0.001	0.0016833	5E-05	0.0005	0.0023332	0.12233	5.00E-05	0.001	0.0019999
-1.00	0.064997	5.00E-05	0.00045	0.49997	0.0014999	1.25E-05	6.25E-05	0.0005	0.0099995	0.35748	0.0005	5E-05	0.0008448	5.00E-05	0.012987	5E-05	5.00E-05	0.001	4.999E-05	5E-05	0.0005	0.0002647	0.053748	5.00E-05	0.000875	0.0019999
-0.92	0.052496	5.00E-05	0.0005004	0.55266	0.0017509	1.25E-05	5.05E-05	0.0005001	0.010004	0.37108	0.0007781	0.0005	11.824	5.00E-05	1.825	0.013505	5.00E-05	0.0010003	0.0018903	5.002E-05	0.0005012	0.0012506	0.043259	5.00E-05	0.0008752	0.0020013
-0.83	0.069992	5.043E-05	0.0005032	0.57658	0.0016336	1.25E-05	6.69E-05	0.0005007	0.010041	0.39668	0.0008013	0.0005002	10.925	5.00E-05	1.8463	0.013801	5.01E-05	0.0010031	0.0019114	5.016E-05	0.0005098	0.0016303	0.05335	5.04E-05	0.0008767	0.0020119
-0.75	0.079995	8.77E-05	0.0003266	0.3308	0.0050041	1.25E-05	5.217E-05	0.0005003	0.01002	0.32204	0.000938	0.0005001	6.2252	5.00E-05	0.98821	0.0090256	5.01E-05	0.0010015	0.0018993	5.008E-05	0.0005049	0.0020026	0.11429	5.02E-05	0.0011258	0.0020059
-0.67	0.097491	1.00E-04	0.0004018	0.3509	0.0037547	1.69E-05	5.244E-05	0.0005004	0.010023	0.32011	0.0009146	0.0005001	6.1752	5.00E-05	1.2458	0.0092788	5.01E-05	0.0010017	0.0019008	5.009E-05	0.0005055	0.0022529	0.1313	5.02E-05	0.0007509	0.0020066
-0.58	0.14747	0.0001759	0.0005066	0.46076	0.010516	1.25E-05	5.896E-05	0.0005014	0.010083	0.33128	0.0009287	0.0005003	7.9005	5.00E-05	1.5678	0.011605	5.03E-05	0.0010063	0.0019364	5.033E-05	0.0004076	0.0026356	0.13494	5.089E-05	0.0015033	0.0022742
-0.50	0.2124	0.0001767	0.000563	0.51641	0.0097813	1.25E-05	6.767E-05	0.0005028	0.02016	0.3695	0.0011307	0.0005006	9.4002	5.01E-05	1.6705	0.013957	5.05E-05	0.0010124	0.0025962	5.064E-05	0.0005396	0.0022712	0.15611	5.175E-05	0.0017563	0.0025475
-0.42	0.23486	2.15E-04	0.0006186	0.53667	0.020288	1.25E-05	7.53E-05	0.000504	0.020228	0.40298	0.0012513	0.0005009	9.2255	5.01E-05	1.6129	0.014795	5.07E-05	0.0010177	0.0026377	6.341E-05	0.0005567	0.0030298	0.20672	5.25E-05	0.001759	0.0033176
-0.33	0.12991	7.78E-05	0.000571	0.57031	0.0050536	1.25E-05	7.854E-05	0.0005045	0.020257	0.43473	0.0011957	0.000501	11.324	5.01E-05	1.8662	0.014333	5.08E-05	0.00102	0.0026553	5.104E-05	0.0005639	0.0011599	0.096619	5.282E-05	0.0015104	0.0020771
-0.25	0.16744	0.0001014	0.0005353	0.48508	0.0042765	1.25E-05	6.397E-05	0.0005022	0.020126	0.38925	0.0010836	0.0005005	9.85	5.01E-05	1.6268	0.012164	5.04E-05	0.0010098	0.002576	5.051E-05	0.0005313	0.001517	0.13679	5.138E-05	0.0012552	0.0030374
-0.17	0.12664	0.0001341	0.0005056	0.48944	0.0056809	1.25E-05	5.764E-05	0.0005012	0.020068	0.35599	0.0009457	0.0005003	9.7667	5.00E-05	1.5257	0.012089	5.02E-05	0.0010054	0.0025416	5.028E-05	0.0005171	0.0020092	0.13882	5.08E-05	0.0010029	0.0023539
-0.08	0.10332	1.01E-04	0.0004042	0.40542	0.010343	1.25E-05	5.571E-05	0.0005009	0.020051	0.31197	0.0009009	0.0005002	9.0335	5.00E-05	1.2485	0.0104	5.02E-05	0.001004	0.0017145	5.021E-05	0.0005128	0.0023401	0.12245	5.06E-05	0.0010022	0.0020154

Year	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
-2.00	0.0005	0.0019999	1.50E-05	2.4949	0.0005	5.00E-05	0.0005	0.064997	5.00E-05	0.00045	0.49997	0.0014999	1.25E-05	6.25E-05	0.0005	0.0099995	0.35748	0.0005	5E-05	0.0008448	5.00E-05	0.012987	5E-05	5.00E-05	0.001	4.999E-05	5E-05	0.0005	0.0002647	3.0748
-1.92	0.0005	0.0017499	1.75E-05	2.8473	0.0005	5.00E-05	0.0005	0.052497	5.00E-05	0.0005	0.55247	0.0017499	1.25E-05	5.00E-05	0.0005	0.0099994	0.36998	0.000775	0.0005	11.824	5.00E-05	1.8249	0.013499	5.00E-05	0.0009999	0.0018874	5E-05	0.0005	0.0012499	2.8998
-1.83	0.0005	0.0015	1.50E-05	2.9775	0.0005	5.00E-05	0.0005	0.069998	5E-05	0.0005	0.57498	0.0016249	1.25E-05	6.25E-05	0.0005	0.0099997	0.38749	0.000775	0.0005	10.925	5.00E-05	1.8449	0.013749	5.00E-05	0.001	0.0018874	5E-05	0.0005	0.0016249	3.4499
-1.75	0.0005	0.001	4.00E-05	1.59	0.0005	5.00E-05	0.0005	0.079999	8.75E-05	0.000325	0.33	0.005	1.25E-05	5.00E-05	0.0005	0.0099999	0.3175	0.000925	0.0005	6.225	5.00E-05	0.98749	0.0089999	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.002	5.4249
-1.67	0.0005	0.00175	3.25E-05	1.71	0.0005	5.00E-05	0.0005	0.097495	1E-04	0.0004	0.35	0.0037499	1.69E-05	5.00E-05	0.0005	0.0099999	0.31499	0.0009	0.0005	6.1749	5.00E-05	1.245	0.0092499	5.00E-05	0.001	0.0018875	5E-05	0.0005	0.00225	6.9999
-1.58	0.0005	0.0019999	3.50E-05	2.3499	0.0005	6.25E-05	0.0005	0.14749	0.000175	0.0005	0.45748	0.0105	1.25E-05	5E-05	0.0005	0.0099996	0.31249	0.000875	0.0005	7.8997	5.00E-05	1.5649	0.011499	5.00E-05	0.001	0.0018874	5E-05	0.0003875	0.0026249	7.6247
-1.50	0.0005	0.0019999	3.50E-05	2.7099	0.0005	6.25E-05	0.0005	0.21248	1.75E-04	0.00055	0.50997	0.0097497	1.25E-05	5E-05	0.0005	0.019999	0.33248	0.0010249	0.0005	9.3994	5.00E-05	1.6649	0.01375	5.00E-05	0.0009999	0.0024998	5E-05	0.0005	0.0022499	9.8993
-1.42	0.0005	0.0019998	6.50E-05	2.7573	0.0005	8.75E-05	0.0005	0.23499	2.12E-04	0.0006	0.52746	0.020249	1.25E-05	5E-05	0.0005	0.019999	0.34997	0.0011	0.0005	9.2243	5.00E-05	1.6049	0.014499	5.00E-05	0.0009999	0.0024998	6.25E-05	0.0005	0.0029998	12.824
-1.33	0.0005	0.0017499	2.00E-05	2.8323	0.0005	5.00E-05	0.0005	0.12999	7.5E-05	0.00055	0.55995	0.0049997	1.25E-05	5.00E-05	0.0005	0.019998	0.37497	0.001025	0.0005	11.324	5.00E-05	1.8574	0.013999	5.00E-05	0.0009999	0.0024998	5E-05	5.00E-04	0.0011249	7.3494
-1.25	0.0005	0.0017499	2.12E-05	2.345	0.0005	5.00E-05	0.0005	0.16749	1.00E-04	0.000525	0.47998	0.0042498	1.25E-05	5.00E-05	0.0005	0.019999	0.35998	0.001	0.0005	9.8496	5.00E-05	1.6224	0.011999	5.00E-05	0.001	0.0024999	5E-05	5.00E-04	1.50E-03	8.8497
-1.17	0.0005	0.0016666	4.00E-05	2.2866	0.0005	5.00E-05	0.0005	0.12666	0.0001333	0.0005	0.48666	0.0056665	1.25E-05	5E-05	0.0005	0.019999	0.33999	0.0009	0.0005	9.7664	5.00E-05	1.5233	0.012	5.00E-05	0.001	0.0024999	5E-05	0.0005	0.0019999	7.6665
-1.08	0.0005	0.0016666	5.00E-05	1.92	0.0005	6.67E-05	0.0005	0.10333	1.00E-04	0.0004	0.40332	0.010333	1.25E-05	5.00E-05	0.0005	0.019999	0.29999	0.0008667	0.0005	9.0331	5.00E-05	1.2466	0.010333	5.00E-05	0.001	0.0016833	5E-05	0.0005	0.0023332	6.5998
-1.00	0.0005	0.0019999	1.50E-05	2.4949	0.0005	5.00E-05	0.0005	0.064997	5.00E-05	0.00045	0.49997	0.0014999	1.25E-05	6.25E-05	0.0005	0.0099995	0.35748	0.0005	5E-05	0.0008448	5.00E-05	0.012987	5E-05	5.00E-05	0.001	4.999E-05	5E-05	0.0005	0.0002647	3.0748
-0.92	0.0005	0.0017776	1.75E-05	2.8479	0.0005002	5.00E-05	0.0005002	0.052496	5.00E-05	0.0005004	0.55266	0.0017509	1.25E-05	5.05E-05	0.0005001	0.010004	0.37108	0.0007781	0.0005	11.824	5.00E-05	1.825	0.013505	5.00E-05	0.0010003	0.0018903	5.002E-05	0.0005012	0.0012506	2.8998
-0.83	0.0005	0.0017304	1.50E-05	2.9824	0.0005021	5.01E-05	0.0005021	0.069992	5.043E-05	0.0005032	0.57658	0.0016336	1.25E-05	6.69E-05	0.0005007	0.010041	0.39668	0.0008013	0.0005002	10.925	5.00E-05	1.8463	0.013801	5.01E-05	0.0010031	0.0019114	5.016E-05	0.0005098	0.0016303	3.4496
-0.75	0.0005	0.001114	4.00E-05	1.5925	0.0005011	5.01E-05	0.0005011	0.079995	8.771E-05	0.0003266	0.3308	0.0050041	1.25E-05	5.217E-05	0.0005003	0.01002	0.32204	0.000938	0.0005001	6.2252	5.00E-05	0.98821	0.0090256	5.01E-05	0.0010015	0.0018993	5.008E-05	0.0005049	0.0020026	5.4247
-0.67	0.0005	0.0018782	3.25E-05	1.7127	0.0005012	5.01E-05	0.0005012	0.097491	0.0001002	0.0004018	0.3509	0.0037547	1.69E-05	5.244E-05	0.0005004	0.010023	0.32011	0.0009146	0.0005001	6.1752	5.00E-05	1.2458	0.0092788	5.01E-05	0.0010017	0.0019008	5.009E-05	0.0005055	0.0022529	6.9995
-0.58	0.0004999	0.0024707	3.51E-05	2.36	0.0005044	6.28E-05	0.0005044	0.14747	0.0001759	0.0005066	0.46076	0.010516	1.25E-05	5.896E-05	0.0005014	0.010083	0.33128	0.0009287	0.0005003	7.9005	5.00E-05	1.5678	0.011605	5.03E-05	0.0010063	0.0019364	5.033E-05	0.0004076	0.0026356	7.6233
-0.50	0.0004999	0.0029279	3.51E-05	2.7296	0.0005086	6.31E-05	0.0005086	0.2124	0.0001767	0.000563	0.51641	0.0097813	1.25E-05	6.767E-05	0.0005028	0.02016	0.3695	0.0011307	0.0005006	9.4002	5.01E-05	1.6705	0.013957	5.05E-05	0.0010124	0.0025962	5.064E-05	0.0005396	0.0022712	9.8955
-0.42	0.0004998	0.0033288	6.51E-05	2.7855	0.0005124	8.83E-05	0.0005124	0.23486	2.15E-04	0.0006186	0.53667	0.020288	1.25E-05	7.53E-05	0.000504	0.020228	0.40298	0.0012513	0.0005009	9.2255	5.01E-05	1.6129	0.014795	5.07E-05	0.0010177	0.0026377	6.341E-05	0.0005567	0.0030298	12.817
-0.33	0.0004998	0.0032488	2.02E-05	2.8641	0.0005139	5.10E-05	0.0005139	0.12991	7.78E-05	0.000571	0.57031	0.0050536	1.25E-05	7.854E-05	0.0005045	0.020257	0.43473	0.0011957	0.000501	11.324	5.01E-05	1.8662	0.014333	5.08E-05	0.00102	0.0026553	5.104E-05	0.0005639	0.0011599	7.3447
-0.25	0.0004999	0.002484	2.13E-05	2.3607	0.0005068	5.05E-05	0.0005068	0.16744	1.01E-04	0.0005353	0.48508	0.0042765	1.25E-05	6.397E-05	0.0005022	0.020126	0.38925	0.0010836	0.0005005	9.85	5.01E-05	1.6268	0.012164	5.04E-05	0.0010098	0.002576	5.051E-05	0.0005313	0.001517	8.8469
-0.17	0.0005	0.0020678	4.01E-05	2.2952	0.0005037	5.03E-05	0.0005037	0.12664	0.0001341	0.0005056	0.48944	0.0056809	1.25E-05	5.764E-05	0.0005012	0.020068	0.35599	0.0009457	0.0005003	9.7667	5.00E-05	1.5257	0.012089	5.02E-05	0.0010054	0.0025416	5.028E-05	0.0005171	0.0020092	7.6652
-0.08	0.0005	0.0019667	5.00E-05	1.9265	0.0005028	6.69E-05	0.0005028	0.10332	1.01E-04	0.0004042	0.40542	0.010343	1.25E-05	5.571E-05	0.0005009	0.020051	0.31197	0.0009009	0.0005002	9.0335	5.00E-05	1.2485	0.0104	5.02E-05	0.001004	0.0017145	5.021E-05	0.0005128	0.0023401	6.599

TABLE B3.6

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR BIRD BROOK

Knight Piésold CONSULTING

TABLE B3.6

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR BIRD BROOK

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
67.83	15.444	8.3393	0	0.040026	0.1111	0.0047279	2.6693	0.0047152	1.1937	0.28253	0.16103	0.0005005	0.0038504	0.0070916	0.0004826	0.093592
67.92	12.665	7.8331	0	0.084555	0.11672	0.0047722	2.5855	0.0047577	1.1118	0.2339	0.1366	0.0005008	0.004025	0.0056807	0.0004847	0.071257
68.00	16.078	11.824	0	0.056871	0.18192	0.015962	2.9521	0.004643	0.98935	0.24685	0.089744	0.0007919	0.0060631	0.0069388	0.000477	0.094462
68.08	17.306	13.099	0	0.067187	0.20669	0.0046219	2.6957	0.0045879	1.3467	0.24551	0.083379	0.0009797	0.0075208	0.0072437	0.0004729	0.099122
68.17	25.89	15.651	0	0.04198	0.15994	0.0054128	4.128	0.0044432	1.0389	0.44226	0.13716	0.0007598	0.004971	0.012394	0.000467	0.20149
68.25	12.155	6.0846	0	0.030125	0.033482	0.0080022	1.8845	0.0047902	0.88117	0.23758	0.13741	0.0002997	0.0024755	0.0060117	0.0004877	0.078424
68.33	12.02	7.0946	0	0.077491	0.068277	0.0097749	1.7797	0.0047956	1.0909	0.23188	0.14263	0.0003437	0.002581	0.0055773	0.0004876	0.070266
68.42	23.255	13.588	0	0.047632	0.047122	0.012466	4.0457	0.0044514	1.1909	0.43721	0.18805	0.0008278	0.0060668	0.011874	0.0004669	0.18774
68.50	32.824	18	0	0.058197	0.088839	0.017402	6.4442	0.0041484	1.21	0.65261	0.24844	0.0012329	0.0086337	0.017617	0.0004488	0.29468
68.58	37.924	19.412	0	0.067119	0.05235	0.0065904	7.3199	0.0048289	1.2883	0.76777	0.30744	0.0015127	0.010378	0.021297	0.0004379	0.35525
68.67	37.952	20.436	0	0.1037	0.073159	0.0040076	7.4903	0.0039702	1.4527	0.73555	0.23158	0.0015131	0.010215	0.020417	0.0004382	0.35471
68.75	22.168	12.613	0	0.047315	0.13903	0.0055016	3.7221	0.0044906	1.5262	0.41429	0.19117	0.0007938	0.0057551	0.011794	0.0004693	0.17407
68.83	15.444	8.3384	0	0.040024	0.11109	0.0047279	2.6692	0.0047152	1.1937	0.28253	0.16102	0.0005005	0.0038501	0.0070915	0.0004826	0.09359
68.92	12.665	7.8322	0	0.084554	0.11672	0.0047722	2.5854	0.0047577	1.1118	0.2339	0.1366	0.0005008	0.0040247	0.0056806	0.0004847	0.071256
69.00	16.078	11.822	0	0.056868	0.18192	0.015962	2.952	0.004643	0.98934	0.24685	0.089744	0.0007918	0.0060628	0.0069387	0.000477	0.09446
69.08	17.306	13.097	0	0.067185	0.20669	0.0046219	2.6957	0.0045879	1.3467	0.24551	0.083378	0.0009796	0.0075205	0.0072436	0.0004729	0.09912
69.17	25.89	15.651	0	0.041982	0.15994	0.0054129	4.128	0.0044432	1.0389	0.44226	0.13716	0.0007598	0.0049713	0.012394	0.000467	0.20149
69.25	12.155	6.0847	0	0.030126	0.033483	0.0080022	1.8846	0.0047902	0.88117	0.23758	0.13741	0.0002997	0.0024756	0.0060118	0.0004877	0.078425
69.33	12.019	7.0943	0	0.077489	0.068276	0.0097749	1.7797	0.0047956	1.0909	0.23187	0.14263	0.0003437	0.0025809	0.0055772	0.0004876	0.070265
69.42	23.254	13.586	0	0.047625	0.047119	0.012466	4.0455	0.0044514	1.1909	0.43719	0.18805	0.0008277	0.0060658	0.011873	0.0004669	0.18774
69.50	32.823	17.998	0	0.058185	0.088834	0.017402	6.4438	0.0041484	1.2099	0.65258	0.24844	0.0012327	0.008632	0.017616	0.0004488	0.29467
69.58	37.923	19.41	0	0.067106	0.052345	0.0065904	7.3195	0.0048289	1.2882	0.76775	0.30743	0.0015125	0.010376	0.021296	0.0004379	0.35524
69.67	37.952	20.435	0	0.10369	0.073157	0.0040076	7.4901	0.0039703	1.4527	0.73554	0.23157	0.001513	0.010214	0.020416	0.0004382	0.3547
69.75	22.168	12.613	0	0.047315	0.13903	0.0055016	3.7221	0.0044906	1.5262	0.41429	0.19117	0.0007938	0.0057551	0.011794	0.0004693	0.17407

Year	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]
67.83	5.00E-05	4.2328	0.0013863	0.0001186	0.0015752	0.11076	0.0002961	0.0023652	1.1877	0.011404	1.18E-05	0.0037989	0.0007904	0.034246	3.8324	0.012731	0.0005597	9.9899	5.642E-05	2.372	0.039327	0.000104	0.0023311	0.011674	0.0002579	0.0047776	0.0040496	0.16106
67.92	5.51E-05	3.4602	0.0011836	0.0001191	0.0014013	0.091351	0.0002267	0.0020577	0.97592	0.014753	1.19E-05	0.0036788	0.0007255	0.03014	2.8833	0.010366	0.0005444	9.4334	5.46E-05	2.0641	0.034044	9.226E-05	0.0020489	0.0086417	0.0002645	0.0038794	0.0037973	0.13664
68.00	3.15E-05	4.3501	0.0014255	0.0001289	0.0018119	0.05863	0.0002334	0.0029355	1.2655	0.011163	1.16E-05	0.0059109	0.0008073	0.025925	3.6877	0.013929	0.0002632	4.5142	5.584E-05	1.8127	0.039525	0.000108	0.0024484	0.0098214	0.0004094	0.0051772	0.0027453	0.089806
68.08	3.51E-05	4.6616	0.0014912	0.0001381	0.0019993	0.048789	0.0002455	0.0034103	1.3747	0.013473	1.15E-05	0.007281	0.0008311	0.026656	3.7769	0.015575	0.0005602	11.571	5.58E-05	3.1193	0.052972	0.000113	0.0025802	0.011279	0.0005058	0.0056138	0.0036391	0.08346
68.17	4.45E-05	7.0492	0.0023966	0.00019	0.0026236	0.060304	0.0004318	0.0039994	2.0141	0.012727	1.11E-05	0.0062679	0.0011176	0.045026	8.1403	0.025221	0.0006313	10.889	6.453E-05	3.3306	0.066103	0.0001639	0.0037934	0.022344	0.0003617	0.009457	0.0062382	0.1372
68.25	4.78E-05	3.3659	0.0012305	0.0001033	0.0013014	0.073908	0.0002293	0.0016524	0.91569	0.0085419	1.20E-05	0.0022724	0.0007375	0.023561	3.3405	0.010234	0.0005509	6.9436	5.567E-05	1.6589	0.029327	9.371E-05	0.0020708	0.0098223	0.0001576	0.0039318	0.0037053	0.13742
68.33	3.963E-05	3.3316	0.0011556	9.968E-05	0.0012678	0.086283	0.0002214	0.0017237	0.89653	0.0076796	1.55E-05	0.0025412	0.0007141	0.021966	2.9524	0.009502	0.0005445	7.2302	5.486E-05	1.9179	0.029282	8.966E-05	0.001976	0.008848	0.0001831	0.0036344	0.0036648	0.14265
68.42	5.749E-05	6.2671	0.002276	0.000193	0.0025674	0.11461	0.0004956	0.003996	1.8511	0.019532	1.11E-05	0.0066714	0.0010798	0.042465	7.4631	0.024151	0.000621	8.7691	6.322E-05	3.1248	0.063603	0.0001573	0.0036402	0.020783	0.0004012	0.0088965	0.0066161	0.1881
68.50	7.301E-05	8.7101	0.0032935	0.0002687	0.0037236	0.15693	0.0006996	0.0059556	2.6665	0.025151	1.04E-05	0.010176	0.0014116	0.068237	11.611	0.037459	0.0006911	9.7102	7.095E-05	4.01	0.093845	0.0002186	0.0051442	0.032133	0.0005811	0.0138	0.0088636	0.24851
68.58	0.0001026	9.9686	0.0038759	0.0003304	0.0044188	0.16816	0.0008402	0.0071835	3.1303	0.036319	9.94E-06	0.012523	0.0016023	0.078652	13.932	0.045235	0.0007308	9.5433	7.524E-05	4.4779	0.11179	0.0002539	0.0060155	0.038258	0.0007179	0.016598	0.010801	0.30753
68.67	7.153E-05	10.013	0.0038728	0.0003043	0.0044164	0.096243	0.0007449	0.0071465	3.1507	0.025819	9.95E-06	0.012524	0.0016015	0.078648	13.934	0.045147	0.0007308	10.995	7.523E-05	4.6497	0.1114	0.0002538	0.0060114	0.038223	0.0007096	0.016583	0.0094993	0.23166
68.75	4.618E-05	5.9434	0.0021501	0.0001752	0.0024355	0.13874	0.0004209	0.0038087	1.767	0.0147	1.12E-05	0.0063522	0.0010393	0.048035	6.964	0.022678	0.0006125	10.017	6.226E-05	3.0595	0.06064	0.0001499	0.0034578	0.019876	0.0003874	0.0083902	0.0055233	0.19122
68.83	5.00E-05	4.2328	0.0013863	0.0001186	0.0015751	0.11076	0.0002961	0.0023651	1.1877	0.011404	1.18E-05	0.0037986	0.0007904	0.034246	3.8323	0.012731	0.0005597	9.9898	5.642E-05	2.3716	0.039326	0.000104	0.0023311	0.011674	0.0002579	0.0047775	0.0040496	0.16105
68.92	5.51E-05	3.4602	0.0011836	0.0001191	0.0014012	0.091351	0.0002267	0.0020576	0.97591	0.014752	1.19E-05	0.0036786	0.0007255	0.03014	2.8832	0.010366	0.0005444	9.4333	5.46E-05	2.0637	0.034043	9.226E-05	0.0020489	0.0086416	0.0002645	0.0038792	0.0037972	0.13664
69.00	3.15E-05	4.3501	0.0014255	0.0001289	0.0018119	0.05863	0.0002334	0.0029353	1.2655	0.011162	1.16E-05	0.0059106	0.0008073	0.025924	3.6876	0.013929	0.0002632	4.5141	5.584E-05	1.8121	0.039524	0.000108	0.0024483	0.0098212	0.0004094	0.005177	0.0027452	0.089805
69.08	3.51E-05	4.6616	0.0014912	0.0001381	0.0019992	0.048789	0.0002455	0.0034102	1.3747	0.013473	1.15E-05	0.0072807	0.0008311	0.026655	3.7768	0.015574	0.0005602	11.571	5.58E-05	3.1186	0.052971	0.000113	0.0025802	0.011278	0.0005057	0.0056137	0.0036391	0.083459
69.17	4.45E-05	7.0492	0.0023966	0.00019	0.0026236	0.060305	0.0004318	0.0039995	2.0142	0.012728	1.11E-05	0.0062682	0.0011176	0.045026	8.1404	0.025222	0.0006313	10.889	6.453E-05	3.3306	0.066105	0.0001639	0.0037935	0.022344	0.0003617	0.0094571	0.0062383	0.1372
69.25	4.78E-05	3.3659	0.0012305	0.0001033	0.0013014	0.073908	0.0002293	0.0016524	0.9157	0.0085422	1.20E-05	0.0022725	0.0007375	0.023561	3.3405	0.010234	0.0005509	6.9436	5.567E-05	1.6589	0.029327	9.371E-05	0.0020709	0.0098224	0.0001576	0.0039319	0.0037054	0.13742
69.33	3.963E-05	3.3316	0.0011556	9.968E-05	0.0012677	0.086283	0.0002214	0.0017237	0.89652	0.0076793	1.55E-05	0.002541	0.0007141	0.021965	2.9524	0.0095018	0.0005445	7.2302	5.486E-05	1.9177	0.029281	8.966E-05	0.001976	0.0088479	0.0001831	0.0036343	0.0036648	0.14265
69.42	5.749E-05	6.267	0.002276	0.000193	0.0025672	0.11461	0.0004956	0.0039956	1.851	0.019531	1.11E-05	0.0066705	0.0010798	0.042464	7.4629	0.02415	0.000621	8.769	6.322E-05	3.1244	0.063598	0.0001573	0.00364	0.020782	0.0004011	0.0088961	0.0066159	0.1881
69.50	7.301E-05	8.7098	0.0032934	0.0002687	0.0037233	0.15693	0.0006995	0.005955	2.6664	0.025148	1.04E-05	0.010174	0.0014115	0.068235	11.61	0.037457	0.0006911	9.71	7.095E-05	4.0094	0.093837	0.0002186	0.0051439	0.032132	0.000581	0.0138	0.0088633	0.24851
69.58	0.0001026	9.9684	0.0038758	0.0003303	0.0044185	0.16816	0.0008402	0.0071829	3.1302	0.036316	9.94E-06	0.012522	0.0016022	0.07865	13.932	0.045232	0.0007308	9.5431	7.524E-05	4.4771	0.11178	0.0002539	0.0060152	0.038257	0.0007178	0.016597	0.010801	0.30752
69.67	7.153E-05	10.013	0.0038727	0.0003043	0.0044162	0.096243	0.0007449	0.0071461	3.1506	0.025818	9.95E-06	0.012523	0.0016014	0.078647	13.934	0.045146	0.0007308	10.995	7.523E-05	4.6491	0.11139	0.0002538	0.0060112	0.038222	0.0007095	0.016583	0.0094992	0.23166
69.75	4.618E-05	5.9434	0.0021501	0.0001752	0.0024355	0.13874	0.0004209	0.0038087	1.767	0.0147	1.12E-05	0.0063522	0.0010393	0.048035	6.964	0.022678	0.0006125	10.017	6.226E-05	3.0593	0.060641	0.0001499	0.0034578	0.019876	0.0003874	0.0083902	0.0055233	0.19122

Year	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
67.83	0.0005005	0.0038504	0.0070917	0.0004826	0.093592	5.00E-05	4.233	0.0013863	0.0001186	0.0015752	0.11079	0.0002962	0.0023653	1.1877	0.011406	1.18E-05	0.0037989	0.0007904	0.034249	3.8324	0.012731	0.0005597	9.9899	5.642E-05	2.372	0.039328	0.000104	0.0023311	0.011674	0.000258	0.0047777	0.0040498	6.6665
67.92	0.0005008	0.004025	0.0056808	0.0004847	0.071257	5.51E-05	3.4604	0.0011836	0.0001192	0.0014013	0.091375	0.0002267	0.0020578	0.97594	0.014755	1.19E-05	0.0036789	0.0007255	0.030144	2.8833	0.010366	0.0005444	9.4334	5.46E-05	2.0642	0.034045	9.226E-05	0.0020489	0.0086418	0.0002646	0.0038795	0.0037975	5.7644
68.00	0.0007919	0.0060632	0.006939	0.000477	0.094462	3.15E-05	4.3503	0.0014255	0.0001289	0.0018119	0.058672	0.0002336	0.0029357	1.2655	0.011167	1.16E-05	0.0059109	0.0008073	0.02593	3.6877	0.01393	0.0002632	4.5142	5.584E-05	1.8128	0.039526	0.000108	0.0024484	0.0098215	0.0004095	0.0051775	0.0027457	2.8445
68.08	0.0009797	0.0075209	0.007244	0.0004729	0.099122	3.51E-05	4.6619	0.0014912	0.0001381	0.0019993	0.048844	0.0002456	0.0034105	1.3748	0.013479	1.15E-05	0.007281	0.0008311	0.026663	3.7769	0.015575	0.0005602	11.571	5.58E-05	3.1195	0.052974	0.000113	0.0025802	0.011279	0.0005059	0.0056142	0.0036397	2.6871
68.17	0.0007598	0.0049711	0.012394	0.000467	0.20149	4.45E-05	7.0493	0.0023966	0.00019	0.0026236	0.060329	0.0004319	0.0039995	2.0141	0.01273	1.11E-05	0.0062679	0.0011176	0.045029	8.1403	0.025221	0.0006313	10.889	6.453E-05	3.3307	0.066104	0.0001639	0.0037934	0.022344	0.0003617	0.0094572	0.0062385	3.0086
68.25	0.0002997	0.0024755	0.0060117	0.0004877	0.078424	4.78E-05	3.3659	0.0012305	0.0001033	0.0013014	0.073915	0.0002293	0.0016524	0.91569	0.0085427	1.20E-05	0.0022724	0.0007375	0.023562	3.3405	0.010234	0.0005509	6.9436	5.567E-05	1.6589	0.029327	9.371E-05	0.0020708	0.0098223	0.0001576	0.0039319	0.0037054	4.9415
68.33	0.0003437	0.0025811	0.0055773	0.0004876	0.070266	3.963E-05	3.3317	0.0011556	9.968E-05	0.0012678	0.086296	0.0002215	0.0017238	0.89654	0.0076809	1.55E-05	0.0025412	0.0007141	0.021967	2.9524	0.0095021	0.0005445	7.2302	5.486E-05	1.9179	0.029282	8.966E-05	0.001976	0.0088481	0.0001831	0.0036345	0.003665	6.0483
68.42	0.0008278	0.0060669	0.011874	0.0004669	0.18774	5.749E-05	6.2673	0.002276	0.000193	0.0025674	0.11464	0.0004957	0.0039961	1.8511	0.019535	1.11E-05	0.0066714	0.0010798	0.04247	7.4631	0.024151	0.000621	8.7691	6.322E-05	3.1249	0.063603	0.0001573	0.0036402	0.020783	0.0004012	0.0088967	0.0066164	5.9544
68.50	0.0012329	0.0086338	0.017617	0.0004488	0.29468	7.302E-05	8.7103	0.0032935	0.0002687	0.0037236	0.15697	0.0006997	0.0059559	2.6665	0.025156	1.04E-05	0.010176	0.0014116	0.068244	11.611	0.037459	0.0006911	9.7102	7.095E-05	4.0102	0.093846	0.0002186	0.0051442	0.032133	0.0005812	0.013801	0.008864	7.3646
68.58	0.0015128	0.010378	0.021297	0.0004379	0.35525	0.0001026	9.9689	0.0038759	0.0003304	0.0044188	0.16822	0.0008404	0.0071838	3.1304	0.036325	9.94E-06	0.012523	0.0016023	0.07866	13.932	0.045235	0.0007308	9.5433	7.524E-05	4.478	0.11179	0.0002539	0.0060155	0.038258	0.000718	0.016598	0.010802	9.1721
68.67	0.0015131	0.010215	0.020417	0.0004382	0.35471	7.153E-05	10.014	0.0038728	0.0003043	0.0044164	0.096303	0.000745	0.0071468	3.1507	0.025826	9.95E-06	0.012524	0.0016015	0.078656	13.934	0.045147	0.0007308	10.995	7.523E-05	4.6499	0.1114	0.0002538	0.0060114	0.038223	0.0007097	0.016584	0.0094999	5.4243
68.75	0.0007938	0.0057551	0.011794	0.0004693	0.17407	4.618E-05	5.9436	0.0021501	0.0001752	0.0024355	0.13877	0.000421	0.0038088	1.767	0.014703	1.12E-05	0.0063522	0.0010393	0.048039	6.964	0.022678	0.0006125	10.017	6.226E-05	3.0596	0.060641	0.0001499	0.0034578	0.019877	0.0003874	0.0083904	0.0055236	7.3393
68.83	0.0005005	0.0038501	0.0070916	0.0004826	0.09359	5.00E-05	4.2329	0.0013863	0.0001186	0.0015751	0.11079	0.0002962	0.0023652	1.1877	0.011406	1.18E-05	0.0037986	0.0007904	0.034248	3.8323	0.012731	0.0005597	9.9898	5.642E-05	2.3716	0.039327	0.000104	0.0023311	0.011674	0.0002579	0.0047776	0.0040498	6.6666
68.92	0.0005008	0.0040248	0.0056807	0.0004847	0.071256	5.51E-05	3.4603	0.0011836	0.0001191	0.0014012	0.091375	0.0002267	0.0020577	0.97592	0.014755	1.19E-05	0.0036786	0.0007255	0.030143	2.8832	0.010366	0.0005444	9.4333	5.46E-05	2.0638	0.034044	9.226E-05	0.0020489	0.0086416	0.0002646	0.0038794	0.0037975	5.7644
69.00	0.0007918	0.0060629	0.0069389	0.000477	0.09446	3.15E-05	4.3503	0.0014255	0.0001289	0.0018119	0.058672	0.0002336	0.0029356	1.2655	0.011167	1.16E-05	0.0059106	0.0008073	0.02593	3.6877	0.013929	0.0002632	4.5141	5.584E-05	1.8122	0.039525	0.000108	0.0024483	0.0098214	0.0004095	0.0051773	0.0027457	2.8445
69.08	0.0009796	0.0075206	0.0072439	0.0004729	0.09912	3.51E-05	4.6618	0.0014912	0.0001381	0.0019992	0.048844	0.0002456	0.0034104	1.3747	0.013479	1.15E-05	0.0072807	0.0008311	0.026663	3.7768	0.015574	0.0005602	11.571	5.58E-05	3.1188	0.052972	0.000113	0.0025802	0.011279	0.0005058	0.0056141	0.0036397	2.6871
69.17	0.0007598	0.0049714	0.012395	0.000467	0.20149	4.45E-05	7.0494	0.0023966	0.00019	0.0026236	0.060329	0.0004319	0.0039996	2.0142	0.01273	1.11E-05	0.0062682	0.0011176	0.045029	8.1404	0.025222	0.0006313	10.889	6.453E-05	3.3306	0.066105	0.0001639	0.0037935	0.022344	0.0003617	0.0094573	0.0062385	3.0086
69.25	0.0002997	0.0024756	0.0060118	0.0004877	0.078425	4.78E-05	3.3659	0.0012305	0.0001033	0.0013014	0.073916	0.0002293	0.0016524	0.9157	0.0085429	1.20E-05	0.0022725	0.0007375	0.023562	3.3405	0.010234	0.0005509	6.9436	5.567E-05	1.6589	0.029327	9.371E-05	0.0020709	0.0098224	0.0001577	0.0039319	0.0037055	4.9415
69.33	0.0003437	0.0025809	0.0055773	0.0004876	0.070265	3.963E-05	3.3317	0.0011556	9.968E-05	0.0012677	0.086296	0.0002215	0.0017237	0.89652	0.0076806	1.55E-05	0.002541	0.0007141	0.021967	2.9524	0.0095018	0.0005445	7.2302	5.486E-05	1.9178	0.029281	8.966E-05	0.001976	0.008848	0.0001831	0.0036344	0.0036649	6.0483
69.42	0.0008277	0.0060659	0.011873	0.0004669	0.18774	5.749E-05	6.2671	0.002276	0.000193	0.0025672	0.11464	0.0004957	0.0039958	1.851	0.019534	1.11E-05	0.0066705	0.0010798	0.042468	7.4629	0.02415	0.000621	8.769	6.322E-05	3.1244	0.063599	0.0001573	0.00364	0.020783	0.0004011	0.0088963	0.0066162	5.9544
69.50	0.0012327	0.008632	0.017616	0.0004488	0.29467	7.301E-05	8.7101	0.0032934	0.0002687	0.0037233	0.15697	0.0006997	0.0059553	2.6664	0.025153	1.04E-05	0.010174	0.0014115	0.068242	11.61	0.037457	0.0006911	9.71	7.095E-05	4.0095	0.093838	0.0002186	0.0051439	0.032132	0.0005811	0.0138	0.0088637	7.3646
69.58	0.0015125	0.010376	0.021296	0.0004379	0.35524	0.0001026	9.9687	0.0038758	0.0003303	0.0044185	0.16822	0.0008404	0.0071832	3.1302	0.036322	9.94E-06	0.012522	0.0016022	0.078658	13.932	0.045232	0.0007308	9.5431	7.524E-05	4.4773	0.11178	0.0002539	0.0060152	0.038257	0.0007179	0.016597	0.010801	9.1721
69.67	0.001513	0.010214	0.020417	0.0004382	0.3547	7.153E-05	10.014	0.0038727	0.0003043	0.0044162	0.096303	0.000745	0.0071464	3.1507	0.025824	9.95E-06	0.012523	0.0016014	0.078655	13.934	0.045146	0.0007308	10.995	7.523E-05	4.6492	0.1114	0.0002538	0.0060112	0.038222	0.0007096	0.016583	0.0094997	5.4243
69.75	0.0007938	0.0057551	0.011794	0.0004693	0.17407	4.618E-05	5.9436	0.0021501	0.0001752	0.0024355	0.13877	0.000421	0.0038088	1.767	0.014703	1.12E-05	0.0063522	0.0010393	0.048039	6.964	0.022678	0.0006125	10.017	6.226E-05	3.0594	0.060641	0.0001499	0.0034578	0.019877	0.0003874	0.0083904	0.0055236	7.3393

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB

Knight Piésold
CONSULTING

TABLE B3.7

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR SISSON BROOK

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
-2.00	8.438	6	0	0.025	0.182	0.005	1.9	0.005	0.99	0.105	0.0598	5.00E-05	0.0009	0.002	0.0005	0.0009	1.50E-05	2.328	0.0005	5.00E-05	0.001
-1.92	9.472	7.4	0	0.07	0.216	0.01	2.4	0.005	1.06	0.114	0.0518	5.00E-05	0.0009	0.002	0.0005	0.001	2.00E-05	2.664	0.0005	5.00E-05	0.0009
-1.83	9.79	7	0	0.025	0.218	0.008	1.4	0.005	0.98	0.116	0.0584	5.00E-05	0.0008	0.002	0.0005	0.001	2.00E-05	2.796	0.0005	5.00E-05	0.0009
-1.75	5.842	3.2	0	0.025	0.087	0.016	1.4	0.005	0.79	0.103	0.0996	5.00E-05	0.0007	0.002	0.0005	0.0008	2.20E-05	1.632	0.0005	5.00E-05	0.0016
-1.67	6.1125	4.5	0	0.025	0.04125	0.00625	1.125	0.005	0.875	0.1175	0.08225	5.00E-05	0.001	0.002	0.0005	0.00125	2.00E-05	1.675	0.0005	5.00E-05	0.0015
-1.58	8.0425	6.25	0	0.03125	0.03375	0.005	1.625	0.005	1.05	0.145	0.10075	5.00E-05	0.0015	0.00225	0.0005	0.00175	3.00E-05	2.2425	0.0005	5.00E-05	0.00175
-1.50	8.9825	6.75	0	0.03	0.06625	0.00875	0.875	0.005	1.15	0.1575	0.113	5.00E-05	0.00225	0.002	0.0005	0.002	4.25E-05	2.53	0.0005	5.00E-05	0.00175
-1.42	9.44	7.2	0	0.025	0.058	0.009	0.8	0.005	1.1	0.166	0.1164	5.00E-05	0.002	0.0022	0.0005	0.0017	3.80E-05	2.632	0.0005	5.00E-05	0.0021
-1.33	9.596	7.8	0	0.065	0.06	0.008	2	0.005	1.16	0.134	0.095	5.00E-05	0.0014	0.0022	0.0005	0.0017	2.80E-05	2.688	0.0005	5.00E-05	0.0018
-1.25	8.292	5.8	0	0.025	0.049	0.009	1.7	0.005	1.54	0.156	0.095	5.00E-05	0.0014	0.0026	0.0005	0.0014	2.80E-05	2.282	0.0005	5.00E-05	0.0017
-1.17	7.042	3.8	0	0.025	0.097	0.007	1.6	0.005	1.38	0.138	0.123	5.00E-05	0.0006	0.0024	0.0005	0.0014	2.84E-05	1.934	0.0005	5.00E-05	0.0016
-1.08	6.536	5	0	0.025	0.093	0.005	1.9	0.005	0.94	0.102	0.0858	5.00E-05	0.0005	0.0017	0.0005	0.001	2.20E-05	1.758	0.0005	5.00E-05	0.0014
-1.00	8.438	6	0	0.025	0.182	0.005	1.9	0.005	0.99	0.105	0.0598	5.00E-05	0.0009	0.002	0.0005	0.0009	1.50E-05	2.328	0.0005	5.00E-05	0.001
-0.92	9.472	7.4	0	0.07	0.216	0.01	2.4	0.005	1.06	0.114	0.0518	5.00E-05	0.0009	0.002	0.0005	0.001	2.00E-05	2.664	0.0005	5.00E-05	0.0009
-0.83	9.79	7	0	0.025	0.218	0.008	1.4	0.005	0.98	0.116	0.0584	5.00E-05	0.0008	0.002	0.0005	0.001	2.00E-05	2.796	0.0005	5.00E-05	0.0009
-0.75	5.842	3.2	0	0.025	0.087	0.016	1.4	0.005	0.79	0.103	0.0996	5.00E-05	0.0007	0.002	0.0005	0.0008	2.20E-05	1.632	0.0005	5.00E-05	0.0016
-0.67	6.1125	4.5	0	0.025	0.04125	0.00625	1.125	0.005	0.875	0.1175	0.08225	5.00E-05	0.001	0.002	0.0005	0.00125	2.00E-05	1.675	0.0005	5.00E-05	0.0015
-0.58	8.0425	6.25	0	0.03125	0.03375	0.005	1.625	0.005	1.05	0.145	0.10075	5.00E-05	0.0015	0.00225	0.0005	0.00175	3.00E-05	2.2425	0.0005	5.00E-05	0.00175
-0.50	8.9825	6.75	0	0.03	0.06625	0.00875	0.875	0.005	1.15	0.1575	0.113	0.00005	0.00225	0.002	0.0005	0.002	4.25E-05	2.53	0.0005	5.00E-05	0.00175
-0.42	9.44	7.2	0	0.025	0.058	0.009	0.8	0.005	1.1	0.166	0.1164	0.00005	0.002	0.0022	0.0005	0.0017	3.80E-05	2.632	0.0005	5.00E-05	0.0021
-0.33	9.596	7.8	0	0.065	0.06	0.008	2	0.005	1.16	0.134	0.095	0.00005	0.0014	0.0022	0.0005	0.0017	2.80E-05	2.688	0.0005	5.00E-05	0.0018
-0.25	8.292	5.8	0	0.025	0.049	0.009	1.7	0.005	1.54	0.156	0.095	0.00005	0.0014	0.0026	0.0005	0.0014	2.80E-05	2.282	0.0005	5.00E-05	0.0017
-0.17	7.042	3.8	0	0.025	0.097	0.007	1.6	0.005	1.38	0.138	0.123	5.00E-05	0.0006	0.0024	0.0005	0.0014	2.84E-05	1.934	0.0005	5.00E-05	0.0016
-0.08	6.536	5	0	0.025	0.093	0.005	1.9	0.005	0.94	0.102	0.0858	5.00E-05	0.0005	0.0017	0.0005	0.001	2.20E-05	1.758	0.0005	5.00E-05	0.0014

Year	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]
-2.00	0.094	5.00E-05	0.00034	0.608	0.0024	1.25E-05	4.00E-03	0.0005	0.01	0.36	0.00148	0.0005	9.28	5.00E-05	1.484	0.0134	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0016	0.0598	5.00E-05	0.0009	0.002	0.0005	0.0009
-1.92	0.096	5.00E-05	0.00036	0.662	0.0024	1.25E-05	4.78E-03	0.0005	0.01	0.386	0.00148	0.0005	10.04	5.00E-05	1.622	0.0146	5.00E-05	0.001	0.0021	0.00005	0.0005	0.0018	0.0518	5.00E-05	0.0009	0.002	0.0005	0.001
-1.83	0.114	0.00005	0.0004	0.67	0.0026	1.25E-05	5.22E-03	0.0005	0.01	0.41	0.00146	0.0005	9.42	5.00E-05	1.68	0.015	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0019	0.0584	5.00E-05	0.0008	0.002	0.0005	0.001
-1.75	0.078	5.00E-05	0.0003	0.432	0.007	1.25E-05	2.12E-03	0.0005	0.01	0.352	0.00136	0.0005	5.44	5.00E-05	1.116	0.0096	5.00E-05	0.001	0.00206	0.00005	0.0005	0.0024	0.0996	5.00E-05	0.0007	0.002	0.0005	0.0008
-1.67	0.07	5.00E-05	0.00035	0.4525	0.003	1.25E-05	3.35E-03	0.0005	0.01	0.3175	0.0014	0.0005	4.825	5.00E-05	1.155	0.0105	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	0.08225	5.00E-05	0.001	0.002	0.0005	0.00125
-1.58	0.165	7.50E-05	0.00045	0.575	0.00475	1.25E-05	5.03E-03	0.0005	0.01	0.345	0.00155	0.0005	5.925	5.00E-05	1.4525	0.01325	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	0.10075	5.00E-05	0.0015	0.00225	0.0005	0.00175
-1.50	0.2825	1.13E-04	0.0004	0.6225	0.00925	1.69E-05	6.13E-03	0.0005	0.01	0.3525	0.00175	0.0005	6.7	5.00E-05	1.4675	0.01525	5.00E-05	0.001	0.0025	0.00005	0.0005	0.00225	0.113	5.00E-05	0.00225	0.002	0.0005	0.002
-1.42	0.234	9.00E-05	0.00044	0.664	0.0096	1.25E-05	0.00672	0.0005	0.01	0.416	0.00204	0.0005	7.84	5.00E-05	1.558	0.0158	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0024	0.1164	5.00E-05	0.002	0.0022	0.0005	0.0017
-1.33	0.192	7.00E-05	0.00042	0.684	0.0092	1.25E-05	5.22E-03	0.0005	0.01	0.39	0.00174	0.0005	9	5.00E-05	1.682	0.0158	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0018	0.095	5.00E-05	0.0014	0.0022	0.0005	0.0017
-1.25	0.16	5.00E-05	0.00042	0.6	0.0062	1.25E-05	2.95E-03	0.0005	0.01	0.41	0.00166	0.0005	7.9	5.00E-05	1.494	0.0136	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0022	0.095	5.00E-05	0.0014	0.0026	0.0005	0.0014
-1.17	0.142	0.00008	0.0004	0.54	0.0064	1.25E-05	0.00264	0.0005	0.01	0.392	0.0017	0.0005	7.14	5.00E-05	1.276	0.0116	5.00E-05	0.001	0.0025	0.00005	0.0005	0.003	0.123	5.00E-05	0.0006	0.0024	0.0005	0.0014
-1.08	0.078	6.00E-05	0.00036	0.486	0.0052	2.00E-05	2.44E-03	0.0005	0.01	0.334	0.00146	0.0005	7.94	5.00E-05	1.214	0.0104	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0024	0.0858	5.00E-05	0.0005	0.0017	0.0005	0.001
-1.00	0.094	5.00E-05	0.00034	0.608	0.0024	1.25E-05	4.00E-03	0.0005	0.01	0.36	0.00148	0.0005	9.28	5.00E-05	1.484	0.0134	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0016	0.0598	5.00E-05	0.0009	0.002	0.0005	0.0009
-0.92	0.096	5.00E-05	0.00036	0.662	0.0024	1.25E-05	4.78E-03	0.0005	0.01	0.386	0.00148	0.0005	10.04	5.00E-05	1.622	0.0146	5.00E-05	0.001	0.0021	0.00005	0.0005	0.0018	0.0518	5.00E-05	0.0009	0.002	0.0005	0.001
-0.83	0.114	0.00005	0.0004	0.67	0.0026	1.25E-05	5.22E-03	0.0005	0.01	0.41	0.00146	0.0005	9.42	5.00E-05	1.68	0.015	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0019	0.0584	5.00E-05	0.0008	0.002	0.0005	0.001
-0.75	0.078	5.00E-05	0.0003	0.432	0.007	1.25E-05	0.00212	0.0005	0.01	0.352	0.00136	0.0005	5.44	5.00E-05	1.116	0.0096	5.00E-05	0.001	0.00206	0.00005	0.0005	0.0024	0.0996	5.00E-05	0.0007	0.002	0.0005	0.0008
-0.67	0.07	5.00E-05	0.00035	0.4525	0.003	1.25E-05	0.00335	0.0005	0.01	0.3175	0.0014	0.0005	4.825	5.00E-05	1.155	0.0105	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	0.08225	5.00E-05	0.001	0.002	0.0005	0.00125
-0.58	0.165	0.000075	0.00045	0.575	0.00475	1.25E-05	0.005025	0.0005	0.01	0.345	0.00155	0.0005	5.925	5.00E-05	1.4525	0.01325	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	0.10075	0.00005	0.0015	0.00225	0.0005	0.00175
-0.50	0.2825	0.0001125	0.0004	0.6225	0.00925	1.69E-05	0.006125	0.0005	0.01	0.3525	0.00175	0.0005	6.7	5.00E-05	1.4675	0.01525	5.00E-05	0.001	0.0025	0.00005	0.0005	0.00225	0.113	0.00005	0.00225	0.002	0.0005	0.002
-0.42	0.234	9.00E-05	0.00044	0.664	0.0096	1.25E-05	0.00672	0.0005	0.01	0.416	0.00204	0.0005	7.84	5.00E-05	1.558	0.0158	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0024	0.1164	0.00005	0.002	0.0022	0.0005	0.0017
-0.33	0.192	0.00007	0.00042	0.684	0.0092	1.25E-05	0.00522	0.0005	0.01	0.39	0.00174	0.0005	9	5.00E-05	1.682	0.0158	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0018	0.095	0.00005	0.0014	0.0022	0.0005	0.0017
-0.25	0.16	0.00005	0.00042	0.6	0.0062	1.25E-05	0.00295	0.0005	0.01	0.41	0.00166	0.0005	7.9	5.00E-05	1.494	0.0136	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0022	0.095	0.00005	0.0014	0.0026	0.0005	0.0014
-0.17	0.142	0.00008	0.0004	0.54	0.0064	1.25E-05	0.00264	0.0005	0.01	0.392	0.0017	0.0005	7.14	5.00E-05	1.276	0.0116	5.00E-05	0.001	0.0025	0.00005	0.0005	0.003	0.123	5.00E-05	0.0006	0.0024	0.0005	0.0014
-0.08	0.078	6.00E-05	0.00036	0.486	0.0052	2.00E-05	0.00244	0.0005	0.01	0.334	0.00146	0.0005	7.94	5.00E-05	1.214	0.0104	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0024	0.0858	5.00E-05	0.0005	0.0017	0.0005	0.001

Year	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
-2.00	1.50E-05	2.328	0.0005	5.00E-05	0.001	0.094	5.00E-05	0.00034	0.608	0.0024	1.25E-05	4.00E-03	0.0005	0.01	0.36	0.00148	0.0005	9.28	5.00E-05	1.484	0.0134	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0016	3.44
-1.92	2.00E-05	2.664	0.0005	5.00E-05	0.0009	0.096	5.00E-05	0.00036	0.662	0.0024	1.25E-05	4.78E-03	0.0005	0.01	0.386	0.00148	0.0005	10.04	5.00E-05	1.622	0.0146	5.00E-05	0.001	0.0021	0.00005	0.0005	0.0018	3.3
-1.83	2.00E-05	2.796	0.0005	5.00E-05	0.0009	0.114	0.00005	0.0004	0.67	0.0026	1.25E-05	5.22E-03	0.0005	0.01	0.41	0.00146	0.0005	9.42	5.00E-05	1.68	0.015	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0019	3.68
-1.75	2.20E-05	1.632	0.0005	5.00E-05	0.0016	0.078	0.00005	0.0003	0.432	0.007	1.25E-05	2.12E-03	0.0005	0.01	0.352	0.00136	0.0005	5.44	5.00E-05	1.116	0.0096	5.00E-05	0.001	0.00206	0.00005	0.0005	0.0024	5.06
-1.67	2.00E-05	1.675	0.0005	5.00E-05	0.0015	0.07	0.00005	0.00035	0.4525	0.003	1.25E-05	3.35E-03	0.0005	0.01	0.3175	0.0014	0.0005	4.825	5.00E-05	1.155	0.0105	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	4.825
-1.58	3.00E-05	2.2425	0.0005	5.00E-05	0.00175	0.165	0.000075	0.00045	0.575	0.00475	1.25E-05	0.005025	0.0005	0.01	0.345	0.00155	0.0005	5.925	5.00E-05	1.4525	0.01325	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	6.775
-1.50	4.25E-05	2.53	0.0005	5.00E-05	0.00175	0.2825	1.13E-04	0.0004	0.6225	0.00925	1.69E-05	0.006125	0.0005	0.01	0.3525	0.00175	0.0005	6.7	5.00E-05	1.4675	0.01525	5.00E-05	0.001	0.0025	0.00005	0.0005	0.00225	8.6
-1.42	3.80E-05	2.632	0.0005	5.00E-05	0.0021	0.234	9.00E-05	0.00044	0.664	0.0096	1.25E-05	0.00672	0.0005	0.01	0.416	0.00204	0.0005	7.84	5.00E-05	1.558	0.0158	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0024	9.24
-1.33	2.80E-05	2.688	0.0005	5.00E-05	0.0018	0.192	0.00007	0.00042	0.684	0.0092	1.25E-05	5.22E-03	0.0005	0.01	0.39	0.00174	0.0005	9	5.00E-05	1.682	0.0158	5.00E-05	0.001	0.0025	0.00005	5.00E-04	0.0018	7.74
-1.25	2.80E-05	2.282	0.0005	5.00E-05	0.0017	0.16	5.00E-05	0.00042	0.6	0.0062	1.25E-05	2.95E-03	0.0005	0.01	0.41	0.00166	0.0005	7.9	5.00E-05	1.494	0.0136	5.00E-05	0.001	0.0025	0.00005	5.00E-04	2.20E-03	6.86
-1.17	2.84E-05	1.934	0.0005	5.00E-05	0.0016	0.142	0.00008	0.0004	0.54	0.0064	1.25E-05	0.00264	0.0005	0.01	0.392	0.0017	0.0005	7.14	5.00E-05	1.276	0.0116	5.00E-05	0.001	0.0025	0.00005	0.0005	0.003	8.2
-1.08	2.20E-05	1.758	0.0005	5.00E-05	0.0014	0.078	6.00E-05	0.00036	0.486	0.0052	2.00E-05	2.44E-03	0.0005	0.01	0.334	0.00146	0.0005	7.94	5.00E-05	1.214	0.0104	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0024	4.3
-1.00	1.50E-05	2.328	0.0005	5.00E-05	0.001	0.094	5.00E-05	0.00034	0.608	0.0024	1.25E-05	4.00E-03	0.0005	0.01	0.36	0.00148	0.0005	9.28	5.00E-05	1.484	0.0134	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0016	3.44
-0.92	2.00E-05	2.664	0.0005	5.00E-05	0.0009	0.096	5.00E-05	0.00036	0.662	0.0024	1.25E-05	4.78E-03	0.0005	0.01	0.386	0.00148	0.0005	10.04	5.00E-05	1.622	0.0146	5.00E-05	0.001	0.0021	0.00005	0.0005	0.0018	3.3
-0.83	2.00E-05	2.796	0.0005	5.00E-05	0.0009	0.114	0.00005	0.0004	0.67	0.0026	1.25E-05	5.22E-03	0.0005	0.01	0.41	0.00146	0.0005	9.42	5.00E-05	1.68	0.015	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0019	3.68
-0.75	2.20E-05	1.632	0.0005	5.00E-05	0.0016	0.078	0.00005	0.0003	0.432	0.007	1.25E-05	0.00212	0.0005	0.01	0.352	0.00136	0.0005	5.44	5.00E-05	1.116	0.0096	5.00E-05	0.001	0.00206	0.00005	0.0005	0.0024	5.06
-0.67	2.00E-05	1.675	0.0005	5.00E-05	0.0015	0.07	0.00005	0.00035	0.4525	0.003	1.25E-05	0.00335	0.0005	0.01	0.3175	0.0014	0.0005	4.825	5.00E-05	1.155	0.0105	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	4.825
-0.58	3.00E-05	2.2425	0.0005	5.00E-05	0.00175	0.165	0.000075	0.00045	0.575	0.00475	1.25E-05	0.005025	0.0005	0.01	0.345	0.00155	0.0005	5.925	5.00E-05	1.4525	0.01325	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	6.775
-0.50	4.25E-05	2.53	0.0005	5.00E-05	0.00175	0.2825	0.0001125	0.0004	0.6225	0.00925	1.69E-05	0.006125	0.0005	0.01	0.3525	0.00175	0.0005	6.7	5.00E-05	1.4675	0.01525	5.00E-05	0.001	0.0025	0.00005	0.0005	0.00225	8.6
-0.42	3.80E-05	2.632	0.0005	5.00E-05	0.0021	0.234	9.00E-05	0.00044	0.664	0.0096	1.25E-05	0.00672	0.0005	0.01	0.416	0.00204	0.0005	7.84	5.00E-05	1.558	0.0158	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0024	9.24
-0.33	2.80E-05	2.688	0.0005	5.00E-05	0.0018	0.192	0.00007	0.00042	0.684	0.0092	1.25E-05	0.00522	0.0005	0.01	0.39	0.00174	0.0005	9	5.00E-05	1.682	0.0158	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0018	7.74
-0.25	2.80E-05	2.282	0.0005	5.00E-05	0.0017	0.16	5.00E-05	0.00042	0.6	0.0062	1.25E-05	0.00295	0.0005	0.01	0.41	0.00166	0.0005	7.9	5.00E-05	1.494	0.0136	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0022	6.86
-0.17	2.84E-05	1.934	0.0005	5.00E-05	0.0016	0.142	0.00008	0.0004	0.54	0.0064	1.25E-05	0.00264	0.0005	0.01	0.392	0.0017	0.0005	7.14	5.00E-05	1.276	0.0116	5.00E-05	0.001	0.0025	0.00005	0.0005	0.003	8.2
-0.08	2.20E-05	1.758	0.0005	5.00E-05	0.0014	0.078	6.00E-05	0.00036	0.486	0.0052	2.00E-05	0.00244	0.0005	0.01	0.334	0.00146	0.0005	7.94	5.00E-05	1.214	0.0104	5.00E-05	0.001	0.00208	0.00005	0.0005	0.0024	4.3

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TABLE B3.7

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR SISSON BROOK

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TABLE B3.7

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR SISSON BROOK

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]
67.83	52.205	44.201	0	0.4609	0.23322	0.0025646	18.72	0.0016189	2.5373	1.0219	0.18867	0.0085357	0.0086167	0.027159	0.0002551	0.44592	1.39E-04	11.941	0.0009264	0.0007692	0.0019411	0.043032	0.0004382	0.023055	5.4492	0.086226
67.92	52.364	44.526	0	0.46344	0.23345	0.0022527	18.845	0.001599	2.4812	1.0212	0.18377	0.0085857	0.0086497	0.0272	0.0002536	0.44839	1.39E-04	11.964	0.0009289	0.0007728	0.0019147	0.033366	0.0004375	0.023178	5.4686	0.086525
68.00	53.155	45.092	0	0.46885	0.24687	0.002217	19.04	0.0015572	2.5064	1.0324	0.18158	0.0086912	0.0088045	0.027551	0.0002506	0.45384	1.40E-04	12.157	0.0009343	0.0007812	0.0018686	0.034898	0.0004409	0.023455	5.5449	0.087178
68.08	52.98	44.986	0	0.47204	0.25113	0.0029203	18.985	0.0015804	2.5055	1.027	0.17968	0.0086334	0.008752	0.027377	0.0002522	0.45078	1.39E-04	12.132	0.0009314	0.000776	0.0018491	0.035561	0.0004383	0.023301	5.5183	0.086615
68.17	52.811	44.733	0	0.46384	0.25128	0.0026713	18.76	0.0015964	2.4874	1.0228	0.18002	0.0085938	0.0087019	0.027258	0.0002534	0.44867	1.39E-04	12.103	0.0009295	0.0007723	0.0018448	0.038376	0.0004365	0.023199	5.4963	0.086257
68.25	53.01	44.779	0	0.47139	0.23535	0.0035873	19.035	0.0015358	2.4882	1.0358	0.18729	0.0087405	0.0088228	0.027688	0.0002489	0.45626	1.41E-04	12.102	0.0009367	0.0007839	0.0019494	0.032462	0.000443	0.023575	5.5471	0.088228
68.33	53.013	44.808	0	0.47163	0.22965	0.0023621	18.98	0.0015316	2.4982	1.0369	0.18525	0.0087468	0.0088727	0.027695	0.0002484	0.45646	0.0001407	12.095	0.0009374	0.0007833	0.0019374	0.03133	0.0004436	0.02359	5.5496	0.08785
68.42	52.547	44.362	0	0.46546	0.22562	0.0022488	18.77	0.0015864	2.4969	1.0264	0.18626	0.0086107	0.0088235	0.027326	0.0002524	0.44938	0.0001402	12.012	0.0009308	0.0007719	0.0019654	0.045067	0.0004412	0.023238	5.4866	0.086816
68.50	53.319	44.927	0	0.47132	0.23237	0.002684	18.931	0.0015397	2.5304	1.041	0.18899	0.0087304	0.0090191	0.027647	0.0002491	0.45571	0.0001434	12.195	0.0009367	0.0007826	0.0019684	0.058325	0.000451	0.023551	5.5625	0.088514
68.58	53.708	45.206	0	0.47357	0.23244	0.0026766	19.061	0.0015183	2.5343	1.0488	0.18986	0.0087877	0.0090301	0.027844	0.0002476	0.45872	0.0001436	12.284	0.0009394	0.0007882	0.0020121	0.051135	0.0004503	0.02371	5.6019	0.08904
68.67	53.576	45.089	0	0.47666	0.23193	0.00258	19.151	0.0015342	2.5365	1.0418	0.18683	0.0087513	0.0089212	0.027739	0.0002488	0.45684	0.0001419	12.262	0.0009373	0.0007857	0.0019749	0.046762	0.0004461	0.02361	5.5852	0.08861
68.75	52.853	44.294	0	0.46601	0.22824	0.0027853	18.898	0.0015784	2.5715	1.0336	0.18562	0.0086372	0.0088221	0.027473	0.000252	0.45108	0.0001405	12.089	0.0009315	0.0007766	0.0019589	0.04428	0.0004384	0.023319	5.5124	0.087153

Year	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]
67.83	4.15E-06	0.04303	0.0023936	0.08241	13.268	0.090734	0.0007397	8.3599	6.267E-05	14.415	0.30016	0.0003969	0.0097043	0.040102	0.0044758	0.02911	0.013538	0.24243	0.0085357	0.0086167	0.027161	0.0002551	0.44593	1.39E-04	11.944	0.0009264
67.92	5.17E-06	0.04324	0.0024037	0.08282	13.332	0.091208	0.0007409	8.4743	6.27E-05	14.45	0.30164	0.0003989	0.0097542	0.040256	0.0045011	0.029275	0.013512	0.23777	0.0085857	0.0086497	0.027203	0.0002536	0.44839	1.39E-04	11.967	0.0009289
68.00	4.00E-06	0.043957	0.0024265	0.083707	13.493	0.092308	0.0007437	8.6534	6.289E-05	14.628	0.30559	0.0004031	0.0098614	0.040722	0.0045556	0.029627	0.013541	0.23616	0.0086912	0.0088045	0.027554	0.0002506	0.45384	1.40E-04	12.16	0.0009343
68.08	4.06E-06	0.043798	0.0024131	0.083205	13.407	0.091691	0.000742	8.7599	6.28E-05	14.545	0.30378	0.0004007	0.0098015	0.040462	0.0045251	0.02943	0.013487	0.23382	0.0086334	0.008752	0.02738	0.0002522	0.45078	1.39E-04	12.135	0.0009314
68.17	4.10E-06	0.043682	0.0024039	0.082861	13.349	0.091266	0.0007408	8.6774	6.274E-05	14.484	0.30248	0.000399	0.0097603	0.040279	0.0045042	0.029295	0.013445	0.23387	0.0085938	0.0087019	0.027261	0.0002534	0.44867	1.39E-04	12.106	0.0009295
68.25	3.95E-06	0.043939	0.0024353	0.084094	13.56	0.092783	0.0007444	8.1509	6.293E-05	14.583	0.30669	0.0004049	0.0099096	0.040926	0.0045802	0.029788	0.013702	0.24192	0.0087405	0.0088228	0.02769	0.0002489	0.45626	1.41E-04	12.105	0.0009367
68.33	3.94E-06	0.044157	0.0024347	0.08411	13.558	0.09282	0.000744	8.0588	6.29E-05	14.531	0.3069	0.000405	0.0099128	0.040992	0.0045819	0.0298	0.01359	0.23965	0.0087468	0.0088727	0.027698	0.0002484	0.45646	0.0001407	12.098	0.0009374
68.42	4.07E-06	0.043775	0.0024045	0.082947	13.354	0.091404	0.0007402	8.1556	6.271E-05	14.336	0.30262	0.0003994	0.0097727	0.040388	0.0045106	0.02934	0.0134	0.23975	0.0086107	0.0088235	0.027329	0.0002524	0.44938	0.0001402	12.015	0.0009308
68.50	4.51E-06	0.044447	0.002432	0.083976	13.539	0.092689	0.0007438	8.284	6.29E-05	14.499	0.30693	0.0004044	0.0098956	0.040922	0.004573	0.029743	0.013663	0.24335	0.0087304	0.0090191	0.02765	0.0002491	0.45571	0.0001434	12.198	0.0009367
68.58	3.90E-06	0.044753	0.0024459	0.084478	13.637	0.093331	0.0007458	8.4331	6.3E-05	14.576	0.30894	0.0004068	0.0099548	0.04118	0.004603	0.029936	0.01376	0.24477	0.0087878	0.0090301	0.027846	0.0002476	0.45872	0.0001436	12.287	0.0009394
68.67	3.94E-06	0.044383	0.0024387	0.084177	13.581	0.092916	0.000745	8.5768	6.296E-05	14.516	0.30773	0.0004053	0.0099177	0.041023	0.004584	0.029813	0.013641	0.24167	0.0087513	0.0089212	0.027741	0.0002488	0.45684	0.000142	12.265	0.0009373
68.75	4.05E-06	0.043556	0.0024145	0.083246	13.418	0.091759	0.000742	8.4301	6.281E-05	14.303	0.30376	0.0004009	0.0098056	0.040539	0.0045269	0.029444	0.013547	0.23986	0.0086372	0.0088221	0.027475	0.000252	0.45108	0.0001406	12.092	0.0009315

Year	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
67.83	0.0007693	0.0019411	0.0436	0.0004382	0.023058	5.4496	0.086226	4.15E-06	0.04303	0.0023936	0.082489	13.268	0.090737	0.0007397	8.3599	6.267E-05	14.417	0.30018	0.0003969	0.0097043	0.040104	0.0044766	0.029114	0.013544	2.1598
67.92	0.0007728	0.0019147	0.033937	0.0004375	0.023181	5.469	0.086525	5.17E-06	0.04324	0.0024037	0.082898	13.332	0.09121	0.0007409	8.4743	6.27E-05	14.452	0.30165	0.0003989	0.0097542	0.040258	0.004502	0.029278	0.013517	1.5719
68.00	0.0007813	0.0018686	0.035476	0.0004409	0.023458	5.5452	0.087178	4.00E-06	0.043957	0.0024265	0.083787	13.493	0.09231	0.0007437	8.6534	6.289E-05	14.63	0.30561	0.0004031	0.0098614	0.040724	0.0045565	0.029631	0.013547	1.4248
68.08	0.000776	0.0018491	0.036135	0.0004383	0.023304	5.5186	0.086615	4.06E-06	0.043798	0.0024131	0.083284	13.407	0.091694	0.000742	8.7599	6.28E-05	14.547	0.30379	0.0004007	0.0098015	0.040464	0.004526	0.029434	0.013492	1.4186
68.17	0.0007724	0.0018448	0.038947	0.0004365	0.023202	5.4967	0.086257	4.10E-06	0.043682	0.0024039	0.082939	13.349	0.091268	0.0007408	8.6774	6.274E-05	14.486	0.30249	0.000399	0.0097603	0.040281	0.004505	0.029299	0.013451	1.4806
68.25	0.000784	0.0019494	0.033043	0.000443	0.023578	5.5474	0.088228	3.95E-06	0.043939	0.0024353	0.084174	13.56	0.092786	0.0007444	8.1509	6.293E-05	14.584	0.30671	0.0004049	0.0099096	0.040927	0.0045811	0.029792	0.013708	1.6136
68.33	0.0007834	0.0019374	0.031911	0.0004436	0.023593	5.5499	0.08785	3.94E-06	0.044157	0.0024347	0.08419	13.559	0.092822	0.000744	8.0588	6.29E-05	14.532	0.30692	0.000405	0.0099128	0.040994	0.0045828	0.029804	0.013596	1.5792
68.42	0.000772	0.0019654	0.045639	0.0004412	0.023241	5.4869	0.086816	4.07E-06	0.043775	0.0024045	0.083026	13.355	0.091406	0.0007402	8.1556	6.271E-05	14.337	0.30264	0.0003994	0.0097727	0.04039	0.0045115	0.029343	0.013406	1.9
68.50	0.0007827	0.0019684	0.058905	0.000451	0.023554	5.5628	0.088514	4.51E-06	0.044447	0.002432	0.084056	13.54	0.092692	0.0007438	8.284	6.29E-05	14.5	0.30695	0.0004044	0.0098956	0.040923	0.0045739	0.029747	0.013669	2.0648
68.58	0.0007883	0.0020121	0.051719	0.0004503	0.023713	5.6023	0.08904	3.91E-06	0.044753	0.0024459	0.084559	13.638	0.093334	0.0007458	8.4331	6.3E-05	14.577	0.30896	0.0004068	0.0099548	0.041182	0.0046039	0.02994	0.013766	2.1031
68.67	0.0007858	0.0019749	0.047343	0.0004461	0.023613	5.5855	0.08861	3.94E-06	0.044383	0.0024387	0.084257	13.581	0.092919	0.000745	8.5768	6.296E-05	14.518	0.30775	0.0004053	0.0099177	0.041024	0.0045849	0.029817	0.013647	1.949
68.75	0.0007767	0.0019589	0.044854	0.0004384	0.023321	5.5128	0.087153	4.05E-06	0.043556	0.0024145	0.083326	13.419	0.091761	0.000742	8.4301	6.281E-05	14.304	0.30377	0.0004009	0.0098056	0.04054	0.0045278	0.029448	0.013553	1.9036

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB

TABLE B3.8

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP1

TABLE B3.8

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP1

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
33.42	12.448	24.349	0	0.030238	0.023162	0.0097298	2.3171	0.0048548	1.2638	0.28178	0.18775	0.0002378	0.0016237	0.0040791	0.0004941	0.041504
33.50	16.305	32.719	0	0.040681	0.061089	0.016908	2.6914	0.0059923	1.3093	0.32921	0.19198	0.0003507	0.0022969	0.0059041	0.0004901	0.067326
33.58	18.169	39.069	0	0.056654	0.035859	0.022104	2.9061	0.0056835	1.3744	0.38694	0.20144	0.0004376	0.0028478	0.0066305	0.0004875	0.082855
33.67	17.536	36.99	0	0.075455	0.065259	0.013346	3.1731	0.0047112	1.3168	0.35123	0.13143	0.0004421	0.0028893	0.0061494	0.0004874	0.082539
33.75	13.179	21.914	0	0.17826	0.058583	0.014695	1.8626	0.0048644	1.6538	0.23978	0.15877	0.0002384	0.0016637	0.0043475	0.000494	0.038831
33.83	9.7804	13.341	0	0.028723	0.070921	0.0088613	2.2319	0.0049231	1.4825	0.24547	0.21305	0.0001623	0.0012141	0.0034238	0.0004966	0.021073
33.92	9.2892	15.656	0	0.029311	0.104	0.0078711	1.9806	0.0049289	1.1234	0.18215	0.1297	0.0001641	0.0012588	0.0024976	0.0004969	0.016206
34.00	11.664	23.95	0	0.03274	0.18487	0.0087968	2.0433	0.0048877	0.97761	0.15556	0.076888	0.0002407	0.0018011	0.0024998	0.0004952	0.021422
34.08	12.872	29.068	0	0.044182	0.205	0.008754	1.8841	0.0048642	0.83592	0.17503	0.068998	0.0002896	0.0021617	0.0029892	0.0004942	0.022905
34.17	14.223	19.931	0	0.029395	0.20035	0.012692	1.7619	0.0048582	1.0378	0.20726	0.092856	0.0002245	0.0015258	0.004045	0.0004929	0.044048
34.25	7.6624	6.9109	0	0.026251	0.076985	0.017884	1.7304	0.0049503	0.88342	0.22851	0.15963	0.0001075	0.0008277	0.0026227	0.0004974	0.016814
34.33	7.6339	9.1465	0	0.042099	0.023806	0.017405	1.2121	0.0049468	0.99018	0.21884	0.14071	0.0001202	0.0009368	0.002744	0.0004972	0.015709
34.42	12.301	17.855	0	0.030781	0.023342	0.0097255	2.18	0.0048526	1.2631	0.27821	0.18754	0.0002437	0.0017001	0.0040954	0.0004922	0.041816
34.50	16.086	23.471	0	0.041339	0.061295	0.016901	2.493	0.0059892	1.3079	0.32394	0.19164	0.0003569	0.0023892	0.0059209	0.0004875	0.067664
34.58	17.891	28.012	0	0.057258	0.036023	0.022096	2.664	0.0056797	1.3718	0.38034	0.20095	0.0004417	0.0029322	0.0066404	0.0004844	0.083089
34.67	17.266	26.734	0	0.075874	0.065348	0.013338	2.9448	0.0047077	1.3138	0.34489	0.13092	0.0004433	0.0029474	0.0061509	0.0004844	0.082625
34.75	13.056	17.294	0	0.17842	0.058612	0.014692	1.7591	0.0048628	1.6523	0.23687	0.15853	0.0002385	0.001686	0.0043467	0.0004926	0.038845
34.83	9.7091	10.648	0	0.028827	0.070943	0.0088595	2.1718	0.0049222	1.4817	0.24379	0.21291	0.0001625	0.0012284	0.0034238	0.0004958	0.02109
34.92	9.216	12.816	0	0.029443	0.10403	0.0078692	1.9178	0.004928	1.1227	0.18042	0.12957	0.0001647	0.0012772	0.0024989	0.0004961	0.016245
35.00	11.542	19.138	0	0.032997	0.18494	0.0087936	1.9378	0.004886	0.97646	0.15268	0.076674	0.0002423	0.0018369	0.0025038	0.0004938	0.021519
35.08	12.721	22.976	0	0.044538	0.20509	0.0087499	1.7512	0.004862	0.83459	0.17143	0.068739	0.0002923	0.0022116	0.002996	0.0004924	0.023057
35.17	14.154	17.126	0	0.02957	0.2004	0.01269	1.7009	0.0048572	1.0373	0.20562	0.09274	0.000226	0.0015503	0.0040487	0.0004921	0.044128
35.25	7.6452	6.1781	0	0.026305	0.077001	0.017883	1.7147	0.0049501	0.88331	0.2281	0.1596	0.000108	0.0008352	0.0026241	0.0004972	0.016842
35.33	7.6118	8.1547	0	0.042186	0.023835	0.017405	1.1912	0.0049465	0.9901	0.2183	0.14068	0.0001212	0.000949	0.0027467	0.0004969	0.01576
35.42	12.245	15.338	0	0.030992	0.023413	0.0097238	2.1269	0.0048518	1.2628	0.27683	0.18746	0.000246	0.0017298	0.0041018	0.0004915	0.041938
35.50	15.999	19.79	0	0.041601	0.061377	0.016899	2.4141	0.0059879	1.3073	0.32184	0.1915	0.0003595	0.002426	0.0059277	0.0004865	0.067799
35.58	17.778	23.5	0	0.057505	0.03609	0.022093	2.5653	0.0056781	1.3708	0.37765	0.20075	0.0004434	0.0029666	0.0066445	0.0004831	0.083185
35.67	17.153	22.444	0	0.076048	0.065385	0.013335	2.8494	0.0047062	1.3125	0.34223	0.13071	0.0004437	0.0029716	0.0061514	0.0004831	0.08266
35.75	13.002	15.302	0	0.17849	0.058625	0.014691	1.7144	0.0048621	1.6517	0.23562	0.15843	0.0002385	0.0016956	0.0043463	0.000492	0.03885
35.83	9.6773	9.4465	0	0.028873	0.070952	0.0088587	2.145	0.0049218	1.4813	0.24305	0.21285	0.0001626	0.0012347	0.0034238	0.0004954	0.021097
35.92	9.1824	11.512	0	0.029504	0.10405	0.0078684	1.889	0.0049275	1.1223	0.17962	0.12951	0.000165	0.0012857	0.0024995	0.0004957	0.016263
36.00	11.486	16.889	0	0.033117	0.18497	0.0087922	1.8884	0.0048853	0.97593	0.15133	0.076574	0.0002431	0.0018536	0.0025057	0.0004931	0.021564

TABLE B3.8

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP1

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
67.83	9.5985	6.2717	0	0.029054	0.071002	0.0088566	2.0758	0.0049207	1.4806	0.24117	0.21272	0.0001639	0.0012601	0.0034272	0.0004945	0.021172	1.42E-05	2.9309	0.0006893	8.502E-05	0.0007419
67.92	9.0941	7.9473	0	0.029711	0.10411	0.007866	1.8114	0.0049263	1.1216	0.17752	0.12936	0.0001665	0.0013145	0.0025034	0.0004947	0.01635	8.71E-06	2.7889	0.0006493	6.26E-05	0.0007093
68.00	11.33	10.608	0	0.033484	0.18508	0.008788	1.7518	0.0048831	0.97458	0.14763	0.076309	0.0002459	0.0019049	0.0025127	0.0004913	0.021721	8.95E-06	3.4851	0.0007086	6.84E-05	0.0008155
68.08	12.447	11.93	0	0.045185	0.20527	0.0087426	1.5107	0.0048583	0.83222	0.16492	0.068273	0.0002972	0.0023021	0.0030086	0.0004893	0.023334	9.50E-06	3.8434	0.0007282	7.10E-05	0.000868
68.17	14.027	11.965	0	0.029877	0.20048	0.012687	1.5887	0.0048554	1.0362	0.20259	0.092524	0.0002283	0.0015933	0.0040548	0.0004906	0.044263	1.17E-05	4.2984	0.0009113	8.10E-05	0.0009774
68.25	7.6093	4.7085	0	0.026397	0.077027	0.017882	1.6829	0.0049496	0.88303	0.22724	0.15954	0.0001088	0.0008481	0.0026261	0.0004968	0.016884	7.42E-06	2.3295	0.0006503	6.11E-05	0.0006701
68.33	7.559	5.9648	0	0.042329	0.023878	0.017403	1.144	0.0049458	0.9897	0.21704	0.1406	0.0001225	0.000969	0.00275	0.0004963	0.015829	8.56E-06	2.3243	0.0006375	6.068E-05	0.0006685
68.42	12.105	9.5797	0	0.031366	0.023523	0.00972	2.0026	0.0048499	1.2618	0.2735	0.18723	0.0002492	0.0017821	0.0041104	0.0004899	0.042117	1.27E-05	3.6765	0.0008869	7.993E-05	0.000971
68.50	15.789	11.161	0	0.042142	0.061534	0.016893	2.2273	0.005985	1.3056	0.31682	0.19115	0.000364	0.0025017	0.0059395	0.000484	0.068049	1.92E-05	4.6639	0.0011321	0.0001353	0.0012614
68.58	17.511	12.663	0	0.058154	0.036273	0.022086	2.3299	0.0056744	1.3686	0.37129	0.2003	0.0004485	0.0030574	0.0066577	0.00048	0.08347	2.20E-05	5.0373	0.0012827	0.0001202	0.0014496
68.67	16.891	11.881	0	0.076658	0.065553	0.013328	2.6193	0.0047026	1.3102	0.33599	0.13026	0.0004482	0.0030567	0.0061629	0.0004801	0.082917	1.90E-05	4.5403	0.0012813	0.0001103	0.0014482
68.75	12.876	10.238	0	0.17878	0.058703	0.014687	1.604	0.0048604	1.6506	0.23263	0.15821	0.0002405	0.0017358	0.0043516	0.0004906	0.038969	1.20E-05	3.5258	0.0008589	7.792E-05	0.0009409
68.83	9.5984	6.2714	0	0.029054	0.071002	0.0088566	2.0758	0.0049207	1.4806	0.24117	0.21272	0.0001639	0.00126	0.0034272	0.0004945	0.021172	1.42E-05	2.9309	0.0006893	8.502E-05	0.0007419
68.92	9.0941	7.9471	0	0.02971	0.10411	0.007866	1.8113	0.0049263	1.1216	0.17752	0.12936	0.0001665	0.0013144	0.0025034	0.0004947	0.01635	8.71E-06	2.7889	0.0006493	6.26E-05	0.0007093
69.00	11.33	10.607	0	0.033483	0.18508	0.008788	1.7517	0.0048831	0.97458	0.14763	0.076309	0.0002459	0.0019048	0.0025127	0.0004913	0.02172	8.95E-06	3.4851	0.0007086	6.84E-05	0.0008155
69.08	12.447	11.93	0	0.045185	0.20527	0.0087426	1.5107	0.0048583	0.83221	0.16492	0.068273	0.0002972	0.002302	0.0030086	0.0004893	0.023334	9.50E-06	3.8434	0.0007282	7.10E-05	0.000868
69.17	14.027	11.965	0	0.029878	0.20048	0.012687	1.5887	0.0048554	1.0362	0.20259	0.092525	0.0002284	0.0015934	0.0040549	0.0004906	0.044263	1.17E-05	4.2984	0.0009113	8.10E-05	0.0009774
69.25	7.6093	4.7085	0	0.026397	0.077028	0.017882	1.6829	0.0049496	0.88303	0.22724	0.15954	0.0001088	0.0008481	0.0026261	0.0004968	0.016884	7.42E-06	2.3295	0.0006504	6.11E-05	0.0006701
69.33	7.5589	5.9647	0	0.042329	0.023877	0.017403	1.144	0.0049458	0.9897	0.21704	0.1406	0.0001225	0.000969	0.00275	0.0004963	0.015828	8.56E-06	2.3243	0.0006375	6.068E-05	0.0006685
69.42	12.105	9.5793	0	0.031364	0.023522	0.00972	2.0025	0.0048499	1.2618	0.2735	0.18723	0.0002492	0.0017818	0.0041103	0.0004899	0.042115	1.27E-05	3.6765	0.0008869	7.992E-05	0.0009709
69.50	15.788	11.16	0	0.042139	0.061532	0.016893	2.2272	0.005985	1.3056	0.31681	0.19115	0.0003639	0.0025012	0.0059393	0.000484	0.068045	1.92E-05	4.6638	0.001132	0.0001353	0.0012613
69.58	17.511	12.663	0	0.05815	0.036271	0.022086	2.3298	0.0056744	1.3685	0.37129	0.2003	0.0004484	0.0030568	0.0066574	0.00048	0.083467	2.20E-05	5.0372	0.0012826	0.0001202	0.0014495
69.67	16.891	11.881	0	0.076655	0.065553	0.013328	2.6193	0.0047026	1.3102	0.33599	0.13026	0.0004482	0.0030564	0.0061628	0.0004801	0.082915	1.90E-05	4.5402	0.0012812	0.0001103	0.0014481
69.75	12.876	10.238	0	0.17878	0.058704	0.014687	1.604	0.0048604	1.6506	0.23263	0.15821	0.0002405	0.0017358	0.0043516	0.0004906	0.038969	1.20E-05	3.5258	0.0008589	7.792E-05	0.0009409
69.83	9.5984	6.2713	0	0.029054	0.071002	0.0088566	2.0758	0.0049207	1.4806	0.24117	0.21272	0.0001639	0.0012601	0.0034272	0.0004945	0.021172	1.42E-05	2.9309	0.0006893	8.502E-05	0.0007419
69.92	9.0941	7.9469	0	0.02971	0.10411	0.007866	1.8113	0.0049263	1.1216	0.17752	0.12936	0.0001665	0.0013145	0.0025034	0.0004947	0.01635	8.71E-06	2.7889	0.0006493	6.26E-05	0.0007093
70.00	11.33	10.607	0	0.033484	0.18508	0.008788	1.7517	0.0048831	0.97458	0.14763	0.076309	0.0002459	0.0019048	0.0025127	0.0004913	0.02172	8.95E-06	3.4851	0.0007086	6.84E-05	0.0008155
70.08	12.447	11.929	0	0.045185	0.20527	0.0087426	1.5107	0.0048583	0.83221	0.16492	0.068273	0.0002972	0.002302	0.0030086	0.0004893	0.023334	9.50E-06	3.8434	0.0007282	7.10E-05	0.000868
70.17	14.027	11.965	0	0.029878	0.20048	0.012687	1.5887	0.0048554	1.0362	0.20259	0.092525	0.0002284	0.0015934	0.0040549	0.0004906	0.044264	1.17E-05	4.2984	0.0009113	8.10E-05	0.0009774
70.25	7.6093	4.7084	0	0.026397	0.077028	0.017882	1.6829	0.0049496	0.88303	0.22724	0.15954	0.0001088	0.0008481	0.0026261	0.0004968	0.016884	7.42E-06	2.3295	0.0006504	6.11E-05	0.0006701
70.33	7.5589	5.9646	0	0.042329	0.023877	0.017403	1.144	0.0049458	0.9897	0.21704	0.1406	0.0001225	0.000969	0.00275	0.0004963	0.015829	8.56E-06	2.3243	0.0006375	6.068E-05	0.0006685
70.42	12.105	9.5791	0	0.031364	0.023522	0.00972	2.0025	0.0048499	1.2618	0.2735	0.18723	0.0002492	0.0017819	0.0041103	0.0004899	0.042115	1.27E-05	3.6765	0.0008869	7.992E-05	0.0009709
97.67	16.891	11.879	0	0.076656	0.065553	0.013328	2.6192	0.0047026	1.3102	0.33599	0.13026	0.0004482	0.0030565	0.0061628	0.0004801	0.082915	1.90E-05	4.5402	0.0012812	0.0001103	0.0014481
97.75	12.876	10.237	0	0.17878	0.058704	0.014687	1.604	0.0048604	1.6506	0.23262	0.15821	0.0002405	0.0017358	0.0043516	0.0004906	0.038969	1.20E-05	3.5257	0.0008589	7.792E-05	0.0009409
97.83	9.5984	6.2707	0	0.029054	0.071002	0.0088566	2.0758	0.0049207	1.4806	0.24117	0.21272	0.0001639	0.0012601	0.0034272	0.0004945	0.021172	1.42E-05	2.9309	0.0006893	8.502E-05	0.0007419
97.92	9.0941	7.9463	0	0.02971	0.10411	0.007866	1.8113	0.0049263	1.1216	0.17752	0.12936	0.0001665	0.0013145	0.0025034	0.0004947	0.01635	8.71E-06	2.7889	0.0006493	6.26E-05	0.0007093
98.00	11.33	10.606	0	0.033484	0.18508	0.008788	1.7517	0.0048831	0.97458	0.14763	0.076309	0.0002459	0.0019048	0.0025127	0.0004913	0.02172	8.95E-06	3.4851	0.0007086	6.84E-05	0.0008155
98.08	12.447	11.928	0	0.045185	0.20527	0.0087426	1.5106	0.0048583	0.83221	0.16492	0.068272	0.0002972	0.002302	0.0030086	0.0004893	0.023334	9.50E-06	3.8433	0.0007282	7.10E-05	0.000868
98.17	14.027	11.964	0	0.029878	0.20048	0.012687	1.5887	0.0048554	1.0362	0.20259	0.092525	0.0002284	0.0015934	0.0040549	0.0004906	0.044264	1.17E-05	4.2984	0.0009113	8.10E-05	0.0009774
98.25	7.6093	4.7082	0	0.026397	0.077028	0.017882	1.6829	0.0049496	0.88303	0.22724	0.15954	0.0001088	0.0008481	0.0026261	0.0004968	0.016884	7.42E-06	2.3295	0.0006504	6.11E-05	0.0006701
98.33	7.5589	5.9643	0	0.042329	0.023877	0.017403	1.144	0.0049458	0.9897	0.21704	0.1406	0.0001225	0.000969	0.00275	0.0004963	0.015829	8.56E-06	2.3243	0.0006375	6.068E-05	0.0006685
98.42	12.105	9.5782	0	0.031364	0.023522	0.00972	2.0025	0.0048499	1.2618	0.2735	0.18723	0.0002492	0.0017819	0.0041103	0.0004899	0.042115	1.27E-05	3.6765	0.0008869	7.992E-05	0.0009709
98.50	15.788	11.159	0	0.042139	0.061532	0.016893	2.2272	0.005985	1.3056	0.31681	0.19115	0.0003639	0.0025013	0.0059393	0.000484	0.068046	1.92E-05	4.6638	0.001132	0.0001353	0.0012613
98.58	17.511	12.661	0	0.058151	0.036271	0.022086	2.3298	0.0056744	1.3685	0.37129	0.2003	0.0004484	0.0030569	0.0066575	0.00048	0.083467	2.20E-05	5.0372	0.0012826	0.0001202	0.0014495
98.67	16.891	11.879	0	0.076656	0.065553	0.013328	2.6192	0.0047026	1.3102	0.33599	0.13026	0.0004482	0.0030565	0.0061628	0.0004801	0.082915	1.90E-05	4.5402	0.0012812	0.0001103	0.0014482
98.75	12.876	10.237	0	0.17878	0.058704	0.014687	1.604	0.0048604	1.6506	0.23263	0.15821	0.0002406	0.0017358	0.0043516	0.0004906	0.038969	1.20E-05	3.5257	0.0008589	7.792E-05	0.0009409
98.83	9.5984	6.2707	0	0.029054	0.071002	0.0088566	2.0758	0.0049207	1.4806	0.24117	0.21272	0.0001639	0.0012601	0.0034272	0.0004945	0.021172	1.42E-05	2.9309	0.0006893	8.502E-05	0.0007419
98.92	9.0941	7.9463	0	0.029711	0.10411	0.007866	1.8113	0.0049263	1.1216	0.17752	0.12936	0.0001665	0.0013145	0.0025034	0.0004947	0.01635	8.71E-06	2.7889	0.0006493	6.26E-05	0.0007093
99.00	11.33	10.606	0	0.033484	0.18508	0.008788	1.7517	0.0048831	0.97458	0.14763	0.076309	0.0002459	0.0019049	0.0025127	0.0004913	0.021721	8.95E-06	3.4851	0.0007086	6.84E-05	0.0008155
99.08	12.447	11.928	0	0.045185	0.20527	0.0087426	1.5106	0.0048583	0.83221	0.16492	0.068273	0.0002972	0.0023021	0.0030086	0.0004893	0.023334	9.50E-06	3.8433	0.0007282	7.10E-05	0.000868
99.17	14.027	11.964	0	0.029878	0.20048	0.012687	1.5887	0.0048554	1.0362	0.20259	0.092525	0.0002284	0.0015934	0.0040549	0.0004906	0.044264	1.17E-05	4.2984	0.0009113	8.10E-05	0.0009774
99.25	7.6093	4.7082	0	0.026398	0.077028	0.017882	1.6829	0.0049496	0.88303	0.22724	0.15954	0.0001088	0.0008481	0.0026261	0.0004968	0.016885	7.42E-06	2.3295	0.0006504	6.11E-05	0.0006701
99.33	7.5589	5.9643	0	0.042329	0.023877	0.017403	1.144	0.0049458	0.9897	0.21704	0.1406	0.0001225	0.000969	0.00275	0.0004963	0.015829	8.56E-06	2.3243	0.0006375	6.068E-05	0.0006685
99.42	12.105	9.5782	0	0.031365	0.023522	0.00972	2.0025	0.0048499	1.2618	0.2735	0.18723	0.0002492	0.0017819	0.0041103	0.0004899	0.042115	1.27E-05	3.6765	0.0008869	7.992E-05	0.0009709
99.50	15.788	11.159	0	0.042139	0.061532	0.016893	2.2272	0.005985	1.3056	0.31681	0.19115	0.0003639	0.0025013	0.0059393	0.000484	0.068046	1.92E-05	4.6638	0.001132	0.0001353	0.0012613
99.58	17.511	12.66	0	0.058151	0.036272	0.022086	2.3298	0.0056744	1.3685	0.37129	0.2003	0.0004484	0.0030569	0.0066575	0.00048	0.083467	2.20E-05	5.0372	0.0012826	0.0001202	0.0014495
99.67	16.891	11.879	0	0.076656	0.065553	0.013328	2.6192	0.0047026	1.3102	0.33599	0.13026	0.0004482	0.0030566	0.0061629	0.0004801	0.082915	1.90E-05	4.5402	0.0012812	0.0001103	0.0014482
99.75	12.876	10.237	0	0.17878	0.058704	0.014687	1.604	0.0048604	1.6506	0.23263	0.15821	0.0002406	0.0017358	0.0043516	0.0004906	0.038969	1.20E-05	3.5257	0.0008589	7.792E-05	0.0009409
99.83	9.5984	6.2707	0	0.029054	0.071002	0.0088566	2.0758	0.0049207	1.4806	0.24117	0.21272	0.0001639	0.0012601	0.0034272	0.0004945	0.021172	1.42E-05	2.9309	0.0006893	8.502E-05	0.0007419
99.92	9.0941	7.9462	0	0.029711	0.10411	0.007866	1.8113	0.0049263	1.1216	0.17752	0.12936	0.0001665	0.0013145	0.0025034	0.0004947	0.01635	8.71E-06	2.7889	0.0006493	6.26E-05	0.0007093
100.00	11.33	10.606	0	0.033484	0.18508	0.008788	1.7517	0.0048831	0.97458	0.14763	0.076309	0.0002459	0.0019049	0.0025127	0.0004913	0.021721	8.95E-06	3.4851	0.0007086	6.84E-05	0.0008155

Year	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]
67.83	0.0005613	0.033317	1.015	0.0040014	0.0005112	9.899	5.12E-05	1.8095	0.020087	6.16E-05	0.0012873	0.0044495	0.0003901	0.0014325	0.0035586	0.24664	0.0001639	0.0012601	0.0034272
67.92	0.0005484	0.032588	0.8015	0.0034317	0.0005079	10.827	5.08E-05	1.8267	0.01875	5.93E-05	0.001232	0.0034896	0.0003132	0.0012577	0.0016618	0.17039	0.0001665	0.0013145	0.0025035
68.00	0.0005677	0.023513	1.0054	0.0044313	0.0005099	12.284	5.10E-05	2.2355	0.024574	6.31E-05	0.0013309	0.0040052	0.0003109	0.0015867	0.0018015	0.094547	0.0002459	0.0019049	0.0029133
68.08	0.0005741	0.013735	1.0567	0.0048902	0.0005098	12.864	5.09E-05	2.4039	0.027838	6.45E-05	0.0013687	0.0041212	0.0003561	0.0017168	0.0018446	0.11019	0.0002972	0.0023021	0.0032091
68.17	0.0006331	0.017522	1.9707	0.0067711	0.0005264	9.6725	5.29E-05	2.4257	0.029745	7.48E-05	0.00161	0.0063996	0.000354	0.0024677	0.0026114	0.1103	0.0002283	0.001692	0.0042523
68.25	0.0005486	0.012769	0.88888	0.0031872	0.0005099	6.8918	5.11E-05	1.3758	0.01478	5.90E-05	0.0012217	0.0036287	0.0002441	0.001214	0.0025692	0.22953	0.0001088	0.0008481	0.0028255
68.33	0.0005445	0.012476	0.76707	0.0030008	0.0005084	6.5905	5.09E-05	1.5399	0.015444	5.835E-05	0.0012065	0.0039394	0.0002564	0.0011687	0.0024627	0.16486	0.0001225	0.000969	0.00275
68.42	0.0006251	0.016983	1.781	0.006442	0.0005237	8.0342	5.26E-05	2.1313	0.027231	7.347E-05	0.0015802	0.0065566	0.0004349	0.0023779	0.0026968	0.24769	0.0002492	0.0017821	0.0046059
68.50	0.0007045	0.041031	2.7807	0.0098843	0.0005392	9.3724	5.43E-05	2.5375	0.037377	8.828E-05	0.0019455	0.0091491	0.0004823	0.0035578	0.0035405	0.30773	0.000364	0.0026242	0.0064293
68.58	0.0007533	0.043605	3.4332	0.012133	0.0005484	9.905	5.52E-05	2.5427	0.041984	9.746E-05	0.0021729	0.01071	0.0004895	0.0042941	0.0032241	0.22817	0.0004485	0.0030574	0.0070471
68.67	0.000753	0.043576	3.3624	0.011814	0.0005484	11.407	5.52E-05	2.5008	0.03884	9.738E-05	0.002171	0.010693	0.00047	0.0042873	0.0028313	0.16434	0.0004483	0.0032514	0.006163
68.75	0.0006162	0.036262	1.7368	0.0063342	0.000522	10.853	5.24E-05	2.1739	0.026412	7.181E-05	0.0015395	0.0062488	0.0003128	0.0022463	0.0024784	0.1804	0.0002405	0.0020328	0.0047476
68.83	0.0005613	0.033317	1.015	0.0040013	0.0005112	9.899	5.12E-05	1.8094	0.020087	6.16E-05	0.0012873	0.0044494	0.0003901	0.0014325	0.0035586	0.24664	0.0001639	0.0012601	0.0034272
68.92	0.0005484	0.032588	0.80149	0.0034316	0.0005079	10.827	5.08E-05	1.8266	0.018749	5.93E-05	0.001232	0.0034896	0.0003132	0.0012577	0.0016618	0.17039	0.0001665	0.0013144	0.0025034
69.00	0.0005677	0.023513	1.0054	0.0044312	0.0005099	12.284	5.10E-05	2.2353	0.024574	6.31E-05	0.0013309	0.0040051	0.0003109	0.0015867	0.0018014	0.094546	0.0002459	0.0019048	0.0029132

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB

Knight Piésold
CONSULTING

TABLE B3.9

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP2

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]
-2.00	9.2645	8.7495	0	0.024999	0.18249	0.0062497	1.375	0.0049997	0.82495	0.094996	0.063747	5.00E-05	0.0005	0.0019999	0.0005	0.0014999	5.00E-06	2.9723	0.0005	5.00E-05	0.0005	0.082495	5.00E-05	0.0014999	0.45247
-1.92	9.2643	8.7494	0	0.024998	0.18249	0.0062496	1.3749	0.0049996	0.82494	0.094993	0.063745	5.00E-05	0.0005	0.0019998	0.0005	0.0014999	5.00E-06	2.9723	0.0005	5.00E-05	0.0005	0.082494	5.00E-05	0.0014999	0.45247
-1.83	5.7972	3.5	0	0.046249	0.043748	0.011249	0.49998	0.0049998	0.94998	0.135	0.14175	5.00E-05	0.0005	0.002	0.0005	0.0012499	5.00E-06	1.84	0.0005	5.00E-05	0.0005	0.12499	0.0001125	0.000925	0.29499
-1.75	5.7975	3.5	0	0.046249	0.04375	0.01125	0.5	0.0049999	0.94999	0.135	0.14175	5.00E-05	0.0005	0.002	0.0005	0.00125	5.00E-06	1.8399	0.0005	5.00E-05	0.0005	0.125	0.0001125	0.000925	0.295
-1.67	5.9199	4.9999	0	0.024999	0.025	0.0099998	2	0.0049999	1.2	0.17999	0.14	5.00E-05	0.0005	0.002	0.0005	0.002	5.00E-06	1.8099	0.0005	5.00E-05	0.0005	0.089998	1.00E-04	0.001	0.28999
-1.58	10.049	10.5	0	0.024999	0.049998	0.032499	1.25	0.0049998	0.84996	0.15499	0.12774	5.00E-05	0.0005	0.0022499	0.0005	0.0019999	6.25E-06	3.2249	0.0005	5.00E-05	0.0005	0.20499	0.00015	0.0016499	0.46748
-1.50	10.049	10.499	0	0.024998	0.049997	0.032498	1.2499	0.0049997	0.84993	0.15499	0.12775	5.00E-05	0.0005	0.0022498	0.0005	0.0019999	6.25E-06	3.2248	0.0005	5.00E-05	0.0005	0.20498	0.00015	0.0016499	0.46747
-1.42	12.199	10.999	0	0.024998	0.11999	0.019998	0.49996	0.0049996	1.3999	0.18998	0.096993	5.00E-05	0.0005	0.0019998	0.0005	0.0019998	5.00E-06	3.9697	0.0005	5.00E-05	0.0005	0.19999	1.00E-04	0.0008999	0.56995
-1.33	9.2642	8.7493	0	0.044996	0.024998	0.0087491	0.87492	0.0049996	1.4749	0.13124	0.13774	5.00E-05	0.0005	0.0029997	0.0005	0.0014998	5.00E-06	2.7647	0.0005	5.00E-05	0.0005	0.18248	1.00E-04	0.0013999	0.45496
-1.25	9.2646	8.7497	0	0.044997	0.024999	0.0087495	0.87496	0.0049998	1.4749	0.13125	0.13774	5.00E-05	0.0005	0.0029998	0.0005	0.0015	5.00E-06	2.7649	0.0005	5.00E-05	0.0005	0.18249	1.00E-04	0.0014	0.45499
-1.17	10.1	7.9998	0	0.024999	0.069998	0.01	4.9999	0.0049999	1.9	0.21999	0.169	5.00E-05	0.0005	0.0029999	0.0005	0.002	5.00E-06	3.2299	0.0005	5.00E-05	0.0005	0.19	0.0005	0.0016999	0.49999
-1.08	9.2647	8.7497	0	0.024999	0.18249	0.0062498	1.375	0.0049998	0.82499	0.094998	0.063749	5.00E-05	0.0005	0.002	0.0005	0.0014999	5.00E-06	2.9724	0.0005	5.00E-05	0.0005	0.082496	5.00E-05	0.0014999	0.45248
-1.00	9.2645	8.7495	0	0.024999	0.18249	0.0062497	1.375	0.0049997	0.82495	0.094996	0.063747	5.00E-05	0.0005	0.0019999	0.0005	0.0014999	5.00E-06	2.9723	0.0005	5.00E-05	0.0005	0.082495	5.00E-05	0.0014999	0.45247
-0.92	9.2664	8.7501	0	0.024998	0.18248	0.0062495	1.3753	0.0049996	0.82495	0.095038	0.063756	5.00E-05	0.0005002	0.0020011	0.0005	0.001525	5.00E-06	2.9728	0.0005002	5.00E-05	0.0005002	0.082493	5.00E-05	0.0015002	0.45264
-0.83	5.8111	3.5054	0	0.046245	0.043746	0.011248	0.50283	0.0049994	0.95007	0.13529	0.14181	5.03E-05	0.0005012	0.0020086	0.0005	0.0014178	5.02E-06	1.8436	0.0005015	5.01E-05	0.0005015	0.12498	0.0001128	0.0009273	0.29617
-0.75	5.8063	3.5034	0	0.046247	0.043749	0.01125	0.50181	0.0049997	0.95005	0.13519	0.14179	5.02E-05	0.0005008	0.0020055	0.0005	0.0013557	5.01E-06	1.8422	0.000501	5.01E-05	0.000501	0.12499	0.0001127	0.0009265	0.29574
-0.67	5.9299	5.0037	0	0.024999	0.024999	0.0099997	2.0019	0.0049997	1.2001	0.1802	0.14004	5.02E-05	0.0005009	0.0020062	0.0005	0.0021196	5.02E-06	1.8126	0.0005011	5.01E-05	0.0005011	0.089995	0.0001002	0.0010017	0.29084
-0.58	10.085	10.512	0	0.024994	0.049989	0.032493	1.2573	0.0049989	0.85025	0.15577	0.12793	5.08E-05	0.0005033	0.0022727	0.0004999	0.0024411	6.31E-06	3.2342	0.0005041	5.03E-05	0.0005041	0.20495	0.0001508	0.001656	0.47055
-0.50	10.12	10.525	0	0.02499	0.04998	0.032486	1.2643	0.004998	0.85048	0.1565	0.1281	5.16E-05	0.0005064	0.0022945	0.0004999	0.0028662	6.37E-06	3.2431	0.0005081	5.06E-05	0.0005081	0.20492	0.0001516	0.0016617	0.4735
-0.42	12.299	11.035	0	0.024986	0.11992	0.019988	0.52097	0.0049971	1.4004	0.19213	0.097514	5.23E-05	0.0005092	0.0020638	0.0004998	0.0032382	5.17E-06	3.9954	0.0005115	5.08E-05	0.0005115	0.19989	0.0001023	0.0009172	0.57851
-0.33	9.3777	8.7907	0	0.044971	0.024986	0.0087444	0.89831	0.0049967	1.4753	0.13369	0.13829	5.26E-05	0.0005103	0.0030709	0.0004998	0.0028926	5.20E-06	2.7943	0.0005129	5.09E-05	0.0005129	0.18238	0.0001026	0.0014191	0.46465
-0.25	9.3199	8.7699	0	0.044992	0.024994	0.0087474	0.88637	0.0049984	1.4752	0.13244	0.13802	5.13E-05	0.000505	0.0030345	0.0004999	0.0021789	5.10E-06	2.7793	0.0005063	5.04E-05	0.0005063	0.18244	0.0001013	0.0014093	0.45971

Year	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]
-2.00	0.0022499	1.25E-05	6.25E-05	0.0005	0.0099995	0.31499	0.0011249	0.0005	11.3	5.00E-05	1.7899	0.012999	5.00E-05	0.001	0.0018874	0.0002	0.0005	0.000625	0.084996	5.00E-05	0.0005	0.0019999	0.0005	0.0014999	5.00E-06	3.2098
-1.92	0.0022498	1.25E-05	6.25E-05	0.0005	0.0099993	0.31498	0.0011249	0.0005	11.299	5.00E-05	1.7899	0.012999	5.00E-05	0.0009999	0.0018873	0.0002	0.0005	0.000625	0.084995	5.00E-05	0.0005	0.0019998	0.0005	0.0014999	5.00E-06	3.2098
-1.83	0.0067498	1.25E-05	5.00E-05	0.0005	0.0099997	0.28249	0.0010749	0.0005	6.2498	5.00E-05	1.1075	0.0082496	5.00E-05	0.001	0.0018874	0.000225	0.0005	0.001125	0.18099	5.00E-05	0.000625	0.0019999	0.0005	0.0012499	5.00E-06	1.9874
-1.75	0.00675	1.25E-05	5.00E-05	0.0005	0.0099999	0.2825	0.001075	0.0005	6.2499	5.00E-05	1.1075	0.0082501	5.00E-05	0.001	0.0018875	0.000225	0.0005	0.001125	0.181	5.00E-05	0.000625	0.002	0.0005	0.00125	5.00E-06	1.9875
-1.67	0.0069999	1.25E-05	5.00E-05	0.0005	0.0099998	0.2	0.0008	0.0005	6.2999	5.00E-05	1.12	0.008	5.00E-05	0.001	0.0025	0.0003	0.0005	0.001	0.153	5.00E-05	0.0005	0.002	0.0005	0.002	5.00E-06	1.81
-1.58	0.0069997	1.25E-05	1.00E-04	0.0005	0.0099996	0.28499	0.0012999	0.0005	8.8996	5.00E-05	1.7949	0.014999	5.00E-05	0.001	0.0024999	0.00035	0.0005	0.001	0.18724	8.75E-05	0.0005	0.0024999	0.0005	0.0019999	6.25E-06	3.3474
-1.50	0.0069995	1.25E-05	1.00E-04	0.0005	0.0099992	0.28498	0.0012999	0.0005	8.8994	5.00E-05	1.7949	0.014999	5.00E-05	0.0009999	0.0024998	0.00035	0.0005	0.0009999	0.18724	8.75E-05	0.0005	0.0024998	0.0005	0.0019998	6.25E-06	3.3473
-1.42	0.0069995	1.25E-05	0.0002	0.0005	0.009999	0.35997	0.0013999	0.0005	10.299	5.00E-05	1.9098	0.016998	5.00E-05	0.0009999	0.0024998	0.0002	0.0005	0.0009999	0.096993	5.00E-05	0.0005	0.0019998	0.0005	0.0019998	5.00E-06	3.9696
-1.33	0.0044996	1.25E-05	5.00E-05	0.0005	0.009999	0.33497	0.0013499	0.0005	10.224	5.00E-05	1.6699	0.011999	5.00E-05	0.0009999	0.0024998	0.000225	0.0005	0.0009999	0.18648	5.00E-05	0.000625	0.0032497	0.0005	0.0014998	6.25E-06	2.8697
-1.25	0.0044998	1.25E-05	5.00E-05	0.0005	0.0099997	0.33499	0.0013499	0.0005	10.225	5.00E-05	1.6699	0.011999	5.00E-05	0.001	0.0024999	0.000225	0.0005	0.001	0.18649	5.00E-05	0.000625	0.0032498	0.0005	0.0014999	6.25E-06	2.8699
-1.17	0.0049999	1.25E-05	1.00E-04	0.0005	0.0099996	0.37999	0.0013999	0.0005	9.9998	5.00E-05	1.8299	0.013999	5.00E-05	0.001	0.0024999	0.0004	0.0005	0.0079999	0.16899	5.00E-05	0.0005	0.0029999	0.0005	0.002	1.20E-05	3.2299
-1.08	0.0022499	1.25E-05	6.25E-05	0.0005	0.0099998	0.31499	0.001125	0.0005	11.3	5.00E-05	1.79	0.012999	5.00E-05	0.001	0.0018875	0.0002	0.0005	0.000625	0.084998	5.00E-05	0.0005	0.002	0.0005	0.0015	5.00E-06	3.2099
-1.00	0.0022499	1.25E-05	6.25E-05	0.0005	0.0099995	0.31499	0.0011249	0.0005	11.3	5.00E-05	1.7899	0.012999	5.00E-05	0.001	0.0018874	0.0002	0.0005	0.000625	0.084996	5.00E-05	0.0005	0.0019999	0.0005	0.0014999	5.00E-06	3.2098
-0.92	0.0022507	1.25E-05	6.30E-05	0.0005	0.010004	0.31598	0.0011278	0.0005	11.299	5.00E-05	1.79	0.013005	5.00E-05	0.0010003	0.00189	0.0002	0.000501	0.0006256	0.085005	5.00E-05	0.0005002	0.0020011	0.0005	0.001525	5.00E-06	3.2103
-0.83	0.0067556	1.25E-05	5.32E-05	0.0005005	0.010029	0.28919	0.0010941	0.0005001	6.2501	5.00E-05	1.1085	0.0082875	5.01E-05	0.0010022	0.0019049	0.0002251	0.0005071	0.0011289	0.18105	5.03E-05	0.0006262	0.0020085	0.0005	0.0014178	5.02E-06	1.991
-0.75	0.0067538	1.25E-05	5.20E-05	0.0005003	0.010019	0.28672	0.001087	0.0005001	6.2502	5.00E-05	1.1081	0.008274	5.01E-05	0.0010014	0.0018985	0.0002251	0.0005045	0.0011275	0.18104	5.02E-05	0.0006258	0.0020054	0.0005	0.0013557	5.01E-06	1.9898
-0.67	0.0070041	1.25E-05	5.23E-05	0.0005004	0.010021	0.20478	0.0008137	0.0005001	6.3002	5.00E-05	1.1208	0.0080271	5.01E-05	0.0010016	0.0025124	0.0003001	0.0005051	0.0010028	0.15304	5.02E-05	0.0005009	0.0020062	0.0005	0.0021196	5.02E-06	1.8126
-0.58	0.0070153	1.25E-05	0.0001084	0.0005013	0.010078	0.3026	0.0013502	0.0005003	8.9002	5.00E-05	1.7976	0.015098	5.02E-05	0.0010059	0.0025457	0.0003502	0.0005188	0.0010103	0.18741	8.83E-05	0.0005033	0.0025226	0.0004999	0.0024411	6.31E-06	3.3567
-0.50	0.0070305	1.25E-05	0.0001165	0.0005026	0.010154	0.31956	0.0013986	0.0005006	8.9004	5.01E-05	1.8	0.015192	5.05E-05	0.0010116	0.0025898	0.0003505	0.000537	0.0010203	0.18757	8.91E-05	0.0005064	0.0025444	0.0004999	0.0028662	6.37E-06	3.3656
-0.42	0.0070434	1.25E-05	0.0002235	0.0005037	0.010219	0.40936	0.0015408	0.0005008	10.3	5.01E-05	1.9171	0.017273	5.07E-05	0.0010165	0.0026284	0.0002008	0.0005528	0.0010289	0.097516	5.23E-05	0.0005092	0.0020638	0.0004998	0.0032382	5.17E-06	3.9954
-0.33	0.0045501	1.25E-05	7.652E-05	0.0005042	0.010246	0.39051	0.0015084	0.0005009	10.225	5.01E-05	1.6782	0.012311	5.08E-05	0.0010186	0.0026443	0.0002259	0.0005594	0.0010325	0.18701	5.26E-05	0.0006352	0.0033207	0.0004998	0.0028926	6.44E-06	2.8993
-0.25	0.0045245	1.25E-05	6.29E-05	0.000502	0.010121	0.36207	0.0014272	0.0005005	10.225	5.01E-05	1.674	0.012152	5.04E-05	0.0010091	0.0025704	0.0002254	0.000529	0.0010159	0.18675	5.13E-05	0.00063	0.0032845	0.0004999	0.0021789	6.35E-06	2.8843

Year	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
-2.00	0.0005	5.00E-05	0.0005	0.097494	6.25E-05	0.0016249	0.47997	0.0042498	1.25E-05	6.25E-05	0.0005	0.0099995	0.32998	0.0012	0.0005	11.3	5.00E-05	1.8799	0.013999	5.00E-05	0.001	0.0018874	0.00025	0.0005	0.000625	3.5248
-1.92	0.0005	5.00E-05	0.0005	0.097492	6.25E-05	0.0016249	0.47996	0.0042497	1.25E-05	6.25E-05	0.0005	0.0099993	0.32998	0.0011999	0.0005	11.299	5.00E-05	1.8799	0.013999	5.00E-05	0.0009999	0.0018873	0.00025	0.0005	0.000625	3.5248
-1.83	0.0005	5.00E-05	0.0005	0.15249	0.0002	0.001025	0.30749	0.0097498	1.25E-05	5.00E-05	0.0005	0.0099997	0.30499	0.001175	0.0005	6.2498	5.00E-05	1.165	0.0087498	5.00E-05	0.001	0.0018874	0.000275	0.0005	0.0013749	7.1497
-1.75	0.0005	5.00E-05	0.0005	0.1525	0.0002	0.001025	0.3075	0.0097499	1.25E-05	5.00E-05	0.0005	0.0099998	0.305	0.001175	0.0005	6.2499	5.00E-05	1.165	0.0087499	5.00E-05	0.001	0.0018875	0.000275	0.0005	0.001375	7.15
-1.67	0.0005	5.00E-05	0.0005	0.089998	0.0002	0.001	0.29	0.0079999	1.25E-05	5.00E-05	0.0005	0.0099998	0.2	0.0009	0.0005	6.2999	5.00E-05	1.12	0.0079999	5.00E-05	0.001	0.0025	0.0003	0.0005	0.001	7.1999
-1.58	0.0005	7.50E-05	0.0005	0.25499	0.000225	0.0017749	0.48998	0.015249	1.25E-05	0.00025	0.0005	0.0099995	0.29998	0.0013999	0.0005	8.8996	5.00E-05	1.8724	0.015749	5.00E-05	0.001	0.0024999	0.000375	0.0005	0.001	8.8746
-1.50	0.0005	7.50E-05	0.0005	0.25498	0.000225	0.0017749	0.48997	0.015249	1.25E-05	0.00025	0.0005	0.0099993	0.29998	0.0013999	0.0005	8.8994	5.00E-05	1.8723	0.015749	5.00E-05	0.0009999	0.0024998	0.000375	0.0005	0.0009999	8.8743
-1.42	0.0005	5.00E-05	0.0005	0.19999	1.00E-04	0.0018998	0.56995	0.0069993	1.25E-05	0.0002	0.0005	0.0099992	0.41996	0.0014999	0.0005	10.299	5.00E-05	2.1598	0.016998	5.00E-05	0.0009999	0.0024998	0.0004	0.0005	0.0019998	7.2995
-1.33	0.0005	5.00E-05	0.0005	0.22248	0.000175	0.0014749	0.46746	0.0074994	1.25E-05	5.00E-05	0.0005	0.0099991	0.34997	0.0013998	0.0005	10.224	5.00E-05	1.7224	0.012499	5.00E-05	0.0009999	0.0024998	0.00025	0.0005	0.0009999	9.4493
-1.25	0.0005	5.00E-05	0.0005	0.22249	0.000175	0.0014749	0.46748	0.0074997	1.25E-05	5.00E-05	0.0005	0.0099995	0.34999	0.0013999	0.0005	10.225	5.00E-05	1.7225	0.0125	5.00E-05	0.001	0.0024999	0.00025	0.0005	0.001	9.4495
-1.17	0.0005	5.00E-05	0.0005	0.18999	0.0005	0.0017	0.49999	0.005	1.25E-05	1.00E-04	0.0005	0.0099998	0.37999	0.0013999	0.0005	9.9998	5.00E-05	1.83	0.014	5.00E-05	0.001	0.0024999	0.0004	0.0005	0.0079997	12.5
-1.08	0.0005	5.00E-05	0.0005	0.097496	6.25E-05	0.0016249	0.47999	0.0042499	1.25E-05	6.25E-05	0.0005	0.0099997	0.32999	0.0012	0.0005	11.3	5.00E-05	1.8799	0.014	5.00E-05	0.001	0.0018875	0.00025	0.0005	0.000625	3.5249
-1.00	0.0005	5.00E-05	0.0005	0.097494	6.25E-05	0.0016249	0.47997	0.0042498	1.25E-05	6.25E-05	0.0005	0.0099995	0.32998	0.0012	0.0005	11.3	5.00E-05	1.8799	0.013999	5.00E-05	0.001	0.0018874	0.00025	0.0005	0.000625	3.5248
-0.92	0.0005002	5.00E-05	0.0005002	0.097491	6.25E-05	0.0016252	0.48014	0.0042506	1.25E-05	6.30E-05	0.0005	0.010004	0.33098	0.0012027	0.0005	11.299	5.00E-05	1.88	0.014004	5.00E-05	0.0010003	0.00189	0.00025	0.000501	0.0006256	3.5247
-0.83	0.0005015	5.01E-05	0.0005015	0.15248	0.0002003	0.0010273	0.30866	0.0097553	1.25E-05	5.32E-05	0.0005005	0.010029	0.31169	0.0011941	0.0005001	6.2501	5.00E-05	1.166	0.0087877	5.01E-05	0.0010022	0.0019049	0.0002751	0.0005071	0.0013788	7.1491
-0.75	0.000501	5.01E-05	0.000501	0.15249	0.0002002	0.0010265	0.30824	0.0097535	1.25E-05	5.20E-05	0.0005003	0.010019	0.30922	0.001187	0.0005001	6.2502	5.00E-05	1.1657	0.0087737	5.01E-05	0.0010014	0.0018985	0.0002751	0.0005045	0.0013775	7.1497
-0.67	0.0005011	5.01E-05	0.0005011	0.089996	0.0002002	0.0010017	0.29084	0.0080041	1.25E-05	5.23E-05	0.0005004	0.010021	0.20478	0.0009137	0.0005001	6.3002	5.00E-05	1.1208	0.0080271	5.01E-05	0.0010016	0.0025124	0.0003001	0.0005051	0.0010028	7.1996
-0.58	0.0005041	7.53E-05	0.0005041	0.25494	0.0002258	0.0017809	0.49304	0.015263	1.25E-05	0.0002584	0.0005013	0.010079	0.31759	0.0014502	0.0005003	8.9002	5.00E-05	1.875	0.015847	5.02E-05	0.0010059	0.0025457	0.0003752	0.0005188	0.0010103	8.8732
-0.50	0.0005081	7.56E-05	0.0005081	0.2549	0.0002266	0.0017867	0.49599	0.015277	1.25E-05	0.0002664	0.0005026	0.010154	0.33456	0.0014985	0.0005006	8.9004	5.01E-05	1.8775	0.015942	5.05E-05	0.0010116	0.0025898	0.0003755	0.000537	0.0010203	8.8714
-0.42	0.0005115	5.08E-05	0.0005115	0.19989	0.0001023	0.0019166	0.57851	0.0070434	1.25E-05	0.0002235	0.0005037	0.01022	0.46932	0.0016408	0.0005008	10.3	5.01E-05	2.167	0.017273	5.07E-05	0.0010165	0.0026284	0.0004007	0.0005528	0.0020283	7.2961
-0.33	0.0005129	5.09E-05	0.0005129	0.22235	0.0001775	0.001494	0.47714	0.007548	1.25E-05	7.652E-05	0.0005042	0.010247	0.40551	0.0015583	0.0005009	10.225	5.01E-05	1.7307	0.01281	5.08E-05	0.0010186	0.0026443	0.0002508	0.0005595	0.0010325	9.4439
-0.25	0.0005063	5.04E-05	0.0005063	0.22243	0.0001763	0.0014843	0.47221	0.0075234	1.25E-05	6.29E-05	0.000502	0.010121	0.37706	0.0014772	0.0005005	10.225	5.01E-05	1.7265	0.012652	5.04E-05	0.0010091	0.0025704	0.0002504	0.0005291	0.0010161	9.4469

TABLE B3.9

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP2

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
33.42	12.638	20.812	0	0.028361	0.047875	0.032052	1.9953	0.0049052	0.88469	0.21256	0.14081	0.0001771	0.0012448	0.0037834	0.0004964	0.031412
33.50	14.305	25.771	0	0.03044	0.048376	0.031815	2.4339	0.0048621	0.90333	0.24815	0.14831	0.0002545	0.001696	0.0047836	0.0004939	0.05052
33.58	17.43	29.77	0	0.032489	0.1164	0.01956	1.9916	0.0048268	1.4529	0.30461	0.12318	0.0003133	0.0020613	0.0051529	0.0004929	0.062187
33.67	14.552	26.744	0	0.052354	0.024578	0.0085158	2.3436	0.004816	1.5255	0.2466	0.16188	0.0003161	0.0020874	0.0061212	0.0004928	0.061717
33.75	11.673	17.068	0	0.049925	0.024421	0.0086916	1.5479	0.0049118	1.5038	0.18401	0.14924	0.0001768	0.0012671	0.0044256	0.0004964	0.028953
33.83	11.333	12.927	0	0.027386	0.069046	0.0099201	5.3335	0.0049512	1.9133	0.24753	0.17569	0.0001247	0.0009665	0.0037423	0.000498	0.016232
33.92	10.234	14.004	0	0.027771	0.1811	0.0062029	1.7015	0.0049571	0.84456	0.11725	0.069057	0.0001246	0.0009899	0.0025683	0.0004984	0.012273
34.00	10.642	17.778	0	0.029985	0.18219	0.0061783	1.8693	0.0049345	0.85223	0.12521	0.069915	0.0001736	0.0013352	0.0027696	0.0004976	0.015999
34.08	10.776	20.269	0	0.031655	0.18263	0.0061579	1.953	0.0049228	0.85613	0.12806	0.070117	0.0002043	0.0015625	0.0028249	0.0004973	0.016804
34.17	8.5873	9.7052	0	0.048667	0.045678	0.011107	1.1925	0.0049044	0.97877	0.19387	0.15411	0.0001698	0.0011868	0.0036661	0.0004954	0.033305
34.25	6.7851	5.2684	0	0.046788	0.04319	0.011289	0.74921	0.004966	0.95888	0.15732	0.14696	8.976E-05	0.0007207	0.0026097	0.0004983	0.013033
34.33	6.7992	7.3466	0	0.026529	0.023574	0.010054	2.2263	0.0049656	1.2097	0.19992	0.1447	9.723E-05	0.0007875	0.0025472	0.0004983	0.012458
34.42	12.545	16.7	0	0.028705	0.047989	0.032049	1.9084	0.0049039	0.88427	0.2103	0.14067	0.0001808	0.0012932	0.0037937	0.0004952	0.03161
34.50	14.166	19.898	0	0.030858	0.048506	0.031811	2.3079	0.0048601	0.9024	0.2448	0.14809	0.0002585	0.0017546	0.0047943	0.0004922	0.050734
34.58	17.253	22.738	0	0.032873	0.1165	0.019555	1.8376	0.0048244	1.4513	0.30042	0.12287	0.0003159	0.0021149	0.0051592	0.0004909	0.062335
34.67	14.381	20.223	0	0.05262	0.024635	0.0085112	2.1985	0.0048137	1.5236	0.24256	0.16156	0.0003168	0.0021244	0.0061221	0.0004909	0.061771
34.75	11.594	14.143	0	0.050028	0.024439	0.0086896	1.4823	0.0049108	1.5029	0.18217	0.14909	0.0001768	0.0012813	0.0044251	0.0004955	0.028962
34.83	11.288	11.226	0	0.027452	0.069059	0.009919	5.2955	0.0049507	1.9128	0.24647	0.17561	0.0001249	0.0009756	0.0037423	0.0004975	0.016242
34.92	10.188	12.21	0	0.027855	0.18112	0.0062018	1.6618	0.0049565	0.84408	0.11616	0.068972	0.000125	0.0010015	0.0025691	0.0004979	0.012297
35.00	10.566	14.738	0	0.030147	0.18223	0.0061764	1.8026	0.0049334	0.85151	0.12339	0.06978	0.0001746	0.0013579	0.0027722	0.0004968	0.01606
35.08	10.681	16.421	0	0.03188	0.18269	0.0061554	1.869	0.0049214	0.85529	0.12578	0.069953	0.000206	0.0015939	0.0028292	0.0004962	0.0169
35.17	8.5436	7.9277	0	0.048777	0.045708	0.011106	1.1539	0.0049038	0.9784	0.19283	0.15403	0.0001707	0.0012023	0.0036685	0.0004949	0.033356

Year	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]
33.42	1.14E-05	3.8914	0.000789	7.542E-05	0.0008341	0.20331	0.0002075	0.0021929	0.69283	0.0097577	1.23E-05	0.0011494	0.0005958	0.015133	1.4213	0.0050127	0.0005224	9.4766	5.20E-05	6.337	0.023321	6.716E-05	0.0014154	0.005484	0.0004064	0.0018341	0.0017292
33.50	1.47E-05	4.3194	0.0009749	9.146E-05	0.0010464	0.20207	0.0002432	0.0025376	0.83798	0.01141	1.21E-05	0.001799	0.0006571	0.018715	2.1618	0.007399	0.0005365	9.7852	5.34E-05	8.481	0.02862	7.823E-05	0.0016842	0.0074235	0.0004389	0.0026967	0.0021948
33.58	1.56E-05	5.3061	0.0010907	0.0001013	0.0011859	0.19597	0.0002171	0.0020378	1.0295	0.012446	1.20E-05	0.0023735	0.0006959	0.020759	2.6812	0.0090128	0.0005458	11.37	5.42E-05	10.116	0.034069	8.521E-05	0.0018538	0.0085995	0.0003189	0.0032382	0.0024726
33.67	1.55E-05	4.1217	0.0010906	0.0001009	0.001188	0.17758	0.0002155	0.0025359	0.91663	0.0098749	1.20E-05	0.0022505	0.0006959	0.020763	2.6545	0.0089754	0.0005456	11.262	5.42E-05	9.5008	0.029235	8.525E-05	0.0018557	0.0085993	0.0003442	0.0032438	0.0024671
33.75	9.83E-06	3.3789	0.0007697	7.342E-05	0.0008178	0.18083	0.0001534	0.0019296	0.6667	0.0070356	1.23E-05	0.0010925	0.0005893	0.015037	1.3891	0.0048554	0.0005205	10.693	5.19E-05	5.2964	0.019997	6.612E-05	0.0013915	0.0052759	0.0002818	0.0017575	0.0016782
33.83	7.67E-06	3.5412	0.0006414	6.30E-05	0.0006722	0.18981	0.0005258	0.0019903	0.611	0.0065706	1.24E-05	0.0007029	0.000547	0.012725	0.92057	0.0032624	0.0005108	10.27	5.09E-05	4.0059	0.018336	5.85E-05	0.0012061	0.0039325	0.0004337	0.0011628	0.0083019
33.92	7.19E-06	3.2141	0.0006102	6.09E-05	0.0006452	0.082455	7.22E-05	0.0017566	0.54125	0.0038002	1.24E-05	0.0006447	0.0005371	0.012109	0.71426	0.0026268	0.0005085	11.593	5.07E-05	4.138	0.01672	5.67E-05	0.001162	0.0029543	0.000236	0.0010228	0.000904
34.00	8.21E-06	3.3151	0.0006525	6.63E-05	0.0007146	0.081699	0.0000791	0.0018936	0.57938	0.0046407	1.23E-05	0.0010076	0.0005518	0.012607	0.84012	0.0032626	0.0005119	11.833	5.08E-05	5.8403	0.018609	5.93E-05	0.0012259	0.0032997	0.0002599	0.0012309	0.0010054
34.08	8.67E-06	3.346	0.0006651	6.88E-05	0.0007461	0.081357	8.093E-05	0.0019632	0.59323	0.0052162	1.23E-05	0.0012262	0.0005566	0.012605	0.85626	0.0035013	0.000513	11.989	5.08E-05	6.9776	0.019519	6.01E-05	0.0012464	0.0033538	0.0002759	0.0012995	0.0010337
34.17	1.02E-05	2.5598	0.0008087	7.48E-05	0.0008471	0.12307	0.0001731	0.0014977	0.5366	0.0089814	1.23E-05	0.0010737	0.0006013	0.015607	1.5286	0.0050266	0.0005227	6.6169	5.23E-05	3.6872	0.016971	6.84E-05	0.0014477	0.0051608	0.0002766	0.0019367	0.0019007
34.25	6.86E-06	2.0931	0.0006126	5.88E-05	0.000624	0.12484	0.0001363	0.0011237	0.38126	0.0075407	1.24E-05	0.0003969	0.0005368	0.012064	0.74258	0.0025065	0.0005082	6.331	5.08E-05	1.8335	0.011317	5.67E-05	0.0011632	0.003096	0.0002414	0.0010233	0.0014207
34.33	6.79E-06	2.0324	0.0006018	5.85E-05	0.0006198	0.089734	0.0001215	0.0011973	0.36905	0.0078762	1.24E-05	0.0004416	0.0005335	0.011822	0.60143	0.002131	0.0005074	6.3935	5.07E-05	2.1308	0.010997	5.61E-05	0.0011488	0.0035617	0.0003203	0.0009787	0.0012682
34.42	1.12E-05	3.8566	0.0007876	7.384E-05	0.0008367	0.20326	0.0002078	0.0021994	0.69137	0.0094038	1.23E-05	0.0011896	0.0005945	0.01516	1.4229	0.0050452	0.0005208	9.1912	5.20E-05	4.4462	0.023392	6.723E-05	0.0014204	0.0055002	0.0004072	0.0018521	0.0017254
34.50	1.44E-05	4.2684	0.0009721	8.912E-05	0.0010484	0.20199	0.0002436	0.0025434	0.83513	0.010889	1.21E-05	0.0018462	0.000655	0.018742	2.1621	0.0074315	0.000534	9.3771	5.34E-05	5.7815	0.028676	7.827E-05	0.0016899	0.0074407	0.0004394	0.0027179	0.0021874
34.58	1.52E-05	5.2431	0.0010861	9.835E-05	0.0011858	0.19588	0.0002173	0.0020391	1.0248	0.011798	1.20E-05	0.0024138	0.000693	0.020772	2.6785	0.0090298	0.0005427	10.881	5.42E-05	6.8852	0.034063	8.516E-05	0.0018583	0.0086105	0.0003184	0.0032563	0.0024608
34.67	1.51E-05	4.0617	0.0010854	9.809E-05	0.0011859	0.17749	0.0002155	0.0025327	0.9114	0.0092549	1.20E-05	0.0022754	0.0006928	0.02076	2.6496	0.008974	0.0005427	10.808	5.42E-05	6.5051	0.029174	8.514E-05	0.0018581	0.0086021	0.0003429	0.0032551	0.0024539
34.75	9.65E-06	3.3518	0.0007671	7.213E-05	0.0008165	0.1808	0.0001533	0.0019274	0.66418	0.006754	1.23E-05	0.0011014	0.0005879	0.015033	1.3865	0.0048516	0.0005192	10.489	5.19E-05	3.9526	0.019959	6.605E-05	0.0013923	0.0052758	0.000281	0.0017615	0.0016718
34.83	7.57E-06	3.5255	0.0006399	6.22E-05	0.0006715	0.18979	0.0005258	0.0019893	0.6096	0.006408	1.24E-05	0.0007088	0.0005462	0.012724	0.91919	0.0032613	0.00051	10.152	5.09E-05	3.2242	0.018317	5.84E-05	0.0012066	0.0039329	0.0004333	0.0011655	0.0082984
34.92	7.09E-06	3.1978	0.0006089	6.01E-05	0.0006449	0.082431	7.221E-05	0.0017562	0.53992	0.0036318	1.24E-05	0.000653	0.0005363	0.01211	0.71319	0.0026284	0.0005077	11.469	5.07E-05	3.3138	0.01671	5.66E-05	0.0011629	0.0029559	0.0002357	0.0010266	0.0009007
35.00	8.03E-06	3.2878	0.0006504	6.50E-05	0.0007144	0.081657	7.917E-05	0.0018939	0.57734	0.0043594	1.23E-05	0.0010245	0.0005505	0.012612	0.83885	0.0032692	0.0005106	11.621	5.08E-05	4.4435	0.018604	5.93E-05	0.0012277	0.0033041	0.0002596	0.0012386	0.0010002
35.08	8.45E-06	3.3117	0.0006628	6.72E-05	0.0007464	0.081303	8.106E-05	0.0019646	0.59084	0.0048639	1.23E-05	0.0012504	0.0005551	0.012614	0.85519	0.0035134	0.0005113	11.721	5.08E-05	5.2094	0.019524	6.01E-05	0.0012491	0.0033611	0.0002758	0.0013103	0.0010276
35.17	1.01E-05	2.544	0.0008076	7.41E-05	0.0008473	0.12304	0.0001731	0.0014987	0.53556	0.0088199	1.23E-05	0.0010859	0.0006006	0.015613	1.5283	0.0050335	0.0005219	6.4932	5.23E-05	2.8703	0.016978	6.84E-05	0.0014491	0.0051648	0.0002766	0.0019421	0.001898

Year	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
33.42	0.20024	0.0002141	0.0012448	0.004036	0.0004964	0.031412	1.14E-05	4.013	0.000789	0.0001001	0.0008341	0.25306	0.0002821	0.002318	0.71517	0.017926	1.23E-05	0.0012974	0.0005958	0.015511	1.4362	0.0051131	0.0005224	9.4766	5.20E-05	6.414	0.024072	6.716E-05	0.0014154	0.005484	0.000432	0.0018357	0.0017293	8.8268
33.50	0.20788	0.0002911	0.0016975	0.0050339	0.0004939	0.050523	1.47E-05	4.4407	0.0009749	0.0001165	0.0010464	0.25183	0.0003192	0.0026616	0.86015	0.019633	1.21E-05	0.0019455	0.0006571	0.018829	2.1767	0.0074991	0.0005365	9.7852	5.34E-05	8.5575	0.029365	7.823E-05	0.0016842	0.0074235	0.0004645	0.0026967	0.0022009	8.7492
33.58	0.12354	0.0003133	0.0020613	0.0051577	0.0004929	0.062187	1.56E-05	5.3071	0.0010907	0.0001013	0.0011859	0.19635	0.0002181	0.003017	1.0296	0.012483	1.20E-05	0.0023735	0.0006959	0.020869	2.7396	0.009113	0.0005458	11.37	5.42E-05	10.362	0.034089	8.521E-05	0.0018538	0.0085995	0.0005145	0.0032382	0.003446	7.1793
33.67	0.2097	0.0003161	0.0022114	0.0063642	0.0004928	0.061717	1.67E-05	4.2254	0.0010906	0.0001009	0.001188	0.21685	0.0002887	0.0026107	0.92894	0.012813	1.21E-05	0.0022505	0.0006959	0.020866	2.6693	0.0090252	0.0005456	11.262	5.42E-05	9.5527	0.029729	8.525E-05	0.0018557	0.0085993	0.000369	0.003261	0.0024672	9.2342
33.75	0.19748	0.0001768	0.0013938	0.0046765	0.0004964	0.028956	1.12E-05	3.4835	0.0007697	7.342E-05	0.0008178	0.22038	0.0002317	0.0020046	0.67919	0.010014	1.23E-05	0.0010928	0.0005893	0.015086	1.404	0.0049051	0.0005205	10.693	5.19E-05	5.3489	0.020497	6.612E-05	0.0013915	0.0052759	0.0003066	0.0017725	0.0017012	9.3795
33.83	0.17612	0.0001247	0.0009665	0.0037423	0.000498	0.016232	1.46E-05	3.5439	0.0006414	6.30E-05	0.0006722	0.19001	0.0005265	0.0019918	0.61138	0.0065935	1.24E-05	0.0007029	0.000547	0.012774	0.9209	0.0032642	0.0005108	10.27	5.09E-05	4.0073	0.018351	5.85E-05	0.0012061	0.0039325	0.000434	0.0011628	0.0083043	12.488
33.92	0.090655	0.0001246	0.0009899	0.0025683	0.0004984	0.012275	7.23E-06	3.4519	0.0006102	6.10E-05	0.0006452	0.097615	8.601E-05	0.0018826	0.56884	0.0057743	1.24E-05	0.0006447	0.0005371	0.012159	0.72949	0.0027025	0.0005085	11.593	5.07E-05	4.2285	0.017725	5.67E-05	0.001162	0.002973	0.0002861	0.0010228	0.0009179	3.5406
34.00	0.091266	0.0001736	0.0013352	0.0027745	0.0004976	0.015999	8.21E-06	3.5544	0.0006525	6.63E-05	0.0007146	0.096784	9.191E-05	0.0020193	0.60699	0.0066413	1.23E-05	0.0010076	0.0005518	0.012608	0.85525	0.0033384	0.0005119	11.833	5.08E-05	5.9307	0.019615	5.93E-05	0.0012259	0.0032997	0.0003101	0.001231	0.0010055	3.4848
34.08	0.091778	0.0002043	0.0015625	0.0028273	0.0004973	0.016806	8.68E-06	3.5843	0.0006651	6.88E-05	0.0007461	0.096698	9.423E-05	0.0020907	0.62075	0.0072293	1.23E-05	0.0012262	0.0005566	0.012606	0.87139	0.0035776	0.000513	11.989	5.08E-05	7.0687	0.020526	6.01E-05	0.0012464	0.0033538	0.0003264	0.0012995	0.0010338	3.4742
34.17	0.19287	0.0001698	0.0013108	0.0036686	0.0004954	0.033305	1.02E-05	2.7075	0.0008087	7.48E-05	0.0008471	0.15037	0.0002596	0.0015976	0.54919	0.011945	1.23E-05	0.0010737	0.0006013	0.015608	1.5509	0.0051258	0.0005227	6.6169	5.23E-05	3.7451	0.017477	6.84E-05	0.0014477	0.0051608	0.0003259	0.0019367	0.0021487	7.0342
34.25	0.18664	8.976E-05	0.0008442	0.0026122	0.0004983	0.013033	6.86E-06	2.2402	0.0006126	5.89E-05	0.000624	0.15254	0.0002235	0.0012237	0.39378	0.010538	1.24E-05	0.0003969	0.0005368	0.012191	0.76509	0.0026078	0.0005082	6.331	5.08E-05	1.891	0.011816	5.67E-05	0.0011632	0.003096	0.0002911	0.0010348	0.0016677	7.1484
34.33	0.1579	9.723E-05	0.0007875	0.0025472	0.0004983	0.012458	6.79E-06	2.0342	0.0006018	5.85E-05	0.0006198	0.089984	0.0002207	0.0011988	0.36918	0.008884	1.24E-05	0.0004416	0.0005335	0.011822	0.60161	0.0022311	0.0005074	6.3935	5.07E-05	2.1315	0.011003	5.61E-05	0.0011488	0.0035617	0.0003209	0.0009787	0.0012682	7.2015
34.42	0.2001	0.0002178	0.0012932	0.0040463	0.0004952	0.03161	1.12E-05	3.9782	0.0007876	9.851E-05	0.0008367	0.25301	0.0002824	0.0023245	0.71372	0.017572	1.23E-05	0.0013376	0.0005945	0.015538	1.4378	0.0051457	0.0005208	9.1912	5.20E-05	4.5231	0.024143	6.723E-05	0.0014204	0.0055002	0.0004328	0.0018537	0.0017254	8.8256
34.50	0.20766	0.0002951	0.0017561	0.0050446	0.0004922	0.050737	1.44E-05	4.3897	0.0009721	0.0001142	0.0010484	0.25175	0.0003196	0.0026674	0.8573	0.019113	1.21E-05	0.0019927	0.000655	0.018855	2.1771	0.0075317	0.000534	9.3771	5.34E-05	5.858	0.029421	7.827E-05	0.0016899	0.0074407	0.000465	0.0027179	0.0021936	8.7475
34.58	0.12323	0.0003159	0.0021149	0.0051641	0.0004909	0.062335	1.52E-05	5.2441	0.0010861	9.835E-05	0.0011858	0.19625	0.0002183	0.0030182	1.025	0.011835	1.20E-05	0.0024138	0.000693	0.020882	2.7369	0.00913	0.0005427	10.881	5.42E-05	7.1308	0.034083	8.516E-05	0.0018583	0.0086105	0.000514	0.0032564	0.0034342	7.1772
34.67	0.20938	0.0003168	0.0022483	0.0063651	0.0004909	0.061771	1.63E-05	4.1654	0.0010854	9.809E-05	0.0011859	0.21676	0.0002886	0.0026076	0.9237	0.012193	1.21E-05	0.0022754	0.0006928	0.020864	2.6644	0.0090238	0.0005427	10.808	5.42E-05	6.5569	0.029667	8.514E-05	0.0018581	0.0086021	0.0003677	0.0032723	0.002454	9.2323
34.75	0.19733	0.0001768	0.001408	0.004676	0.0004955	0.028964	1.10E-05	3.4563	0.0007671	7.213E-05	0.0008165	0.22034	0.0002316	0.0020024	0.67667	0.0097328	1.23E-05	0.0011016	0.0005879	0.015082	1.4013	0.0049012	0.0005192	10.489	5.19E-05	4.0051	0.020459	6.605E-05	0.0013923	0.0052758	0.0003059	0.0017765	0.0016949	9.3786
34.83	0.17603	0.0001249	0.0009756	0.0037424	0.0004975	0.016242	1.45E-05	3.5282	0.0006399	6.22E-05	0.0006715	0.18999	0.0005265	0.0019908	0.60997	0.0064309	1.24E-05	0.0007088	0.0005462	0.012772	0.91951	0.003263	0.00051	10.152	5.09E-05	3.2257	0.018333	5.84E-05	0.0012066	0.0039329	0.0004336	0.0011655	0.0083007	12.487
34.92	0.090572	0.000125	0.0010015	0.0025691	0.0004979	0.0123	7.12E-06	3.4356	0.0006089	6.02E-05	0.0006449	0.097591	8.602E-05	0.0018822	0.56751	0.005606	1.24E-05	0.000653	0.0005363	0.01216	0.72842	0.0027041	0.0005077	11.469	5.07E-05	3.4042	0.017715	5.66E-05	0.0011629	0.0029746	0.0002859	0.0010266	0.0009146	3.54
35.00	0.091132	0.0001746	0.0013579	0.002777	0.0004968	0.01606	8.03E-06	3.527	0.0006504	6.50E-05	0.0007144	0.096742	9.198E-05	0.0020197	0.60495	0.0063601	1.23E-05	0.0010245	0.0005505	0.012613	0.85398	0.003345	0.0005106	11.621	5.08E-05	4.5339	0.01961	5.93E-05	0.0012277	0.0033041	0.0003098	0.0012386	0.0010002	3.4838
35.08	0.091614	0.000206	0.001594	0.0028316	0.0004962	0.016902	8.46E-06	3.55	0.0006628	6.72E-05	0.0007464	0.096645	9.436E-05	0.0020921	0.61836	0.0068771	1.23E-05	0.0012504	0.0005551	0.012615	0.87032	0.0035897	0.0005113	11.721	5.08E-05	5.3006	0.020532	6.01E-05	0.0012491	0.0033611	0.0003263	0.0013104	0.0010277	3.473
35.17	0.1928	0.0001707	0.0013263	0.0036709	0.0004949	0.033356	1.01E-05	2.6917	0.0008076	7.41E-05	0.0008473	0.15034	0.0002597	0.0015986	0.54815	0.011783	1.23E-05	0.0010859	0.0006006	0.015613	1.5506	0.0051327	0.0005219	6.4932	5.23E-05	2.9283	0.017484	6.84E-05	0.0014491	0.0051648	0.0003259	0.0019422	0.002146	7.0336

TABLE B3.9

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP2

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
67.83	11.218	8.4598	0	0.027596	0.069097	0.0099171	5.2348	0.0049497	1.9121	0.24481	0.17548	0.0001258	0.0009956	0.0037445	0.0004967	0.016295	7.41E-06	3.5007	0.000638	6.11E-05	0.0006713
67.92	10.11	9.135	0	0.028024	0.18116	0.0061997	1.5946	0.0049555	0.84338	0.11432	0.068839	0.0001262	0.0010251	0.002572	0.000497	0.012363	6.91E-06	3.1703	0.0006069	5.88E-05	0.0006448
68.00	10.432	9.3483	0	0.030455	0.18231	0.0061728	1.6851	0.0049316	0.85032	0.1202	0.069549	0.0001769	0.0014008	0.0027778	0.0004952	0.016187	7.72E-06	3.2397	0.000647	6.27E-05	0.0007146
68.08	10.508	9.4429	0	0.032289	0.18281	0.0061507	1.7171	0.0049191	0.85379	0.12167	0.069659	0.0002091	0.0016511	0.0028371	0.0004942	0.017075	8.05E-06	3.2496	0.0006585	6.43E-05	0.0007469
68.17	8.4629	4.6572	0	0.048972	0.045762	0.011104	1.0828	0.0049026	0.97771	0.19091	0.1539	0.0001722	0.0012296	0.0036724	0.000494	0.033441	9.94E-06	2.515	0.0008057	7.28E-05	0.0008476
68.25	6.7515	3.8767	0	0.04688	0.043217	0.011288	0.71918	0.0049656	0.95863	0.15652	0.14691	9.058E-05	0.0007336	0.0026119	0.0004979	0.013078	6.78E-06	2.0809	0.0006119	5.82E-05	0.0006243
68.33	6.7518	5.3365	0	0.026674	0.023619	0.010053	2.1833	0.0049649	1.2094	0.19878	0.14463	9.864E-05	0.0008079	0.002551	0.0004978	0.012534	6.69E-06	2.015	0.0006009	5.77E-05	0.0006206
68.42	12.421	11.458	0	0.029075	0.048103	0.032045	1.7961	0.0049021	0.88343	0.20731	0.14048	0.0001844	0.0013451	0.0038032	0.0004937	0.0318	1.10E-05	3.8112	0.0007852	7.176E-05	0.0008385
68.50	13.977	12.081	0	0.031368	0.048658	0.031806	2.1392	0.0048575	0.90097	0.24028	0.14778	0.0002629	0.001826	0.004806	0.00049	0.050979	1.40E-05	4.1999	0.0009679	8.596E-05	0.0010502
68.58	17.012	12.977	0	0.033443	0.11666	0.019548	1.6252	0.0048211	1.4492	0.29466	0.12245	0.0003202	0.0021945	0.0051702	0.0004881	0.062578	1.46E-05	5.1563	0.0010801	9.432E-05	0.0011864
68.67	14.143	10.777	0	0.053119	0.024765	0.0085048	1.9915	0.0048105	1.5213	0.23691	0.16114	0.00032	0.0021939	0.0061298	0.0004882	0.061957	1.46E-05	3.9768	0.001079	9.412E-05	0.0011853
68.75	11.481	9.6753	0	0.050254	0.024497	0.0086866	1.3841	0.0049093	1.5018	0.17948	0.14889	0.0001781	0.0013128	0.0044282	0.0004942	0.029041	9.39E-06	3.3115	0.000764	7.024E-05	0.000816
68.83	11.218	8.4597	0	0.027595	0.069097	0.0099171	5.2348	0.0049497	1.9121	0.24481	0.17548	0.0001257	0.0009956	0.0037445	0.0004967	0.016294	7.41E-06	3.5006	0.000638	6.11E-05	0.0006713
68.92	10.11	9.1348	0	0.028024	0.18116	0.0061997	1.5946	0.0049555	0.84338	0.11432	0.068838	0.0001262	0.001025	0.0025719	0.000497	0.012363	6.91E-06	3.1703	0.0006069	5.88E-05	0.0006448
69.00	10.432	9.3481	0	0.030454	0.18231	0.0061728	1.685	0.0049316	0.85032	0.1202	0.069549	0.0001769	0.0014008	0.0027778	0.0004952	0.016187	7.72E-06	3.2397	0.000647	6.27E-05	0.0007146
69.08	10.508	9.4426	0	0.032289	0.18281	0.0061507	1.7171	0.0049191	0.85379	0.12167	0.069659	0.0002091	0.0016511	0.0028371	0.0004942	0.017075	8.05E-06	3.2496	0.0006585	6.43E-05	0.0007469
69.17	8.4629	4.6572	0	0.048972	0.045762	0.011104	1.0828	0.0049026	0.97771	0.19091	0.1539	0.0001722	0.0012296	0.0036724	0.000494	0.033442	9.94E-06	2.515	0.0008057	7.28E-05	0.0008476
69.25	6.7516	3.8767	0	0.04688	0.043217	0.011288	0.71919	0.0049656	0.95863	0.15652	0.14691	9.058E-05	0.0007336	0.0026119	0.0004979	0.013078	6.78E-06	2.0809	0.0006119	5.82E-05	0.0006243
69.33	6.7518	5.3365	0	0.026674	0.023619	0.010053	2.1833	0.0049649	1.2094	0.19878	0.14463	9.863E-05	0.0008078	0.002551	0.0004978	0.012534	6.69E-06	2.015	0.0006009	5.77E-05	0.0006206
69.42	12.421	11.458	0	0.029074	0.048103	0.032045	1.796	0.0049021	0.88343	0.20731	0.14048	0.0001843	0.0013449	0.0038031	0.0004937	0.031799	1.10E-05	3.8111	0.0007851	7.176E-05	0.0008385
69.50	13.977	12.081	0	0.031366	0.048657	0.031806	2.1391	0.0048575	0.90096	0.24027	0.14778	0.0002629	0.0018257	0.0048059	0.00049	0.050976	1.40E-05	4.1999	0.0009679	8.595E-05	0.0010501
69.58	17.011	12.976	0	0.03344	0.11666	0.019548	1.6251	0.0048211	1.4492	0.29466	0.12245	0.0003201	0.0021942	0.0051701	0.0004881	0.062575	1.46E-05	5.1563	0.00108	9.431E-05	0.0011864
69.67	14.142	10.777	0	0.053118	0.024765	0.0085048	1.9914	0.0048105	1.5213	0.23691	0.16114	0.00032	0.0021937	0.0061297	0.0004882	0.061956	1.46E-05	3.9768	0.001079	9.412E-05	0.0011853
69.75	11.481	9.6752	0	0.050254	0.024497	0.0086866	1.3841	0.0049093	1.5018	0.17948	0.14889	0.0001781	0.0013128	0.0044282	0.0004942	0.029041	9.39E-06	3.3115	0.000764	7.024E-05	0.000816

Year	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]
67.83	0.18975	0.0005258	0.0019894	0.60771	0.0061513	1.24E-05	0.0007237	0.000545	0.012728	0.91796	0.0032667	0.0005088	9.959	5.09E-05	1.9534	0.018311	5.84E-05	0.0012083	0.0039367	0.000433	0.0011722	0.0082936	0.17591	0.0001258	0.0009956	0.0037445	0.0004967
67.92	0.082389	7.229E-05	0.0017568	0.53791	0.0033482	1.24E-05	0.0006707	0.000535	0.012116	0.71206	0.0026361	0.0005064	11.255	5.07E-05	1.9006	0.016708	5.66E-05	0.0011649	0.0029609	0.0002355	0.0010346	0.0008955	0.090438	0.0001262	0.0010251	0.002572	0.000497
68.00	0.081584	7.934E-05	0.0018956	0.57395	0.0038646	1.23E-05	0.0010573	0.0005483	0.012624	0.83719	0.0032848	0.0005082	11.246	5.08E-05	1.9667	0.018608	5.92E-05	0.0012315	0.0033138	0.0002593	0.0012534	0.0009915	0.090902	0.0001769	0.0014008	0.0027827	0.0004952
68.08	0.081208	8.13E-05	0.0019672	0.58656	0.0042255	1.23E-05	0.0012943	0.0005523	0.012632	0.85333	0.0035357	0.0005083	11.236	5.08E-05	2.0029	0.019536	6.01E-05	0.0012542	0.0033745	0.0002755	0.0013302	0.0010166	0.091321	0.0002091	0.0016511	0.0028395	0.0004942
68.17	0.12299	0.0001733	0.0015	0.53359	0.0085213	1.23E-05	0.0011069	0.0005993	0.015621	1.5275	0.0050446	0.0005205	6.2656	5.23E-05	1.3674	0.016985	6.84E-05	0.0014515	0.0051713	0.0002765	0.0019516	0.0018929	0.19266	0.0001722	0.0013536	0.0036748	0.000494
68.25	0.12482	0.0001364	0.0011247	0.38051	0.0074156	1.24E-05	0.0004071	0.0005363	0.012069	0.74249	0.0025129	0.0005076	6.2342	5.08E-05	1.1939	0.011326	5.67E-05	0.0011644	0.0030995	0.0002415	0.0010279	0.0014187	0.18658	9.058E-05	0.0008571	0.0026144	0.0004979
68.33	0.089708	0.0001216	0.0011993	0.36811	0.0076983	1.24E-05	0.0004581	0.0005328	0.011832	0.60162	0.0021426	0.0005065	6.2539	5.07E-05	1.2068	0.011018	5.61E-05	0.0011508	0.0035678	0.0003205	0.0009861	0.0012657	0.15783	9.864E-05	0.0008079	0.002551	0.0004978
68.42	0.20319	0.0002082	0.0022044	0.68882	0.008938	1.23E-05	0.0012314	0.0005927	0.015184	1.4232	0.005074	0.0005186	8.827	5.20E-05	2.037	0.02344	6.726E-05	0.0014255	0.0055155	0.0004076	0.001871	0.0017188	0.19991	0.0002214	0.0013451	0.0040558	0.0004937
68.50	0.20189	0.0002439	0.0025488	0.83088	0.010185	1.21E-05	0.0019026	0.0006521	0.01877	2.1614	0.0074664	0.0005307	8.8336	5.34E-05	2.1889	0.028721	7.828E-05	0.0016967	0.0074599	0.0004396	0.0027433	0.0021765	0.20735	0.0002996	0.0018275	0.0050563	0.00049
68.58	0.19574	0.0002176	0.0020427	1.0188	0.010905	1.20E-05	0.0024749	0.0006891	0.020797	2.6758	0.0090605	0.0005385	10.202	5.42E-05	2.3996	0.034078	8.512E-05	0.0018653	0.008629	0.000318	0.0032839	0.0024455	0.12282	0.0003202	0.0021946	0.005175	0.0004881
68.67	0.17736	0.0002157	0.0025336	0.90503	0.0083798	1.20E-05	0.0023272	0.0006888	0.020775	2.6456	0.0089937	0.0005386	10.15	5.42E-05	2.1652	0.029155	8.506E-05	0.0018638	0.0086157	0.000342	0.0032785	0.0024377	0.20896	0.00032	0.0023178	0.0063728	0.0004882
68.75	0.18073	0.0001534	0.0019273	0.66106	0.006338	1.23E-05	0.0011245	0.0005859	0.015039	1.3843	0.004859	0.0005172	10.178	5.19E-05	1.8999	0.019944	6.601E-05	0.0013948	0.0052814	0.0002805	0.001772	0.0016639	0.19713	0.0001781	0.0014395	0.0046791	0.0004942
68.83	0.18975	0.0005258	0.0019894	0.60771	0.0061512	1.24E-05	0.0007236	0.000545	0.012728	0.91795	0.0032666	0.0005088	9.959	5.09E-05	1.9533	0.01831	5.84E-05	0.0012083	0.0039367	0.000433	0.0011722	0.0082936	0.17591	0.0001257	0.0009956	0.0037445	0.0004967
68.92	0.082389	7.229E-05	0.0017568	0.53791	0.0033481	1.24E-05	0.0006707	0.000535	0.012115	0.71205	0.002636	0.0005064	11.255	5.07E-05	1.9005	0.016708	5.66E-05	0.0011649	0.0029609	0.0002355	0.0010346	0.0008955	0.090438	0.0001262	0.001025	0.002572	0.000497
69.00	0.081584	7.934E-05	0.0018955	0.57394	0.0038645	1.23E-05	0.0010572	0.0005483	0.012624	0.83718	0.0032847	0.0005082	11.246	5.08E-05	1.9666	0.018607	5.92E-05	0.0012315	0.0033137	0.0002593	0.0012533	0.0009915	0.090902	0.0001769	0.0014008	0.0027827	0.0004952
69.08	0.081208	8.13E-05	0.0019672	0.58656	0.0042254	1.23E-05	0.0012943	0.0005523	0.012632	0.85332	0.0035357	0.0005083	11.236	5.08E-05	2.0027	0.019536	6.01E-05	0.0012542	0.0033745	0.0002755	0.0013302	0.0010166	0.091321	0.0002091	0.0016511	0.0028395	0.0004942
69.17	0.123	0.0001733	0.0015001	0.53359	0.0085214	1.23E-05	0.001107	0.0005993	0.015621	1.5275	0.0050446	0.0005205	6.2656	5.23E-05	1.3674	0.016985	6.84E-05	0.0014515	0.0051714	0.0002765	0.0019517	0.001893	0.19266	0.0001722	0.0013536	0.0036749	0.000494
69.25	0.12482	0.0001364	0.0011247	0.38051	0.0074156	1.24E-05	0.0004071	0.0005363	0.012069	0.74249	0.002513	0.0005076	6.2342	5.08E-05	1.1939	0.011326	5.67E-05	0.0011644	0.0030995	0.0002415	0.0010279	0.0014187	0.18658	9.058E-05	0.0008571	0.0026144	0.0004979
69.33	0.089708	0.0001216	0.0011993	0.36811	0.0076982	1.24E-05	0.0004581	0.0005328	0.011832	0.60162	0.0021426	0.0005065	6.2538	5.07E-05	1.2068	0.011018	5.61E-05	0.0011508	0.0035678	0.0003205	0.0009861	0.0012657	0.15783	9.863E-05	0.0008078	0.002551	0.0004978
69.42	0.20319	0.0002082	0.0022044	0.68881	0.0089377	1.23E-05	0.0012313	0.0005927	0.015184	1.4231	0.0050737	0.0005186	8.827	5.20E-05	2.0369	0.02344	6.726E-05	0.0014255	0.0055154	0.0004076	0.0018709	0.0017188	0.19991	0.0002213	0.0013449	0.0040557	0.0004937
69.50	0.20189	0.0002439	0.0025487	0.83086	0.010185	1.21E-05	0.0019023	0.0006521	0.01877	2.1614	0.007466	0.0005307	8.8336	5.34E-05	2.1887	0.02872	7.828E-05	0.0016966	0.0074597	0.0004395	0.0027432	0.0021765	0.20735	0.0002995	0.0018272	0.0050562	0.00049
69.58	0.19574	0.0002176	0.0020426	1.0188	0.010905	1.20E-05	0.0024746	0.0006891	0.020796	2.6757	0.00906	0.0005385	10.202	5.42E-05	2.3995	0.034076	8.512E-05	0.0018653	0.0086288	0.0003179	0.0032838	0.0024454	0.12281	0.0003201	0.0021942	0.0051749	0.0004881
69.67	0.17736	0.0002157	0.0025335	0.90502	0.0083795	1.20E-05	0.002327	0.0006888	0.020775	2.6455	0.0089935	0.0005386	10.15	5.42E-05	2.1651	0.029154	8.506E-05	0.0018638	0.0086156	0.000342	0.0032784	0.0024377	0.20896	0.00032	0.0023176	0.0063727	0.0004882
69.75	0.18073	0.0001534	0.0019273	0.66106	0.006338	1.23E-05	0.0011245	0.000586	0.015039	1.3843	0.004859	0.0005172	10.178	5.19E-05	1.8998	0.019944	6.601E-05	0.0013948	0.0052814	0.0002805	0.001772	0.0016639	0.19713	0.0001781	0.0014395	0.0046791	0.0004942

Year	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
67.83	0.016295	1.43E-05	3.5034	0.000638	6.11E-05	0.0006713	0.18995	0.0005266	0.001991	0.60809	0.0061743	1.24E-05	0.0007237	0.000545	0.012776	0.91829	0.0032684	0.0005088	9.959	5.09E-05	1.9548	0.018326	5.84E-05	0.0012083	0.0039367	0.0004333	0.0011722	0.0082959	12.487
67.92	0.012366	6.95E-06	3.4081	0.0006069	5.90E-05	0.0006448	0.09755	8.61E-05	0.0018828	0.5655	0.0053224	1.24E-05	0.0006707	0.000535	0.012166	0.72729	0.0027117	0.0005064	11.255	5.07E-05	1.9911	0.017713	5.66E-05	0.0011649	0.0029796	0.0002856	0.0010346	0.0009094	3.5392
68.00	0.016187	7.72E-06	3.479	0.000647	6.27E-05	0.0007146	0.096669	9.215E-05	0.0020213	0.60155	0.0058654	1.23E-05	0.0010573	0.0005483	0.012625	0.85232	0.0033606	0.0005082	11.246	5.08E-05	2.0571	0.019614	5.92E-05	0.0012315	0.0033138	0.0003095	0.0012534	0.0009916	3.4823
68.08	0.017077	8.07E-06	3.4879	0.0006585	6.43E-05	0.0007469	0.09655	9.46E-05	0.0020948	0.61408	0.0062387	1.23E-05	0.0012943	0.0005523	0.012633	0.86846	0.0036121	0.0005083	11.236	5.08E-05	2.0941	0.020543	6.01E-05	0.0012542	0.0033745	0.000326	0.0013303	0.0010167	3.471
68.17	0.033441	9.94E-06	2.6626	0.0008057	7.28E-05	0.0008476	0.1503	0.0002598	0.0016	0.54618	0.011485	1.23E-05	0.0011069	0.0005993	0.015622	1.5498	0.0051438	0.0005205	6.2656	5.23E-05	1.4254	0.017491	6.84E-05	0.0014515	0.0051713	0.0003258	0.0019517	0.0021409	7.0327
68.25	0.013078	6.78E-06	2.228	0.0006119	5.83E-05	0.0006243	0.15252	0.0002236	0.0012248	0.39304	0.010413	1.24E-05	0.0004071	0.0005363	0.012197	0.765	0.0026143	0.0005076	6.2342	5.08E-05	1.2514	0.011825	5.67E-05	0.0011644	0.0030995	0.0002911	0.0010394	0.0016658	7.148
68.33	0.012534	6.69E-06	2.0169	0.0006009	5.77E-05	0.0006206	0.089957	0.0002209	0.0012009	0.36824	0.0087061	1.24E-05	0.0004581	0.0005328	0.011832	0.60181	0.0022428	0.0005065	6.2539	5.07E-05	1.2075	0.011024	5.61E-05	0.0011508	0.0035678	0.0003211	0.0009862	0.0012657	7.201
68.42	0.0318	1.10E-05	3.9328	0.0007852	9.642E-05	0.0008385	0.25294	0.0002827	0.0023296	0.71117	0.017107	1.23E-05	0.0013794	0.0005927	0.015562	1.4381	0.0051744	0.0005186	8.827	5.20E-05	2.114	0.024192	6.726E-05	0.0014255	0.0055155	0.0004332	0.0018725	0.0017189	8.8241
68.50	0.050982	1.40E-05	4.3212	0.0009679	0.000111	0.0010502	0.25165	0.00032	0.0026728	0.85305	0.018409	1.21E-05	0.0020492	0.0006521	0.018884	2.1763	0.0075665	0.0005307	8.8336	5.34E-05	2.2653	0.029466	7.828E-05	0.0016967	0.0074599	0.0004652	0.0027434	0.0021827	8.7452
68.58	0.062578	1.46E-05	5.1574	0.0010801	9.432E-05	0.0011864	0.19612	0.0002186	0.0030218	1.019	0.010943	1.20E-05	0.0024749	0.0006891	0.020906	2.7342	0.0091607	0.0005385	10.202	5.42E-05	2.6452	0.034098	8.512E-05	0.0018653	0.008629	0.0005136	0.003284	0.0034189	7.1744
68.67	0.061957	1.58E-05	4.0806	0.001079	9.413E-05	0.0011853	0.21663	0.0002888	0.0026085	0.91734	0.011318	1.21E-05	0.0023272	0.0006888	0.020879	2.6604	0.0090435	0.0005386	10.15	5.42E-05	2.217	0.029648	8.506E-05	0.0018638	0.0086157	0.0003668	0.0032957	0.0024378	9.2295
68.75	0.029043	1.07E-05	3.416	0.000764	7.025E-05	0.000816	0.22028	0.0002317	0.0020024	0.67356	0.0093169	1.23E-05	0.0011248	0.0005859	0.015088	1.3992	0.0049087	0.0005172	10.178	5.19E-05	1.9524	0.020444	6.601E-05	0.0013948	0.0052814	0.0003053	0.001787	0.001687	9.3774
68.83	0.016294	1.43E-05	3.5034	0.000638	6.11E-05	0.0006713	0.18995	0.0005266	0.0019909	0.60808	0.0061742	1.24E-05	0.0007236	0.000545	0.012776	0.91828	0.0032683	0.0005088	9.959	5.09E-05	1.9547	0.018326	5.84E-05	0.0012083	0.0039367	0.0004333	0.0011722	0.0082959	12.487
68.92	0.012366	6.95E-06	3.4081	0.0006069	5.90E-05	0.0006448	0.09755	8.61E-05	0.0018828	0.5655	0.0053223	1.24E-05	0.0006707	0.000535	0.012166	0.72728	0.0027116	0.0005064	11.255	5.07E-05	1.991	0.017713	5.66E-05	0.0011649	0.0029795	0.0002856	0.0010346	0.0009094	3.5392
69.00	0.016187	7.72E-06	3.479	0.000647	6.27E-05	0.0007146	0.096669	9.214E-05	0.0020213	0.60155	0.0058653	1.23E-05	0.0010572	0.0005483	0.012625	0.85231	0.0033606	0.0005082	11.246	5.08E-05	2.057	0.019614	5.92E-05	0.0012315	0.0033138	0.0003095	0.0012534	0.0009916	3.4823
69.08	0.017077	8.07E-06	3.4879	0.0006585	6.43E-05	0.0007469	0.09655	9.46E-05	0.0020948	0.61408	0.0062386	1.23E-05	0.0012943	0.0005523	0.012633	0.86845	0.003612	0.0005083	11.236	5.08E-05	2.0939	0.020543	6.01E-05	0.0012542	0.0033745	0.000326	0.0013302	0.0010167	3.471
69.17	0.033442	9.94E-06	2.6626	0.0008057	7.28E-05	0.0008476	0.1503	0.0002598	0.0016	0.54618	0.011485	1.23E-05	0.001107	0.0005993	0.015622	1.5498	0.0051439	0.0005205	6.2656	5.23E-05	1.4254	0.017491	6.84E-05	0.0014515	0.0051714	0.0003258	0.0019517	0.0021409	7.0327
69.25	0.013078	6.78E-06	2.228	0.0006119	5.83E-05	0.0006243	0.15252	0.0002236	0.0012248	0.39304	0.010413	1.24E-05	0.0004071	0.0005363	0.012197	0.765	0.0026143	0.0005076	6.2342	5.08E-05	1.2514	0.011825	5.67E-05	0.0011644	0.0030995	0.0002911	0.0010394	0.0016658	7.148
69.33	0.012534	6.69E-06	2.0168	0.0006009	5.77E-05	0.0006206	0.089957	0.0002209	0.0012009	0.36824	0.008706	1.24E-05	0.0004581	0.0005328	0.011832	0.6018	0.0022427	0.0005065	6.2538	5.07E-05	1.2075	0.011024	5.61E-05	0.0011508	0.0035678	0.0003211	0.0009861	0.0012657	7.201
69.42	0.031799	1.10E-05	3.9328	0.0007851	9.642E-05	0.0008385	0.25294	0.0002827	0.0023295	0.71115	0.017106	1.23E-05	0.0013792	0.0005927	0.015562	1.4381	0.0051742	0.0005186	8.827	5.20E-05	2.1139	0.024191	6.726E-05	0.0014255	0.0055154	0.0004332	0.0018724	0.0017188	8.8241
69.50	0.050979	1.40E-05	4.3211	0.0009679	0.000111	0.0010501	0.25165	0.0003199	0.0026727	0.85303	0.018408	1.21E-05	0.0020489	0.0006521	0.018884	2.1763	0.0075661	0.0005307	8.8336	5.34E-05	2.2652	0.029465	7.828E-05	0.0016966	0.0074597	0.0004652	0.0027432	0.0021826	8.7452
69.58	0.062575	1.46E-05	5.1573	0.00108	9.432E-05	0.0011864	0.19612	0.0002186	0.0030217	1.0189	0.010942	1.20E-05	0.0024746	0.0006891	0.020906	2.7341	0.0091602	0.0005385	10.202	5.42E-05	2.6451	0.034096	8.512E-05	0.0018653	0.0086288	0.0005136	0.0032838	0.0034188	7.1744
69.67	0.061956	1.58E-05	4.0805	0.001079	9.412E-05	0.0011853	0.21663	0.0002888	0.0026084	0.91732	0.011318	1.21E-05	0.002327	0.0006888	0.020879	2.6604	0.0090433	0.0005386	10.15	5.42E-05	2.2169	0.029647	8.506E-05	0.0018638	0.0086156	0.0003668	0.0032956	0.0024378	9.2295
69.75	0.029043	1.07E-05	3.416	0.000764	7.025E-05	0.000816	0.22028	0.0002317	0.0020024	0.67356	0.0093169	1.23E-05	0.0011248	0.000586	0.015088	1.3992	0.0049087	0.0005172	10.178	5.19E-05	1.9523	0.020444	6.601E-05	0.0013948	0.0052814	0.0003053	0.001787	0.001687	9.3774

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB

TABLE B3.10

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP3

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TABLE B3.10

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP3

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
33.42	13.14	22.69	0	0.029012	0.047789	0.031222	2.1288	0.0048867	0.89798	0.22332	0.14289	0.000203	0.0014261	0.0041222	0.0004958	0.037957
33.50	15.201	28.618	0	0.031452	0.050101	0.031179	2.68	0.0048316	0.91745	0.26788	0.15286	0.0002958	0.0019727	0.0053463	0.0004928	0.061219
33.58	18.455	33.211	0	0.033834	0.11344	0.018975	2.3181	0.0048283	1.4463	0.3279	0.13168	0.000366	0.0024067	0.0058796	0.0004915	0.075362
33.67	15.706	30.176	0	0.054498	0.026731	0.0083145	2.6583	0.004779	1.5231	0.27097	0.16521	0.0003693	0.0024302	0.0067656	0.0004914	0.07491
33.75	12.161	18.607	0	0.049738	0.029246	0.008558	1.678	0.0048946	1.5052	0.1948	0.1511	0.0002026	0.0014461	0.0047364	0.0004957	0.035065
33.83	11.528	13.784	0	0.027855	0.070757	0.009708	5.2474	0.0049419	1.8841	0.2496	0.17514	0.0001399	0.0010779	0.0038791	0.0004977	0.019388
33.92	10.361	14.893	0	0.030019	0.17847	0.0061456	1.7624	0.0049494	0.85569	0.12267	0.071851	0.0001395	0.001105	0.0026938	0.0004982	0.014647
34.00	10.913	19.507	0	0.030971	0.18214	0.0065786	1.9565	0.0049233	0.85827	0.13134	0.070809	0.000198	0.0015126	0.0029377	0.0004974	0.019154
34.08	11.104	22.51	0	0.032949	0.18357	0.0060973	2.0383	0.0049101	0.87659	0.13432	0.070762	0.0002346	0.0017835	0.0030013	0.0004971	0.020081
34.17	9.3575	11.138	0	0.048309	0.050553	0.010864	1.3439	0.0048851	0.98159	0.20521	0.15343	0.0001945	0.0013389	0.0040385	0.0004945	0.040477
34.25	7.0126	5.6273	0	0.046085	0.042787	0.011155	0.80267	0.0049589	0.95576	0.16079	0.14658	9.816E-05	0.0007895	0.0027484	0.000498	0.015697
34.33	7.0229	7.8066	0	0.028571	0.025384	0.010043	2.2182	0.0049588	1.2049	0.20149	0.14463	0.0001069	0.0008558	0.0026697	0.000498	0.014795
34.42	13.029	17.792	0	0.029421	0.047925	0.031218	2.0254	0.0048851	0.89748	0.22063	0.14273	0.0002075	0.0014837	0.0041345	0.0004944	0.038193
34.50	15.036	21.636	0	0.031949	0.050256	0.031174	2.5303	0.0048293	0.91635	0.2639	0.1526	0.0003006	0.0020423	0.005359	0.0004908	0.061473
34.58	18.245	24.86	0	0.034291	0.11356	0.018969	2.1353	0.0048254	1.4444	0.32291	0.13132	0.0003691	0.0024704	0.0058872	0.0004891	0.075539
34.67	15.502	22.431	0	0.054814	0.026799	0.0083091	2.4859	0.0047763	1.5209	0.26617	0.16483	0.0003702	0.002474	0.0067667	0.0004892	0.074974
34.75	12.068	15.122	0	0.04986	0.029268	0.0085556	1.5999	0.0048934	1.5041	0.19261	0.15092	0.0002026	0.001463	0.0047358	0.0004947	0.035076
34.83	11.475	11.754	0	0.027933	0.070773	0.0097066	5.2021	0.0049412	1.8835	0.24833	0.17504	0.00014	0.0010887	0.0038791	0.0004971	0.0194
34.92	10.306	12.752	0	0.030119	0.17849	0.0061442	1.7151	0.0049487	0.85512	0.12137	0.071751	0.00014	0.0011188	0.0026948	0.0004975	0.014677
35.00	10.822	15.88	0	0.031165	0.1822	0.0065762	1.8769	0.004922	0.85741	0.12917	0.070648	0.0001993	0.0015397	0.0029407	0.0004963	0.019227
35.08	10.99	17.918	0	0.033218	0.18364	0.0060942	1.9381	0.0049085	0.87558	0.13161	0.070567	0.0002366	0.0018211	0.0030065	0.0004958	0.020196
35.17	9.3054	9.0219	0	0.048441	0.050588	0.010863	1.2979	0.0048843	0.98115	0.20397	0.15334	0.0001955	0.0013574	0.0040413	0.0004939	0.040538
35.25	6.9996	5.0749	0	0.046125	0.042799	0.011154	0.79084	0.0049588	0.95568	0.16048	0.14656	9.856E-05	0.0007952	0.0027495	0.0004978	0.015719
35.33	7.0063	7.059	0	0.028636	0.025406	0.010043	2.2025	0.0049586	1.2049	0.20108	0.14461	0.0001077	0.000865	0.0026718	0.0004978	0.014834
35.42	12.986	15.893	0	0.029581	0.047979	0.031217	1.9853	0.0048844	0.89729	0.21959	0.14267	0.0002092	0.0015061	0.0041393	0.0004938	0.038285
35.50	14.97	18.857	0	0.032147	0.050318	0.031173	2.4707	0.0048283	0.91591	0.26232	0.1525	0.0003025	0.0020701	0.0053641	0.00049	0.061575
35.58	18.16	21.452	0	0.034477	0.11361	0.018967	2.0607	0.0048242	1.4436	0.32088	0.13117	0.0003703	0.0024964	0.0058903	0.0004881	0.075611
35.67	15.417	19.191	0	0.054946	0.026827	0.0083068	2.4139	0.0047752	1.5199	0.26417	0.16467	0.0003705	0.0024923	0.0067671	0.0004882	0.075001
35.75	12.027	13.619	0	0.049913	0.029277	0.0085546	1.5662	0.0048929	1.5037	0.19166	0.15084	0.0002026	0.0014702	0.0047355	0.0004943	0.03508
35.83	11.451	10.848	0	0.027968	0.070781	0.009706	5.1818	0.0049409	1.8832	0.24777	0.17499	0.0001401	0.0010935	0.0038791	0.0004968	0.019406
35.92	10.281	11.769	0	0.030165	0.1785	0.0061435	1.6933	0.0049483	0.85486	0.12077	0.071705	0.0001402	0.0011252	0.0026953	0.0004973	0.01469
36.00	10.779	14.184	0	0.031255	0.18222	0.0065751	1.8398	0.0049214	0.857	0.12815	0.070572	0.0001999	0.0015523	0.0029422	0.0004958	0.01926

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TABLE B3.10

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP3

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
67.83	11.391	8.4549	0	0.028105	0.070818	0.0097044	5.1297	0.0049401	1.8827	0.24636	0.17489	0.0001411	0.0011126	0.0038817	0.0004962	0.019463
67.92	10.214	9.0821	0	0.03032	0.17855	0.0061418	1.6348	0.0049474	0.85428	0.11918	0.071591	0.0001414	0.0011469	0.0026982	0.0004965	0.014756
68.00	10.662	9.4493	0	0.031532	0.1823	0.006572	1.7367	0.0049198	0.85599	0.12536	0.070373	0.000202	0.0015909	0.0029475	0.0004945	0.019379
68.08	10.784	9.5913	0	0.033706	0.18378	0.0060887	1.7568	0.0049056	0.8738	0.1267	0.070216	0.0002403	0.0018893	0.0030159	0.0004934	0.020405
68.17	9.2093	5.1281	0	0.048673	0.050652	0.01086	1.2132	0.0048829	0.98033	0.20168	0.15318	0.0001974	0.0013898	0.004046	0.0004928	0.040639
68.25	6.9726	3.967	0	0.046195	0.042819	0.011153	0.76684	0.0049584	0.95546	0.15983	0.14652	9.913E-05	0.0008048	0.002751	0.0004975	0.015751
68.33	6.9664	5.4082	0	0.028745	0.025438	0.010042	2.1669	0.004958	1.2046	0.20013	0.14455	0.0001086	0.0008801	0.0026743	0.0004973	0.014886
68.42	12.881	11.549	0	0.029863	0.048062	0.031214	1.8916	0.004883	0.89649	0.21707	0.1425	0.0002117	0.0015455	0.0041458	0.0004926	0.038419
68.50	14.811	12.343	0	0.032556	0.050436	0.031168	2.3297	0.0048261	0.91464	0.25853	0.15223	0.0003059	0.0021273	0.005373	0.0004882	0.061764
68.58	17.958	13.268	0	0.034967	0.11375	0.018961	1.8829	0.0048215	1.4419	0.31608	0.13083	0.0003742	0.002565	0.0059002	0.0004858	0.075827
68.67	15.219	11.214	0	0.055406	0.026954	0.0083015	2.2401	0.0047725	1.5182	0.25945	0.16433	0.0003739	0.0025566	0.0067758	0.0004859	0.075195
68.75	11.932	9.7994	0	0.05013	0.029337	0.008552	1.4829	0.0048916	1.5028	0.1894	0.15068	0.0002042	0.0015005	0.0047395	0.0004932	0.035169
68.83	11.391	8.4547	0	0.028105	0.070818	0.0097044	5.1297	0.0049401	1.8827	0.24635	0.17489	0.0001411	0.0011125	0.0038816	0.0004962	0.019462
68.92	10.214	9.0819	0	0.03032	0.17855	0.0061418	1.6348	0.0049474	0.85428	0.11918	0.071591	0.0001414	0.0011469	0.0026982	0.0004965	0.014755
69.00	10.662	9.449	0	0.031531	0.1823	0.006572	1.7367	0.0049198	0.85599	0.12536	0.070373	0.0002019	0.0015909	0.0029475	0.0004945	0.019378
69.08	10.784	9.5909	0	0.033705	0.18378	0.0060887	1.7568	0.0049056	0.87379	0.1267	0.070216	0.0002403	0.0018893	0.0030159	0.0004934	0.020404
69.17	9.2093	5.128	0	0.048673	0.050652	0.01086	1.2132	0.0048829	0.98033	0.20168	0.15318	0.0001974	0.0013899	0.004046	0.0004928	0.04064
69.25	6.9726	3.967	0	0.046195	0.042819	0.011153	0.76685	0.0049584	0.95546	0.15983	0.14652	9.913E-05	0.0008049	0.002751	0.0004975	0.015751
69.33	6.9664	5.4081	0	0.028744	0.025438	0.010042	2.1669	0.004958	1.2046	0.20013	0.14454	0.0001086	0.0008801	0.0026743	0.0004973	0.014886
69.42	12.881	11.549	0	0.029861	0.048061	0.031214	1.8915	0.004883	0.89648	0.21707	0.1425	0.0002116	0.0015453	0.0041457	0.0004926	0.038418
69.50	14.811	12.342	0	0.032553	0.050435	0.031168	2.3296	0.0048261	0.91463	0.25852	0.15223	0.0003058	0.0021269	0.0053728	0.0004882	0.061761
69.58	17.958	13.268	0	0.034964	0.11375	0.018961	1.8829	0.0048215	1.4419	0.31607	0.13083	0.0003741	0.0025645	0.0059	0.0004858	0.075824
69.67	15.219	11.214	0	0.055405	0.026953	0.0083015	2.2401	0.0047725	1.5182	0.25945	0.16433	0.0003739	0.0025564	0.0067757	0.0004859	0.075193
69.75	11.932	9.7993	0	0.05013	0.029337	0.008552	1.4829	0.0048916	1.5028	0.1894	0.15068	0.0002042	0.0015005	0.0047395	0.0004932	0.035169
69.83	11.391	8.4546	0	0.028105	0.070818	0.0097044	5.1297	0.0049401	1.8827	0.24635	0.17489	0.0001411	0.0011126	0.0038817	0.0004962	0.019462
69.92	10.214	9.0818	0	0.03032	0.17855	0.0061418	1.6348	0.0049474	0.85428	0.11918	0.071591	0.0001414	0.0011469	0.0026982	0.0004965	0.014756
70.00	10.662	9.4487	0	0.031531	0.1823	0.006572	1.7367	0.0049198	0.85599	0.12536	0.070373	0.0002019	0.0015909	0.0029475	0.0004945	0.019378
70.08	10.784	9.5906	0	0.033705	0.18378	0.0060887	1.7568	0.0049056	0.87379	0.1267	0.070216	0.0002403	0.0018893	0.0030159	0.0004934	0.020404
70.17	9.2094	5.1279	0	0.048673	0.050652	0.01086	1.2132	0.0048829	0.98033	0.20168	0.15318	0.0001974	0.0013899	0.004046	0.0004928	0.04064
70.25	6.9726	3.9669	0	0.046195	0.042819	0.011153	0.76685	0.0049584	0.95546	0.15983	0.14652	9.913E-05	0.0008049	0.002751	0.0004975	0.015751
70.33	6.9664	5.408	0	0.028744	0.025438	0.010042	2.1669	0.004958	1.2046	0.20013	0.14454	0.0001086	0.0008801	0.0026743	0.0004973	0.014886
70.42	12.881	11.548	0	0.029862	0.048061	0.031214	1.8915	0.004883	0.89648	0.21707	0.1425	0.0002117	0.0015453	0.0041457	0.0004926	0.038418

[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]

[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB

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TABLE B3.11

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP5

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
-2.00	9.0616	8.3996	0	0.024999	0.17999	0.020999	1.5	0.0049998	0.99995	0.168	0.055398	5.00E-05	0.0005	0.0043998	0.0005	0.0013999
-1.92	10.224	9.2495	0	0.024999	0.22749	0.051247	1.2499	0.0049997	1.2499	0.13499	0.045248	5.00E-05	0.0005	0.0042497	0.0005	0.0014999
-1.83	10.282	9.1998	0	0.024999	0.21399	0.011	1.2	0.0049999	1.04	0.089999	0.052198	5.00E-05	0.0005	0.0039999	0.0005	0.0012
-1.75	6.168	3.8	0	0.038	0.055	0.013	1	0.005	0.87999	0.136	0.127	5.00E-05	0.0005	0.004	0.0005	0.0014
-1.67	6.3899	4.5999	0	0.062999	0.025	0.015	1.2	0.0049999	0.89999	0.14	0.1142	5.00E-05	0.0005	0.0042	0.0005	0.0018
-1.58	8.7135	7.1997	0	0.024999	0.043998	0.012	0.99998	0.0049998	1.02	0.138	0.111	5.00E-05	0.0006	0.0041999	0.0005	0.0019999
-1.50	9.6071	7.7497	0	0.018749	0.039998	0.0087493	1.1249	0.0049997	0.92494	0.16499	0.11675	5.00E-05	0.001	0.0047497	0.0005	0.0019999
-1.42	10.185	8.3996	0	0.024998	0.035997	0.0099993	1.0999	0.0049997	1.0899	0.19998	0.16079	5.00E-05	0.0008999	0.0049997	0.0005	0.0017999
-1.33	10.239	8.7994	0	0.060996	0.035997	0.0079994	1.2999	0.0049996	1.0599	0.13799	0.087995	5.00E-05	0.0006	0.0043997	0.0005	0.0017999
-1.25	9.5457	7.9998	0	0.024998	0.025	0.0099996	0.99997	0.0049998	1.28	0.172	0.1044	5.00E-05	0.0005	0.0055998	0.0005	0.0016
-1.17	8.2098	4.7999	0	0.024999	0.078998	0.016	1.2	0.0049999	1.24	0.15599	0.1554	5.00E-05	0.0005	0.0051999	0.0005	0.0018
-1.08	7.0923	4.9999	0	0.063748	0.1275	0.0062499	1.75	0.0049999	0.97499	0.1375	0.1065	5.00E-05	0.0005	0.0042499	0.0005	0.0015
-1.00	9.0616	8.3996	0	0.024999	0.17999	0.020999	1.5	0.0049998	0.99995	0.168	0.055398	5.00E-05	0.0005	0.0043998	0.0005	0.0013999
-0.92	10.226	9.2501	0	0.024998	0.22748	0.051246	1.2503	0.0049997	1.2499	0.13503	0.045257	5.00E-05	0.0005001	0.0042508	0.0005	0.0015213
-0.83	10.294	9.2042	0	0.024998	0.21398	0.010999	1.2025	0.0049995	1.0401	0.090267	0.052265	5.03E-05	0.0005011	0.0040075	0.0005	0.0013509
-0.75	6.1754	3.8029	0	0.037998	0.054998	0.012999	1.0015	0.0049998	0.88005	0.13616	0.12703	5.02E-05	0.0005007	0.0040045	0.0005	0.0014898
-0.67	6.3983	4.6032	0	0.062995	0.024999	0.014999	1.2017	0.0049998	0.90007	0.14018	0.11424	5.02E-05	0.0005008	0.004205	0.0005	0.0019014
-0.58	8.7442	7.2113	0	0.024995	0.043992	0.011999	1.0063	0.0049991	1.0202	0.13865	0.11115	5.07E-05	0.0006028	0.0042187	0.0005	0.0023736
-0.50	9.6669	7.772	0	0.018744	0.039988	0.0087482	1.1372	0.0049983	0.92537	0.16627	0.11705	5.14E-05	0.0010052	0.0047866	0.0004999	0.0027344
-0.42	10.271	8.4312	0	0.024988	0.035985	0.0099959	1.1174	0.0049976	1.0905	0.2018	0.1612	5.20E-05	0.0009076	0.0050523	0.0004999	0.0028504
-0.33	10.335	8.8345	0	0.060965	0.035981	0.0079956	1.3195	0.0049972	1.0606	0.14006	0.088495	5.22E-05	0.0006087	0.0044592	0.0004998	0.0029818
-0.25	9.5925	8.0171	0	0.025	0.024998	0.0099972	1.0096	0.0049986	1.2802	0.173	0.10464	5.11E-05	0.0005043	0.0056283	0.0004999	0.0021768
-0.17	8.2357	4.81	0	0.024996	0.078988	0.015997	1.2054	0.0049993	1.2402	0.15655	0.15552	5.06E-05	0.0005023	0.0052154	0.0005	0.0021147
-0.08	7.112	5.0077	0	0.063739	0.12749	0.0062494	1.7538	0.0049994	0.97513	0.13791	0.1066	5.04E-05	0.0005018	0.0042615	0.0005	0.001736
1.00	9.2892	8.7366	0	0.024969	0.18086	0.022742	1.5405	0.0049991	1.0535	0.19044	0.055288	5.07E-05	0.0003991	0.005114	0.0005	0.0016836
1.08	10.499	9.549	0	0.021239	0.23368	0.064299	1.2944	0.0049991	1.2843	0.14959	0.044822	5.07E-05	0.0003991	0.0049234	0.0005	0.0018501
1.17	10.624	9.5683	0	0.024478	0.22805	0.012161	1.3479	0.0049969	1.0911	0.088759	0.050064	5.25E-05	0.0004149	0.0046485	0.0004998	0.0024744
1.25	6.408	4.0755	0	0.041235	0.057988	0.013638	1.0832	0.0049987	0.90763	0.14612	0.1318	5.10E-05	0.0003697	0.0046086	0.0004999	0.0020546
1.33	6.5845	4.7861	0	0.063589	0.023916	0.016586	1.3236	0.0049989	0.87963	0.14597	0.11334	5.09E-05	0.0004155	0.0048657	0.0004999	0.0023158
1.42	9.0447	7.3776	0	0.02443	0.043655	0.011309	1.0352	0.0049966	1.0306	0.1429	0.1079	5.27E-05	0.0003643	0.0048386	0.0004998	0.0034372
1.50	9.9715	7.8676	0	0.016532	0.03236	0.0053938	1.1559	0.0050048	0.91452	0.17137	0.11067	5.48E-05	0.000778	0.0055798	0.0004997	0.0045074
1.58	10.646	8.9112	0	0.025129	0.031037	0.010192	1.2302	0.0047601	1.1131	0.21397	0.15849	5.63E-05	0.000676	0.0057834	0.0004996	0.0050327

Year	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]
-2.00	6.00E-06	2.8379	0.0005	5.00E-05	0.0005	0.069996	5.00E-05	0.001	0.45598	0.0015999	1.25E-05	1.90E-04	0.0005	0.0099996	0.31199	0.0010599	0.0005	10.44	5.00E-05	1.5999	0.012999	5.00E-05	0.001	0.0020099	9.00E-05	0.0005	0.0009451	0.087796	5.00E-05	0.0005
-1.92	7.50E-06	3.2498	0.0005	5.00E-05	0.0005	0.064996	5.00E-05	0.0011749	0.49747	0.0009999	1.25E-05	1.87E-04	0.0005	0.0099994	0.33248	0.0010999	0.0005	11.174	5.00E-05	1.7424	0.014499	5.00E-05	0.0009999	0.0018874	1.00E-04	0.0005	0.0014999	0.064247	5.00E-05	0.000625
-1.83	7.00E-06	3.2719	0.0005	5.00E-05	0.0005	0.069996	5.00E-05	0.00114	0.50798	0.0010998	1.25E-05	2.50E-04	0.0005	0.0099997	0.34399	0.00108	0.0005	10.16	5.00E-05	1.746	0.014599	5.00E-05	0.001	0.0020099	1.00E-04	0.0005	0.001	0.067997	5.00E-05	0.0005
-1.75	1.80E-05	1.932	0.0005	5.00E-05	0.0005	0.102	7.00E-05	0.00068	0.316	0.0042	1.25E-05	6.00E-05	0.0005	0.0099999	0.298	0.00102	0.0005	5.6599	5.00E-05	1.036	0.009	5.00E-05	0.001	0.00201	0.00016	0.0005	0.0015	0.1748	5.00E-05	0.0006
-1.67	1.60E-05	2.008	0.0005	5.00E-05	0.0005	0.083998	6.00E-05	0.00076	0.33	0.0028	1.60E-05	1.10E-04	0.0005	0.0099999	0.274	0.00102	0.0005	5.8799	5.00E-05	1.222	0.0097999	5.00E-05	0.001	0.00201	0.00018	0.0005	0.0013	0.1414	5.00E-05	0.0006
-1.58	1.60E-05	2.7599	0.0005	5.00E-05	0.0005	0.13199	9.00E-05	0.0010399	0.43399	0.0037999	1.25E-05	2.60E-04	0.0005	0.0099996	0.28399	0.00114	0.0005	7.3997	5.00E-05	1.546	0.013	5.00E-05	0.001	0.0020099	0.00021	0.00042	0.0009	0.14879	5.00E-05	0.0008
-1.50	1.75E-05	3.0424	0.0005	5.00E-05	0.0005	0.18249	1.00E-04	0.0010999	0.46748	0.0044998	1.25E-05	3.25E-04	0.0005	0.0099994	0.29248	0.0012749	0.0005	8.2745	5.00E-05	1.6249	0.014249	5.00E-05	0.001	0.0024999	0.00025	0.0005	0.0011249	0.15749	5.00E-05	0.0012499
-1.42	2.90E-05	3.2098	0.0005	8.00E-05	0.0005	0.21399	0.00014	0.0011799	0.49797	0.013599	1.25E-05	3.80E-04	0.0005	0.0099992	0.31598	0.0013399	0.0005	8.5994	5.00E-05	1.6339	0.015799	5.00E-05	0.0009999	0.0024998	0.0003	0.0005	0.0019999	0.20238	1.00E-04	0.0008999
-1.33	1.10E-05	3.2277	0.0005	5.00E-05	0.0005	0.13199	5.00E-05	0.0011999	0.51996	0.0031998	1.25E-05	3.00E-04	0.0005	0.019999	0.33797	0.0012999	0.0005	9.8393	5.00E-05	1.8019	0.015199	5.00E-05	0.0009999	0.0024998	0.00019	0.0005	0.0008999	0.11659	5.00E-05	0.0006
-1.25	9.00E-06	2.9559	0.0005	5.00E-05	0.0005	0.14999	6.00E-05	0.00104	0.49599	0.0031999	1.25E-05	1.90E-04	0.0005	0.019999	0.34999	0.0013399	0.0005	9.4397	5.00E-05	1.6399	0.014199	5.00E-05	0.001	0.0024999	0.00015	0.0005	0.0011	0.11719	8.00E-05	0.0009
-1.17	2.14E-05	2.566	0.0005	5.00E-05	0.0005	0.156	0.00016	0.00094	0.43799	0.0071999	1.25E-05	1.20E-04	0.0005	0.02	0.32999	0.00122	0.0005	8.4598	5.00E-05	1.39	0.0101	5.00E-05	0.001	0.0024999	0.0002	0.0005	0.0046	0.19599	5.00E-05	0.0005
-1.08	2.00E-05	2.1799	0.0005	6.25E-05	0.0005	0.082497	8.75E-05	0.000775	0.36999	0.0072498	1.25E-05	8.75E-05	0.0005	0.02	0.27499	0.001	0.0005	8.825	5.00E-05	1.2775	0.0105	5.00E-05	0.001	0.0018875	0.00015	0.0005	0.000875	0.138	5.00E-05	0.0005
-1.00	6.00E-06	2.8379	0.0005	5.00E-05	0.0005	0.069996	5.00E-05	0.001	0.45598	0.0015999	1.25E-05	1.90E-04	0.0005	0.0099996	0.31199	0.0010599	0.0005	10.44	5.00E-05	1.5999	0.012999	5.00E-05	0.001	0.0020099	9.00E-05	0.0005	0.0009451	0.087796	5.00E-05	0.0005
-0.92	7.50E-06	3.2502	0.0005002	5.00E-05	0.0005002	0.064996	5.00E-05	0.0011752	0.49762	0.0010007	1.25E-05	1.88E-04	0.0005	0.010003	0.33334	0.0011024	0.0005	11.174	5.00E-05	1.7425	0.014504	5.00E-05	0.0010002	0.0018896	0.0001	0.0005009	0.0015004	0.064256	5.00E-05	0.0006251
-0.83	7.02E-06	3.2751	0.0005014	5.01E-05	0.0005014	0.069992	5.03E-05	0.0011421	0.50903	0.0011056	1.25E-05	2.53E-04	0.0005004	0.010026	0.35001	0.0010971	0.0005001	10.16	5.00E-05	1.7468	0.014633	5.01E-05	0.001002	0.0020256	0.0001001	0.0005064	0.0010035	0.068063	5.03E-05	0.0005011
-0.75	1.80E-05	1.9339	0.0005008	5.01E-05	0.0005008	0.102	7.02E-05	0.0006813	0.31663	0.0042034	1.25E-05	6.17E-05	0.0005003	0.010016	0.30158	0.0010302	0.0005001	5.6602	5.00E-05	1.0366	0.0090202	5.00E-05	0.0010012	0.0020193	0.0001601	0.0005038	0.0015021	0.17484	5.02E-05	0.0006007
-0.67	1.60E-05	2.0101	0.0005009	5.01E-05	0.0005009	0.083996	6.02E-05	0.0007614	0.33071	0.0028039	1.60E-05	1.12E-04	0.0005003	0.010018	0.27805	0.0010315	0.0005001	5.8802	5.00E-05	1.2226	0.0098228	5.01E-05	0.0010014	0.0020206	0.0001801	0.0005043	0.0013024	0.14144	5.02E-05	0.0006007
-0.58	1.61E-05	2.7679	0.0005035	5.02E-05	0.0005035	0.13198	9.07E-05	0.0010452	0.4366	0.0038139	1.25E-05	2.67E-04	0.0005011	0.010066	0.29891	0.0011825	0.0005003	7.4005	5.00E-05	1.5482	0.013083	5.02E-05	0.001005	0.0020488	0.0002102	0.000436	0.0009088	0.14895	5.07E-05	0.0008027
-0.50	1.76E-05	3.0579	0.0005068	5.05E-05	0.0005068	0.18244	0.0001014	0.0011102	0.47259	0.004527	1.25E-05	3.39E-04	0.0005022	0.01013	0.3218	0.0013586	0.0005005	8.2757	5.01E-05	1.6294	0.014413	5.04E-05	0.0010098	0.0025761	0.0002504	0.0005313	0.0011422	0.15779	5.14E-05	0.0012551
-0.42	2.91E-05	3.232	0.0005098	8.07E-05	0.0005098	0.2139	0.0001419	0.0011944	0.50526	0.013633	1.25E-05	0.0003998	0.0005032	0.010186	0.3579	0.0014595	0.0005007	8.6009	5.01E-05	1.6402	0.016032	5.06E-05	0.001014	0.0026089	0.0003006	0.0005448	0.002024	0.20277	0.000102	0.0009076
-0.33	1.12E-05	3.2526	0.000511	5.08E-05	0.000511	0.13193	5.22E-05	0.0012163	0.52815	0.0032434	1.25E-05	0.0003223	0.0005036	0.020203	0.38512	0.0014345	0.0005008	9.8402	5.01E-05	1.8089	0.015462	5.06E-05	0.0010158	0.0026225	0.0001907	0.0005504	0.0009277	0.11708	5.22E-05	0.0006087
-0.25	9.08E-06	2.9681	0.0005054	5.04E-05	0.0005054	0.14996	6.11E-05	0.001048	0.49998	0.0032213	1.25E-05	2.01E-04	0.0005017	0.020099	0.37299	0.0014056	0.0005004	9.4403	5.00E-05	1.6434	0.014328	5.03E-05	0.0010077	0.0025598	0.0001504	0.0005246	0.0011135	0.11743	8.11E-05	0.0009042
-0.17	2.14E-05	2.5727	0.0005029	5.02E-05	0.0005029	0.15598	0.0001606	0.0009444	0.44019	0.007211	1.25E-05	1.26E-04	0.0005009	0.020054	0.34255	0.0012558	0.0005002	8.4605	5.00E-05	1.3919	0.010171	5.02E-05	0.0010042	0.0025326	0.0002002	0.0005134	0.0046069	0.19611	5.06E-05	0.0005023
-0.08	2.00E-05	2.1851	0.0005022	6.26E-05	0.0005022	0.082494	8.79E-05	0.0007784	0.37165	0.0072579	1.25E-05	9.20E-05	0.0005007	0.02004	0.28442	0.0010269	0.0005002	8.8256	5.00E-05	1.279	0.010553	5.01E-05	0.0010031	0.0019121	0.0001502	0.0005101	0.0008806	0.13809	5.04E-05	0.0005018

Year	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
-2.00	0.0043998	0.0005	0.0013999	6.00E-06	2.9759	0.0005	5.00E-05	0.0005	0.077996	5.00E-05	0.0011	0.47598	0.0021999	1.60E-05	1.90E-04	0.0005	0.0099996	0.32399	0.00112	0.0005	10.44	5.00E-05	1.6659	0.013599	5.00E-05	0.001	0.0020099	0.00014	0.0005	0.0009451	3.1599
-1.92	0.0044997	0.0005	0.0017499	1.00E-05	3.4073	0.0005	5.00E-05	0.0005	0.082494	6.25E-05	0.0012499	0.51247	0.0034998	1.25E-05	1.87E-04	0.0005	0.0099994	0.35748	0.0011749	0.0005	11.174	5.00E-05	1.8649	0.015499	5.00E-05	0.0009999	0.0018874	0.000125	0.0005	0.0022499	2.7998
-1.83	0.0041999	0.0005	0.0012	7.00E-06	3.4859	0.0005	5.00E-05	0.0005	0.089997	9.00E-05	0.00126	0.53198	0.0035001	1.25E-05	2.50E-04	0.0005	0.0099997	0.36199	0.00112	0.0005	10.16	5.00E-05	1.848	0.0154	5.00E-05	0.001	0.0020099	0.00014	0.0005	0.001	3.4199
-1.75	0.0044	0.0005	0.0014	1.80E-05	2.052	0.0005	8.00E-05	0.0005	0.136	0.00016	0.00074	0.332	0.0093999	1.25E-05	6.00E-05	0.0005	0.0099998	0.314	0.00114	0.0005	5.6599	5.00E-05	1.084	0.0095999	5.00E-05	0.001	0.00201	0.00018	0.0005	0.0015	6.42
-1.67	0.0044	0.0005	0.0018	1.60E-05	2.136	0.0005	5.00E-05	0.0005	0.106	0.00013	0.0008	0.342	0.0053999	1.60E-05	1.10E-04	0.0005	0.0099999	0.286	0.00112	0.0005	5.8799	5.00E-05	1.278	0.0104	5.00E-05	0.001	0.00201	0.0002	0.0005	0.0013	6.2599
-1.58	0.0055998	0.0005	0.0019999	1.60E-05	2.8619	0.0005	5.00E-05	0.0005	0.17199	0.00018	0.0011	0.45198	0.010199	1.25E-05	2.60E-04	0.0005	0.0099996	0.29599	0.00122	0.0005	7.3997	5.00E-05	1.5999	0.013799	5.00E-05	0.001	0.0020099	0.00023	0.00044	0.0009	6.7598
-1.50	0.0052497	0.0005	0.0019999	1.75E-05	3.1649	0.0005	5.00E-05	0.0005	0.23499	0.000175	0.0011749	0.48997	0.011499	1.25E-05	3.25E-04	0.0005	0.0099995	0.30748	0.0013499	0.0005	8.2745	5.00E-05	1.7074	0.014999	5.00E-05	0.001	0.0024999	0.000275	0.0005	0.001125	8.6994
-1.42	0.0059996	0.0005	0.0017999	2.90E-05	3.3757	0.0005	0.00011	0.0005	0.24799	0.00019	0.0012999	0.51197	0.021398	1.25E-05	3.80E-04	0.0005	0.0099993	0.32998	0.0014599	0.0005	8.5994	5.00E-05	1.6879	0.016599	5.00E-05	0.0009999	0.0024998	0.00032	0.0005	0.0019999	11.679
-1.33	0.0051996	0.0005	0.0017999	1.30E-05	3.4118	0.0009999	5.00E-05	0.0005	0.17799	0.00011	0.0012999	0.54396	0.0081994	1.25E-05	3.40E-04	0.0005	0.019999	0.35597	0.0013799	0.0005	9.8393	5.00E-05	1.8859	0.016399	5.00E-05	0.0009999	0.0024998	0.0002	0.0021998	0.0008999	7.2996
-1.25	0.0057998	0.0005	0.0017999	9.00E-06	3.0799	0.0005	5.00E-05	0.0005	0.16999	9.00E-05	0.0011	0.50599	0.0073998	1.25E-05	1.90E-04	0.0005	0.019999	0.35399	0.0013799	0.0005	9.4397	5.00E-05	1.69	0.0146	5.00E-05	0.001	0.0024999	0.00015	0.0005	0.0013	7.6997
-1.17	0.0053998	0.0005	0.0018	2.14E-05	2.688	0.0005	7.00E-05	0.0005	0.19399	0.00021	0.001	0.45799	0.0112	1.25E-05	1.20E-04	0.0005	0.02	0.34199	0.0013	0.0005	8.4598	5.00E-05	1.448	0.0107	5.00E-05	0.001	0.0024999	0.00022	0.0005	0.0045998	9.7199
-1.08	0.0044999	0.0005	0.0015	2.00E-05	2.2824	0.0005	6.25E-05	0.0005	0.1025	0.0001125	0.00085	0.38749	0.0097497	1.25E-05	8.75E-05	0.0005	0.02	0.29499	0.0011	0.0005	8.825	5.00E-05	1.3375	0.011	5.00E-05	0.001	0.0018875	0.000175	0.0005	0.000875	6.0749
-1.00	0.0043998	0.0005	0.0013999	6.00E-06	2.9759	0.0005	5.00E-05	0.0005	0.077996	5.00E-05	0.0011	0.47598	0.0021999	1.60E-05	1.90E-04	0.0005	0.0099996	0.32399	0.00112	0.0005	10.44	5.00E-05	1.6659	0.013599	5.00E-05	0.001	0.0020099	0.00014	0.0005	0.0009451	3.1599
-0.92	0.0045008	0.0005	0.0017713	1.00E-05	3.4077	0.0005002	5.00E-05	0.0005002	0.082494	6.25E-05	0.0012502	0.51262	0.0035006	1.25E-05	1.88E-04	0.0005	0.010003	0.35834	0.0011773	0.0005	11.174	5.00E-05	1.865	0.015504	5.00E-05	0.0010002	0.0018896	0.000125	0.0005009	0.0022504	2.7998
-0.83	0.0042074	0.0005	0.0013509	7.02E-06	3.489	0.0005014	5.01E-05	0.0005014	0.089992	9.03E-05	0.001262	0.53303	0.0035056	1.25E-05	2.53E-04	0.0005004	0.010026	0.36801	0.0011372	0.0005001	10.16	5.00E-05	1.8488	0.015433	5.01E-05	0.001002	0.0020256	0.0001401	0.0005064	0.0010035	3.4197
-0.75	0.0044044	0.0005	0.0014898	1.80E-05	2.0539	0.0005008	8.01E-05	0.0005008	0.13599	0.0001602	0.0007413	0.33263	0.009403	1.25E-05	6.17E-05	0.0005003	0.010016	0.31758	0.0011502	0.0005001	5.6602	5.00E-05	1.0846	0.0096201	5.00E-05	0.0010012	0.0020193	0.0001801	0.0005039	0.0015021	6.4198
-0.67	0.004405	0.0005	0.0019014	1.60E-05	2.1382	0.0005009	5.01E-05	0.0005009	0.10599	0.0001302	0.0008014	0.34271	0.0054037	1.60E-05	1.12E-04	0.0005003	0.010018	0.29004	0.0011315	0.0005001	5.8802	5.00E-05	1.2786	0.010423	5.01E-05	0.0010014	0.0020206	0.0002001	0.0005043	0.0013024	6.2597
-0.58	0.0056184	0.0005	0.0023736	1.61E-05	2.8699	0.0005035	5.02E-05	0.0005035	0.17197	0.0001807	0.0011052	0.45459	0.010212	1.25E-05	2.67E-04	0.0005011	0.010067	0.31091	0.0012625	0.0005003	7.4005	5.00E-05	1.6022	0.013883	5.02E-05	0.001005	0.0020488	0.0002302	0.000456	0.0009088	6.759
-0.50	0.0052864	0.0004999	0.0027344	1.76E-05	3.1804	0.0005068	5.05E-05	0.0005068	0.23492	0.0001764	0.0011852	0.49508	0.011525	1.25E-05	3.39E-04	0.0005022	0.010131	0.3368	0.0014335	0.0005005	8.2757	5.01E-05	1.7118	0.015163	5.04E-05	0.0010098	0.0025761	0.0002754	0.0005313	0.0011422	8.697
-0.42	0.0060517	0.0004999	0.0028504	2.91E-05	3.3978	0.0005098	0.0001106	0.0005098	0.24788	0.0001919	0.0013144	0.51926	0.021428	1.25E-05	0.0003998	0.0005032	0.010186	0.37189	0.0015794	0.0005007	8.6009	5.01E-05	1.6942	0.016832	5.06E-05	0.001014	0.0026089	0.0003206	0.0005448	0.002024	11.674
-0.33	0.0052587	0.0004998	0.0029818	1.32E-05	3.4365	0.0010106	5.08E-05	0.000511	0.1779	0.0001122	0.0013162	0.55214	0.0082403	1.25E-05	0.0003623	0.0005036	0.020203	0.40311	0.0015144	0.0005008	9.8402	5.01E-05	1.8928	0.016661	5.06E-05	0.0010158	0.0026225	0.0002007	0.0022493	0.0009277	7.2962
-0.25	0.0058283	0.0004999	0.0023766	9.08E-06	3.092	0.0005054	5.04E-05	0.0005054	0.16996	9.11E-05	0.001108	0.50998	0.0074199	1.25E-05	2.01E-04	0.0005017	0.020099	0.37699	0.0014456	0.0005004	9.4403	5.00E-05	1.6934	0.014728	5.03E-05	0.0010077	0.0025598	0.0001504	0.0005247	0.0013135	7.6981
-0.17	0.0054153	0.0005	0.0021147	2.14E-05	2.6947	0.0005029	7.02E-05	0.0005029	0.19397	0.0002106	0.0010044	0.46018	0.01121	1.25E-05	1.26E-04	0.0005009	0.020054	0.35455	0.0013358	0.0005002	8.4605	5.00E-05	1.4499	0.010771	5.02E-05	0.0010042	0.0025326	0.0002202	0.0005134	0.0046068	9.7189
-0.08	0.0045115	0.0005	0.0017361	2.00E-05	2.2876	0.0005022	6.26E-05	0.0005022	0.10249	0.0001129	0.0008534	0.38915	0.0097575	1.25E-05	9.20E-05	0.0005007	0.020041	0.30442	0.0011269	0.0005002	8.8256	5.00E-05	1.339	0.011053	5.01E-05	0.0010031	0.0019121	0.0001752	0.0005101	0.0008807	6.0743

TABLE B3.11

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAPS

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
33.33	7.55	9.0055	0	0.064592	0.023924	0.016476	1.6041	0.0049646	0.89148	0.16686	0.11784	9.803E-05	0.000693	0.0053944	0.0004988	0.012948
33.42	11.722	18.138	0	0.02799	0.043425	0.011172	1.8054	0.0049009	1.0586	0.20104	0.12047	0.0001838	0.0011377	0.0063609	0.0004963	0.033466
33.50	14.311	23.751	0	0.022381	0.032432	0.0053128	2.3759	0.0048526	0.96261	0.26514	0.13113	0.0002653	0.0020065	0.0080712	0.0004937	0.053855
33.58	16.006	28.374	0	0.032741	0.031564	0.0098908	2.7392	0.0045832	1.1706	0.32877	0.18233	0.0003269	0.002282	0.0088695	0.0004926	0.06606
33.67	16.078	27.718	0	0.064777	0.032619	0.0082906	2.824	0.0048063	1.0823	0.26269	0.11196	0.0003298	0.0020296	0.0083298	0.0004925	0.066131
33.75	12.528	17.202	0	0.029736	0.0095971	0.010689	1.7484	0.0049078	1.2539	0.2392	0.1109	0.0001834	0.0010903	0.0078528	0.0004963	0.030931
33.83	9.711	10.114	0	0.027495	0.074099	0.01875	1.5158	0.0049492	1.2604	0.19053	0.16743	0.0001285	0.0008877	0.0067741	0.000498	0.017058
33.92	8.2806	10.593	0	0.067717	0.13443	0.006536	2.1584	0.0049558	0.99601	0.16753	0.11092	0.0001282	0.0009194	0.0055109	0.0004984	0.012988
34.00	10.724	18.147	0	0.030216	0.18067	0.022511	2.0534	0.004933	1.0777	0.22091	0.061746	0.0001793	0.0012694	0.0058886	0.0004977	0.016734
34.08	12.053	21.521	0	0.028173	0.23333	0.06368	1.8992	0.0049215	1.3127	0.18332	0.051663	0.0002112	0.0015057	0.0057548	0.0004974	0.017716
34.17	13.393	15.868	0	0.027489	0.22467	0.011943	2.0499	0.0048995	1.1161	0.15018	0.064576	0.0001764	0.0011281	0.0063155	0.0004952	0.035468
34.25	7.435	5.9302	0	0.041964	0.057753	0.01355	1.3282	0.0049641	0.91704	0.16802	0.13663	9.207E-05	0.0006001	0.0052101	0.0004982	0.014155
34.33	7.5109	7.254	0	0.064744	0.023975	0.016475	1.5673	0.004964	0.89133	0.16591	0.11778	9.974E-05	0.0007144	0.0053991	0.0004983	0.013038
34.42	11.626	13.854	0	0.028348	0.043544	0.011169	1.7149	0.0048995	1.0582	0.19868	0.12033	0.0001877	0.001188	0.0063716	0.0004951	0.033672
34.50	14.166	17.638	0	0.022816	0.032568	0.0053086	2.2448	0.0048505	0.96165	0.26165	0.1309	0.0002694	0.0020675	0.0080824	0.000492	0.054078
34.58	15.822	21.056	0	0.033141	0.031673	0.0098857	2.579	0.0045807	1.1689	0.32441	0.18201	0.0003296	0.0023379	0.0088761	0.0004905	0.066215
34.67	15.9	20.932	0	0.065054	0.032678	0.0082858	2.6729	0.004804	1.0804	0.25849	0.11163	0.0003305	0.0020681	0.0083308	0.0004905	0.066187
34.75	12.446	14.155	0	0.029843	0.0096164	0.010687	1.6801	0.0049068	1.2529	0.23729	0.11074	0.0001834	0.0011051	0.0078522	0.0004954	0.03094
34.83	9.6641	8.3404	0	0.027563	0.074114	0.018749	1.4762	0.0049487	1.2599	0.18943	0.16735	0.0001287	0.0008971	0.0067741	0.0004975	0.017068
34.92	8.2324	8.7226	0	0.067804	0.13445	0.0065348	2.1171	0.0049552	0.99551	0.16639	0.11084	0.0001286	0.0009315	0.0055118	0.0004978	0.013014
35.00	10.644	14.978	0	0.030385	0.18071	0.022509	1.9838	0.0049319	1.0769	0.21901	0.061605	0.0001804	0.001293	0.0058912	0.0004968	0.016797
35.08	11.954	17.51	0	0.028407	0.23339	0.063677	1.8117	0.0049201	1.3118	0.18094	0.051493	0.000213	0.0015386	0.0057593	0.0004963	0.017816
35.17	13.348	14.017	0	0.027605	0.2247	0.011942	2.0097	0.0048988	1.1157	0.14909	0.0645	0.0001773	0.0011443	0.0063179	0.0004947	0.035521
35.25	7.4236	5.4476	0	0.042	0.057763	0.01355	1.3179	0.004964	0.91697	0.16774	0.13661	9.242E-05	0.000605	0.0052111	0.0004981	0.014173
35.33	7.4964	6.601	0	0.064801	0.023995	0.016475	1.5536	0.0049638	0.89128	0.16555	0.11776	0.0001004	0.0007225	0.0054009	0.0004981	0.013072
35.42	11.588	12.193	0	0.028487	0.043591	0.011168	1.6798	0.0048989	1.058	0.19777	0.12028	0.0001893	0.0012076	0.0063758	0.0004946	0.033753
35.50	14.109	15.205	0	0.02299	0.032622	0.0053069	2.1926	0.0048497	0.96126	0.26027	0.13081	0.0002711	0.0020918	0.0080868	0.0004913	0.054167
35.58	15.747	18.07	0	0.033304	0.031717	0.0098836	2.5137	0.0045797	1.1682	0.32262	0.18188	0.0003307	0.0023606	0.0088788	0.0004896	0.066278
35.67	15.825	18.093	0	0.06517	0.032702	0.0082838	2.6098	0.004803	1.0795	0.25674	0.11149	0.0003308	0.0020841	0.0083311	0.0004897	0.066211
35.75	12.411	12.841	0	0.029889	0.0096245	0.010686	1.6507	0.0049063	1.2525	0.23646	0.11068	0.0001834	0.0011114	0.007852	0.000495	0.030944
35.83	9.6432	7.5491	0	0.027593	0.07412	0.018748	1.4586	0.0049484	1.2597	0.18893	0.16731	0.0001287	0.0009013	0.0067741	0.0004972	0.017073
35.92	8.2102	7.8641	0	0.067844	0.13446	0.0065342	2.0981	0.0049549	0.99529	0.16587	0.1108	0.0001288	0.000937	0.0055122	0.0004976	0.013026
36.00	10.607	13.497	0	0.030464	0.18073	0.022508	1.9514	0.0049314	1.0766	0.21812	0.061539	0.0001809	0.001304	0.0058925	0.0004964	0.016827
36.08	11.907	15.613	0	0.028518	0.23342	0.063676	1.7703	0.0049194	1.3114	0.17982	0.051412	0.0002138	0.0015541	0.0057614	0.0004957	0.017863
36.17	13.326	13.132	0	0.027659	0.22472	0.011942	1.9904	0.0048985	1.1155	0.14857	0.064463	0.0001778	0.0011519	0.0063191	0.0004944	0.035546
36.25	7.4179	5.2065	0	0.042018	0.057769	0.01355	1.3127	0.0049639	0.91693	0.16761	0.1366	9.259E-05	0.0006075	0.0052115	0.000498	0.014183
36.33	7.4887	6.2583	0	0.064831	0.024005	0.016474	1.5464	0.0049637	0.89125	0.16537	0.11775	0.0001007	0.0007266	0.0054018	0.000498	0.013089

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TABLE B3.11

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP5

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
67.75	24.408	20.081	0	0.15826	0.072269	0.0084333	6.6716	0.003925	1.628	0.47268	0.1332	0.0026719	0.0033835	0.013827	0.0004228	0.15556
67.83	21.64	16.385	0	0.14923	0.11779	0.014696	6.2557	0.0040126	1.6124	0.42354	0.17505	0.0024888	0.0030888	0.012669	0.0004288	0.13795
67.92	20.939	16.762	0	0.18352	0.16466	0.005364	6.8859	0.0039869	1.4247	0.41353	0.13274	0.0025659	0.0031882	0.01191	0.0004268	0.13882
68.00	23.551	20.356	0	0.16411	0.20084	0.017037	7.0815	0.003902	1.514	0.46835	0.097968	0.0027742	0.0036248	0.012635	0.0004206	0.15037
68.08	24.028	20.608	0	0.15797	0.23942	0.047915	6.7382	0.0039293	1.6731	0.43017	0.089083	0.0027072	0.0037377	0.012298	0.0004226	0.14641
68.17	24.749	20.546	0	0.15301	0.23264	0.0094405	6.7837	0.0039464	1.5141	0.39957	0.097779	0.0025981	0.0033477	0.012503	0.0004245	0.1555
68.25	21.679	17.093	0	0.17657	0.11198	0.010347	6.8222	0.0038936	1.4116	0.44049	0.15384	0.0027903	0.0031692	0.012345	0.0004201	0.15253
68.33	21.826	17.641	0	0.19425	0.087947	0.012443	7.0227	0.0038837	1.3966	0.4406	0.14032	0.0028194	0.0032817	0.012541	0.0004193	0.15287
68.42	23.59	18.955	0	0.15582	0.097052	0.0088174	6.5977	0.0039292	1.4768	0.43956	0.14017	0.002649	0.0034396	0.012648	0.0004231	0.15617
68.50	26.284	20.52	0	0.16107	0.092913	0.004362	7.3093	0.0038229	1.4364	0.50232	0.14925	0.0028875	0.004256	0.014355	0.0004151	0.18
68.58	27.861	21.885	0	0.1731	0.094245	0.0076359	7.6974	0.0035941	1.6016	0.55512	0.1867	0.0030171	0.004526	0.015136	0.0004112	0.19294
68.67	27.599	21.727	0	0.19255	0.093257	0.0065298	7.6309	0.0037841	1.5253	0.50094	0.13518	0.0029445	0.0042633	0.014568	0.0004134	0.18948
68.75	24.389	19.866	0	0.15828	0.072267	0.0084325	6.6584	0.0039246	1.6277	0.47226	0.1332	0.0026719	0.0033835	0.013827	0.0004227	0.15555
68.83	21.622	16.183	0	0.14925	0.11779	0.014695	6.2434	0.0040122	1.6121	0.42315	0.17505	0.0024888	0.0030888	0.012669	0.0004287	0.13794
68.92	20.92	16.556	0	0.18353	0.16466	0.0053633	6.8733	0.0039866	1.4244	0.41314	0.13274	0.0025659	0.0031882	0.011909	0.0004267	0.13881
69.00	23.531	20.137	0	0.16413	0.20083	0.017036	7.0682	0.0039016	1.5137	0.46793	0.097968	0.0027742	0.0036248	0.012634	0.0004205	0.15036
69.08	24.009	20.398	0	0.15799	0.23942	0.047914	6.7254	0.003929	1.6728	0.42977	0.089083	0.0027071	0.0037377	0.012297	0.0004225	0.1464
69.17	24.732	20.344	0	0.15302	0.23264	0.0094398	6.7715	0.0039461	1.5138	0.39919	0.097779	0.0025981	0.0033477	0.012502	0.0004244	0.1555
69.25	21.66	16.874	0	0.17659	0.11198	0.010346	6.809	0.0038933	1.4113	0.44008	0.15384	0.0027904	0.0031692	0.012345	0.00042	0.15252
69.33	21.807	17.425	0	0.19427	0.087945	0.012442	7.0096	0.0038834	1.3963	0.44019	0.14032	0.0028194	0.0032816	0.01254	0.0004192	0.15286
69.42	23.573	18.76	0	0.15583	0.097049	0.0088167	6.5859	0.0039289	1.4765	0.43919	0.14017	0.0026489	0.0034394	0.012647	0.000423	0.15616
69.50	26.266	20.311	0	0.16109	0.092909	0.0043613	7.2968	0.0038225	1.4361	0.50193	0.14925	0.0028875	0.0042558	0.014354	0.000415	0.17999
69.58	27.842	21.671	0	0.17311	0.094242	0.0076352	7.6846	0.0035937	1.6012	0.55472	0.1867	0.0030171	0.0045258	0.015135	0.0004111	0.19293
69.67	27.581	21.521	0	0.19257	0.093254	0.0065292	7.6186	0.0037838	1.525	0.50055	0.13518	0.0029445	0.0042631	0.014567	0.0004133	0.18947
69.75	24.372	19.673	0	0.15829	0.072265	0.0084319	6.647	0.0039243	1.6274	0.47191	0.1332	0.0026719	0.0033835	0.013826	0.0004226	0.15554
69.83	21.606	16.004	0	0.14926	0.11779	0.014695	6.2329	0.0040119	1.6119	0.42282	0.17505	0.0024888	0.0030888	0.012668	0.0004286	0.13793
69.92	20.904	16.373	0	0.18355	0.16466	0.0053627	6.8625	0.0039862	1.4241	0.4128	0.13274	0.0025659	0.0031882	0.011909	0.0004266	0.1388
70.00	23.515	19.943	0	0.16414	0.20083	0.017036	7.0567	0.0039013	1.5134	0.46758	0.097968	0.0027742	0.0036248	0.012633	0.0004204	0.15035
70.08	23.993	20.211	0	0.158	0.23941	0.047914	6.7144	0.0039286	1.6725	0.42942	0.089083	0.0027071	0.0037377	0.012297	0.0004224	0.14639
70.17	24.716	20.163	0	0.15304	0.23264	0.0094392	6.7609	0.0039458	1.5136	0.39885	0.097779	0.0025981	0.0033477	0.012502	0.0004243	0.15549
70.25	21.643	16.678	0	0.1766	0.11198	0.010346	6.7975	0.0038929	1.411	0.43972	0.15384	0.0027904	0.0031692	0.012344	0.0004199	0.15251
70.33	21.79	17.232	0	0.19428	0.087942	0.012441	6.9984	0.003883	1.396	0.43984	0.14032	0.0028194	0.0032817	0.012539	0.0004191	0.15285
89.75	24.307	18.272	0	0.15824	0.072216	0.0084289	6.5988	0.0039227	1.6261	0.47058	0.1332	0.0026719	0.0033835	0.013817	0.0004221	0.15539
89.83	21.546	14.698	0	0.14922	0.11774	0.014692	6.1885	0.0040104	1.6107	0.4216	0.17505	0.0024888	0.0030888	0.01266	0.0004281	0.13779
89.92	20.843	15.037	0	0.1835	0.16461	0.0053598	6.8174	0.0039847	1.4229	0.41156	0.13274	0.0025659	0.0031882	0.0119	0.0004261	0.13866
90.00	23.449	18.524	0	0.16409	0.20078	0.017033	7.0088	0.0038997	1.5121	0.46626	0.097968	0.0027742	0.0036248	0.012624	0.0004199	0.1502
90.08	23.931	18.849	0	0.15795	0.23937	0.047911	6.6685	0.0039271	1.6713	0.42816	0.089083	0.0027071	0.0037377	0.012287	0.0004219	0.14624
90.17	24.655	18.849	0	0.15299	0.23259	0.0094365	6.7166	0.0039443	1.5124	0.39763	0.097779	0.002598	0.0033477	0.012493	0.0004238	0.15534
90.25	21.579	15.253	0	0.17655	0.11193	0.010343	6.7503	0.0038914	1.4098	0.43842	0.15384	0.0027904	0.0031692	0.012334	0.0004194	0.15235
90.33	21.728	15.828	0	0.19422	0.087893	0.012438	6.9526	0.0038815	1.3947	0.43859	0.14032	0.0028193	0.0032817	0.012529	0.0004186	0.15269
90.42	23.502	17.315	0	0.15578	0.096999	0.0088137	6.5348	0.0039273	1.4752	0.43776	0.14017	0.0026488	0.0034395	0.012637	0.0004224	0.156
90.50	26.192	18.773	0	0.16103	0.092855	0.0043581	7.2432	0.0038208	1.4346	0.50043	0.14925	0.0028872	0.0042558	0.014343	0.0004145	0.17982
90.58	27.768	20.092	0	0.17305	0.094185	0.007632	7.6307	0.003592	1.5998	0.55322	0.1867	0.0030168	0.0045258	0.015124	0.0004105	0.19275
90.67	27.511	19.996	0	0.19251	0.093199	0.006526	7.5676	0.0037821	1.5236	0.49915	0.13518	0.0029442	0.0042632	0.014557	0.0004127	0.1893
90.75	24.309	18.257	0	0.15823	0.072214	0.008429	6.6004	0.0039227	1.6261	0.47064	0.1332	0.0026719	0.0033835	0.013816	0.0004221	0.15538
90.83	21.548	14.683	0	0.14921	0.11774	0.014692	6.1899	0.0040105	1.6107	0.42166	0.17505	0.0024888	0.0030888	0.012659	0.0004281	0.13779
90.92	20.845	15.023	0	0.18349	0.16461	0.0053599	6.8189	0.0039848	1.4229	0.41162	0.13274	0.0025659	0.0031882	0.0119	0.0004261	0.13865
91.00	23.452	18.508	0	0.16408	0.20078	0.017033	7.0104	0.0038997	1.5121	0.46632	0.097968	0.0027742	0.0036248	0.012623	0.0004199	0.15019
91.08	23.933	18.834	0	0.15794	0.23936	0.047911	6.67	0.0039272	1.6713	0.42822	0.089083	0.0027071	0.0037377	0.012287	0.0004219	0.14624
91.17	24.658	18.835	0	0.15298	0.23259	0.0094366	6.718	0.0039444	1.5124	0.39769	0.097779	0.002598	0.0033478	0.012492	0.0004238	0.15533
91.25	21.582	15.238	0	0.17654	0.11193	0.010343	6.7519	0.0038914	1.4098	0.43849	0.15384	0.0027904	0.0031692	0.012334	0.0004194	0.15235
91.33	21.73	15.813	0	0.19421	0.08789	0.012439	6.9542	0.0038815	1.3948	0.43865	0.14032	0.0028193	0.0032817	0.012529	0.0004186	0.15268
91.42	23.505	17.301	0	0.15577	0.096997	0.0088138	6.5363	0.0039273	1.4752	0.43782	0.14017	0.0026488	0.0034395	0.012637	0.0004224	0.15599
91.50	26.195	18.758	0	0.16102	0.092852	0.0043582	7.2448	0.0038208	1.4347	0.50049	0.14925	0.0028872	0.0042558	0.014343	0.0004145	0.17981
91.58	27.771	20.077	0	0.17304	0.094182	0.007632	7.6325	0.003592	1.5998	0.55329	0.1867	0.0030168	0.0045258	0.015124	0.0004105	0.19274
91.67	27.514	19.982	0	0.1925	0.093196	0.0065261	7.5693	0.0037821	1.5236	0.49922	0.13518	0.0029442	0.0042632	0.014557	0.0004127	0.18929
91.75	24.312	18.243	0	0.15823	0.072212	0.0084291	6.602	0.0039227	1.6261	0.4707	0.1332	0.0026719	0.0033835	0.013816	0.0004221	0.15538
91.83	21.551	14.67	0	0.1492	0.11774	0.014692	6.1915	0.0040105	1.6108	0.42172	0.17505	0.0024888	0.0030888	0.012659	0.0004281	0.13778
91.92	20.848	15.01	0	0.18348	0.16461	0.00536	6.8205	0.0039848	1.423	0.41168	0.13274	0.0025659	0.0031882	0.011899	0.0004261	0.13865
92.00	23.455	18.494	0	0.16407	0.20078	0.017033	7.0121	0.0038998	1.5121	0.46639	0.097968	0.0027742	0.0036248	0.012623	0.0004199	0.15018
92.08	23.936	18.82	0	0.15793	0.23936	0.047911	6.6716	0.0039272	1.6714	0.42828	0.089083	0.0027071	0.0037378	0.012287	0.0004219	0.14623
92.17	24.66	18.822	0	0.15297	0.23259	0.0094367	6.7195	0.0039444	1.5124	0.39774	0.097779	0.002598	0.0033477	0.012492	0.0004238	0.15533
92.25	21.584	15.224	0	0.17653	0.11192	0.010343	6.7536	0.0038914	1.4098	0.43855	0.15384	0.0027903	0.0031692	0.012333	0.0004194	0.15234
92.33	21.733	15.799	0	0.1942	0.087888	0.012439	6.9559	0.0038816	1.3948	0.43871	0.14032	0.0028193	0.0032817	0.012528	0.0004186	0.15267
92.42	23.507	17.289	0	0.15576	0.096995	0.0088139	6.5378	0.0039273	1.4752	0.43788	0.14017	0.0026488	0.0034396	0.012636	0.0004224	0.15599
92.50	26.198	18.745	0	0.16101	0.092851	0.0043583	7.2466	0.0038209	1.4347	0.50056	0.14925	0.0028873	0.004256	0.014343	0.0004145	0.17981
92.58	27.774	20.064	0	0.17303	0.094181	0.0076321	7.6343	0.0035921	1.5998	0.55336	0.1867	0.0030168	0.004526	0.015123	0.0004105	0.19274
92.67	27.517	19.969	0	0.19249	0.093194	0.0065262	7.5711	0.0037821	1.5237	0.49928	0.13518	0.0029442	0.0042633	0.014556	0.0004127	0.18928
92.75	24.314	18.231	0	0.15822	0.072209	0.0084291	6.6037	0.0039228	1.6262	0.47076	0.1332	0.0026719	0.0033835	0.013816	0.0004221	0.15537
92.83	21.553	14.659	0	0.14919	0.11774	0.014692	6.1931	0.0040105	1.6108	0.42178	0.17505	0.0024888	0.0030888	0.012658	0.0004281	0.13777
92.92	20.851	14.998	0	0.18347	0.1646	0.0053601	6.8222	0.0039848	1.423	0.41174	0.13274	0.0025659	0.0031882	0.011899	0.0004261	0.13864
93.00	23.457	18.482	0	0.16406	0.20077	0.017033	7.0138	0.0038998	1.5122	0.46645	0.097968	0.0027742	0.0036248	0.012622	0.0004199	0.15018
93.08	23.938	18.809	0	0.15792	0.23936	0.047911	6.6733	0.0039272	1.6714	0.42834	0.089083	0.0027071	0.0037377	0.012286	0.0004219	0.14622
93.17	24.663	18.811	0	0.15296	0.23258	0.0094368	6.7212	0.0039444	1.5125	0.39781	0.097779	0.002598	0.0033477	0.012492	0.0004238	0.15532
93.25	21.587	15.212	0	0.17652	0.11192	0.010343	6.7555	0.0038915	1.4099	0.43862	0.15384	0.0027904	0.0031692	0.012333	0.0004194	0.15233
93.33	21.736	15.787	0	0.19419	0.087885	0.012439	6.9578	0.0038816	1.3948	0.43878	0.14032	0.0028193	0.0032817	0.012528	0.0004186	0.15266
93.42	23.51	17.278	0	0.15575	0.096992	0.008814	6.5395	0.0039274	1.4752	0.43794	0.14017	0.0026487	0.0034394	0.012636	0.0004224	0.15598
93.50	26.2	18.733	0	0.161	0.092847	0.0043584	7.2484	0.0038209	1.4347	0.50063	0.14925	0.0028872	0.0042558	0.014342	0.0004145	0.1798
93.58	27.777	20.052	0	0.17302	0.094177	0.0076322	7.6362	0.0035921	1.5999	0.55343	0.1867	0.0030168	0.0045258	0.015123	0.0004105	0.19273
93.67	27.52	19.957	0	0.19248	0.093191	0.0065263	7.573	0.0037822	1.5237	0.49936	0.13518	0.0029442	0.0042632	0.014556	0.0004127	0.18927
93.75	24.317	18.221	0	0.15821	0.072207	0.0084292	6.6055	0.0039228	1.6262	0.47083	0.1332	0.0026719	0.0033835	0.013815	0.0004221	0.15536
93.83	21.556	14.65	0	0.14918	0.11773	0.014692	6.1948	0.0040106	1.6108	0.42184	0.17505	0.0024888	0.0030888	0.012658	0.0004281	0.13777
93.92	20.854	14.988	0	0.18346	0.1646	0.0053601	6.824	0.0039849	1.423	0.41181	0.13274	0.0025659	0.0031882	0.011898	0.0004261	0.13863
94.00	23.461	18.471	0	0.16405	0.20077	0.017033	7.0158	0.0038999	1.5122	0.46652	0.097968	0.0027742	0.0036248	0.012622	0.0004199	0.15017
94.08	23.941	18.799	0	0.15791	0.23936	0.047911	6.6751	0.0039273	1.6714	0.42841	0.089083	0.0027071	0.0037377	0.012286	0.0004219	0.14622

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TABLE B3.12

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP7

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
-2.00	10.233	8.9998	0	0.024999	0.20333	0.0049999	1.3333	0.0049999	1.1667	0.10333	0.048249	5.00E-05	0.0005	0.0047499	0.0005	0.00125	5.00E-06	3.2374	0.0005	5.00E-05	0.0005
-1.92	10.233	8.9997	0	0.024999	0.20333	0.0049996	1.3333	0.0049999	1.1666	0.10333	0.048249	5.00E-05	0.0005	0.0047498	0.0005	0.00125	5.00E-06	3.2374	0.0005	5.00E-05	0.0005
-1.83	7.5759	4.6	0	0.03	0.232	0.013	1.4	0.0049999	1.16	0.186	0.096397	5.00E-05	0.0005	0.0041999	0.0005	0.0012	9.00E-06	2.366	0.0005	5.00E-05	0.0005
-1.75	7.576	4.6	0	0.03	0.232	0.013	1.4	0.005	1.16	0.186	0.096398	5.00E-05	0.0005	0.0042	0.0005	0.0012	9.00E-06	2.366	0.0005	5.00E-05	0.0005
-1.67	7.5759	4.6	0	0.03	0.232	0.013	1.4	0.005	1.16	0.186	0.096399	5.00E-05	0.0005	0.0042	0.0005	0.0012	9.00E-06	2.366	0.0005	5.00E-05	0.0005
-1.58	11.4	8.9998	0	0.039999	0.061249	0.00625	1.375	0.0049999	1.25	0.135	0.097248	5.00E-05	0.000875	0.0054999	0.0005	0.00225	1.38E-05	3.6574	0.0005	8.75E-05	0.0005
-1.50	11.4	8.9997	0	0.039999	0.061248	0.0062497	1.375	0.0049999	1.25	0.135	0.097249	5.00E-05	0.000875	0.0054998	0.0005	0.00225	1.38E-05	3.6574	0.0005	8.75E-05	0.0005
-1.42	13.2	8.9998	0	0.024999	0.089999	0.029999	1.9999	0.0049998	1.6	0.24999	0.087997	5.00E-05	0.0005	0.0049998	0.0005	0.0019999	2.00E-05	4.2999	0.0005	5.00E-05	0.0005
-1.33	13.2	8.9997	0	0.024999	0.089999	0.029999	1.9999	0.0049998	1.6	0.24999	0.087997	5.00E-05	0.0005	0.0049998	0.0005	0.0019999	2.00E-05	4.2998	0.0005	5.00E-05	0.0005
-1.25	10.275	7.9999	0	0.033749	0.03125	0.0062499	0.49999	0.0049999	1.5	0.135	0.097498	5.00E-05	0.0005	0.0054999	0.0005	0.002	6.25E-06	3.25	0.0005	5.00E-05	0.0005
-1.17	11.2	8	0	0.025	0.024999	0.02	5.0001	0.0049999	2.1	0.27	0.106	5.00E-05	0.0005	0.005	0.0005	0.002	5.00E-06	3.57	0.0005	5.00E-05	0.0005
-1.08	11.2	8.0001	0	0.025	0.025	0.02	5	0.0049999	2.1	0.27	0.106	5.00E-05	0.0005	0.005	0.0005	0.002	5.00E-06	3.5699	0.0005	5.00E-05	0.0005
-1.00	10.233	8.9998	0	0.024999	0.20333	0.0049999	1.3333	0.0049999	1.1667	0.10333	0.048249	5.00E-05	0.0005	0.0047499	0.0005	0.00125	5.00E-06	3.2374	0.0005	5.00E-05	0.0005
-0.92	10.234	9	0	0.024999	0.20332	0.0049996	1.3335	0.0049998	1.1666	0.10335	0.048254	5.00E-05	0.0005001	0.0047504	0.0005	0.001261	5.00E-06	3.2376	0.0005	5.00E-05	0.0005001
-0.83	7.5822	4.6025	0	0.029999	0.23199	0.012999	1.4012	0.0049998	1.16	0.18613	0.09643	5.01E-05	0.0005006	0.0042038	0.0005	0.0012778	9.01E-06	2.3676	0.0005	5.00E-05	0.0005007
-0.75	7.5798	4.6015	0	0.029999	0.23199	0.013	1.4008	0.0049999	1.16	0.18608	0.096419	5.01E-05	0.0005003	0.0042023	0.0005	0.0012463	9.01E-06	2.367	0.0005	5.00E-05	0.0005004
-0.67	7.5802	4.6016	0	0.029999	0.23199	0.013	1.4008	0.0049999	1.16	0.18609	0.096422	5.01E-05	0.0005004	0.0042026	0.0005	0.0012523	9.01E-06	2.3671	0.0005	5.00E-05	0.0005005
-0.58	11.415	9.0055	0	0.039996	0.061244	0.0062501	1.3782	0.0049995	1.25	0.13534	0.097331	5.04E-05	0.0008764	0.0055095	0.0005	0.0024427	1.38E-05	3.6615	0.0005	8.76E-05	0.0005018
-0.50	11.43	9.011	0	0.039992	0.061239	0.0062496	1.3813	0.0049991	1.2501	0.13566	0.097409	5.07E-05	0.0008777	0.0055187	0.0005	0.0026288	1.38E-05	3.6653	0.0005	8.77E-05	0.0005035
-0.42	13.243	9.0159	0	0.024994	0.089978	0.029992	2.0087	0.0049987	1.6001	0.25091	0.088228	5.10E-05	0.000504	0.005027	0.0004999	0.0025418	2.01E-05	4.311	0.0005	5.03E-05	0.000505
-0.33	13.248	9.0177	0	0.024995	0.089973	0.02999	2.0098	0.0049985	1.6001	0.25103	0.088255	5.11E-05	0.0005045	0.0050303	0.0004999	0.0026096	2.01E-05	4.3123	0.0005	5.04E-05	0.0005057
-0.25	10.299	8.0088	0	0.033748	0.031248	0.0062493	0.50505	0.0049993	1.5001	0.13552	0.097625	5.06E-05	0.0005022	0.0055146	0.0005	0.0022974	6.29E-06	3.2562	0.0005	5.02E-05	0.0005028
-0.17	11.213	8.0048	0	0.024998	0.025001	0.019998	5.0024	0.0049996	2.0999	0.27027	0.10607	5.03E-05	0.0005012	0.005008	0.0005	0.0021623	5.02E-06	3.5733	0.0005	5.01E-05	0.0005015
-0.08	11.21	8.0037	0	0.024999	0.025007	0.019998	5.0015	0.0049997	2.0999	0.27019	0.10605	5.02E-05	0.0005009	0.0050059	0.0005	0.0021217	5.02E-06	3.5724	0.0005	5.01E-05	0.0005011
1.00	10.49	9.2312	0	0.024986	0.2068	0.0036789	1.3296	0.0049996	1.2128	0.10495	0.047257	5.03E-05	0.0004544	0.0051188	0.0005	0.0013584	3.81E-06	3.3418	0.0005	5.01E-05	0.0004824
1.08	10.358	9.1021	0	0.0233	0.20294	0.0048027	1.3644	0.0049996	1.1712	0.10576	0.048452	5.03E-05	0.0004544	0.0051202	0.0005	0.0013753	3.40E-06	3.2993	0.0005	5.01E-05	0.0004862
1.17	7.3748	4.1614	0	0.030422	0.24072	0.013788	1.4931	0.0049986	1.1989	0.19807	0.10125	5.11E-05	0.0004615	0.0045194	0.0004999	0.0017761	8.20E-06	2.3178	0.0005	5.04E-05	0.0004903
1.25	7.87	4.8299	0	0.030408	0.25667	0.013288	1.4903	0.0049994	1.2094	0.19716	0.094538	5.05E-05	0.0004411	0.0045014	0.0005	0.0014695	5.93E-06	2.4694	0.0005	5.02E-05	0.0004602

TABLE B3.12

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP7

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
33.33	8.2534	6.6014	0	0.026538	0.25776	0.013417	1.6089	0.0049839	1.1891	0.20404	0.095796	7.182E-05	0.0005877	0.0047426	0.0004994	0.0061885
33.42	13.102	14.212	0	0.043202	0.063102	0.0051676	1.7885	0.0049548	1.2958	0.1634	0.099888	0.0001111	0.0011541	0.0066455	0.0004983	0.016641
33.50	13.769	16.486	0	0.044171	0.060286	0.0043788	1.9782	0.0049324	1.3056	0.17739	0.10154	0.0001487	0.0013218	0.0071116	0.0004971	0.02606
33.58	16.224	18.254	0	0.02856	0.094191	0.032257	2.8576	0.0048083	1.6959	0.31498	0.089505	0.0001773	0.0010894	0.0067794	0.0004966	0.031573
33.67	16.226	17.722	0	0.02258	0.094683	0.032674	2.7815	0.004911	1.6726	0.32027	0.099018	0.0001786	0.0011458	0.0068762	0.0004965	0.031602
33.75	11.725	12.198	0	0.036987	0.024993	0.006103	0.77987	0.0049579	1.5152	0.1611	0.099616	0.0001109	0.0007693	0.0065153	0.0004983	0.015428
33.83	12.26	10.82	0	0.026134	0.015956	0.021755	5.6234	0.0049769	2.2178	0.30009	0.10524	8.571E-05	0.0006762	0.0056903	0.0004991	0.0089613
33.92	12.262	10.921	0	0.021876	0.015116	0.021878	5.5986	0.0049799	2.2525	0.30048	0.10794	8.551E-05	0.0006905	0.005668	0.0004993	0.0072811
34.00	11.137	13.504	0	0.02737	0.20659	0.0036587	1.5636	0.0049695	1.2231	0.11918	0.050227	0.0001087	0.0008496	0.0054707	0.000499	0.0081979
34.08	11.065	14.541	0	0.026441	0.2029	0.0047612	1.6387	0.0049643	1.1845	0.12125	0.051544	0.0001232	0.0009567	0.005497	0.0004988	0.0085821
34.17	8.6685	7.0872	0	0.031745	0.23906	0.013674	1.8126	0.0049541	1.2093	0.22516	0.10743	0.0001077	0.000787	0.0052821	0.0004978	0.016855
34.25	8.3299	5.6693	0	0.03079	0.25563	0.01325	1.5997	0.0049837	1.2122	0.20687	0.096908	6.912E-05	0.0005455	0.0047753	0.0004992	0.0069716
34.33	8.2357	5.8057	0	0.026607	0.25779	0.013417	1.5922	0.0049836	1.189	0.20361	0.095771	7.26E-05	0.0005974	0.0047448	0.0004992	0.0062293
34.42	13.058	12.257	0	0.043366	0.063156	0.0051663	1.7472	0.0049541	1.2956	0.16233	0.099824	0.0001129	0.0011771	0.0066504	0.0004978	0.016735
34.50	13.702	13.682	0	0.044371	0.060348	0.0043769	1.918	0.0049314	1.3052	0.17579	0.10144	0.0001506	0.0013498	0.0071167	0.0004963	0.026162
34.58	16.14	14.889	0	0.028744	0.094241	0.032254	2.7839	0.0048072	1.6951	0.31298	0.089357	0.0001786	0.0011151	0.0067825	0.0004956	0.031645
34.67	16.144	14.601	0	0.022707	0.094711	0.032672	2.7121	0.0049099	1.6717	0.31834	0.098864	0.000179	0.0011635	0.0068766	0.0004956	0.031628
34.75	11.688	10.808	0	0.037036	0.025002	0.0061021	0.74872	0.0049575	1.5147	0.16023	0.099545	0.0001109	0.000776	0.0065151	0.0004979	0.015433
34.83	12.239	10.013	0	0.026165	0.015963	0.021755	5.6054	0.0049767	2.2176	0.29958	0.1052	8.576E-05	0.0006805	0.0056904	0.0004989	0.0089662
34.92	12.24	10.072	0	0.021915	0.015126	0.021877	5.5799	0.0049796	2.2523	0.29997	0.1079	8.57E-05	0.000696	0.0056684	0.000499	0.0072927
35.00	11.101	12.065	0	0.027447	0.20661	0.0036577	1.532	0.0049691	1.2228	0.11831	0.050163	0.0001092	0.0008603	0.0054719	0.0004985	0.0082268
35.08	11.019	12.719	0	0.026547	0.20293	0.00476	1.599	0.0049637	1.1841	0.12017	0.051467	0.000124	0.0009716	0.005499	0.0004983	0.0086274
35.17	8.6477	6.2415	0	0.031798	0.23908	0.013673	1.7942	0.0049538	1.2091	0.22467	0.10739	0.0001082	0.0007943	0.0052832	0.0004976	0.016879
35.25	8.3247	5.45	0	0.030806	0.25563	0.01325	1.5951	0.0049836	1.2122	0.20675	0.0969	6.928E-05	0.0005477	0.0047757	0.0004991	0.0069801
35.33	8.2291	5.5091	0	0.026633	0.25779	0.013416	1.586	0.0049836	1.189	0.20345	0.095762	7.289E-05	0.0006011	0.0047456	0.0004991	0.0062446

Year	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]
33.33	7.51E-06	2.5691	0.0005	5.44E-05	0.0005193	0.096629	6.689E-05	0.0005608	0.39925	0.0060998	1.21E-05	0.0002566	0.0005165	0.01088	0.48246	0.0014968	0.0005039	5.3829	5.03E-05	2.0615	0.011728
33.42	1.38E-05	4.1477	0.0006	0.0001033	0.0006149	0.25212	0.000108	0.0009886	0.62486	0.022676	1.24E-05	0.0007417	0.0005467	0.012507	0.85536	0.0029644	0.000511	6.8362	5.10E-05	3.6755	0.021088
33.50	1.49E-05	4.314	0.0007	0.000111	0.0007195	0.2413	0.0001246	0.0011593	0.68972	0.023308	1.22E-05	0.001051	0.0005769	0.013393	1.219	0.0041194	0.000518	6.8338	5.17E-05	4.7015	0.023409
33.58	2.05E-05	5.1447	0.0008	7.183E-05	0.0007751	0.26011	0.0001479	0.0014986	0.82855	0.013955	1.23E-05	0.001464	0.0005961	0.014408	1.5	0.0051293	0.0005225	8.4402	5.21E-05	5.8811	0.026701
33.67	2.47E-05	5.141	0.0008	7.486E-05	0.0007873	0.27029	0.0001597	0.0015043	0.82562	0.015237	1.23E-05	0.0014809	0.0005961	0.01441	1.4977	0.0051524	0.0005224	8.1988	5.21E-05	5.6737	0.026802
33.75	6.51E-06	3.6638	0.0006	6.14E-05	0.0006087	0.18628	7.154E-05	0.0009524	0.62354	0.010719	1.24E-05	0.000569	0.0005435	0.011579	0.84175	0.0028183	0.00051	7.7659	5.09E-05	3.2408	0.018065
33.83	2.42E-06	3.8941	0.0006	5.62E-05	0.0005413	0.16294	5.19E-05	0.0008634	0.60989	0.0090009	1.24E-05	0.000399	0.0005228	0.010443	0.64583	0.0019936	0.0005053	7.5605	5.05E-05	2.7069	0.017481
33.92	1.57E-06	3.9002	0.0006	5.38E-05	0.0005356	0.16809	5.60E-05	0.0008572	0.60851	0.0086518	1.22E-05	0.0004002	0.0005179	0.010136	0.58255	0.0018292	0.0005042	7.5949	5.03E-05	2.8135	0.017373
34.00	5.32E-06	3.5026	0.0006	5.78E-05	0.0005839	0.097201	6.40E-05	0.0009477	0.55455	0.0040082	1.24E-05	0.0005562	0.000525	0.011248	0.56665	0.0020514	0.0005456	10.53	5.04E-05	3.7188	0.018239
34.08	5.13E-06	3.4736	0.0006	5.90E-05	0.0006025	0.098085	6.49E-05	0.0009754	0.55437	0.0042587	1.24E-05	0.0006809	0.0005273	0.011257	0.57163	0.0021389	0.0005064	9.5189	5.04E-05	4.0892	0.017421
34.17	1.06E-05	2.6504	0.0007	6.21E-05	0.0006539	0.096467	9.076E-05	0.0007367	0.45048	0.0068967	1.24E-05	0.0005435	0.0005495	0.012743	0.887	0.0027945	0.0005111	4.8789	5.11E-05	2.3738	0.013964
34.25	6.81E-06	2.5874	0.0006	5.43E-05	0.0005184	0.097684	6.92E-05	0.0005717	0.4048	0.0057348	1.25E-05	0.00024	0.0005179	0.011006	0.50971	0.0015526	0.000504	5.2868	5.04E-05	1.5838	0.01183
34.33	7.47E-06	2.5624	0.0005	5.41E-05	0.0005199	0.096618	6.697E-05	0.0005622	0.399	0.0060319	1.21E-05	0.0002648	0.0005163	0.010886	0.48285	0.0015037	0.0005036	5.3278	5.03E-05	1.6956	0.011743
34.42	1.37E-05	4.1312	0.0006	0.0001026	0.0006162	0.25209	0.0001082	0.0009917	0.62416	0.022508	1.24E-05	0.0007608	0.0005461	0.01252	0.85611	0.0029799	0.0005102	6.7005	5.10E-05	2.7766	0.021121
34.50	1.48E-05	4.2897	0.0007	0.0001099	0.0007205	0.24126	0.0001247	0.001162	0.68836	0.023059	1.22E-05	0.0010736	0.000576	0.013405	1.2191	0.004135	0.0005168	6.639	5.17E-05	3.4127	0.023436
34.58	2.03E-05	5.1146	0.0008	7.042E-05	0.000775	0.26006	0.0001479	0.0014992	0.82634	0.013645	1.23E-05	0.0014833	0.0005947	0.014415	1.4987	0.0051374	0.0005211	8.206	5.21E-05	4.3349	0.026698
34.67	2.45E-05	5.1123	0.0008	7.35E-05	0.0007863	0.27025	0.0001597	0.0015028	0.82311	0.01494	1.23E-05	0.0014928	0.0005946	0.014409	1.4954	0.0051518	0.000521	7.9813	5.21E-05	4.2402	0.026773
34.75	6.42E-06	3.6509	0.0006	6.07E-05	0.0006081	0.18626	7.152E-05	0.0009513	0.62234	0.010586	1.24E-05	0.0005732	0.0005428	0.011577	0.84049	0.0028165	0.0005094	7.669	5.09E-05	2.6023	0.018047
34.83	2.37E-06	3.8867	0.0006	5.59E-05	0.000541	0.16293	5.19E-05	0.0008629	0.60922	0.0089239	1.24E-05	0.0004018	0.0005224	0.010442	0.64517	0.0019931	0.0005049	7.5043	5.05E-05	2.3365	0.017472
34.92	1.52E-06	3.8925	0.0006	5.34E-05	0.0005354	0.16808	5.60E-05	0.000857	0.60788	0.0085721	1.22E-05	0.0004041	0.0005176	0.010137	0.58204	0.00183	0.0005038	7.5358	5.03E-05	2.4233	0.017368
35.00	5.24E-06	3.4896	0.0006	5.72E-05	0.0005838	0.097181	6.41E-05	0.0009479	0.55358	0.003875	1.24E-05	0.0005642	0.0005244	0.011251	0.56606	0.0020545	0.0005449	10.43	5.04E-05	3.0573	0.018237
35.08	5.02E-06	3.4573	0.0006	5.82E-05	0.0006026	0.098059	6.49E-05	0.0009761	0.55324	0.0040919	1.24E-05	0.0006923	0.0005265	0.011261	0.57112	0.0021446	0.0005056	9.3921	5.04E-05	3.2523	0.017424
35.17	1.06E-05	2.6429	0.0007	6.17E-05	0.000654	0.096455	9.079E-05	0.0007372	0.44999	0.0068199	1.24E-05	0.0005493	0.0005492	0.012746	0.88685	0.0027977	0.0005108	4.82	5.11E-05	1.9852	0.013968
35.25	6.79E-06	2.5855	0.0006	5.42E-05	0.0005185	0.097681	6.92E-05	0.0005719	0.40469	0.0057154	1.25E-05	0.0002419	0.0005178	0.011007	0.50973	0.0015539	0.0005039	5.2715	5.04E-05	1.483	0.011832
35.33	7.45E-06	2.5599	0.0005	5.40E-05	0.0005201	0.096615	6.699E-05	0.0005627	0.39891	0.0060066	1.21E-05	0.0002678	0.0005162	0.010888	0.48299	0.0015062	0.0005035	5.3072	5.03E-05	1.5592	0.011749

Year	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]
33.33	5.29E-05	0.0010712	0.0025113	5.82E-05	0.0007286	0.0013414	0.13884	7.182E-05	0.0005877	0.0051934	0.0004994	0.0061885	9.76E-06	2.7411	0.0005	5.44E-05	0.0005193	0.1418	9.98E-05	0.0006065	0.41733	0.011731	1.21E-05
33.42	5.84E-05	0.0012025	0.0040076	0.0001607	0.0011598	0.0020375	0.29501	0.0001108	0.0017153	0.0094521	0.0004983	0.016641	2.23E-05	4.3631	0.0006	0.0003978	0.0007552	0.52408	0.0004163	0.0012128	0.67244	0.089412	1.24E-05
33.50	6.38E-05	0.0013351	0.0049129	0.0001774	0.0015751	0.0022685	0.29611	0.0001484	0.0018814	0.0099068	0.0004971	0.026061	2.33E-05	4.5288	0.0007	0.0004045	0.0008592	0.51232	0.0004324	0.0013825	0.73711	0.089817	1.22E-05
33.58	6.727E-05	0.0014189	0.0054961	0.0002744	0.0018428	0.0014992	0.099682	0.0001773	0.0010894	0.0067813	0.0004966	0.031573	2.05E-05	5.2232	0.0008	7.183E-05	0.0007751	0.29371	0.0001483	0.0014926	0.83976	0.015085	1.23E-05
33.67	6.729E-05	0.0014197	0.0054955	0.0002757	0.0018452	0.0016796	0.10879	0.0001786	0.0011456	0.006874	0.0004965	0.031602	2.47E-05	5.2189	0.0008	7.486E-05	0.0007873	0.30356	0.0001592	0.0015044	0.83672	0.016334	1.23E-05
33.75	5.78E-05	0.0011907	0.0038528	0.000119	0.001112	0.0009611	0.14839	0.0001109	0.0010503	0.0065148	0.0004983	0.015429	6.55E-06	3.8289	0.0006	7.54E-05	0.0006087	0.2337	0.0001287	0.0010083	0.6628	0.016036	1.24E-05
33.83	5.41E-05	0.0011	0.0031945	0.0001207	0.0008212	0.003204	0.1054	8.571E-05	0.0006762	0.0056903	0.0004991	0.0089613	2.36E-06	3.8952	0.0006	5.62E-05	0.0005413	0.16302	5.22E-05	0.000864	0.61003	0.0090096	1.24E-05
33.92	5.32E-05	0.0010783	0.003105	0.0001226	0.0007523	0.0032233	0.10795	8.551E-05	0.0006905	0.005668	0.0004993	0.007282	1.58E-06	3.8989	0.0006	5.38E-05	0.0005356	0.16806	5.64E-05	0.0008568	0.60837	0.0086296	1.22E-05
34.00	5.45E-05	0.0011089	0.0027267	7.78E-05	0.0008519	0.0006893	0.084506	0.0001087	0.0008496	0.0057542	0.000499	0.0081979	5.32E-06	3.7864	0.0006	5.78E-05	0.0005839	0.13376	7.815E-05	0.0010599	0.58541	0.0087855	1.74E-05
34.08	5.49E-05	0.0011185	0.0025866	8.533E-05	0.0008837	0.0005832	0.085949	0.0001232	0.0009567	0.0057797	0.0004988	0.008583	5.13E-06	3.757	0.0006	5.90E-05	0.0006025	0.13475	7.92E-05	0.0010883	0.5852	0.009042	1.73E-05
34.17	5.90E-05	0.0012187	0.0036189	7.47E-05	0.0012015	0.0016277	0.15	0.0001077	0.0007863	0.0057317	0.0004978	0.016855	1.29E-05	2.8206	0.0007	6.21E-05	0.0006539	0.14119	0.0001238	0.0007813	0.46844	0.012484	1.24E-05
34.25	5.33E-05	0.0010794	0.0026076	5.70E-05	0.0007546	0.0013418	0.13988	6.912E-05	0.0005442	0.0052268	0.0004992	0.0069716	9.06E-06	2.7576	0.0006	5.43E-05	0.0005184	0.14266	0.0001024	0.0006162	0.42276	0.011349	1.25E-05
34.33	5.30E-05	0.0010722	0.0025147	5.84E-05	0.0007322	0.0013407	0.13882	7.26E-05	0.0005974	0.0051955	0.0004992	0.0062293	9.72E-06	2.7344	0.0005	5.41E-05	0.0005199	0.14179	9.988E-05	0.0006079	0.41707	0.011663	1.21E-05
34.42	5.84E-05	0.0012049	0.0040153	0.0001611	0.0011684	0.0020357	0.29494	0.0001126	0.0017383	0.009457	0.0004978	0.016735	2.22E-05	4.3466	0.0006	0.0003971	0.0007565	0.52406	0.0004165	0.0012159	0.67175	0.089244	1.24E-05
34.50	6.38E-05	0.0013378	0.004921	0.0001776	0.0015852	0.002265	0.296	0.0001503	0.0019094	0.0099119	0.0004963	0.026164	2.32E-05	4.5044	0.0007	0.0004034	0.0008602	0.51228	0.0004326	0.0013853	0.73575	0.089568	1.22E-05
34.58	6.725E-05	0.001421	0.0055014	0.0002741	0.0018515	0.0014936	0.099534	0.0001786	0.0011151	0.0067843	0.0004956	0.031645	2.03E-05	5.193	0.0008	7.042E-05	0.000775	0.29366	0.0001483	0.0014932	0.83755	0.014775	1.23E-05
34.67	6.724E-05	0.0014208	0.0054969	0.0002751	0.0018506	0.0016733	0.10864	0.000179	0.0011633	0.0068745	0.0004956	0.031628	2.45E-05	5.1902	0.0008	7.35E-05	0.0007863	0.30351	0.0001592	0.0015029	0.83421	0.016038	1.23E-05
34.75	5.78E-05	0.001191	0.0038527	0.0001187	0.0011139	0.0009581	0.14832	0.0001109	0.001057	0.0065145	0.0004979	0.015434	6.46E-06	3.816	0.0006	7.48E-05	0.0006081	0.23368	0.0001287	0.0010072	0.6616	0.015902	1.24E-05
34.83	5.41E-05	0.0011002	0.0031947	0.0001205	0.0008225	0.0032023	0.10536	8.576E-05	0.0006805	0.0056903	0.0004989	0.0089662	2.31E-06	3.8877	0.0006	5.59E-05	0.000541	0.16301	5.22E-05	0.0008635	0.60936	0.0089326	1.24E-05
34.92	5.32E-05	0.0010787	0.0031057	0.0001225	0.0007541	0.0032217	0.10791	8.57E-05	0.000696	0.0056684	0.000499	0.0072937	1.53E-06	3.8911	0.0006	5.35E-05	0.0005354	0.16805	5.64E-05	0.0008566	0.60774	0.0085499	1.22E-05
35.00	5.45E-05	0.0011098	0.0027288	7.77E-05	0.0008555	0.0006869	0.084442	0.0001092	0.0008603	0.0057554	0.0004985	0.0082268	5.24E-06	3.7734	0.0006	5.72E-05	0.0005838	0.13374	7.819E-05	0.0010601	0.58445	0.0086523	1.74E-05
35.08	5.49E-05	0.0011198	0.0025901	8.526E-05	0.0008888	0.0005803	0.085871	0.000124	0.0009716	0.0057817	0.0004983	0.0086283	5.03E-06	3.7408	0.0006	5.82E-05	0.0006026	0.13473	7.926E-05	0.001089	0.58407	0.0088753	1.73E-05
35.17	5.90E-05	0.0012194	0.0036208	7.47E-05	0.0012041	0.0016264	0.14996	0.0001082	0.0007937	0.0057328	0.0004976	0.016879	1.28E-05	2.8131	0.0007	6.17E-05	0.000654	0.14118	0.0001239	0.0007818	0.46795	0.012407	1.24E-05
35.25	5.33E-05	0.0010796	0.0026083	5.70E-05	0.0007554	0.0013415	0.13987	6.928E-05	0.0005465	0.0052272	0.0004991	0.0069801	9.05E-06	2.7557	0.0006	5.42E-05	0.0005185	0.14266	0.0001024	0.0006165	0.42266	0.011329	1.25E-05
35.33	5.30E-05	0.0010726	0.0025159	5.84E-05	0.0007336	0.0013404	0.13881	7.289E-05	0.0006011	0.0051963	0.0004991	0.0062446	9.71E-06	2.7319	0.0005	5.40E-05	0.0005201	0.14179	9.99E-05	0.0006084	0.41698	0.011638	1.21E-05

Year	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
33.33	0.0002566	0.0005165	0.01088	0.50282	0.0015639	0.0005039	5.3829	5.03E-05	2.1114	0.012181	5.29E-05	0.0010712	0.0025113	6.97E-05	0.0007286	0.0013414	5.4894
33.42	0.0007405	0.000687	0.012651	0.88616	0.0032449	0.000511	6.8362	5.10E-05	3.7396	0.022489	5.84E-05	0.0012025	0.0040076	0.0001608	0.0013007	0.0020376	8.7296
33.50	0.0010497	0.0007167	0.013436	1.2497	0.004399	0.000518	6.8338	5.17E-05	4.7654	0.024805	6.38E-05	0.0013351	0.0049129	0.0001777	0.0017149	0.0022709	8.4305
33.58	0.001464	0.0005961	0.014451	1.4995	0.0051295	0.0005225	8.4402	5.21E-05	5.8799	0.027824	6.727E-05	0.0014189	0.0054961	0.0002731	0.0018428	0.001491	9.2392
33.67	0.0014602	0.0005961	0.01445	1.4977	0.0051525	0.0005224	8.1988	5.21E-05	5.6735	0.027916	6.729E-05	0.0014197	0.0054956	0.0002757	0.0018518	0.0016797	9.7314
33.75	0.0005691	0.0005435	0.011597	0.85287	0.0028461	0.00051	7.7659	5.09E-05	3.3052	0.018344	5.78E-05	0.0011907	0.0038528	0.0001189	0.0011177	0.0009699	7.8605
33.83	0.000399	0.0005228	0.010462	0.64596	0.0019943	0.0005053	7.5605	5.05E-05	2.7074	0.017487	5.41E-05	0.0011	0.0031945	0.0001208	0.0008212	0.0032049	10.001
33.92	0.0004002	0.0005179	0.010155	0.58255	0.001829	0.0005042	7.5949	5.03E-05	2.8131	0.017369	5.32E-05	0.0010783	0.0031121	0.0001224	0.0007523	0.0032286	10.306
34.00	0.0005843	0.000525	0.011249	0.58633	0.0021076	0.0005456	10.53	5.04E-05	3.8142	0.019081	5.45E-05	0.0011089	0.0027267	9.164E-05	0.0008519	0.0006894	3.0678
34.08	0.000709	0.0005273	0.011257	0.59131	0.0021953	0.0005064	9.5189	5.04E-05	4.1849	0.018263	5.49E-05	0.0011185	0.0025866	9.93E-05	0.0008837	0.0005832	3.0839
34.17	0.0005435	0.0005495	0.012743	0.90704	0.0028612	0.0005111	4.8789	5.11E-05	2.4232	0.014414	5.90E-05	0.0012187	0.0036189	8.55E-05	0.0012015	0.0016263	5.7924
34.25	0.00024	0.0005179	0.011054	0.52986	0.0016201	0.000504	5.2868	5.04E-05	1.633	0.012278	5.33E-05	0.0010794	0.0026076	6.78E-05	0.0007589	0.0013392	5.6177
34.33	0.0002648	0.0005163	0.010886	0.5032	0.0015707	0.0005036	5.3278	5.03E-05	1.7455	0.012196	5.30E-05	0.0010722	0.0025147	6.99E-05	0.0007322	0.0013407	5.4892
34.42	0.0007596	0.0006864	0.012664	0.88692	0.0032604	0.0005102	6.7005	5.10E-05	2.8407	0.022523	5.84E-05	0.0012049	0.0040153	0.0001612	0.0013093	0.0020358	8.729
34.50	0.0010723	0.0007157	0.013449	1.2499	0.0044145	0.0005168	6.639	5.17E-05	3.4766	0.024832	6.38E-05	0.0013378	0.0049211	0.0001779	0.001725	0.0022674	8.4297
34.58	0.0014833	0.0005947	0.014457	1.4982	0.0051376	0.0005211	8.206	5.21E-05	4.3337	0.027821	6.725E-05	0.001421	0.0055014	0.0002729	0.0018515	0.0014854	9.2382
34.67	0.0014721	0.0005946	0.014449	1.4954	0.0051518	0.000521	7.9813	5.21E-05	4.2401	0.027887	6.724E-05	0.0014208	0.0054969	0.0002751	0.0018572	0.0016733	9.7305
34.75	0.0005733	0.0005428	0.011596	0.85161	0.0028443	0.0005094	7.669	5.09E-05	2.6667	0.018326	5.78E-05	0.001191	0.0038527	0.0001185	0.0011196	0.0009669	7.8601
34.83	0.0004018	0.0005224	0.010461	0.6453	0.0019937	0.0005049	7.5043	5.05E-05	2.3371	0.017479	5.41E-05	0.0011002	0.0031947	0.0001206	0.0008225	0.0032032	10.001
34.92	0.0004041	0.0005176	0.010156	0.58204	0.0018298	0.0005038	7.5358	5.03E-05	2.4229	0.017364	5.32E-05	0.0010787	0.0031128	0.0001222	0.0007541	0.003227	10.306
35.00	0.0005924	0.0005244	0.011251	0.58574	0.0021107	0.0005449	10.43	5.04E-05	3.1527	0.019079	5.45E-05	0.0011098	0.0027289	9.151E-05	0.0008555	0.0006869	3.0674
35.08	0.0007205	0.0005265	0.011262	0.59081	0.002201	0.0005056	9.3921	5.04E-05	3.348	0.018266	5.49E-05	0.0011198	0.0025901	9.923E-05	0.0008889	0.0005803	3.0833
35.17	0.0005493	0.0005492	0.012746	0.9069	0.0028645	0.0005108	4.82	5.11E-05	2.0346	0.014418	5.90E-05	0.0012194	0.0036208	8.55E-05	0.0012041	0.001625	5.7921
35.25	0.0002419	0.0005178	0.011055	0.52988	0.0016214	0.0005039	5.2715	5.04E-05	1.5322	0.01228	5.33E-05	0.0010796	0.0026083	6.79E-05	0.0007598	0.0013389	5.6177
35.33	0.0002678	0.0005162	0.010888	0.50335	0.0015733	0.0005035	5.3072	5.03E-05	1.6091	0.012202	5.30E-05	0.0010726	0.0025159	6.99E-05	0.0007336	0.0013405	5.4891

TABLE B3.12

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP7

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
67.75	18.118	14.392	0	0.10401	0.056086	0.0055244	3.5143	0.0044312	1.6781	0.2951	0.11293	0.0014372	0.0020255	0.0098555	0.0004592	0.083441	2.67E-05	4.9775	0.0015	0.0001716	0.0007945
67.83	18.177	14.009	0	0.089941	0.046061	0.01926	7.5879	0.0044838	2.2822	0.4082	0.11699	0.0013249	0.0018533	0.0089075	0.0004628	0.073169	2.18E-05	5.0984	0.0013	0.00016	0.0007232
67.92	18.39	14.117	0	0.088594	0.046442	0.019275	7.6343	0.0044683	2.3148	0.41238	0.11978	0.0013705	0.001911	0.0090063	0.0004616	0.074066	2.18E-05	5.1458	0.0014	0.0001616	0.0007251
68.00	17.888	15.328	0	0.098842	0.21367	0.0033954	4.3013	0.0044172	1.4343	0.26478	0.071069	0.0014961	0.0021587	0.0091102	0.0004579	0.080332	2.66E-05	4.8931	0.0014	0.0001732	0.0007824
68.08	17.513	14.997	0	0.095135	0.2102	0.0043599	4.226	0.0044353	1.3918	0.25978	0.071297	0.0014515	0.0022077	0.0089827	0.0004592	0.077689	2.55E-05	4.7991	0.0014	0.000169	0.0007905
68.17	15.272	10.695	0	0.097395	0.2414	0.012129	4.3402	0.0044443	1.4072	0.34696	0.11937	0.001394	0.002002	0.0086799	0.0004602	0.082586	2.97E-05	4.0589	0.0014	0.000169	0.0008291
68.25	15.803	11.666	0	0.10426	0.25582	0.011584	4.4929	0.0044095	1.4333	0.34667	0.11187	0.0015127	0.0019247	0.0086471	0.0004574	0.081878	2.88E-05	4.1858	0.0015	0.0001755	0.0007338
68.33	15.78	11.57	0	0.10142	0.25763	0.011711	4.5042	0.0044034	1.4153	0.34488	0.11105	0.0015301	0.0019867	0.0086576	0.0004569	0.081963	2.95E-05	4.1747	0.0015	0.0001763	0.0007376
68.42	19.191	15.165	0	0.10874	0.088832	0.0047194	4.3233	0.0044341	1.4854	0.29444	0.11303	0.0014235	0.0023684	0.00993	0.0004593	0.083717	3.27E-05	5.3654	0.0015	0.0002059	0.0008004
68.50	20.274	15.8	0	0.11547	0.088728	0.0040033	4.6838	0.0043681	1.5104	0.31738	0.11555	0.0015731	0.0026282	0.010623	0.0004545	0.097789	3.53E-05	5.6055	0.0016	0.0002211	0.000906
68.58	22.605	16.264	0	0.10513	0.11869	0.027676	5.5224	0.0042394	1.8501	0.43952	0.10582	0.0016553	0.0024827	0.010484	0.000452	0.1054	4.08E-05	6.3569	0.0017	0.000192	0.0009594
68.67	22.407	15.95	0	0.097504	0.1183	0.028181	5.3755	0.0043454	1.8253	0.44016	0.1134	0.0016082	0.0024768	0.010446	0.0004534	0.10303	4.38E-05	6.3169	0.0017	0.0001908	0.0009626
68.75	18.108	14.278	0	0.10402	0.056085	0.005524	3.5074	0.004431	1.6779	0.29488	0.11293	0.0014372	0.0020255	0.0098551	0.0004591	0.083436	2.67E-05	4.9742	0.0015	0.0001714	0.0007945
68.83	18.168	13.904	0	0.089949	0.04606	0.01926	7.5815	0.0044836	2.282	0.408	0.11699	0.0013249	0.0018533	0.0089071	0.0004627	0.073164	2.18E-05	5.0954	0.0013	0.0001599	0.0007232
68.92	18.38	14.009	0	0.088602	0.046441	0.019275	7.6277	0.0044681	2.3146	0.41217	0.11978	0.0013705	0.001911	0.009006	0.0004615	0.074061	2.18E-05	5.1427	0.0014	0.0001614	0.0007251
69.00	17.877	15.212	0	0.098851	0.21366	0.003395	4.2942	0.004417	1.4341	0.26456	0.071069	0.0014961	0.0021587	0.0091098	0.0004578	0.080326	2.66E-05	4.8897	0.0014	0.000173	0.0007824
69.08	17.504	14.886	0	0.095144	0.2102	0.0043595	4.2193	0.0044351	1.3917	0.25957	0.071297	0.0014515	0.0022077	0.0089823	0.0004591	0.077684	2.54E-05	4.7959	0.0014	0.0001688	0.0007905
69.17	15.263	10.589	0	0.097403	0.24139	0.012129	4.3337	0.0044441	1.407	0.34676	0.11937	0.001394	0.002002	0.0086796	0.0004601	0.082581	2.97E-05	4.0558	0.0014	0.0001688	0.0008291
69.25	15.793	11.549	0	0.10427	0.25582	0.011584	4.4858	0.0044093	1.4332	0.34644	0.11187	0.0015127	0.0019248	0.0086467	0.0004573	0.081873	2.88E-05	4.1824	0.0015	0.0001753	0.0007339
69.33	15.77	11.454	0	0.10143	0.25763	0.01171	4.4972	0.0044032	1.4152	0.34466	0.11105	0.0015301	0.0019867	0.0086573	0.0004568	0.081957	2.95E-05	4.1714	0.0015	0.0001761	0.0007376
69.42	19.182	15.061	0	0.10874	0.088831	0.004719	4.3171	0.004434	1.4852	0.29425	0.11303	0.0014234	0.0023683	0.0099297	0.0004593	0.083712	3.27E-05	5.3625	0.0015	0.0002057	0.0008004
69.50	20.264	15.688	0	0.11548	0.088727	0.004003	4.6771	0.0043679	1.5102	0.31716	0.11555	0.0015731	0.0026281	0.010623	0.0004544	0.097783	3.53E-05	5.6023	0.0016	0.0002209	0.0009059
69.58	22.595	16.149	0	0.10513	0.11869	0.027675	5.5155	0.0042392	1.85	0.4393	0.10582	0.0016553	0.0024826	0.010483	0.0004519	0.10539	4.08E-05	6.3536	0.0017	0.0001918	0.0009594
69.67	22.397	15.839	0	0.097512	0.1183	0.02818	5.3689	0.0043452	1.8251	0.43995	0.1134	0.0016082	0.0024767	0.010446	0.0004533	0.10302	4.38E-05	6.3137	0.0017	0.0001906	0.0009626
69.75	18.099	14.176	0	0.10403	0.056084	0.0055236	3.5013	0.0044309	1.6777	0.29469	0.11293	0.0014372	0.0020255	0.0098548	0.0004591	0.083431	2.67E-05	4.9713	0.0015	0.0001712	0.0007945
69.83	18.16	13.811	0	0.089956	0.046059	0.01926	7.576	0.0044835	2.2819	0.40783	0.11699	0.0013249	0.0018533	0.0089069	0.0004627	0.07316	2.18E-05	5.0927	0.0013	0.0001597	0.0007232
69.92	18.372	13.913	0	0.088609	0.046439	0.019275	7.622	0.0044679	2.3145	0.412	0.11978	0.0013705	0.001911	0.0090057	0.0004615	0.074057	2.17E-05	5.14	0.0014	0.0001613	0.0007251
70.00	17.869	15.108	0	0.098858	0.21366	0.0033946	4.2881	0.0044168	1.434	0.26437	0.071069	0.0014961	0.0021587	0.0091095	0.0004578	0.080322	2.65E-05	4.8868	0.0014	0.0001729	0.0007824
70.08	17.495	14.787	0	0.095151	0.2102	0.0043592	4.2134	0.0044349	1.3915	0.25939	0.071297	0.0014515	0.0022077	0.008982	0.0004591	0.077679	2.54E-05	4.7931	0.0014	0.0001686	0.0007905
70.17	15.254	10.494	0	0.09741	0.24139	0.012128	4.3281	0.004444	1.4069	0.34658	0.11937	0.001394	0.002002	0.0086793	0.0004601	0.082576	2.97E-05	4.0531	0.0014	0.0001686	0.0008291
70.25	15.784	11.444	0	0.10428	0.25582	0.011583	4.4796	0.0044091	1.433	0.34625	0.11187	0.0015127	0.0019248	0.0086464	0.0004573	0.081868	2.88E-05	4.1795	0.0015	0.0001752	0.0007339
70.33	15.761	11.351	0	0.10144	0.25763	0.01171	4.4912	0.004403	1.415	0.34447	0.11105	0.0015301	0.0019867	0.0086569	0.0004568	0.081952	2.95E-05	4.1685	0.0015	0.000176	0.0007376
89.08	17.461	14.078	0	0.095128	0.21018	0.0043576	4.1885	0.0044341	1.3909	0.25869	0.071297	0.0014514	0.0022077	0.0089773	0.0004588	0.077603	2.54E-05	4.7825	0.0014	0.000168	0.0007905
89.17	15.221	9.8094	0	0.097388	0.24137	0.012127	4.3041	0.0044432	1.4062	0.34591	0.11937	0.0013939	0.002002	0.0086747	0.0004598	0.082501	2.96E-05	4.0429	0.0014	0.0001681	0.0008291
89.25	15.748	10.693	0	0.10426	0.25579	0.011582	4.4537	0.0044082	1.4323	0.34553	0.11187	0.0015127	0.0019248	0.0086414	0.000457	0.081787	2.87E-05	4.1686	0.0015	0.0001746	0.0007339
89.33	15.726	10.61	0	0.10141	0.25761	0.011708	4.4659	0.0044022	1.4143	0.34377	0.11105	0.0015301	0.0019867	0.0086518	0.0004565	0.081868	2.95E-05	4.1579	0.0015	0.0001754	0.0007376
89.42	19.143	14.307	0	0.10872	0.088806	0.0047174	4.2893	0.0044331	1.4845	0.29346	0.11303	0.0014233	0.0023683	0.0099246	0.000459	0.08363	3.27E-05	5.3506	0.0015	0.000205	0.0008004
89.50	20.223	14.871	0	0.11546	0.088699	0.0040012	4.6475	0.004367	1.5094	0.31633	0.11555	0.001573	0.0026281	0.010617	0.0004541	0.097694	3.52E-05	5.5897	0.0016	0.0002202	0.0009059
89.58	22.554	15.304	0	0.10511	0.11866	0.027673	5.4855	0.0042382	1.8491	0.43846	0.10582	0.0016552	0.0024826	0.010478	0.0004516	0.1053	4.08E-05	6.3409	0.0017	0.0001911	0.0009594
89.67	22.358	15.027	0	0.097485	0.11827	0.028179	5.3406	0.0043443	1.8243	0.43916	0.1134	0.0016081	0.0024767	0.01044	0.000453	0.10293	4.37E-05	6.3018	0.0017	0.00019	0.0009626
89.75	18.064	13.435	0	0.104	0.056058	0.0055221	3.4759	0.00443	1.6771	0.29398	0.11293	0.0014372	0.0020255	0.0098499	0.0004588	0.083352	2.66E-05	4.9606	0.0015	0.0001707	0.0007945
89.83	18.128	13.128	0	0.089934	0.046035	0.019258	7.5528	0.0044827	2.2813	0.40719	0.11699	0.0013249	0.0018533	0.0089024	0.0004624	0.073087	2.18E-05	5.083	0.0013	0.0001592	0.0007232
89.92	18.34	13.212	0	0.088585	0.046415	0.019273	7.5984	0.0044671	2.3138	0.41134	0.11978	0.0013705	0.001911	0.009001	0.0004612	0.073981	2.17E-05	5.1301	0.0014	0.0001607	0.0007251
90.00	17.834	14.355	0	0.098831	0.21364	0.0033931	4.2627	0.0044159	1.4333	0.26367	0.071069	0.001496	0.0021587	0.0091044	0.0004575	0.080239	2.65E-05	4.8762	0.0014	0.0001723	0.0007824
90.08	17.462	14.069	0	0.095124	0.21018	0.0043577	4.1892	0.0044341	1.3909	0.25872	0.071297	0.0014514	0.0022077	0.0089771	0.0004588	0.077599	2.54E-05	4.783	0.0014	0.0001681	0.0007905
90.17	15.223	9.8007	0	0.097383	0.24137	0.012127	4.3048	0.0044432	1.4062	0.34593	0.11937	0.0013939	0.002002	0.0086745	0.0004598	0.082498	2.96E-05	4.0434	0.0014	0.0001681	0.0008291
90.25	15.75	10.684	0	0.10425	0.25579	0.011582	4.4545	0.0044082	1.4323	0.34556	0.11187	0.0015127	0.0019248	0.0086412	0.000457	0.081783	2.87E-05	4.169	0.0015	0.0001746	0.0007339
90.33	15.727	10.601	0	0.10141	0.2576	0.011709	4.4667	0.0044022	1.4143	0.3438	0.11105	0.0015301	0.0019867	0.0086516	0.0004565	0.081865	2.95E-05	4.1584	0.0015	0.0001754	0.0007376
90.42	19.144	14.298	0	0.10872	0.088804	0.0047175	4.2901	0.0044331	1.4845	0.29349	0.11303	0.0014233	0.0023683	0.0099244	0.000459	0.083626	3.27E-05	5.351	0.0015	0.0002051	0.0008004
90.50	20.224	14.862	0	0.11545	0.088697	0.0040013	4.6483	0.004367	1.5094	0.31636	0.11555	0.001573	0.0026281	0.010617	0.0004541	0.09769	3.52E-05	5.5902	0.0016	0.0002202	0.0009059
90.58	22.555	15.295	0	0.1051	0.11866	0.027673	5.4863	0.0042382	1.8492	0.43849	0.10582	0.0016552	0.0024826	0.010477	0.0004516	0.1053	4.08E-05	6.3414	0.0017	0.0001911	0.0009594
90.67	22.36	15.018	0	0.09748	0.11827	0.028179	5.3414	0.0043443	1.8244	0.43919	0.1134	0.0016081	0.0024767	0.01044	0.000453	0.10293	4.37E-05	6.3023	0.0017	0.00019	0.0009626
90.75	18.065	13.426	0	0.104	0.056057	0.0055221	3.4767	0.00443	1.6771	0.29401	0.11293	0.0014372	0.0020255	0.0098497	0.0004588	0.083349	2.66E-05	4.9611	0.0015	0.0001707	0.0007945
90.83	18.129	13.12	0	0.089929	0.046034	0.019258	7.5535	0.0044827	2.2813	0.40722	0.11699	0.0013249	0.0018533	0.0089022	0.0004624	0.073084	2.18E-05	5.0835	0.0013	0.0001592	0.0007232
90.92	18.341	13.204	0	0.088581	0.046414	0.019273	7.5991	0.0044671	2.3138	0.41137	0.11978	0.0013705	0.001911	0.0090008	0.0004612	0.073978	2.17E-05	5.1306	0.0014	0.0001608	0.0007251
91.00	17.835	14.347	0	0.098826	0.21364	0.0033931	4.2635	0.004416	1.4333	0.2637	0.071069	0.001496	0.0021587	0.0091042	0.0004575	0.080236	2.65E-05	4.8767	0.0014	0.0001723	0.0007824
91.08	17.463	14.061	0	0.095119	0.21017	0.0043577	4.19	0.0044341	1.3909	0.25875	0.071297	0.0014514	0.0022077	0.0089769	0.0004588	0.077596	2.54E-05	4.7835	0.0014	0.0001681	0.0007905
91.17	15.224	9.793	0	0.097379	0.24137	0.012127	4.3055	0.0044432	1.4062	0.34596	0.11937	0.0013939	0.002002	0.0086743	0.0004598	0.082495	2.96E-05	4.0438	0.0014	0.0001681	0.0008291
91.25	15.751	10.675	0	0.10425	0.25579	0.011582	4.4553	0.0044083	1.4323	0.3456	0.11187	0.0015127	0.0019248	0.0086409	0.000457	0.081779	2.87E-05	4.1696	0.0015	0.0001747	0.0007339
91.33	15.729	10.593	0	0.1014	0.2576	0.011709	4.4676	0.0044022	1.4144	0.34384	0.11105	0.0015301	0.0019867	0.0086514	0.0004565	0.081861	2.95E-05	4.159	0.0015	0.0001755	0.0007376
91.42	19.146	14.291	0	0.10871	0.088803	0.0047175	4.2908	0.0044331	1.4845	0.29352	0.11303	0.0014233	0.0023683	0.0099242	0.000459	0.083623	3.27E-05	5.3515	0.0015	0.0002051	0.0008004
91.50	20.226	14.854	0	0.11544	0.088696	0.0040013	4.6492	0.004367	1.5095	0.31639	0.11555	0.001573	0.0026281	0.010617	0.0004541	0.097687	3.52E-05	5.5907	0.0016	0.0002203	0.0009059
91.58	22.557	15.286	0	0.1051	0.11866	0.027673	5.4873	0.0042382	1.8492	0.43853	0.10582	0.0016552	0.0024826	0.010477	0.0004516	0.1053	4.08E-05	6.342	0.0017	0.0001911	0.0009594
91.67	22.361	15.01	0	0.097475	0.11827	0.028179	5.3424	0.0043443	1.8244	0.43923	0.1134	0.0016081	0.0024767	0.01044	0.000453	0.10293	4.37E-05	6.3029	0.0017	0.00019	0.0009626
91.75	18.067	13.419	0	0.10399	0.056055	0.0055221	3.4775	0.0044301	1.6771	0.29405	0.11293	0.0014372	0.0020255	0.0098495	0.0004588	0.083345	2.67E-05	4.9616	0.0015	0.0001707	0.0007945
91.83	18.13	13.113	0	0.089925	0.046033	0.019258	7.5543	0.0044827	2.2813	0.40725	0.11699	0.0013249	0.0018533	0.008902	0.0004624	0.073081	2.18E-05	5.084	0.0013	0.0001592	0.0007232
91.92	18.342	13.197	0	0.088576	0.046413	0.019273	7.6	0.0044671	2.3139	0.41141	0.11978	0.0013705	0.001911	0.0090007	0.0004612	0.073975	2.17E-05	5.1311	0.0014	0.0001608	0.0007251
92.00	17.837	14.339	0	0.098821	0.21363	0.0033931	4.2645	0.004416	1.4333	0.26374	0.071069	0.001496	0.0021587	0.009104	0.0004575	0.080232	2.65E-05	4.8773	0.0014	0.0001724	0.0007824
92.08	17.465	14.054	0	0.095114	0.21017	0.0043577	4.1909	0.0044342	1.3909	0.25879	0.071297	0.0014514	0.0022077	0.0089767	0.0004588	0.077593	2.54E-05	4.784	0.0014	0.0001681	0.0007905
92.17	15.225	9.7862	0	0.097374	0.24137	0.012127	4.3063	0.0044432	1.4063	0.34599	0.11937	0.0013939	0.002002	0.0086741	0.0004598	0.082491	2.97E-05	4.0443	0.0014	0.0001682	0.0008291
92.25	15.752	10.668	0	0.10424	0.25579	0.011582	4.4562	0.0044083	1.4324	0.34563	0.11187	0.0015127	0.0019247	0.0086407	0.000457	0.081775	2.87E-05	4.1701	0.0015	0.0001747	0.0007338
92.33	15.73	10.585	0	0.1014	0.2576	0.011709	4.4685	0.0044023	1.4144	0.34387	0.11105	0.0015301	0.0019867	0.0086511	0.0004565	0.081857	2.95E-05	4.1595	0.0015	0.0001755	0.0007376
92.42	19.147	14.284	0	0.10871	0.088802	0.0047175	4.2917	0.0044331	1.4845	0.29355	0.11303	0.0014233	0.0023684	0.009924	0.000459	0.08362	3.27E-05	5.352	0.0015	0.0002051	0.0008004
92.50	20.227	14.847	0	0.11544	0.088695	0.0040014	4.6501	0.0043671	1.5095	0.31643	0.11555	0.001573	0.0026282	0.010617	0.0004541	0.097683	3.52E-05	5.5912	0.0016	0.0002203	0.000906
92.58	22.558	15.279	0	0.10509	0.11866	0.027673	5.4882	0.0042383	1.8492	0.43857	0.10582	0.0016552	0.0024827	0.010477	0.0004516	0.10529	4.08E-05	6.3426	0.0017	0.0001912	0.0009594
92.67	22.363	15.003	0	0.097469	0.11827	0.028179	5.3433	0.0043444	1.8244	0.43927	0.1134	0.0016081	0.0024768	0.010439	0.000453	0.10292	4.37E-05	6.3034	0.0017	0.0001901	0.0009626
92.75	18.068	13.413	0	0.10399	0.056054	0.0055222	3.4784	0.0044301	1.6771	0.29408	0.11293	0.0014372	0.0020255	0.0098493	0.0004588	0.083342	2.67E-05	4.9622	0.0015	0.0001708	0.0007945
92.83	18.132	13.108	0	0.08992	0.046032	0.019258	7.5552	0.0044828	2.2813	0.40728	0.11699	0.0013249	0.0018533	0.0089018	0.0004624	0.073077	2.18E-05	5.0845	0.0013	0.0001593	0.0007232
92.92	18.344	13.191	0	0.088571	0.046412	0.019273	7.6008	0.0044672	2.3139	0.41144	0.11978	0.0013705	0.001911	0.0090004	0.0004612	0.073971	2.17E-05	5.1316	0.0014	0.0001608	0.0007251
93.00	17.838	14.333	0	0.098815	0.21363	0.0033932	4.2654	0.004416	1.4334	0.26377	0.071069	0.001496	0.0021587	0.0091037	0.0004575	0.080228	2.65E-05	4.8778	0.0014	0.0001724	0.0007824
93.08	17.466	14.048	0	0.095109	0.21017	0.0043578	4.1918	0.0044342	1.3909	0.25882	0.071297	0.0014514	0.0022077	0.0089764	0.0004588	0.077589	2.54E-05	4.7845	0.0014	0.0001682	0.0007905
93.17	15.227	9.7804	0	0.097369	0.24137	0.012127	4.3072	0.0044433	1.4063	0.34603	0.11937	0.0013939	0.002002	0.0086739	0.0004598	0.082488	2.97E-05	4.0448	0.0014	0.0001682	0.0008291
93.25	15.754	10.661	0	0.10423	0.25579	0.011582	4.4572	0.0044083	1.4324	0.34567	0.11187	0.0015127	0.0019248	0.0086405	0.000457	0.081772	2.87E-05	4.1707	0.0015	0.0001747	0.0007339
93.33	15.732	10.579	0	0.10139	0.2576	0.011709	4.4695	0.0044023	1.4144	0.34391	0.11105	0.0015301	0.0019867	0.0086509	0.0004565	0.081853	2.95E-05	4.1601	0.0015	0.0001755	0.0007376
93.42	19.148	14.279	0	0.1087	0.088801	0.0047176	4.2926	0.0044332	1.4845	0.29358	0.11303	0.0014233	0.0023683	0.0099238	0.000459	0.083615	3.27E-05	5.3525	0.0015	0.0002052	0.0008004
93.50	20.229	14.841	0	0.11543	0.088693	0.0040014	4.6511	0.0043671	1.5095	0.31647	0.11555	0.001573	0.0026281	0.010616	0.0004541	0.097678	3.52E-05	5.5918	0.0016	0.0002203	0.0009059
93.58	22.56	15.273	0	0.10508	0.11866	0.027674	5.4893	0.0042383	1.8492	0.4386	0.10582	0.0016551	0.0024826	0.010477	0.0004516	0.10529	4.08E-05	6.3432	0.0017	0.0001912	0.0009594
93.67	22.364	14.997	0	0.097463	0.11827	0.028179	5.3443	0.0043444	1.8244	0.4393	0.1134	0.0016081	0.0024767	0.010439	0.000453	0.10292	4.37E-05	6.3041	0.0017	0.0001901	0.0009626
93.75	18.07	13.407	0	0.10398	0.056053	0.0055222	3.4794	0.0044301	1.6771	0.29412	0.11293	0.0014372	0.0020255	0.0098491	0.0004588	0.083338	2.67E-05	4.9627	0.0015	0.0001708	0.0007945
97.83	18.14	13.088	0	0.089895	0.046026	0.019259	7.56	0.0044829	2.2814	0.40746	0.11699	0.0013249	0.0018533	0.0089009	0.0004624	0.073062	2.18E-05	5.0873	0.0013	0.0001595	0.0007232
97.92	18.352	13.171	0	0.088545	0.046406	0.019273	7.6059	0.0044673	2.314	0.41163	0.11978	0.0013705	0.001911	0.0089995	0.0004612	0.073955	2.17E-05	5.1345	0.0014	0.000161	0.0007251
98.00	17.847	14.311	0	0.098788	0.21363	0.0033934	4.2708	0.0044161	1.4335	0.26397	0.071069	0.001496	0.0021587	0.0091027	0.0004575	0.080211	2.65E-05	4.8809	0.0014	0.0001726	0.0007824
98.08	17.474	14.027	0	0.095082	0.21017	0.004358	4.1969	0.0044343	1.391	0.25901	0.071297	0.0014514	0.0022077	0.0089754	0.0004588	0.077572	2.54E-05	4.7875	0.0014	0.0001684	0.0007905
98.17	15.235	9.7602	0	0.097343	0.24136	0.012127	4.3122	0.0044434	1.4064	0.34621	0.11937	0.0013939	0.002002	0.0086729	0.0004598	0.082471	2.97E-05	4.0477	0.0014	0.0001684	0.0008291
98.25	15.763	10.639	0	0.10421	0.25578	0.011582	4.4628	0.0044084	1.4325	0.34587	0.11187	0.0015127	0.0019248	0.0086394	0.000457	0.081754	2.87E-05	4.1739	0.0015	0.0001749	0.0007339
98.33	15.741	10.557	0	0.10136	0.25759	0.011709	4.4751	0.0044024	1.4145	0.34412	0.11105	0.00153	0.0019867	0.0086498	0.0004565	0.081835	2.95E-05	4.1633	0.0015	0.0001758	0.0007376
98.42	19.156	14.259	0	0.10868	0.088795	0.0047178	4.2976	0.0044333	1.4846	0.29377	0.11303	0.0014233	0.0023683	0.0099228	0.000459	0.083598	3.27E-05	5.3554	0.0015	0.0002054	0.0008004
98.50	20.238	14.82	0	0.1154	0.088686	0.0040017	4.6567	0.0043672	1.5096	0.31667	0.11555	0.001573	0.0026281	0.010615	0.0004541	0.09766	3.53E-05	5.595	0.0016	0.0002206	0.0009059
98.58	22.569	15.251	0	0.10505	0.11865	0.027674	5.4952	0.0042384	1.8493	0.43882	0.10582	0.0016551	0.0024826	0.010476	0.0004516	0.10527	4.08E-05	6.3466	0.0017	0.0001914	0.0009594
98.67	22.374	14.977	0	0.097434	0.11826	0.028179	5.3501	0.0043445	1.8245	0.43952	0.1134	0.0016081	0.0024767	0.010438	0.000453	0.1029	4.37E-05	6.3074	0.0017	0.0001903	0.0009626
98.75	18.079	13.388	0	0.10396	0.056047	0.0055225	3.4848	0.0044302	1.6772	0.29432	0.11293	0.0014372	0.0020255	0.0098481	0.0004588	0.083322	2.67E-05	4.9658	0.0015	0.000171	0.0007945
98.83	18.141	13.085	0	0.08989	0.046025	0.019259	7.5611	0.0044829	2.2815	0.4075	0.11699	0.0013249	0.0018533	0.0089007	0.0004624	0.073059	2.18E-05	5.0879	0.0013	0.0001595	0.0007232
98.92	18.354	13.168	0	0.08854	0.046405	0.019273	7.607	0.0044673	2.314	0.41167	0.11978	0.0013705	0.001911	0.0089993	0.0004612	0.073952	2.17E-05	5.1351	0.0014	0.0001611	0.0007251
99.00	17.849	14.308	0	0.098783	0.21362	0.0033935	4.272	0.0044161	1.4335	0.26402	0.071069	0.001496	0.0021587	0.0091025	0.0004575	0.080207	2.65E-05	4.8816	0.0014	0.0001727	0.0007824
99.08	17.476	14.024	0	0.095077	0.21016	0.0043581	4.1981	0.0044343	1.3911	0.25905	0.071297	0.0014514	0.0022077	0.0089753	0.0004588	0.077569	2.54E-05	4.7882	0.0014	0.0001684	0.0007905
99.17	15.236	9.7576	0	0.097338	0.24136	0.012127	4.3133	0.0044434	1.4064	0.34625	0.11937	0.0013939	0.002002	0.0086727	0.0004598	0.082468	2.97E-05	4.0483	0.0014	0.0001684	0.0008291
99.25	15.765	10.637	0	0.1042	0.25578	0.011582	4.464	0.0044084	1.4325	0.34592	0.11187	0.0015127	0.0019248	0.0086392	0.000457	0.08175	2.88E-05	4.1746	0.0015	0.000175	0.0007339
99.33	15.743	10.555	0	0.10136	0.25759	0.011709	4.4763	0.0044024	1.4145	0.34416	0.11105	0.00153	0.0019867	0.0086496	0.0004565	0.081831	2.95E-05	4.164	0.0015	0.0001758	0.0007376
99.42	19.158	14.257	0	0.10867	0.088793	0.0047179	4.2987	0.0044333	1.4846	0.29381	0.11303	0.0014233	0.0023683	0.0099226	0.000459	0.083595	3.27E-05	5.356	0.0015	0.0002054	0.0008004
99.50	20.24	14.817	0	0.1154	0.088685	0.0040017	4.6579	0.0043672	1.5096	0.31672	0.11555	0.0015729	0.0026281	0.010615	0.0004541	0.097656	3.53E-05	5.5957	0.0016	0.0002206	0.0009059
99.58	22.571	15.248	0	0.10505	0.11865	0.027674	5.4965	0.0042384	1.8493	0.43887	0.10582	0.0016551	0.0024826	0.010475	0.0004516	0.10526	4.08E-05	6.3473	0.0017	0.0001915	0.0009594
99.67	22.376	14.974	0	0.097428	0.11826	0.028179	5.3514	0.0043445	1.8245	0.43956	0.1134	0.001608	0.0024767	0.010438	0.000453	0.1029	4.38E-05	6.3081	0.0017	0.0001904	0.0009626
99.75	18.08	13.386	0	0.10395	0.056045	0.0055225	3.486	0.0044302	1.6772	0.29436	0.11293	0.0014372	0.0020255	0.0098479	0.0004588	0.083319	2.67E-05	4.9665	0.0015	0.000171	0.0007945
99.83	18.143	13.083	0	0.089886	0.046024	0.019259	7.5622	0.0044829	2.2815	0.40754	0.11699	0.0013249	0.0018533	0.0089006	0.0004624	0.073056	2.18E-05	5.0885	0.0013	0.0001595	0.0007232
99.92	18.355	13.166	0	0.088536	0.046403	0.019274	7.6081	0.0044673	2.314	0.41171	0.11978	0.0013705	0.001911	0.0089992	0.0004612	0.07395	2.17E-05	5.1358	0.0014	0.0001611	0.0007251
100.00	17.851	14.306	0	0.098777	0.21362	0.0033935	4.2732	0.0044162	1.4335	0.26406	0.071069	0.001496	0.0021587	0.0091023	0.0004575	0.080204	2.65E-05	4.8823	0.0014	0.0001727	0.0007824

Year	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]
67.75	0.0008339	0.022747	2.803	0.016662	0.000545	7.6627	5.28E-05	3.6502	0.062524	0.0001113	0.0025343	0.0095829	0.0008047	0.0055319	0.0028847	0.16362	0.0014372	0.0022689	0.0098554
67.83	0.0007966	0.020998	2.4994	0.015003	0.0005389	7.5577	5.23E-05	3.6022	0.059012	1.04E-04	0.0023636	0.0086185	0.00076	0.0049765	0.004719	0.12501	0.0013249	0.0018533	0.0089078
67.92	0.0008022	0.021118	2.5122	0.015338	0.0005391	7.5807	5.22E-05	3.6833	0.060445	1.05E-04	0.0023913	0.0087399	0.0007852	0.0050698	0.0047911	0.12794	0.0013705	0.001911	0.0090067
68.00	0.0008309	0.022973	2.6555	0.016635	0.000577	10.015	5.24E-05	3.9492	0.064705	1.11E-04	0.0025257	0.0088766	0.0008006	0.0055113	0.002738	0.10935	0.0014961	0.0021587	0.0093544
68.08	0.0008196	0.022494	2.5724	0.016107	0.0005412	9.081	5.23E-05	3.7312	0.062064	1.09E-04	0.0024758	0.0085014	0.000777	0.0053482	0.0025588	0.10951	0.0014515	0.0022077	0.0092278
68.17	0.0008303	0.023417	2.7823	0.016217	0.0005452	5.2113	5.29E-05	3.2608	0.057602	1.11E-04	0.0025174	0.009203	0.0007454	0.0054734	0.0034067	0.16456	0.001394	0.0020014	0.0090715
68.25	0.0008371	0.023191	2.6845	0.01674	0.0005439	5.7209	5.25E-05	3.4977	0.060944	1.12E-04	0.0025509	0.0089965	0.0008098	0.0055928	0.0033754	0.15768	0.0015127	0.0019236	0.0090334
68.33	0.0008385	0.023204	2.6819	0.016843	0.0005437	5.7405	5.25E-05	3.4889	0.061337	0.0001121	0.002559	0.0089782	0.0008182	0.0056209	0.0033931	0.15691	0.0015301	0.0019867	0.0090426
68.42	0.0008324	0.023422	2.7906	0.016631	0.0005449	6.7908	5.28E-05	3.5904	0.064632	0.0001111	0.00253	0.0096517	0.000833	0.0055259	0.0037934	0.29051	0.0014232	0.0028552	0.012365
68.50	0.0008833	0.025157	3.274	0.018841	0.0005533	6.6877	5.36E-05	3.819	0.070499	0.0001204	0.0027626	0.010932	0.0009071	0.0062739	0.0041455	0.291	0.0015729	0.003107	0.013015
68.58	0.0009117	0.026498	3.5959	0.020297	0.0005582	7.9763	5.40E-05	4.3199	0.075199	0.0001257	0.0028921	0.011673	0.0010189	0.0066937	0.0035664	0.12385	0.0016553	0.0024827	0.010486
68.67	0.0009015	0.026107	3.5262	0.019823	0.000557	7.7903	5.39E-05	4.2275	0.073707	0.0001238	0.0028447	0.011472	0.0009959	0.0065375	0.0036537	0.13087	0.0016082	0.0024766	0.010444
68.75	0.0008337	0.022746	2.8026	0.01666	0.0005449	7.6543	5.28E-05	3.5987	0.062517	0.0001113	0.0025343	0.0095825	0.0008047	0.005532	0.0028839	0.16359	0.0014372	0.0022689	0.0098551
68.83	0.0007963	0.020996	2.499	0.015002	0.0005388	7.55	5.23E-05	3.5547	0.059006	1.04E-04	0.0023636	0.0086182	0.0007599	0.0049766	0.0047182	0.12499	0.0013249	0.0018533	0.0089075
68.92	0.000802	0.021116	2.5118	0.015337	0.000539	7.5728	5.22E-05	3.6346	0.060438	1.05E-04	0.0023913	0.0087396	0.0007851	0.0050698	0.0047903	0.12791	0.0013705	0.001911	0.0090064
69.00	0.0008307	0.022971	2.655	0.016634	0.0005769	10.006	5.24E-05	3.8968	0.064697	1.11E-04	0.0025256	0.0088762	0.0008005	0.0055114	0.0027371	0.10932	0.0014961	0.0021587	0.009354

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

Knight Piésold CONSULTING

TABLE B3.13

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP8

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
-2.00	10.233	8.9998	0	0.025	0.20333	0.005	1.3333	0.0049999	1.1667	0.10333	0.048249	5.00E-05	0.0005	0.0047499	0.0005	0.00125	5.00E-06	3.2374	0.0005	5.00E-05	0.0005
-1.92	10.233	8.9998	0	0.024999	0.20333	0.0049997	1.3333	0.0049999	1.1666	0.10333	0.048249	5.00E-05	0.0005	0.0047499	0.0005	0.00125	5.00E-06	3.2374	0.0005	5.00E-05	0.0005
-1.83	7.5759	4.6	0	0.03	0.232	0.013	1.4	0.0049999	1.16	0.186	0.096398	5.00E-05	0.0005	0.0042	0.0005	0.0012	9.00E-06	2.366	0.0005	5.00E-05	0.0005
-1.75	7.576	4.6	0	0.03	0.232	0.013	1.4	0.005	1.16	0.186	0.096399	5.00E-05	0.0005	0.0042	0.0005	0.0012	9.00E-06	2.366	0.0005	5.00E-05	0.0005
-1.67	7.576	4.6	0	0.03	0.232	0.013	1.4	0.005	1.16	0.186	0.096399	5.00E-05	0.0005	0.0042	0.0005	0.0012	9.00E-06	2.366	0.0005	5.00E-05	0.0005
-1.58	11.4	8.9998	0	0.039999	0.061249	0.00625	1.375	0.0049999	1.25	0.135	0.097249	5.00E-05	0.000875	0.0054999	0.0005	0.00225	1.38E-05	3.6575	0.0005	8.75E-05	0.0005
-1.50	11.4	8.9998	0	0.039999	0.061249	0.0062498	1.375	0.0049999	1.25	0.135	0.097249	5.00E-05	0.000875	0.0054999	0.0005	0.00225	1.38E-05	3.6574	0.0005	8.75E-05	0.0005
-1.42	13.2	8.9998	0	0.024999	0.089999	0.029999	1.9999	0.0049999	1.6	0.24999	0.087998	5.00E-05	0.0005	0.0049999	0.0005	0.0019999	2.00E-05	4.2999	0.0005	5.00E-05	0.0005
-1.33	13.2	8.9998	0	0.024999	0.089999	0.029999	1.9999	0.0049999	1.6	0.24999	0.087998	5.00E-05	0.0005	0.0049998	0.0005	0.0019999	2.00E-05	4.2999	0.0005	5.00E-05	0.0005
-1.25	10.275	7.9999	0	0.033749	0.03125	0.0062499	0.49999	0.0049999	1.5	0.135	0.097499	5.00E-05	0.0005	0.0054999	0.0005	0.002	6.25E-06	3.25	0.0005	5.00E-05	0.0005
-1.17	11.2	8	0	0.025	0.024999	0.02	5.0001	0.005	2.1	0.27	0.106	5.00E-05	0.0005	0.005	0.0005	0.002	5.00E-06	3.57	0.0005	5.00E-05	0.0005
-1.08	11.2	8	0	0.025	0.025	0.02	5	0.005	2.1	0.27	0.106	5.00E-05	0.0005	0.005	0.0005	0.002	5.00E-06	3.57	0.0005	5.00E-05	0.0005
-1.00	10.233	8.9998	0	0.025	0.20333	0.005	1.3333	0.0049999	1.1667	0.10333	0.048249	5.00E-05	0.0005	0.0047499	0.0005	0.00125	5.00E-06	3.2374	0.0005	5.00E-05	0.0005
-0.92	10.234	9	0	0.024999	0.20333	0.0049997	1.3334	0.0049999	1.1666	0.10335	0.048253	5.00E-05	0.0005001	0.0047503	0.0005	0.0012583	5.00E-06	3.2376	0.0005	5.00E-05	0.0005001
-0.83	7.5807	4.6019	0	0.029999	0.23199	0.012999	1.4009	0.0049998	1.16	0.1861	0.096422	5.01E-05	0.0005004	0.0042029	0.0005	0.0012586	9.01E-06	2.3672	0.0005	5.00E-05	0.0005005
-0.75	7.5788	4.6011	0	0.029999	0.23199	0.013	1.4006	0.0049999	1.16	0.18606	0.096414	5.01E-05	0.0005003	0.0042017	0.0005	0.0012348	9.00E-06	2.3667	0.0005	5.00E-05	0.0005003
-0.67	7.5792	4.6012	0	0.03	0.23199	0.013	1.4006	0.0049999	1.16	0.18607	0.096417	5.01E-05	0.0005003	0.0042019	0.0005	0.0012394	9.01E-06	2.3668	0.0005	5.00E-05	0.0005004
-0.58	11.411	9.0042	0	0.039997	0.061245	0.0062501	1.3774	0.0049997	1.25	0.13525	0.097311	5.03E-05	0.0008761	0.0055072	0.0005	0.0023951	1.38E-05	3.6605	0.0005	8.76E-05	0.0005014
-0.50	11.423	9.0083	0	0.039994	0.061242	0.0062497	1.3797	0.0049993	1.2501	0.1355	0.09737	5.05E-05	0.0008771	0.0055141	0.0005	0.0025351	1.38E-05	3.6634	0.0005	8.77E-05	0.0005027
-0.42	13.232	9.012	0	0.024995	0.089983	0.029994	2.0066	0.0049991	1.6001	0.25069	0.088172	5.08E-05	0.000503	0.0050203	0.0005	0.0024078	2.01E-05	4.3083	0.0005	5.03E-05	0.0005038
-0.33	13.236	9.0133	0	0.024996	0.08998	0.029993	2.0074	0.0049989	1.6001	0.25077	0.088192	5.09E-05	0.0005034	0.0050228	0.0004999	0.0024589	2.01E-05	4.3093	0.0005	5.03E-05	0.0005043
-0.25	10.293	8.0066	0	0.033749	0.031248	0.0062495	0.5038	0.0049995	1.5001	0.13539	0.097594	5.04E-05	0.0005017	0.005511	0.0005	0.0022239	6.28E-06	3.2547	0.0005	5.01E-05	0.0005021
-0.17	11.21	8.0036	0	0.024999	0.025001	0.019998	5.0018	0.0049997	2.1	0.2702	0.10605	5.02E-05	0.0005009	0.005006	0.0005	0.0021221	5.02E-06	3.5725	0.0005	5.01E-05	0.0005011
-0.08	11.207	8.0028	0	0.025	0.025006	0.019998	5.0012	0.0049998	2.0999	0.27015	0.10604	5.02E-05	0.0005007	0.0050044	0.0005	0.0020916	5.01E-06	3.5718	0.0005	5.01E-05	0.0005009
1.00	10.421	9.1685	0	0.02499	0.20586	0.0040369	1.3306	0.0049997	1.2003	0.10451	0.047526	5.02E-05	0.0004668	0.0050188	0.0005	0.001329	4.13E-06	3.3135	0.0005	5.01E-05	0.0004872
1.08	10.324	9.0745	0	0.023761	0.20305	0.0048562	1.356	0.0049997	1.1699	0.1051	0.048397	5.02E-05	0.0004668	0.0050199	0.0005	0.0013413	3.83E-06	3.2825	0.0005	5.01E-05	0.00049
1.17	7.4293	4.2803	0	0.030307	0.23835	0.013574	1.4679	0.004999	1.1883	0.1948	0.099934	5.08E-05	0.0004719	0.0044329	0.0004999	0.00162	8.42E-06	2.3309	0.0005	5.03E-05	0.0004929
1.25	7.7903	4.7676	0	0.030297	0.24998	0.01321	1.4658	0.0049996	1.196	0.19413	0.095043	5.03E-05	0.0004571	0.0044197	0.0005	0.0013964	6.76E-06	2.4414	0.0005	5.01E-05	0.000471
1.33	7.754	4.6613	0	0.027025	0.25152	0.013331	1.4599	0.0049996	1.1783	0.19238	0.094408	5.03E-05	0.0004722	0.0044193	0.0005	0.0013123	7.27E-06	2.4324	0.0005	5.01E-05	0.0004736
1.42	11.766	9.231	0	0.04125	0.06279	0.0054712	1.4225	0.0049989	1.2755	0.13633	0.094909	5.09E-05	0.0008237	0.0058351	0.0004999	0.0027476	1.21E-05	3.7904	0.0005	9.06E-05	0.0004696
1.50	11.692	9.1582	0	0.041301	0.060764	0.0049044	1.4091	0.0050016	1.2776	0.13423	0.093382	5.16E-05	0.0007898	0.0058453	0.0004999	0.0031006	1.18E-05	3.7681	0.0005	9.09E-05	0.0004729
1.58	13.64	9.2259	0	0.025042	0.093523	0.031973	2.1289	0.0049209	1.6563	0.25938	0.080285	5.21E-05	0.0003879	0.0052583	0.0004999	0.0030851	1.69E-05	4.4662	0.0005	4.84E-05	0.0004655

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TABLE B3.13

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP8

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
33.33	8.0704	6.0607	0	0.027473	0.2508	0.013304	1.5525	0.0049882	1.1812	0.19917	0.095959	6.592E-05	0.000564	0.004596	0.0004996	0.0048408	7.91E-06	2.5142	0.0005	5.32E-05	0.0005141
33.42	12.643	12.808	0	0.04234	0.062603	0.0054592	1.6771	0.004967	1.2835	0.15575	0.099177	9.462E-05	0.0010789	0.0063369	0.0004988	0.012764	1.38E-05	4.0156	0.0006	9.908E-05	0.000584
33.50	13.132	14.475	0	0.043051	0.060545	0.0048814	1.8162	0.0049505	1.2907	0.166	0.10039	0.0001222	0.0012018	0.0066787	0.0004979	0.019665	1.46E-05	4.1377	0.0007	0.0001047	0.0006605
33.58	15.413	15.773	0	0.027605	0.093067	0.031652	2.6277	0.0048597	1.6702	0.29756	0.089101	0.0001432	0.0009314	0.0063023	0.0004975	0.023643	2.04E-05	4.9182	0.0007	6.60E-05	0.0007013
33.67	15.415	15.383	0	0.023229	0.093428	0.031957	2.572	0.0049348	1.6532	0.30143	0.096063	0.0001441	0.0009726	0.0063731	0.0004975	0.023664	2.35E-05	4.9155	0.0007	6.82E-05	0.0007103
33.75	11.334	11.066	0	0.036114	0.026679	0.0061426	0.70445	0.0049693	1.5111	0.15407	0.099046	9.445E-05	0.0006967	0.0062417	0.0004988	0.01181	6.44E-06	3.5523	0.0006	5.83E-05	0.0005794
33.83	11.974	10.058	0	0.025828	0.018398	0.021281	5.455	0.0049832	2.186	0.29196	0.10544	7.606E-05	0.0006287	0.0055039	0.0004993	0.0070814	3.12E-06	3.8066	0.0006	5.46E-05	0.0005302
33.92	11.975	10.132	0	0.02272	0.017787	0.02137	5.4369	0.0049853	2.2113	0.29225	0.10742	7.592E-05	0.000639	0.0054875	0.0004995	0.0058541	2.49E-06	3.811	0.0005	5.28E-05	0.000526
34.00	10.893	12.288	0	0.02673	0.20571	0.004021	1.5014	0.0049778	1.2079	0.1149	0.049693	9.287E-05	0.0007551	0.005276	0.0004992	0.006321	5.24E-06	3.431	0.0006	5.57E-05	0.0005612
34.08	10.84	13.043	0	0.026051	0.20302	0.0048257	1.5562	0.004974	1.1797	0.11641	0.050654	0.0001034	0.0008333	0.0052951	0.0004992	0.0066008	5.09E-06	3.4098	0.0006	5.66E-05	0.0005748
34.17	8.3743	6.4176	0	0.031275	0.23716	0.013493	1.7015	0.0049664	1.196	0.21462	0.10446	9.218E-05	0.0007097	0.0049908	0.0004984	0.01264	1.02E-05	2.5738	0.0006	5.88E-05	0.0006125
34.25	8.1263	5.3805	0	0.030577	0.24925	0.013183	1.5458	0.0049881	1.1981	0.20124	0.096771	6.40E-05	0.0005332	0.0046199	0.0004994	0.0054128	7.40E-06	2.5276	0.0005	5.31E-05	0.0005134
34.33	8.0574	5.48	0	0.027524	0.25082	0.013304	1.5403	0.0049881	1.1812	0.19885	0.095941	6.649E-05	0.0005711	0.0045976	0.0004994	0.0048706	7.88E-06	2.5093	0.0005	5.30E-05	0.0005145
34.42	12.611	11.38	0	0.042459	0.062642	0.0054582	1.6469	0.0049665	1.2833	0.15496	0.099131	9.592E-05	0.0010957	0.0063405	0.0004984	0.012833	1.37E-05	4.0036	0.0006	9.853E-05	0.0005849
34.50	13.084	12.424	0	0.043197	0.06059	0.00488	1.7722	0.0049499	1.2903	0.16483	0.10031	0.0001236	0.0012223	0.0066825	0.0004973	0.01974	1.45E-05	4.1199	0.0007	0.0001039	0.0006612
34.58	15.351	13.31	0	0.02774	0.093104	0.03165	2.5737	0.0048589	1.6696	0.29609	0.088993	0.0001441	0.0009502	0.0063045	0.0004968	0.023696	2.03E-05	4.8962	0.0007	6.49E-05	0.0007013
34.67	15.355	13.099	0	0.023322	0.093447	0.031956	2.5211	0.004934	1.6525	0.30001	0.095951	0.0001444	0.0009856	0.0063734	0.0004968	0.023683	2.33E-05	4.8945	0.0007	6.72E-05	0.0007095
34.75	11.307	10.051	0	0.03615	0.026685	0.0061419	0.68169	0.0049689	1.5108	0.15343	0.098994	9.446E-05	0.0007016	0.0062415	0.0004985	0.011813	6.38E-06	3.5428	0.0006	5.78E-05	0.000579
34.83	11.958	9.4697	0	0.02585	0.018403	0.021281	5.4419	0.004983	2.1858	0.2916	0.10541	7.61E-05	0.0006318	0.0055039	0.0004992	0.007085	3.08E-06	3.8012	0.0005	5.43E-05	0.00053

Year	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]
33.33	0.096459	6.503E-05	0.0005336	0.38919	0.0059107	1.22E-05	0.0002008	0.000512	0.010642	0.43047	0.0013302	0.0005029	5.3659	5.03E-05	1.8325	0.011315	5.22E-05	0.001052	0.0023759	5.60E-05	0.0006668	0.0013302	0.1377	6.592E-05	0.000564	0.0050331	0.0004996	0.0048408
33.42	0.24953	0.0001025	0.0009108	0.59459	0.021955	1.24E-05	0.0006025	0.0005341	0.011832	0.70641	0.0024756	0.000508	6.7793	5.07E-05	3.0934	0.019852	5.61E-05	0.001148	0.0036014	0.0001511	0.000982	0.0019601	0.28861	9.44E-05	0.0016236	0.0090609	0.0004988	0.012764
33.50	0.24162	0.0001146	0.0010359	0.64212	0.022419	1.22E-05	0.0008292	0.0005563	0.012481	0.97282	0.0033218	0.0005131	6.7777	5.12E-05	3.8456	0.021553	6.01E-05	0.0012451	0.0042648	0.0001633	0.0012863	0.0021293	0.28943	0.000122	0.0017454	0.0093947	0.0004979	0.019666
33.58	0.26008	0.000135	0.0013381	0.76727	0.013431	1.23E-05	0.0011787	0.0005704	0.013226	1.1943	0.0041293	0.0005165	8.3221	5.15E-05	4.8163	0.024368	6.26E-05	0.0013066	0.0046927	0.0002544	0.0014827	0.0013654	0.098963	0.0001432	0.0009314	0.0063036	0.0004975	0.023644
33.67	0.26753	0.0001437	0.0013422	0.76511	0.014369	1.23E-05	0.0011911	0.0005703	0.013227	1.1926	0.0041462	0.0005164	8.1455	5.15E-05	4.6644	0.024442	6.27E-05	0.0013072	0.0046922	0.0002554	0.0014845	0.0014974	0.10563	0.0001441	0.0009725	0.0063715	0.0004975	0.023664
33.75	0.18593	6.574E-05	0.0008776	0.59564	0.010256	1.24E-05	0.0004392	0.0005318	0.011153	0.70451	0.002362	0.0005073	7.7549	5.07E-05	2.7777	0.01697	5.57E-05	0.0011393	0.0034882	0.0001105	0.0009471	0.0009042	0.14647	9.445E-05	0.0009693	0.0062413	0.0004988	0.01181
33.83	0.16215	5.14E-05	0.0008193	0.59372	0.0087306	1.25E-05	0.0003182	0.0005167	0.010323	0.57404	0.0017523	0.0005038	7.5712	5.03E-05	2.4215	0.016811	5.30E-05	0.001073	0.003007	0.0001151	0.0007345	0.0031489	0.10556	7.606E-05	0.0006287	0.0055039	0.0004993	0.0070814
33.92	0.16591	5.43E-05	0.0008147	0.5927	0.0084757	1.23E-05	0.0003191	0.0005131	0.010099	0.52782	0.0016322	0.000503	7.5963	5.02E-05	2.4991	0.016732	5.24E-05	0.0010571	0.0029415	0.0001165	0.0006841	0.003163	0.10742	7.592E-05	0.000639	0.0054875	0.0004995	0.0058548
34.00	0.096606	6.02E-05	0.0008875	0.53914	0.0036683	1.24E-05	0.0004329	0.0005183	0.010911	0.49935	0.0017674	0.0005333	10.232	5.03E-05	3.1592	0.017162	5.33E-05	0.0010795	0.0025	7.03E-05	0.0007568	0.0006382	0.082951	9.287E-05	0.0007551	0.0055505	0.0004992	0.006321
34.08	0.097251	6.09E-05	0.0009078	0.539	0.003851	1.24E-05	0.0005239	0.0005199	0.010917	0.50296	0.0018311	0.0005046	9.4935	5.03E-05	3.4294	0.016564	5.36E-05	0.0010864	0.0023977	7.58E-05	0.00078	0.0005607	0.084003	0.0001034	0.0008333	0.005569	0.0004992	0.0066015
34.17	0.096341	8.25E-05	0.0006622	0.42666	0.0064938	1.24E-05	0.0004107	0.0005362	0.012005	0.72626	0.002279	0.0005081	4.9977	5.08E-05	2.0616	0.012951	5.66E-05	0.0011598	0.0031857	6.80E-05	0.0010126	0.0015394	0.14585	9.219E-05	0.0007092	0.005427	0.0004984	0.01264
34.25	0.097229	6.67E-05	0.0005415	0.39324	0.0056443	1.25E-05	0.0001887	0.0005131	0.010734	0.45037	0.0013709	0.0005029	5.2957	5.03E-05	1.4839	0.01139	5.24E-05	0.001058	0.0024462	5.51E-05	0.0006858	0.0013305	0.13845	6.40E-05	0.0005323	0.0050575	0.0004994	0.0054128
34.33	0.096451	6.508E-05	0.0005346	0.389	0.0058612	1.22E-05	0.0002068	0.0005119	0.010647	0.43075	0.0013352	0.0005026	5.3257	5.03E-05	1.5655	0.011326	5.22E-05	0.0010527	0.0023783	5.61E-05	0.0006695	0.0013297	0.13768	6.649E-05	0.0005711	0.0050346	0.0004994	0.0048706
34.42	0.24951	0.0001026	0.0009131	0.59408	0.021832	1.24E-05	0.0006165	0.0005337	0.011841	0.70697	0.0024869	0.0005075	6.6802	5.07E-05	2.4367	0.019876	5.61E-05	0.0011497	0.0036071	0.0001514	0.0009883	0.0019587	0.28856	9.57E-05	0.0016404	0.0090645	0.0004984	0.012833
34.50	0.24159	0.0001147	0.0010379	0.64112	0.022238	1.22E-05	0.0008456	0.0005556	0.012491	0.97293	0.0033332	0.0005123	6.6352	5.12E-05	2.903	0.021573	6.01E-05	0.0012471	0.0042708	0.0001635	0.0012937	0.0021267	0.28936	0.0001234	0.0017658	0.0093984	0.0004973	0.01974
34.58	0.26004	0.0001351	0.0013386	0.76565	0.013204	1.23E-05	0.0011928	0.0005693	0.013231	1.1933	0.0041352	0.0005154	8.1508	5.15E-05	3.6846	0.024366	6.26E-05	0.0013081	0.0046966	0.0002543	0.0014891	0.0013612	0.098855	0.0001441	0.0009502	0.0063059	0.0004968	0.023696
34.67	0.2675	0.0001437	0.0013411	0.76328	0.014152	1.23E-05	0.0011998	0.0005692	0.013226	1.1909	0.0041457	0.0005154	7.9863	5.15E-05	3.6153	0.02442	6.26E-05	0.001308	0.0046932	0.000255	0.0014884	0.0014927	0.10552	0.0001444	0.0009854	0.0063718	0.0004968	0.023683
34.75	0.18592	6.572E-05	0.0008769	0.59476	0.010158	1.24E-05	0.0004423	0.0005313	0.011152	0.70359	0.0023607	0.0005069	7.6841	5.07E-05	2.3113	0.016956	5.57E-05	0.0011396	0.0034882	0.0001103	0.0009485	0.000902	0.14641	9.446E-05	0.0009743	0.0062411	0.0004985	0.011813
34.83	0.16214	5.14E-05	0.0008189	0.59323	0.0086744	1.25E-05	0.0003203	0.0005164	0.010323	0.57356	0.0017519	0.0005036	7.5302	5.03E-05	2.1511	0.016805	5.30E-05	0.0010731	0.0030071	0.0001149	0.0007354	0.0031477	0.10553	7.61E-05	0.0006318	0.0055039	0.0004992	0.007085

Year	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
33.33	1.01E-05	2.6808	0.0005	5.32E-05	0.0005141	0.14023	9.715E-05	0.0005777	0.4067	0.011371	1.22E-05	0.0002008	0.000512	0.010643	0.45019	0.0013954	0.0005029	5.3659	5.03E-05	1.8808	0.011754	5.22E-05	0.001052	0.0023759	6.71E-05	0.0006668	0.0013302	5.5193
33.42	2.20E-05	4.2249	0.0006	0.0003849	0.0007202	0.51355	0.0004018	0.0011285	0.6408	0.086742	1.24E-05	0.0006016	0.0006703	0.011937	0.73633	0.0027479	0.000508	6.7793	5.07E-05	3.1558	0.021212	5.61E-05	0.001148	0.0036015	0.0001512	0.0011187	0.0019601	8.7014
33.50	2.28E-05	4.3464	0.0007	0.0003899	0.0007963	0.50498	0.0004136	0.0012529	0.6882	0.087046	1.22E-05	0.0008282	0.0006921	0.012513	1.0027	0.0035935	0.0005131	6.7777	5.12E-05	3.9078	0.02291	6.01E-05	0.0012451	0.0042648	0.0001635	0.0014221	0.002131	8.4827
33.58	2.04E-05	4.9944	0.0007	6.60E-05	0.0007013	0.29271	0.0001353	0.0013337	0.77815	0.014526	1.23E-05	0.0011787	0.0005704	0.013257	1.1939	0.0041295	0.0005165	8.3221	5.15E-05	4.8154	0.025458	6.26E-05	0.0013066	0.0046927	0.0002535	0.0014827	0.0013593	9.3359
33.67	2.35E-05	4.9912	0.0007	6.82E-05	0.0007103	0.29992	0.0001433	0.0013423	0.77592	0.01544	1.24E-05	0.0011759	0.0005703	0.013257	1.1926	0.0041462	0.0005164	8.1455	5.15E-05	4.6643	0.025525	6.27E-05	0.0013072	0.0046923	0.0002554	0.0014893	0.0014974	9.6962
33.75	6.47E-06	3.7126	0.0006	7.19E-05	0.0005794	0.23203	0.000121	0.000932	0.63375	0.01542	1.24E-05	0.0004393	0.0005318	0.011167	0.71533	0.002389	0.0005073	7.7549	5.07E-05	2.8403	0.017241	5.57E-05	0.0011393	0.0034882	0.0001104	0.0009513	0.0009106	7.8846
33.83	3.07E-06	3.8074	0.0006	5.46E-05	0.0005302	0.16221	5.16E-05	0.0008197	0.59382	0.008737	1.25E-05	0.0003182	0.0005167	0.010337	0.57413	0.0017528	0.0005038	7.5712	5.03E-05	2.4219	0.016816	5.30E-05	0.001073	0.003007	0.0001151	0.0007345	0.0031496	9.947
33.92	2.50E-06	3.81	0.0005	5.28E-05	0.000526	0.16588	5.47E-05	0.0008144	0.59259	0.0084594	1.23E-05	0.0003191	0.0005131	0.010113	0.52782	0.001632	0.000503	7.5963	5.02E-05	2.4988	0.016729	5.24E-05	0.0010571	0.0029467	0.0001163	0.0006841	0.0031668	10.169
34.00	5.24E-06	3.7063	0.0006	5.57E-05	0.0005612	0.13207	7.39E-05	0.0009964	0.56909	0.0083031	1.72E-05	0.0004603	0.0005183	0.010912	0.51844	0.0018219	0.0005333	10.232	5.03E-05	3.2518	0.017979	5.33E-05	0.0010795	0.0025	8.38E-05	0.0007568	0.0006382	3.0765
34.08	5.10E-06	3.6849	0.0006	5.66E-05	0.0005748	0.13279	7.47E-05	0.0010172	0.56893	0.0084902	1.72E-05	0.0005512	0.0005199	0.010918	0.52205	0.0018858	0.0005046	9.4935	5.03E-05	3.5222	0.017381	5.36E-05	0.0010864	0.0023977	8.936E-05	0.00078	0.0005607	3.0882
34.17	1.24E-05	2.7391	0.0006	5.88E-05	0.0006125	0.1398	0.0001147	0.0007056	0.44409	0.011923	1.24E-05	0.0004107	0.0005362	0.012005	0.74576	0.002344	0.0005081	4.9977	5.08E-05	2.1095	0.013387	5.66E-05	0.0011598	0.0031857	7.87E-05	0.0010126	0.0015385	5.7406
34.25	9.58E-06	2.6929	0.0005	5.31E-05	0.0005134	0.14086	9.902E-05	0.0005848	0.41067	0.011092	1.25E-05	0.0001887	0.0005131	0.010769	0.46994	0.0014364	0.0005029	5.2957	5.03E-05	1.5317	0.011824	5.24E-05	0.001058	0.0024462	6.57E-05	0.000689	0.0013286	5.613
34.33	1.01E-05	2.6759	0.0005	5.30E-05	0.0005145	0.14023	9.721E-05	0.0005787	0.40652	0.011322	1.22E-05	0.0002068	0.0005119	0.010647	0.45047	0.0014003	0.0005026	5.3257	5.03E-05	1.6138	0.011765	5.22E-05	0.0010527	0.0023783	6.72E-05	0.0006695	0.0013297	5.5191
34.42	2.19E-05	4.2128	0.0006	0.0003844	0.0007211	0.51354	0.0004019	0.0011308	0.64029	0.086619	1.24E-05	0.0006156	0.0006699	0.011947	0.73688	0.0027592	0.0005075	6.6802	5.07E-05	2.4991	0.021237	5.61E-05	0.0011497	0.0036071	0.0001515	0.0011249	0.0019588	8.701
34.50	2.27E-05	4.3287	0.0007	0.000389	0.000797	0.50496	0.0004138	0.0012549	0.6872	0.086864	1.22E-05	0.0008447	0.0006914	0.012523	1.0028	0.0036048	0.0005123	6.6352	5.12E-05	2.9652	0.02293	6.01E-05	0.0012471	0.0042708	0.0001637	0.0014295	0.0021284	8.4821
34.58	2.03E-05	4.9723	0.0007	6.49E-05	0.0007013	0.29268	0.0001354	0.0013342	0.77653	0.014299	1.23E-05	0.0011928	0.0005693	0.013262	1.193	0.0041354	0.0005154	8.1508	5.15E-05	3.6838	0.025455	6.26E-05	0.0013081	0.0046966	0.0002533	0.0014891	0.0013552	9.3352
34.67	2.33E-05	4.9702	0.0007	6.72E-05	0.0007095	0.29989	0.0001433	0.0013412	0.77409	0.015223	1.23E-05	0.0011846	0.0005692	0.013256	1.1909	0.0041457	0.0005154	7.9863	5.15E-05	3.6152	0.025504	6.26E-05	0.001308	0.0046932	0.000255	0.0014933	0.0014928	9.6955
34.75	6.40E-06	3.7032	0.0006	7.15E-05	0.000579	0.23201	0.000121	0.0009312	0.63288	0.015322	1.24E-05	0.0004423	0.0005313	0.011166	0.71441	0.0023877	0.0005069	7.6841	5.07E-05	2.3738	0.017227	5.57E-05	0.0011396	0.0034882	0.0001102	0.0009527	0.0009084	7.8844
34.83	3.04E-06	3.8019	0.0005	5.43E-05	0.00053	0.1622	5.16E-05	0.0008193	0.59333	0.0086808	1.25E-05	0.0003203	0.0005164	0.010337	0.57365	0.0017524	0.0005036	7.5302	5.03E-05	2.1515	0.016809	5.30E-05	0.0010731	0.0030071	0.000115	0.0007354	0.0031484	9.9468

TABLE B3.13

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR NAP8

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
67.75	16.219	12.844	0	0.087	0.050073	0.0057	2.7845	0.0045689	1.6349	0.25633	0.10919	0.0011013	0.0016562	0.008801	0.0004691	0.063724
67.83	16.471	12.54	0	0.074059	0.04091	0.019441	6.955	0.0046101	2.2376	0.3744	0.1143	0.0010131	0.0015223	0.0079519	0.0004719	0.055764
67.92	16.637	12.626	0	0.073094	0.041216	0.019452	6.9922	0.0045979	2.2624	0.37768	0.11642	0.0010487	0.0015671	0.0080298	0.0004709	0.056501
68.00	16.04	13.8	0	0.081015	0.21117	0.0037828	3.5847	0.0045579	1.3697	0.22581	0.06556	0.001147	0.0017583	0.0080575	0.000468	0.06124
68.08	15.746	13.541	0	0.078111	0.20854	0.0045152	3.5238	0.0045724	1.3372	0.22181	0.065702	0.0011113	0.0017932	0.0079552	0.0004691	0.059135
68.17	13.404	9.2158	0	0.081035	0.23911	0.01234	3.6265	0.0045792	1.3472	0.30789	0.11379	0.0010677	0.0016374	0.0075925	0.0004699	0.06283
68.25	13.826	9.9679	0	0.08642	0.2501	0.011924	3.7497	0.0045513	1.3677	0.30806	0.10815	0.0011613	0.0015824	0.0075786	0.0004676	0.062494
68.33	13.811	9.8972	0	0.084282	0.25148	0.01202	3.7592	0.0045466	1.3541	0.30675	0.10753	0.0011749	0.0016299	0.0075878	0.0004672	0.062579
68.42	17.303	13.671	0	0.092079	0.082148	0.0050903	3.6088	0.0045713	1.4283	0.2558	0.1092	0.0010906	0.0020065	0.0088565	0.0004692	0.063974
68.50	18.152	14.174	0	0.097429	0.082159	0.0045405	3.8927	0.0045192	1.4481	0.27377	0.11117	0.001209	0.0022091	0.0093983	0.0004653	0.074947
68.58	20.372	14.54	0	0.086104	0.11188	0.028227	4.6861	0.00442	1.7907	0.39452	0.10159	0.0012742	0.002012	0.0091819	0.0004634	0.080853
68.67	20.211	14.293	0	0.080214	0.11155	0.028615	4.5706	0.0045015	1.7716	0.39481	0.10734	0.0012366	0.0020054	0.0091472	0.0004645	0.078934
68.75	16.211	12.758	0	0.087007	0.050072	0.0056997	2.7793	0.0045688	1.6348	0.25617	0.10919	0.0011013	0.0016562	0.0088007	0.000469	0.06372
68.83	16.464	12.46	0	0.074065	0.040909	0.019441	6.9502	0.0046099	2.2375	0.37425	0.1143	0.0010131	0.0015223	0.0079516	0.0004719	0.05576
68.92	16.63	12.544	0	0.0731	0.041215	0.019452	6.9872	0.0045977	2.2623	0.37752	0.11642	0.0010487	0.0015671	0.0080296	0.0004709	0.056497
69.00	16.032	13.712	0	0.081022	0.21117	0.0037825	3.5794	0.0045577	1.3696	0.22564	0.06556	0.001147	0.0017582	0.0080573	0.000468	0.061236
69.08	15.739	13.457	0	0.078117	0.20853	0.004515	3.5187	0.0045722	1.3371	0.22165	0.065702	0.0011113	0.0017932	0.0079549	0.000469	0.05913
69.17	13.397	9.1352	0	0.081042	0.23911	0.01234	3.6216	0.0045791	1.347	0.30773	0.11379	0.0010677	0.0016374	0.0075922	0.0004698	0.062826
69.25	13.819	9.8791	0	0.086427	0.25009	0.011924	3.7444	0.0045512	1.3675	0.30789	0.10815	0.0011613	0.0015824	0.0075783	0.0004676	0.06249
69.33	13.803	9.8094	0	0.084288	0.25148	0.01202	3.7539	0.0045464	1.3539	0.30658	0.10753	0.0011749	0.0016299	0.0075875	0.0004672	0.062575
69.42	17.296	13.592	0	0.092085	0.082147	0.00509	3.6041	0.0045711	1.4282	0.25566	0.1092	0.0010906	0.0020064	0.0088562	0.0004692	0.06397
69.50	18.145	14.089	0	0.097434	0.082157	0.0045402	3.8876	0.0045191	1.448	0.27361	0.11117	0.001209	0.0022089	0.009398	0.0004653	0.074943
69.58	20.364	14.451	0	0.086109	0.11188	0.028227	4.6809	0.0044198	1.7906	0.39436	0.10159	0.0012742	0.0020119	0.0091815	0.0004633	0.080848
69.67	20.204	14.208	0	0.08022	0.11155	0.028614	4.5655	0.0045014	1.7714	0.39465	0.10734	0.0012366	0.0020053	0.0091469	0.0004645	0.07893
69.75	16.205	12.681	0	0.087012	0.050071	0.0056995	2.7747	0.0045687	1.6347	0.25603	0.10919	0.0011013	0.0016562	0.0088005	0.000469	0.063716
69.83	16.458	12.39	0	0.074071	0.040909	0.019441	6.946	0.0046098	2.2374	0.37412	0.1143	0.0010131	0.0015223	0.0079514	0.0004718	0.055757
69.92	16.624	12.472	0	0.073105	0.041214	0.019451	6.9829	0.0045976	2.2622	0.37739	0.11642	0.0010487	0.0015671	0.0080294	0.0004709	0.056494
70.00	16.025	13.634	0	0.081027	0.21117	0.0037822	3.5748	0.0045576	1.3695	0.22549	0.06556	0.001147	0.0017582	0.008057	0.000468	0.061232
70.08	15.732	13.383	0	0.078122	0.20853	0.0045147	3.5143	0.0045721	1.337	0.22151	0.065702	0.0011113	0.0017932	0.0079547	0.000469	0.059127
70.17	13.391	9.0631	0	0.081047	0.23911	0.01234	3.6174	0.0045789	1.3469	0.3076	0.11379	0.0010677	0.0016374	0.007592	0.0004698	0.062823
70.25	13.812	9.7997	0	0.086433	0.25009	0.011924	3.7397	0.0045511	1.3674	0.30775	0.10815	0.0011613	0.0015824	0.0075781	0.0004675	0.062486
70.33	13.796	9.731	0	0.084294	0.25148	0.01202	3.7493	0.0045463	1.3538	0.30644	0.10753	0.0011749	0.0016299	0.0075873	0.0004671	0.062571
88.92	16.599	11.948	0	0.073091	0.041196	0.01945	6.9645	0.004597	2.2617	0.37687	0.11642	0.0010487	0.0015671	0.008026	0.0004707	0.056439
89.00	15.998	13.069	0	0.081011	0.21115	0.003781	3.5549	0.0045569	1.3689	0.22494	0.06556	0.0011469	0.0017582	0.0080533	0.0004678	0.061172
89.08	15.706	12.845	0	0.078106	0.20852	0.0045136	3.4954	0.0045715	1.3365	0.22098	0.065702	0.0011113	0.0017932	0.0079511	0.0004688	0.059069
89.17	13.366	8.5449	0	0.08103	0.2391	0.012339	3.5991	0.0045784	1.3464	0.30709	0.11379	0.0010677	0.0016374	0.0075885	0.0004696	0.062766
89.25	13.785	9.2293	0	0.086415	0.25007	0.011922	3.72	0.0045504	1.3669	0.3072	0.10815	0.0011613	0.0015824	0.0075743	0.0004673	0.062424
89.33	13.77	9.1679	0	0.084273	0.25146	0.012018	3.7301	0.0045457	1.3533	0.30591	0.10753	0.0011748	0.0016299	0.0075834	0.0004669	0.062508
89.42	17.267	13.021	0	0.092068	0.082128	0.0050888	3.5831	0.0045705	1.4276	0.25506	0.1092	0.0010905	0.0020064	0.0088524	0.0004689	0.063908
89.50	18.114	13.468	0	0.097415	0.082136	0.0045389	3.8651	0.0045183	1.4474	0.27298	0.11117	0.0012089	0.002209	0.0093938	0.0004651	0.074875
89.58	20.333	13.807	0	0.086089	0.11186	0.028226	4.658	0.0044191	1.79	0.39372	0.10159	0.0012741	0.0020119	0.0091772	0.0004631	0.080777
89.67	20.174	13.59	0	0.080199	0.11153	0.028613	4.5439	0.0045007	1.7708	0.39405	0.10734	0.0012365	0.0020053	0.0091428	0.0004642	0.078863
89.75	16.178	12.119	0	0.086994	0.050052	0.0056983	2.7554	0.004568	1.6342	0.25549	0.10919	0.0011013	0.0016562	0.0087967	0.0004688	0.063656
89.83	16.434	11.874	0	0.074054	0.040891	0.01944	6.9285	0.0046092	2.237	0.37364	0.1143	0.0010131	0.0015223	0.007948	0.0004716	0.055702
89.92	16.599	11.942	0	0.073087	0.041195	0.01945	6.965	0.004597	2.2617	0.37689	0.11642	0.0010487	0.0015671	0.0080258	0.0004707	0.056437
90.00	15.999	13.062	0	0.081007	0.21115	0.003781	3.5555	0.0045569	1.3689	0.22496	0.06556	0.0011469	0.0017583	0.0080531	0.0004678	0.061169
90.08	15.707	12.838	0	0.078102	0.20851	0.0045136	3.496	0.0045715	1.3365	0.221	0.065702	0.0011113	0.0017932	0.007951	0.0004688	0.059066
90.17	13.366	8.5383	0	0.081027	0.23909	0.012339	3.5997	0.0045784	1.3465	0.30711	0.11379	0.0010677	0.0016374	0.0075884	0.0004696	0.062764
90.25	13.786	9.222	0	0.086411	0.25007	0.011922	3.7206	0.0045504	1.3669	0.30722	0.10815	0.0011613	0.0015824	0.0075741	0.0004673	0.062422
90.33	13.771	9.1607	0	0.084269	0.25146	0.012018	3.7307	0.0045457	1.3533	0.30593	0.10753	0.0011748	0.0016299	0.0075832	0.0004669	0.062505
90.42	17.268	13.014	0	0.092065	0.082127	0.0050889	3.5836	0.0045705	1.4276	0.25508	0.1092	0.0010905	0.0020064	0.0088522	0.0004689	0.063906
90.50	18.115	13.461	0	0.097411	0.082135	0.0045389	3.8657	0.0045184	1.4474	0.273	0.11117	0.0012089	0.002209	0.0093936	0.0004651	0.074872
90.58	20.334	13.8	0	0.086084	0.11186	0.028226	4.6586	0.0044191	1.79	0.39374	0.10159	0.0012741	0.0020119	0.009177	0.0004631	0.080775
90.67	20.175	13.583	0	0.080196	0.11153	0.028613	4.5446	0.0045007	1.7709	0.39408	0.10734	0.0012365	0.0020053	0.0091426	0.0004642	0.07886
90.75	16.179	12.113	0	0.08699	0.050051	0.0056983	2.756	0.004568	1.6342	0.25552	0.10919	0.0011013	0.0016562	0.0087966	0.0004688	0.063653
90.83	16.435	11.868	0	0.07405	0.04089	0.01944	6.929	0.0046092	2.237	0.37366	0.1143	0.0010131	0.0015223	0.0079479	0.0004716	0.0557
90.92	16.6	11.936	0	0.073084	0.041195	0.01945	6.9656	0.004597	2.2617	0.37692	0.11642	0.0010487	0.0015671	0.0080257	0.0004707	0.056434
91.00	16	13.056	0	0.081003	0.21115	0.003781	3.5561	0.004557	1.3689	0.22499	0.06556	0.0011469	0.0017583	0.008053	0.0004678	0.061167
91.08	15.708	12.832	0	0.078098	0.20851	0.0045136	3.4966	0.0045715	1.3365	0.22103	0.065702	0.0011113	0.0017932	0.0079508	0.0004688	0.059064
91.17	13.367	8.5325	0	0.081023	0.23909	0.012339	3.6003	0.0045784	1.3465	0.30713	0.11379	0.0010677	0.0016374	0.0075882	0.0004696	0.062761
91.25	13.787	9.2156	0	0.086407	0.25007	0.011922	3.7212	0.0045504	1.3669	0.30725	0.10815	0.0011613	0.0015824	0.0075739	0.0004673	0.062419
91.33	13.772	9.1544	0	0.084265	0.25146	0.012018	3.7314	0.0045457	1.3533	0.30596	0.10753	0.0011748	0.0016299	0.007583	0.0004669	0.062502
91.42	17.269	13.009	0	0.092061	0.082126	0.0050889	3.5842	0.0045705	1.4277	0.2551	0.1092	0.0010905	0.0020064	0.0088521	0.0004689	0.063903
91.50	18.116	13.455	0	0.097407	0.082134	0.0045389	3.8664	0.0045184	1.4474	0.27303	0.11117	0.0012089	0.002209	0.0093935	0.0004651	0.074869
91.58	20.335	13.794	0	0.08608	0.11185	0.028226	4.6593	0.0044191	1.79	0.39377	0.10159	0.0012741	0.0020119	0.0091769	0.0004631	0.080772
91.67	20.176	13.577	0	0.080192	0.11153	0.028613	4.5453	0.0045007	1.7709	0.3941	0.10734	0.0012365	0.0020054	0.0091425	0.0004642	0.078858
91.75	16.18	12.107	0	0.086987	0.05005	0.0056984	2.7567	0.004568	1.6342	0.25554	0.10919	0.0011013	0.0016562	0.0087965	0.0004688	0.063651
91.83	16.436	11.863	0	0.074047	0.040889	0.01944	6.9296	0.0046092	2.237	0.37368	0.1143	0.0010131	0.0015223	0.0079477	0.0004716	0.055697
91.92	16.601	11.93	0	0.07308	0.041194	0.01945	6.9663	0.004597	2.2617	0.37694	0.11642	0.0010487	0.0015671	0.0080256	0.0004707	0.056432
92.00	16.001	13.05	0	0.080999	0.21115	0.0037811	3.5568	0.004557	1.369	0.22501	0.06556	0.0011469	0.0017583	0.0080528	0.0004678	0.061164
92.08	15.709	12.827	0	0.078095	0.20851	0.0045136	3.4973	0.0045715	1.3365	0.22105	0.065702	0.0011113	0.0017932	0.0079507	0.0004688	0.059061
92.17	13.368	8.5273	0	0.081019	0.23909	0.012339	3.6009	0.0045784	1.3465	0.30716	0.11379	0.0010677	0.0016374	0.007588	0.0004696	0.062759
92.25	13.788	9.21	0	0.086403	0.25007	0.011923	3.7219	0.0045504	1.3669	0.30728	0.10815	0.0011613	0.0015824	0.0075738	0.0004673	0.062416
92.33	13.773	9.1489	0	0.084261	0.25146	0.012019	3.7321	0.0045457	1.3533	0.30598	0.10753	0.0011748	0.0016299	0.0075828	0.0004669	0.062499
92.42	17.27	13.004	0	0.092058	0.082125	0.0050889	3.5848	0.0045705	1.4277	0.25513	0.1092	0.0010905	0.0020065	0.0088519	0.0004689	0.0639
92.50	18.117	13.449	0	0.097404	0.082133	0.004539	3.8671	0.0045184	1.4474	0.27305	0.11117	0.0012089	0.0022091	0.0093933	0.0004651	0.074867
92.58	20.336	13.788	0	0.086076	0.11185	0.028226	4.6601	0.0044191	1.79	0.3938	0.10159	0.0012741	0.002012	0.0091767	0.0004631	0.080769
92.67	20.178	13.572	0	0.080187	0.11153	0.028613	4.546	0.0045007	1.7709	0.39413	0.10734	0.0012365	0.0020054	0.0091423	0.0004642	0.078855
92.75	16.182	12.102	0	0.086982	0.050049	0.0056984	2.7573	0.0045681	1.6342	0.25557	0.10919	0.0011013	0.0016562	0.0087963	0.0004688	0.063648
92.83	16.437	11.858	0	0.074043	0.040888	0.01944	6.9303	0.0046093	2.237	0.37371	0.1143	0.0010131	0.0015223	0.0079476	0.0004716	0.055695
92.92	16.603	11.926	0	0.073076	0.041193	0.01945	6.9669	0.004597	2.2617	0.37696	0.11642	0.0010487	0.0015671	0.0080254	0.0004707	0.056429
93.00	16.002	13.045	0	0.080995	0.21115	0.0037811	3.5575	0.004557	1.369	0.22504	0.06556	0.0011469	0.0017582	0.0080527	0.0004678	0.061161
93.08	15.71	12.822	0	0.07809	0.20851	0.0045137	3.4979	0.0045715	1.3365	0.22108	0.065702	0.0011113	0.0017932	0.0079505	0.0004688	0.059058
93.17	13.369	8.5229	0	0.081015	0.23909	0.012339	3.6015	0.0045784	1.3465	0.30718	0.11379	0.0010677	0.0016374	0.0075879	0.0004696	0.062756
93.25	13.789	9.2051	0	0.086398	0.25007	0.011923	3.7227	0.0045505	1.3669	0.3073	0.10815	0.0011613	0.0015824	0.0075736	0.0004673	0.062413
93.33	13.774	9.1441	0	0.084256	0.25146	0.012019	3.7328	0.0045457	1.3533	0.30601	0.10753	0.0011748	0.0016299	0.0075827	0.0004669	0.062496
93.42	17.271	12.999	0	0.092053	0.082124	0.0050889	3.5855	0.0045705	1.4277	0.25515	0.1092	0.0010905	0.0020064	0.0088517	0.0004689	0.063897
93.50	18.118	13.445	0	0.097398	0.082132	0.004539	3.8678	0.0045184	1.4475	0.27308	0.11117	0.0012089	0.002209	0.0093931	0.0004651	0.074863
93.58	20.338	13.784	0	0.086071	0.11185	0.028226	4.6609	0.0044191	1.79	0.39383	0.10159	0.0012741	0.0020119	0.0091765	0.0004631	0.080765
93.67	20.179	13.567	0	0.080183	0.11153	0.028613	4.5468	0.0045007	1.7709	0.39416	0.10734	0.0012365	0.0020053	0.0091421	0.0004642	0.078851
93.75	16.183	12.098	0	0.086978	0.050048	0.0056984	2.7581	0.0045681	1.6342	0.25559	0.10919	0.0011013	0.0016562	0.0087961	0.0004688	0.063645
98.08	15.717	12.807	0	0.07807	0.20851	0.0045139	3.5018	0.0045716	1.3366	0.22122	0.065702	0.0011112	0.0017932	0.0079498	0.0004688	0.059045
98.17	13.375	8.5076	0	0.080996	0.23909	0.012339	3.6053	0.0045785	1.3466	0.30732	0.11379	0.0010677	0.0016374	0.0075872	0.0004696	0.062743
98.25	13.796	9.1884	0	0.086377	0.25007	0.011923	3.7269	0.0045506	1.367	0.30746	0.10815	0.0011613	0.0015824	0.0075728	0.0004673	0.062399
98.33	13.781	9.1276	0	0.084235	0.25145	0.012019	3.7371	0.0045458	1.3534	0.30617	0.10753	0.0011748	0.0016299	0.0075818	0.0004669	0.062482
98.42	17.277	12.985	0	0.092033	0.082119	0.0050891	3.5893	0.0045706	1.4278	0.25529	0.1092	0.0010905	0.0020064	0.008851	0.0004689	0.063884
98.50	18.125	13.429	0	0.097376	0.082127	0.0045392	3.8721	0.0045185	1.4475	0.27324	0.11117	0.0012088	0.002209	0.0093923	0.0004651	0.074849
98.58	20.345	13.767	0	0.086048	0.11185	0.028226	4.6654	0.0044192	1.7901	0.39399	0.10159	0.001274	0.0020119	0.0091756	0.0004631	0.080751
98.67	20.186	13.551	0	0.08016	0.11152	0.028613	4.5512	0.0045008	1.771	0.39432	0.10734	0.0012365	0.0020053	0.0091413	0.0004642	0.078837
98.75	16.189	12.084	0	0.086958	0.050043	0.0056986	2.7622	0.0045682	1.6343	0.25575	0.10919	0.0011013	0.0016562	0.0087954	0.0004688	0.063633
98.83	16.444	11.842	0	0.074021	0.040883	0.01944	6.9348	0.0046093	2.2371	0.37387	0.1143	0.0010131	0.0015223	0.0079468	0.0004716	0.055681
98.92	16.61	11.909	0	0.073053	0.041187	0.019451	6.9716	0.0045971	2.2618	0.37714	0.11642	0.0010487	0.0015671	0.0080246	0.0004707	0.056415
99.00	16.01	13.027	0	0.08097	0.21114	0.0037813	3.5625	0.0045571	1.3691	0.22522	0.06556	0.0011469	0.0017583	0.0080517	0.0004678	0.061145
99.08	15.718	12.805	0	0.078066	0.20851	0.0045139	3.5027	0.0045716	1.3366	0.22125	0.065702	0.0011112	0.0017932	0.0079496	0.0004688	0.059043
99.17	13.377	8.5056	0	0.080992	0.23909	0.012339	3.6061	0.0045785	1.3466	0.30735	0.11379	0.0010677	0.0016374	0.007587	0.0004696	0.062741
99.25	13.797	9.1862	0	0.086373	0.25007	0.011923	3.7278	0.0045506	1.367	0.3075	0.10815	0.0011613	0.0015824	0.0075726	0.0004673	0.062397
99.33	13.783	9.1254	0	0.08423	0.25145	0.012019	3.738	0.0045458	1.3534	0.3062	0.10753	0.0011748	0.0016299	0.0075817	0.0004669	0.06248
99.42	17.278	12.983	0	0.092029	0.082119	0.0050892	3.5902	0.0045706	1.4278	0.25533	0.1092	0.0010905	0.0020064	0.0088508	0.0004689	0.063882
99.50	18.126	13.427	0	0.097372	0.082126	0.0045393	3.873	0.0045185	1.4475	0.27327	0.11117	0.0012088	0.002209	0.0093921	0.0004651	0.074846
99.58	20.346	13.765	0	0.086044	0.11185	0.028226	4.6664	0.0044192	1.7901	0.39403	0.10159	0.001274	0.0020119	0.0091755	0.0004631	0.080748
99.67	20.188	13.549	0	0.080156	0.11152	0.028613	4.5522	0.0045008	1.771	0.39436	0.10734	0.0012365	0.0020054	0.0091412	0.0004642	0.078835
99.75	16.191	12.082	0	0.086954	0.050042	0.0056986	2.763	0.0045682	1.6343	0.25578	0.10919	0.0011013	0.0016562	0.0087953	0.0004688	0.063631
99.83	16.445	11.84	0	0.074017	0.040882	0.01944	6.9356	0.0046094	2.2371	0.3739	0.1143	0.0010131	0.0015223	0.0079466	0.0004716	0.055679
99.92	16.611	11.907	0	0.07305	0.041187	0.019451	6.9724	0.0045972	2.2619	0.37717	0.11642	0.0010487	0.0015671	0.0080244	0.0004707	0.056413
100.00	16.012	13.025	0	0.080966	0.21114	0.0037814	3.5634	0.0045571	1.3691	0.22526	0.06556	0.0011469	0.0017583	0.0080516	0.0004678	0.061143

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

TABLE B3.14

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR MBB2

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]
-2.00	11.975	10.25	0	0.025	0.1925	0.00875	1.375	0.005	1	0.1025	0.0645	5.00E-05	0.0005	0.002	0.0005	0.002
-1.92	11.975	10.25	0	0.025	0.1925	0.00875	1.375	0.005	1	0.1025	0.0645	5.00E-05	0.0005	0.002	0.0005	0.002
-1.83	6.2324	3.4999	0	0.025	0.045001	0.01125	0.62501	0.005	0.9	0.13	0.13525	5.00E-05	0.0005	0.002	0.0005	0.00175
-1.75	6.2325	3.5	0	0.025	0.045	0.01125	0.625	0.005	0.9	0.13	0.13525	5.00E-05	0.0005	0.002	0.0005	0.00175
-1.67	6.2325	3.5	0	0.025	0.045	0.01125	0.625	0.005	0.9	0.13	0.13525	5.00E-05	0.0005	0.002	0.0005	0.00175
-1.58	13.75	13	0	0.04375	0.055	0.005	1.125	0.005	1.075	0.13	0.09225	5.00E-05	0.000625	0.003	0.0005	0.002
-1.50	13.75	13	0	0.04375	0.055	0.005	1.125	0.005	1.075	0.13	0.092251	5.00E-05	0.000625	0.003	0.0005	0.002
-1.42	13.75	13	0	0.04375	0.055	0.005	1.125	0.005	1.075	0.13	0.092249	5.00E-05	0.000625	0.003	0.0005	0.002
-1.33	11.2	7.4999	0	0.05875	0.093752	0.01	0.99999	0.00625	1.775	0.15375	0.17925	5.00E-05	0.0005	0.004	0.0005	0.00175
-1.25	11.2	7.5	0	0.05875	0.09375	0.0099999	1	0.00625	1.775	0.15375	0.17925	5.00E-05	0.0005	0.004	0.0005	0.00175
-1.17	11.2	7.5	0	0.05875	0.093748	0.01	1	0.00625	1.775	0.15375	0.17925	5.00E-05	0.0005	0.004	0.0005	0.00175
-1.08	11.975	10.25	0	0.025	0.1925	0.00875	1.375	0.005	1	0.1025	0.064501	5.00E-05	0.0005	0.002	0.0005	0.002
-1.00	11.975	10.25	0	0.025	0.1925	0.00875	1.375	0.005	1	0.1025	0.0645	5.00E-05	0.0005	0.002	0.0005	0.002
-0.92	11.975	10.25	0	0.025	0.1925	0.00875	1.375	0.005	1	0.1025	0.0645	5.00E-05	0.0005	0.002	0.0005	0.002
-0.83	6.2324	3.4999	0	0.025	0.045001	0.01125	0.62501	0.005	0.9	0.13	0.13525	5.00E-05	0.0005	0.002	0.0005	0.00175
-0.75	6.2325	3.5	0	0.025	0.045	0.01125	0.625	0.005	0.9	0.13	0.13525	5.00E-05	0.0005	0.002	0.0005	0.00175
-0.67	6.2325	3.5	0	0.025	0.045	0.01125	0.625	0.005	0.9	0.13	0.13525	5.00E-05	0.0005	0.002	0.0005	0.00175
-0.58	13.75	13	0	0.04375	0.055	0.005	1.125	0.005	1.075	0.13	0.09225	5.00E-05	0.000625	0.003	0.0005	0.002
-0.50	13.75	13	0	0.04375	0.055	0.005	1.125	0.005	1.075	0.13	0.092251	0.00005	0.000625	0.003	0.0005	0.002
-0.42	13.75	13	0	0.04375	0.055	0.005	1.125	0.005	1.075	0.13	0.092249	0.00005	0.000625	0.003	0.0005	0.002
-0.33	11.2	7.4999	0	0.05875	0.093752	0.01	0.99999	0.00625	1.775	0.15375	0.17925	0.00005	0.0005	0.004	0.0005	0.00175
-0.25	11.2	7.5	0	0.05875	0.09375	0.0099999	1	0.00625	1.775	0.15375	0.17925	0.00005	0.0005	0.004	0.0005	0.00175
-0.17	11.2	7.5	0	0.05875	0.093748	0.01	1	0.00625	1.775	0.15375	0.17925	5.00E-05	0.0005	0.004	0.0005	0.00175
-0.08	11.975	10.25	0	0.025	0.1925	0.00875	1.375	0.005	1	0.1025	0.064501	5.00E-05	0.0005	0.002	0.0005	0.002
1.00	11.832	10.098	0	0.025016	0.19323	0.0085574	1.3784	0.005	0.97998	0.10205	0.064383	0.00005	0.0005135	0.0020001	0.0005	0.0019746
1.08	11.826	10.105	0	0.026073	0.19334	0.0088449	1.4052	0.005	0.99703	0.10251	0.064327	0.00005	0.0005135	0.0019962	0.0005	0.001974
1.17	6.1915	3.4706	0	0.024539	0.048904	0.011202	0.6363	0.005	0.89539	0.12948	0.13399	0.00005	0.0005101	0.0020001	0.0005	0.0017276
1.25	6.1978	3.4775	0	0.02479	0.046644	0.011317	0.64396	0.005	0.89557	0.12844	0.1346	0.00005	0.0005067	0.002	0.0005	0.0017287
1.33	6.2033	3.4918	0	0.024641	0.04529	0.011178	0.63233	0.005	0.89826	0.12909	0.13388	0.00005	0.0005168	0.002	0.0005	0.0017283
1.42	13.625	12.886	0	0.043702	0.054826	0.0049759	1.1298	0.005	1.0654	0.13055	0.091972	0.00005	0.0006519	0.0029891	0.0005	0.0019913
1.50	13.613	12.865	0	0.043666	0.055818	0.0051271	1.1045	0.005	1.0772	0.12992	0.092193	0.00005	0.0006696	0.0029706	0.0005	0.0019946
1.58	13.597	12.861	0	0.043403	0.055715	0.0051155	1.111	0.005	1.0698	0.12901	0.091205	0.00005	0.0006656	0.00296	0.0005	0.0019814

Year	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]
-2.00	0.00085	0.0005	10.775	5.00E-05	1.6525	0.01475	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001875	0.08225	5.00E-05	0.0005	0.0025
-1.92	0.00085	0.0005	10.775	5.00E-05	1.6525	0.01475	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001875	0.08225	5.00E-05	0.0005	0.0025
-1.83	0.0009	0.0005	5.225	5.00E-05	0.94499	0.0074999	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001625	0.1565	5.00E-05	0.000625	0.002
-1.75	0.0009	0.0005	5.225	5.00E-05	0.945	0.0075001	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001625	0.1565	5.00E-05	0.000625	0.002
-1.67	0.0009	0.0005	5.225	5.00E-05	0.945	0.0075	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001625	0.1565	5.00E-05	0.000625	0.002
-1.58	0.001225	0.0005	7.75	5.00E-05	1.7125	0.01775	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	0.1445	5.00E-05	0.000625	0.003
-1.50	0.001225	0.0005	7.75	5.00E-05	1.7125	0.01775	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	0.1445	5.00E-05	0.000625	0.003
-1.42	0.001225	0.0005	7.75	5.00E-05	1.7125	0.01775	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	0.1445	5.00E-05	0.000625	0.003
-1.33	0.001125	0.0005	8.425	5.00E-05	1.5	0.01425	5.00E-05	0.001	0.0025	0.00005	0.0005	0.00325	0.21	5.00E-05	0.000625	0.0045
-1.25	0.001125	0.0005	8.425	5.00E-05	1.5	0.01425	5.00E-05	0.001	0.0025	0.00005	0.0005	0.00325	0.21	5.00E-05	0.000625	0.0045
-1.17	0.001125	0.0005	8.425	5.00E-05	1.5	0.01425	5.00E-05	0.001	0.0025	0.00005	0.0005	0.00325	0.21	5.00E-05	0.000625	0.0045
-1.08	0.00085	0.0005	10.775	5.00E-05	1.6525	0.01475	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001875	0.08225	5.00E-05	0.0005	0.0025
-1.00	0.00085	0.0005	10.775	5.00E-05	1.6525	0.01475	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001875	0.08225	5.00E-05	0.0005	0.0025
-0.92	0.00085	0.0005	10.775	5.00E-05	1.6525	0.01475	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001875	0.08225	5.00E-05	0.0005	0.0025
-0.83	0.0009	0.0005	5.225	5.00E-05	0.94499	0.0074999	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001625	0.1565	5.00E-05	0.000625	0.002
-0.75	0.0009	0.0005	5.225	5.00E-05	0.945	0.0075001	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001625	0.1565	5.00E-05	0.000625	0.002
-0.67	0.0009	0.0005	5.225	5.00E-05	0.945	0.0075	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001625	0.1565	5.00E-05	0.000625	0.002
-0.58	0.001225	0.0005	7.75	5.00E-05	1.7125	0.01775	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	0.1445	0.00005	0.000625	0.003
-0.50	0.001225	0.0005	7.75	5.00E-05	1.7125	0.01775	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	0.1445	0.00005	0.000625	0.003
-0.42	0.001225	0.0005	7.75	5.00E-05	1.7125	0.01775	5.00E-05	0.001	0.0025	0.00005	0.0005	0.0015	0.1445	0.00005	0.000625	0.003
-0.33	0.001125	0.0005	8.425	5.00E-05	1.5	0.01425	5.00E-05	0.001	0.0025	0.00005	0.0005	0.00325	0.21	0.00005	0.000625	0.0045
-0.25	0.001125	0.0005	8.425	5.00E-05	1.5	0.01425	5.00E-05	0.001	0.0025	0.00005	0.0005	0.00325	0.21	0.00005	0.000625	0.0045
-0.17	0.001125	0.0005	8.425	5.00E-05	1.5	0.01425	5.00E-05	0.001	0.0025	0.00005	0.0005	0.00325	0.21	5.00E-05	0.000625	0.0045
-0.08	0.00085	0.0005	10.775	5.00E-05	1.6525	0.01475	5.00E-05	0.001	0.0018875	0.00005	0.0005	0.001875	0.08225	5.00E-05	0.0005	0.0025

TABLE B3.14

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR MBB2

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]
33.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061	0.15535	0.0001605	0.0006949	0.7481	0.018846	1.25E-05	0.000997	0.0005203	0.011193	0.72854	0.0020108	0.0005045	7.7629	5.052E-05	1.7527	0.019097	5.371E-05	0.0010903	0.0032008	5.467E-05	0.0007885
33.50	14.499	13.166	0	0.043416	0.055529	0.0051035	1.2922	0.0049731	1.0822	0.14971	0.096891	7.128E-05	0.0007539	0.0035461	0.0004985	0.013295	1.949E-05	4.4655	0.000605	5.727E-05	0.0006482	0.15821	0.0001701	0.0007557	0.77917	0.019053	1.26E-05	0.0011234	0.0005339	0.011993	0.90889	0.0025316	0.0005075	7.7759	5.086E-05	1.7777	0.020104	5.619E-05	0.0011508	0.0036711	5.781E-05	0.0009821
33.58	14.69	13.234	0	0.043094	0.055348	0.0050858	1.3423	0.0049668	1.0761	0.15342	0.096999	7.622E-05	0.0007688	0.0036696	0.0004981	0.015907	1.943E-05	4.511	0.0006294	5.876E-05	0.0006846	0.15575	0.000173	0.0007938	0.79754	0.019058	1.24E-05	0.0011976	0.0005418	0.012456	1.0154	0.0028403	0.0005093	7.8051	5.106E-05	1.7968	0.020644	5.763E-05	0.0011858	0.0039431	5.962E-05	0.0010941
33.67	12.207	7.8713	0	0.058862	0.093314	0.0099012	1.2487	0.0061893	1.7619	0.17696	0.1828	7.615E-05	0.0006336	0.0046719	0.0004982	0.015638	2.451E-05	3.7362	0.0006291	5.894E-05	0.0006739	0.22177	0.0001981	0.0007459	0.7051	0.011495	1.24E-05	0.0007223	0.0005417	0.012248	0.96817	0.0027346	0.0005093	8.4914	5.106E-05	1.5962	0.017289	5.761E-05	0.0011853	0.0039392	5.96E-05	0.0010924
33.75	11.569	7.6262	0	0.057672	0.091849	0.0098553	1.1062	0.0062121	1.7641	0.16299	0.17924	6.165E-05	0.0005769	0.0042711	0.0004992	0.0079209	2.332E-05	3.5594	0.0005575	5.398E-05	0.0005991	0.2204	0.000183	0.0006368	0.64781	0.011044	1.25E-05	0.000499	0.0005186	0.010895	0.66019	0.0018489	0.0005041	8.4401	5.047E-05	1.5401	0.015481	5.339E-05	0.0010826	0.0031412	5.428E-05	0.000764
33.83	11.314	7.5057	0	0.058148	0.095093	0.0096076	1.0624	0.0062215	1.7664	0.15801	0.17881	5.577E-05	0.0005261	0.0041182	0.0004996	0.0047978	2.279E-05	3.4946	0.0005285	5.197E-05	0.0005666	0.22071	0.0001776	0.0005926	0.62541	0.01096	1.25E-05	0.000436	0.0005092	0.010346	0.53518	0.0014951	0.000502	8.4194	5.023E-05	1.5174	0.014852	5.168E-05	0.0010409	0.0028176	5.212E-05	0.0006307
33.92	12.018	10.222	0	0.024418	0.14201	0.0086249	1.4092	0.0049951	0.99665	0.10519	0.065057	5.387E-05	0.0005152	0.0021013	0.0004997	0.0040287	1.03E-05	3.7303	0.0005191	5.132E-05	0.0005503	0.077081	5.266E-05	0.0005533	0.65557	0.0027245	1.27E-05	0.0003838	0.0005062	0.010167	0.49212	0.001105	0.0005014	10.751	5.02E-05	1.6623	0.015073	5.113E-05	0.0010274	0.0021055	5.142E-05	0.0005877
34.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.036E-05	3.7273	0.0005226	5.157E-05	0.00054	0.077974	5.458E-05	0.0005571	0.65858	0.002791	1.25E-05	0.0004404	0.0005073	0.010429	0.50643	0.001146	0.0005016	10.74	5.019E-05	1.6662	0.015133	5.133E-05	0.0010325	0.0021448	5.168E-05	0.0006038
34.08	12.001	10.166	0	0.02609	0.19316	0.0088367	1.4428	0.0049947	0.99815	0.10644	0.065263	5.418E-05	0.0005303	0.0021106	0.0004997	0.0041947	1.046E-05	3.7196	0.0005207	5.143E-05	0.0005345	0.07801	5.418E-05	0.0005541	0.6577	0.0027	1.25E-05	0.0004598	0.0005067	0.010392	0.49772	0.0011206	0.0005015	10.753	5.017E-05	1.6667	0.015068	5.122E-05	0.0010296	0.0021235	5.154E-05	0.0005948
34.17	6.8257	3.7172	0	0.02445	0.048913	0.011158	0.76613	0.0049818	0.89951	0.14286	0.13691	6.441E-05	0.0005669	0.002394	0.000499	0.0093799	1.493E-05	2.0697	0.0005711	5.492E-05	0.000585	0.11459	0.0001131	0.0004605	0.39913	0.0075388	1.25E-05	0.0003649	0.000523	0.01135	0.67736	0.0017861	0.0005051	5.3444	5.058E-05	1.0081	0.0091949	5.419E-05	0.0011021	0.0026874	5.529E-05	0.0008264
34.25	6.4327	3.5678	0	0.024757	0.046624	0.011307	0.69293	0.0049932	0.89696	0.13341	0.13569	5.538E-05	0.000528	0.0021471	0.0004996	0.0045852	1.43E-05	1.973	0.0005266	5.184E-05	0.0005647	0.11404	0.0001034	0.0003915	0.36312	0.0075334	1.25E-05	0.000178	0.0005086	0.010504	0.48654	0.00124	0.0005019	5.2459	5.022E-05	0.97061	0.0081432	5.157E-05	0.0010381	0.0021882	5.198E-05	0.0006219
34.33	6.3977	3.5678	0	0.024613	0.045234	0.01116	0.67268	0.0049944	0.89947	0.13321	0.13475	5.445E-05	0.0005348	0.0021216	0.0004997	0.0040894	1.407E-05	1.9632	0.000522	5.152E-05	0.0005567	0.11413	0.0001029	0.0003853	0.35989	0.0074838	1.25E-05	0.0002055	0.0005071	0.010416	0.46675	0.0011875	0.0005016	5.2412	5.018E-05	0.967	0.0080374	5.129E-05	0.0010315	0.0021424	5.163E-05	0.0006007
34.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061	0.15535	0.0001605	0.0006949	0.7481	0.018846	1.25E-05	0.000997	0.0005203	0.011193	0.72854	0.0020108	0.0005045	7.7629	5.052E-05	1.7527	0.019097	5.371E-05	0.0010903	0.0032008	5.467E-05	0.0007885
34.50	14.499	13.166	0	0.043416	0.055529	0.0051035	1.2922	0.0049731	1.0822	0.14971	0.096891	7.128E-05	0.0007539	0.0035461	0.0004985	0.013295	1.949E-05	4.4655	0.000605	5.727E-05	0.0006482	0.15821	0.0001701	0.0007557	0.77917	0.019053	1.26E-05	0.0011234	0.0005339	0.011993	0.90889	0.0025316	0.0005075	7.7759	5.086E-05	1.7777	0.020104	5.619E-05	0.0011508	0.0036711	5.781E-05	0.0009821
34.58	14.69	13.234	0	0.043094	0.055348	0.0050858	1.3423	0.0049668	1.0761	0.15342	0.096999	7.622E-05	0.0007688	0.0036696	0.0004981	0.015907	1.943E-05	4.511	0.0006294	5.876E-05	0.0006846	0.15575	0.000173	0.0007938	0.79754	0.019058	1.24E-05	0.0011976	0.0005418	0.012456	1.0154	0.0028403	0.0005093	7.8051	5.106E-05	1.7968	0.020644	5.763E-05	0.0011858	0.0039431	5.962E-05	0.0010941
34.67	12.207	7.8713	0	0.058862	0.093314	0.0099012	1.2487	0.0061893	1.7619	0.17696	0.1828	7.615E-05	0.0006336	0.0046719	0.0004982	0.015638	2.451E-05	3.7362	0.0006291	5.894E-05	0.0006739	0.22177	0.0001981	0.0007459	0.7051	0.011495	1.24E-05	0.0007223	0.0005417	0.012248	0.96817	0.0027346	0.0005093	8.4914	5.106E-05	1.5962	0.017289	5.761E-05	0.0011853	0.0039392	5.96E-05	0.0010924
34.75	11.569	7.6262	0	0.057672	0.091849	0.0098553	1.1062	0.0062121	1.7641	0.16299	0.17924	6.165E-05	0.0005769	0.0042711	0.0004992	0.0079209	2.332E-05	3.5594	0.0005575	5.398E-05	0.0005991	0.2204	0.000183	0.0006368	0.64781	0.011044	1.25E-05	0.000499	0.0005186	0.010895	0.66019	0.0018489	0.0005041	8.4401	5.047E-05	1.5401	0.015481	5.339E-05	0.0010826	0.0031412	5.428E-05	0.000764
34.83	11.314	7.5057	0	0.058148	0.095093	0.0096076	1.0624	0.0062215	1.7664	0.15801	0.17881	5.577E-05	0.0005261	0.0041182	0.0004996	0.0047978	2.279E-05	3.4946	0.0005285	5.197E-05	0.0005666	0.22071	0.0001776	0.0005926	0.62541	0.01096	1.25E-05	0.000436	0.0005092	0.010346	0.53518	0.0014951	0.000502	8.4194	5.023E-05	1.5174	0.014852	5.168E-05	0.0010409	0.0028176	5.212E-05	0.0006307
34.92	12.018	10.222	0	0.024418	0.14201	0.0086249	1.4092	0.0049951	0.99665	0.10519	0.065057	5.387E-05	0.0005152	0.0021013	0.0004997	0.0040287	1.03E-05	3.7303	0.0005191	5.132E-05	0.0005503	0.077081	5.266E-05	0.0005533	0.65557	0.0027245	1.27E-05	0.0003838	0.0005062	0.010167	0.49212	0.001105	0.0005014	10.751	5.02E-05	1.6623	0.015073	5.113E-05	0.0010274	0.0021055	5.142E-05	0.0005877
35.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.036E-05	3.7273	0.0005226	5.157E-05	0.00054	0.077974	5.458E-05	0.0005571	0.65858	0.002791	1.25E-05	0.0004404	0.0005073	0.010429	0.50643	0.001146	0.0005016	10.74	5.019E-05	1.6662	0.015133	5.133E-05	0.0010325	0.0021448	5.168E-05	0.0006038
35.08	12.001	10.166	0	0.02609	0.19316	0.0088367	1.4428	0.0049947	0.99815	0.10644	0.065263	5.418E-05	0.0005303	0.0021106	0.0004997	0.0041947	1.046E-05	3.7196	0.0005207	5.143E-05	0.0005345	0.07801	5.418E-05	0.0005541	0.6577	0.0027	1.25E-05	0.0004598	0.0005067	0.010392	0.49772	0.0011206	0.0005015	10.753	5.017E-05	1.6667	0.015068	5.122E-05	0.0010296	0.0021235	5.154E-05	0.0005948
35.17	6.8257	3.7172	0	0.02445	0.048913	0.011158	0.76613	0.0049818	0.89951	0.14286	0.13691	6.441E-05	0.0005669	0.002394	0.000499	0.0093799	1.493E-05	2.0697	0.0005711	5.492E-05	0.000585	0.11459	0.0001131	0.0004605	0.39913	0.0075388	1.25E-05	0.0003649	0.000523	0.01135	0.67736	0.0017861	0.0005051	5.3444	5.058E-05	1.0081	0.0091949	5.419E-05	0.0011021	0.0026874	5.529E-05	0.0008264
35.25	6.4327	3.5678	0	0.024757	0.046624	0.011307	0.69293	0.0049932	0.89696	0.13341	0.13569	5.538E-05	0.000528	0.0021471	0.0004996	0.0045852	1.43E-05	1.973	0.0005266	5.184E-05	0.0005647	0.11404	0.0001034	0.0003915	0.36312	0.0075334	1.25E-05	0.000178	0.0005086	0.010504	0.48654	0.00124	0.0005019	5.2459	5.022E-05	0.97061	0.0081432	5.157E-05	0.0010381	0.0021882	5.198E-05	0.0006219
35.33	6.3977	3.5678	0	0.024613	0.045234	0.01116	0.67268	0.0049944	0.89947	0.13321	0.13475	5.445E-05	0.0005348	0.0021216	0.0004997	0.0040894	1.407E-05	1.9632	0.000522	5.152E-05	0.0005567	0.11413	0.0001029	0.0003853	0.35989	0.0074838	1.25E-05	0.0002055	0.0005071	0.010416	0.46675	0.0011875	0.0005016	5.2412	5.018E-05	0.967	0.0080374	5.129E-05	0.0010315	0.0021424	5.163E-05	0.0006007
35.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061	0.15535	0.0001605	0.0006949	0.7481	0.018846	1.25E-05	0.000997	0.0005203	0.011193	0.72854	0.0020108	0.0005045	7.7629	5.052E-05	1.7527	0.019097	5.371E-05	0.0010903	0.0032008	5.467E-05	0.0007885
35.50	14.499	13.166	0	0.043416	0.055529	0.0051035	1.2922	0.0049731	1.0822	0.14971	0.096891	7.128E-05	0.0007539	0.0035461	0.0004985	0.013295	1.949E-05	4.4655	0.000605	5.727E-05	0.0006482	0.15821	0.0001701	0.0007557	0.77917	0.019053	1.26E-05	0.0011234	0.0005339	0.011993	0.90889	0.0025316	0.0005075	7.7759	5.086E-05	1.7777	0.020104	5.619E-05	0.0011508	0.0036711	5.781E-05	0.0009821

Year	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
33.42	0.0016566	0.14553	6.273E-05	0.0006999	0.0033284	0.0004991	0.0087542	2.346E-05	4.5179	0.0005629	7.864E-05	0.0006061	0.1893	0.0002329	0.0007434	0.77233	0.025361	1.25E-05	0.0010421	0.0005203	0.011193	0.74311	0.0021084	0.0005045	7.7629	5.052E-05	1.8034	0.020064	5.371E-05	0.0010903	0.0031787	6.694E-05	0.0007861	0.0016566	7.9975
33.50	0.0017725	0.14758	7.128E-05	0.0007539	0.0035461	0.0004985	0.01329	2.439E-05	4.6086	0.000605	8.125E-05	0.0006482	0.19208	0.0002423	0.0008047	0.80324	0.025548	1.26E-05	0.0011684	0.0005339	0.011993	0.92348	0.0026285	0.0005075	7.7759	5.086E-05	1.8283	0.021063	5.619E-05	0.0011508	0.0036711	7.005E-05	0.0009821	0.0017725	7.9932
33.58	0.0018272	0.14748	7.622E-05	0.0007688	0.0036656	0.0004981	0.015907	2.432E-05	4.6538	0.0006294	8.26E-05	0.0006846	0.18945	0.0002449	0.0008419	0.82183	0.025574	1.24E-05	0.0012425	0.0005418	0.012456	1.03	0.0029365	0.0005093	7.8051	5.106E-05	1.8479	0.021601	5.763E-05	0.0011858	0.0039431	7.185E-05	0.0010941	0.0018232	7.9008
33.67	0.0035453	0.21273	7.615E-05	0.0007559	0.0051528	0.0004982	0.015638	2.696E-05	3.9088	0.0006291	5.894E-05	0.0006739	0.24845	0.0002955	0.0007944	0.72679	0.013395	1.22E-05	0.000721	0.0005417	0.012248	0.99006	0.0027826	0.0005093	8.4914	5.106E-05	1.681	0.018243	5.761E-05	0.0011853	0.0039392	5.96E-05	0.0010582	0.0035453	13.15
33.75	0.0033675	0.20919	5.93E-05	0.0006937	0.0047579	0.0004992	0.0079209	2.578E-05	3.733	0.0005575	5.398E-05	0.0005991	0.24724	0.0002803	0.0006843	0.66958	0.012968	1.25E-05	0.0004982	0.0005186	0.010895	0.68215	0.0018968	0.0005041	8.4401	5.047E-05	1.6253	0.016443	5.339E-05	0.0010826	0.0031412	5.428E-05	0.000764	0.0033675	13.174
33.83	0.0032985	0.20882	5.577E-05	0.000649	0.0046098	0.0004996	0.0047861	2.525E-05	3.6686	0.0005285	5.197E-05	0.0005666	0.24755	0.0002753	0.0006418	0.64718	0.012701	1.25E-05	0.0004356	0.0005092	0.010346	0.5571	0.0015435	0.000502	8.4194	5.023E-05	1.6028	0.015823	5.168E-05	0.0010409	0.0028176	5.212E-05	0.0006307	0.0032985	13.223
33.92	0.001938	0.081989	5.387E-05	0.0005152	0.0025931	0.0004997	0.0040287	1.27E-05	4.0945	0.0005191	5.132E-05	0.0006733	0.091638	0.0001633	0.0005529	0.69709	0.0039111	1.27E-05	0.0004076	0.0005062	0.010167	0.54601	0.0012026	0.0005014	10.751	5.02E-05	1.8312	0.016045	5.113E-05	0.0010274	0.0021055	5.142E-05	0.000574	0.0034131	4.0463
34.00	0.0019208	0.082739	5.458E-05	0.0005319	0.002617	0.0004997	0.0044065	1.282E-05	4.0891	0.0005226	5.157E-05	0.0006629	0.092565	0.000165	0.0005571	0.69997	0.0039964	1.22E-05	0.0004638	0.0005073	0.010429	0.56024	0.0012439	0.0005016	10.74	5.019E-05	1.8353	0.016096	5.133E-05	0.0010325	0.0021448	5.168E-05	0.0006038	0.0033878	4.087
34.08	0.0019229	0.082476	5.418E-05	0.0005283	0.0026023	0.0004997	0.0041947	1.292E-05	4.0817	0.0005207	5.143E-05	0.0006574	0.092522	0.0001648	0.0005541	0.69918	0.0039013	1.25E-05	0.0004828	0.0005067	0.010392	0.55158	0.0012182	0.0005015	10.753	5.017E-05	1.8351	0.016027	5.122E-05	0.0010296	0.0021235	5.154E-05	0.0005948	0.0033981	4.0918
34.17	0.0017959	0.15712	6.441E-05	0.0006895	0.0023862	0.000499	0.0096251	1.477E-05	2.2163	0.0005653	5.492E-05	0.000585	0.12362	0.0001243	0.0004834	0.4156	0.0087259	1.25E-05	0.0003625	0.000521	0.01135	0.69401	0.0018094	0.0005051	5.3444	5.058E-05	1.0481	0.0096581	5.419E-05	0.0011021	0.0026874	5.529E-05	0.0008245	0.0017764	7.0749
34.25	0.0017067	0.15618	5.538E-05	0.000649	0.0021471	0.0004996	0.0048233	1.43E-05	2.1232	0.0005266	5.184E-05	0.0005647	0.1236	0.0001149	0.0004157	0.38013	0.0087199	1.25E-05	0.0001776	0.0005086	0.010504	0.50344	0.0012631	0.0005019	5.2459	5.022E-05	1.0118	0.0086193	5.157E-05	0.0010381	0.0021876	5.198E-05	0.0006219	0.0017067	7.113
34.33	0.0016582	0.15539	5.445E-05	0.0006577	0.0021216	0.0004997	0.0043352	1.407E-05	2.1129	0.000522	5.152E-05	0.0005567	0.12372	0.0001149	0.0004094	0.37681	0.0086597	1.25E-05	0.0002045	0.0005071	0.010416	0.48377	0.0012111	0.0005016	5.2412	5.018E-05	1.0081	0.0085194	5.129E-05	0.0010315	0.0021424	5.163E-05	0.0006007	0.0016582	7.0978
34.42	0.0016566	0.14553	6.273E-05	0.0006999	0.0033284	0.0004991	0.0087542	2.346E-05	4.5179	0.0005629	7.864E-05	0.0006061	0.1893	0.0002329	0.0007434	0.77233	0.025361	1.25E-05	0.0010421	0.0005203	0.011193	0.74311	0.0021084	0.0005045	7.7629	5.052E-05	1.8034	0.020064	5.371E-05	0.0010903	0.0031787	6.694E-05	0.0007861	0.0016566	7.9975
34.50	0.0017725	0.14758	7.128E-05	0.0007539	0.0035461	0.0004985	0.01329	2.439E-05	4.6086	0.000605	8.125E-05	0.0006482	0.19208	0.0002423	0.0008047	0.80324	0.025548	1.26E-05	0.0011684	0.0005339	0.011993	0.92348	0.0026285	0.0005075	7.7759	5.086E-05	1.8283	0.021063	5.619E-05	0.0011508	0.0036711	7.005E-05	0.0009821	0.0017725	7.9932
34.58	0.0018272	0.14748	7.622E-05	0.0007688	0.0036656	0.0004981	0.015907	2.432E-05	4.6538	0.0006294	8.26E-05	0.0006846	0.18945	0.0002449	0.0008419	0.82183	0.025574	1.24E-05	0.0012425	0.0005418	0.012456	1.03	0.0029365	0.0005093	7.8051	5.106E-05	1.8479	0.021601	5.763E-05	0.0011858	0.0039431	7.185E-05	0.0010941	0.0018232	7.9008
34.67	0.0035453	0.21273	7.615E-05	0.0007559	0.0051528	0.0004982	0.015638	2.696E-05	3.9088	0.0006291	5.894E-05	0.0006739	0.24845	0.0002955	0.0007944	0.72679	0.013395	1.22E-05	0.000721	0.0005417	0.012248	0.99006	0.0027826	0.0005093	8.4914	5.106E-05	1.681	0.018243	5.761E-05	0.0011853	0.0039392	5.96E-05	0.0010582	0.0035453	13.15
34.75	0.0033675	0.20919	5.93E-05	0.0006937	0.0047579	0.0004992	0.0079209	2.578E-05	3.733	0.0005575	5.398E-05	0.0005991	0.24724	0.0002803	0.0006843	0.66958	0.012968	1.25E-05	0.0004982	0.0005186	0.010895	0.68215	0.0018968	0.0005041	8.4401	5.047E-05	1.6253	0.016443	5.339E-05	0.0010826	0.0031412	5.428E-05	0.000764	0.0033675	13.174
34.83	0.0032985	0.20882	5.577E-05	0.000649	0.0046098	0.0004996	0.0047861	2.525E-05	3.6686	0.0005285	5.197E-05	0.0005666	0.24755	0.0002753	0.0006418	0.64718	0.012701	1.25E-05	0.0004356	0.0005092	0.010346	0.5571	0.0015435	0.000502	8.4194	5.023E-05	1.6028	0.015823	5.168E-05	0.0010409	0.0028176	5.212E-05	0.0006307	0.0032985	13.223
34.92	0.001938	0.081989	5.387E-05	0.0005152	0.0025931	0.0004997	0.0040287	1.27E-05	4.0945	0.0005191	5.132E-05	0.0006733	0.091638	0.0001633	0.0005529	0.69709	0.0039111	1.27E-05	0.0004076	0.0005062	0.010167	0.54601	0.0012026	0.0005014	10.751	5.02E-05	1.8312	0.016045	5.113E-05	0.0010274	0.0021055	5.142E-05	0.000574	0.0034131	4.0463
35.00	0.0019208	0.082739	5.458E-05	0.0005319	0.002617	0.0004997	0.0044065	1.282E-05	4.0891	0.0005226	5.157E-05	0.0006629	0.092565	0.000165	0.0005571	0.69997	0.0039964	1.22E-05	0.0004638	0.0005073	0.010429	0.56024	0.0012439	0.0005016	10.74	5.019E-05	1.8353	0.016096	5.133E-05	0.0010325	0.0021448	5.168E-05	0.0006038	0.0033878	4.087
35.08	0.0019229	0.082476	5.418E-05	0.0005283	0.0026023	0.0004997	0.0041947	1.292E-05	4.0817	0.0005207	5.143E-05	0.0006574	0.092522	0.0001648	0.0005541	0.69918	0.0039013	1.25E-05	0.0004828	0.0005067	0.010392	0.55158	0.0012182	0.0005015	10.753	5.017E-05	1.8351	0.016027	5.122E-05	0.0010296	0.0021235	5.154E-05	0.0005948	0.0033981	4.0918
35.17	0.0017959	0.15712	6.441E-05	0.0006895	0.0023862	0.000499	0.0096251	1.477E-05	2.2163	0.0005653	5.492E-05	0.000585	0.12362	0.0001243	0.0004834	0.4156	0.0087259	1.25E-05	0.0003625	0.000521	0.01135	0.69401	0.0018094	0.0005051	5.3444	5.058E-05	1.0481	0.0096581	5.419E-05	0.0011021	0.0026874	5.529E-05	0.0008245	0.0017764	7.0749
35.25	0.0017067	0.15618	5.538E-05	0.000649	0.0021471	0.0004996	0.0048233	1.43E-05	2.1232	0.0005266	5.184E-05	0.0005647	0.1236	0.0001149	0.0004157	0.38013	0.0087199	1.25E-05	0.0001776	0.0005086	0.010504	0.50344	0.0012631	0.0005019	5.2459	5.022E-05	1.0118	0.0086193	5.157E-05	0.0010381	0.0021876	5.198E-05	0.0006219	0.0017067	7.113
35.33	0.0016582	0.15539	5.445E-05	0.0006577	0.0021216	0.0004997	0.0043352	1.407E-05	2.1129	0.000522	5.152E-05	0.0005567	0.12372	0.0001149	0.0004094	0.37681	0.0086597	1.25E-05	0.0002045	0.0005071	0.010416	0.48377	0.0012111	0.0005016	5.2412	5.018E-05	1.0081	0.0085194	5.129E-05	0.0010315	0.0021424	5.163E-05	0.0006007	0.0016582	7.0978
35.42	0.0016566	0.14553	6.273E-05	0.0006999	0.0033284	0.0004991	0.0087542	2.346E-05	4.5179	0.0005629	7.864E-05	0.0006061	0.1893	0.0002329	0.0007434	0.77233	0.025361	1.25E-05	0.0010421	0.0005203	0.011193	0.74311	0.0021084	0.0005045	7.7629	5.052E-05	1.8034	0.020064	5.371E-05	0.0010903	0.0031787	6.694E-05	0.0007861	0.0016566	7.9975
35.50	0.0017725	0.14758	7.128E-05	0.0007539	0.0035461	0.0004985	0.01329	2.439E-05	4.6086	0.000605	8.125E-05	0.0006482	0.19208	0.0002423	0.0008047	0.80324	0.025548	1.26E-05	0.0011684	0.0005339	0.011993	0.92348	0.0026285	0.0005075	7.7759	5.086E-05	1.8283	0.021063	5.619E-05	0.0011508	0.0036711	7.005E-05	0.0009821	0.0017725	7.9932

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TABLE B3.14

APPENDIX B3 - PREDICTIVE WATER QUALITY MODEL OUTPUT
PREDICTED WATER QUALITY RESULTS FOR MBB2

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Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
67.83	11.314	7.5057	0	0.058148	0.095093	0.0096076	1.0624	0.0062215	1.7664	0.15801	0.17881	5.577E-05	0.0005261	0.0041182	0.0004996	0.0047978	2.28E-05	3.4946	0.0005285	5.197E-05	0.0005666
67.92	12.018	10.222	0	0.024418	0.14201	0.0086249	1.4092	0.0049951	0.99665	0.10519	0.065057	5.387E-05	0.0005152	0.0021013	0.0004997	0.0040287	1.03E-05	3.7303	0.0005191	5.132E-05	0.0005503
68.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.04E-05	3.7273	0.0005226	5.157E-05	0.00054
68.08	12.001	10.166	0	0.02609	0.19316	0.0088367	1.4428	0.0049947	0.99815	0.10644	0.065263	5.418E-05	0.0005303	0.0021106	0.0004997	0.0041947	1.05E-05	3.7196	0.0005207	5.143E-05	0.0005345
68.17	6.8257	3.7172	0	0.02445	0.048913	0.011158	0.76613	0.0049818	0.89951	0.14286	0.13691	6.441E-05	0.0005669	0.002394	0.000499	0.0093799	1.49E-05	2.0697	0.0005711	5.492E-05	0.000585
68.25	6.4327	3.5678	0	0.024757	0.046624	0.011307	0.69293	0.0049932	0.89696	0.13341	0.13569	5.538E-05	0.000528	0.0021471	0.0004996	0.0045852	1.43E-05	1.973	0.0005266	5.184E-05	0.0005647
68.33	6.3977	3.5678	0	0.024613	0.045234	0.01116	0.67268	0.0049944	0.89947	0.13321	0.13475	5.445E-05	0.0005348	0.0021216	0.0004997	0.0040894	1.407E-05	1.9632	0.000522	5.152E-05	0.0005567
68.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061
68.50	14.499	13.166	0	0.043416	0.055529	0.0051035	1.2922	0.0049731	1.0822	0.14971	0.096891	7.128E-05	0.0007539	0.0035461	0.0004985	0.013295	1.949E-05	4.4655	0.000605	5.727E-05	0.0006482
68.58	14.69	13.234	0	0.043094	0.055348	0.0050858	1.3423	0.0049668	1.0761	0.15342	0.096999	7.622E-05	0.0007688	0.0036696	0.0004981	0.015907	1.943E-05	4.511	0.0006294	5.876E-05	0.0006846
68.67	12.207	7.8713	0	0.058862	0.093314	0.0099012	1.2487	0.0061893	1.7619	0.17696	0.1828	7.615E-05	0.0006336	0.0046719	0.0004982	0.015638	2.451E-05	3.7362	0.0006291	5.894E-05	0.0006739
68.75	11.569	7.6262	0	0.057672	0.091849	0.0098553	1.1062	0.0062121	1.7641	0.16299	0.17924	6.165E-05	0.0005769	0.0042711	0.0004992	0.0079209	2.332E-05	3.5594	0.0005575	5.398E-05	0.0005991
68.83	11.314	7.5057	0	0.058148	0.095093	0.0096076	1.0624	0.0062215	1.7664	0.15801	0.17881	5.577E-05	0.0005261	0.0041182	0.0004996	0.0047978	2.28E-05	3.4946	0.0005285	5.197E-05	0.0005666
68.92	12.018	10.222	0	0.024418	0.14201	0.0086249	1.4092	0.0049951	0.99665	0.10519	0.065057	5.387E-05	0.0005152	0.0021013	0.0004997	0.0040287	1.03E-05	3.7303	0.0005191	5.132E-05	0.0005503
69.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.04E-05	3.7273	0.0005226	5.157E-05	0.00054
69.08	12.001	10.166	0	0.02609	0.19316	0.0088367	1.4428	0.0049947	0.99815	0.10644	0.065263	5.418E-05	0.0005303	0.0021106	0.0004997	0.0041947	1.05E-05	3.7196	0.0005207	5.143E-05	0.0005345
69.17	6.8257	3.7172	0	0.02445	0.048913	0.011158	0.76613	0.0049818	0.89951	0.14286	0.13691	6.441E-05	0.0005669	0.002394	0.000499	0.0093799	1.49E-05	2.0697	0.0005711	5.492E-05	0.000585
69.25	6.4327	3.5678	0	0.024757	0.046624	0.011307	0.69293	0.0049932	0.89696	0.13341	0.13569	5.538E-05	0.000528	0.0021471	0.0004996	0.0045852	1.43E-05	1.973	0.0005266	5.184E-05	0.0005647
69.33	6.3977	3.5678	0	0.024613	0.045234	0.01116	0.67268	0.0049944	0.89947	0.13321	0.13475	5.445E-05	0.0005348	0.0021216	0.0004997	0.0040894	1.407E-05	1.9632	0.000522	5.152E-05	0.0005567
69.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061
69.50	14.499	13.166	0	0.043416	0.055529	0.0051035	1.2922	0.0049731	1.0822	0.14971	0.096891	7.128E-05	0.0007539	0.0035461	0.0004985	0.013295	1.949E-05	4.4655	0.000605	5.727E-05	0.0006482
69.58	14.69	13.234	0	0.043094	0.055348	0.0050858	1.3423	0.0049668	1.0761	0.15342	0.096999	7.622E-05	0.0007688	0.0036696	0.0004981	0.015907	1.943E-05	4.511	0.0006294	5.876E-05	0.0006846
69.67	12.207	7.8713	0	0.058862	0.093314	0.0099012	1.2487	0.0061893	1.7619	0.17696	0.1828	7.615E-05	0.0006336	0.0046719	0.0004982	0.015638	2.451E-05	3.7362	0.0006291	5.894E-05	0.0006739
69.75	11.569	7.6262	0	0.057672	0.091849	0.0098553	1.1062	0.0062121	1.7641	0.16299	0.17924	6.165E-05	0.0005769	0.0042711	0.0004992	0.0079209	2.332E-05	3.5594	0.0005575	5.398E-05	0.0005991
69.83	11.314	7.5057	0	0.058148	0.095093	0.0096076	1.0624	0.0062215	1.7664	0.15801	0.17881	5.577E-05	0.0005261	0.0041182	0.0004996	0.0047978	2.28E-05	3.4946	0.0005285	5.197E-05	0.0005666
69.92	12.018	10.222	0	0.024418	0.14201	0.0086249	1.4092	0.0049951	0.99665	0.10519	0.065057	5.387E-05	0.0005152	0.0021013	0.0004997	0.0040287	1.03E-05	3.7303	0.0005191	5.132E-05	0.0005503
70.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.04E-05	3.7273	0.0005226	5.157E-05	0.00054
70.08	12.001	10.166	0	0.02609	0.19316	0.0088367	1.4428	0.0049947	0.99815	0.10644	0.065263	5.418E-05	0.0005303	0.0021106	0.0004997	0.0041947	1.05E-05	3.7196	0.0005207	5.143E-05	0.0005345
70.17	6.8257	3.7172	0	0.02445	0.048913	0.011158	0.76613	0.0049818	0.89951	0.14286	0.13691	6.441E-05	0.0005669	0.002394	0.000499	0.0093799	1.49E-05	2.0697	0.0005711	5.492E-05	0.000585
70.25	6.4327	3.5678	0	0.024757	0.046624	0.011307	0.69293	0.0049932	0.89696	0.13341	0.13569	5.538E-05	0.000528	0.0021471	0.0004996	0.0045852	1.43E-05	1.973	0.0005266	5.184E-05	0.0005647
70.33	6.3977	3.5678	0	0.024613	0.045234	0.01116	0.67268	0.0049944	0.89947	0.13321	0.13475	5.445E-05	0.0005348	0.0021216	0.0004997	0.0040894	1.407E-05	1.9632	0.000522	5.152E-05	0.0005567
70.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061

Year	[Hardness] [mg/L]	[Alkalinity] [mg/L]	[H] [mg/L]	[NH4] [mg/L]	[NO3] [mg/L]	[PO4] [mg/L]	[SO4] [mg/L]	[Br] [mg/L]	[Cl] [mg/L]	[F] [mg/L]	[D_Al] [mg/L]	[D_Sb] [mg/L]	[D_As] [mg/L]	[D_Ba] [mg/L]	[D_Bi] [mg/L]	[D_B] [mg/L]	[D_Cd] [mg/L]	[D_Ca] [mg/L]	[D_Cr] [mg/L]	[D_Co] [mg/L]	[D_Cu] [mg/L]
95.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.04E-05	3.7273	0.0005226	5.157E-05	0.00054
95.08	12.001	10.166	0	0.02609	0.19316	0.0088367	1.4428	0.0049947	0.99815	0.10644	0.065263	5.418E-05	0.0005303	0.0021106	0.0004997	0.0041947	1.05E-05	3.7196	0.0005207	5.143E-05	0.0005345
95.17	6.8257	3.7172	0	0.02445	0.048913	0.011158	0.76613	0.0049818	0.89951	0.14286	0.13691	6.441E-05	0.0005669	0.002394	0.000499	0.0093799	1.49E-05	2.0697	0.0005711	5.492E-05	0.000585
95.25	6.4327	3.5678	0	0.024757	0.046624	0.011307	0.69293	0.0049932	0.89696	0.13341	0.13569	5.538E-05	0.000528	0.0021471	0.0004996	0.0045852	1.43E-05	1.973	0.0005266	5.184E-05	0.0005647
95.33	6.3977	3.5678	0	0.024613	0.045234	0.01116	0.67268	0.0049944	0.89947	0.13321	0.13475	5.445E-05	0.0005348	0.0021216	0.0004997	0.0040894	1.407E-05	1.9632	0.000522	5.152E-05	0.0005567
95.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061
95.50	14.499	13.166	0	0.043416	0.055529	0.0051035	1.2922	0.0049731	1.0822	0.14971	0.096891	7.128E-05	0.0007539	0.0035461	0.0004985	0.013295	1.949E-05	4.4655	0.000605	5.727E-05	0.0006482
95.58	14.69	13.234	0	0.043094	0.055348	0.0050858	1.3423	0.0049668	1.0761	0.15342	0.096999	7.622E-05	0.0007688	0.0036696	0.0004981	0.015907	1.943E-05	4.511	0.0006294	5.876E-05	0.0006846
95.67	12.207	7.8713	0	0.058862	0.093314	0.0099012	1.2487	0.0061893	1.7619	0.17696	0.1828	7.615E-05	0.0006336	0.0046719	0.0004982	0.015638	2.451E-05	3.7362	0.0006291	5.894E-05	0.0006739
95.75	11.569	7.6262	0	0.057672	0.091849	0.0098553	1.1062	0.0062121	1.7641	0.16299	0.17924	6.165E-05	0.0005769	0.0042711	0.0004992	0.0079209	2.332E-05	3.5594	0.0005575	5.398E-05	0.0005991
95.83	11.314	7.5057	0	0.058148	0.095093	0.0096076	1.0624	0.0062215	1.7664	0.15801	0.17881	5.577E-05	0.0005261	0.0041182	0.0004996	0.0047978	2.28E-05	3.4946	0.0005285	5.197E-05	0.0005666
95.92	12.018	10.222	0	0.024418	0.14201	0.0086249	1.4092	0.0049951	0.99665	0.10519	0.065057	5.387E-05	0.0005152	0.0021013	0.0004997	0.0040287	1.03E-05	3.7303	0.0005191	5.132E-05	0.0005503
96.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.04E-05	3.7273	0.0005226	5.157E-05	0.00054
96.08	12.001	10.166	0	0.02609	0.19316	0.0088367	1.4428	0.0049947	0.99815	0.10644	0.065263	5.418E-05	0.0005303	0.0021106	0.0004997	0.0041947	1.05E-05	3.7196	0.0005207	5.143E-05	0.0005345
96.17	6.8257	3.7172	0	0.02445	0.048913	0.011158	0.76613	0.0049818	0.89951	0.14286	0.13691	6.441E-05	0.0005669	0.002394	0.000499	0.0093799	1.49E-05	2.0697	0.0005711	5.492E-05	0.000585
96.25	6.4327	3.5678	0	0.024757	0.046624	0.011307	0.69293	0.0049932	0.89696	0.13341	0.13569	5.538E-05	0.000528	0.0021471	0.0004996	0.0045852	1.43E-05	1.973	0.0005266	5.184E-05	0.0005647
96.33	6.3977	3.5678	0	0.024613	0.045234	0.01116	0.67268	0.0049944	0.89947	0.13321	0.13475	5.445E-05	0.0005348	0.0021216	0.0004997	0.0040894	1.407E-05	1.9632	0.000522	5.152E-05	0.0005567
96.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061
96.50	14.499	13.166	0	0.043416	0.055529	0.0051035	1.2922	0.0049731	1.0822	0.14971	0.096891	7.128E-05	0.0007539	0.0035461	0.0004985	0.013295	1.949E-05	4.4655	0.000605	5.727E-05	0.0006482
96.58	14.69	13.234	0	0.043094	0.055348	0.0050858	1.3423	0.0049668	1.0761	0.15342	0.096999	7.622E-05	0.0007688	0.0036696	0.0004981	0.015907	1.943E-05	4.511	0.0006294	5.876E-05	0.0006846
96.67	12.207	7.8713	0	0.058862	0.093314	0.0099012	1.2487	0.0061893	1.7619	0.17696	0.1828	7.615E-05	0.0006336	0.0046719	0.0004982	0.015638	2.451E-05	3.7362	0.0006291	5.894E-05	0.0006739
96.75	11.569	7.6262	0	0.057672	0.091849	0.0098553	1.1062	0.0062121	1.7641	0.16299	0.17924	6.165E-05	0.0005769	0.0042711	0.0004992	0.0079209	2.332E-05	3.5594	0.0005575	5.398E-05	0.0005991
96.83	11.314	7.5057	0	0.058148	0.095093	0.0096076	1.0624	0.0062215	1.7664	0.15801	0.17881	5.577E-05	0.0005261	0.0041182	0.0004996	0.0047978	2.28E-05	3.4946	0.0005285	5.197E-05	0.0005666
96.92	12.018	10.222	0	0.024418	0.14201	0.0086249	1.4092	0.0049951	0.99665	0.10519	0.065057	5.387E-05	0.0005152	0.0021013	0.0004997	0.0040287	1.03E-05	3.7303	0.0005191	5.132E-05	0.0005503
97.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.04E-05	3.7273	0.0005226	5.157E-05	0.00054
97.08	12.001	10.166	0	0.02609	0.19316	0.0088367	1.4428	0.0049947	0.99815	0.10644	0.065263	5.418E-05	0.0005303	0.0021106	0.0004997	0.0041947	1.05E-05	3.7196	0.0005207	5.143E-05	0.0005345
97.17	6.8257	3.7172	0	0.02445	0.048913	0.011158	0.76613	0.0049818	0.89951	0.14286	0.13691	6.441E-05	0.0005669	0.002394	0.000499	0.0093799	1.49E-05	2.0697	0.0005711	5.492E-05	0.000585
97.25	6.4327	3.5678	0	0.024757	0.046624	0.011307	0.69293	0.0049932	0.89696	0.13341	0.13569	5.538E-05	0.000528	0.0021471	0.0004996	0.0045852	1.43E-05	1.973	0.0005266	5.184E-05	0.0005647
97.33	6.3977	3.5678	0	0.024613	0.045234	0.01116	0.67268	0.0049944	0.89947	0.13321	0.13475	5.445E-05	0.0005348	0.0021216	0.0004997	0.0040894	1.407E-05	1.9632	0.000522	5.152E-05	0.0005567
97.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061
97.50	14.499	13.166	0	0.043416	0.055529	0.0051035	1.2922	0.0049731	1.0822	0.14971	0.096891	7.128E-05	0.0007539	0.0035461	0.0004985	0.013295	1.949E-05	4.4655	0.000605	5.727E-05	0.0006482
97.58	14.69	13.234	0	0.043094	0.055348	0.0050858	1.3423	0.0049668	1.0761	0.15342	0.096999	7.622E-05	0.0007688	0.0036696	0.0004981	0.015907	1.943E-05	4.511	0.0006294	5.876E-05	0.0006846
97.67	12.207	7.8713	0	0.058862	0.093314	0.0099012	1.2487	0.0061893	1.7619	0.17696	0.1828	7.615E-05	0.0006336	0.0046719	0.0004982	0.015638	2.451E-05	3.7362	0.0006291	5.894E-05	0.0006739
97.75	11.569	7.6262	0	0.057672	0.091849	0.0098553	1.1062	0.0062121	1.7641	0.16299	0.17924	6.165E-05	0.0005769	0.0042711	0.0004992	0.0079209	2.332E-05	3.5594	0.0005575	5.398E-05	0.0005991
97.83	11.314	7.5057	0	0.058148	0.095093	0.0096076	1.0624	0.0062215	1.7664	0.15801	0.17881	5.577E-05	0.0005261	0.0041182	0.0004996	0.0047978	2.28E-05	3.4946	0.0005285	5.197E-05	0.0005666
97.92	12.018	10.222	0	0.024418	0.14201	0.0086249	1.4092	0.0049951	0.99665	0.10519	0.065057	5.387E-05	0.0005152	0.0021013	0.0004997	0.0040287	1.03E-05	3.7303	0.0005191	5.132E-05	0.0005503
98.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.04E-05	3.7273	0.0005226	5.157E-05	0.00054
98.08	12.001	10.166	0	0.02609	0.19316	0.0088367	1.4428	0.0049947	0.99815	0.10644	0.065263	5.418E-05	0.0005303	0.0021106	0.0004997	0.0041947	1.05E-05	3.7196	0.0005207	5.143E-05	0.0005345
98.17	6.8257	3.7172	0	0.02445	0.048913	0.011158	0.76613	0.0049818	0.89951	0.14286	0.13691	6.441E-05	0.0005669	0.002394	0.000499	0.0093799	1.49E-05	2.0697	0.0005711	5.492E-05	0.000585
98.25	6.4327	3.5678	0	0.024757	0.046624	0.011307	0.69293	0.0049932	0.89696	0.13341	0.13569	5.538E-05	0.000528	0.0021471	0.0004996	0.0045852	1.43E-05	1.973	0.0005266	5.184E-05	0.0005647
98.33	6.3977	3.5678	0	0.024613	0.045234	0.01116	0.67268	0.0049944	0.89947	0.13321	0.13475	5.445E-05	0.0005348	0.0021216	0.0004997	0.0040894	1.407E-05	1.9632	0.000522	5.152E-05	0.0005567
98.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061
98.50	14.499	13.166	0	0.043416	0.055529	0.0051035	1.2922	0.0049731	1.0822	0.14971	0.096891	7.128E-05	0.0007539	0.0035461	0.0004985	0.013295	1.949E-05	4.4655	0.000605	5.727E-05	0.0006482
98.58	14.69	13.234	0	0.043094	0.055348	0.0050858	1.3423	0.0049668	1.0761	0.15342	0.096999	7.622E-05	0.0007688	0.0036696	0.0004981	0.015907	1.943E-05	4.511	0.0006294	5.876E-05	0.0006846
98.67	12.207	7.8713	0	0.058862	0.093314	0.0099012	1.2487	0.0061893	1.7619	0.17696	0.1828	7.615E-05	0.0006336	0.0046719	0.0004982	0.015638	2.451E-05	3.7362	0.0006291	5.894E-05	0.0006739
98.75	11.569	7.6262	0	0.057672	0.091849	0.0098553	1.1062	0.0062121	1.7641	0.16299	0.17924	6.165E-05	0.0005769	0.0042711	0.0004992	0.0079209	2.332E-05	3.5594	0.0005575	5.398E-05	0.0005991
98.83	11.314	7.5057	0	0.058148	0.095093	0.0096076	1.0624	0.0062215	1.7664	0.15801	0.17881	5.577E-05	0.0005261	0.0041182	0.0004996	0.0047978	2.28E-05	3.4946	0.0005285	5.197E-05	0.0005666
98.92	12.018	10.222	0	0.024418	0.14201	0.0086249	1.4092	0.0049951	0.99665	0.10519	0.065057	5.387E-05	0.0005152	0.0021013	0.0004997	0.0040287	1.03E-05	3.7303	0.0005191	5.132E-05	0.0005503
99.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.04E-05	3.7273	0.0005226	5.157E-05	0.00054
99.08	12.001	10.166	0	0.02609	0.19316	0.0088367	1.4428	0.0049947	0.99815	0.10644	0.065263	5.418E-05	0.0005303	0.0021106	0.0004997	0.0041947	1.05E-05	3.7196	0.0005207	5.143E-05	0.0005345
99.17	6.8257	3.7172	0	0.02445	0.048913	0.011158	0.76613	0.0049818	0.89951	0.14286	0.13691	6.441E-05	0.0005669	0.002394	0.000499	0.0093799	1.49E-05	2.0697	0.0005711	5.492E-05	0.000585
99.25	6.4327	3.5678	0	0.024757	0.046624	0.011307	0.69293	0.0049932	0.89696	0.13341	0.13569	5.538E-05	0.000528	0.0021471	0.0004996	0.0045852	1.43E-05	1.973	0.0005266	5.184E-05	0.0005647
99.33	6.3977	3.5678	0	0.024613	0.045234	0.01116	0.67268	0.0049944	0.89947	0.13321	0.13475	5.445E-05	0.0005348	0.0021216	0.0004997	0.0040894	1.407E-05	1.9632	0.000522	5.152E-05	0.0005567
99.42	14.152	13.063	0	0.043547	0.054627	0.0049598	1.2427	0.0049839	1.0684	0.14239	0.094779	6.273E-05	0.0007023	0.0033333	0.0004991	0.0087542	1.855E-05	4.3771	0.0005629	5.435E-05	0.0006061
99.50	14.499	13.166	0	0.043416	0.055529	0.0051035	1.2922	0.0049731	1.0822	0.14971	0.096891	7.128E-05	0.0007539	0.0035461	0.0004985	0.013295	1.949E-05	4.4655	0.000605	5.727E-05	0.0006482
99.58	14.69	13.234	0	0.043094	0.055348	0.0050858	1.3423	0.0049668	1.0761	0.15342	0.096999	7.622E-05	0.0007688	0.0036696	0.0004981	0.015907	1.943E-05	4.511	0.0006294	5.876E-05	0.0006846
99.67	12.207	7.8713	0	0.058862	0.093314	0.0099012	1.2487	0.0061893	1.7619	0.17696	0.1828	7.615E-05	0.0006336	0.0046719	0.0004982	0.015638	2.451E-05	3.7362	0.0006291	5.894E-05	0.0006739
99.75	11.569	7.6262	0	0.057672	0.091849	0.0098553	1.1062	0.0062121	1.7641	0.16299	0.17924	6.165E-05	0.0005769	0.0042711	0.0004992	0.0079209	2.332E-05	3.5594	0.0005575	5.398E-05	0.0005991
99.83	11.314	7.5057	0	0.058148	0.095093	0.0096076	1.0624	0.0062215	1.7664	0.15801	0.17881	5.577E-05	0.0005261	0.0041182	0.0004996	0.0047978	2.28E-05	3.4946	0.0005285	5.197E-05	0.0005666
99.92	12.018	10.222	0	0.024418	0.14201	0.0086249	1.4092	0.0049951	0.99665	0.10519	0.065057	5.387E-05	0.0005152	0.0021013	0.0004997	0.0040287	1.03E-05	3.7303	0.0005191	5.132E-05	0.0005503
100.00	12.023	10.163	0	0.024986	0.19299	0.0085435	1.4191	0.0049942	0.98117	0.10634	0.065416	5.458E-05	0.0005319	0.0021254	0.0004997	0.0044065	1.04E-05	3.7273	0.0005226	5.157E-05	0.00054

Year	[D_Fe] [mg/L]	[D_Pb] [mg/L]	[D_Li] [mg/L]	[D_Mg] [mg/L]	[D_Mn] [mg/L]	[D_Hg] [mg/L]	[D_Mo] [mg/L]	[D_Ni] [mg/L]	[D_P] [mg/L]	[D_K] [mg/L]	[D_Rb] [mg/L]	[D_Se] [mg/L]	[D_Si] [mg/L]	[D_Ag] [mg/L]	[D_Na] [mg/L]	[D_Sr] [mg/L]	[D_Tl] [mg/L]	[D_Ti] [mg/L]	[D_W] [mg/L]	[D_U] [mg/L]	[D_V] [mg/L]
67.83	0.22071	0.0001776	0.0005926	0.62541	0.01096	1.25E-05	0.000436	0.0005092	0.010346	0.53518	0.0014951	0.000502	8.4194	5.023E-05	1.5174	0.014852	5.168E-05	0.0010409	0.0028176	5.212E-05	0.0006307
67.92	0.077081	5.266E-05	0.0005533	0.65557	0.0027245	1.27E-05	0.0003838	0.0005062	0.010167	0.49212	0.001105	0.0005014	10.751	5.02E-05	1.6623	0.015073	5.113E-05	0.0010274	0.0021055	5.142E-05	0.0005877
68.00	0.077974	5.458E-05	0.0005571	0.65858	0.002791	1.25E-05	0.0004404	0.0005073	0.010429	0.50643	0.001146	0.0005016	10.74	5.019E-05	1.6662	0.015133	5.133E-05	0.0010325	0.0021448	5.168E-05	0.0006038
68.08	0.07801	5.418E-05	0.0005541	0.6577	0.0027	1.25E-05	0.0004598	0.0005067	0.010392	0.49772	0.0011206	0.0005015	10.753	5.02E-05	1.6667	0.015068	5.122E-05	0.0010296	0.0021235	5.154E-05	0.0005948
68.17	0.11459	0.0001131	0.0004605	0.39913	0.0075388	1.25E-05	0.0003649	0.000523	0.01135	0.67736	0.0017861	0.0005051	5.3444	5.058E-05	1.0081	0.0091949	5.419E-05	0.0011021	0.0026874	5.529E-05	0.0008264
68.25	0.11404	0.0001034	0.0003915	0.36312	0.0075334	1.25E-05	0.000178	0.0005086	0.010504	0.48654	0.00124	0.0005019	5.2459	5.022E-05	0.97061	0.0081432	5.157E-05	0.0010381	0.0021882	5.198E-05	0.0006219
68.33	0.11413	0.0001029	0.0003853	0.35989	0.0074838	1.25E-05	0.0002055	0.0005071	0.010416	0.46675	0.0011875	0.0005016	5.2412	5.018E-05	0.967	0.0080374	5.129E-05	0.0010315	0.0021424	5.163E-05	0.0006007
68.42	0.15535	0.0001605	0.0006949	0.7481	0.018846	1.25E-05	0.000997	0.0005203	0.011193	0.72854	0.0020108	0.0005045	7.7629	5.052E-05	1.7527	0.019097	5.371E-05	0.0010903	0.0032008	5.467E-05	0.0007885
68.50	0.15821	0.0001701	0.0007557	0.77917	0.019053	1.26E-05	0.0011234	0.0005339	0.011993	0.90889	0.0025316	0.0005075	7.7759	5.086E-05	1.7777	0.020104	5.619E-05	0.0011508	0.0036711	5.781E-05	0.0009821
68.58	0.15575	0.000173	0.0007938	0.79754	0.019058	1.24E-05	0.0011976	0.0005418	0.012456	1.0154	0.0028403	0.0005093	7.8051	5.106E-05	1.7968	0.020644	5.763E-05	0.0011858	0.0039431	5.962E-05	0.0010941
68.67	0.22177	0.0001981	0.0007459	0.7051	0.011495	1.24E-05	0.0007223	0.0005417	0.012248	0.96817	0.0027346	0.0005093	8.4914	5.106E-05	1.5962	0.017289	5.761E-05	0.0011853	0.0039392	5.96E-05	0.0010924
68.75	0.2204	0.000183	0.0006368	0.64781	0.011044	1.25E-05	0.000499	0.0005186	0.010895	0.66019	0.0018489	0.0005041	8.4401	5.047E-05	1.5401	0.015481	5.339E-05	0.0010826	0.0031412	5.428E-05	0.000764
68.83	0.22071	0.0001776	0.0005926	0.62541	0.01096	1.25E-05	0.000436	0.0005092	0.010346	0.53518	0.0014951	0.000502	8.4194	5.023E-05	1.5174	0.014852	5.168E-05	0.0010409	0.0028176	5.212E-05	0.0006307
68.92	0.077081	5.266E-05	0.0005533	0.65557	0.0027245	1.27E-05	0.0003838	0.0005062	0.010167	0.49212	0.001105	0.0005014	10.751	5.02E-05	1.6623	0.015073	5.113E-05	0.0010274	0.0021055	5.142E-05	0.0005877
69.00	0.077974	5.458E-05	0.0005571	0.65858	0.002791	1.25E-05	0.0004404	0.0005073	0.010429	0.50643	0.001146	0.0005016	10.74	5.019E-05	1.6662	0.015133	5.133E-05	0.0010325	0.0021448	5.168E-05	0.0006038
69.08	0.07801	5.418E-05	0.0005541	0.6577	0.0027	1.25E-05	0.0004598	0.0005067	0.010392	0.49772	0.0011206	0.0005015	10.753	5.02E-05	1.6667	0.015068	5.122E-05	0.0010296	0.0021235	5.154E-05	0.0005948
69.17	0.11459	0.0001131	0.0004605	0.39913	0.0075388	1.25E-05	0.0003649	0.000523	0.01135	0.67736	0.0017861	0.0005051	5.3444	5.058E-05	1.0081	0.0091949	5.419E-05	0.0011021	0.0026874	5.529E-05	0.0008264
69.25	0.11404	0.0001034	0.0003915	0.36312	0.0075334	1.25E-05	0.000178	0.0005086	0.010504	0.48654	0.00124	0.0005019	5.2459	5.022E-05	0.97061	0.0081432	5.157E-05	0.0010381	0.0021882	5.198E-05	0.0006219
69.33	0.11413	0.0001029	0.0003853	0.35989	0.0074838	1.25E-05	0.0002055	0.0005071	0.010416	0.46675	0.0011875	0.0005016	5.2412	5.018E-05	0.967	0.0080374	5.129E-05	0.0010315	0.0021424	5.163E-05	0.0006007
69.42	0.15535	0.0001605	0.0006949	0.7481	0.018846	1.25E-05	0.000997	0.0005203	0.011193	0.72854	0.0020108	0.0005045	7.7629	5.052E-05	1.7527	0.019097	5.371E-05	0.0010903	0.0032008	5.467E-05	0.0007885
69.50	0.15821	0.0001701	0.0007557	0.77917	0.019053	1.26E-05	0.0011234	0.0005339	0.011993	0.90889	0.0025316	0.0005075	7.7759	5.086E-05	1.7777	0.020104	5.619E-05	0.0011508	0.0036711	5.781E-05	0.0009821
69.58	0.15575	0.000173	0.0007938	0.79754	0.019058	1.24E-05	0.0011976	0.0005418	0.012456	1.0154	0.0028403	0.0005093	7.8051	5.106E-05	1.7968	0.020644	5.763E-05	0.0011858	0.0039431	5.962E-05	0.0010941

Year	[D_Zn] [mg/L]	[T_Al] [mg/L]	[T_Sb] [mg/L]	[T_As] [mg/L]	[T_Ba] [mg/L]	[T_Bi] [mg/L]	[T_B] [mg/L]	[T_Cd] [mg/L]	[T_Ca] [mg/L]	[T_Cr] [mg/L]	[T_Co] [mg/L]	[T_Cu] [mg/L]	[T_Fe] [mg/L]	[T_Pb] [mg/L]	[T_Li] [mg/L]	[T_Mg] [mg/L]	[T_Mn] [mg/L]
67.83	0.0032985	0.20882	5.577E-05	0.000649	0.0046098	0.0004996	0.0047861	2.52E-05	3.6686	0.0005285	5.197E-05	0.0005666	0.24755	0.0002753	0.0006418	0.64718	0.012701
67.92	0.001938	0.081989	5.387E-05	0.0005152	0.0025931	0.0004997	0.0040287	1.27E-05	4.0945	0.0005191	5.132E-05	0.0006733	0.091638	0.0001633	0.0005529	0.69709	0.0039111
68.00	0.0019208	0.082739	5.458E-05	0.0005319	0.002617	0.0004997	0.0044065	1.28E-05	4.0891	0.0005226	5.157E-05	0.0006629	0.092565	0.000165	0.0005571	0.69997	0.0039964
68.08	0.0019229	0.082476	5.418E-05	0.0005283	0.0026023	0.0004997	0.0041947	1.29E-05	4.0817	0.0005207	5.143E-05	0.0006574	0.092522	0.0001648	0.0005541	0.69918	0.0039013
68.17	0.0017959	0.15712	6.441E-05	0.0006895	0.0023862	0.000499	0.0096251	1.48E-05	2.2163	0.0005653	5.492E-05	0.000585	0.12362	0.0001243	0.0004834	0.4156	0.0087259
68.25	0.0017067	0.15618	5.538E-05	0.000649	0.0021471	0.0004996	0.0048233	1.43E-05	2.1232	0.0005266	5.184E-05	0.0005647	0.1236	0.0001149	0.0004157	0.38013	0.0087199
68.33	0.0016582	0.15539	5.445E-05	0.0006577	0.0021216	0.0004997	0.0043352	1.407E-05	2.1129	0.000522	5.152E-05	0.0005567	0.12372	0.0001149	0.0004094	0.37681	0.0086597
68.42	0.0016566	0.14553	6.273E-05	0.0006999	0.0033284	0.0004991	0.0087542	2.346E-05	4.5179	0.0005629	7.864E-05	0.0006061	0.1893	0.0002329	0.0007434	0.77233	0.025361
68.50	0.0017725	0.14758	7.128E-05	0.0007539	0.0035461	0.0004985	0.01329	2.439E-05	4.6086	0.000605	8.125E-05	0.0006482	0.19208	0.0002423	0.0008047	0.80324	0.025548
68.58	0.0018272	0.14748	7.622E-05	0.0007688	0.0036656	0.0004981	0.015907	2.432E-05	4.6538	0.0006294	8.26E-05	0.0006846	0.18945	0.0002449	0.0008419	0.82183	0.025574
68.67	0.0035453	0.21273	7.615E-05	0.0007559	0.0051528	0.0004982	0.015638	2.696E-05	3.9088	0.0006291	5.894E-05	0.0006739	0.24845	0.0002955	0.0007944	0.72679	0.013395
68.75	0.0033675	0.20919	5.93E-05	0.0006937	0.0047579	0.0004992	0.0079209	2.578E-05	3.733	0.0005575	5.398E-05	0.0005991	0.24724	0.0002803	0.0006843	0.66958	0.012968
68.83	0.0032985	0.20882	5.577E-05	0.000649	0.0046098	0.0004996	0.0047861	2.52E-05	3.6686	0.0005285	5.197E-05	0.0005666	0.24755	0.0002753	0.0006418	0.64718	0.012701
68.92	0.001938	0.081989	5.387E-05	0.0005152	0.0025931	0.0004997	0.0040287	1.27E-05	4.0945	0.0005191	5.132E-05	0.0006733	0.091638	0.0001633	0.0005529	0.69709	0.0039111
69.00	0.0019208	0.082739	5.458E-05	0.0005319	0.002617	0.0004997	0.0044065	1.28E-05	4.0891	0.0005226	5.157E-05	0.0006629	0.092565	0.000165	0.0005571	0.69997	0.0039964
69.08	0.0019229	0.082476	5.418E-05	0.0005283	0.0026023	0.0004997	0.0041947	1.29E-05	4.0817	0.0005207	5.143E-05	0.0006574	0.092522	0.0001648	0.0005541	0.69918	0.0039013
69.17	0.0017959	0.15712	6.441E-05	0.0006895	0.0023862	0.000499	0.0096251	1.48E-05	2.2163	0.0005653	5.492E-05	0.000585	0.12362	0.0001243	0.0004834	0.4156	0.0087259
69.25	0.0017067	0.15618	5.538E-05	0.000649	0.0021471	0.0004996	0.0048233	1.43E-05	2.1232	0.0005266	5.184E-05	0.0005647	0.1236	0.0001149	0.0004157	0.38013	0.0087199
69.33	0.0016582	0.15539	5.445E-05	0.0006577	0.0021216	0.0004997	0.0043352	1.407E-05	2.1129	0.000522	5.152E-05	0.0005567	0.12372	0.0001149	0.0004094	0.37681	0.0086597
69.42	0.0016566	0.14553	6.273E-05	0.0006999	0.0033284	0.0004991	0.0087542	2.346E-05	4.5179	0.0005629	7.864E-05	0.0006061	0.1893	0.0002329	0.0007434	0.77233	0.025361
69.50	0.0017725	0.14758	7.128E-05	0.0007539	0.0035461	0.0004985	0.01329	2.439E-05	4.6086	0.000605	8.125E-05	0.0006482	0.19208	0.0002423	0.0008047	0.80324	0.025548
69.58	0.0018272	0.14748	7.622E-05	0.0007688	0.0036656	0.0004981	0.015907	2.432E-05	4.6538	0.0006294	8.26E-05	0.0006846	0.18945	0.0002449	0.0008419	0.82183	0.025574

Year	[T_Hg] [mg/L]	[T_Mo] [mg/L]	[T_Ni] [mg/L]	[T_P] [mg/L]	[T_K] [mg/L]	[T_Rb] [mg/L]	[T_Se] [mg/L]	[T_Si] [mg/L]	[T_Ag] [mg/L]	[T_Na] [mg/L]	[T_Sr] [mg/L]	[T_Tl] [mg/L]	[T_Ti] [mg/L]	[T_W] [mg/L]	[T_U] [mg/L]	[T_V] [mg/L]	[T_Zn] [mg/L]	[T_C] [mg/L]
67.83	1.25E-05	0.0004356	0.0005092	0.010346	0.5571	0.0015435	0.000502	8.4194	5.023E-05	1.6028	0.015823	5.168E-05	0.0010409	0.0028176	5.212E-05	0.0006307	0.0032985	13.223
67.92	1.27E-05	0.0004076	0.0005062	0.010167	0.54601	0.0012026	0.0005014	10.751	5.02E-05	1.8312	0.016045	5.113E-05	0.0010274	0.0021055	5.142E-05	0.000574	0.0034131	4.0463
68.00	1.22E-05	0.0004638	0.0005073	0.010429	0.56024	0.0012439	0.0005016	10.74	5.019E-05	1.8353	0.016096	5.133E-05	0.0010325	0.0021448	5.168E-05	0.0006038	0.0033878	4.087
68.08	1.25E-05	0.0004828	0.0005067	0.010392	0.55158	0.0012182	0.0005015	10.753	5.02E-05	1.8351	0.016027	5.122E-05	0.0010296	0.0021235	5.154E-05	0.0005948	0.0033981	4.0918
68.17	1.25E-05	0.0003625	0.000521	0.01135	0.69401	0.0018094	0.0005051	5.3444	5.058E-05	1.0481	0.0096581	5.419E-05	0.0011021	0.0026874	5.529E-05	0.0008245	0.0017764	7.0749
68.25	1.25E-05	0.0001776	0.0005086	0.010504	0.50344	0.0012631	0.0005019	5.2459	5.022E-05	1.0118	0.0086193	5.157E-05	0.0010381	0.0021876	5.198E-05	0.0006219	0.0017067	7.113
68.33	1.25E-05	0.0002045	0.0005071	0.010416	0.48377	0.0012111	0.0005016	5.2412	5.018E-05	1.0081	0.0085194	5.129E-05	0.0010315	0.0021424	5.163E-05	0.0006007	0.0016582	7.0978
68.42	1.25E-05	0.0010421	0.0005203	0.011193	0.74311	0.0021084	0.0005045	7.7629	5.052E-05	1.8034	0.020064	5.371E-05	0.0010903	0.0031787	6.694E-05	0.0007861	0.0016566	7.9975
68.50	1.26E-05	0.0011684	0.0005339	0.011993	0.92348	0.0026285	0.0005075	7.7759	5.086E-05	1.8283	0.021063	5.619E-05	0.0011508	0.0036711	7.005E-05	0.0009821	0.0017725	7.9932
68.58	1.24E-05	0.0012425	0.0005418	0.012456	1.03	0.0029365	0.0005093	7.8051	5.106E-05	1.8479	0.021601	5.763E-05	0.0011858	0.0039431	7.185E-05	0.0010941	0.0018232	7.9008
68.67	1.22E-05	0.000721	0.0005417	0.012248	0.99006	0.0027826	0.0005093	8.4914	5.106E-05	1.681	0.018243	5.761E-05	0.0011853	0.0039392	5.96E-05	0.0010582	0.0035453	13.15
68.75	1.25E-05	0.0004982	0.0005186	0.010895	0.68215	0.0018968	0.0005041	8.4401	5.047E-05	1.6253	0.016443	5.339E-05	0.0010826	0.0031412	5.428E-05	0.000764	0.0033675	13.174
68.83	1.25E-05	0.0004356	0.0005092	0.010346	0.5571	0.0015435	0.000502	8.4194	5.023E-05	1.6028	0.015823	5.168E-05	0.0010409	0.0028176	5.212E-05	0.0006307	0.0032985	13.223
68.92	1.27E-05	0.0004076	0.0005062	0.010167	0.54601	0.0012026	0.0005014	10.751	5.02E-05	1.8312	0.016045	5.113E-05	0.0010274	0.0021055	5.142E-05	0.000574	0.0034131	4.0463
69.00	1.22E-05	0.0004638	0.0005073	0.010429	0.56024	0.0012439	0.0005016	10.74	5.019E-05	1.8353	0.016096	5.133E-05	0.0010325	0.0021448	5.168E-05	0.0006038	0.0033878	4.087
69.08	1.25E-05	0.0004828	0.0005067	0.010392	0.55158	0.0012182	0.0005015	10.753	5.02E-05	1.8351	0.016027	5.122E-05	0.0010296	0.0021235	5.154E-05	0.0005948	0.0033981	4.0918
69.17	1.25E-05	0.0003625	0.000521	0.01135	0.69401	0.0018094	0.0005051	5.3444	5.058E-05	1.0481	0.0096581	5.419E-05	0.0011021	0.0026874	5.529E-05	0.0008245	0.0017764	7.0749
69.25	1.25E-05	0.0001776	0.0005086	0.010504	0.50344	0.0012631	0.0005019	5.2459	5.022E-05	1.0118	0.0086193	5.157E-05	0.0010381	0.0021876	5.198E-05	0.0006219	0.0017067	7.113
69.33	1.25E-05	0.0002045	0.0005071	0.010416	0.48377	0.0012111	0.0005016	5.2412	5.018E-05	1.0081	0.0085194	5.129E-05	0.0010315	0.0021424	5.163E-05	0.0006007	0.0016582	7.0978
69.42	1.25E-05	0.0010421	0.0005203	0.011193	0.74311	0.0021084	0.0005045	7.7629	5.052E-05	1.8034	0.020064	5.371E-05	0.0010903	0.0031787	6.694E-05	0.0007861	0.0016566	7.9975
69.50	1.26E-05	0.0011684	0.0005339	0.011993	0.92348	0.0026285	0.0005075	7.7759	5.086E-05	1.8283	0.021063	5.619E-05	0.0011508	0.0036711	7.005E-05	0.0009821	0.0017725	7.9932
69.58	1.24E-05	0.0012425	0.0005418	0.012456	1.03	0.0029365	0.0005093	7.8051	5.106E-05	1.8479	0.021601	5.763E-05	0.0011858	0.0039431	7.185E-05	0.0010941	0.0018232	7.9008

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix B\[Appendix B3 - Model Output Data.xlsx]Assumptions

NOTES:

1. IN CASES WHERE MODELLED RESULTS SHOWED HIGHER DISSOLVED THAN TOTAL METALS, TOTAL METALS WERE SET TO EQUAL DISSOLVED METALS.

1	05MAR'14	ISSUED WITH MEMO VA14-00403	CKJ	JEM	KJB
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

Knight Piésold
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APPENDIX C

PREDICTIVE WATER QUALITY RESULTS – MODEL OUTPUT GRAPHS

Knight Piésold
CONSULTING

APPENDIX C1

SODIUM

(Figures C1-1 to C1-8)

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix C - Guideline Exceedance Graphs\Excel format\[Appendix_Cx.1_UT1 - 20140305.xls]Sodium
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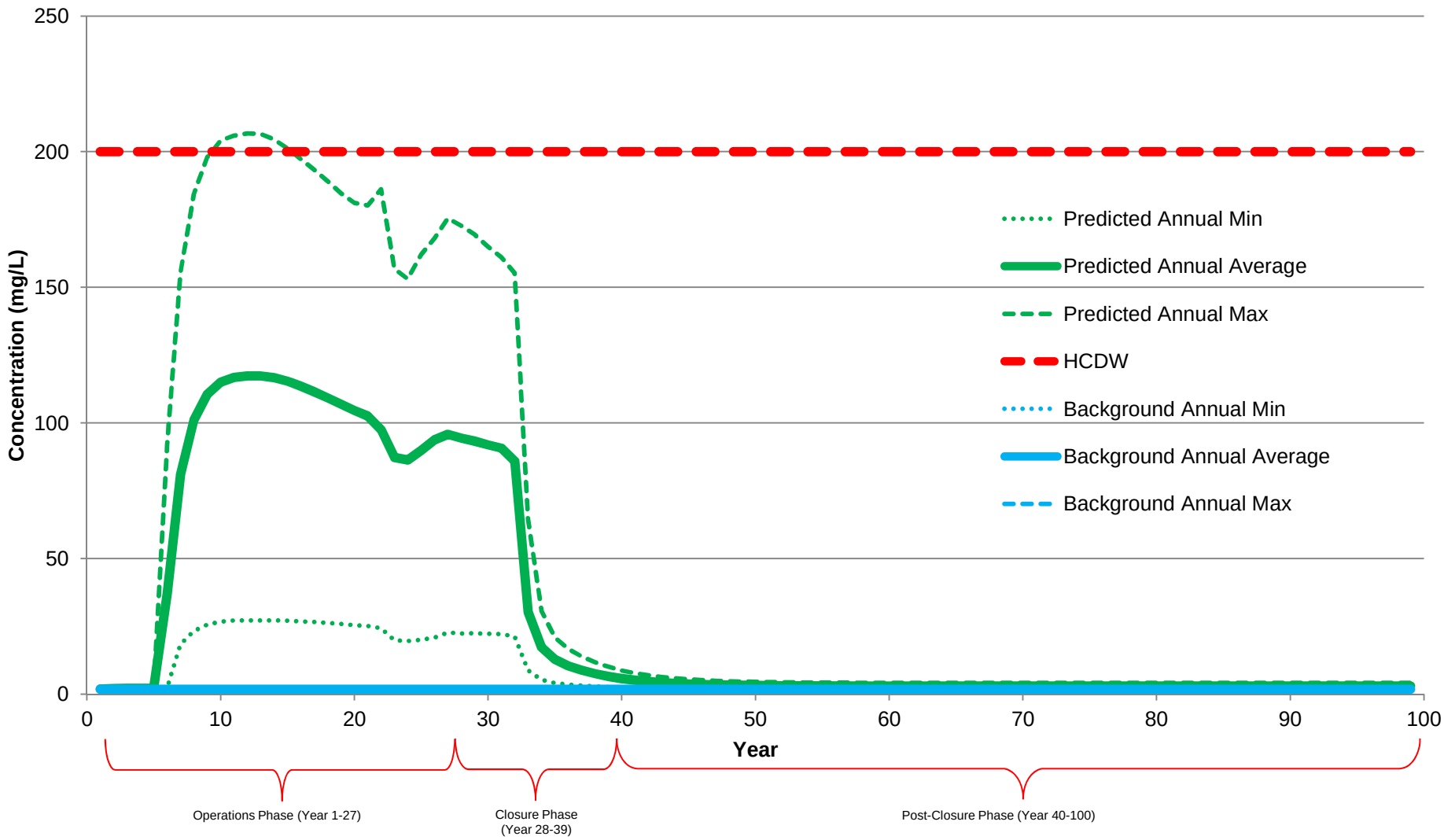


NOTES:

1. THERE IS NO CCME FAL FOR Na.
2. THERE IS NO MMER GUIDELINE FOR Na.
3. THE HCDW LIMIT FOR Na IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SODIUM IN UT1

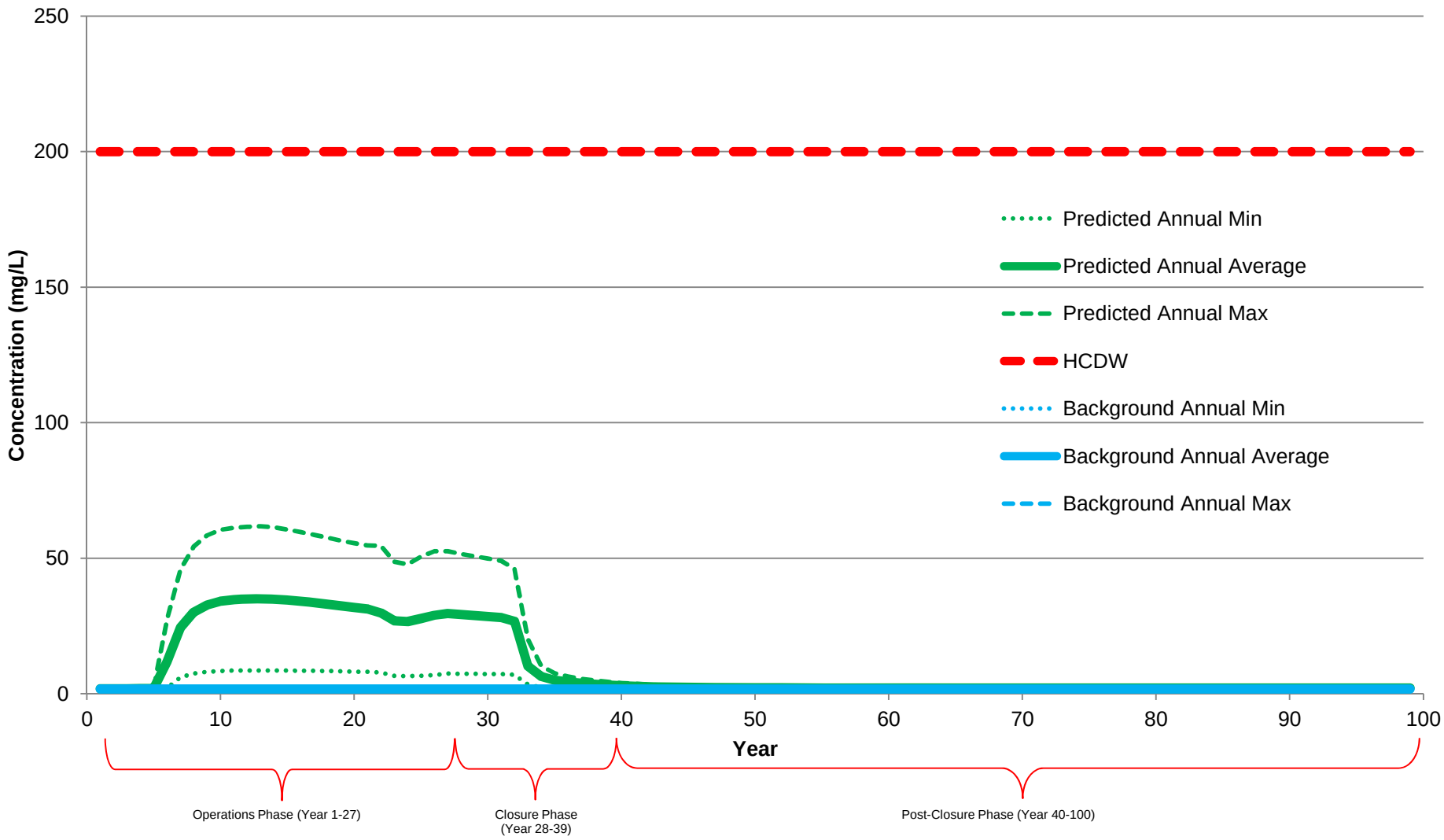
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C1.1

Rev 0



NOTES:

1. THERE IS NO CCME FAL FOR Na.
2. THERE IS NO MMER GUIDELINE FOR Na.
3. THE HCDW LIMIT FOR Na IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SODIUM IN NAP1

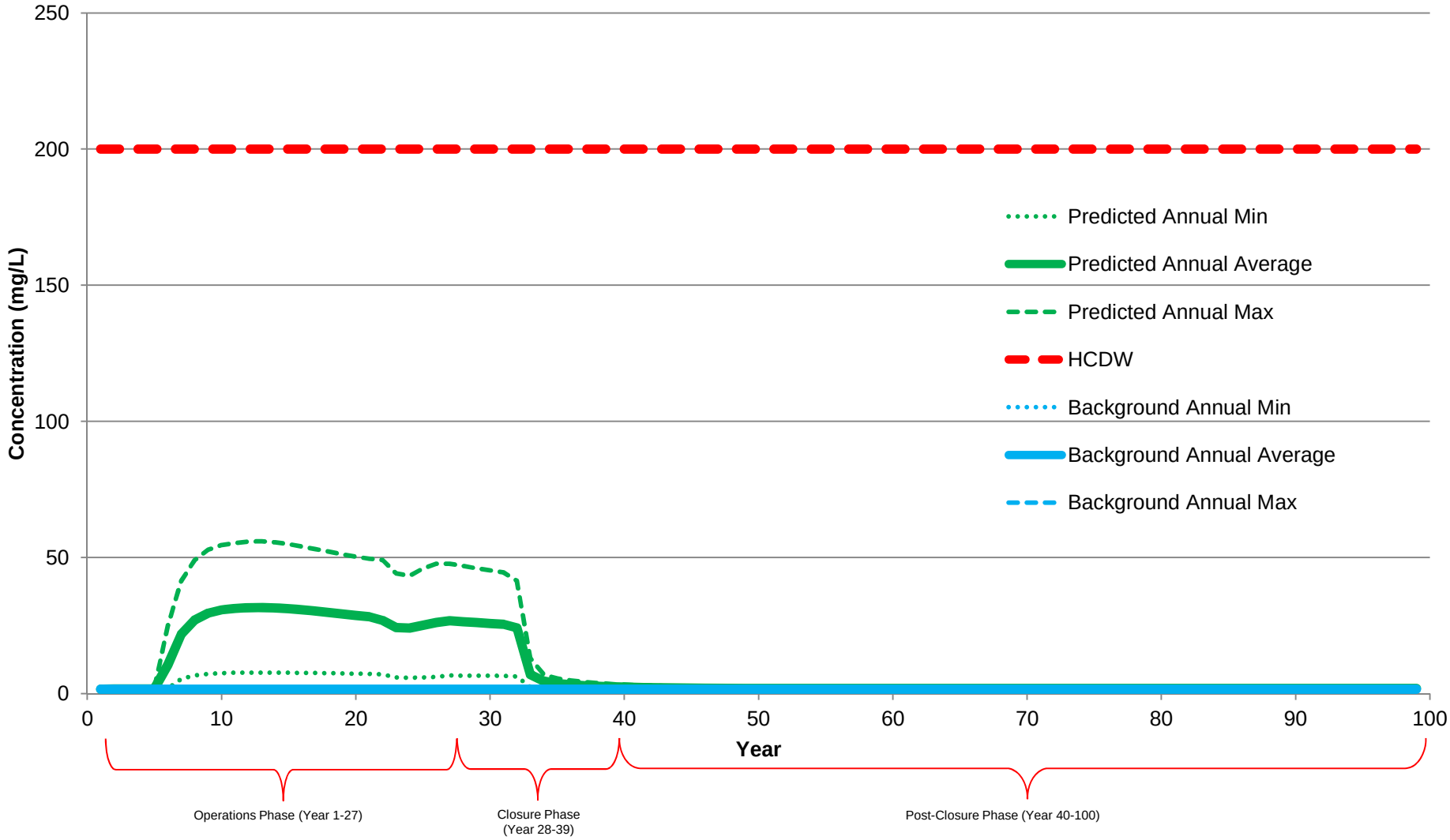
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C1.2

Rev 0



NOTES:

1. THERE IS NO CCME FAL FOR Na.
2. THERE IS NO MMER GUIDELINE FOR Na.
3. THE HCDW LIMIT FOR Na IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SODIUM IN NAP2

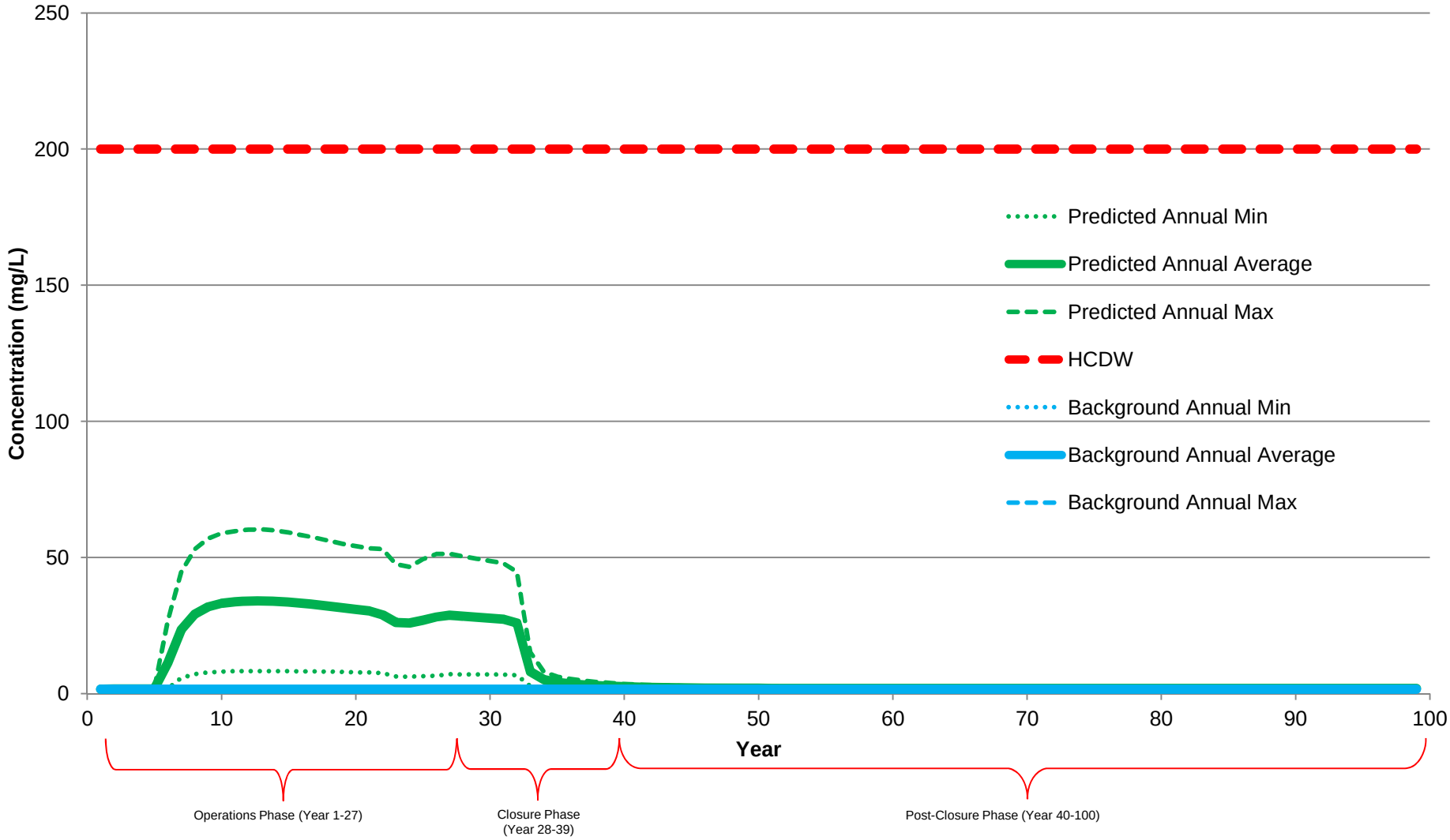
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C1.3

Rev 0



NOTES:

1. THERE IS NO CCME FAL FOR Na.
2. THERE IS NO MMER GUIDELINE FOR Na.
3. THE HCDW LIMIT FOR Na IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SODIUM IN NAP3

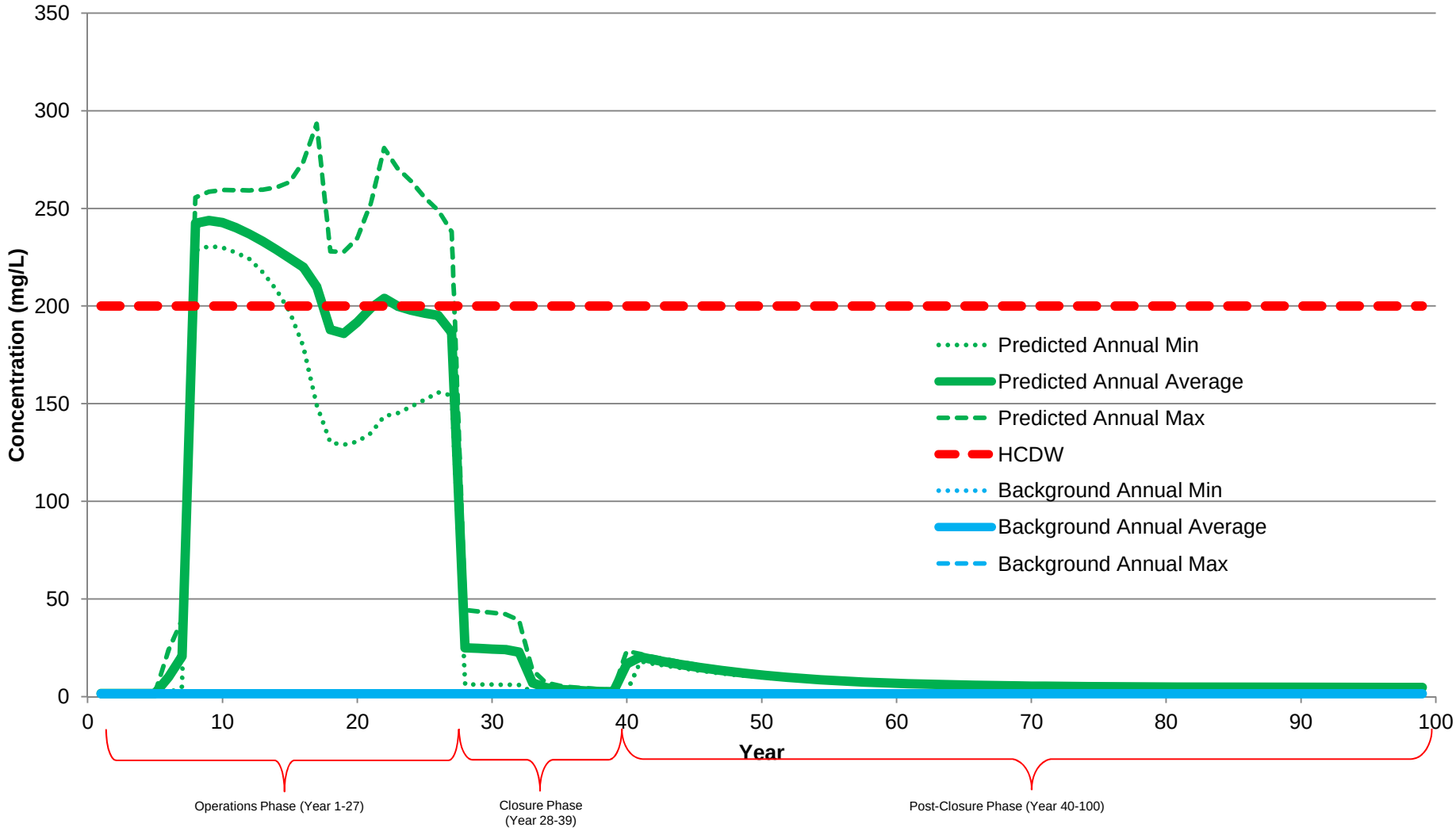
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C1.4

Rev 0



NOTES:

1. THERE IS NO CCME FAL FOR Na.
2. THERE IS NO MMER GUIDELINE FOR Na.
3. THE HCDW LIMIT FOR Na IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SODIUM IN NAP5

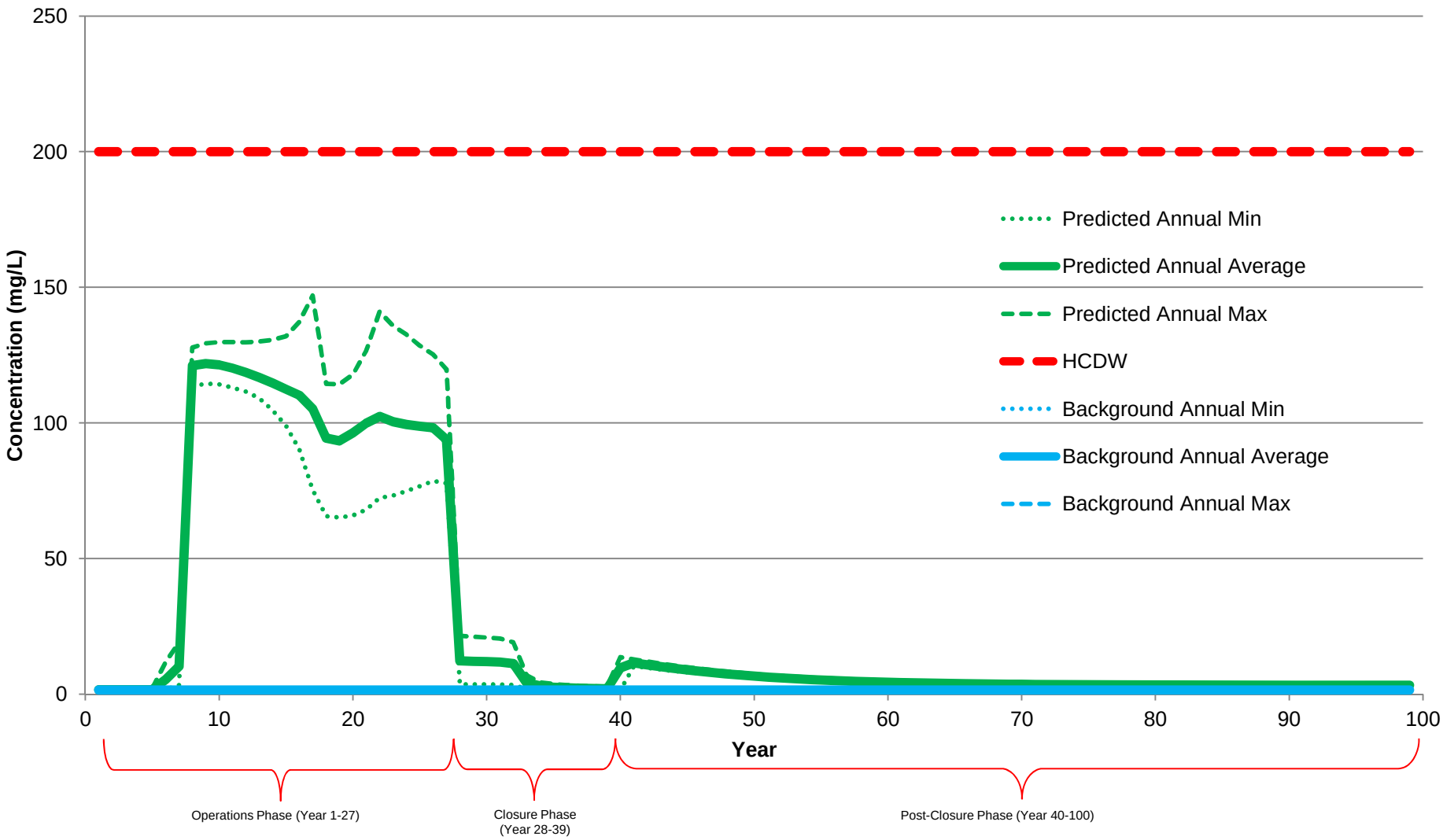
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C1.5

Rev 0



NOTES:

1. THERE IS NO CCME FAL FOR Na.
2. THERE IS NO MMER GUIDELINE FOR Na.
3. THE HCDW LIMIT FOR Na IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SODIUM IN NAP7

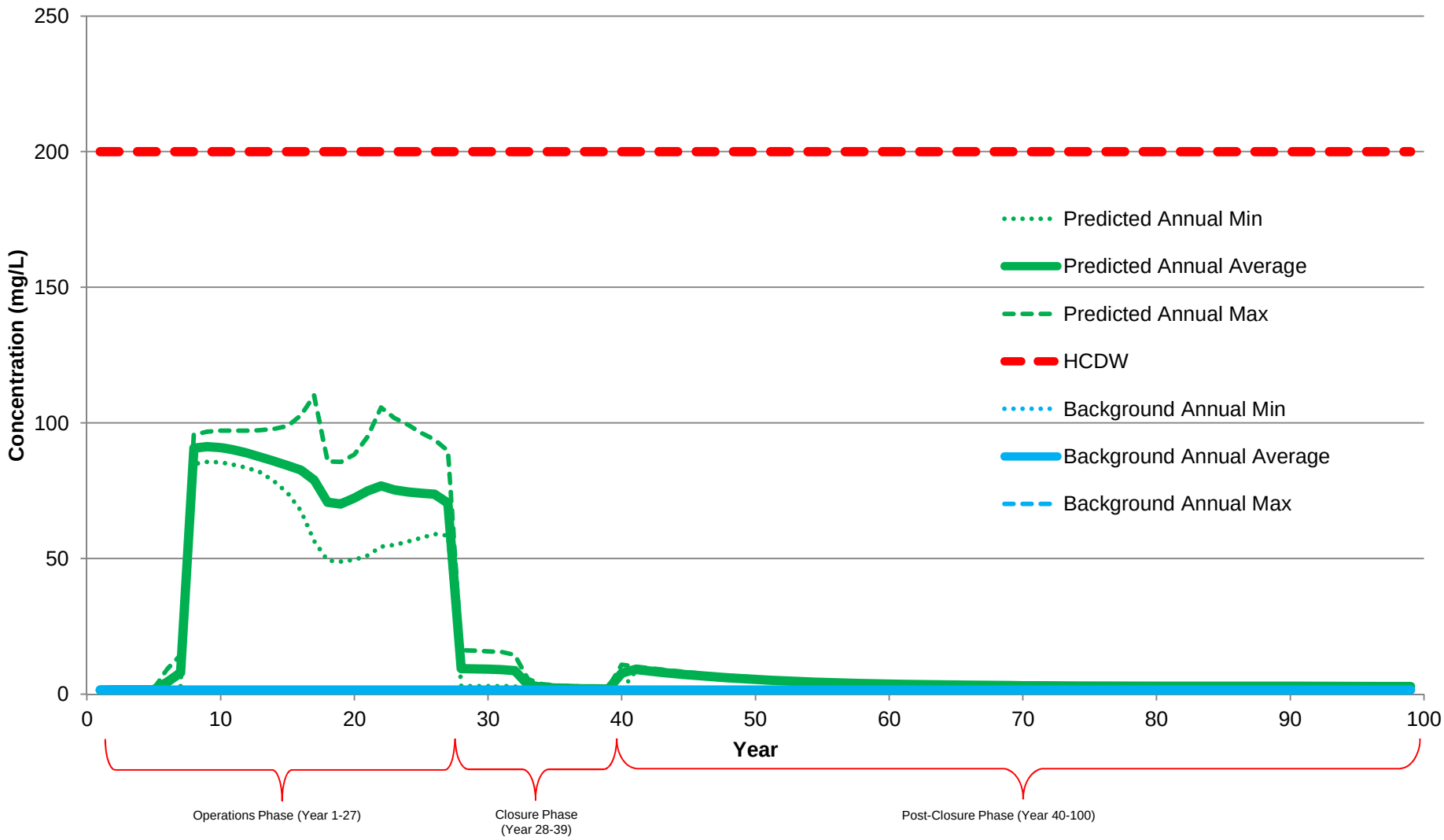
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C1.6

Rev 0



NOTES:

1. THERE IS NO CCME FAL FOR Na.
2. THERE IS NO MMER GUIDELINE FOR Na.
3. THE HCDW LIMIT FOR Na IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SODIUM IN NAP8

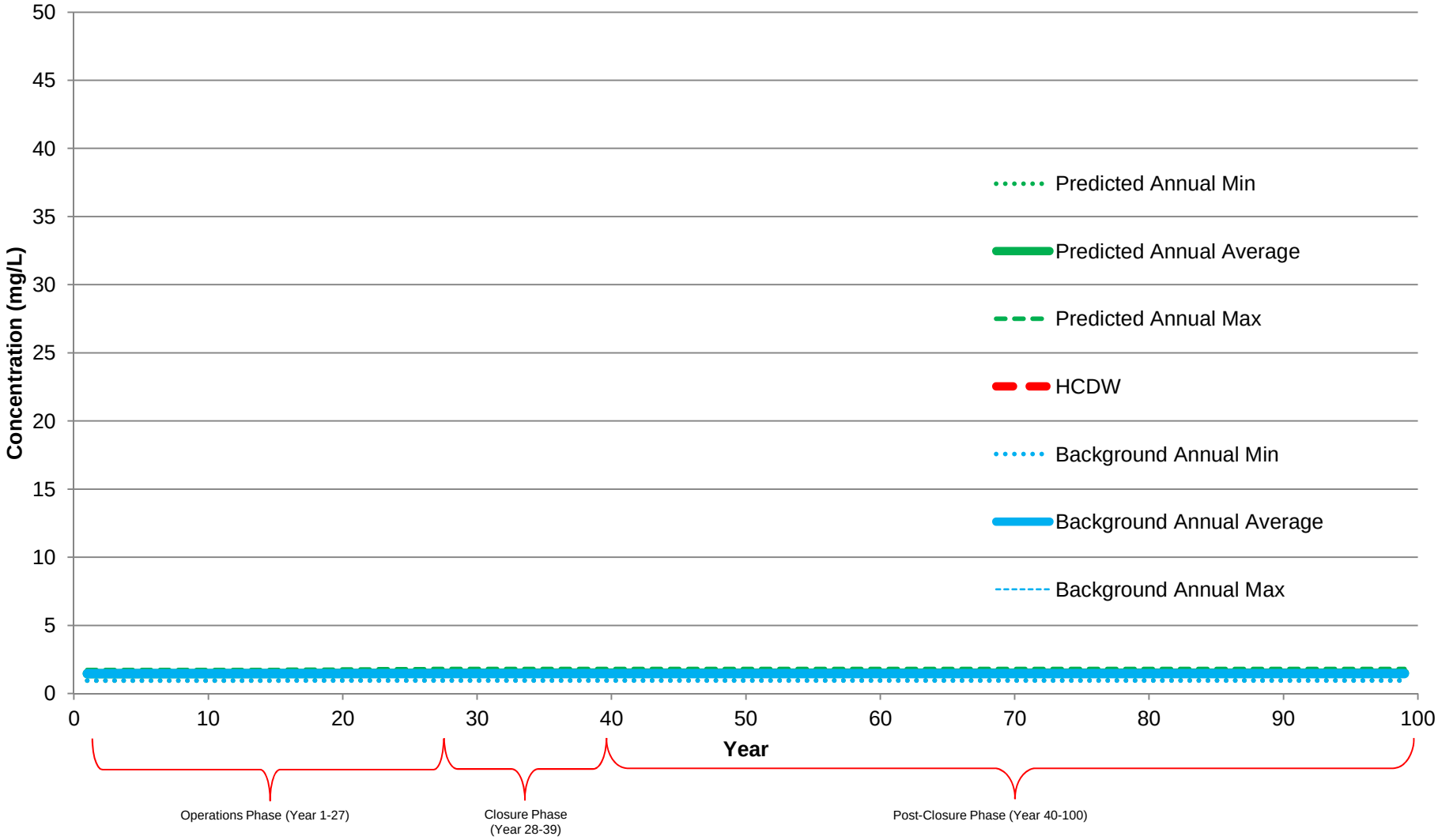
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C1.7

Rev 0



NOTES:

1. THERE IS NO CCME FAL FOR Na.
2. THERE IS NO MMER GUIDELINE FOR Na.
3. THE HCDW LIMIT FOR Na IS AN AESTHETIC GUIDELINE BASED ON TASTE AND IS NOT WITHIN THE SCALE OF THIS GRAPH.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SODIUM IN MBB2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C1.8

Rev 0

Knight Piésold
CONSULTING

APPENDIX C2

MANGANESE

(Figures C2-1 to C2-8)

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix C - Guideline Exceedance Graphs\Excel format\[Appendix_Cx.1_UT1 - 20140305.xls]Mn
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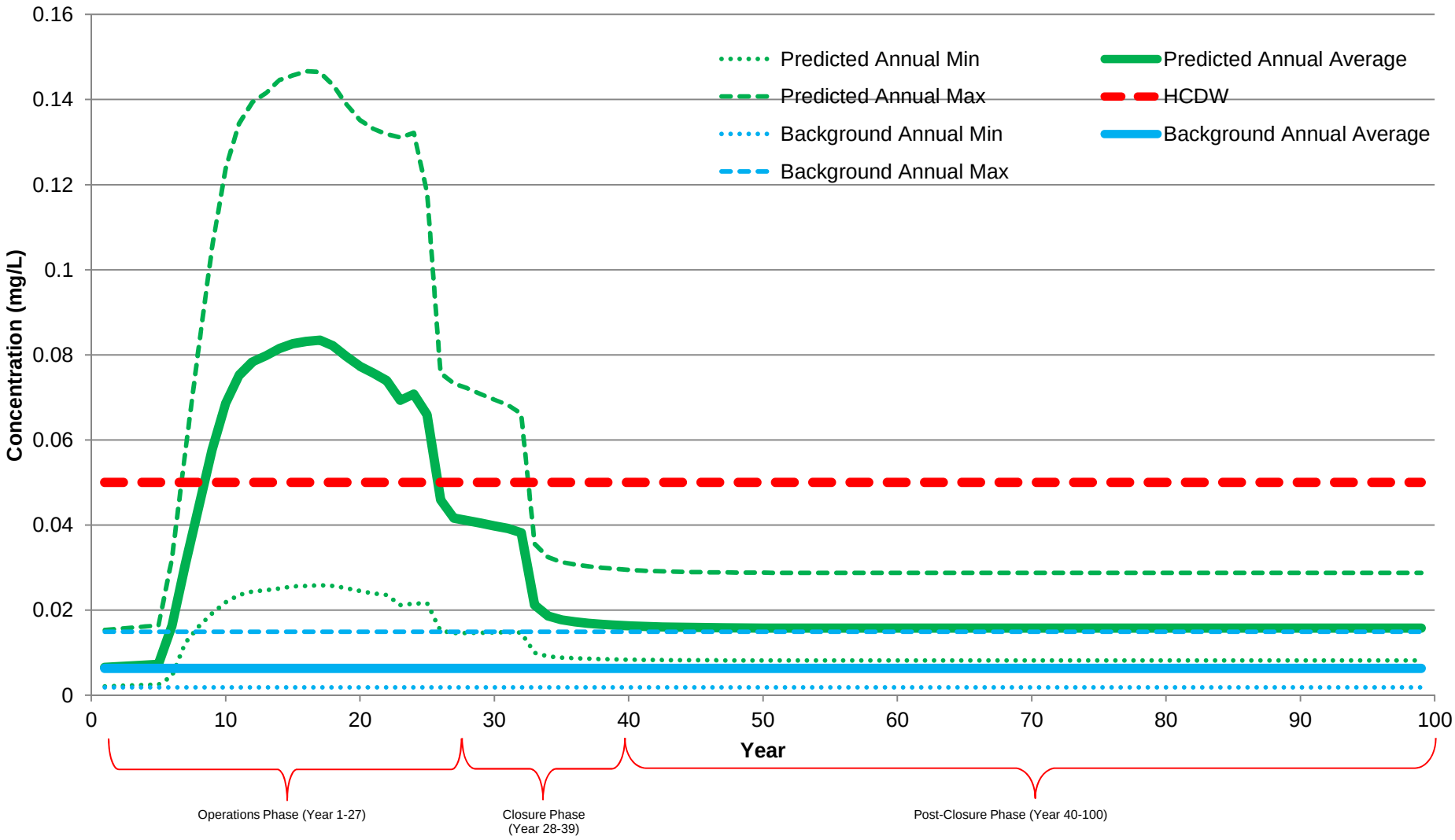

NOTES:

1. THERE IS NO CCME FAL FOR Mn.
2. THE HCDW LIMIT FOR Mn IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF MANGANESE IN UT1

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C2.1

Rev 0

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix C - Guideline Exceedance Graphs\Excel format\[Appendix_Cx.2_NAP1 - 20140305.xls]Mn
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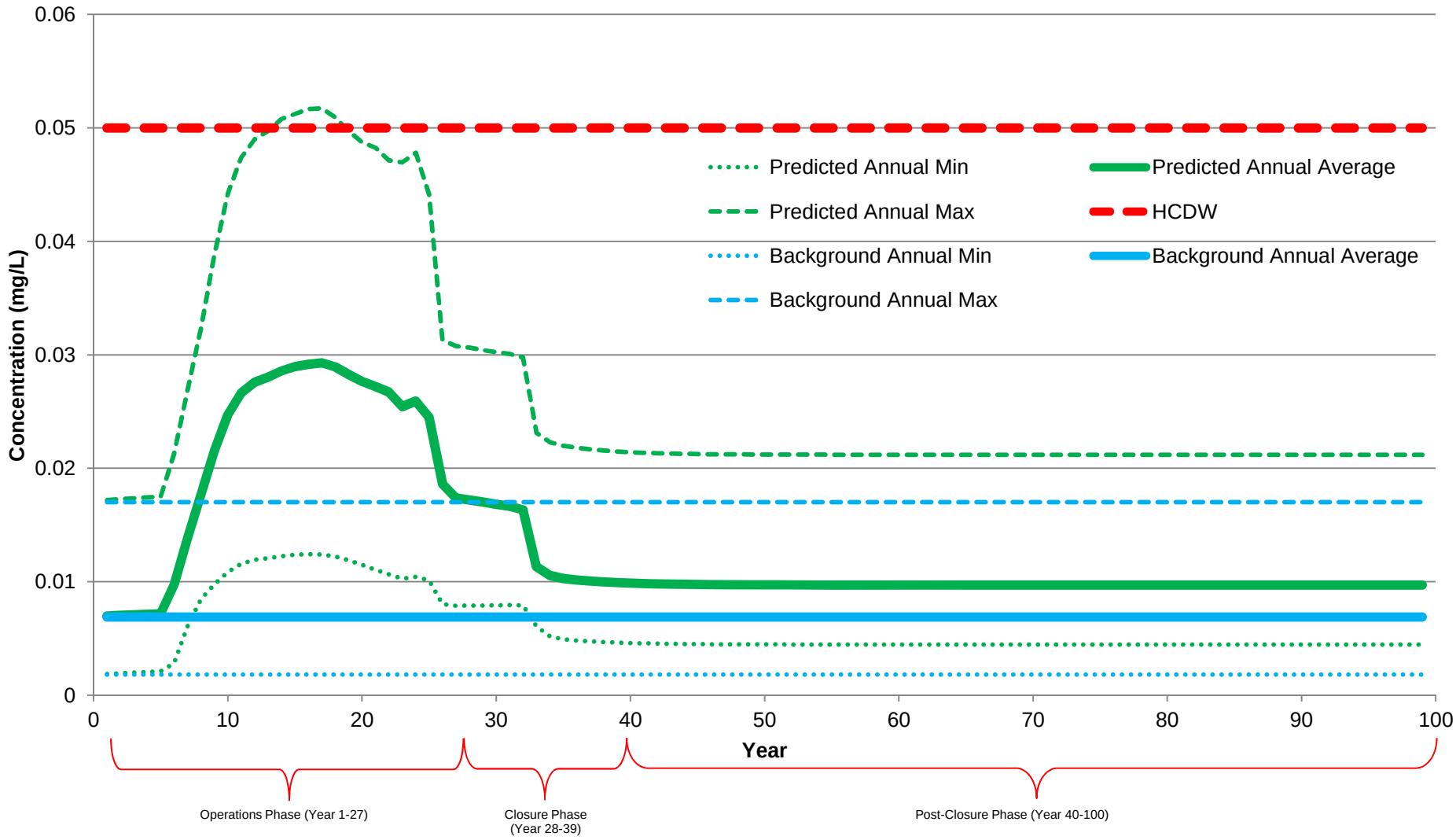

NOTES:

1. THERE IS NO CCME FAL FOR Mn.
2. THE HCDW LIMIT FOR Mn IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF MANGANESE IN NAP1

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C2.2

Rev 0

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix C - Guideline Exceedance Graphs\Excel format\[Appendix_Cx.3_NAP2 - 20140305.xls]Mn
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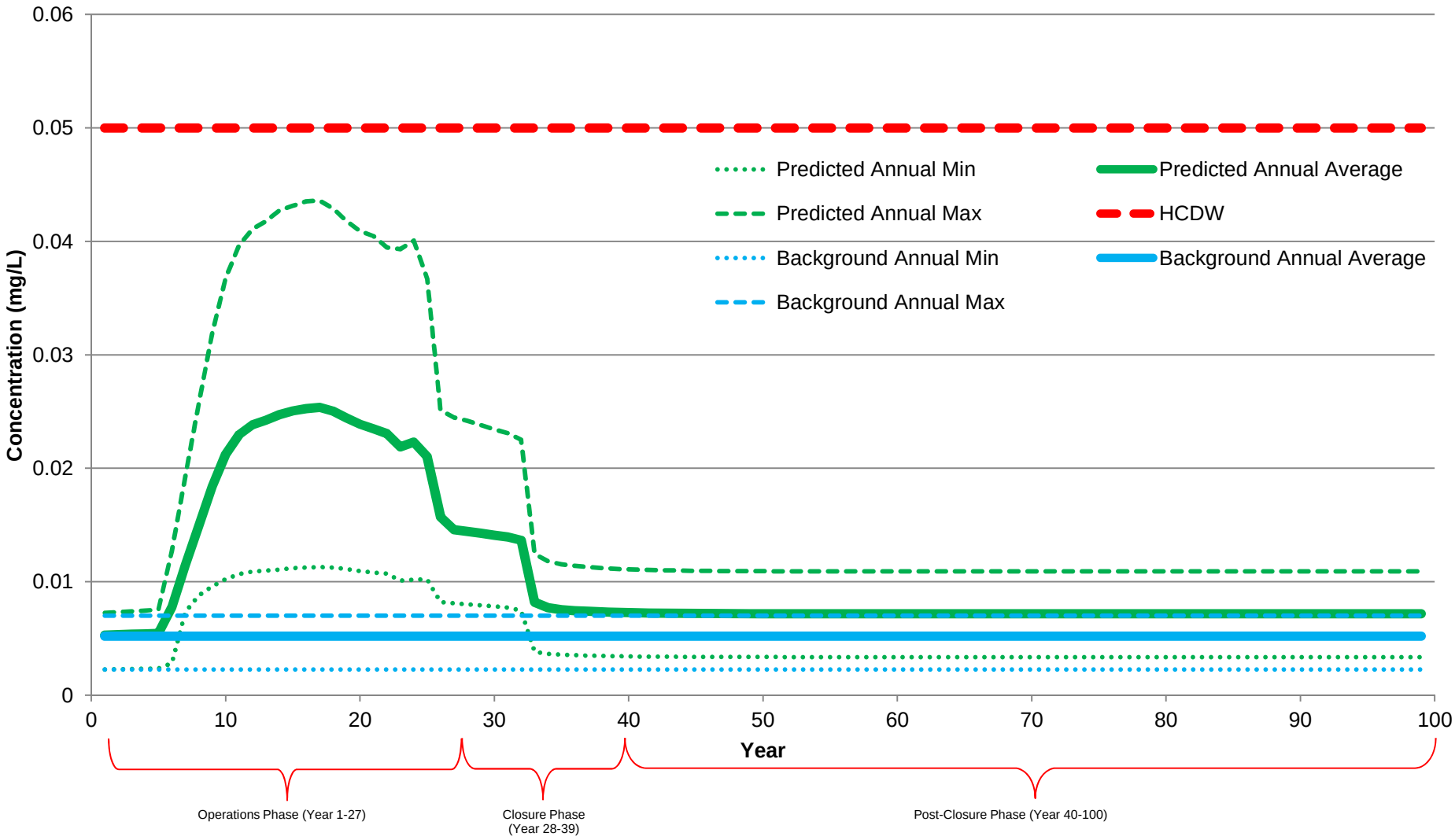

NOTES:

1. THERE IS NO CCME FAL FOR Mn.
2. THE HCDW LIMIT FOR Mn IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF MANGANESE IN NAP2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C2.3

Rev 0

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix C - Guideline Exceedance Graphs\Excel format\[Appendix_Cx.4_NAP3 - 20140305.xls]Mn
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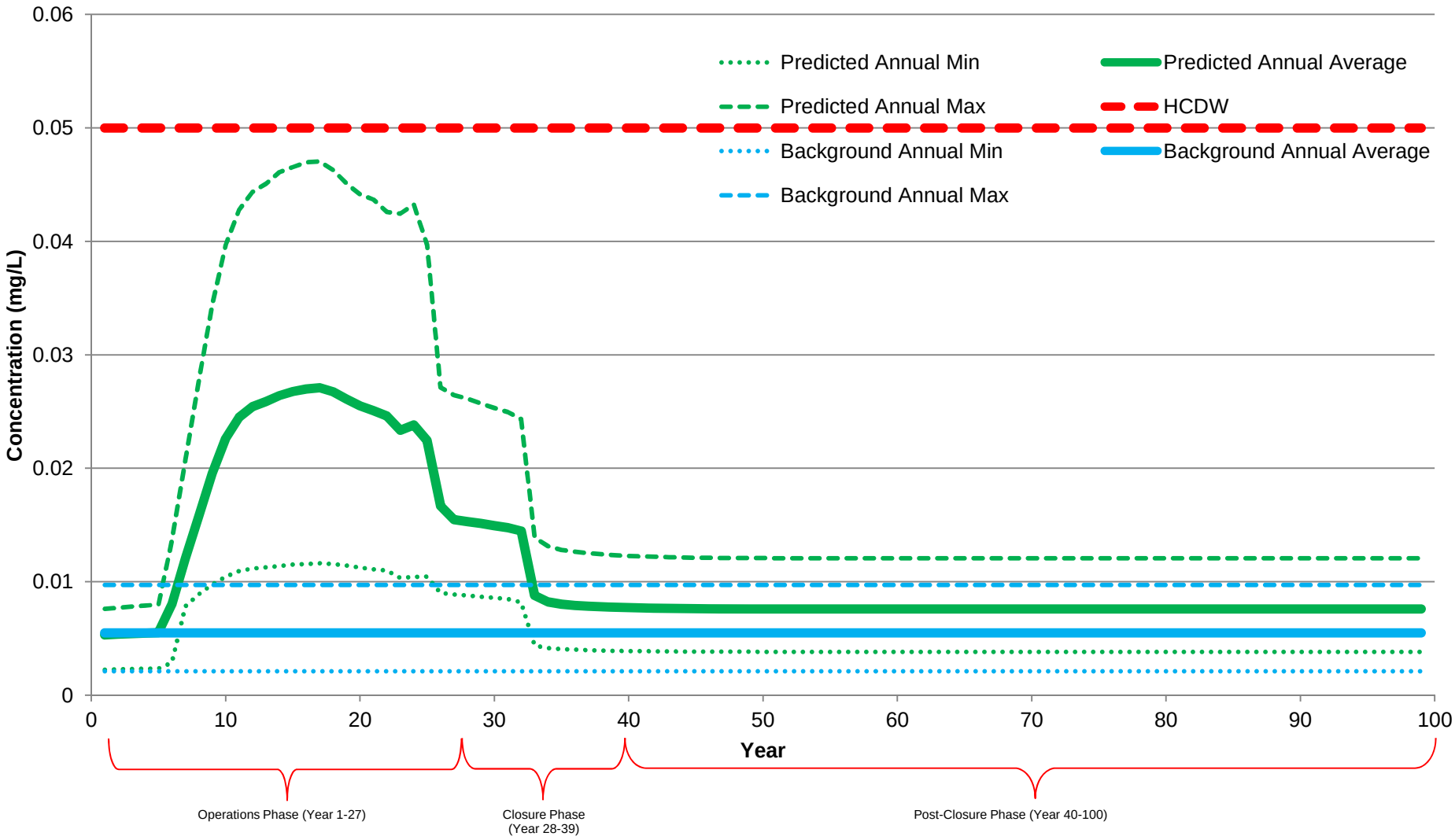

NOTES:

1. THERE IS NO CCME FAL FOR Mn.
2. THE HCDW LIMIT FOR Mn IS AN AESTHETIC GUIDELINE BASED ON TASTE.

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF MANGANESE IN NAP3

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C2.4

Rev 0

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
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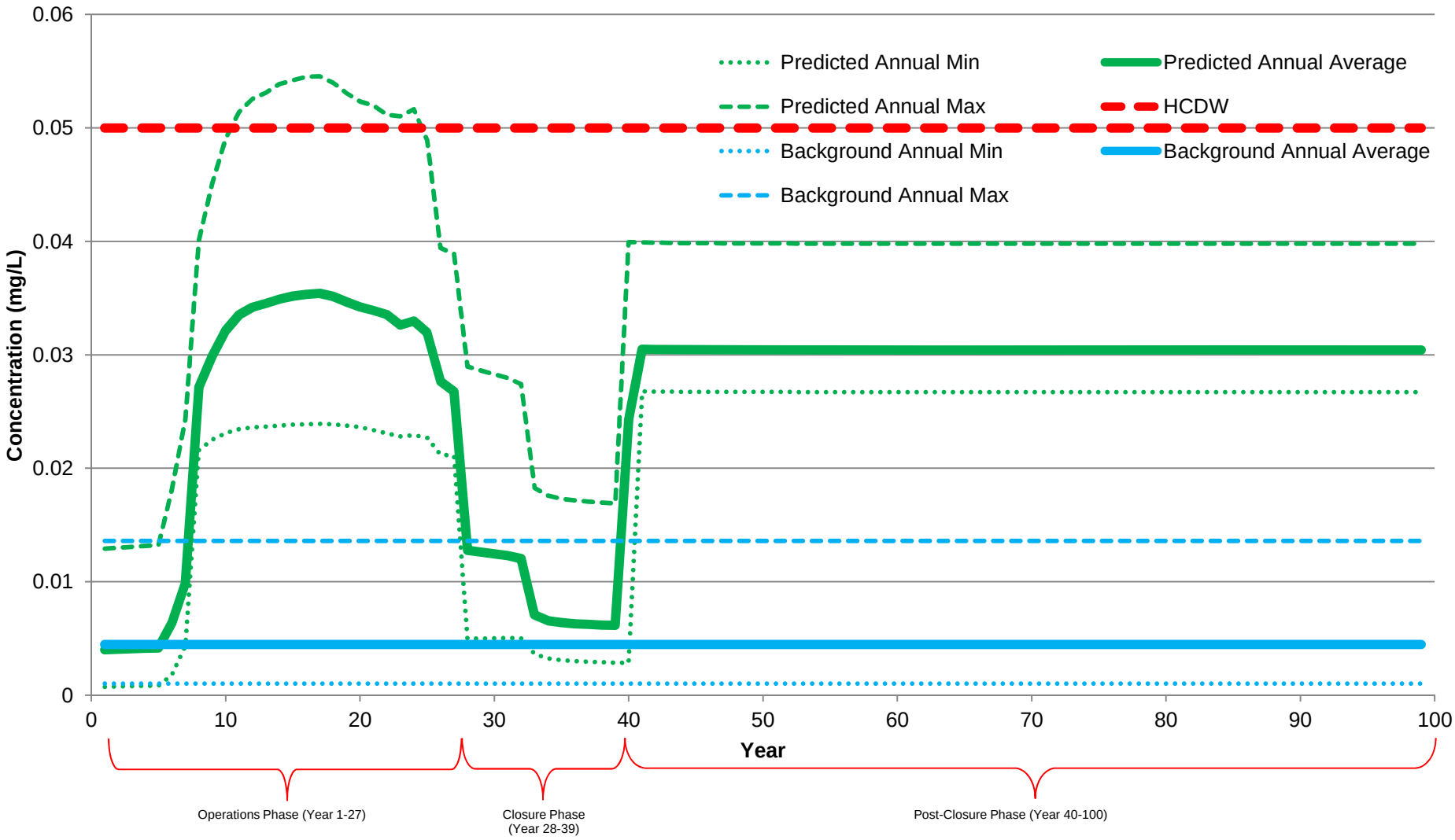

NOTES:

1. THERE IS NO CCME FAL FOR Mn.
2. THE HCDW LIMIT FOR Mn IS AN AESTHETIC GUIDELINE BASED ON TASTE.

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF MANGANESE IN NAP5

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C2.5

Rev 0

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
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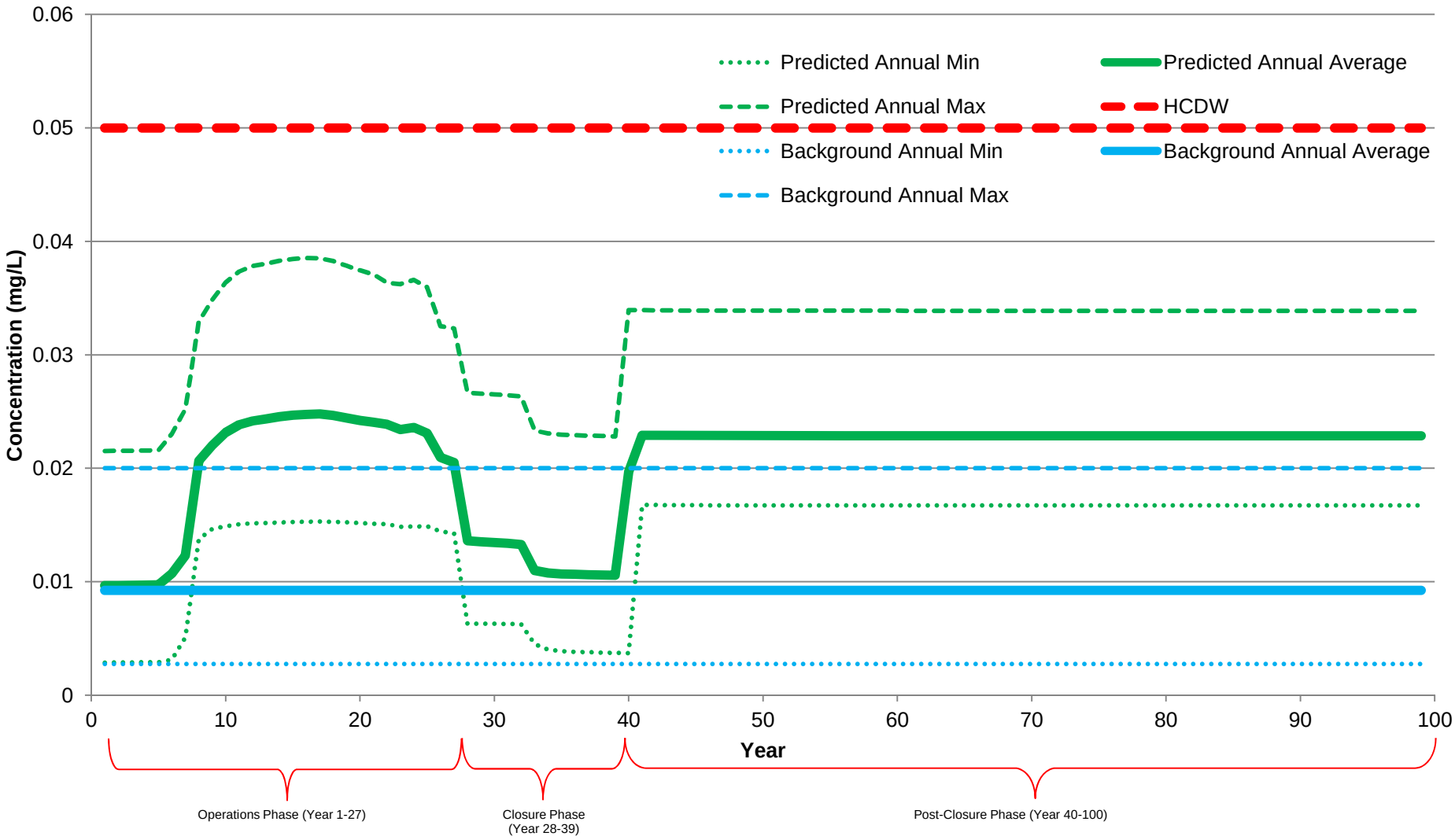


NOTES:

1. THERE IS NO CCME FAL FOR Mn.
2. THE HCDW LIMIT FOR Mn IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF MANGANESE IN NAP7

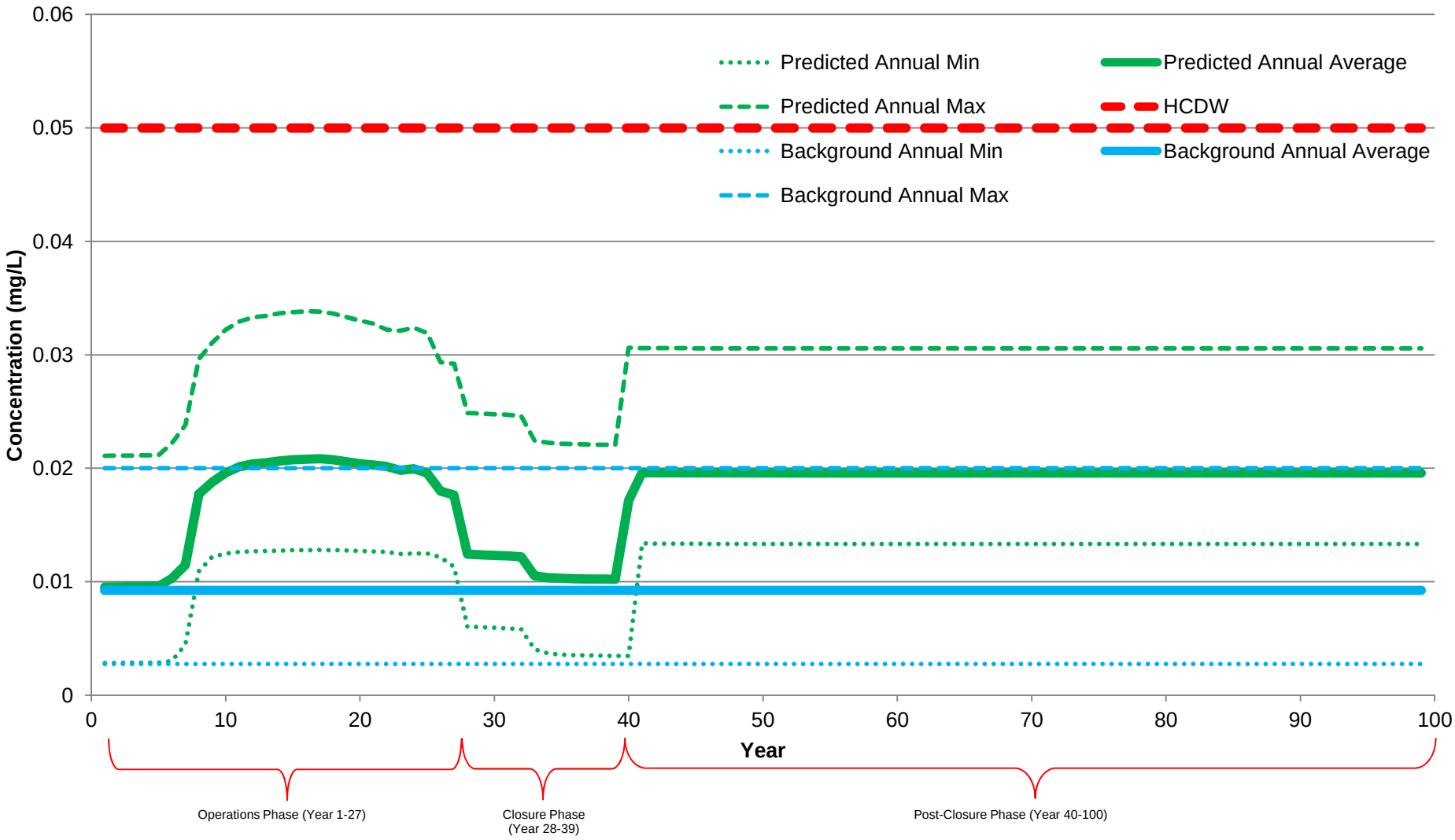
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C2.6

Rev 0



NOTES:

1. THERE IS NO CCME FAL FOR Mn.
2. THE HCDW LIMIT FOR Mn IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF MANGANESE IN NAP8

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C2.7

Rev 0

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix C - Guideline Exceedance Graphs\Excel format\[Appendix_Cx.8_MBB2 - 20140305.xls]Mn
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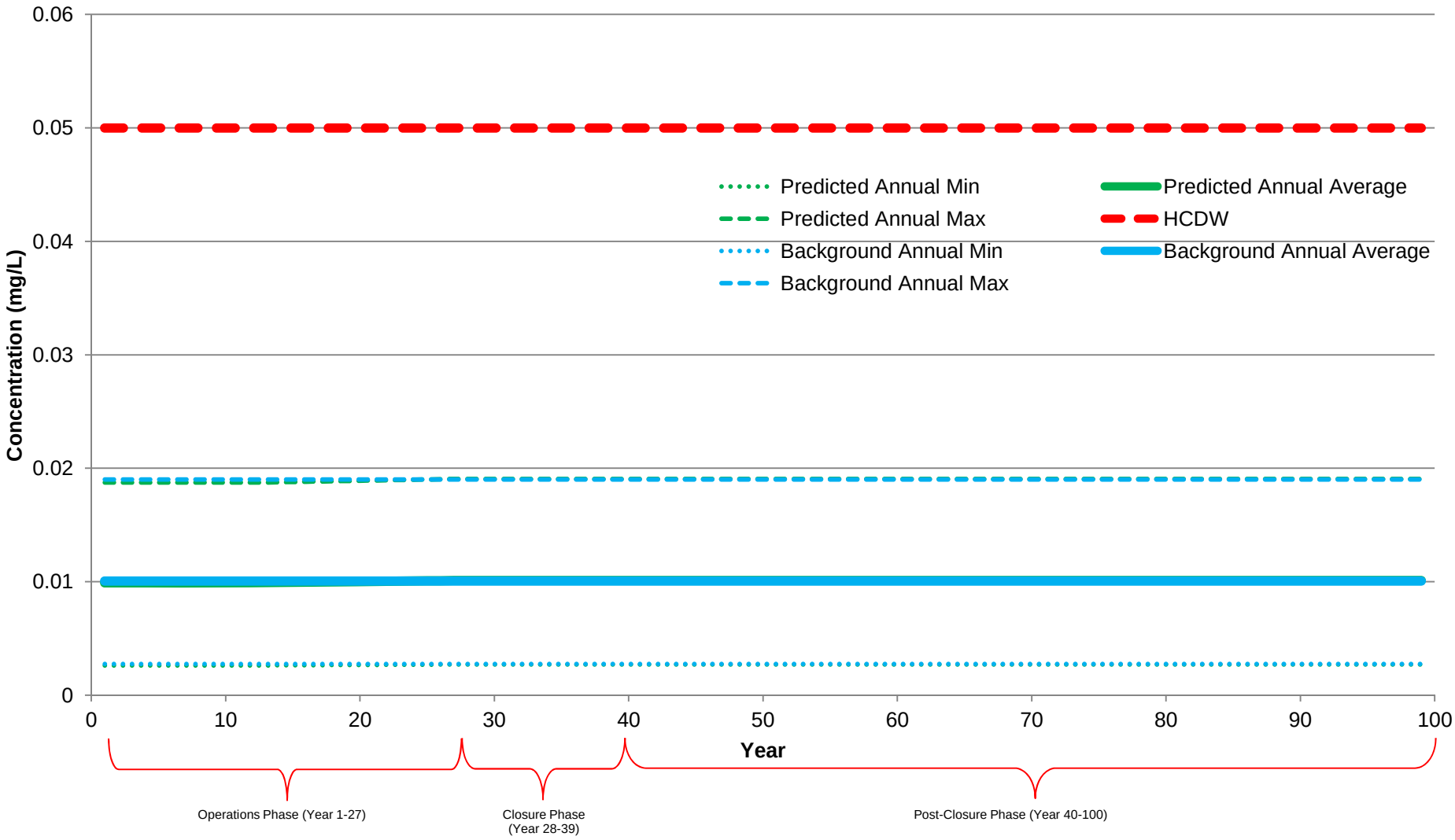

NOTES:

1. THERE IS NO CCME FAL FOR Mn.
2. THE HCDW LIMIT FOR Mn IS AN AESTHETIC GUIDELINE BASED ON TASTE.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF MANGANESE IN MBB2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C2.8

Rev 0

Knight Piésold
CONSULTING

APPENDIX C3

FLOURIDE

(Figures C3-1 to C3-8)

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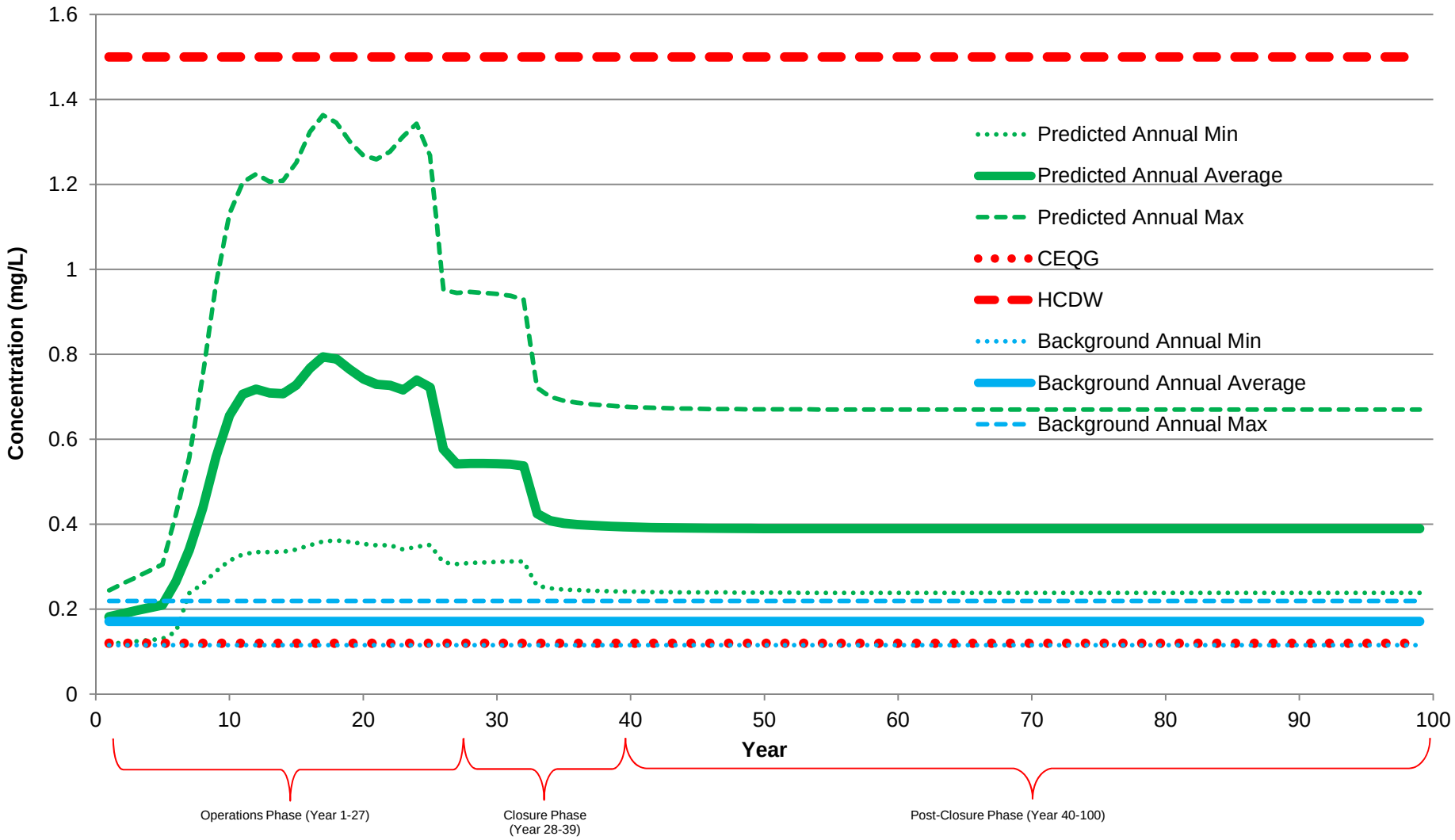

NOTES:

1. NO MMER GUIDELINE FOR F.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF FLUORIDE IN UT1

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C3.1

Rev 0

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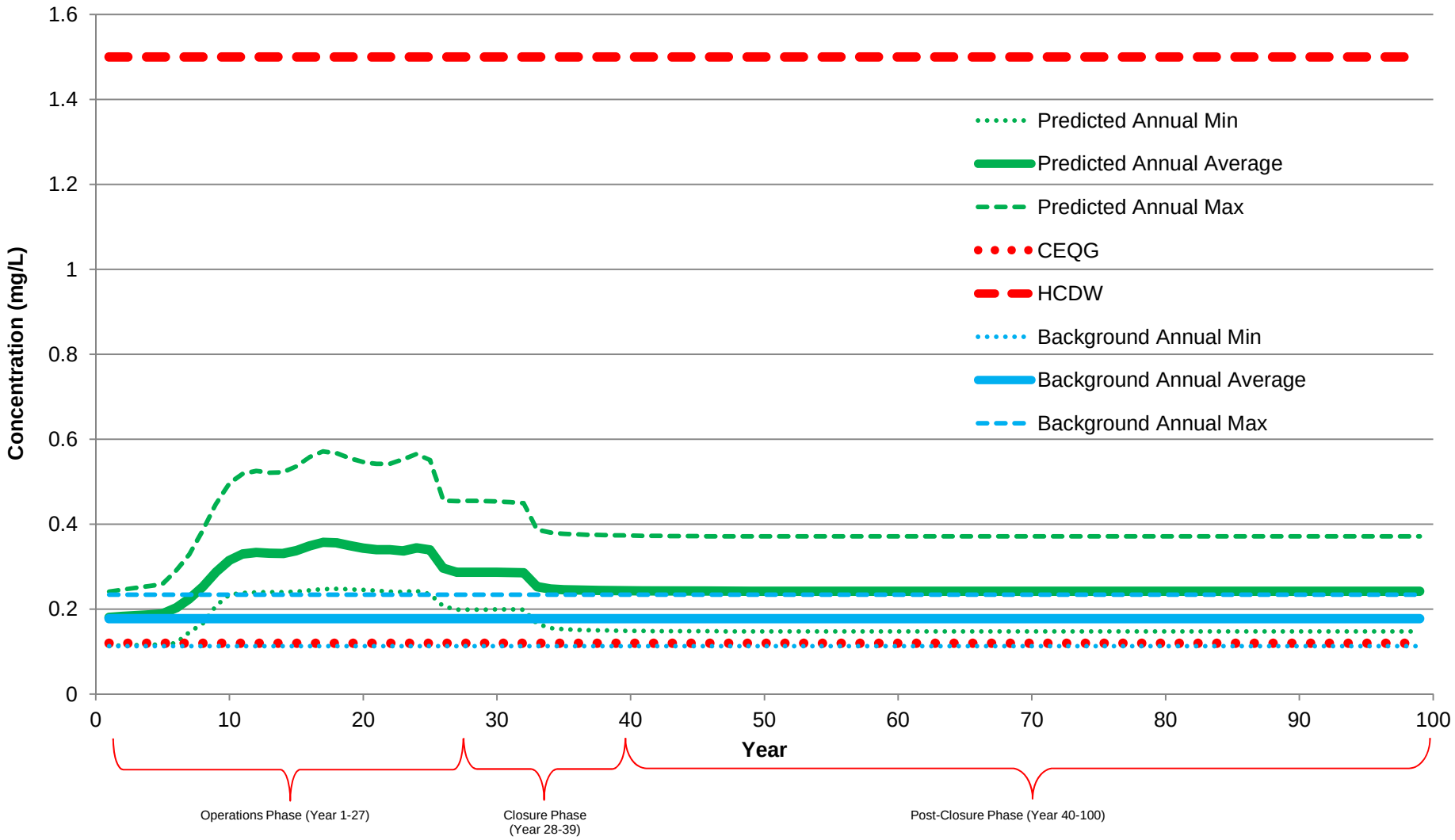

NOTES:

1. NO MMER GUIDELINE FOR F.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF FLUORIDE IN NAP1

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C3.2

Rev 0

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix C - Guideline Exceedance Graphs\Excel format\[Appendix_Cx.3_NAP2 - 20140305.xls]F

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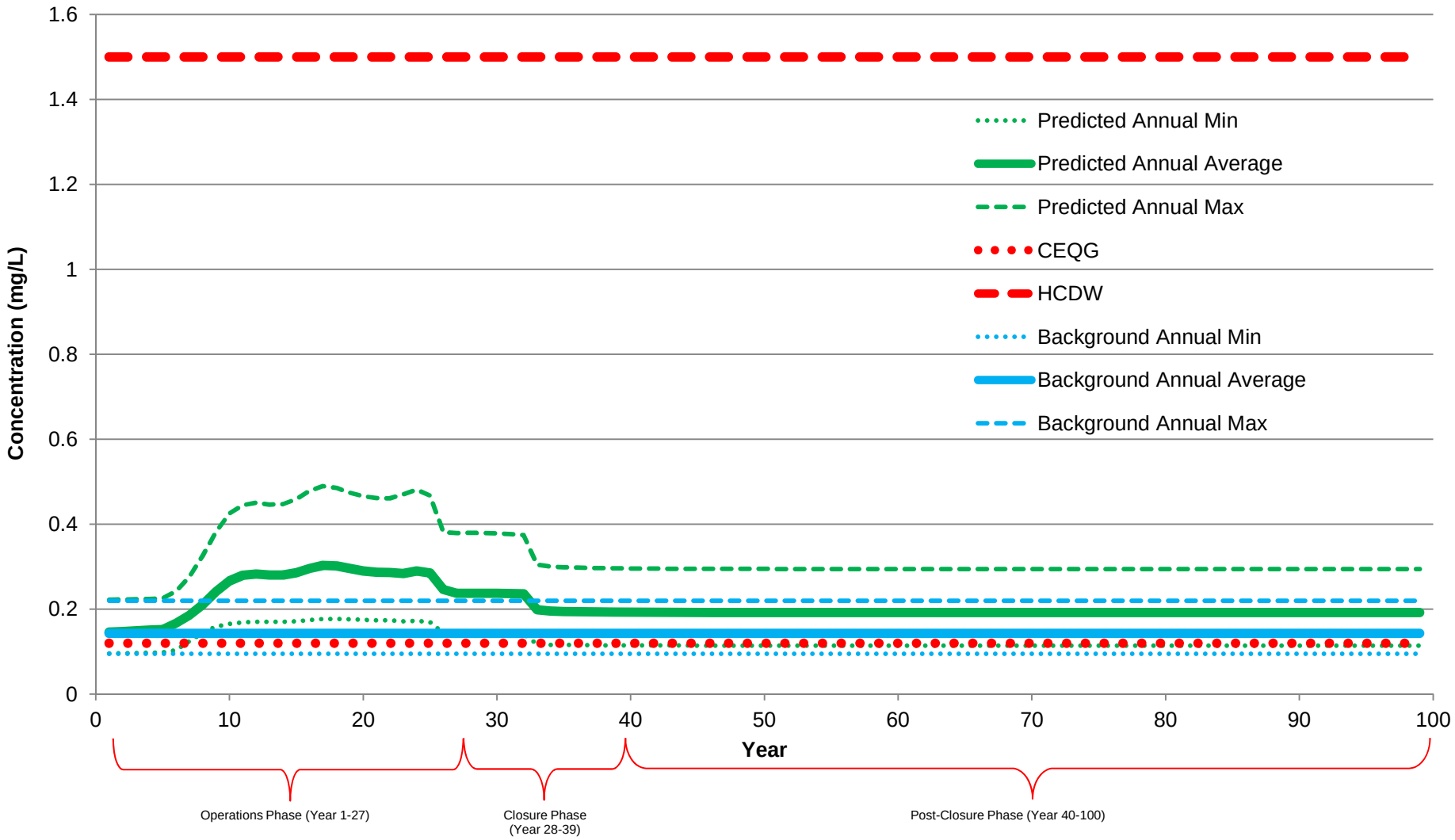

NOTES:

1. NO MMER GUIDELINE FOR F.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
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NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF FLUORIDE IN NAP2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C3.3

Rev 0

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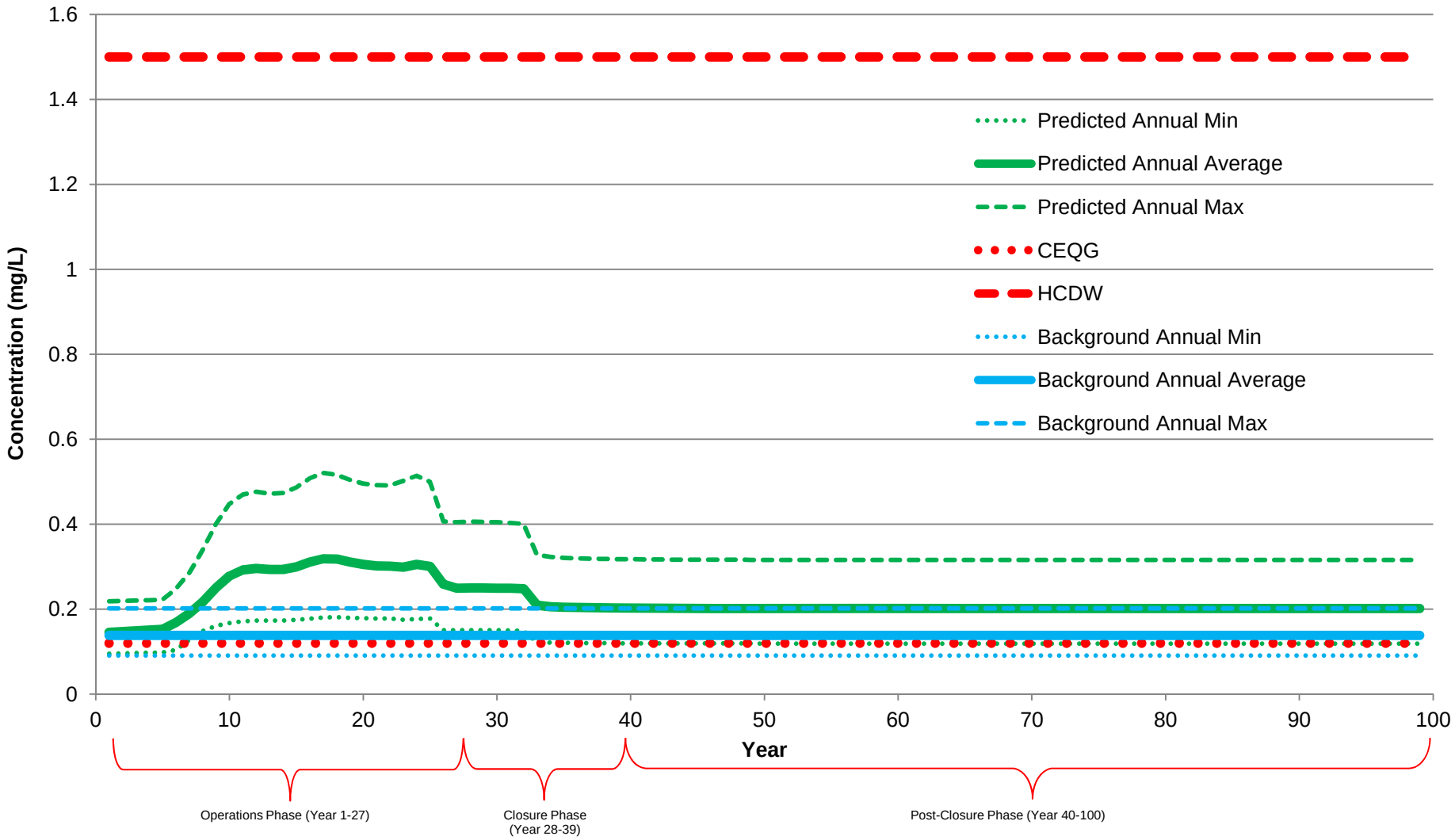


NOTES:

1. NO MMER GUIDELINE FOR F.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF FLUORIDE IN NAP3

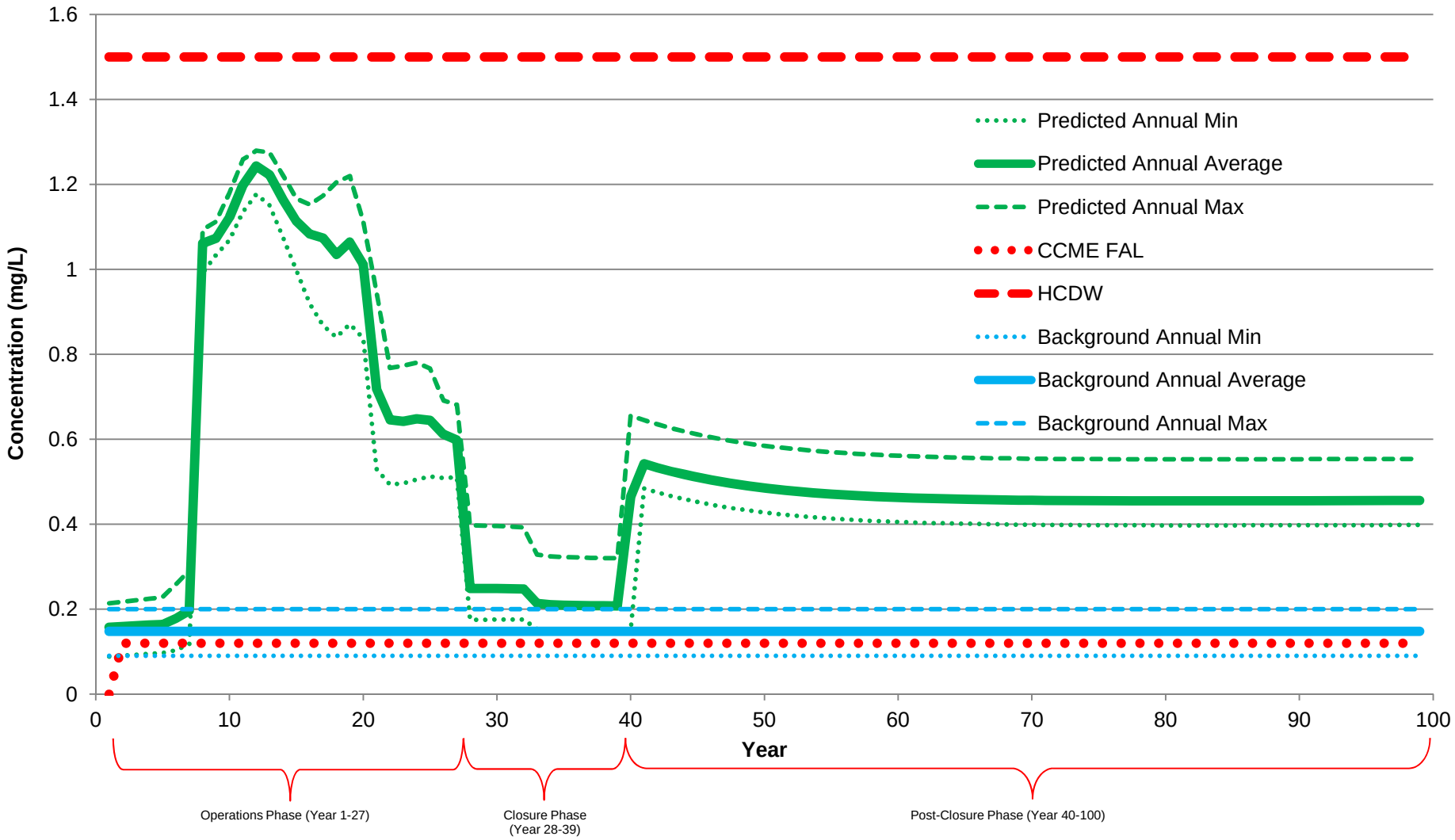
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C3.4

Rev 0



NOTES:

1. NO MMER GUIDELINE FOR F.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF FLUORIDE IN NAP5

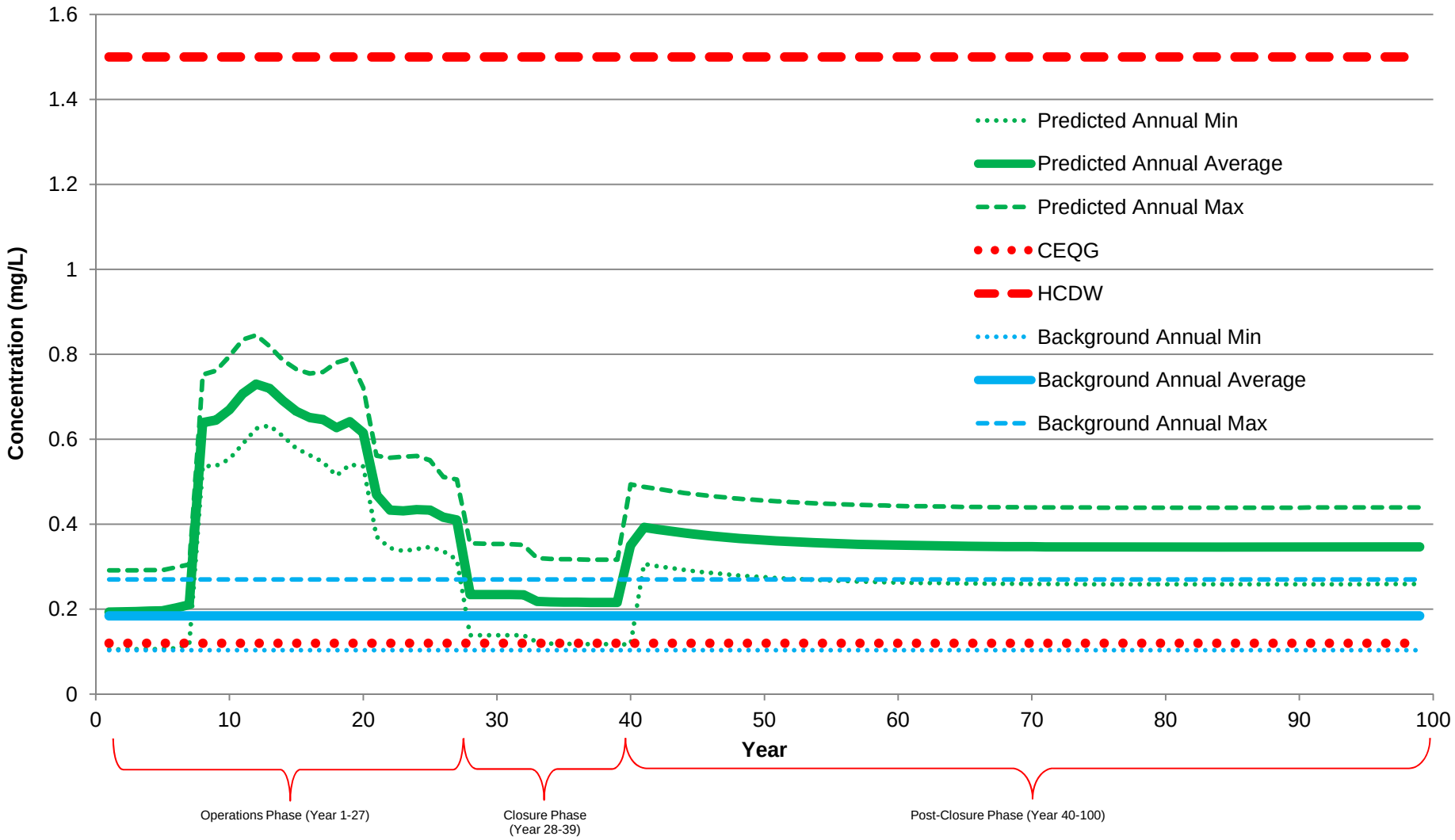
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C3.5

Rev 0



NOTES:

1. NO MMER GUIDELINE FOR F.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF FLUORIDE IN NAP7

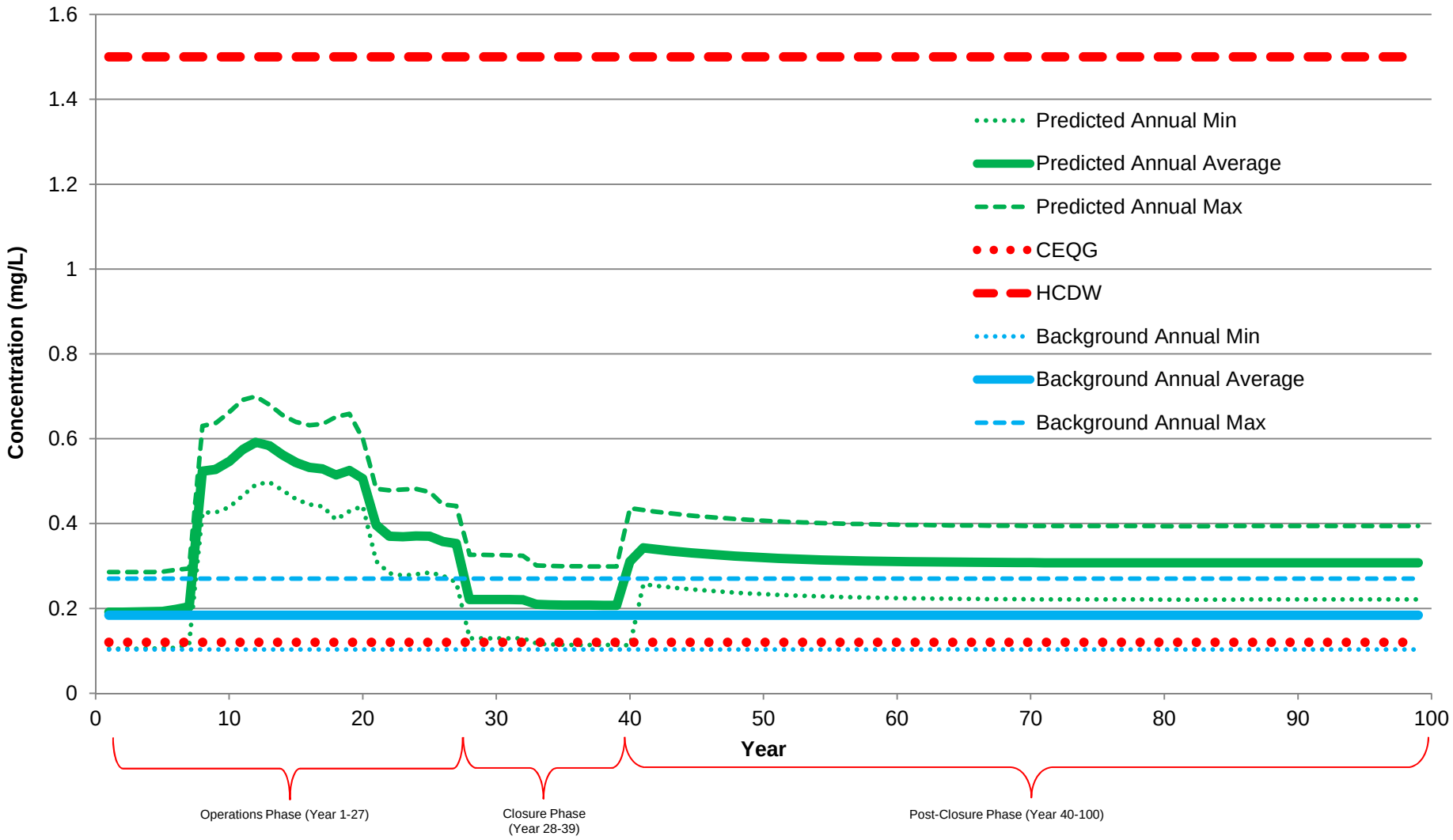
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C3.6

Rev 0



NOTES:

1. NO MMER GUIDELINE FOR F.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF FLUORIDE IN NAP8

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C3.7

Rev 0

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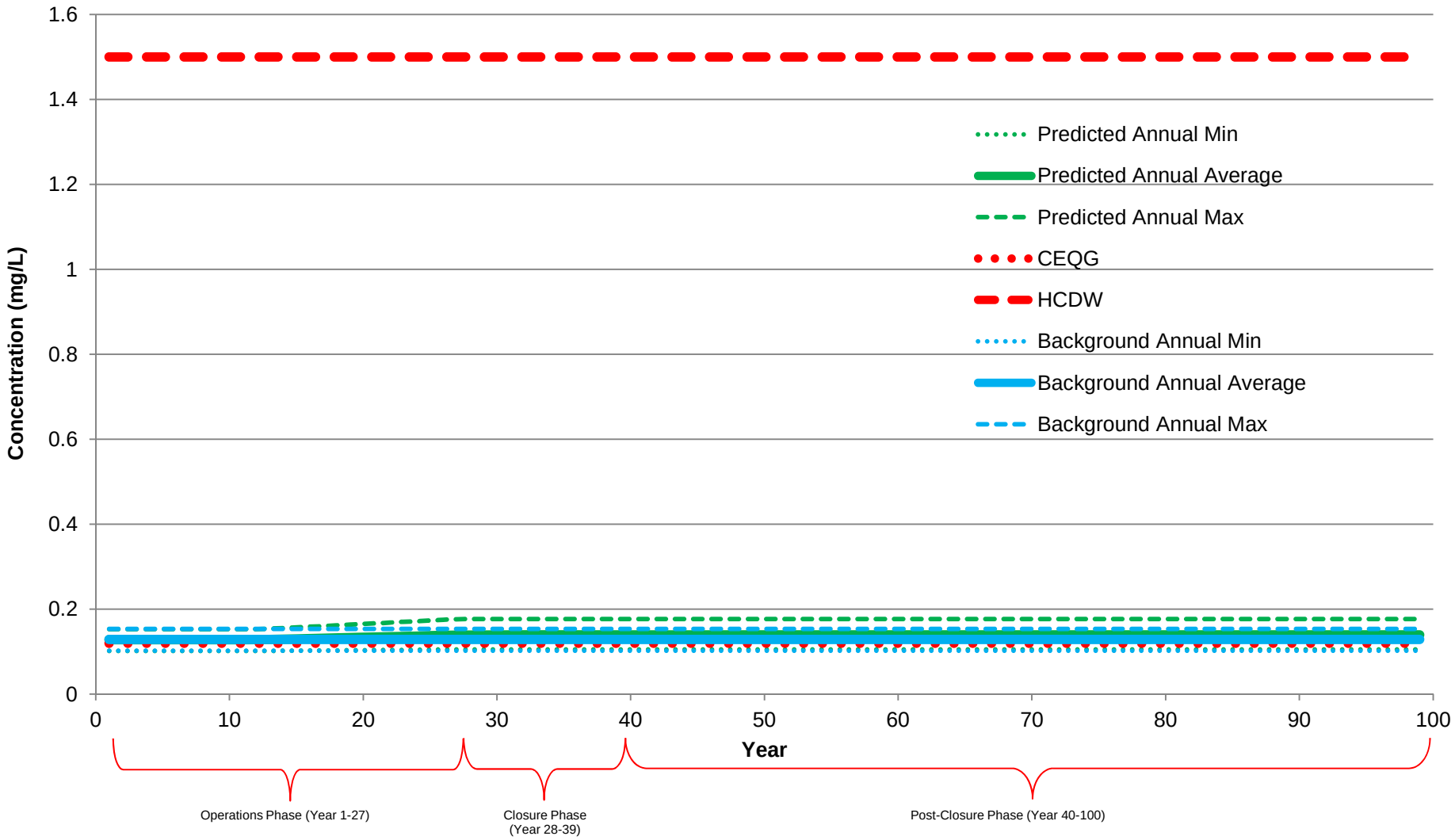

NOTES:

1. NO MMER GUIDELINE FOR F.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
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NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF FLUORIDE IN MBB2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C3.8

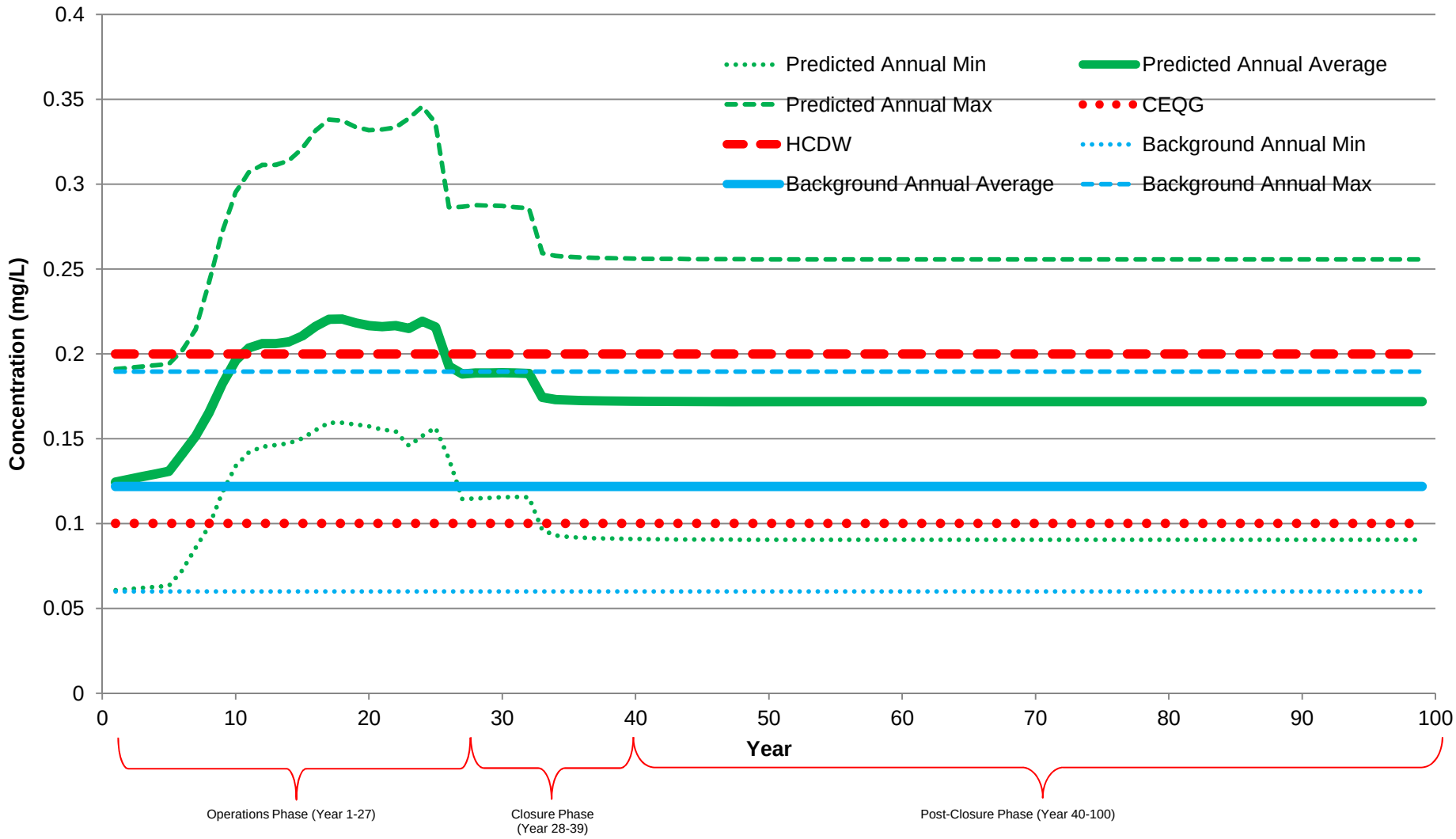
Rev 0

Knight Piésold
CONSULTING

APPENDIX C4

ALUMINUM

(Figures C4-1 to C4-8)



NOTES:

1. NO MMER GUIDELINE FOR Al.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ALUMINUM IN UT1

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C4.1

Rev 0

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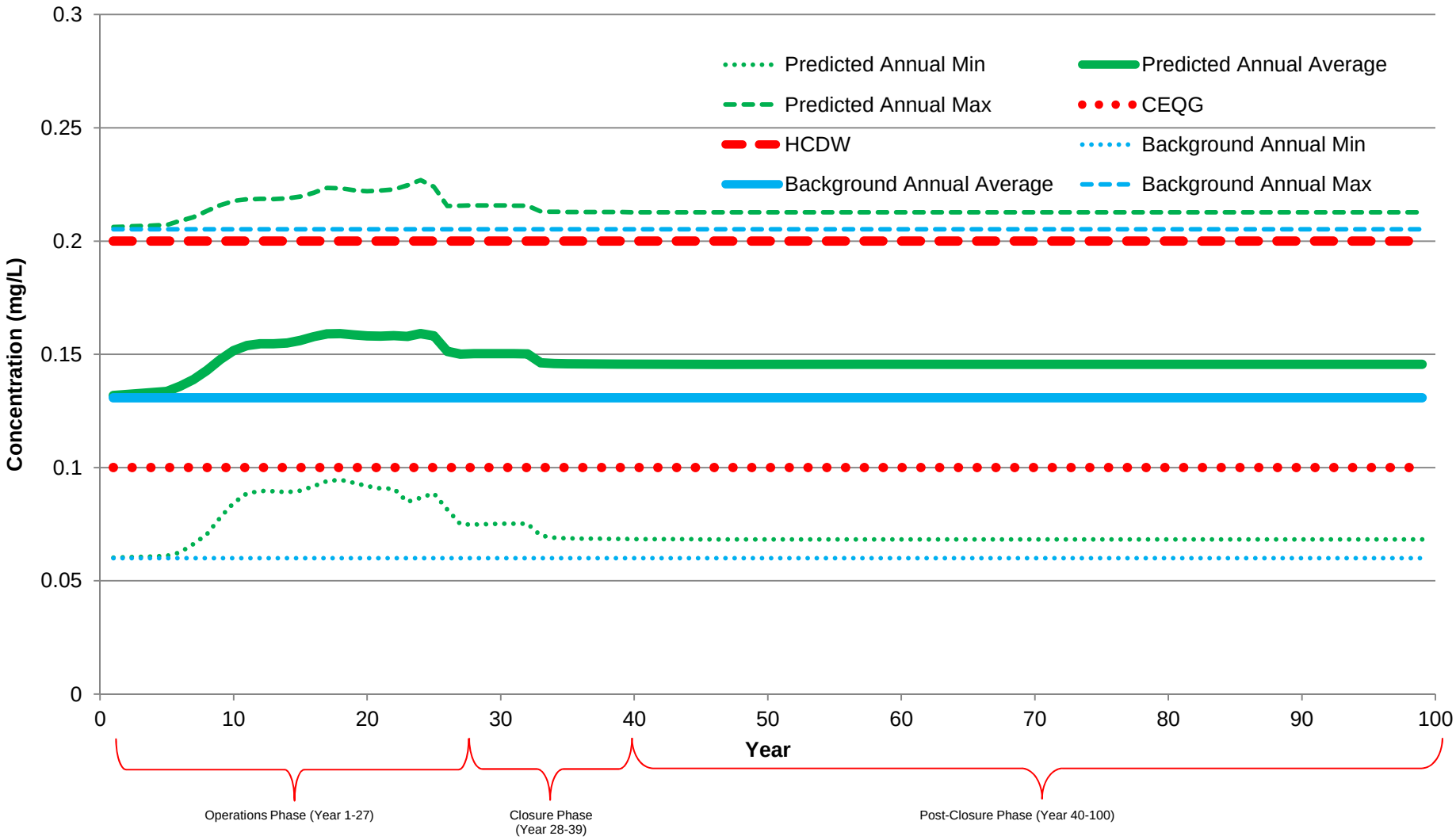


NOTES:

1. NO MMER GUIDELINE FOR Al.

0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ALUMINUM IN NAP1

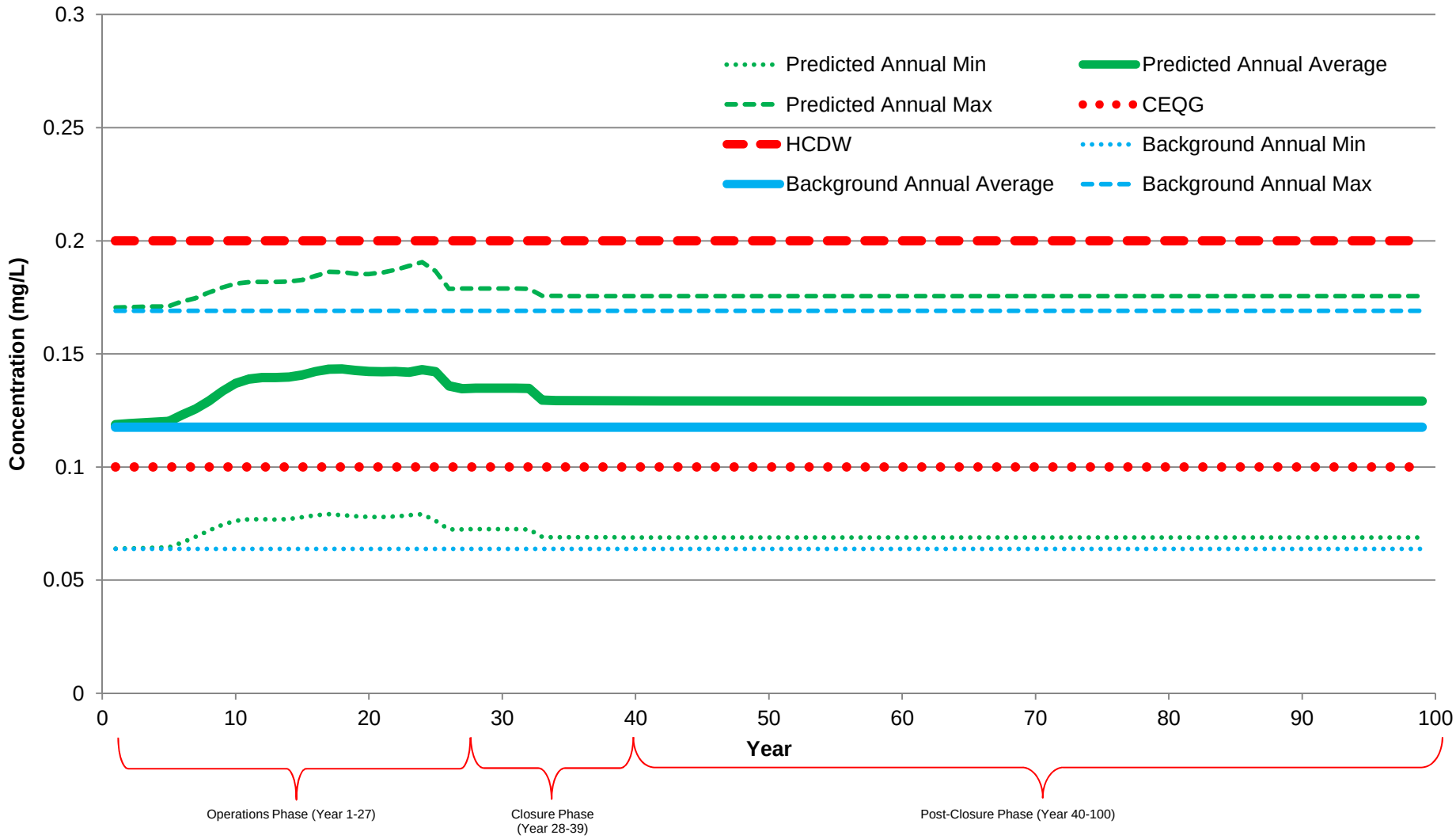
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C4.2

Rev 0



NOTES:

1. NO MMER GUIDELINE FOR Al.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ALUMINUM IN NAP2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C4.3

Rev 0

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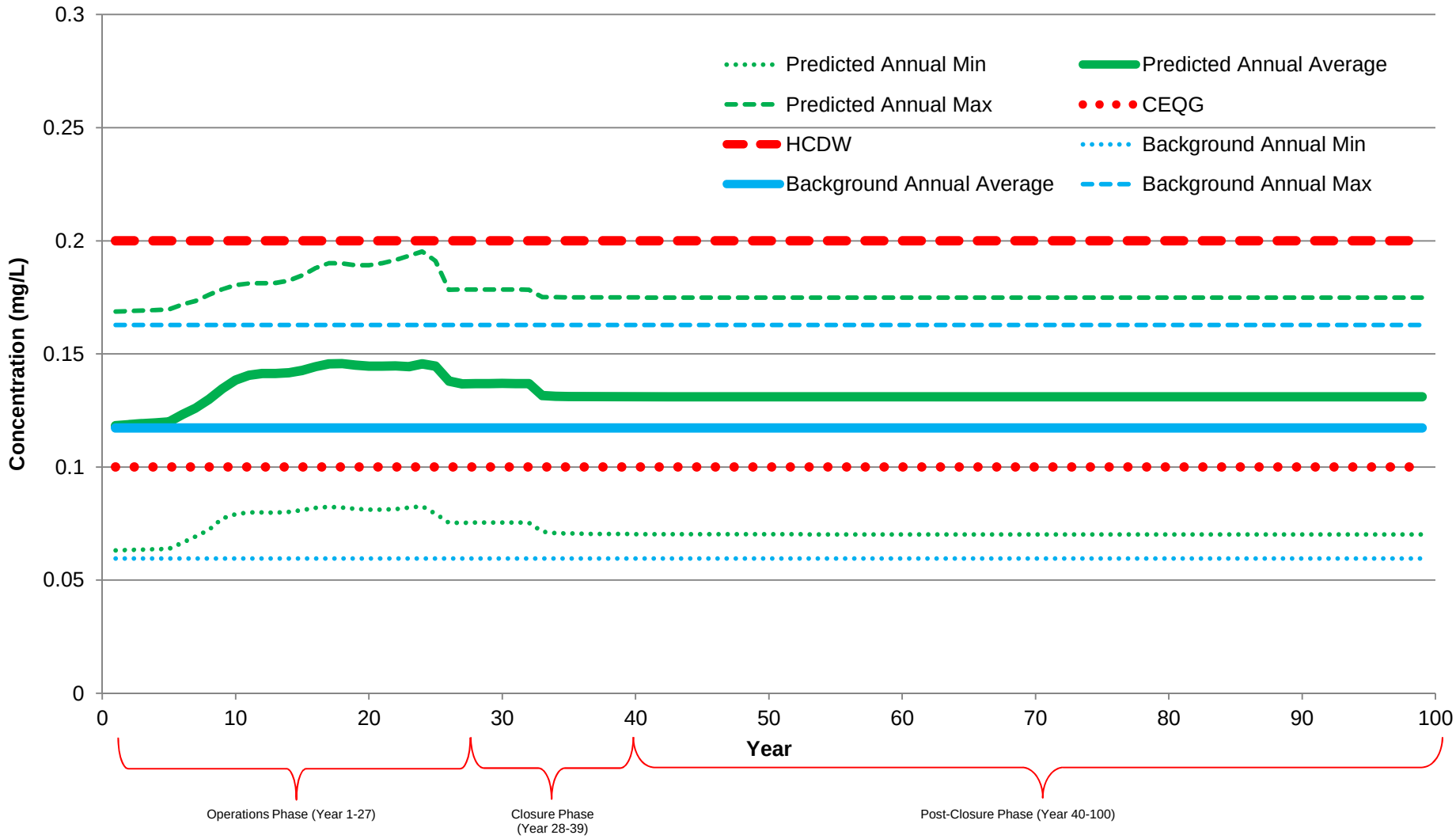


NOTES:

1. NO MMER GUIDELINE FOR Al.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ALUMINUM IN NAP3

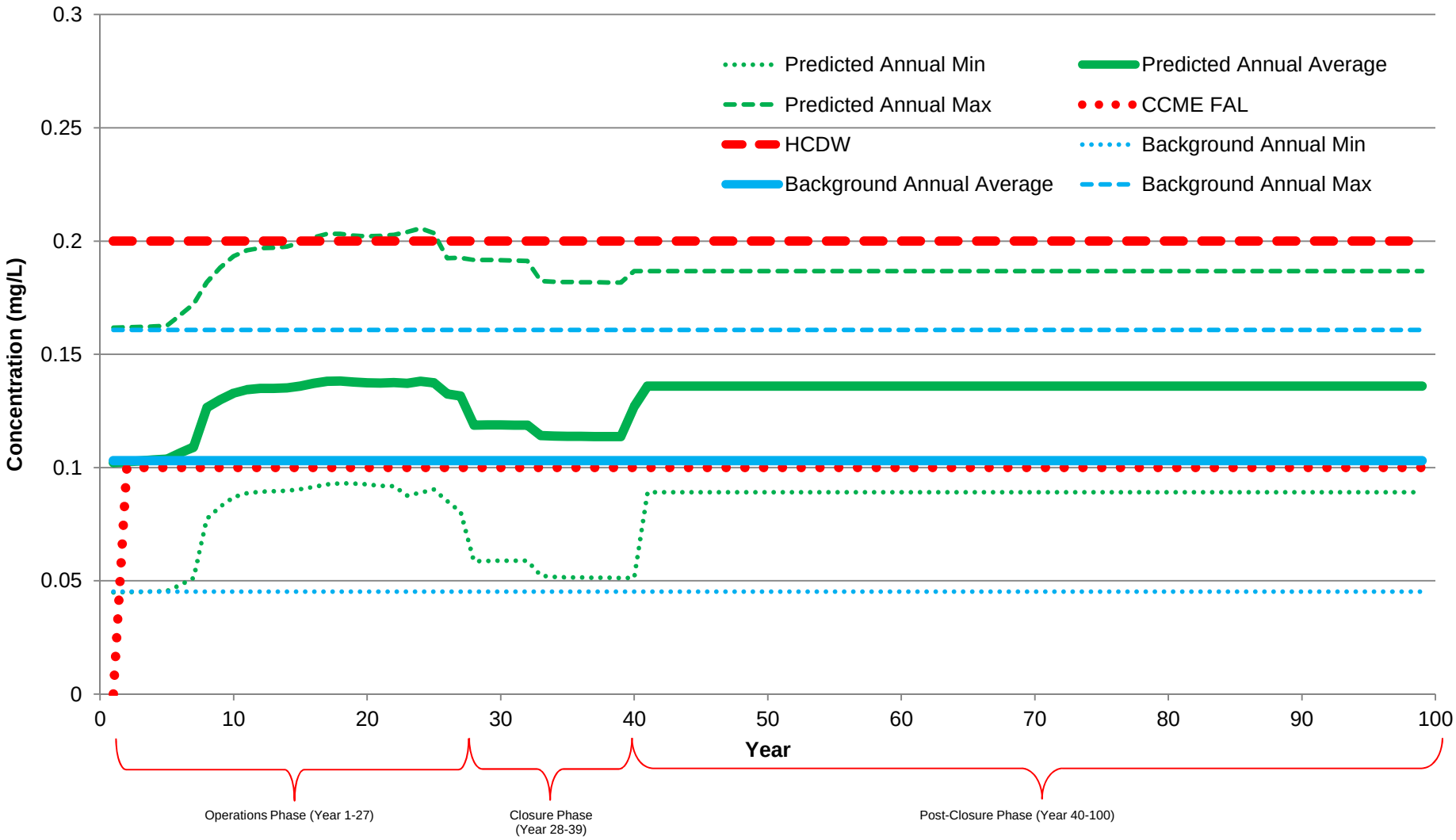
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C4.4

Rev 0



NOTES:

1. NO MMER GUIDELINE FOR Al.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ALUMINUM IN NAP5

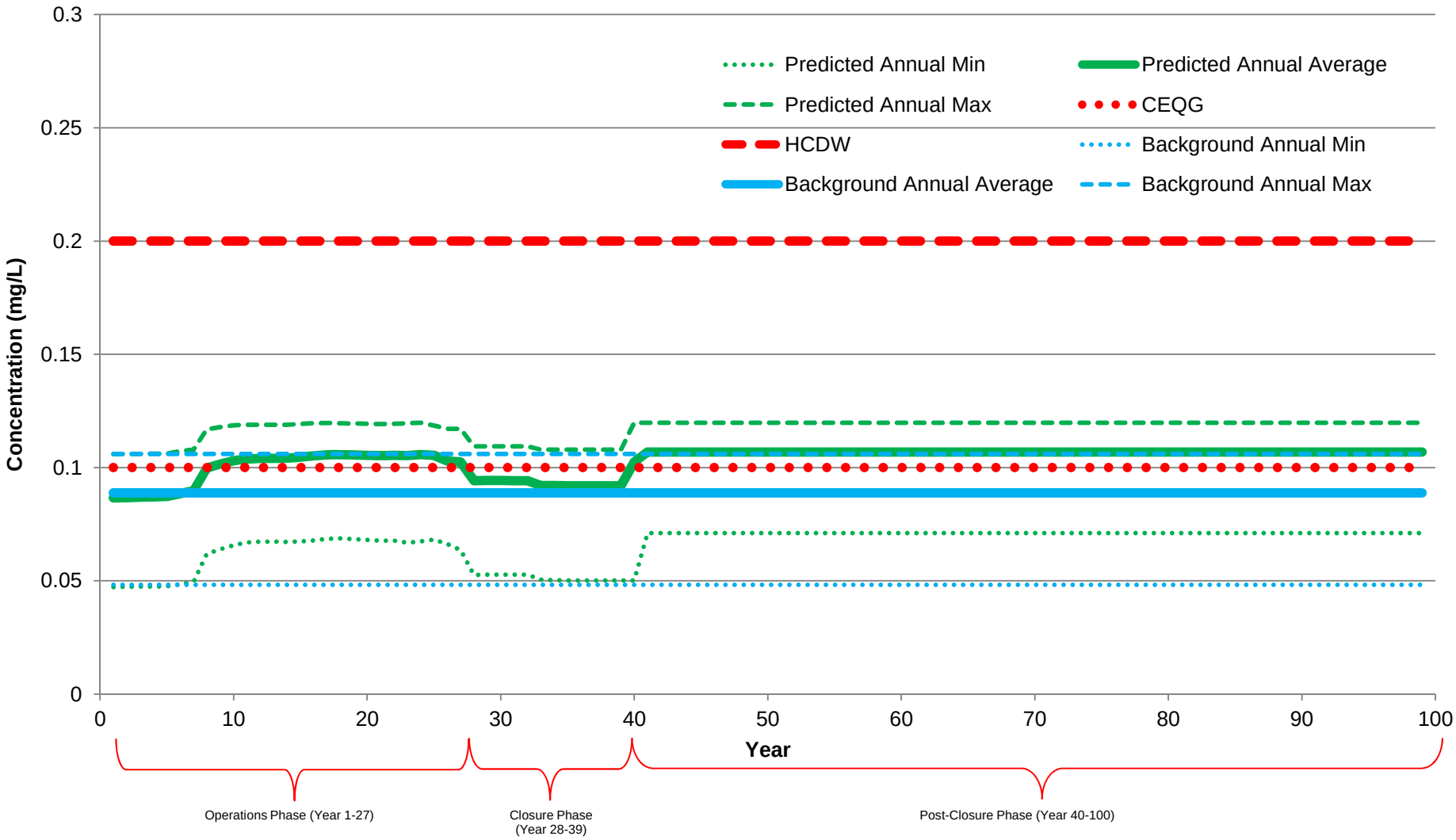
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C4.5

Rev 0



NOTES:

1. NO MMER GUIDELINE FOR Al.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ALUMINUM IN NAP7

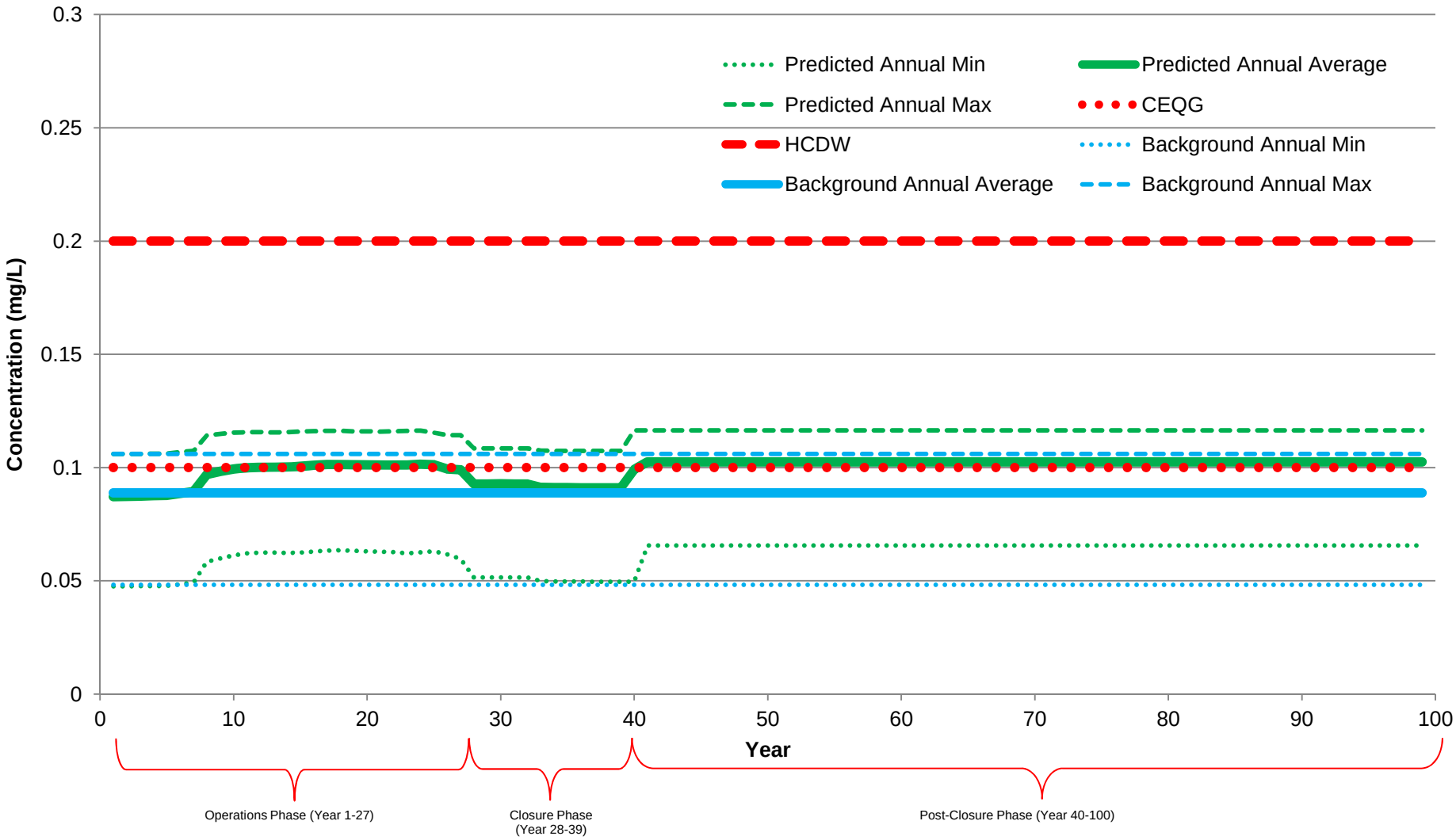
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C4.6

Rev 0



NOTES:

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REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ALUMINUM IN NAP8

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C4.7

Rev 0

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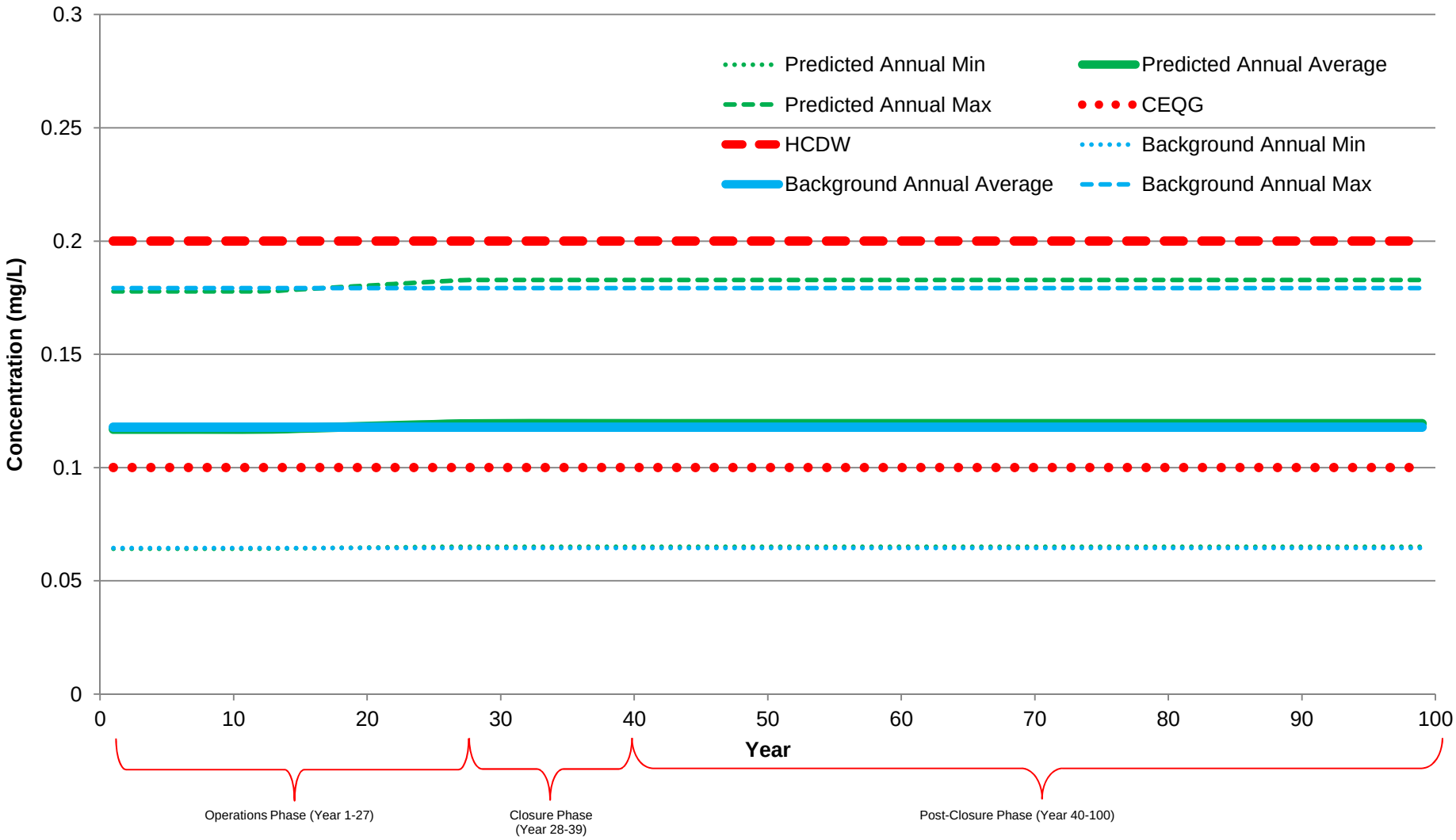


NOTES:

1. NO MMER GUIDELINE FOR Al.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ALUMINUM IN MBB2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C4.8

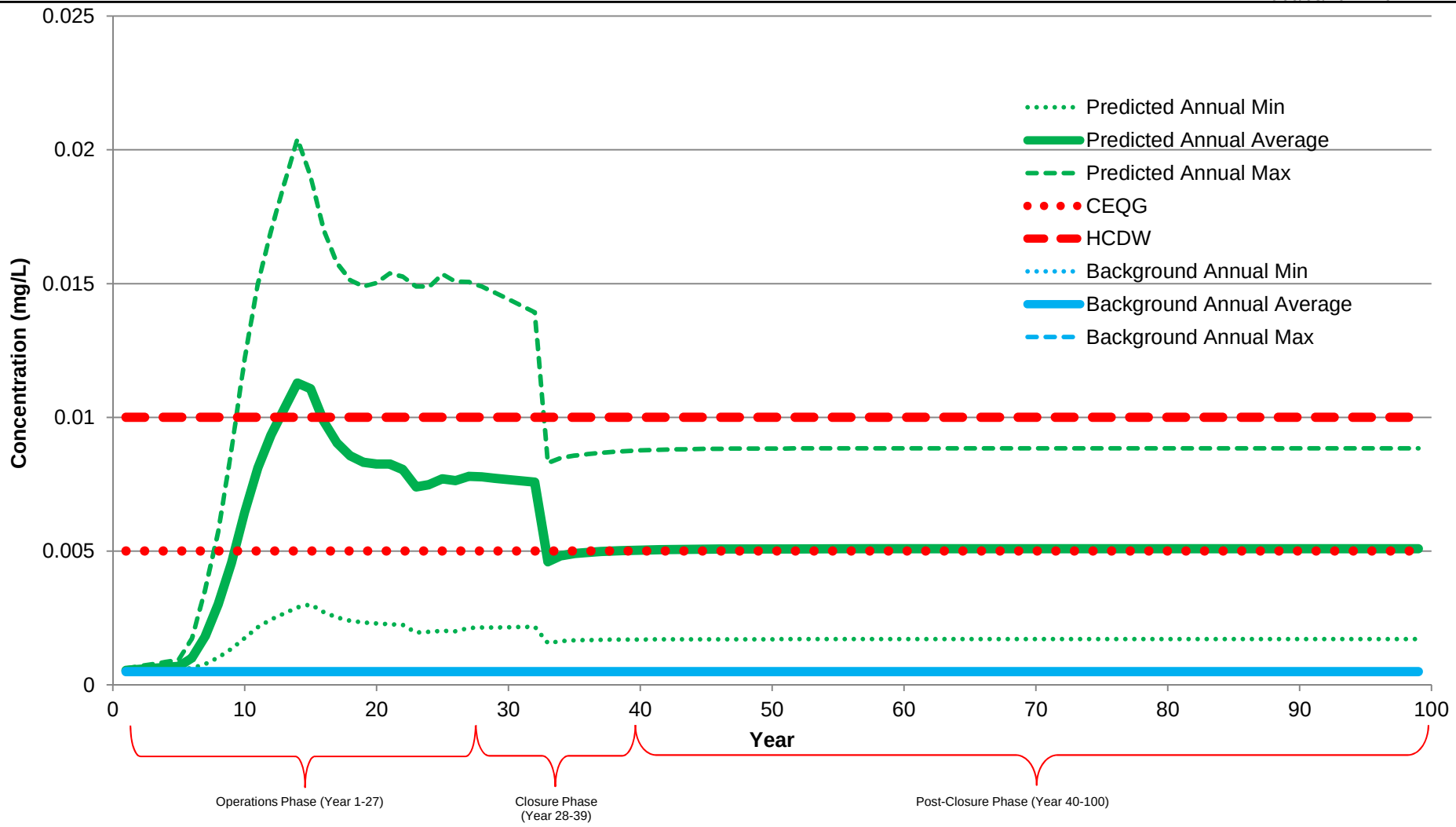
Rev 0

Knight Piésold
CONSULTING

APPENDIX C5

ARSENIC

(Figures C5-1 to C5-8)



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0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ARSENIC IN UT1

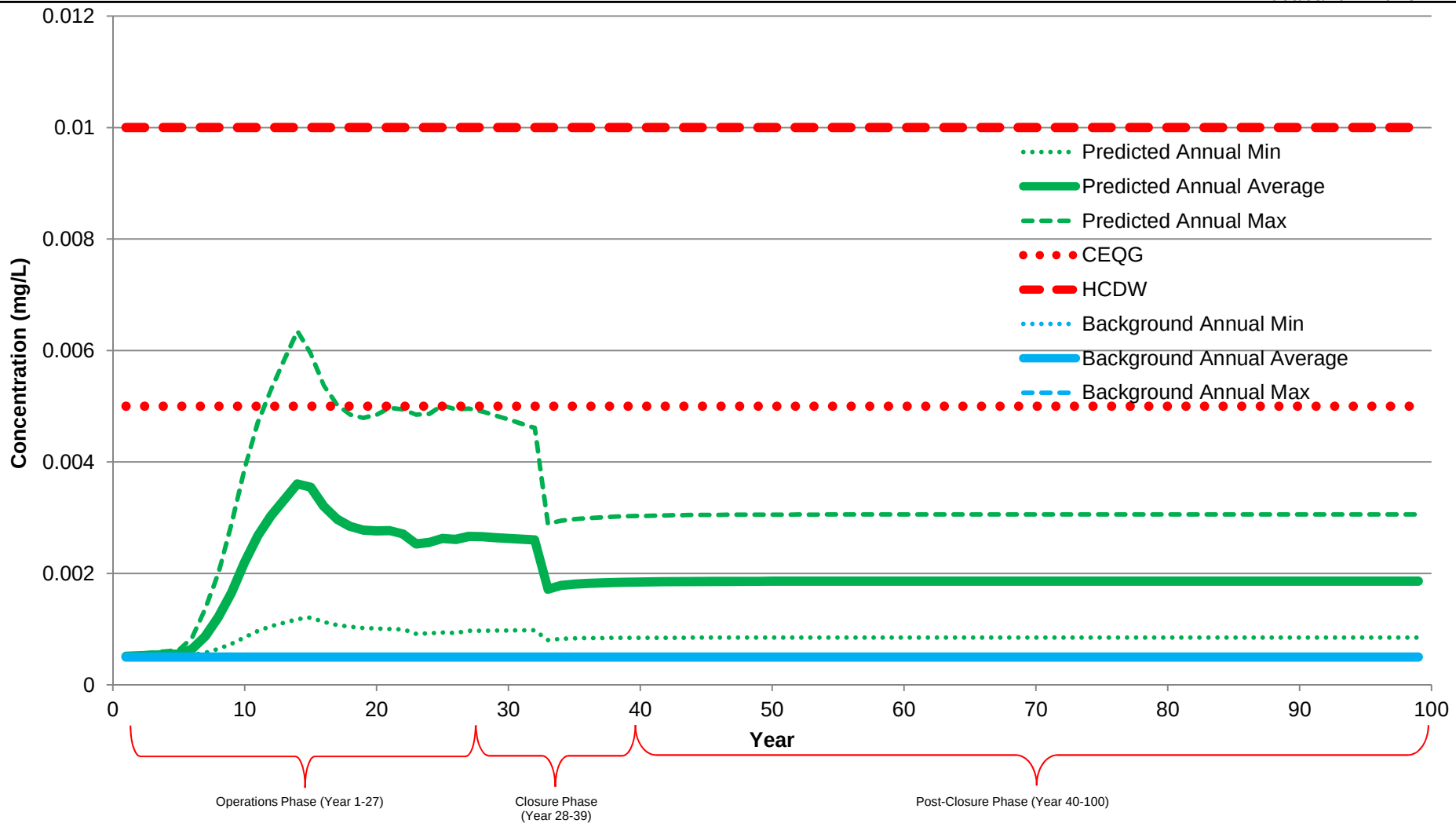
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C5.1

Rev 0



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0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ARSENIC IN NAP1

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C5.2

Rev 0

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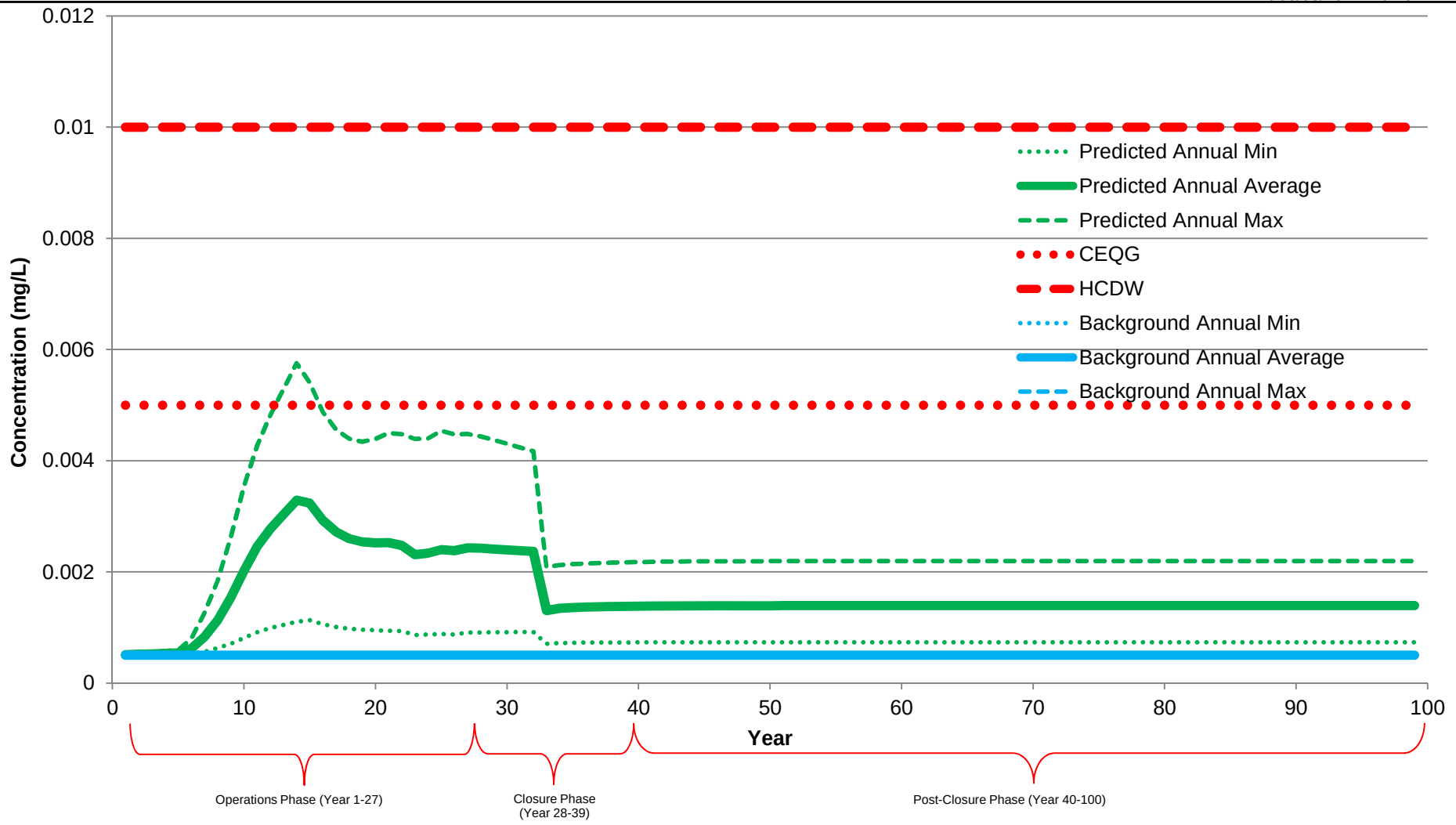

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REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ARSENIC IN NAP2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C5.3

Rev 0

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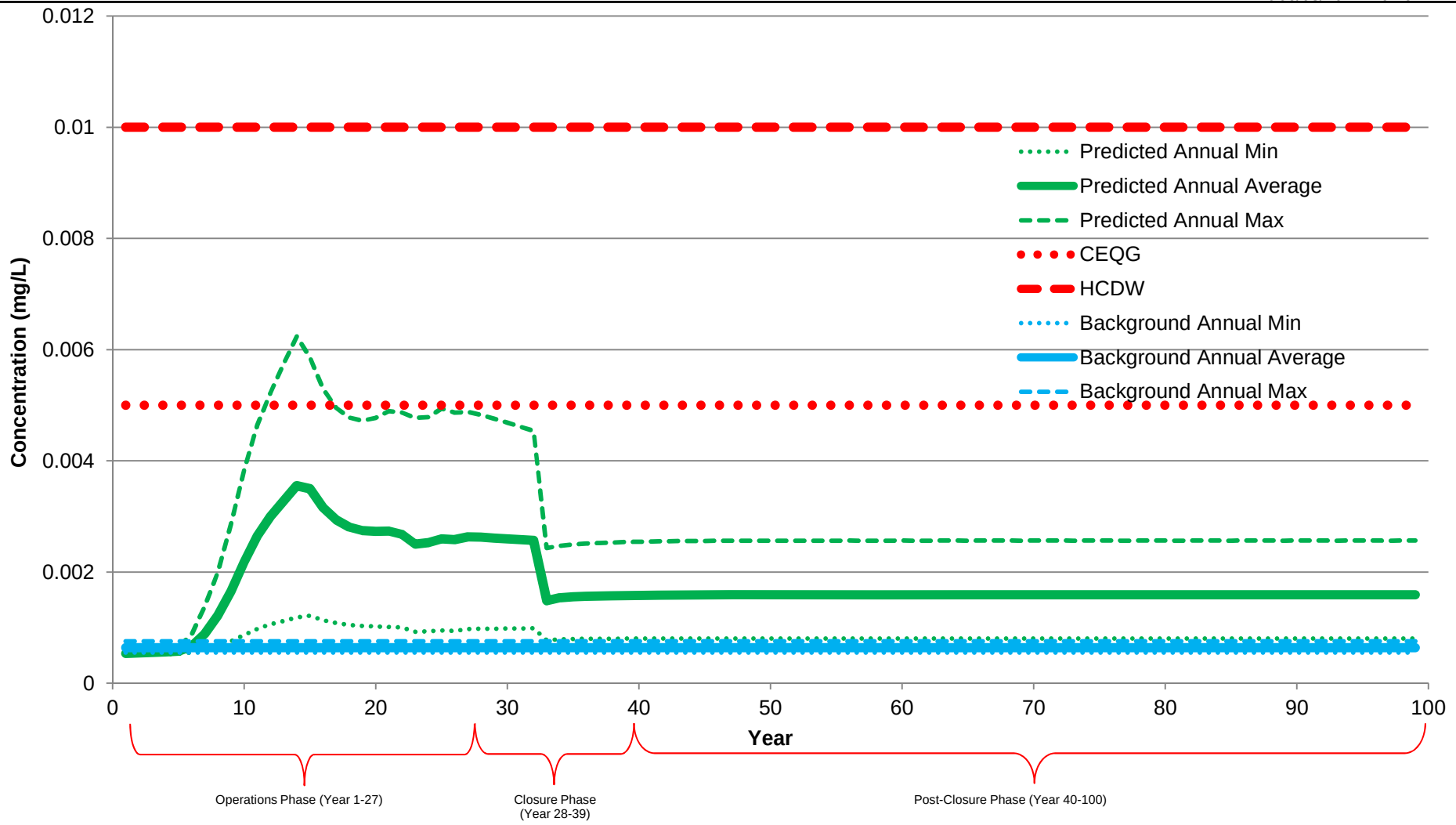

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REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ARSENIC IN NAP3

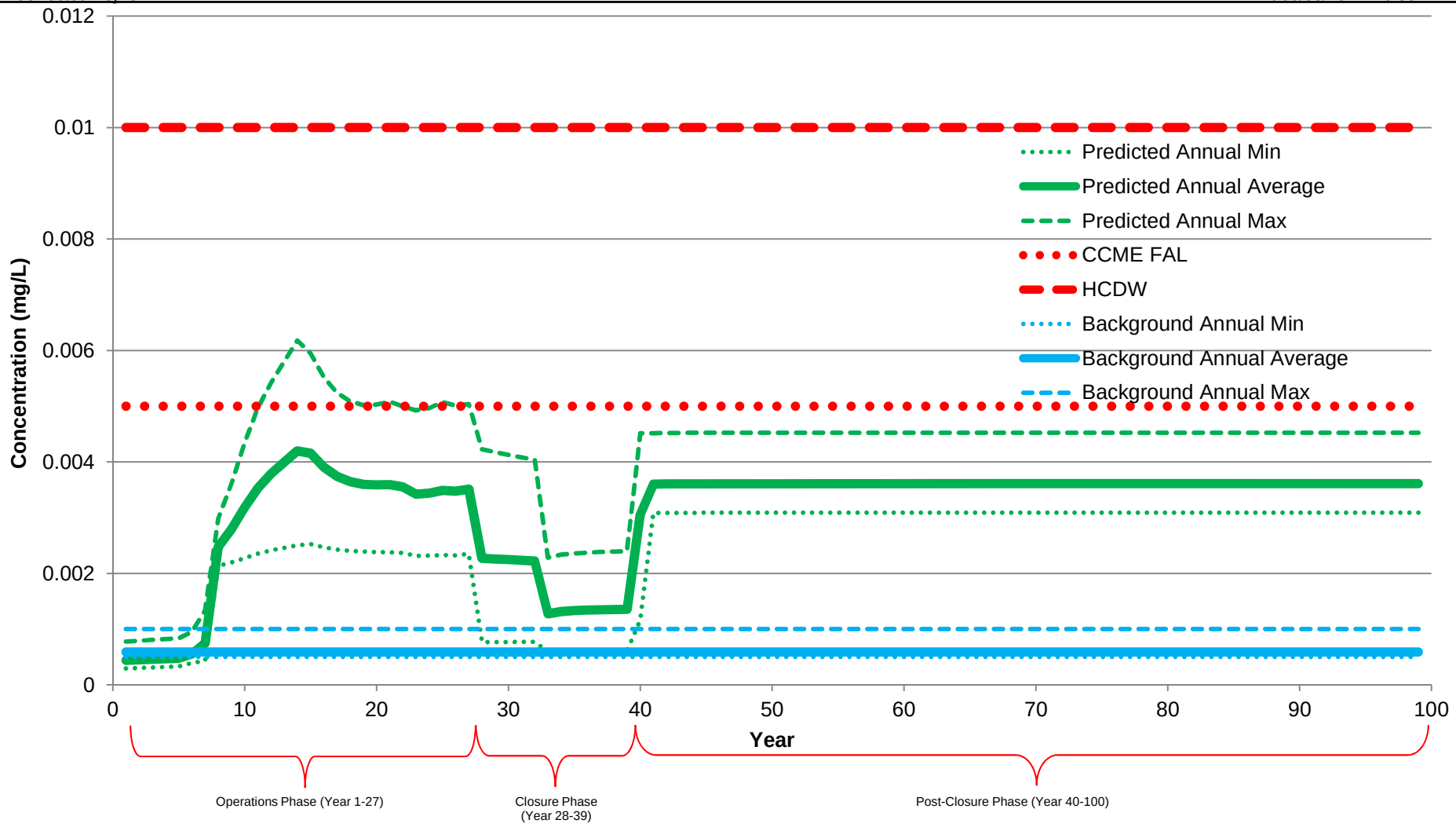
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C5.4

Rev 0



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REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ARSENIC IN NAP5

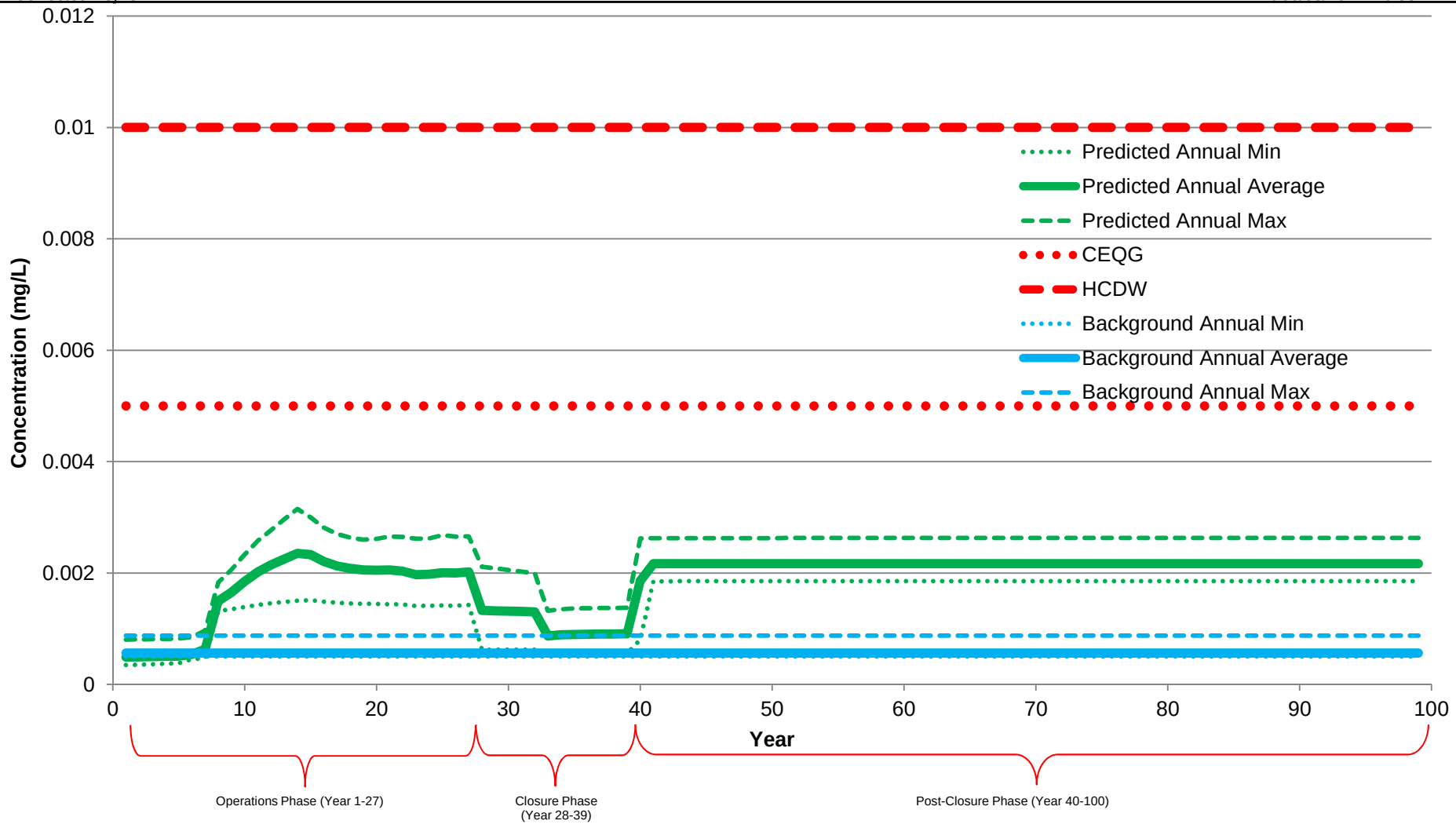
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C5.5

Rev 0



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REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ARSENIC IN NAP7

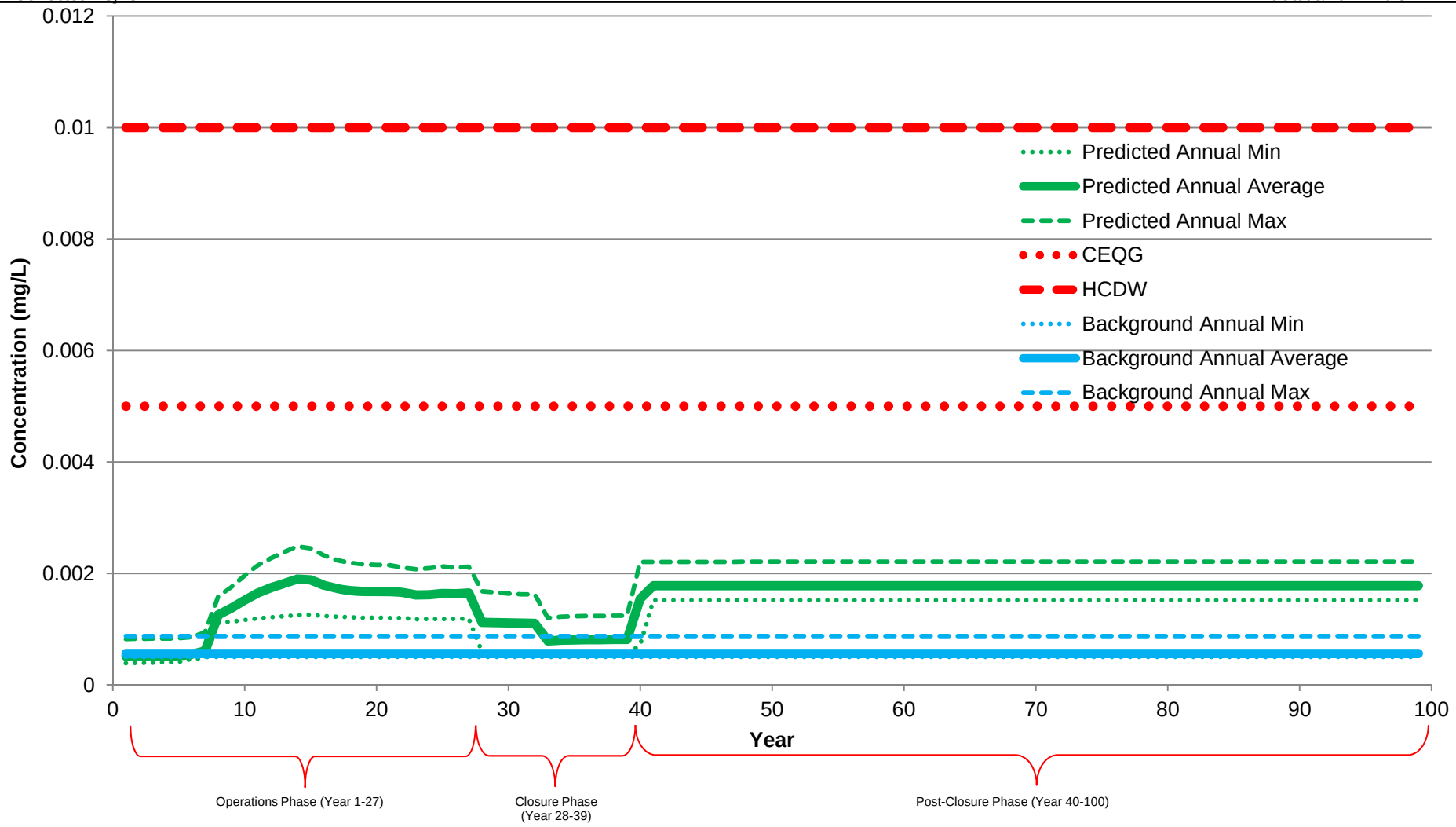
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C5.6

Rev 0



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REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ARSENIC IN NAP8

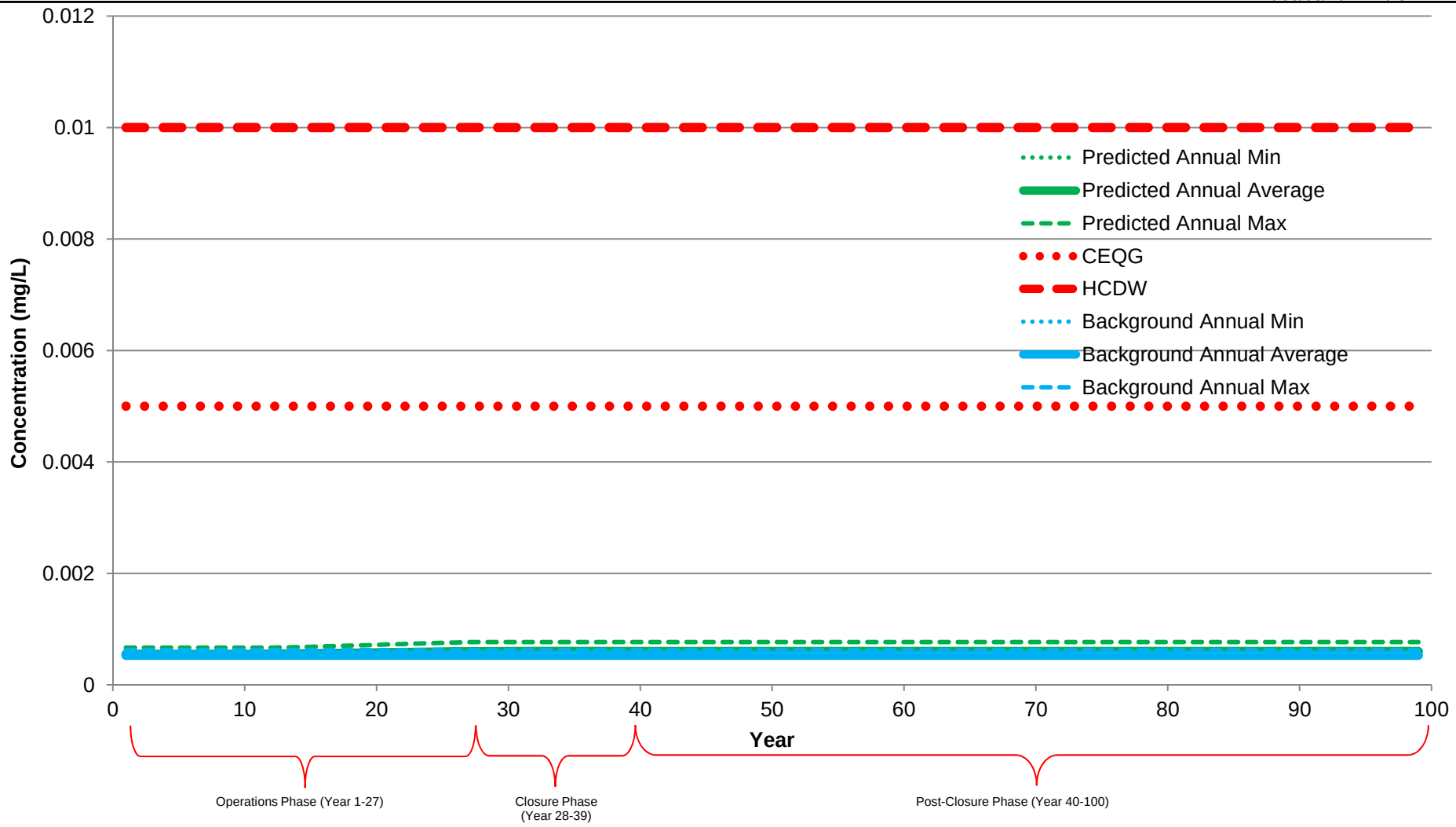
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C5.7

Rev 0



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0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF ARSENIC IN MBB2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C5.8

Rev 0

Knight Piésold
CONSULTING

APPENDIX C6

CADMIUM

(Figures C6-1 to C6-8)

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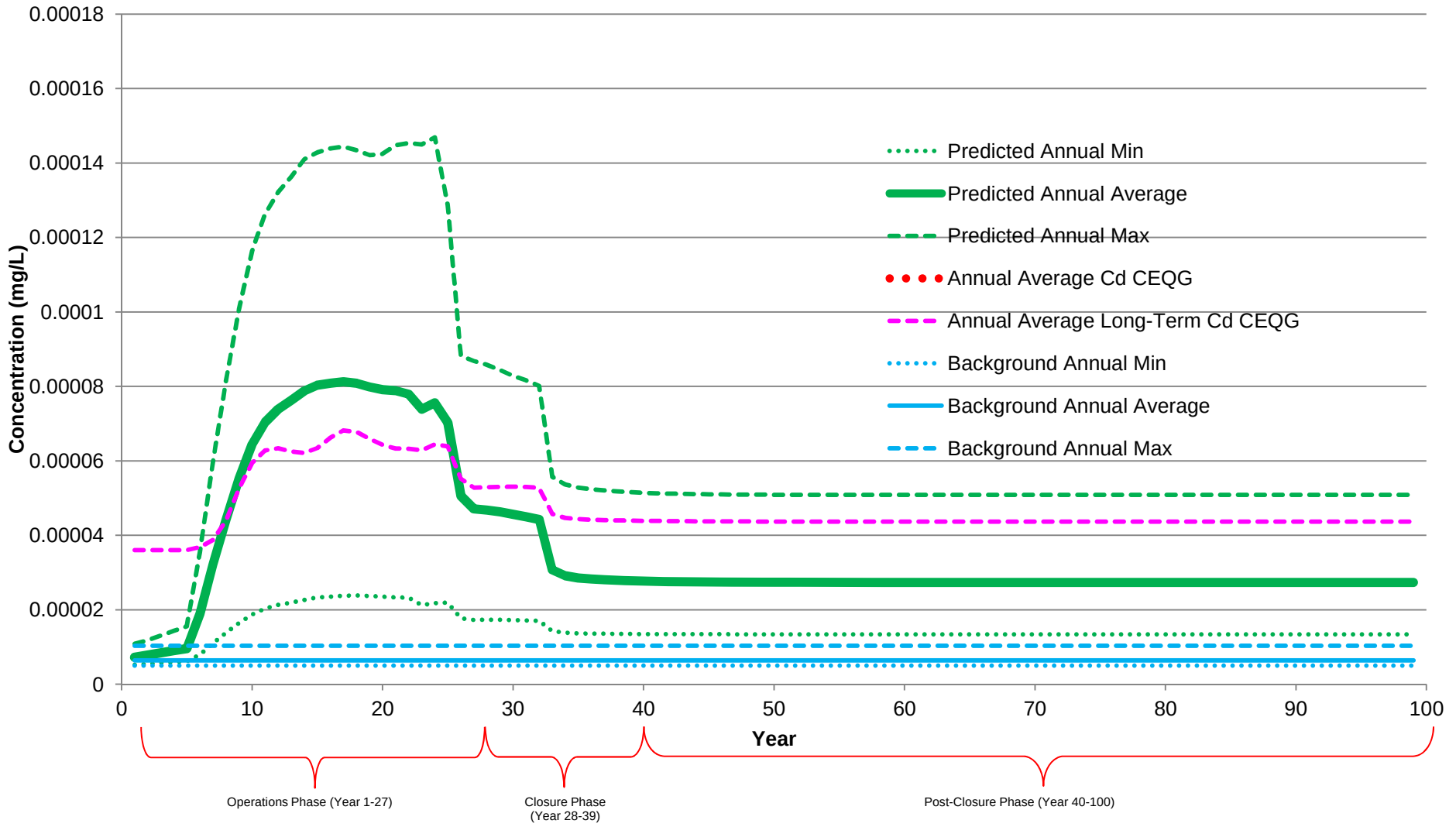

NOTES:

1. THE CCME FAL FOR LONG-TERM EXPOSURE IS HARDNESS-DEPENDENT AND HAS BEEN CALCULATED BASED ON AVERAGE ANNUAL HARDNESS.
2. THE CCME FAL FOR SHORT-TERM EXPOSURE IS NOT WITHIN THE SCALE OF THIS GRAPH.
3. THE HCDW GUIDELINE OF 0.005 mg/L IS NOT SHOWN ON THIS GRAPH.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CADMIUM IN UT1

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C6.1

Rev 0

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix C - Guideline Exceedance Graphs\Excel format\[Appendix_Cx.2_NAP1 - 20140305.xls]Cd
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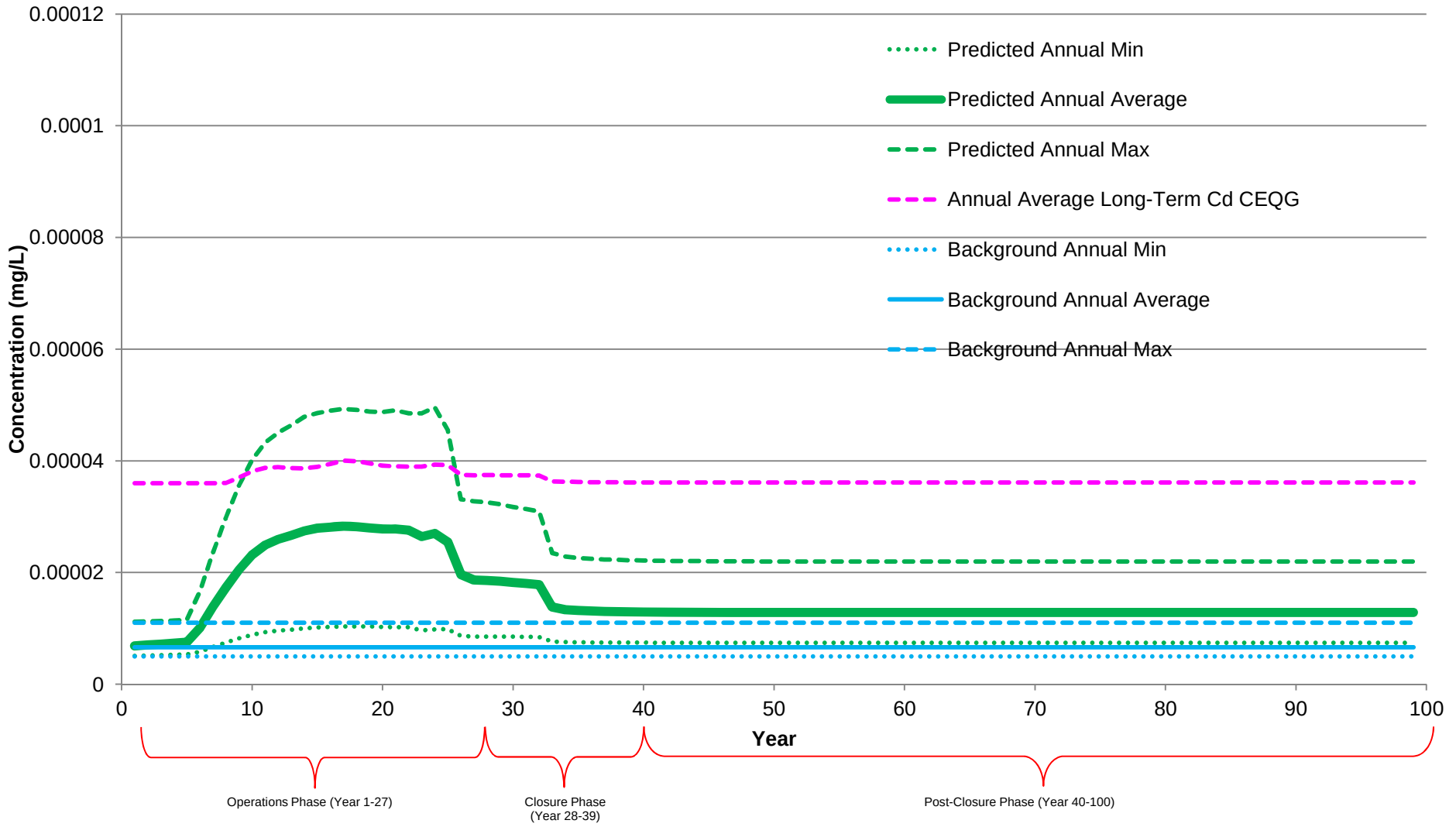


NOTES:

1. THE CCME FAL FOR LONG-TERM EXPOSURE IS HARDNESS-DEPENDENT AND HAS BEEN CALCULATED BASED ON AVERAGE ANNUAL HARDNESS.
2. THE CCME FAL FOR SHORT-TERM EXPOSURE IS NOT WITHIN THE SCALE OF THIS GRAPH.
3. THE HCDW GUIDELINE OF 0.005 mg/L IS NOT SHOWN ON THIS GRAPH.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CADMIUM IN NAP1

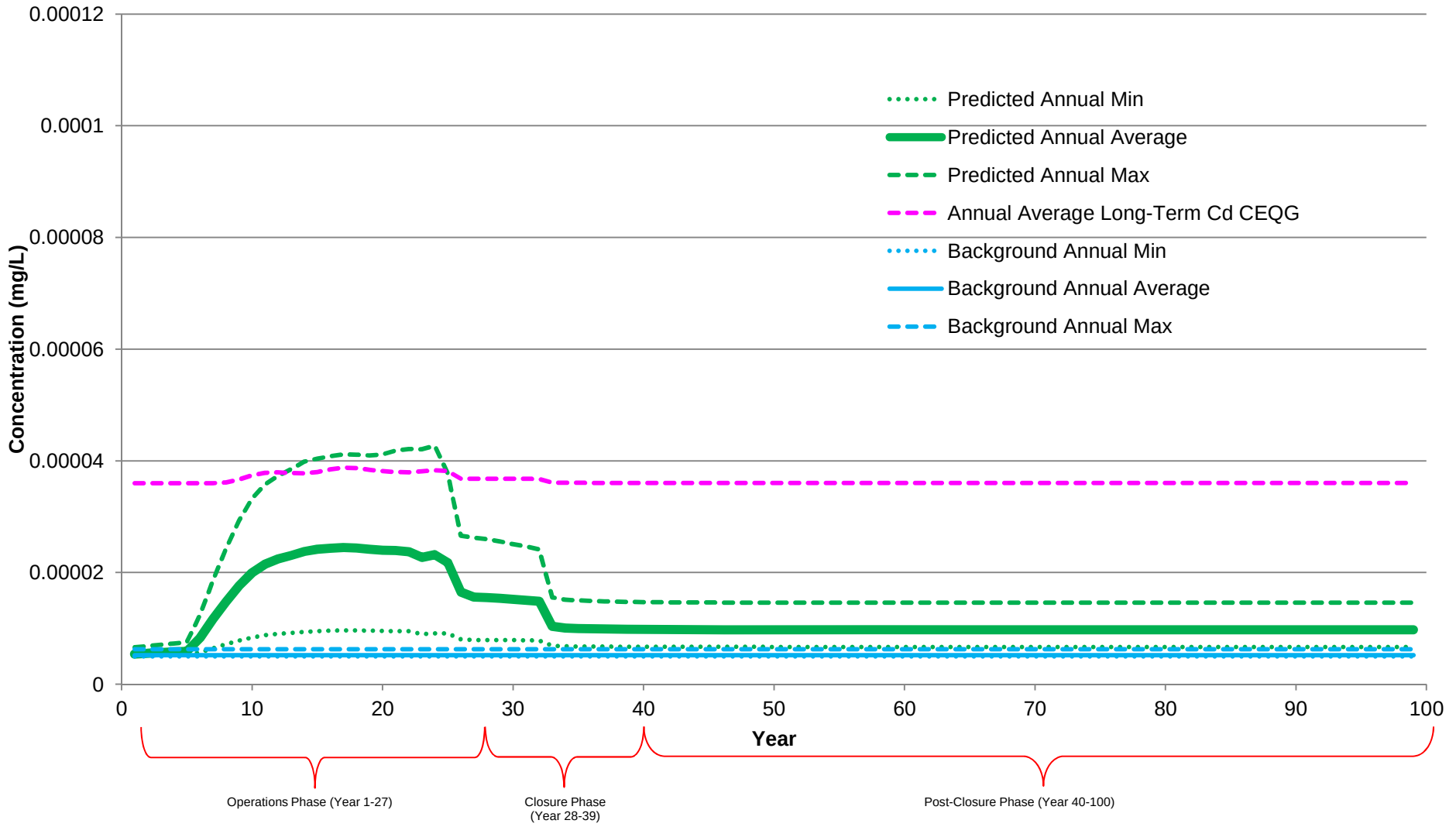
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C6.2

Rev 0



NOTES:

1. THE CCME FAL FOR LONG-TERM EXPOSURE IS HARDNESS-DEPENDENT AND HAS BEEN CALCULATED BASED ON AVERAGE ANNUAL HARDNESS.
2. THE CCME FAL FOR SHORT-TERM EXPOSURE IS NOT WITHIN THE SCALE OF THIS GRAPH.
3. THE HCDW GUIDELINE OF 0.005 mg/L IS NOT SHOWN ON THIS GRAPH.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CADMIUM IN NAP2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C6.3

Rev 0

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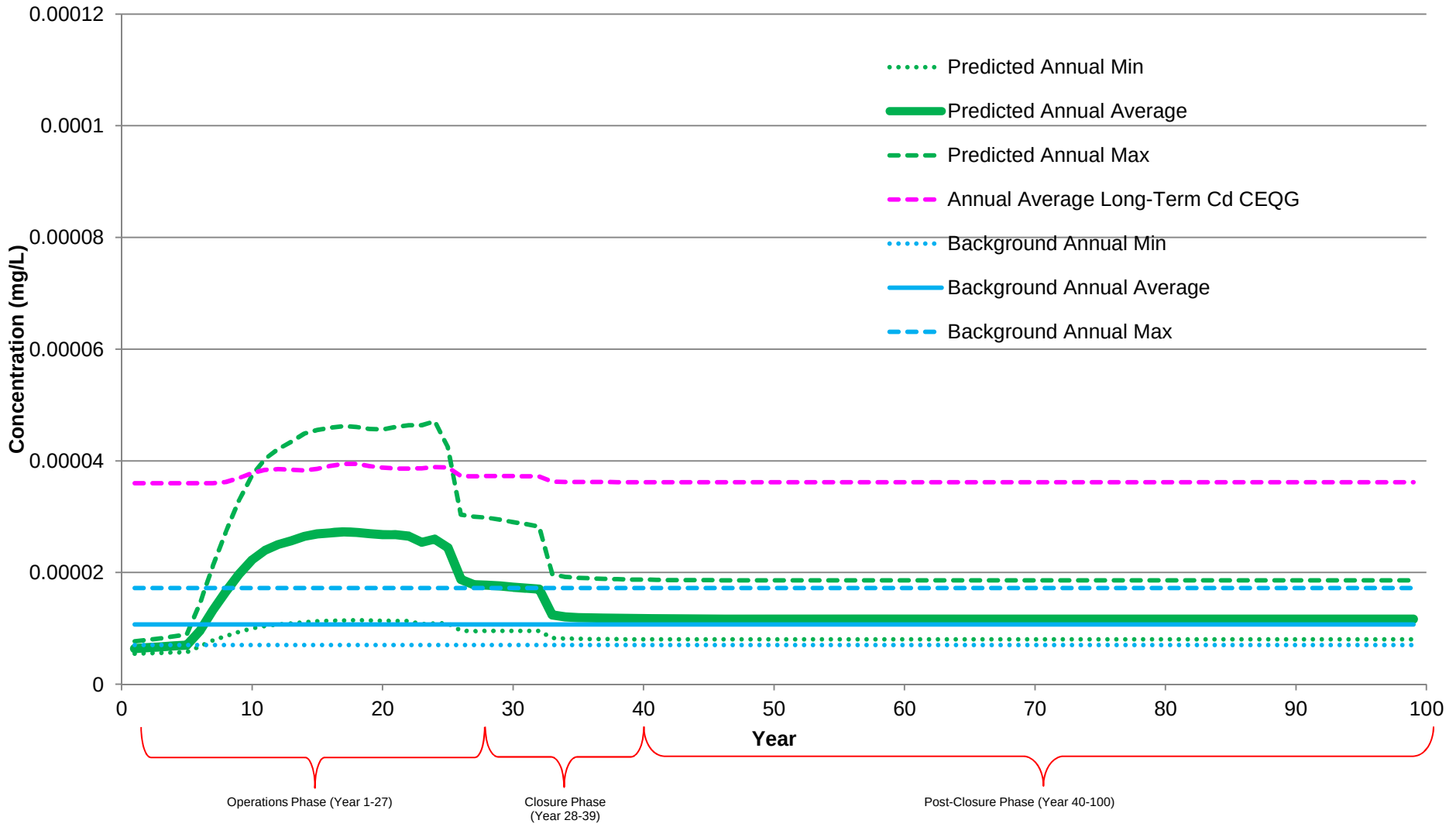


NOTES:

1. THE CCME FAL GUIDELINE FOR LONG-TERM EXPOSURE IS HARDNESS-DEPENDENT AND HAS BEEN CALCULATED BASED ON AVERAGE ANNUAL HARDNESS.
2. THE CCME FAL GUIDELINE FOR SHORT-TERM EXPOSURE IS NOT WITHIN THE SCALE OF THIS GRAPH.
3. THE HCDW GUIDELINE OF 0.005 mg/L IS NOT SHOWN ON THIS GRAPH.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CADMIUM IN NAP3

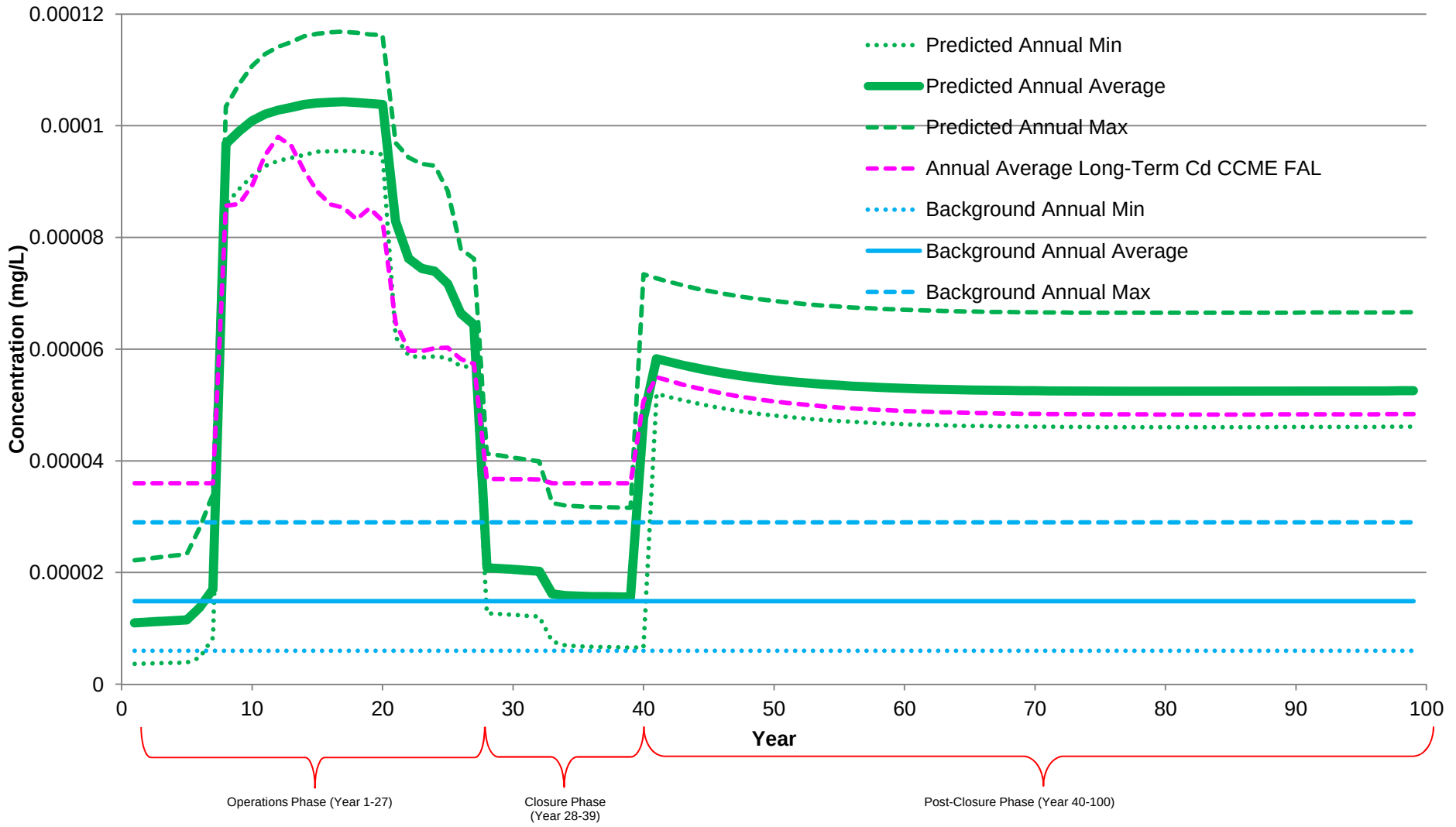
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C6.4

Rev 0



NOTES:

1. THE CCME FAL FOR LONG-TERM EXPOSURE IS HARDNESS-DEPENDENT AND HAS BEEN CALCULATED BASED ON AVERAGE ANNUAL HARDNESS.
2. THE CCME FAL FOR SHORT-TERM EXPOSURE IS NOT WITHIN THE SCALE OF THIS GRAPH.
3. THE HCDW GUIDELINE OF 0.005 mg/L IS NOT SHOWN ON THIS GRAPH.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CADMIUM IN NAP5

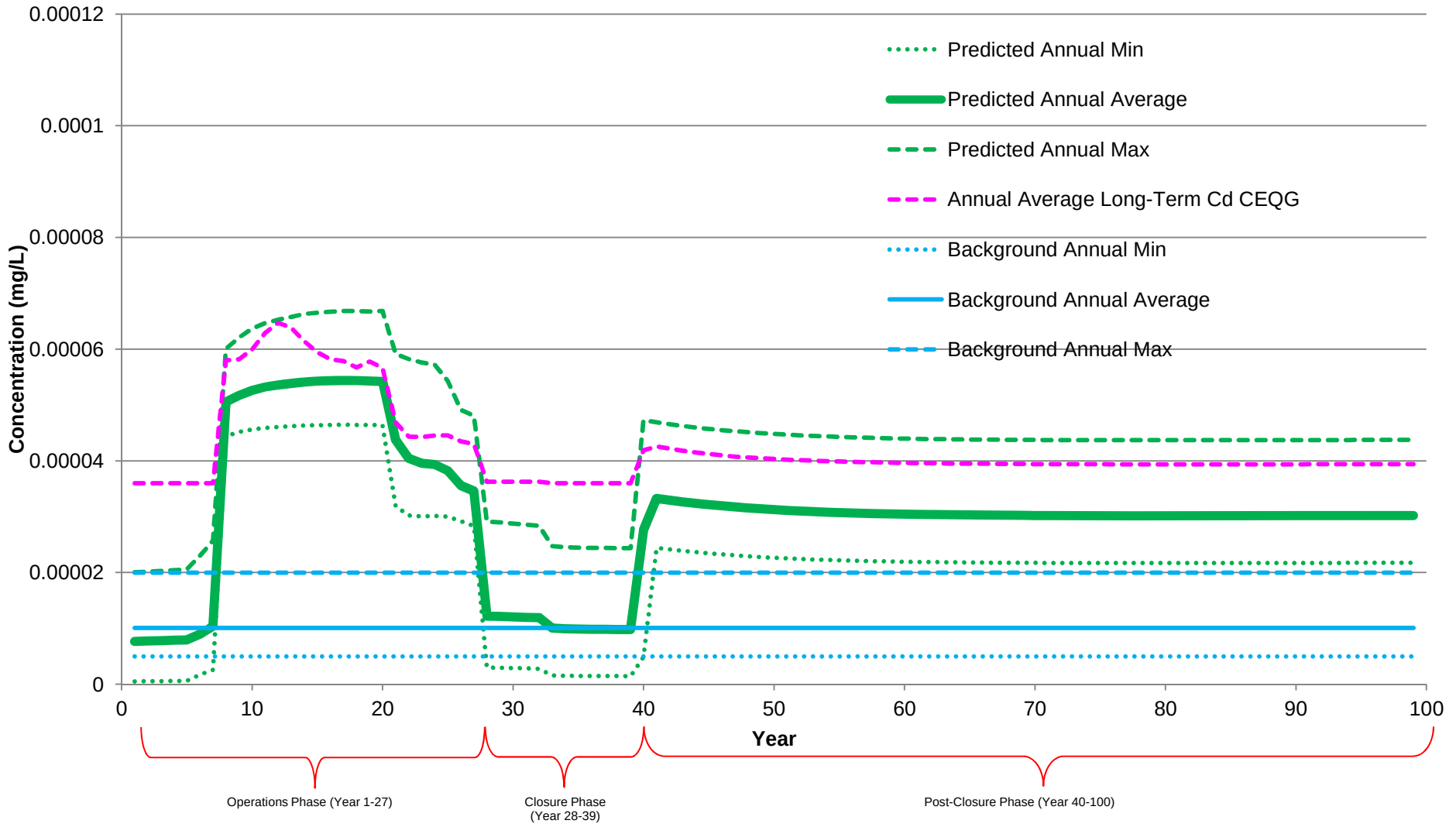
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C6.5

Rev 0



NOTES:

1. THE CCME FAL FOR LONG-TERM EXPOSURE IS HARDNESS-DEPENDENT AND HAS BEEN CALCULATED BASED ON AVERAGE ANNUAL HARDNESS.
2. THE CCME FAL FOR SHORT-TERM EXPOSURE IS NOT WITHIN THE SCALE OF THIS GRAPH.
3. THE HCDW GUIDELINE OF 0.005 mg/L IS NOT SHOWN ON THIS GRAPH.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CADMIUM IN NAP7

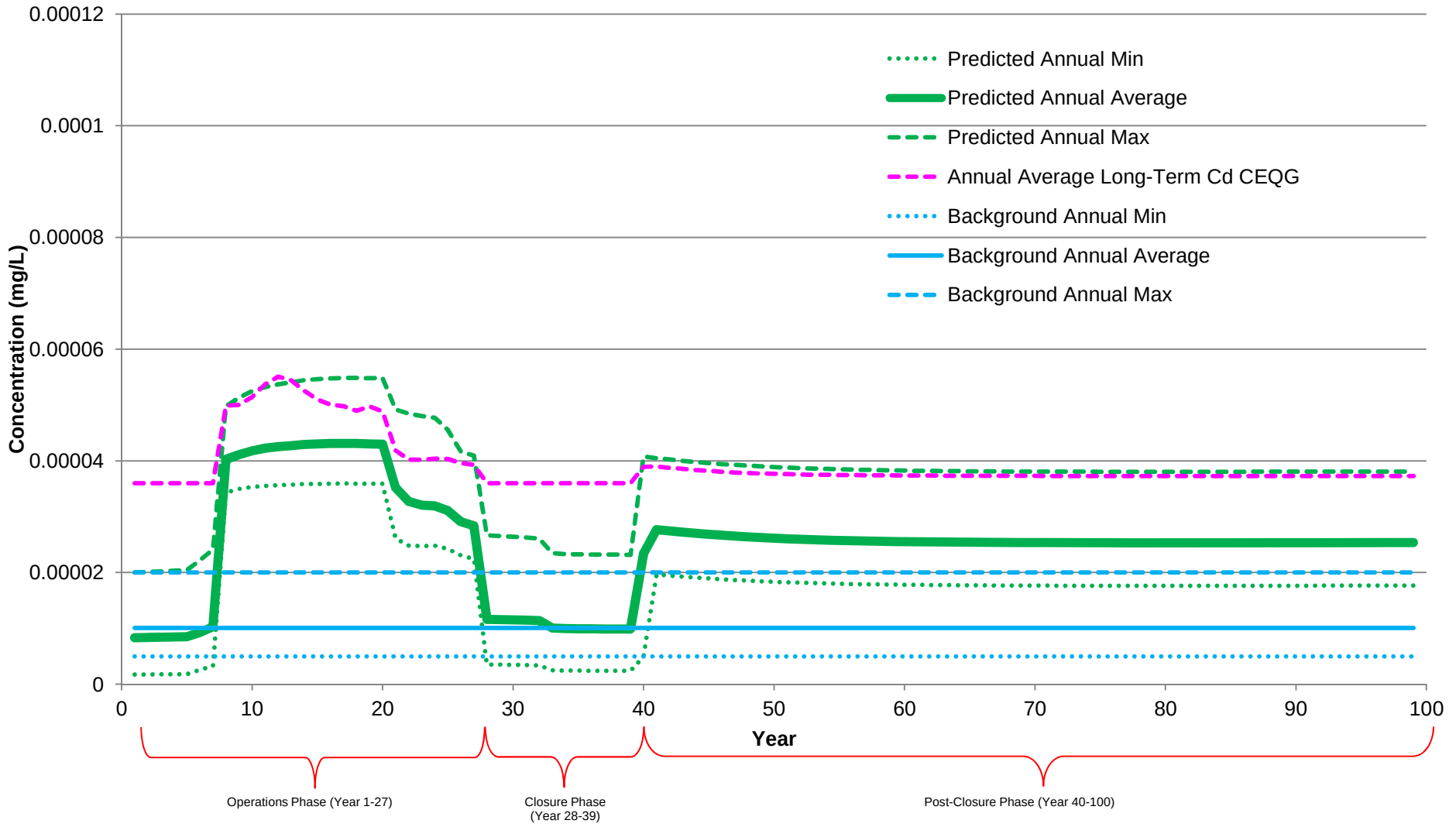
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C6.6

Rev 0



NOTES:

1. THE CCME FAL FOR LONG-TERM EXPOSURE IS HARDNESS-DEPENDENT AND HAS BEEN CALCULATED BASED ON AVERAGE ANNUAL HARDNESS.
2. THE CCME FAL FOR SHORT-TERM EXPOSURE IS NOT WITHIN THE SCALE OF THIS GRAPH.
3. THE HCDW GUIDELINE OF 0.005 mg/L IS NOT SHOWN ON THIS GRAPH.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CADMIUM IN NAP8

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C6.7

Rev 0

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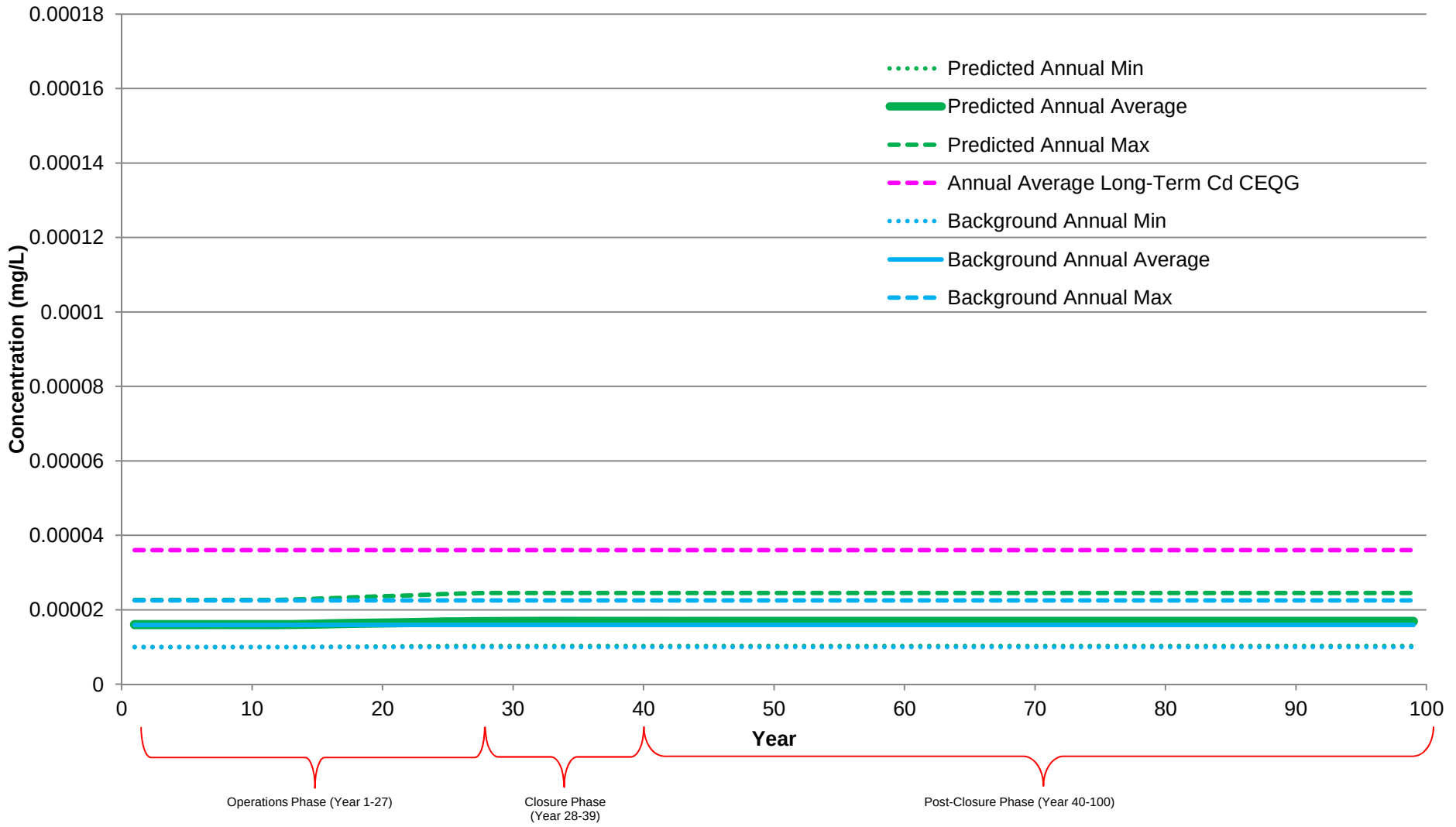

NOTES:

1. THE CCME FAL FOR LONG-TERM EXPOSURE IS HARDNESS-DEPENDENT AND HAS BEEN CALCULATED BASED ON AVERAGE ANNUAL HARDNESS.
2. THE CCME FAL FOR SHORT-TERM EXPOSURE IS NOT WITHIN THE SCALE OF THIS GRAPH.
3. THE HCDW GUIDELINE OF 0.005 mg/L IS NOT SHOWN ON THIS GRAPH.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CADMIUM IN MBB2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C6.8

Rev 0

Knight Piésold
CONSULTING

APPENDIX C7

CHROMIUM

(Figures C7-1 to C7-8)

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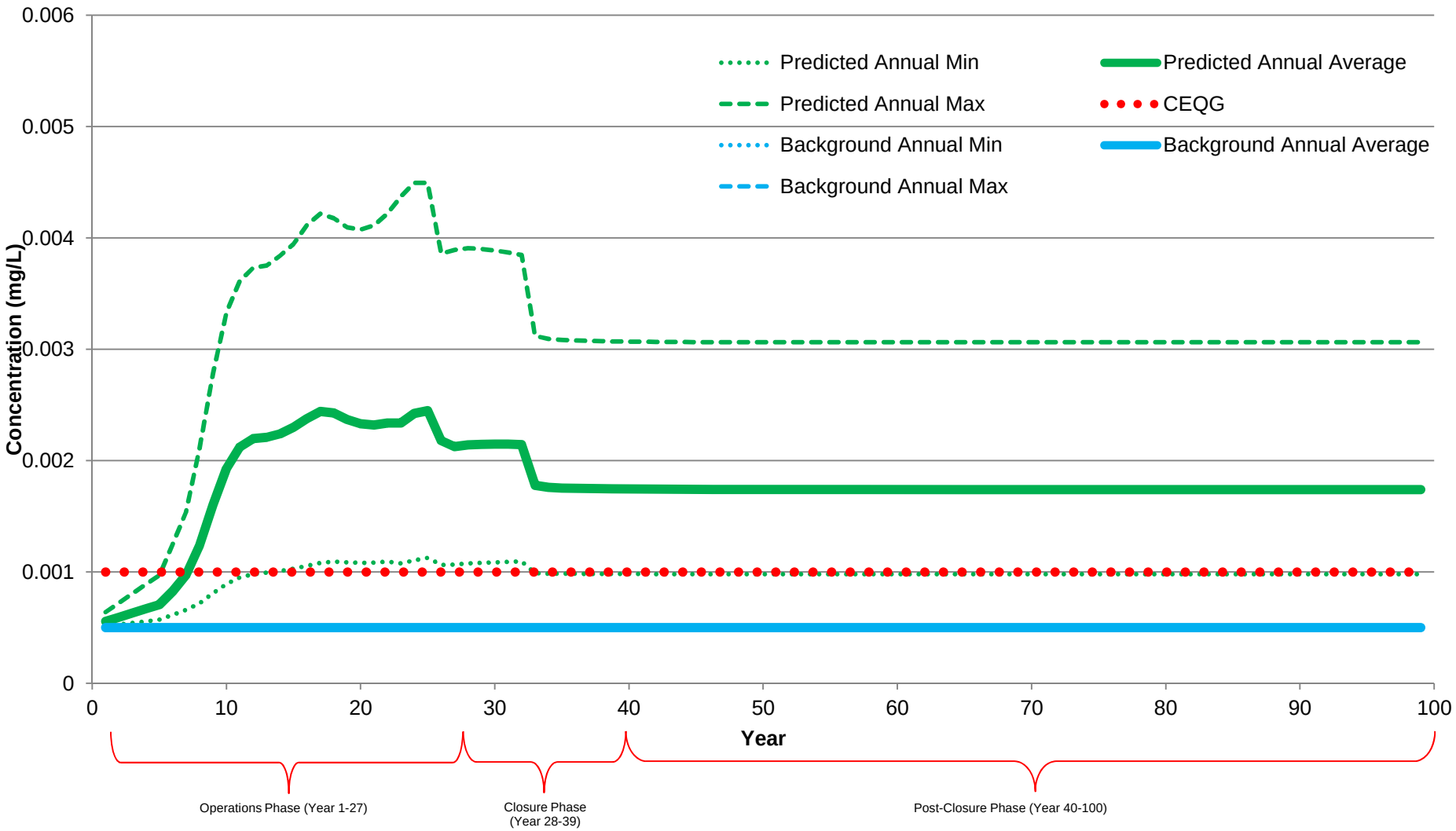


NOTES:

1. THE CCME FAL FOR TRIVALENT Cr IS 0.0089 mg/L; THE CCME FAL FOR HEXAVALENT CHROMIUM IS 0.001 mg/L.
2. NO MMER GUIDELINE FOR Cr.
3. THE HCDW GUIDELINE OF 0.05 mg/L IS NOT SHOWN ON THIS GRAPH

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CHROMIUM IN UT1

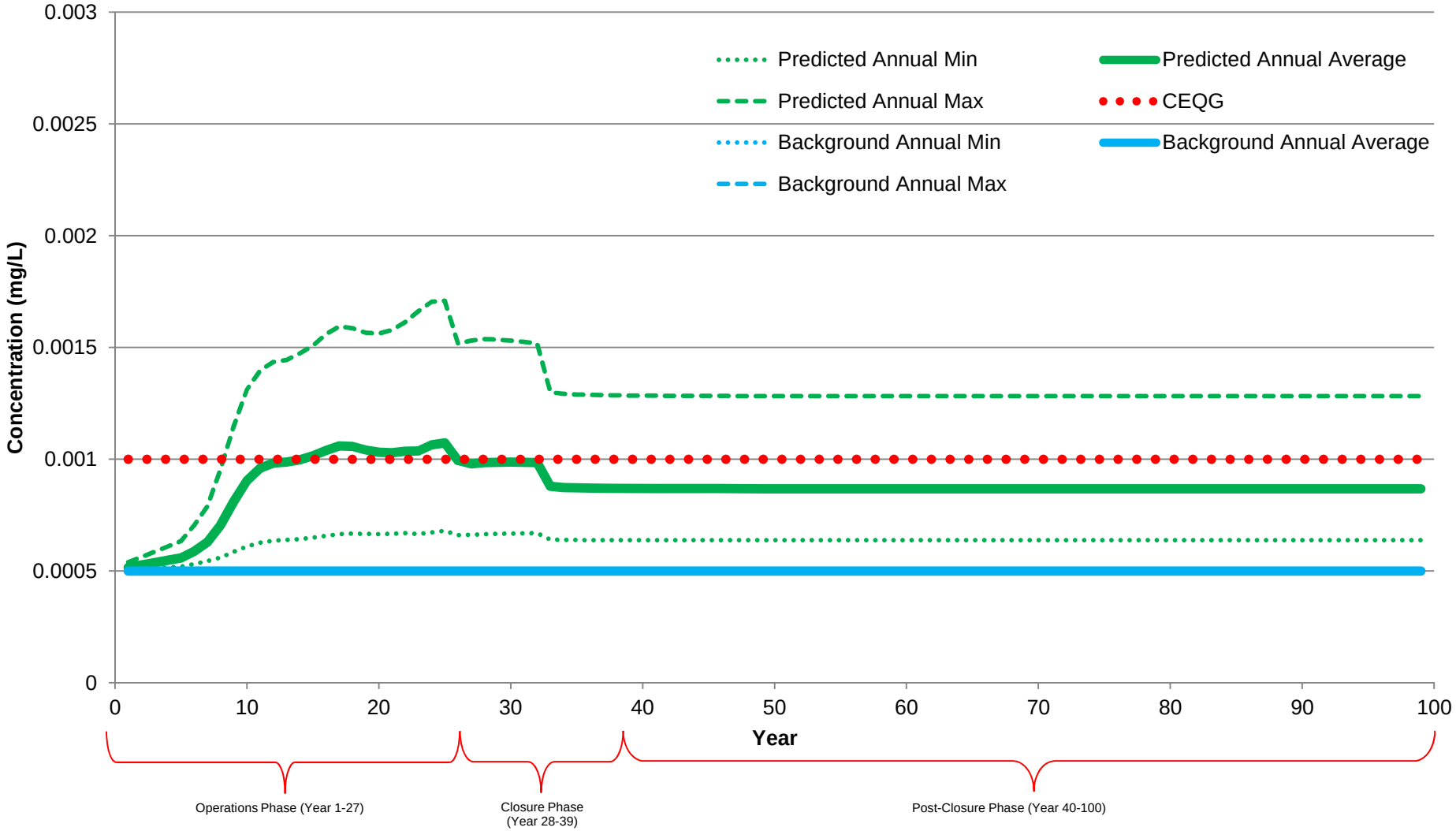
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C7.1

Rev 0



NOTES:

1. THE CCME FAL FOR TRIVALENT Cr IS 0.0089 mg/L; THE CCME FAL FOR HEXAVALENT CHROMIUM IS 0.001 mg/L.
2. NO MMER GUIDELINE FOR Cr.
3. THE HCDW GUIDELINE OF 0.05 mg/L IS NOT SHOWN ON THIS GRAPH

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CHROMIUM IN NAP1

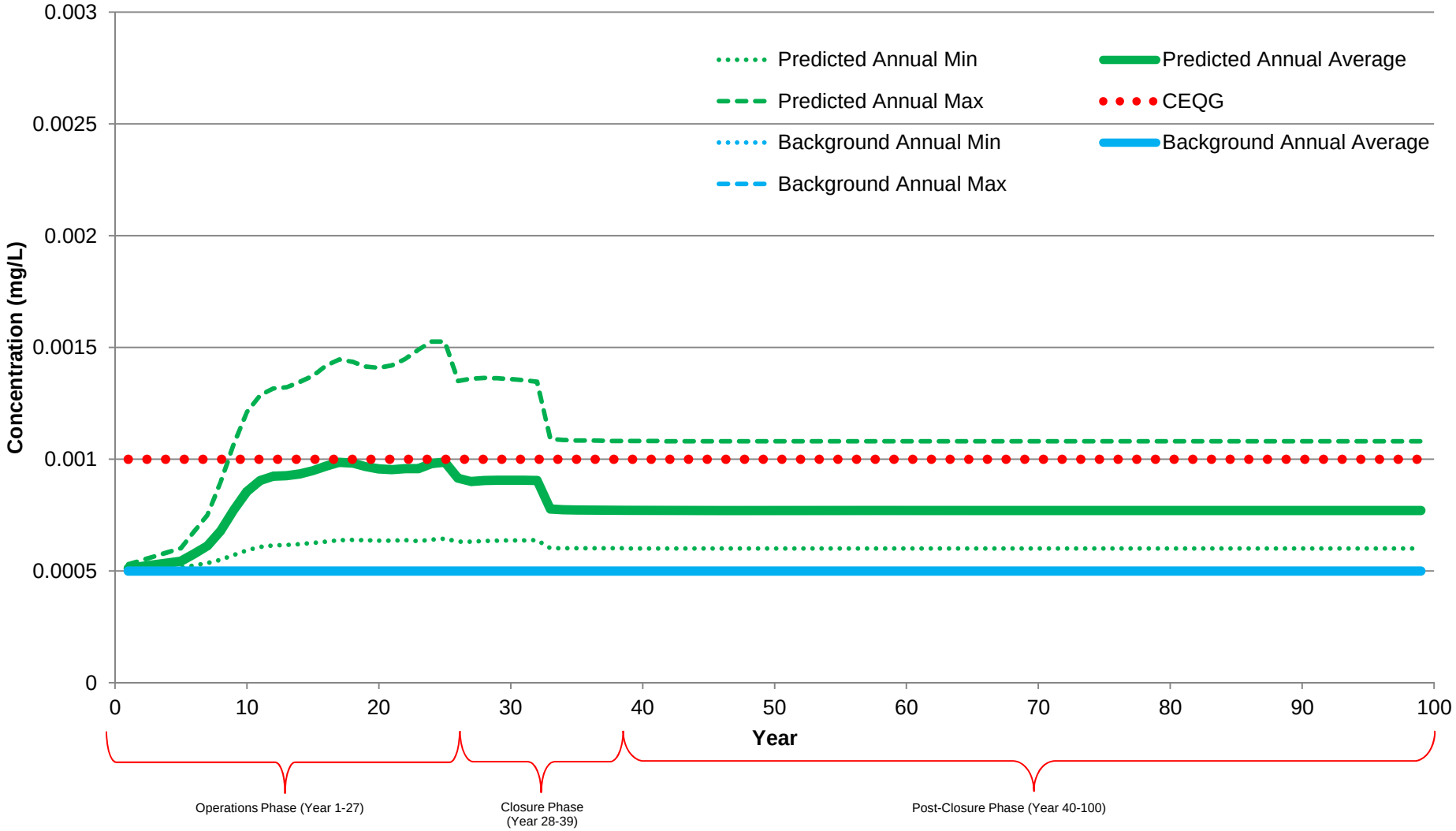
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C7.2

Rev 0



NOTES:

1. THE CCME FAL FOR TRIVALENT Cr IS 0.0089 mg/L; THE CCME FAL FOR HEXAVALENT CHROMIUM IS 0.001 mg/L.
2. NO MMER GUIDELINE FOR Cr.
3. THE HCDW GUIDELINE OF 0.05 mg/L IS NOT SHOWN ON THIS GRAPH

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CHROMIUM IN NAP2

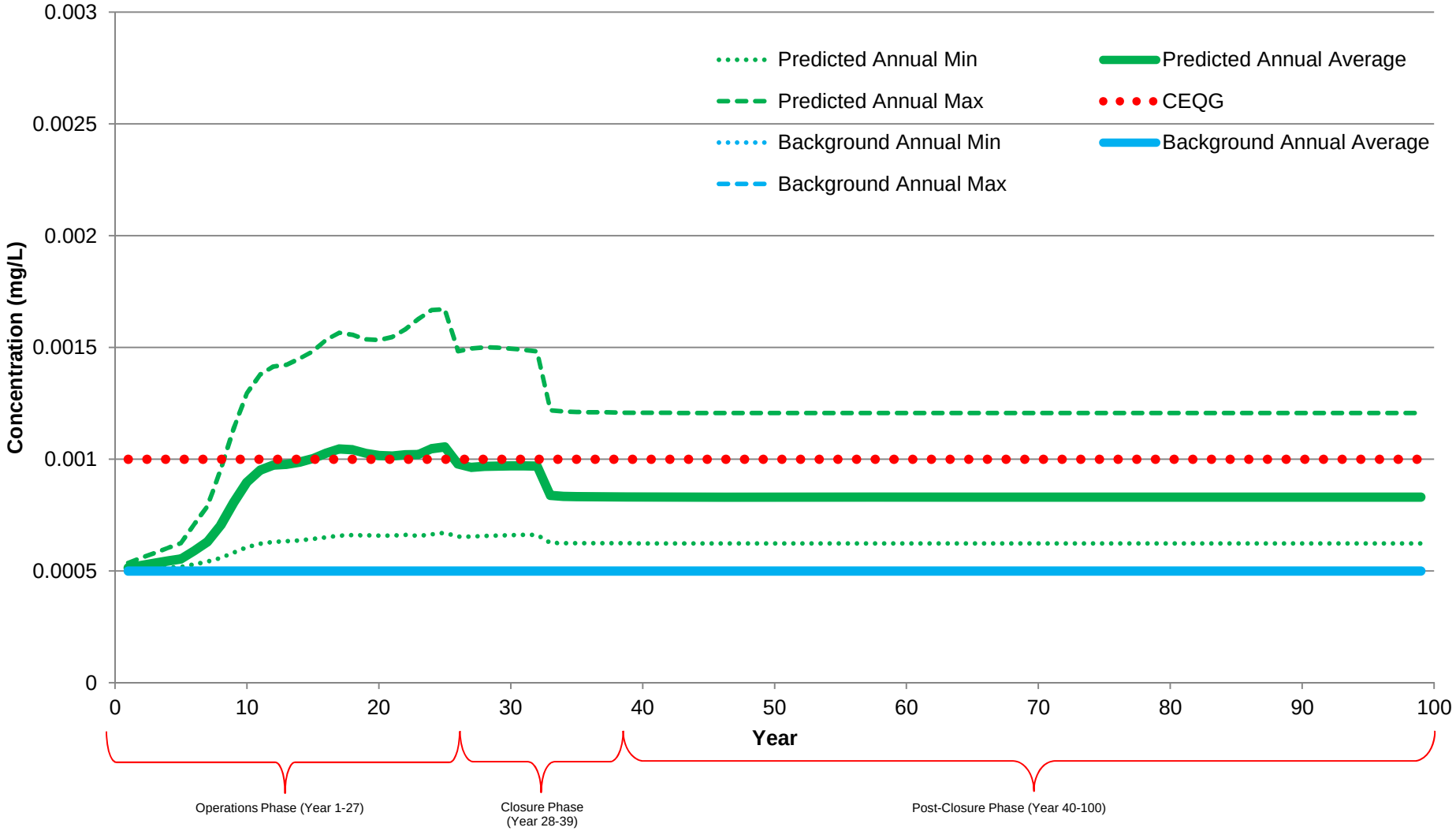
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C7.3

Rev 0



NOTES:

1. THE CCME FAL FOR TRIVALENT Cr IS 0.0089 mg/L; THE CCME FAL FOR HEXAVALENT CHROMIUM IS 0.001 mg/L.
2. NO MMER GUIDELINE FOR Cr.
3. THE HCDW GUIDELINE OF 0.05 mg/L IS NOT SHOWN ON THIS GRAPH

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CHROMIUM IN NAP3

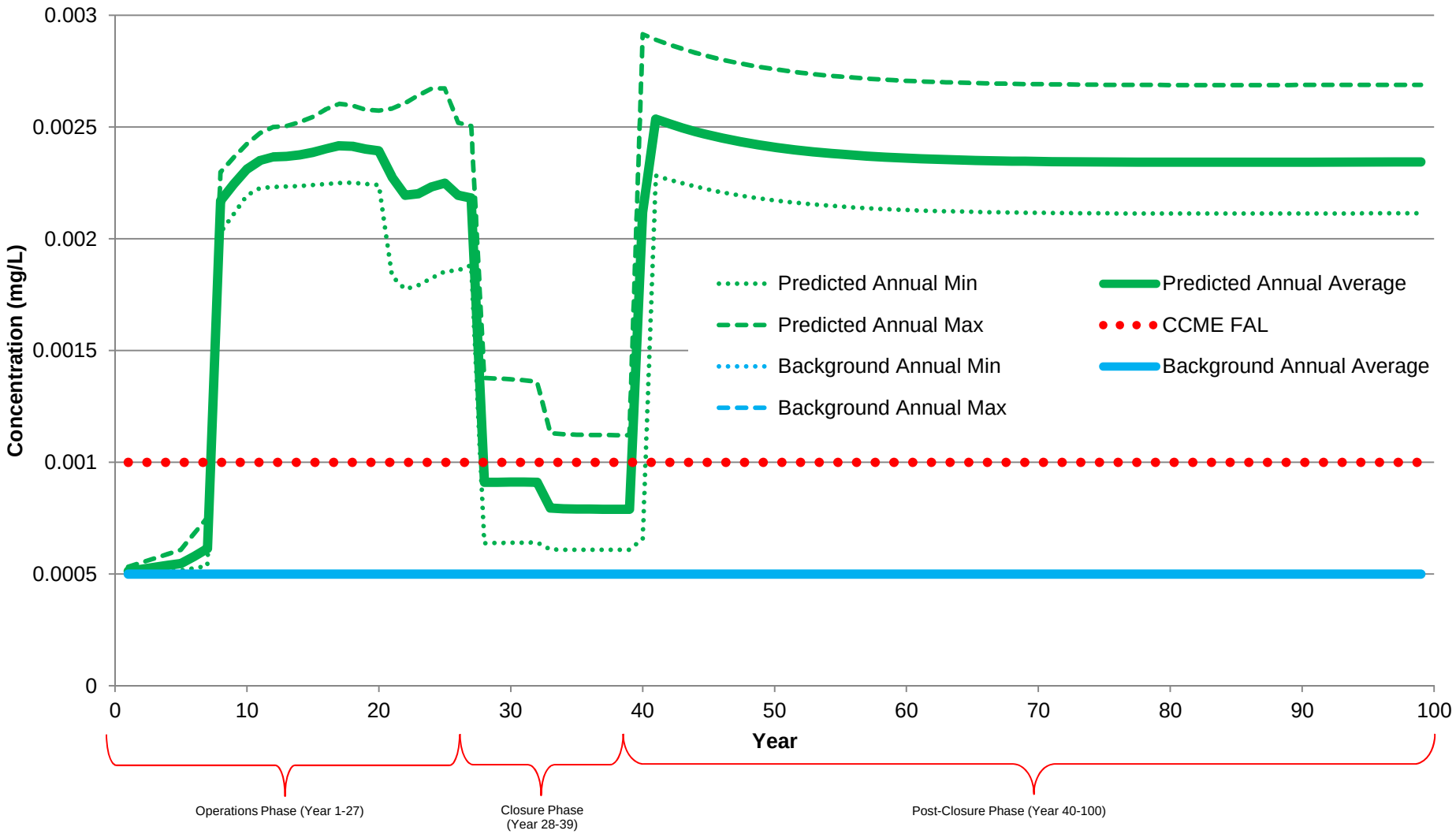
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C7.4

Rev 0



NOTES:

1. THE CCME FAL FOR TRIVALENT Cr IS 0.0089 mg/L; THE CCME FAL FOR HEXAVALENT CHROMIUM IS 0.001 mg/L.
2. NO MMER GUIDELINE FOR Cr.
3. THE HCDW GUIDELINE OF 0.05 mg/L IS NOT SHOWN ON THIS GRAPH

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CHROMIUM IN NAP5

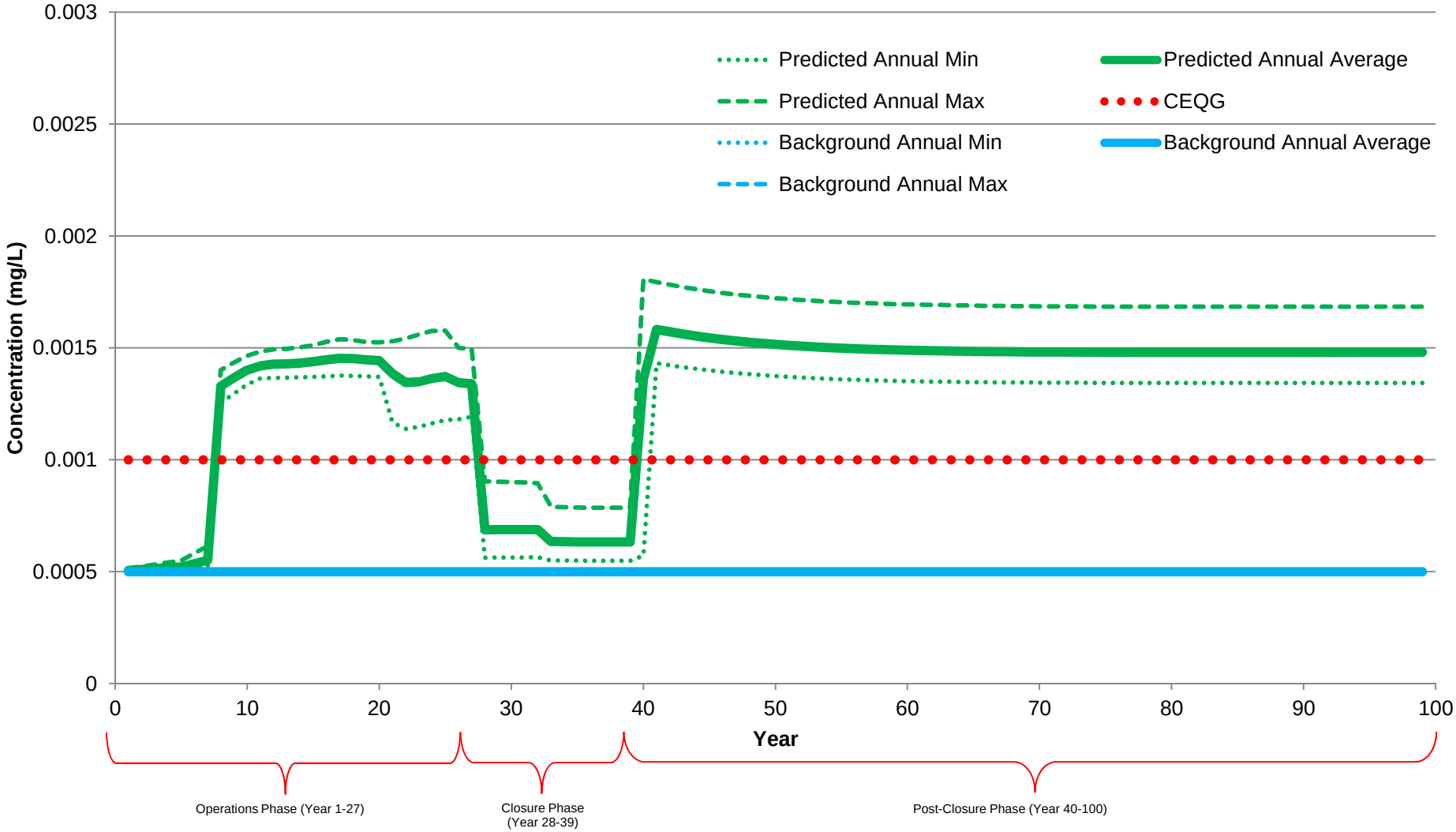
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C7.5

Rev 0



NOTES:

1. THE CCME FAL FOR TRIVALENT Cr IS 0.0089 mg/L; THE CCME FAL FOR HEXAVALENT CHROMIUM IS 0.001 mg/L.
2. NO MMER GUIDELINE FOR Cr.
3. THE HCDW GUIDELINE OF 0.05 mg/L IS NOT SHOWN ON THIS GRAPH

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CHROMIUM IN NAP7

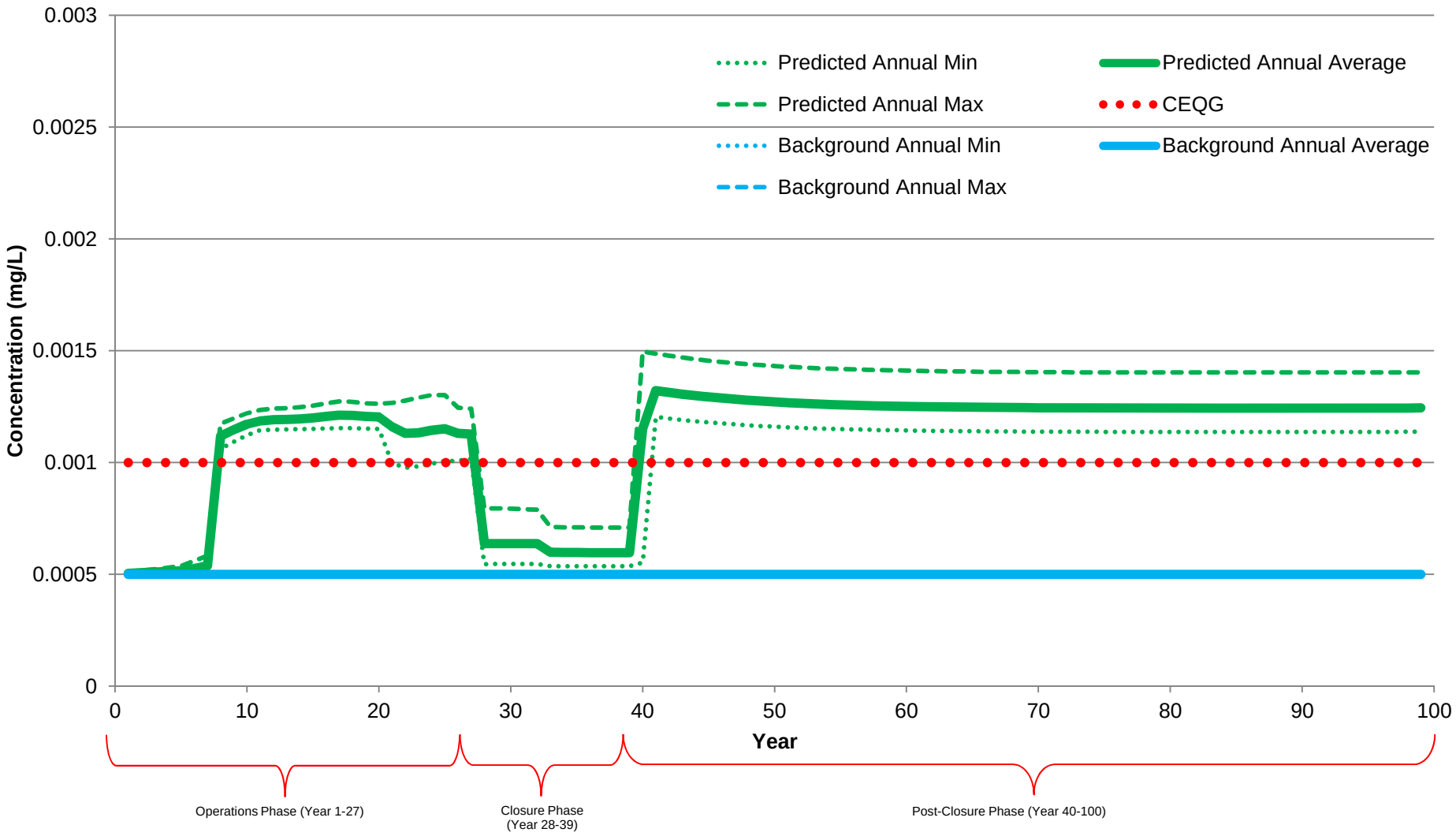
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C7.6

Rev 0



NOTES:

1. THE CCME FAL FOR TRIVALENT Cr IS 0.0089 mg/L; THE CCME FAL FOR HEXAVALENT CHROMIUM IS 0.001 mg/L.
2. NO MMER GUIDELINE FOR Cr.
3. THE HCDW GUIDELINE OF 0.05 mg/L IS NOT SHOWN ON THIS GRAPH

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CHROMIUM IN NAP8

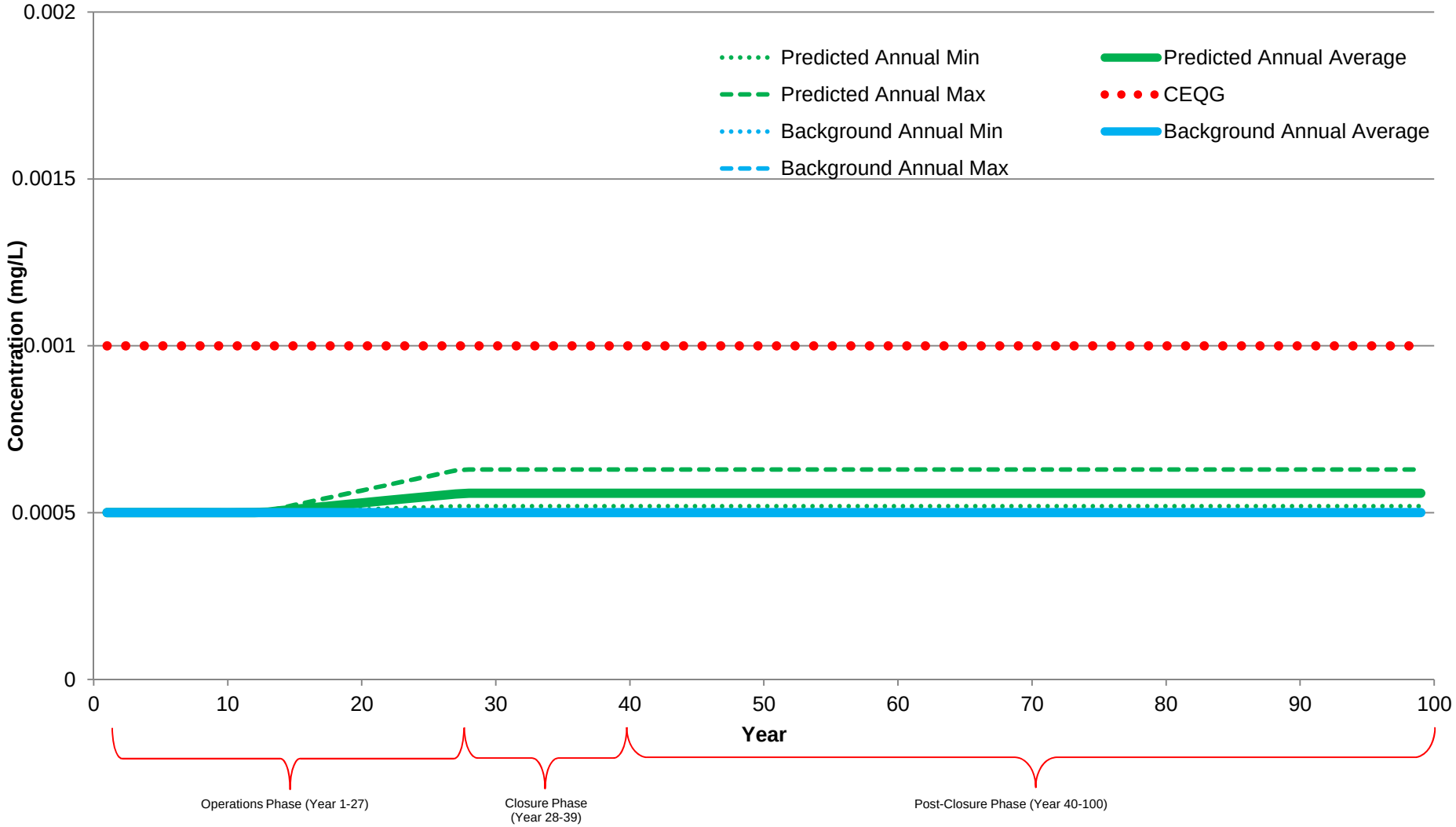
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C7.7

Rev 0



NOTES:

1. THE CCME FAL FOR TRIVALENT Cr IS 0.0089 mg/L; THE CCME FAL FOR HEXAVALENT CHROMIUM IS 0.001 mg/L.
2. NO MMER GUIDELINE FOR Cr.
3. THE HCDW GUIDELINE OF 0.05 mg/L IS NOT SHOWN ON THIS GRAPH

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF CHROMIUM IN MBB2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C7.8

Rev 0

Knight Piésold
CONSULTING

APPENDIX C8

COPPER

(Figures C8-1 to C8-8)

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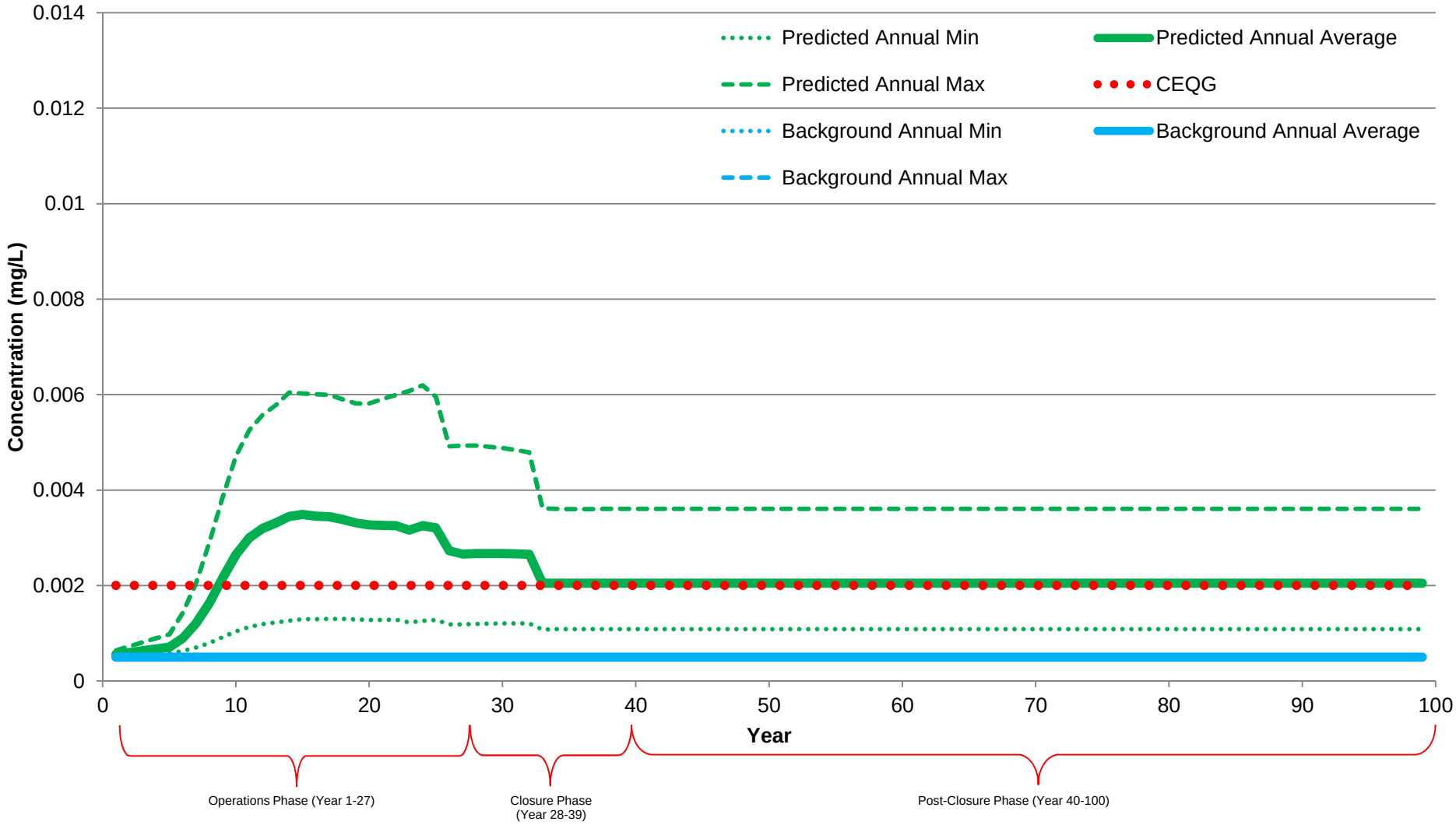

NOTES:

1. THE HCDW GUIDELINE IS 1.0 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.002 mg/L FOR HARDNESS <83 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF COPPER IN UT1

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C8.1

Rev 0

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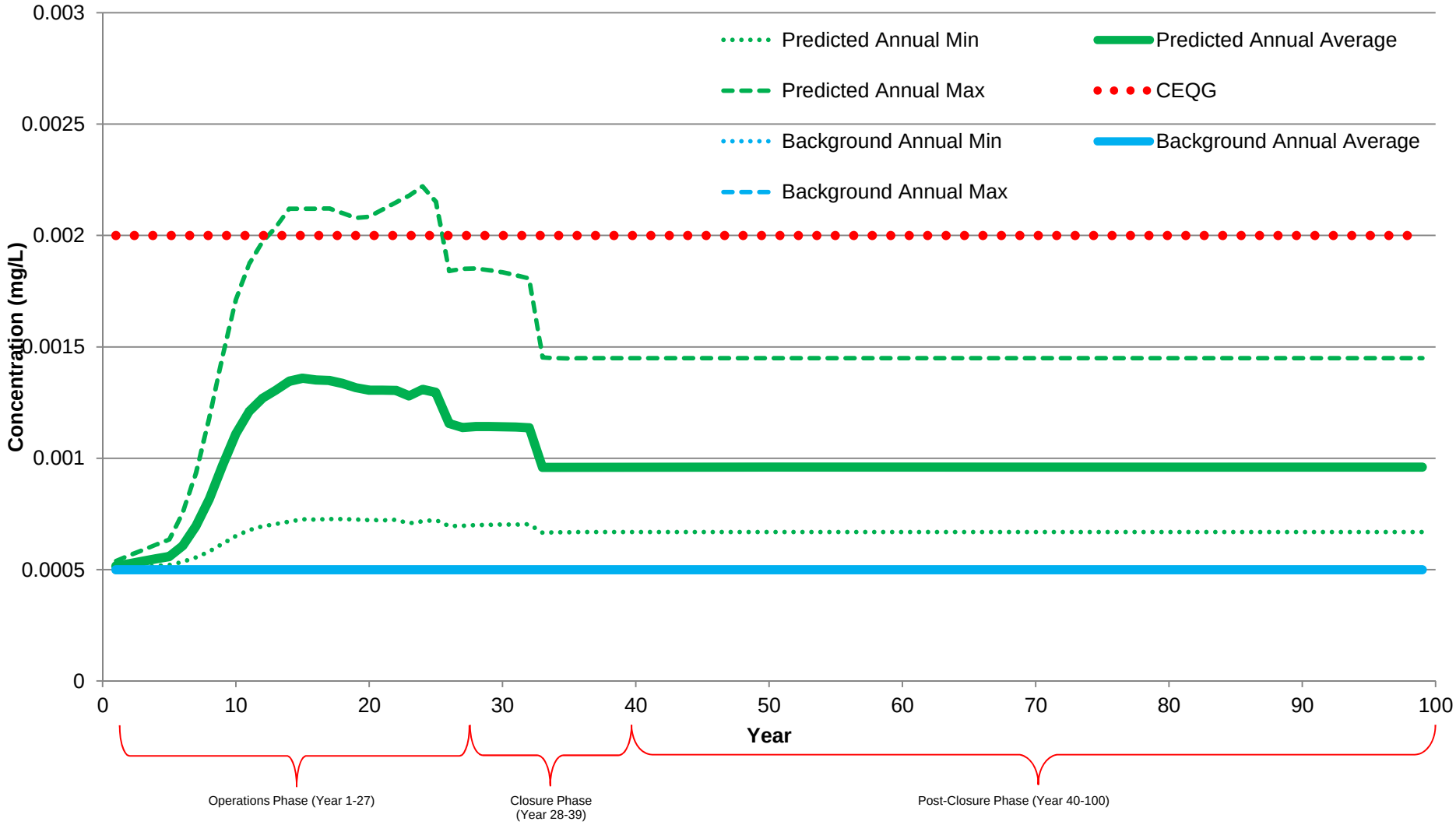

NOTES:

1. THE HCDW GUIDELINE IS 1.0 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.002 mg/L FOR HARDNESS <83 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF COPPER IN NAP1

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C8.2

Rev 0

M:\1\01\00447\05\A\Correspondence\VA14-00403 - WQM Update (Cr Revised_r1)\Appendix C - Guideline Exceedance Graphs\Excel format\[Appendix_Cx.3_NAP2 - 20140305.xls]Cu
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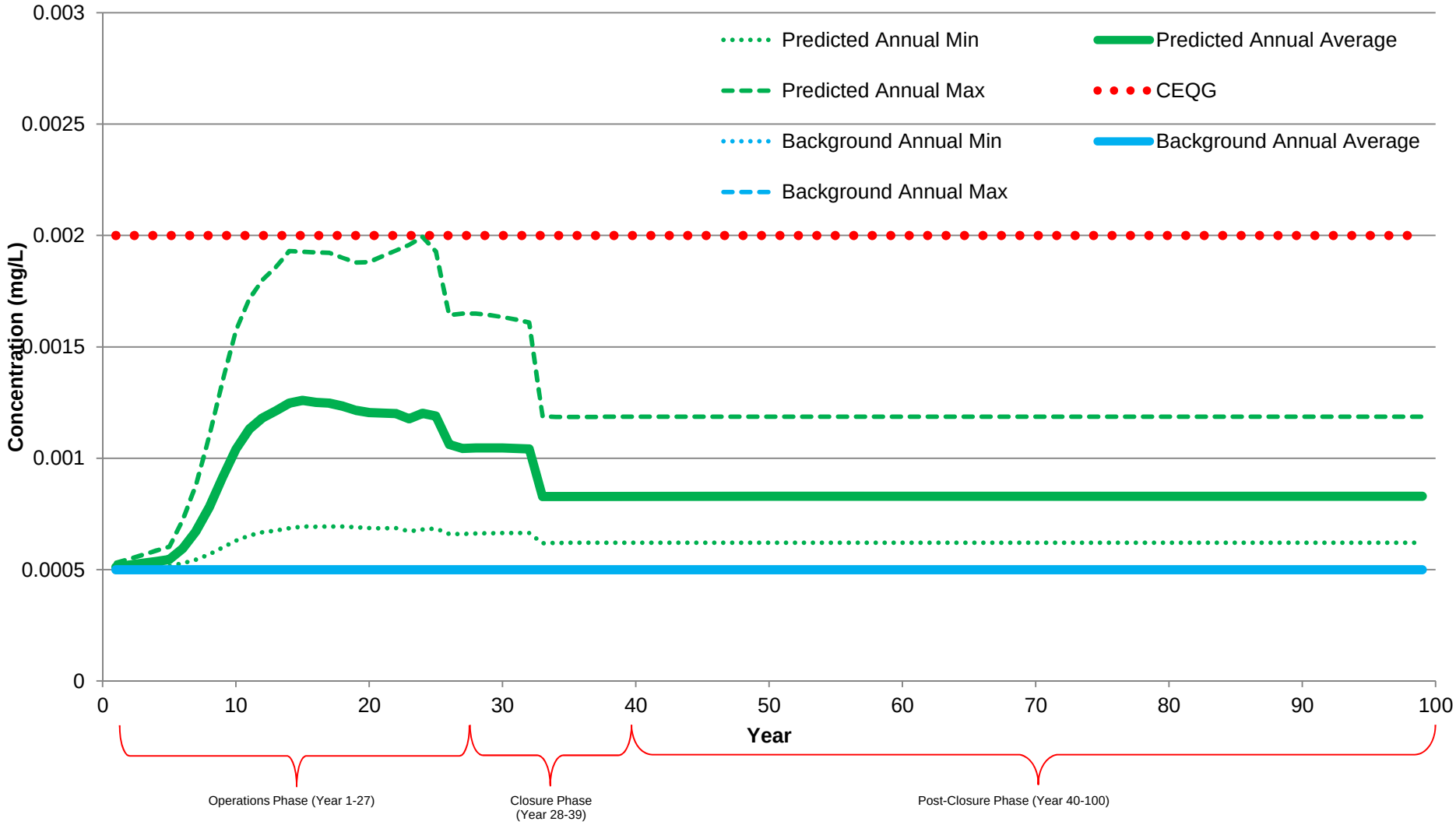

NOTES:

1. THE HCDW GUIDELINE IS 1.0 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.002 mg/L FOR HARDNESS <83 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF COPPER IN NAP2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C8.3

Rev 0

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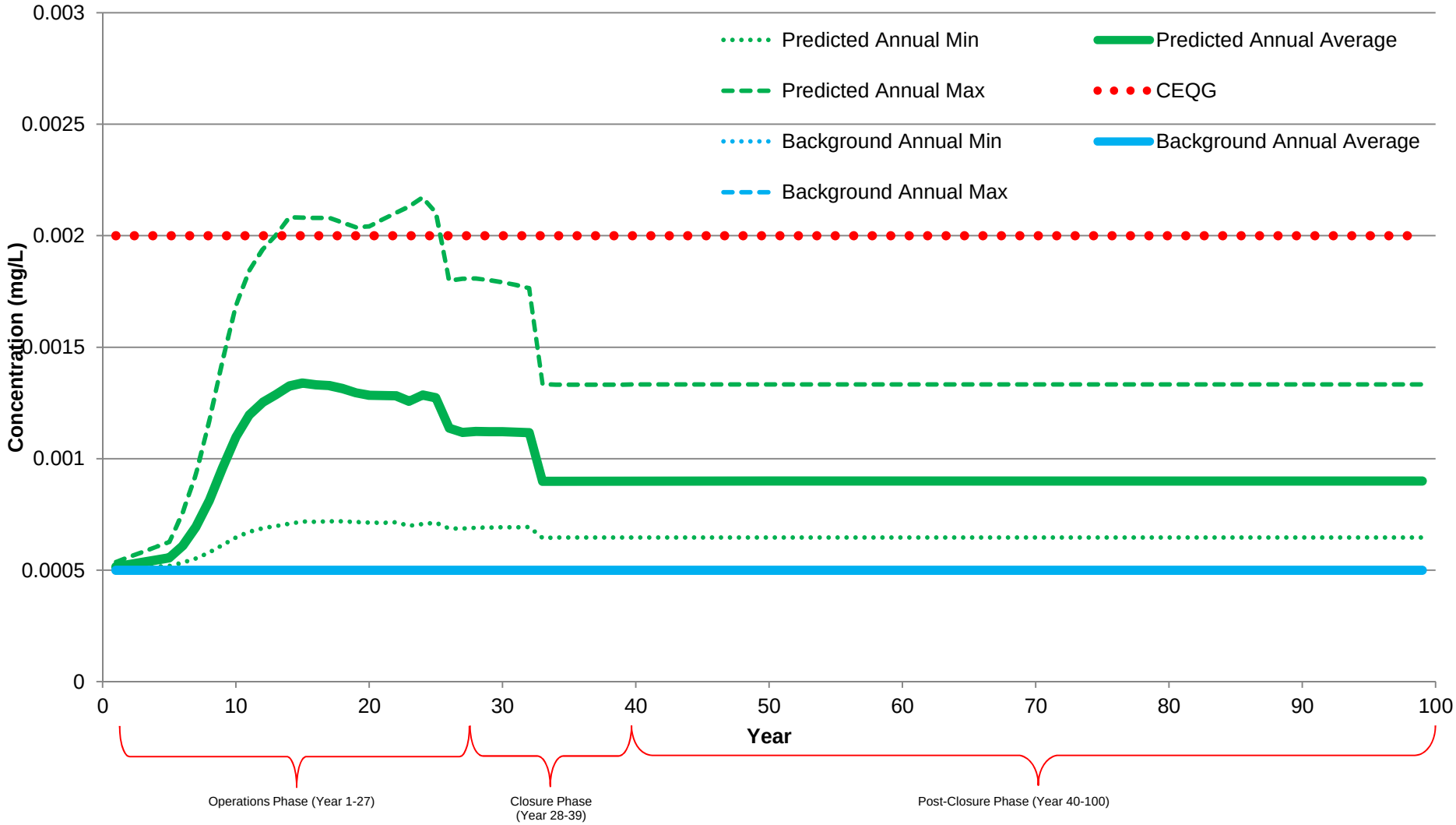


NOTES:

1. THE HCDW GUIDELINE IS 1.0 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.002 mg/L FOR HARDNESS <83 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF COPPER IN NAP3

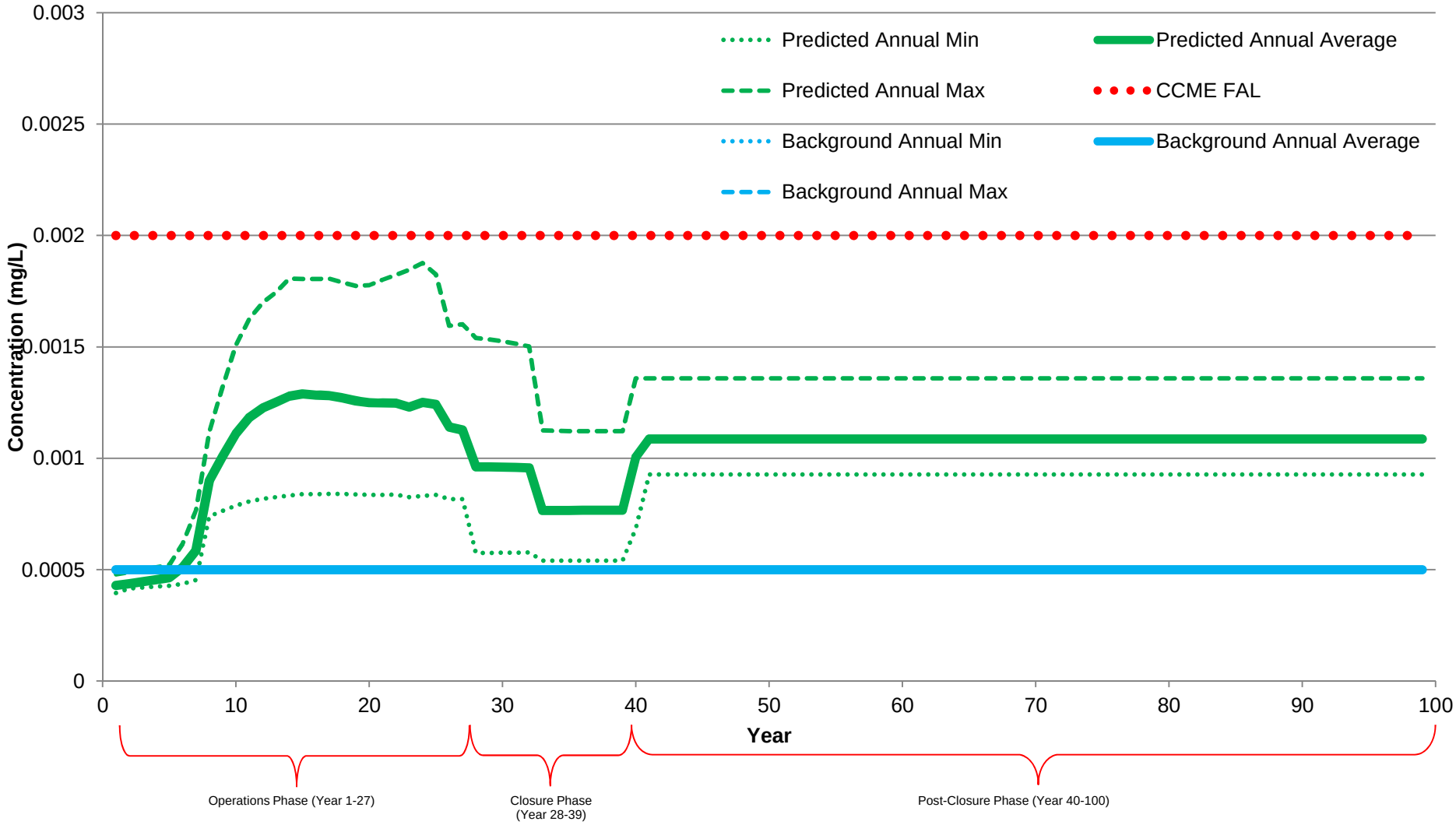
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C8.4

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 1.0 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.002 mg/L FOR HARDNESS <83 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF COPPER IN NAP5

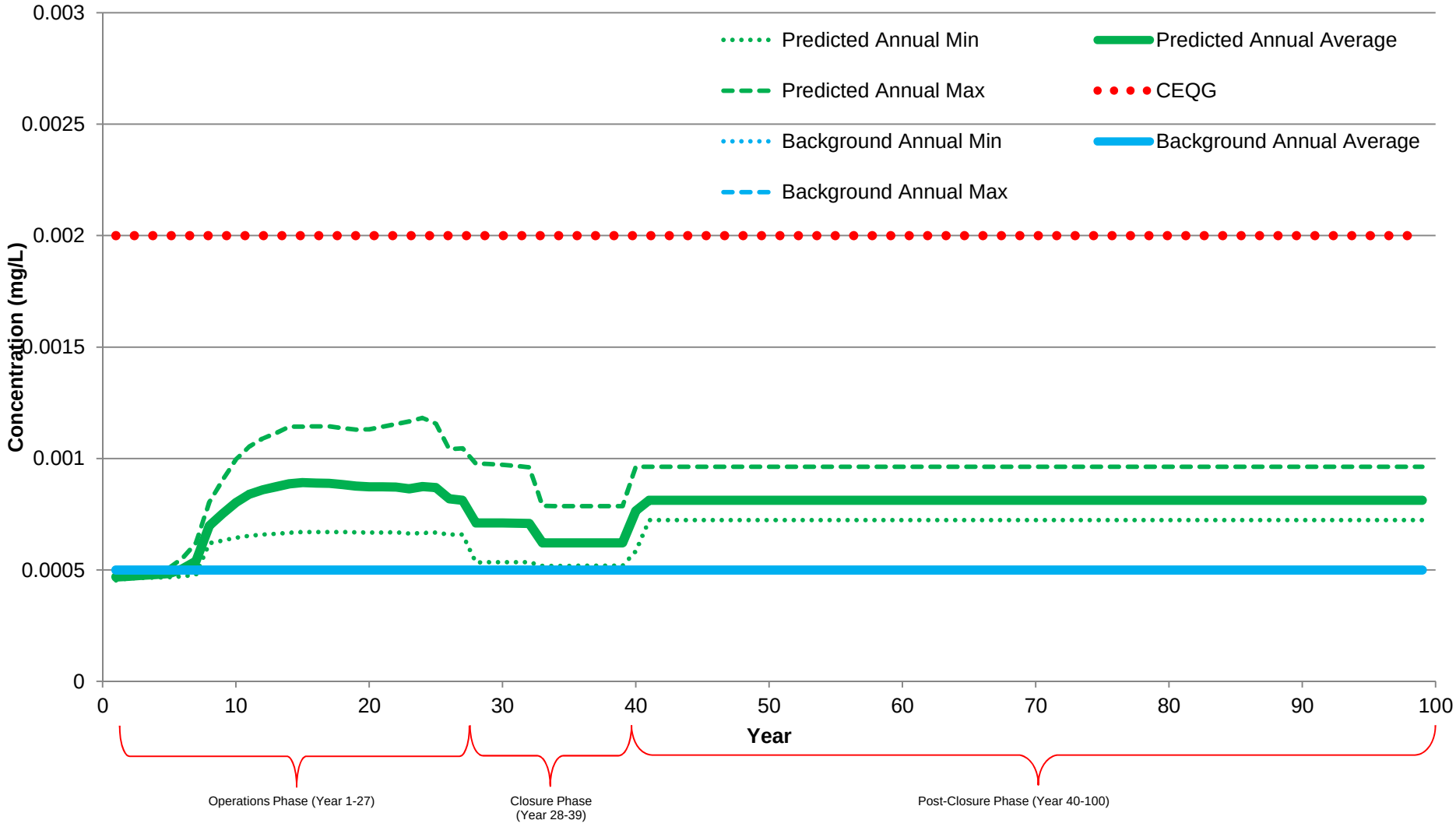
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C8.5

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 1.0 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.002 mg/L FOR HARDNESS <83 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF COPPER IN NAP7

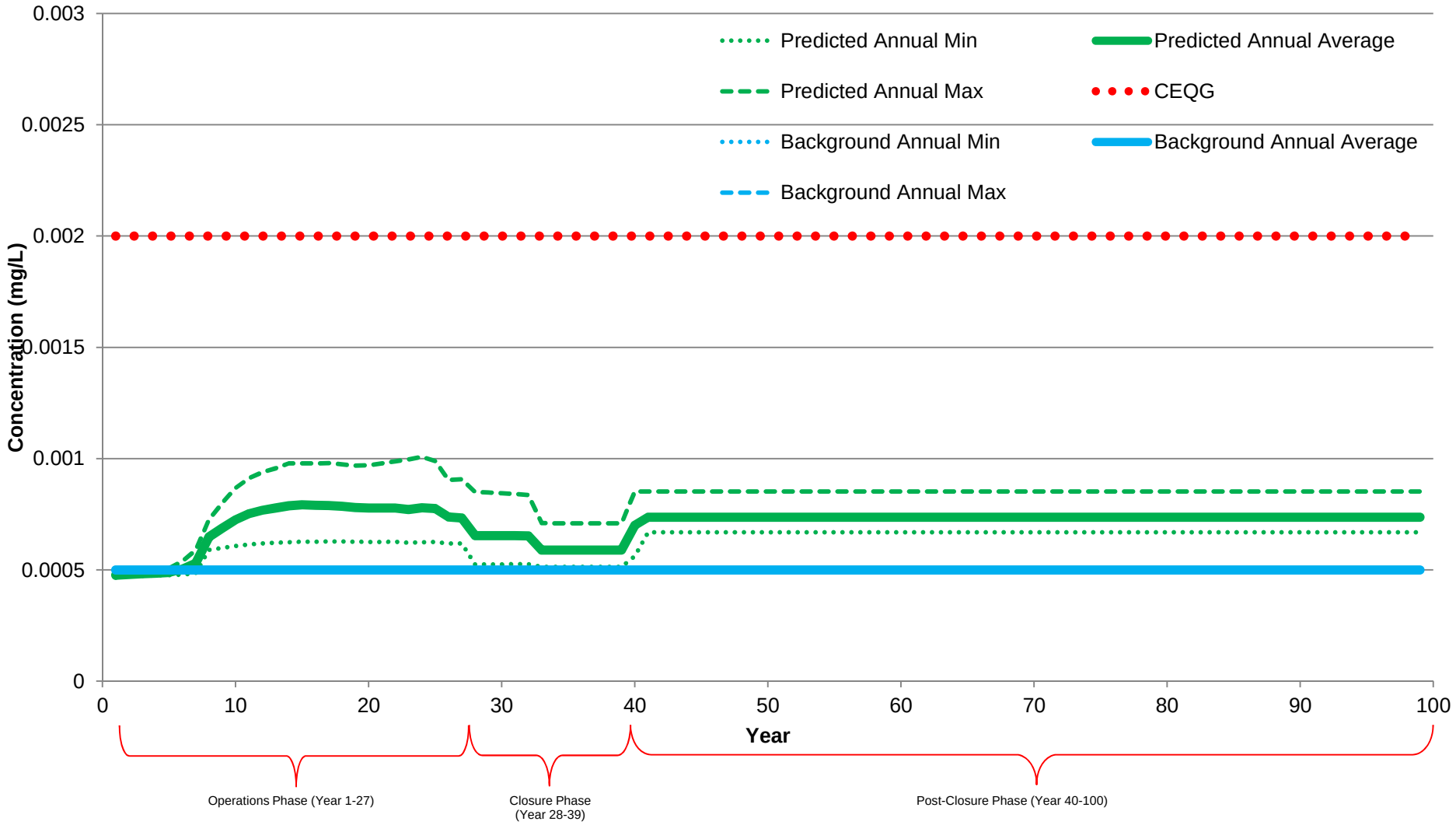
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C8.6

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 1.0 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.002 mg/L FOR HARDNESS <83 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF COPPER IN NAP8

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C8.7

Rev 0

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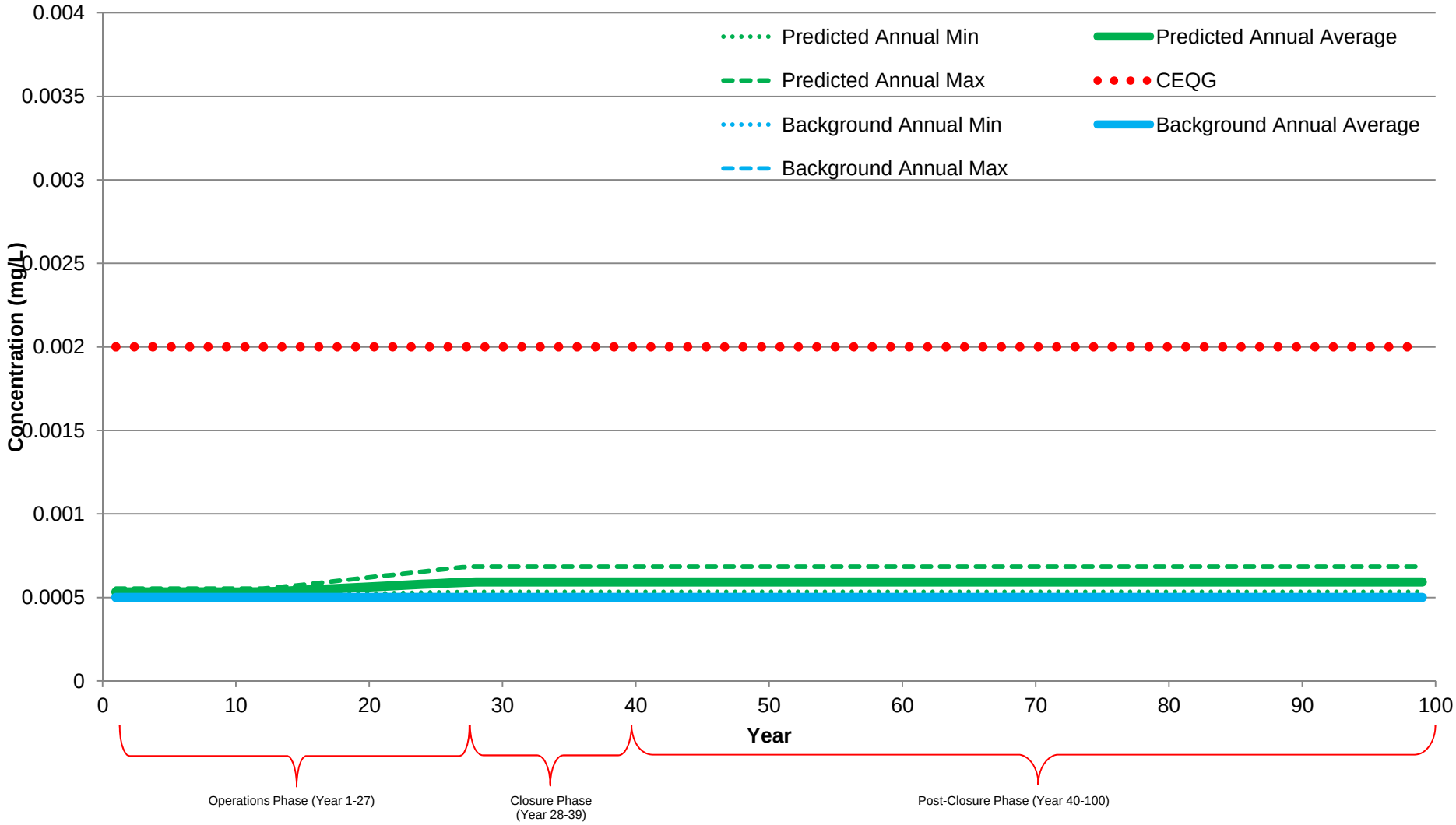

NOTES:

1. THE HCDW GUIDELINE IS 1.0 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.002 mg/L FOR HARDNESS <83 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF COPPER IN MBB2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C8.8

Rev 0

Knight Piésold
CONSULTING

APPENDIX C9

SELENIUM

(Figures C9-1 to C9-8)

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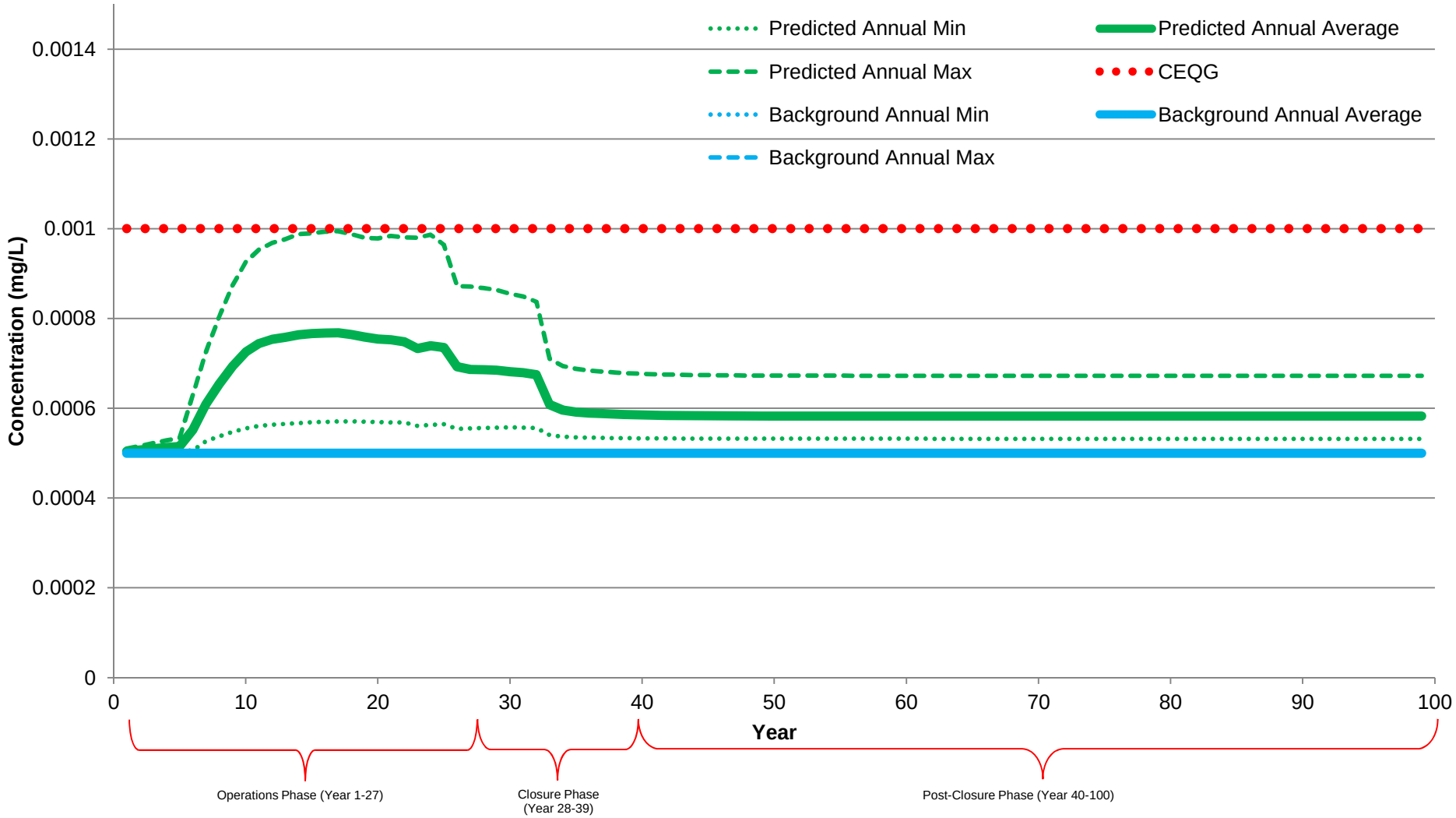

NOTES:

1. THE HCDW GUIDELINE IS 0.01 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. THERE IS NO MMER GUIDELINE FOR Se.

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SELENIUM IN UT1

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C9.1

Rev 0

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
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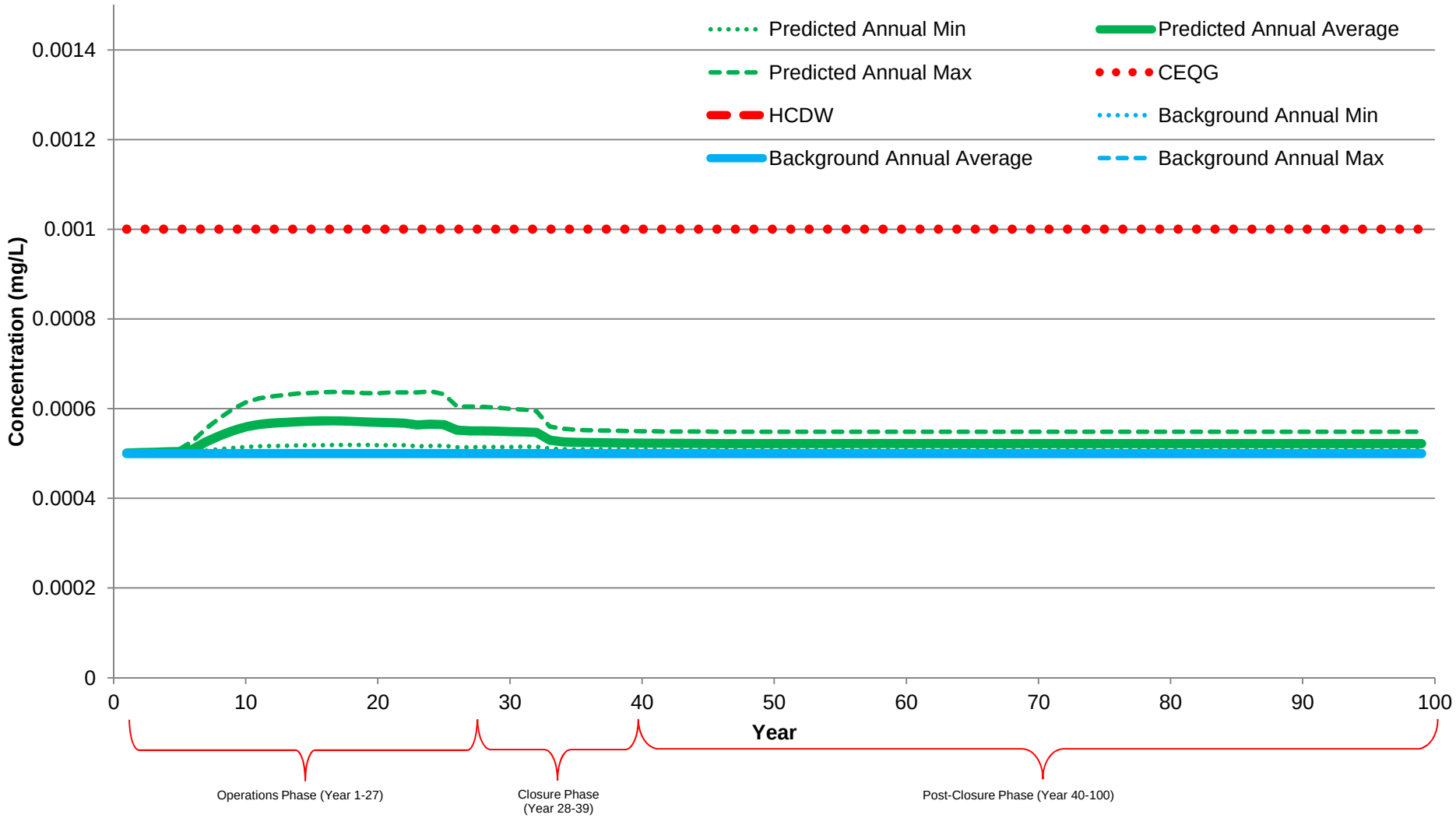


NOTES:

1. THE HCDW GUIDELINE IS 0.01 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. THERE IS NO MMER GUIDELINE FOR Se.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SELENIUM IN NAP1

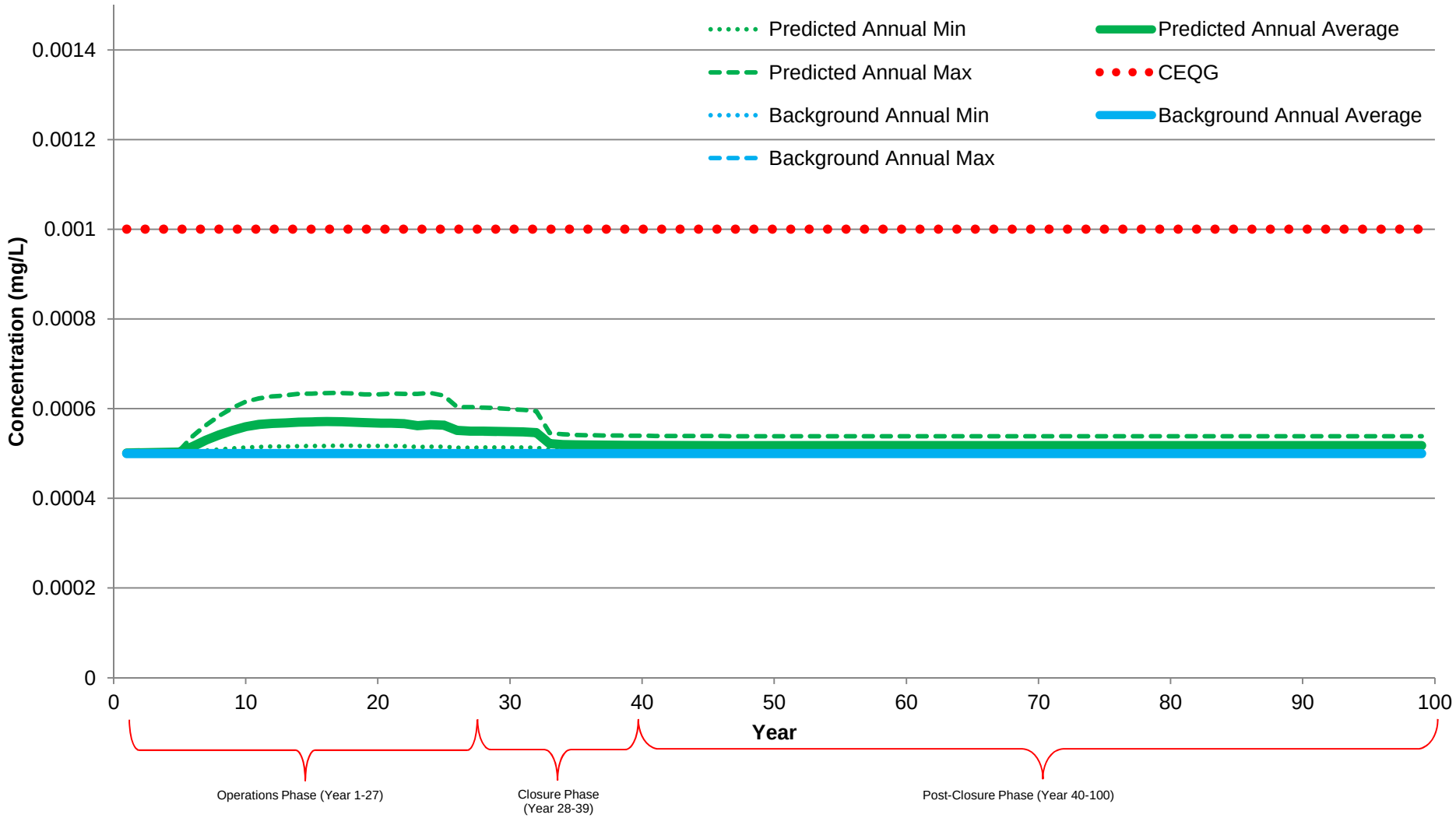
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C9.2

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.01 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. THERE IS NO MMER GUIDELINE FOR Se.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SELENIUM IN NAP2

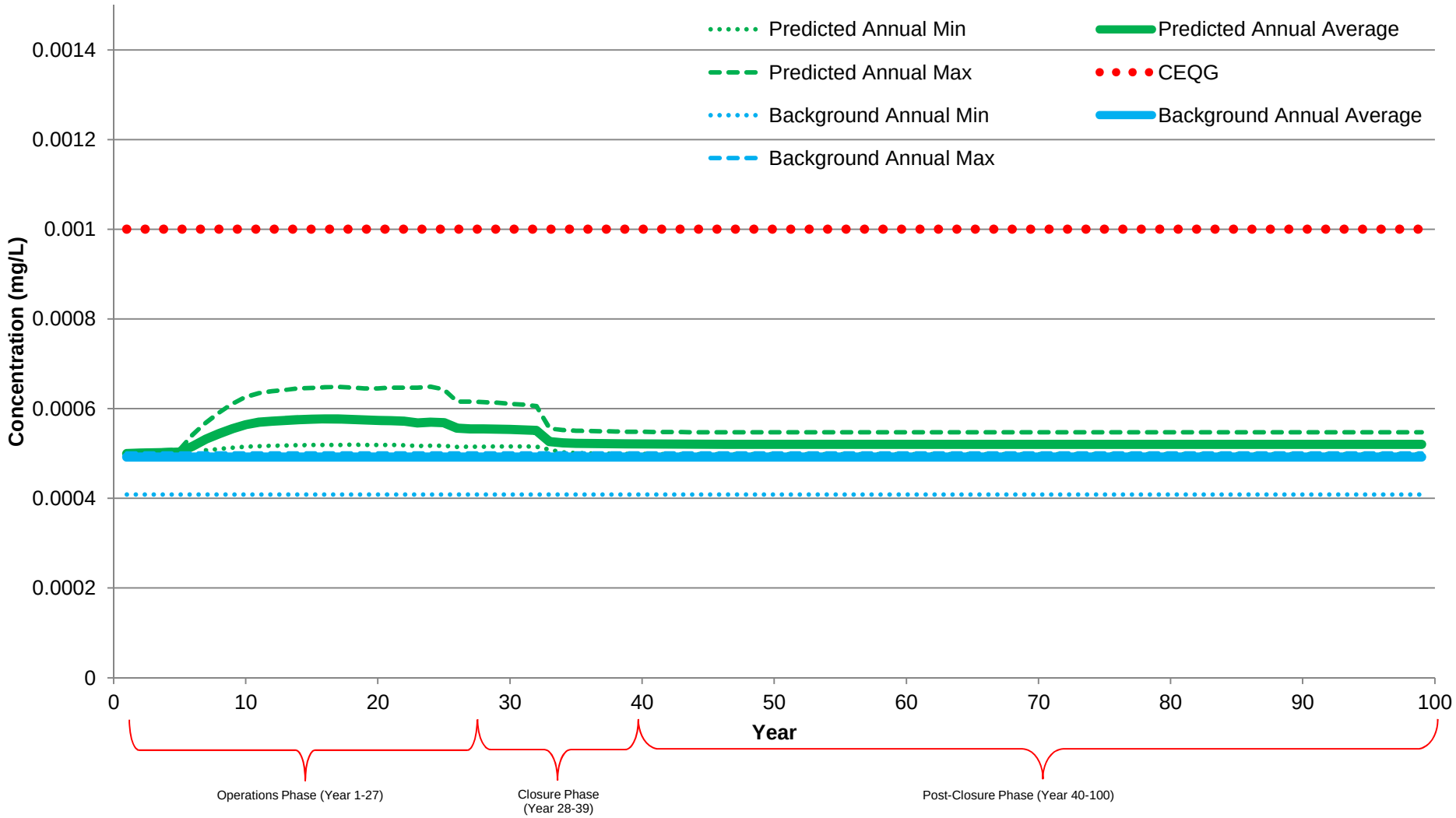
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C9.3

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.01 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. THERE IS NO MMER GUIDELINE FOR Se.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SELENIUM IN NAP3

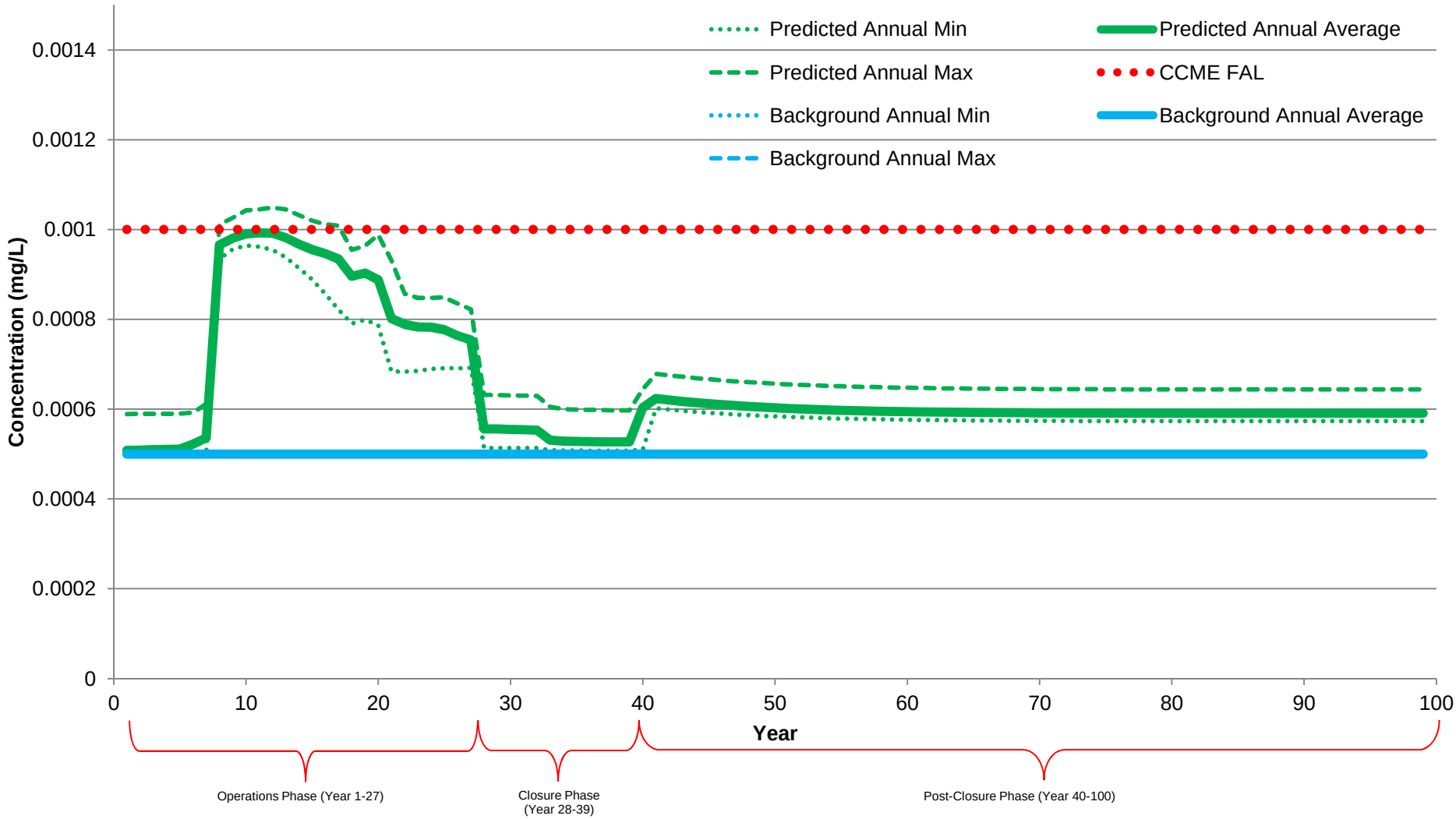
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C9.4

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.01 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. THERE IS NO MMER GUIDELINE FOR Se.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SELENIUM IN NAP5

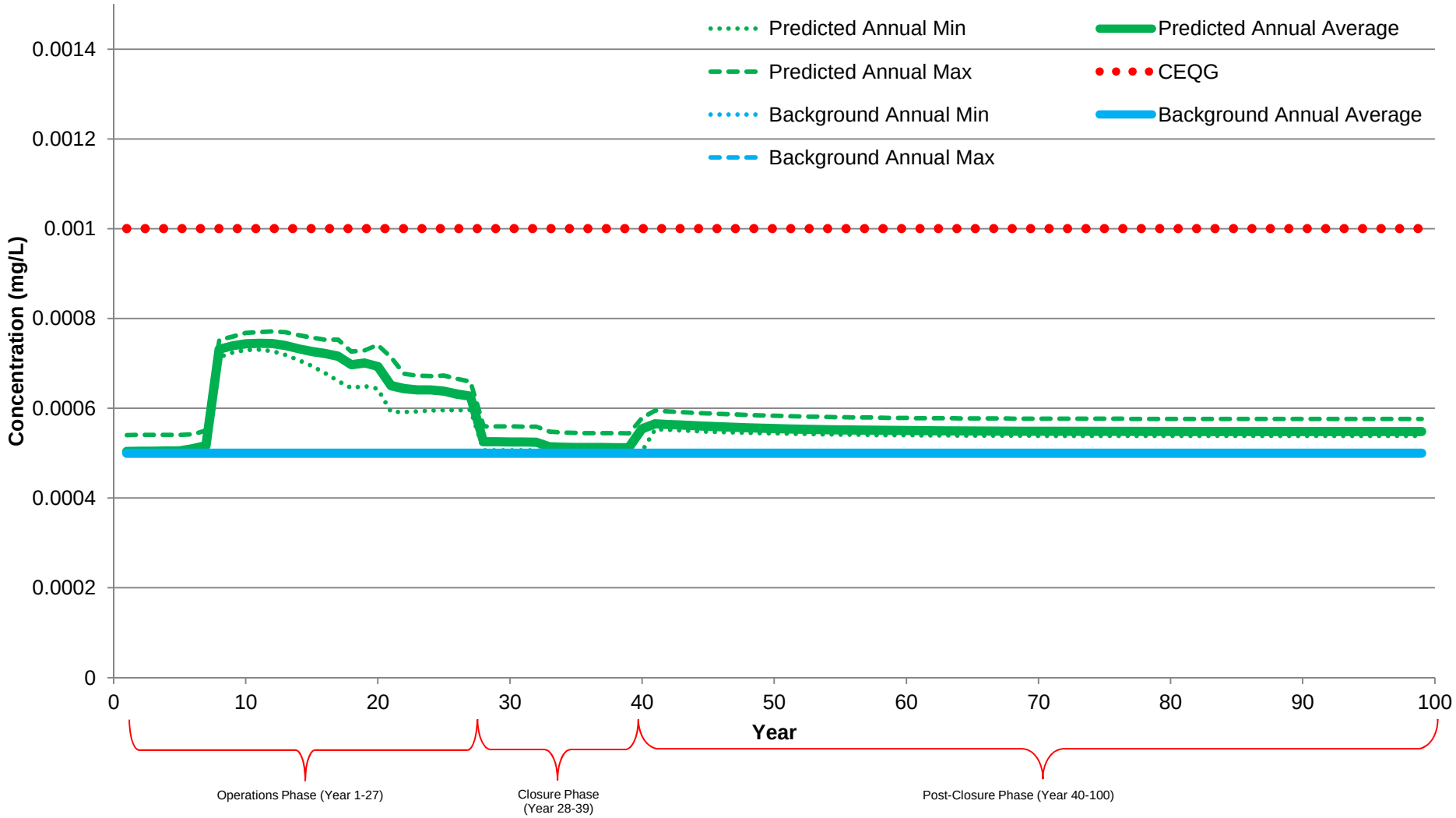
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C9.5

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.01 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. THERE IS NO MMER GUIDELINE FOR Se.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SELENIUM IN NAP7

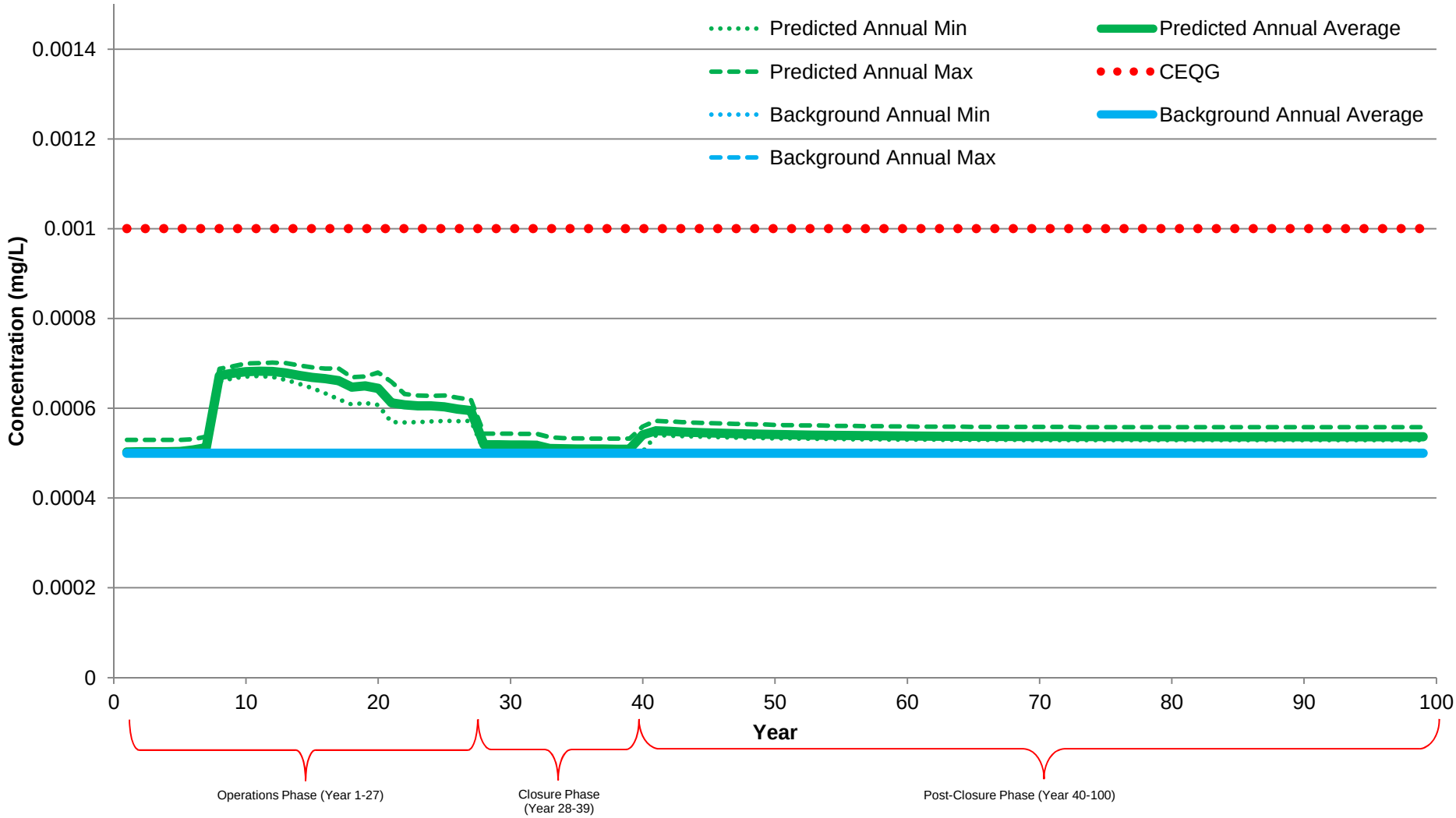
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C9.6

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.01 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. THERE IS NO MMER GUIDELINE FOR Se.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SELENIUM IN NAP8

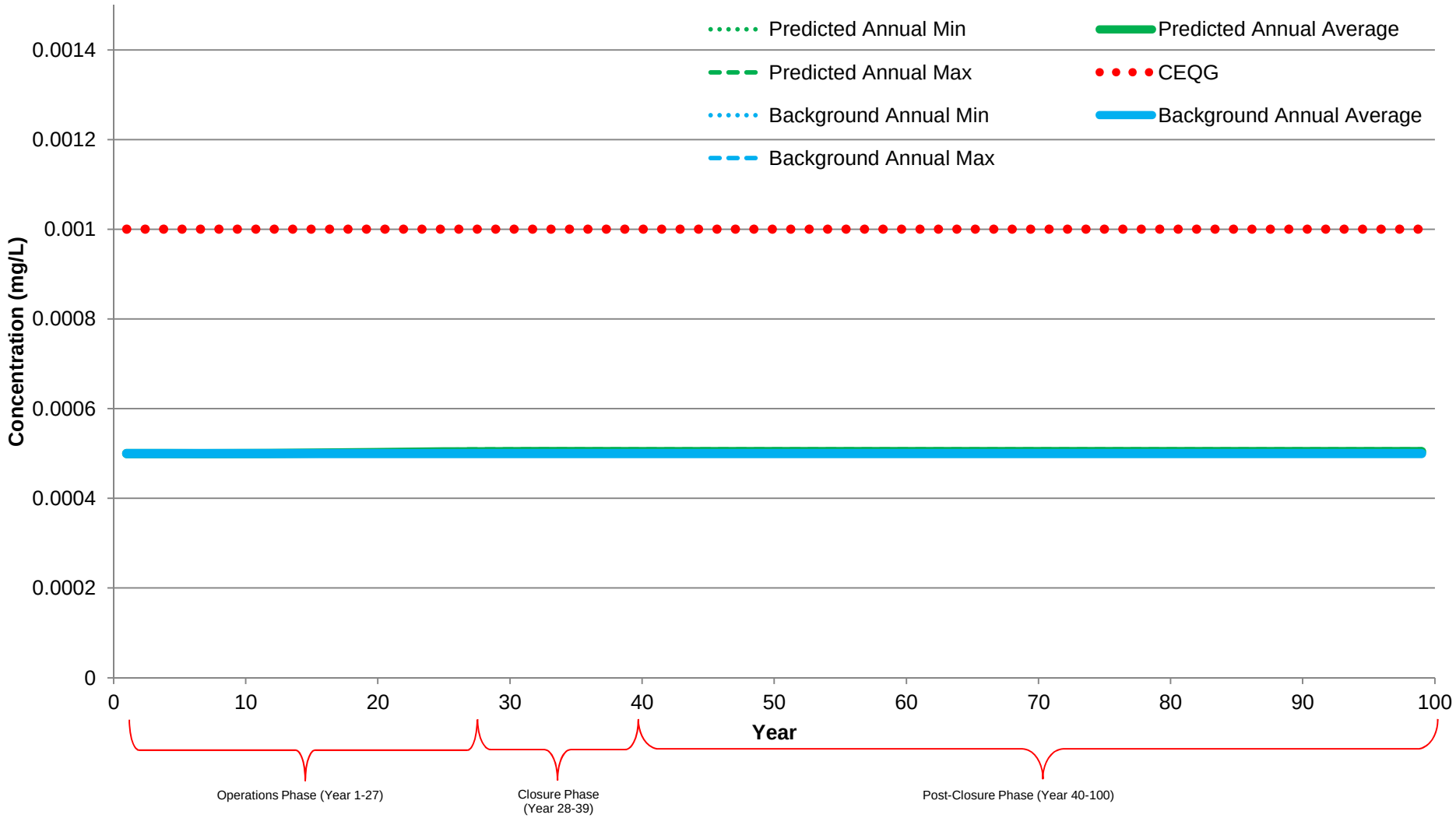
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C9.7

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.01 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. THERE IS NO MMER GUIDELINE FOR Se.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF SELENIUM IN MBB2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C9.8

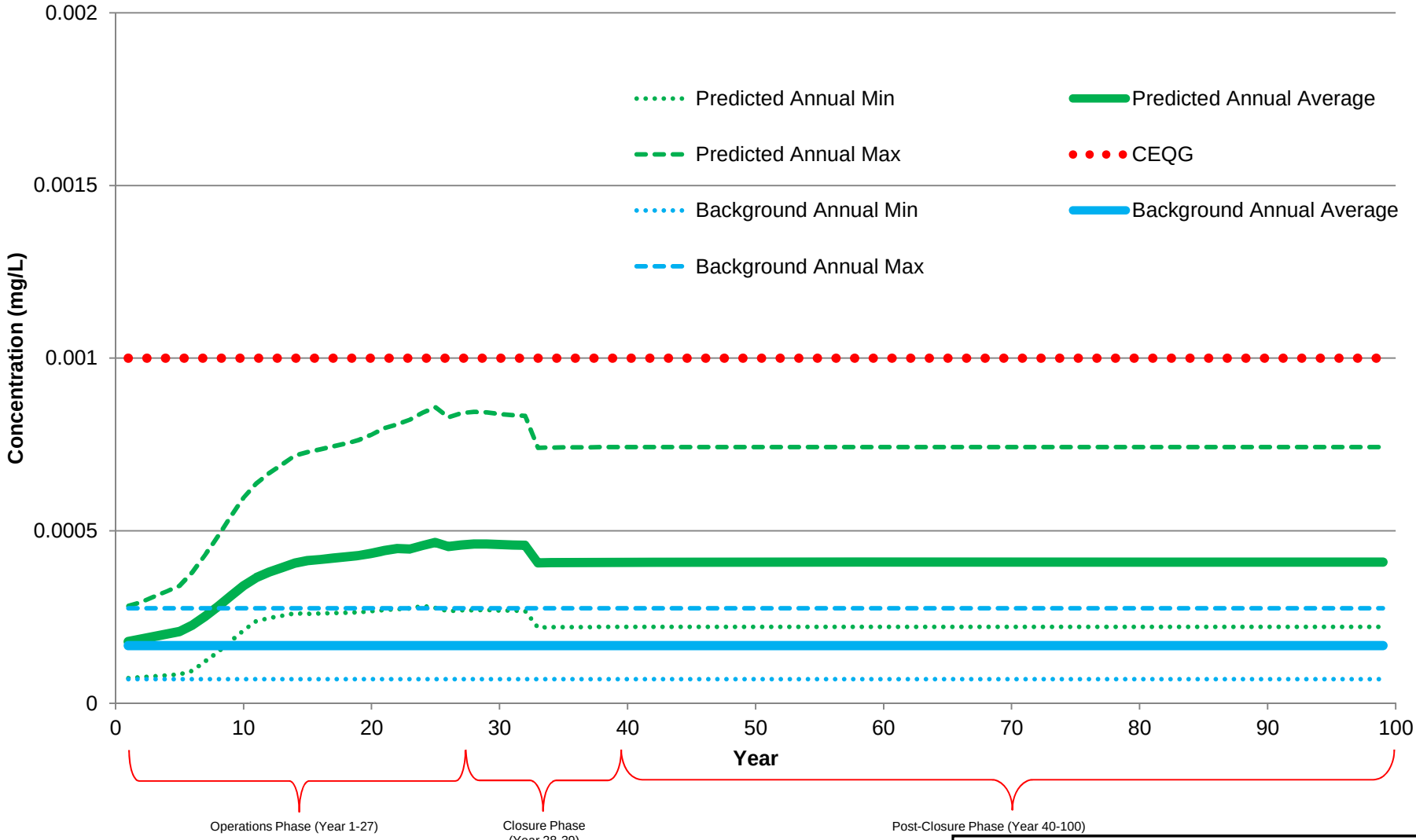
Rev 0

Knight Piésold
CONSULTING

APPENDIX C10

LEAD

(Figures C10-1 to C10-8)



NOTES:

1. THE HCDW GUIDELINE IS 0.1 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.001 mg/L FOR HARDNESS <60 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF LEAD IN UT1

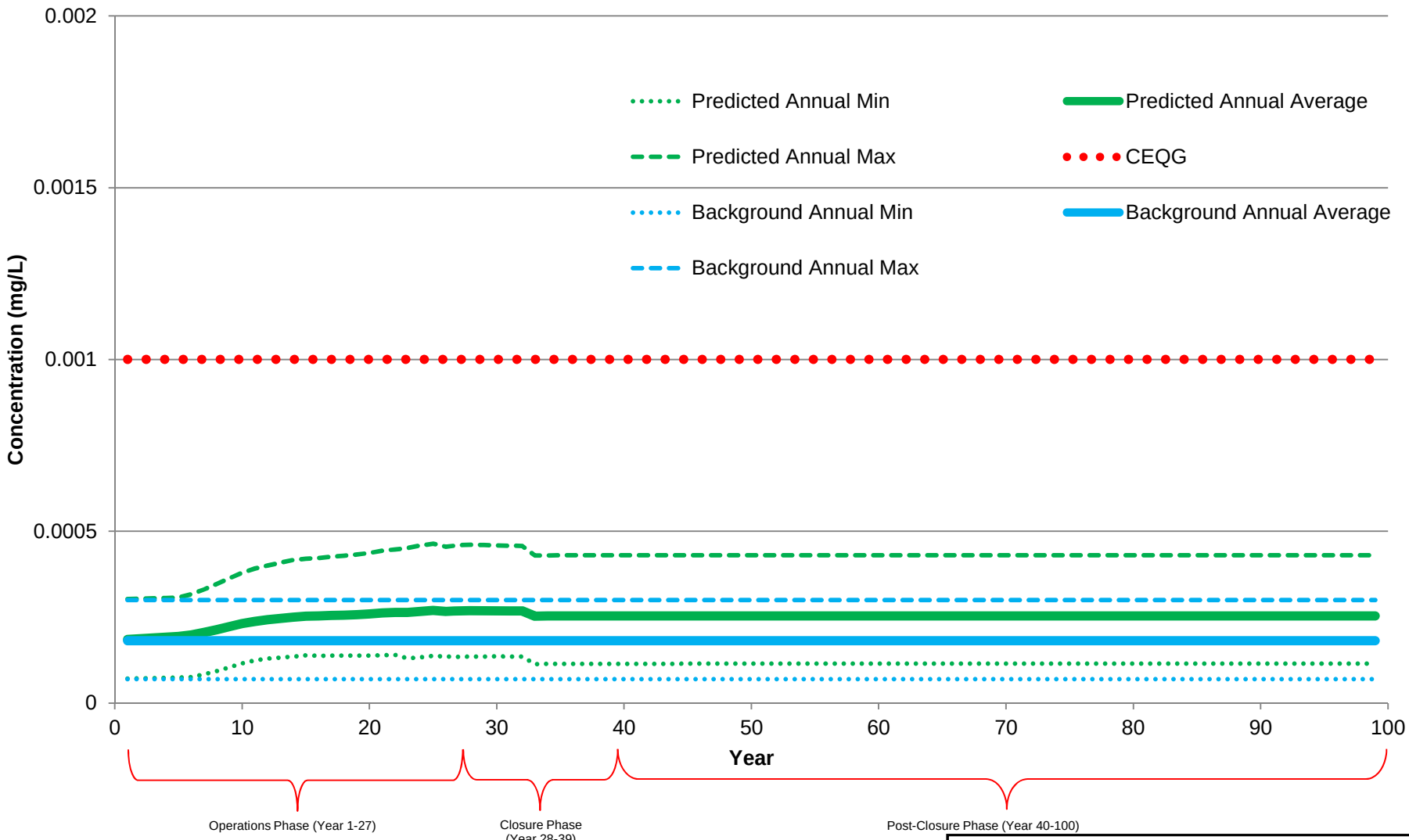
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C10.1

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.1 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.001 mg/L FOR HARDNESS <60 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF LEAD IN NAP1

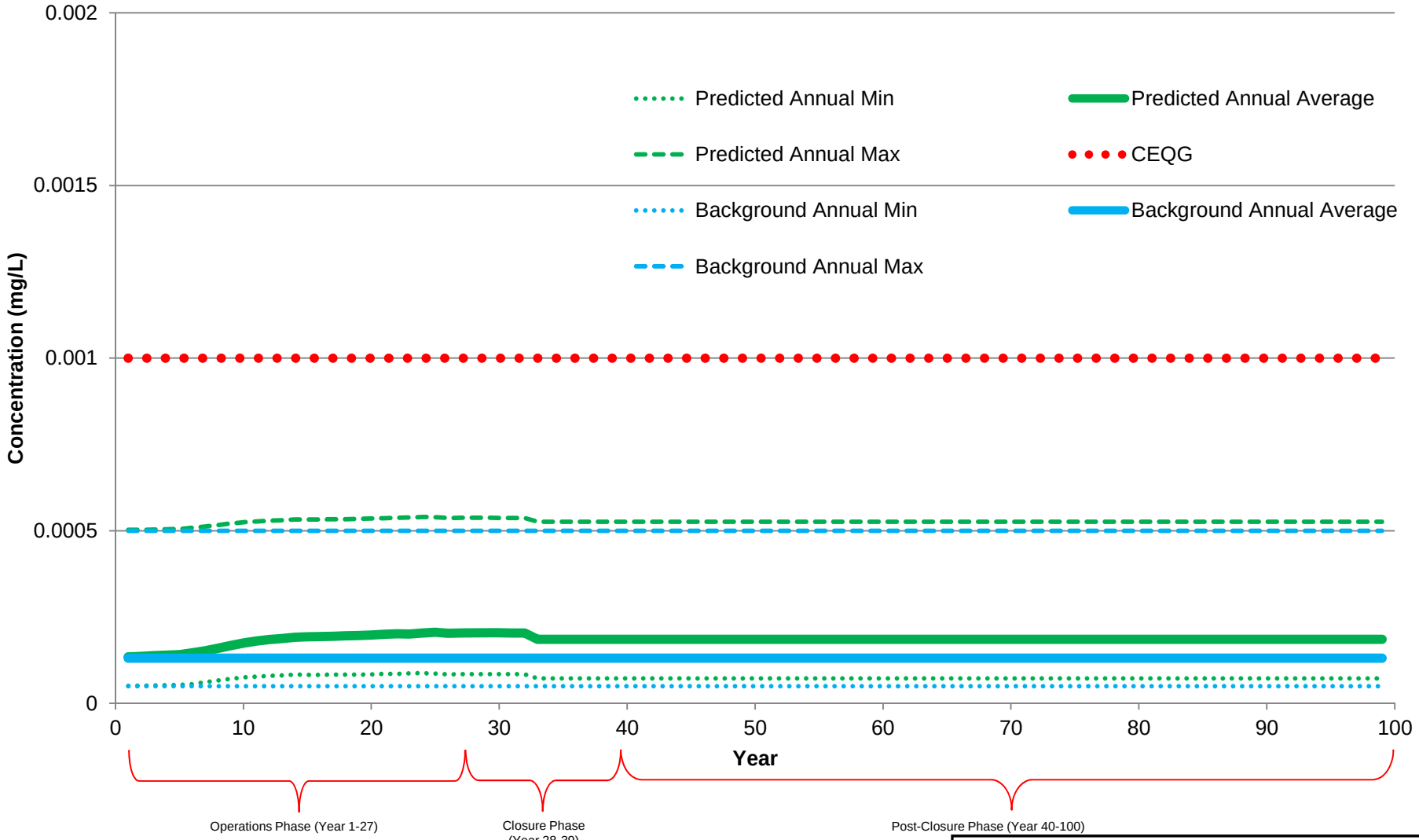
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C10.2

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.1 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.001 mg/L FOR HARDNESS <60 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF LEAD IN NAP2

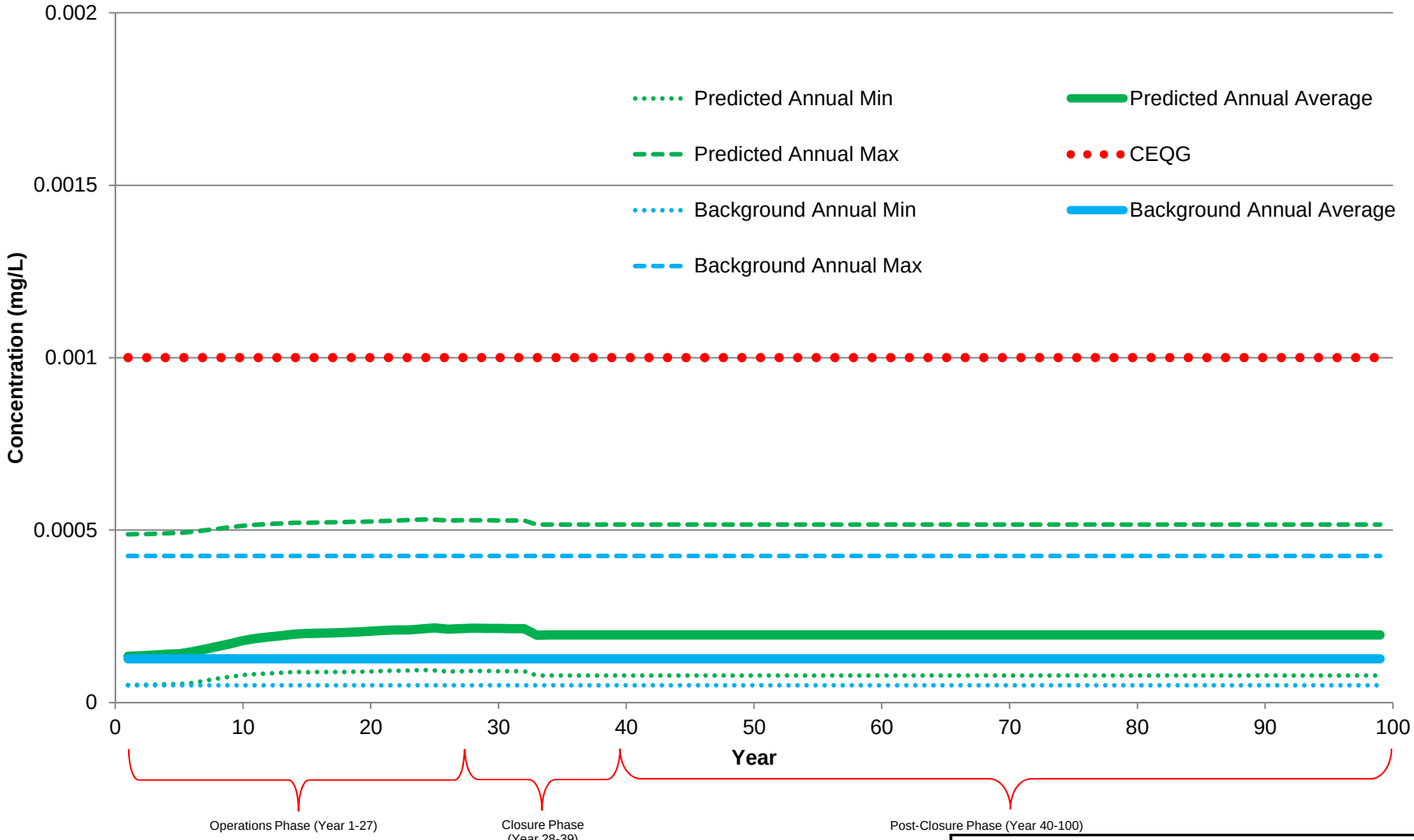
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C10.3

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.1 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.001 mg/L FOR HARDNESS <60 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF LEAD IN NAP3

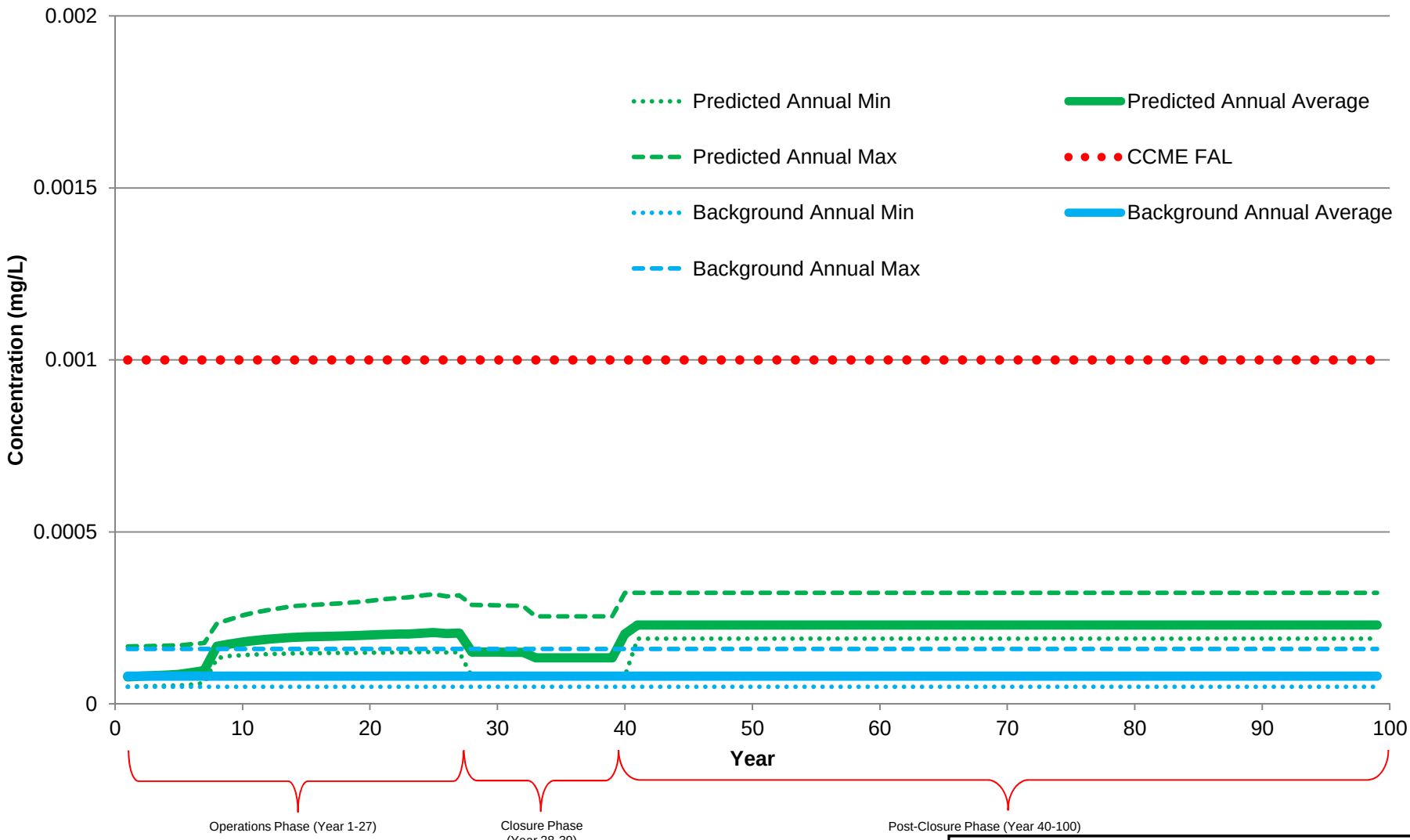
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C10.4

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.1 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.001 mg/L FOR HARDNESS <60 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF LEAD IN NAP5

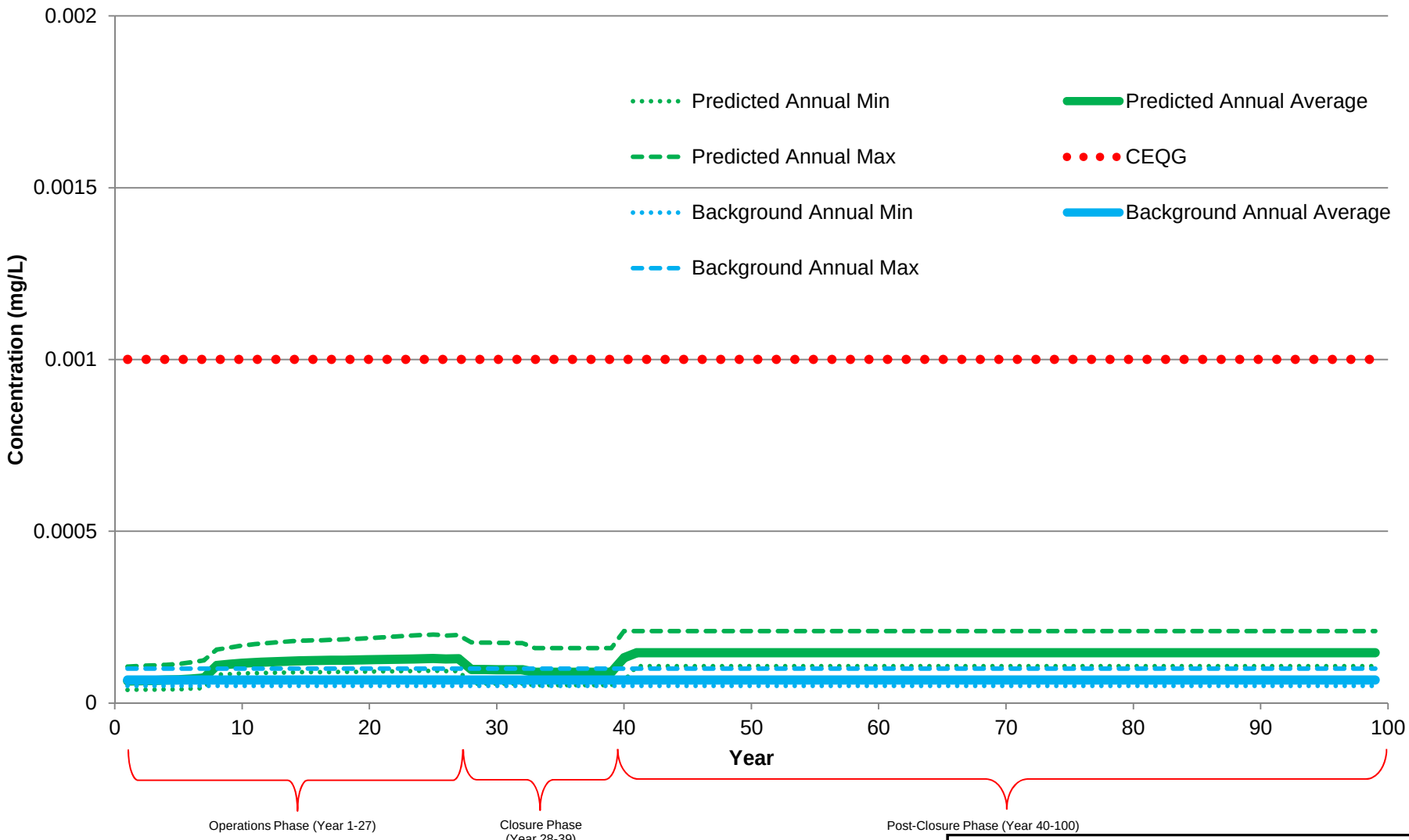
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C10.5

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.1 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.001 mg/L FOR HARDNESS <60 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF LEAD IN NAP7

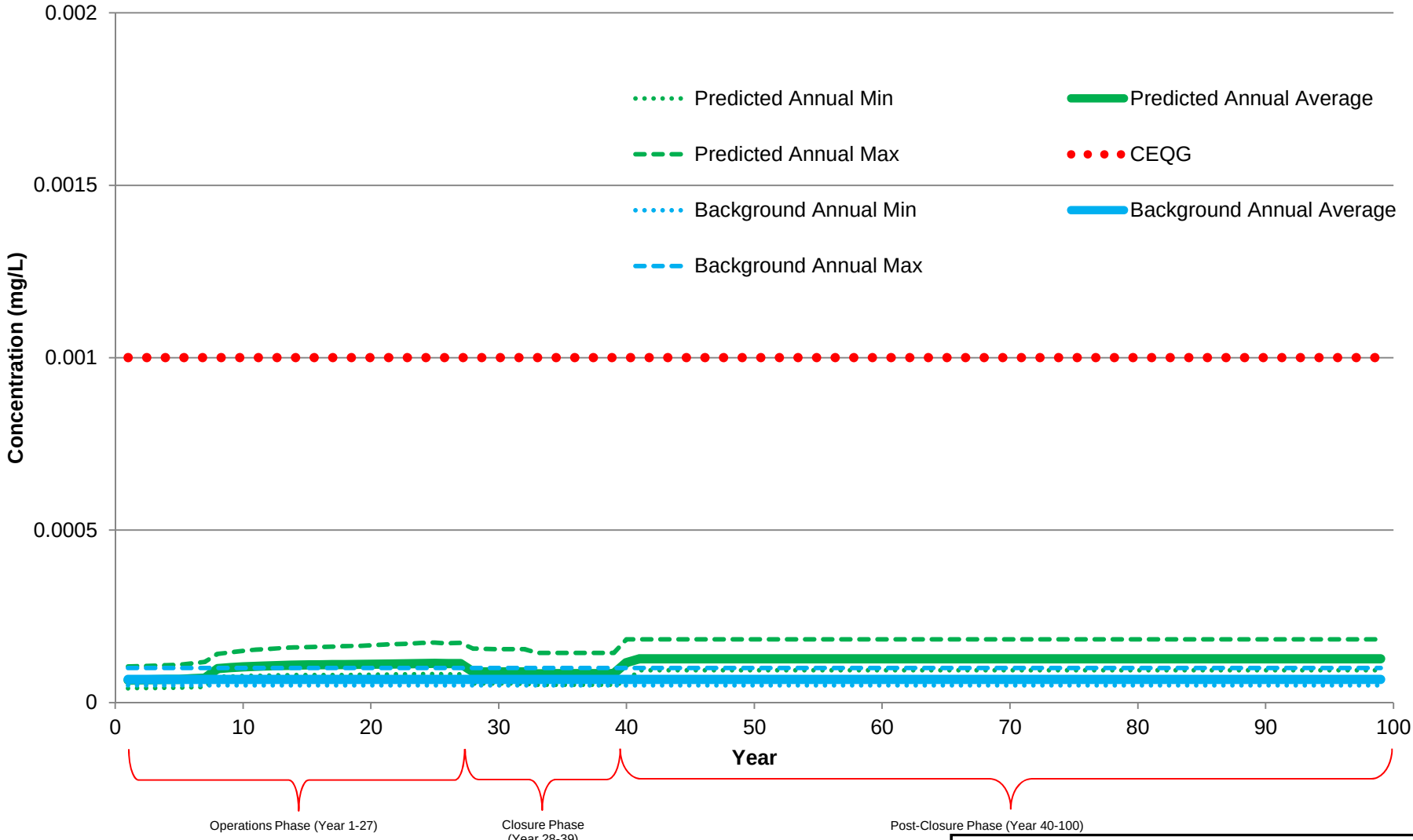
Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C10.6

Rev 0



NOTES:

1. THE HCDW GUIDELINE IS 0.1 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.001 mg/L FOR HARDNESS <60 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF LEAD IN NAP8

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C10.7

Rev 0

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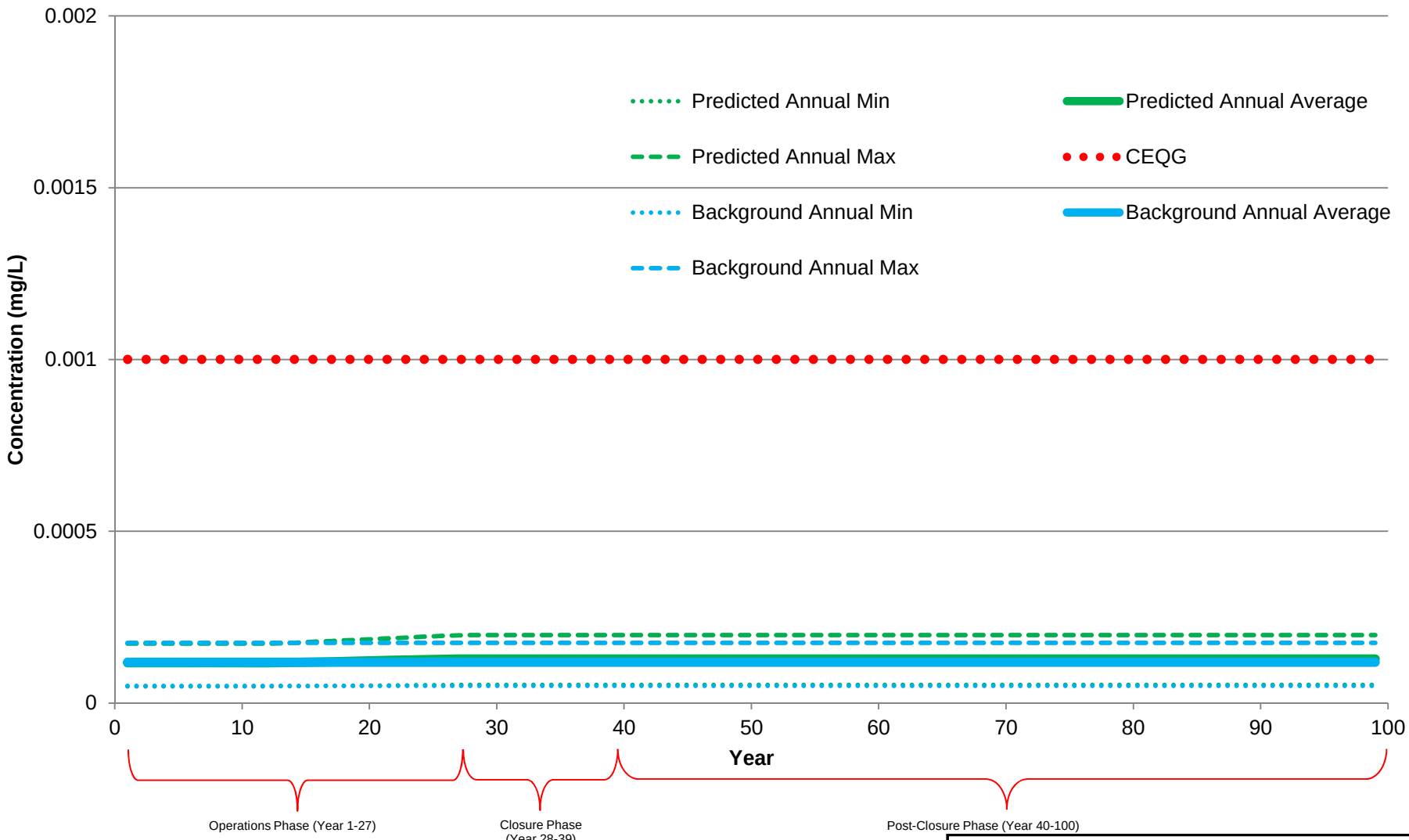

NOTES:

1. THE HCDW GUIDELINE IS 0.1 mg/L AND IS NOT WITHIN THE SCALE OF THIS GRAPH.
2. CURRENT AND PROPOSED MMER GUIDELINES FOR Cu ARE NOT WITHIN THE SCALE OF THIS GRAPH.
3. CCME FAL IS HARDNESS-DEPENDENT, WITH A MINIMUM OF 0.001 mg/L FOR HARDNESS <60 mg/L.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	04MAR'14	ISSUED WITH MEMO VA14-00403	CJ	JEM	KJB

NORTHCLIFF RESOURCES LTD.

SISSON PROJECT

PREDICTED CONCENTRATION OF LEAD IN MBB2

Knight Piésold CONSULTING

P/A NO. VA101-447/5

Ref. No. VA14-00403

Figure C10.8

Rev 0