Knight Piésold
CONSULTING

Knight Piésold Ltd.
Suite 1400
750 West Pender Street
Vancouver, British Columbia
Canada V6C 2T8

Telephone: 604.685.0543
Facsimile: 604.685.0147
Email: vancouver@knightpiesold.com

Our Reference: VA101-1/13-A.01
Continuity Nbr.: VA07-00199

March 14, 2007

Mr. Ron Martel
Environmental Superintendent
Mount Polley Mining Corporation
P.O. Box 12
Likely, B.C. V0L 1N0

Dear Ron,

Re: CHEMICAL ANALYSIS OF EFFLUENT

This review is intended to support the application for a discharge permit amendment for the Tailings Storage Facility.

Knight Piésold Ltd has conducted a review of the historical water quality at several locations within the Mount Polley Property, starting from the first operational phase in 1997 up to the present time. The predicted water quality of a discharge to the receiving environment was established for ten priority parameters. Results of the analysis will aid in the development of site-specific water quality objectives for a proposed discharge to Hazeltine Creek.

1. METHODOLOGY

From August 1997 to November 2006 three distinct phases of activity occurred at Mount Polley. The first operational phase began August 1997 and ended December 2001, after which time mining activity ceased (the shutdown period) until the second and current operational phase began in March 2005.

Water quality data from 1997 to 2006 was provided by Mount Polley Mining Corporation and the results from six sampling locations were analysed, including:

- E1 – the Tailings Storage Facility (TSF) supernatant pond;
- E2 – the Southeast Sediment Control Pond (SESCP);
- E4 – the Main Embankment Seepage Control Pond (MESCP);
- E7 – the Perimeter Embankment Seepage Control Pond (PESCP);
- E8 – the Cariboo Pit; and
- E10 – the Wight Pit.

For each sampling location, physical parameters, anions, nutrients and total and dissolved metals were compared with the relevant guidelines to identify exceedances. The following regulations and guidelines were used in the analysis:

a) Metal Mining Effluent Regulations (MMER), 2002. Schedule 4: 'Authorized Limits of Deleterious Substances;

b) Canadian Council of Ministers of the Environment (CCME), 1999. 'Canadian Water Quality Guidelines for the Protection of Aquatic Life'; and
c) BC Ministry of Environment, 2006. 'British Columbia Approved Water Quality Guidelines'.

Ten parameters were ultimately selected as *the* priority water quality parameters based on geochemical understanding of the Mount Polley deposits, concentrations relative to provincial and federal water quality guidelines, current and historical water quality trends, and existing/projected waste and water management practices. These ten parameters include the following:

Metals
- dissolved aluminium
- total cadmium
- total copper
- total iron
- total molybdenum
- total selenium

Nutrients
- total phosphorus
- nitrate

Dissolved Anions
- sulphate

Physical parameters
- total suspended solids (TSS)

Historical water quality trends for each of these parameters are shown in Figures 1 through 11 from the first operational phase to the present. The process by which these parameters were classified as 'priority' is discussed in greater detail in Section 2 - Derivation of Priority Parameters.

Descriptive statistics were generated for the ten priority parameters at E1 and E4, based on the assumption that the data is normally distributed. The mean and standard deviation were calculated from July 2001 to November 2006. Outliers, in this case, values outside the range of the mean ± three standard deviations, were removed from the datasets and a mean was calculated. Using three standard deviations is a more protective approach because it accounts for 99.7% of the data, thus many of the higher concentrations, which would have been removed using one or two standard deviations, are included. As a result, mean concentrations are generally higher than they would be if only one or two standard deviations were used.

Individual assumptions were made for each parameter based on inferred relationships between the TSF supernatant pond (E1), SESCP (E2), MESCP (E4) the Wight Pit (E10) and discrete groundwater samples collected from two Diamond Drill Holes in the vicinity of the Wight Pit. Where trends were similar between E1 and E4, it was proposed that there was a degree of attenuation from E1 to E4. Table 1 shows mean concentrations at E1 and E4 and the proposed E1:E4 attenuation factor for each parameter.

Due to the inherent variability in chemical behaviour, the ten priority parameters were considered individually with the aim of obtaining the most representative Predicted Discharge Value (PDV).

2. DERIVATION OF PRIORITY PARAMETERS

The initial screening of the data evaluated water quality from E4 (MESCP). This location was chosen as the screening point because it will represent the water quality most typical to be discharged.

STEP 1:

Historical water quality data at the MESCP was compared with the most current regulatory/guideline limits and samples exceeding any of the limits were highlighted for further investigation. There were several parameters for which no freshwater aquatic guidelines or regulatory limits exist; these are therefore not considered to be parameters of concern at the present time and were excluded from further analysis. A list of these parameters is provided in Appendix B for reference.

STEP 2:

The remaining parameters were compared with their respective guideline (CCME) or regulatory (BCWQG or MMER) limits and there were no exceedances or increasing trends noted in any of the samples for the following parameters:

Arsenic (total and dissolved)

Arsenic concentrations have historically fluctuated between 0.0006 and 0.0037 mg/L with an average of 0.002 mg/L. These values are well within the CCME and BCWQG specified limit of 0.005 mg/L.

Nickel (total and dissolved)

Total and dissolved nickel concentrations have been consistently low since sampling began at the MESCP in July 2001, with approximately 83% of all samples measured below method detection limits (MDL).

Mercury (total and dissolved)

Total and dissolved mercury concentrations were either at or below the 0.00005 mg/L MDL in all samples analysed, however it cannot be determined whether or not they exceed the CCME limit since the MDL exceeds the 0.00003 mg/L CCME limit. They are however well below the regulated BCWQG limit of 0.0001 mg/L and therefore this parameter is not considered to be a concern at the present time.

Lead (dissolved)

Dissolved lead concentrations were for the most part one or two orders of magnitude below CCME limits and two to three orders of magnitude below BCWQG limits and were excluded from further analysis.

Iron (dissolved)

Dissolved iron is another parameter which has remained consistently below guideline limits (0.3 mg/L CCME limit) and has not been detected in any samples since April 2006.

STEP 3:

Parameters which exceeded the regulatory or guideline limits but were not considered to be priority parameters are provided in Appendix A and trends are shown for reference. These were not classified as priority parameters for a variety of reasons. Some had only sporadic exceedances while others were the dissolved component of established priority parameters whose total concentrations are investigated herein. Total lead, and total and dissolved zinc concentrations exceeded their respective CCME limits on only one occasion. Lead spiked once in July 2001 and total and dissolved zinc spiked once in January 2006. All other samples have fluctuated below the CCME limit but show no increasing trends over time.

STEP 4:

The remaining parameters exceeded either the CCME, BCWQG or MMER limits frequently and were graphed to show trends over time (Figures 1 to 11). Dissolved aluminium was the only parameter that did not consistently exceed the limits but was included for further analysis. The following parameters were classified as priority parameters.

Dissolved aluminium concentrations have consistently been near method detection limits however total aluminium concentrations are considerably higher. A comparison of total and dissolved aluminium and TSS concentrations over time revealed similar trends indicating that aluminium increases in conjunction with increasing TSS. Both aluminium and TSS are regulated parameters and because both have spiked above their respective limits in the second operational phase in both the TSF and MESCP, they are considered priority parameters.

Total cadmium, copper, iron and phosphorus fluctuated but generally increased once the second operational phase began in 2005, particularly in the TSF. Decreasing concentrations were observed throughout the latter half of 2006 however several were still above their respective limits and were thus classified as priority parameters. High concentrations of each of these parameters were also observed in October and November, 2006 Wight Pit samples.

Total molybdenum, selenium and sulphate concentrations have generally been increasing since the start of the second operational phase and unlike the parameters mentioned previously they also increased throughout 2006. Molybdenum has been fluctuating above the CCME limit in the MESCP while concentrations in the Cariboo Pit and the TSF have also been on the rise. Sulphate concentrations have steadily increased in the MESCP, TSF, Perimeter Pond and the Cariboo Pit. Wight Pit and SESCP concentrations in late 2006 were significantly higher than the 100 mg/L BCWQG limit. Concentrations of selenium increased in the TSF and the Cariboo Pit during the second operational phase and, although concentrations in the MESCP are considerably lower, they still fluctuate between the 0.001 mg/L CCME and 0.002 mg/L BCWQG limits. These parameters were classified as priority parameters.

3. RESULTS AND DISCUSSION

The analysis of historical water quality data at the Mount Polley mine site indicated that ten parameters are considered to be a priority at the present time. Predicted discharge values for each parameter are discussed herein and provided in Table 2.

Dissolved Aluminium

Aluminium is a naturally occurring element in the environment and is most bio reactive in waters in dissolved form (Butcher, 1988). Both the CCME and BCWQG limit for dissolved aluminium are 0.1 mg/L at pH ≥ 6.5. Figure 1 shows the trend of dissolved aluminium concentrations over time. Historically, dissolved aluminium concentrations in the TSF slightly exceed the 0.1 mg/L limit on just a few occasions. However, a spike of 0.394 mg/L was observed in October 2005. A recent exceedance of 0.159 mg/L was noted at E4 on October 12, 2006 however there does not appear to be an increasing trend. There is apparent attenuation between the TSF and MESCP for this parameter, in the order of 3.6. The PDV was established as 0.011 mg/L, which is derived from the mean aluminium concentration at the MESCP for the period July 2001 to November 2006.

Total Cadmium

Cadmium generally has a high affinity for negatively charged particles like anions and hydroxides, etc. and tends to be easily removed from solution, accumulating in sediments. Remobilization of cadmium can occur with changes in redox, pH and biological oxidation (CCME, 1999). The CCME limit is hardness-dependent so it will vary with each sample.

Figure 2 shows the general trend over time for total cadmium. Total cadmium concentrations in the TSF and MESCP generally increased from the start of the second operational phase in March 2005 to February 2006, however concentrations since that time have decreased significantly at both locations. It was assumed that no attenuation of cadmium is occurring between these two locations (Table 1). The peaks of dissolved cadmium at both sites seem to have been influenced primarily from the Wight Pit, which had similar peak concentrations of about 0.0005 mg/L. This assertion led to the conclusion that the PDV is best represented by the mean dissolved cadmium concentration at the Wight Pit of 0.0002 mg/L.

Total Copper

Copper is another priority parameter with hardness-dependent CCME and BCWQG limits. The MMER also has clearly defined limits as shown in Figure 3. Copper concentrations in the TSF are generally high in the second operational phase but are much lower in E4, exceeding CCME limits on only a few occasions. Table 1 shows an attenuation factor of 4.5 between the TSF and MESCP. However, the mean value of 0.0198 mg/L at the TSF (July 2001 to November 2006) was chosen as the PDV because it provides a more protective estimate for this parameter. This measure was applied to copper due to the nature of the mineralization at Mount Polley.

Total Iron

Iron is found in varying concentrations in natural waters and the primary forms of concern for the aquatic environment are ferrous and ferric iron. Iron is also a common component of organic and inorganic wastewater streams (Wilkes University Centre for Environmental Quality, 2007). Iron concentrations over time are shown in Figure 4. The CCME water quality guidelines define a maximum limit of 0.3 mg/L for iron and BCWQG guideline limits are currently being developed. Generally, total iron concentrations at the TSF were considerably high in the first operational phase, subsequently decreased in the shutdown period and increased again in the second operational phase. Concentrations have decreased significantly however in the latter samples of this last phase. At the MESCP, iron has fluctuated, particularly in the second operational phase where there are several exceedances of the 0.3 mg/L CCME

limit. There is apparent attenuation between these two sites (Table 1), in the order of 3.7. Therefore, the PDV for iron has been based on the mean MESCP value of 0.25 mg/L for the period July 2001 to November 2006.

Total Molybdenum

Molybdenum is naturally-occurring in the environment and may derive from weathering of igneous and sedimentary rocks as well as through leaching processes. It is influenced by pH (at pH > 5 molybdenum remains in solution, at pH < 5 forms precipitates with excess aluminium and iron) and readily binds with organics, including sulphides, to form organometallic compounds (CCME, 1999). Figure 5 shows relative concentrations of total molybdenum for each sampling location.

Molybdenum in the TSF does not appear to be attenuated before the MESCP; therefore the PDV is based on the mean value of 0.061 mg/L at the MESCP for the period July 2001 to November 2006. The second operational phase concentration at the TSF shows an increasing trend for molybdenum which exceeds the CCME limit (0.0073 mg/L) by three times. However, the value is one order of magnitude below the BCWQG limit of 2 mg/L.

Total Selenium

Selenium is an essential trace element with typically low concentrations in natural waters. It often interacts with other chemicals which may enhance or reduce its toxicity (Nagpal, 2001). The CCME guideline limit for selenium is 0.001 mg/L and the BCWQG limit is 0.002 mg/L. In still waters, dissolved selenium often binds with organic material and settles out in sediments. Figure 6 shows total selenium concentrations over time. Concentrations of total selenium are considerably lower in the MESCP than all other sites with only a few exceedances of the CCME limit and no BCWQG exceedances in the second operational phase. Table 1 shows an attenuation factor of 7.5 between the TSF and MESCP.

During the first operational phase, the concentrations of selenium were greatest in the Cariboo Pit. These values dropped somewhat during the shutdown phase, but remained the greatest across the site. Considering the volume of water transported from the Cariboo Pit to the TSF in 2005 and 2006, this water seems to have had the greatest influence on the increasing trend of selenium in the TSF.

Developing a PDV for selenium is therefore based on the concentrations seen in the Cariboo Pit. Additionally, since attenuation of selenium occurs between the TSF and MESCP we considered it reasonable to apply this factor to the value chosen from the Cariboo Pit. There were four peak values of selenium in the Cariboo Pit during the shutdown and second operational phases. The average of these four peak values was chosen as the predicted TSF value. After applying the calculated attenuation factor, the resultant PDV for selenium is 0.0038 as shown in Table 2.

Total Phosphorus

Phosphorus is a highly reactive non-metal essential to aquatic life. Natural, low phosphorus environments are typically diverse, with abundant organisms, whereas those with elevated phosphorus concentrations may be adversely affected by excessive algal growth and biomass (CCME, 1999). There are currently no regulatory or guideline limits for phosphorus. As shown in Figure 7, phosphorus values are generally low at the MESCP and fluctuate below 0.1 mg/L. The PDV for total phosphorus was

calculated as the mean MESCP concentration, 0.038 mg/L because it is assumed that there is no attenuation between the TSF and the MESCP (Table 1).

Sulphate

Sulphate is often produced and discharged to the environment by mining operations and natural locations due to release from mineralized rock. Acid rock drainage may also introduce sulphate into the environment. Only BCWQG limits are defined for sulphate at 100 mg/L.

Sulphate concentrations have generally increased in the TSF since the start-up of the second operational phase in 2005 as shown in Figure 8. A similar trend, but at lower concentrations, is evident at the MESCP. The general trend of increasing concentrations is believed to be influenced by several sources, namely Cariboo Pit water and Wight Pit water.

The volume of water transferred from the Cariboo Pit to the TSF appears to have increased the concentration of sulphate in the TSF towards that seen in the Cariboo Pit. Starting in 2006, water pumped from the Wight Pit began to increase the TSF sulphate concentration beyond that seen in the Cariboo Pit. Water will continue to be transferred from both the Cariboo Pit and Wight Pit, with a larger volume anticipated to come from the Cariboo Pit. The predicted value in the TSF for the near future will likely fall between the concentration of the Cariboo Pit and the Wight Pit. Remaining conservative for this priority parameter, we have chosen a value that more closely resembles that seen in the Wight Pit, as it has the higher sulphate concentration between the two sources. The rationale for the estimated value in the Wight Pit is outlined in the following discussion.

In May 2004, prior to mining activity at the Mount Polley property, artesian groundwater samples were obtained from two diamond drill holes in the vicinity of what is now the Wight Pit. Average concentrations for each site were 358 mg/L and 832mg/L. Three samples were also collected from the Wight Pit in late 2006 and provided sulphate values of between 400 and 500 mg/L. The conclusion reached is that the sulphate concentrations seen at the Wight Pit are likely due to baseline groundwater quality. No attenuation factor was applied here to maintain a conservative estimate, so the resultant PDV for sulphate is 500 mg/L.

Nitrate

Major discharges of mining-related nitrate results from the use of explosives whereby high nitrate concentrations often coincide with blasting activities. Nitrate is the dominant species in the Low Level Nitrate + Nitrite (LL N+N) analysis due to the instability of nitrite. Trends for this parameter are shown in Figure 9. No MMER limits currently exist for nitrate, however the limit defined by the CCME is 13 mg/L and the BCWQG limit is 200 mg/L. Nitrate concentrations vary little and are well below the CCME limit at the TSF and MESCP during the second operational phase. Table 2 shows two different PDV's for nitrate. The value 28.90 mg/L represents the most conservative scenario whereby the PDV equals the maximum observed MESCP concentration. In the long-term scenario, the PDV is 0.65 mg/L as this is the mean concentration at the MESCP from November 2002 to November 2006.

The increase of nitrate at the MESCP is assumed to be directly related to the placement of 500,000 m^3 of waste rock on the downstream shell of the main embankment. Figure 10 shows the peak concentration at the MESCP (38.9 mg/L) coinciding with the peak concentration at E5 (130 mg/L). E5 includes the Foundation Drains that collect runoff from this rock mass. The flushing of nitrate took about two years,

where the concentrations fell below the CCME limit of 13 mg/L. A large mass of waste rock (1.8 million m^3) was placed on the Main Embankment during 2006. The expectation is that the nitrate from the residual explosives will again flush and increase the concentrations in the MESCP and E5.

Total Suspended Solids

Total suspended solids (TSS) may include silt, clay, fine organic or inorganic matter, plankton or other organisms. Waters with high TSS concentrations are generally turbid with reduced transparency (CCME, 1999). The MMER regulates TSS concentrations as shown in Figure 10; however there are currently no CCME or BCWQG limits. TSS concentrations are generally lower in low-flow waters such as sediment ponds due to settling of particulates. Attenuation from the TSF to the MESCP does appear to be a factor for suspended solids. The upstream toe drain of the Main Embankment has provided excellent filtering of suspended solids. Therefore, the PDV for TSS is assumed to be equal to the existing mean MESCP concentration of 5.8 mg/L.

We trust this review meets your requirements for inclusion with the discharge permit amendment. If you have any questions please contact Greg Smyth at your convenience.

4. REFERENCES

British Columbia Ministry of Environment, 2006. British Columbia Approved Water Quality Guidelines (2006 edition). http://www.elp.gov.bc.ca/wat/wq/BCguidelines/approv_wq_guide/approved.html

Butcher, G. A. 1988. Water Quality Criteria for Aluminium. Resource Quality Section, Water Management Branch, Ministry of Environment and Parks, Victoria, BC. British Columbia Approved Water Quality Guidelines (2006 edition). http://www.elp.gov.bc.ca/wat/wq/BCguidelines/aluminum/aluminum.html

CCME (Canadian Council of Ministers of the Environment), 1999. Canadian water quality guidelines for the protection of aquatic life: Introduction. In: Canadian environmental quality guidelines, 1999, Canadian Council of Ministers of the Environment, Winnipeg.

Nagpal, N. K. 2001. Ambient Water Quality Guidelines for Selenium. Ministry of Water, Land and Air Protection, Water Protection Branch, Victoria, BC. British Columbia Approved Water Quality Guidelines (2006 edition). http://www.elp.gov.bc.ca/wat/wq/BCguidelines/selenium/selenium.html

Wilkes University Centre for Environmental Quality, 2007. Metals in Surface Waters Watershed Projects, Iron and Water Quality http://www.water-research.net/Watershed/metals.htm.

Yours truly,

KNIGHT PIESOLD LTD.

Rosie Perrin, B.Sc.
Environmental Staff Scientist

Greg Smyth
Senior Environmental Scientist

Approved: Ken Brouwer, P.Eng.
Managing Director

Encl:
- Table 1 Rev 0 Attenuation Factor and Mean Concentrations for the 10 Priority Parameters
- Table 2 Rev 0 Predicted Discharge Values for the 10 Priority Parameters
- Figure 1 Rev 0 Dissolved Aluminium Concentration
- Figure 2 Rev 0 Total Cadmium Concentration
- Figure 3 Rev 0 Total Copper Concentration
- Figure 4 Rev 0 Total Iron Concentration
- Figure 5 Rev 0 Total Molybdenum Concentration
- Figure 6 Rev 0 Total Selenium Concentration
- Figure 7 Rev 0 Total Phosphorus Concentration
- Figure 8 Rev 0 Sulphate Concentration
- Figure 9 Rev 0 Low Level Nitrate + Nitrite Concentration
- Figure 10 Rev 0 Nitrate concentrations at E1, E4 and E5
- Figure 11 Rev 0 Total Suspended Solids Concentration
- Appendix A Investigated Parameters – Not Classified as Priority
- Appendix B Parameters with no CCME, BCWQG or MMER limits

cc: Pierre Stecko – Minnow Environmental Inc. (+ attachments)

/rp

Knight Piésold CONSULTING

TABLE 1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

ATTENUATION FACTOR AND MEAN CONCENTRATIONS FOR THE 10 PRIORITY PARAMETERS

Print: 3/14/07 15:40

M:\1\01\00001\13\A\Data\Water Quality\[WQ Mount Polley_for VA07-00199_Rev_0.xls]Table 1 Rev'd Mar. 13/07

Parameter	E1	E4	E1:E4 Calculated Attenuation Factor
Total Suspended Solids	34.8	5.8	6.0
Sulphate	118	79	1.5
Nitrate	0.42	3.15	0.1
Dissolved Aluminum	0.039	0.011	3.6
Total Cadmium	0.00013	0.00010	1.3
Total Copper	0.0198	0.0044	4.5
Total Iron	0.95	0.25	3.7
Total Molybdenum	0.075	0.061	1.2
Total Selenium (3)	0.0075	0.0011	6.6
Total Phosphorous	0.050	0.038	1.3

Notes:

(1) All concentrations provided in mg/L.

(2) Mean concentrations calculated from 7/2001 to 11/2006, excluding outliers (values exceeding the mean +/- 3 standard deviations).

(3) E1 mean total selenium concentration calculated for the Operational II phase (3/2005 to 11/2006).

Knight Piésold CONSULTING

TABLE 2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

PREDICTED DISCHARGE VALUES FOR THE 10 PRIORITY PARAMATERS

Print: 3/14/07 15:40

M:\1\01\00001\13\A\Data\Water Quality\[WQ Mount Polley_for VA07-00199_Rev_0.xls]Table 2 Rev'd Mar. 13/07

Parameter	Predicted Effluent Concentration (mg/L)	CCME limits (mg/L) [11]	BCWQG limits (mg/L) [12]		Baseline concentration mg/L (upper limit)
			30-day	maximum	
Total Suspended Solids [3]	5.8	-	-	-	7.6
Sulphate [4]	500	-	50	100	-
Nitrate [5]	28.90	13	40	200	-
Nitrate [6]	0.67	13	40	200	-
Dissolved Aluminum [3]	0.011	0.005 - 0.1 [13]	-	-	0.299
Total Cadmium [7]	0.00020	0.000048 [14]	-	0.00002	-
Total Copper [8]	0.0198	0.002 - 0.004 [15]	0.002	0.007	-
Total Iron [3]	0.25	0.3	-	-	0.53
Total Molybdenum [3]	0.061	0.073	1	2	-
Total Selenium [9,10]	0.0038	0.001	0.002	-	-
Total Phosphorous [3]	0.038	-	-	-	0.047

Notes:

(1) Concentrations provided in mg/L.

(2) Mean concentrations calculated from 7/2001 to 11/2006, excluding outliers (values exceeding the mean +/- 3 standard deviations).

(3) Assumes PDV = mean E4 concentration.

(4) PDV of 500 mg/L based on contributions from E8 (Cariboo Pit) and E10 (Wight Pit); see text for rationale.

(5) Most conservative scenario for nitrate: PDV = maximum E4 concentration of 28.9 mg/L (Aug 2001).

(6) Long-term scenario for nitrate: PDV = mean E4 concentration of 0.67 mg/L from 11/2002 to 11/2006.

(7) Assumes no attenuation and PDV = dissolved cadmium concentration of 0.0002 mg/L at the Wight Pit (E10).

(8) Assumes PDV = E1 mean concentration.

(9) E1 mean total selenium concentration calculated for the Operational II phase (3/2005 to 11/2006).

(10) Applied E1:E4 attenuation factor using the mean (0.025 mg/L) of the four peak dissolved selenium concentrations in E8 (12/02, 6/03, 10/04 and 6/06).

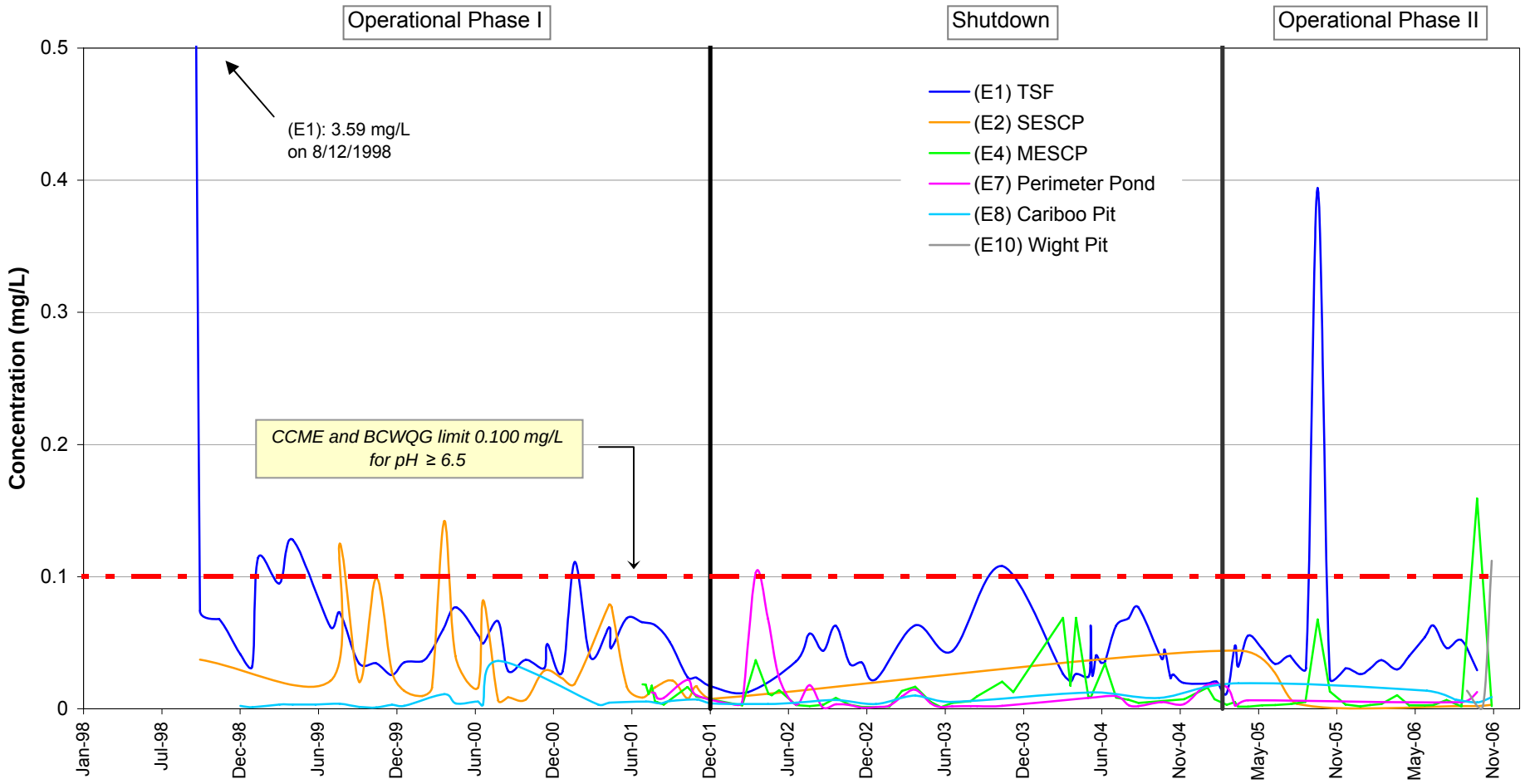
(11) Canadian Council of Ministers of the Environment (CCME), Canadian Environmental Guideline - Freshwater Guidelines for the protection of aquatic life.

(12) British Columbia Water Quality Guidelines (BCWQG) for the protection of aquatic life (2006).

(13) CCME limits for dissolved aluminum: 0.005 mg/L for pH < 6.5, 0.100 mg/L for pH ≥ 6.5.

(14) CCME limits for cadmium is based on the formula: 10 exp(0.86(log(hardness))-3.2) / 1000 with an average hardness value in the MESCP of 152.5 mg/L.

(15) CCME limits for copper: 0.002 mg/L for hardness (H) = 0-120 mg/L; 0.003 mg/L for H = 120-180 mg/L and 0.004 mg/L for H > 180 mg/L.



Notes:

1) The CCME limit for Dissolved Aluminum is 0.005 mg/L at pH < 6.5 and 0.100 mg/L at pH ≥ 6.5.

2) The BC Water Quality Guideline limit is 0.100 mg/L at pH ≥ 6.5

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

DISSOLVED ALUMINUM CONCENTRATION

Knight Piésold CONSULTING

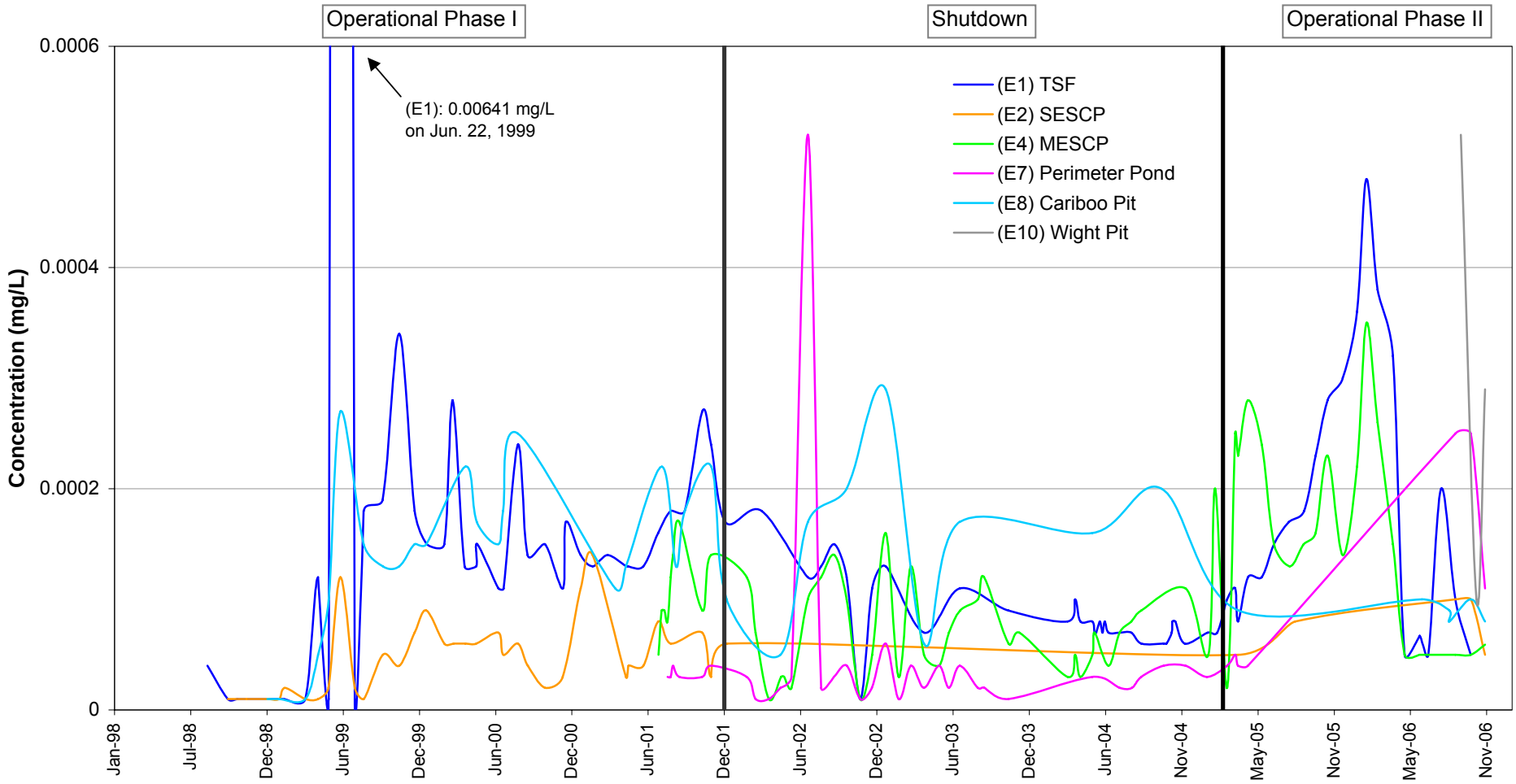
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE 1

REV. 0

Rev 0 - Issued with Letter VA07-00199



Notes:

1) CCME limit is hardness-dependent: 10^(0.086(log(hardness))-3.2

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

TOTAL CADMIUM CONCENTRATION

Knight Piésold CONSULTING

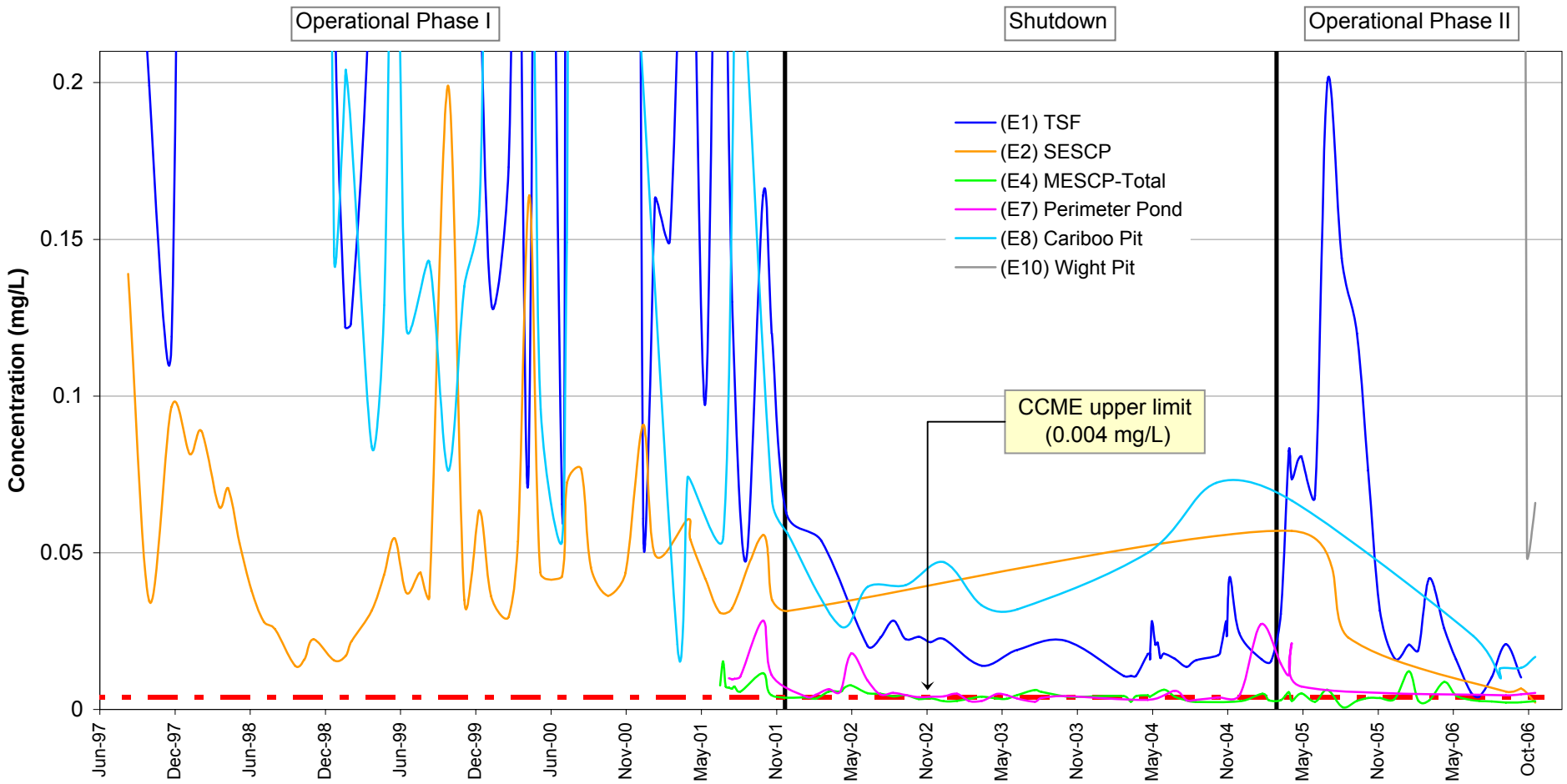
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE 2

REV. 0

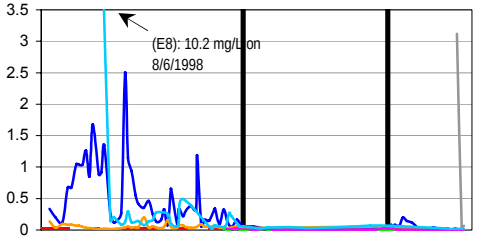
Rev 0 - Issued with Letter VA07-00199



Notes:

1) CCME limit is hardness dependent: 0.002 @ H = 0-120 mg/L, 0.003 @ H = 120-180 mg/L and 0.004 @ H > 180 mg/L.
2) BCWQC limit is hardness dependent: ((0.094 * Hardness)+2) / 1000
3) MMER limits for Total Copper: 0.30 mg/L - Maximum Monthly Mean, 0.45 mg/L - Max. Authorized Concentration in Composite Sample, 0.60 mg/L - Max. Authorized Concentration in Grab Sample

Entire range of concentrations shown below.



MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

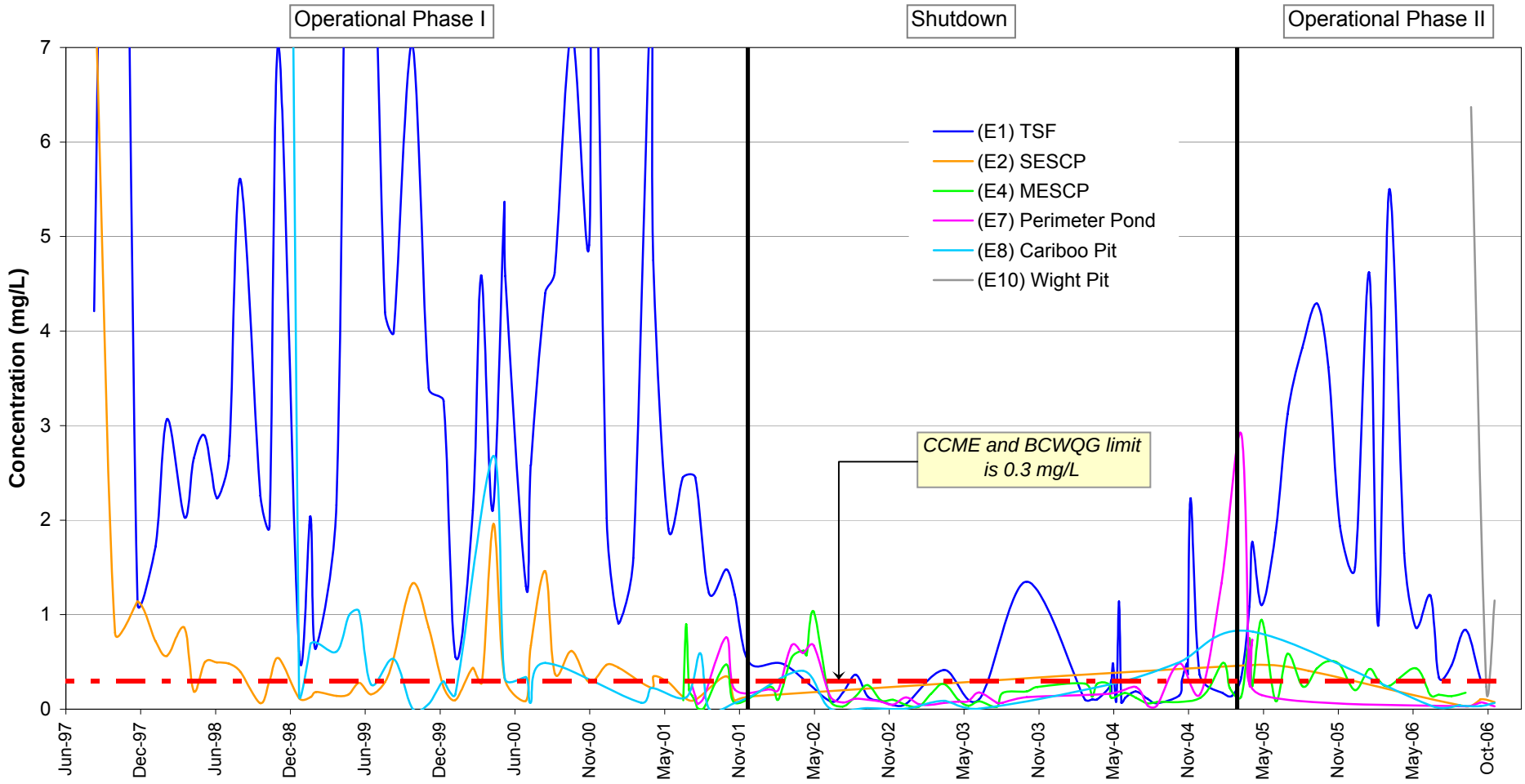
TOTAL COPPER CONCENTRATION

Knight Piésold CONSULTING

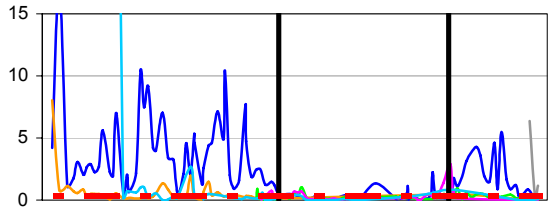
PROJECT / ASSIGNMENT NO. VA101-0000/13 | REF NO. VA07-00199

FIGURE 3 | REV. 0

Rev 0 - Issued with Letter VA07-00199



Entire range of concentrations shown below.



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

TOTAL IRON CONCENTRATION

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

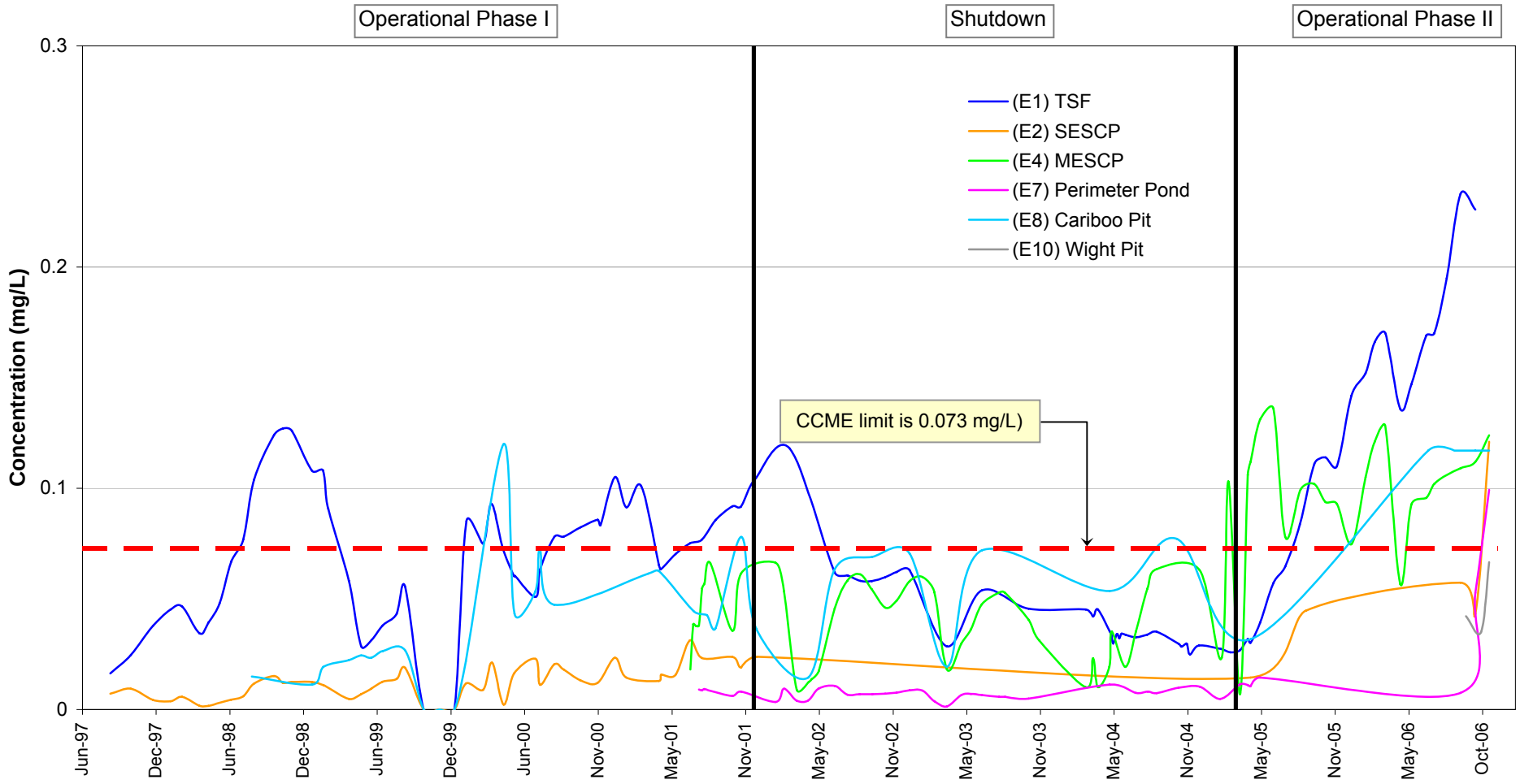
FIGURE 4

REV. 0

Rev 0 - Issued with Letter VA07-00199

M:\1\01\00001\13\A\Data\Water Quality\[WQ Mount Polley_for VA07-00199_Rev_0.xls]F5 Mo-T

Print 3/14/2007 12:51 PM
Rev'd Mar. 13/07



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

TOTAL MOLYBDENUM CONCENTRATION

Knight Piésold CONSULTING

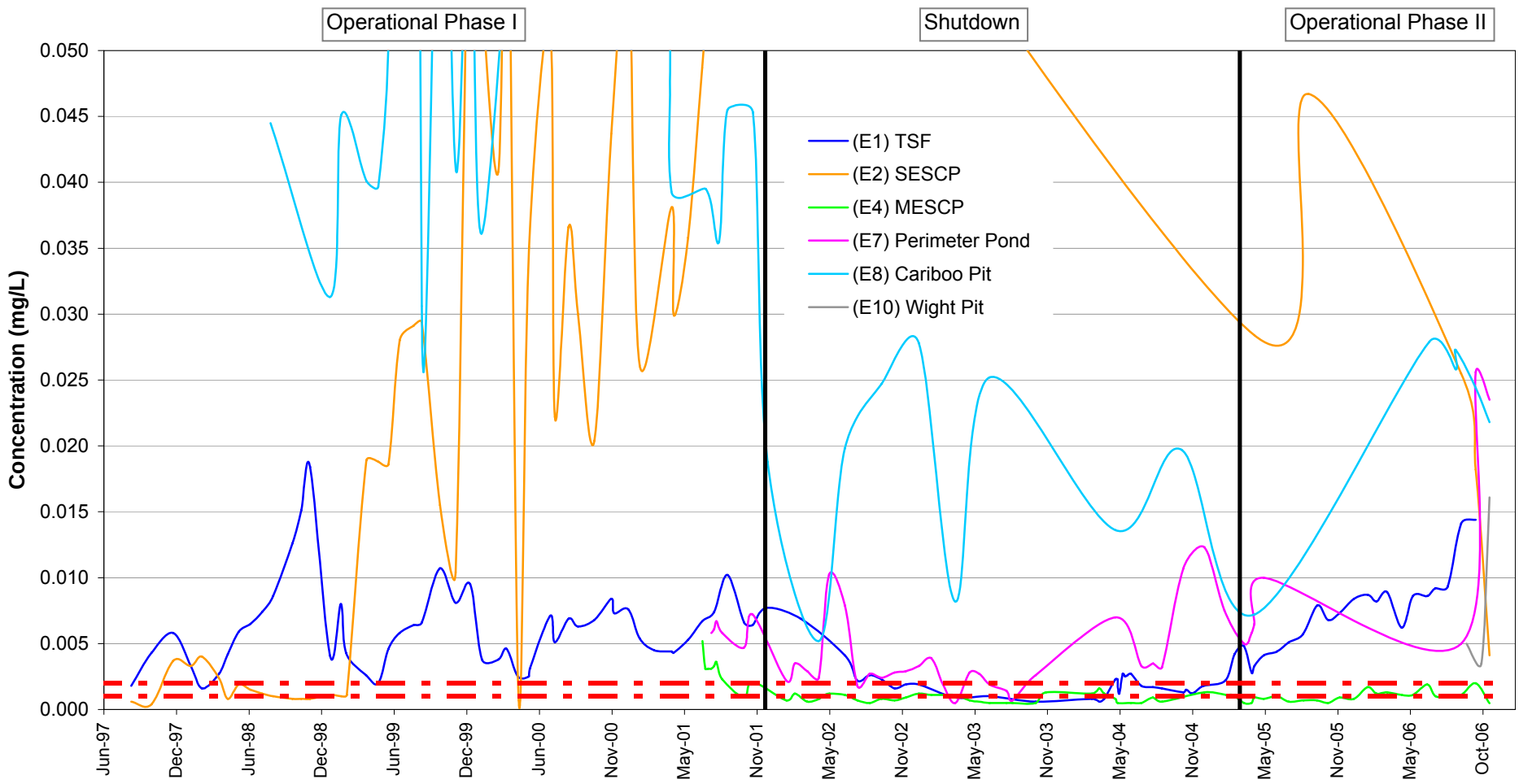
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

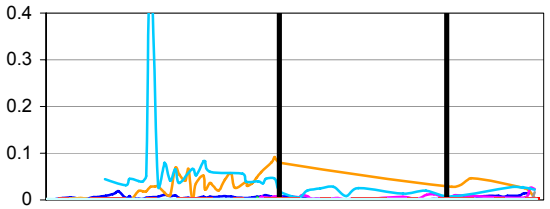
FIGURE 5

REV. 0

Rev 0 - Issued with Letter VA07-00199



Entire range of concentrations shown below.



Notes:
1) CCME limit is 0.001 mg/L.
2) BCWQG limit is 0.002 mg/L.

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

TOTAL SELENIUM CONCENTRATION

Knight Piésold CONSULTING

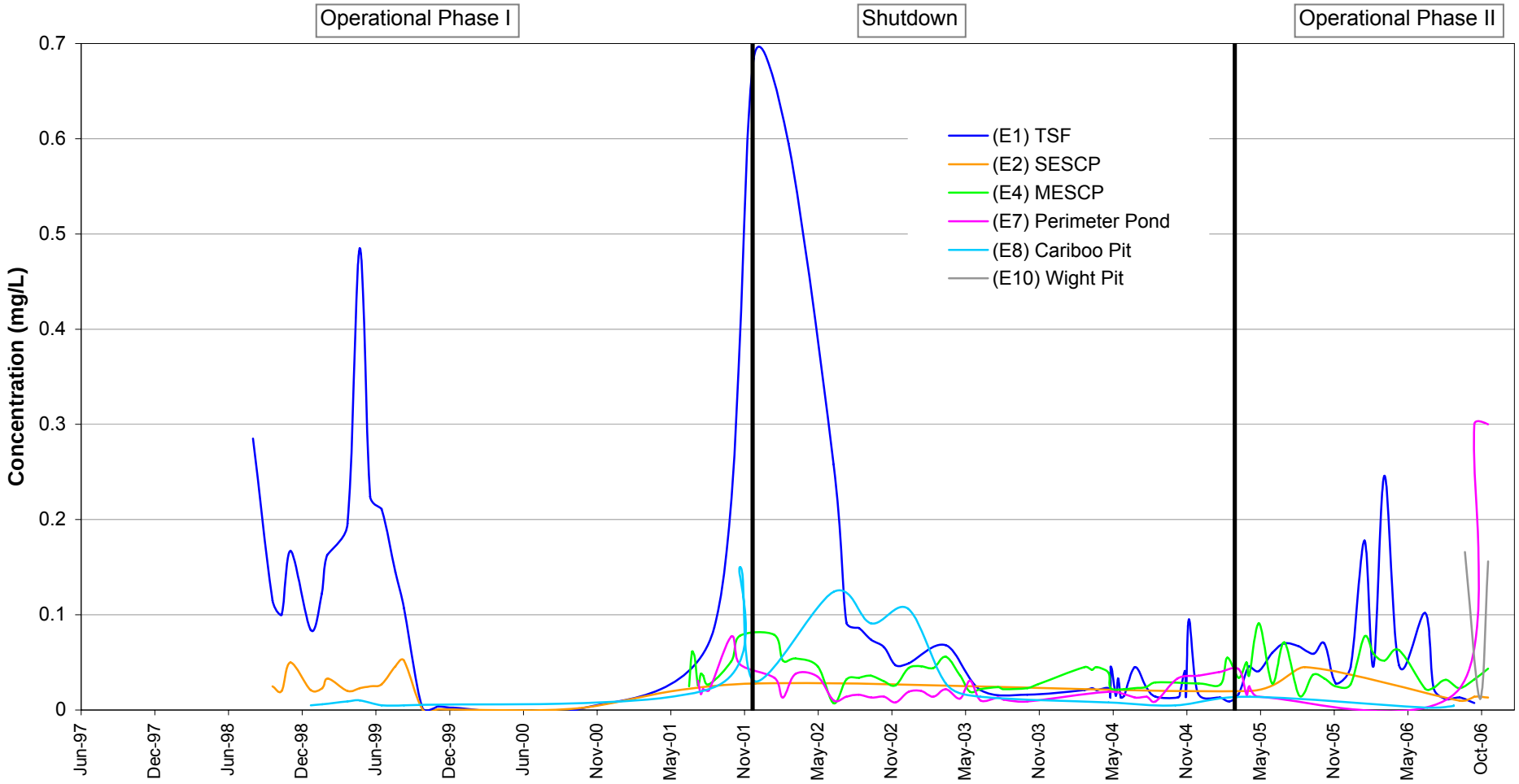
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE 6

REV. 0

Rev 0 - Issued with Letter VA07-00199



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

TOTAL PHOSPHORUS CONCENTRATION

Knight Piésold CONSULTING

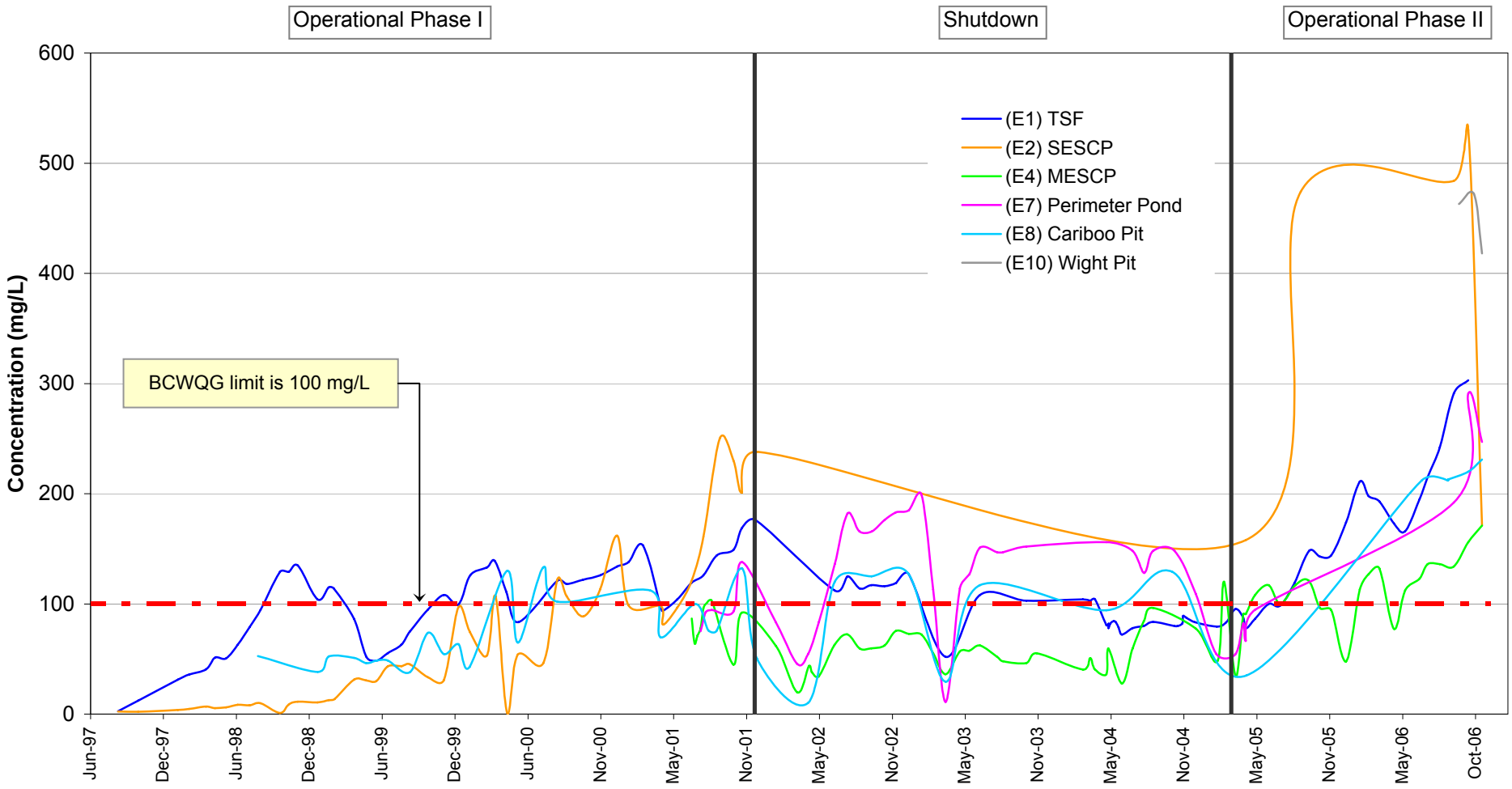
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE 7

REV. 0

Rev 0 - Issued with Letter VA07-00199



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

SULPHATE CONCENTRATION

Knight Piésold CONSULTING

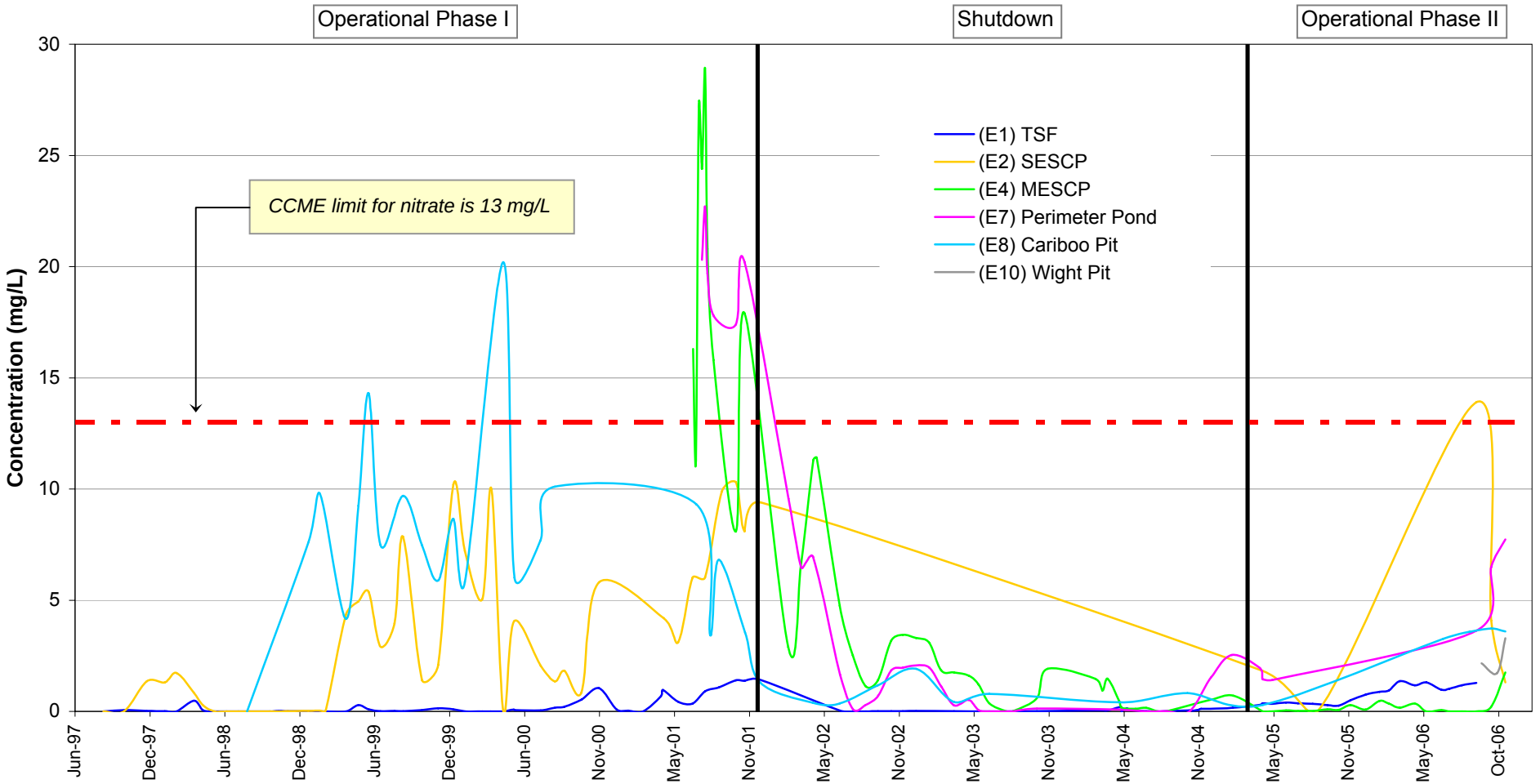
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE 8

REV. 0

Rev 0 - Issued with Letter VA07-00199



Notes:
1) CCME limit for nitrate is shown only because nitrite contributes very little to the total nitrate+nitrite concentration.

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

LOW-LEVEL NITRATE + NITRITE CONCENTRATION

Knight Piésold CONSULTING

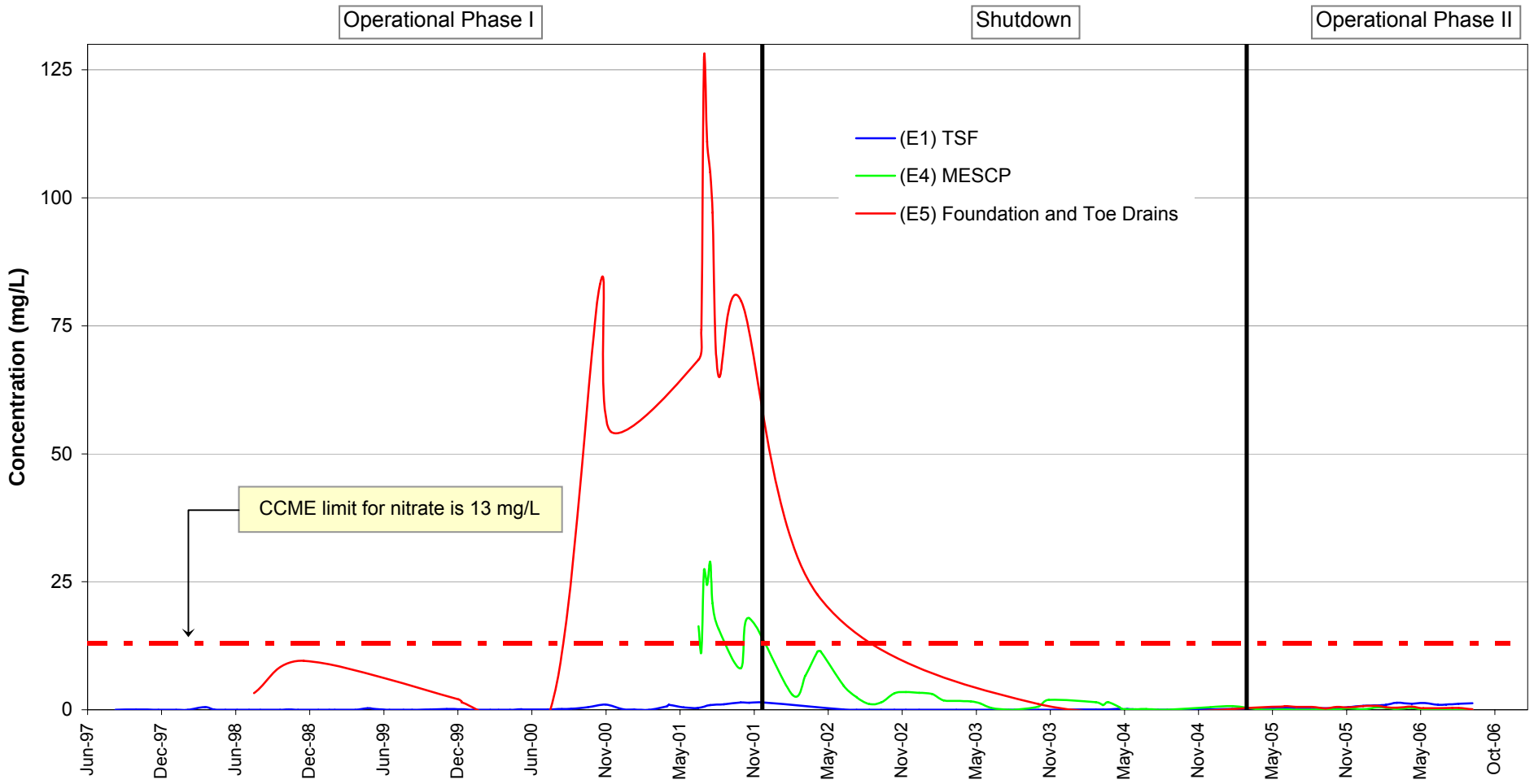
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE 9

REV. 0

Rev 0 - Issued with Letter VA07-00199



Notes:
1) CCME limit for nitrate is 13 mg/L and nitrite is 0.06 mg/L however most nitrogen species will be in the form of nitrate, so the 13 mg/L nitrate limit is the most applicable.

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

NITRATE CONCENTRATIONS FOR E1, E4 and E5

Knight Piésold CONSULTING

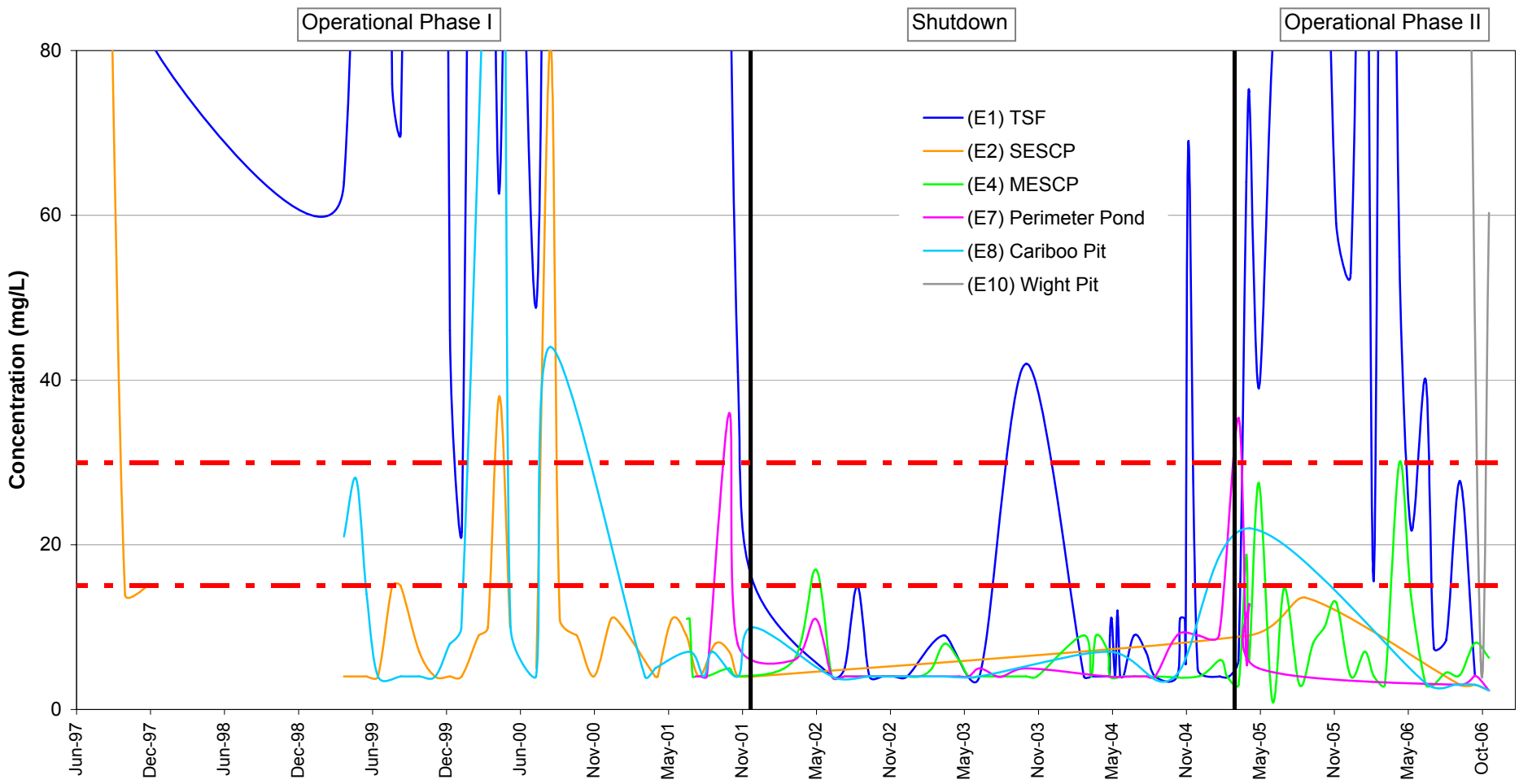
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE 10

REV. 0

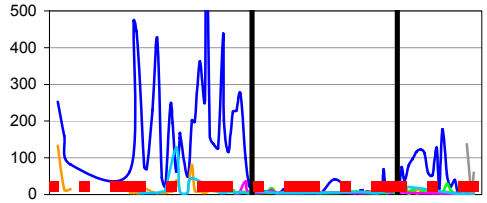
Rev 0 - Issued with Letter VA07-00199



Notes:

1) MMER limits for Total Suspended Solids:
   - 15.00 mg/L - maximum montly mean
   - 22.50 mg/L - maximum authorized concentration in a composite sample
   - 30.00 mg/L - maximum authorized concentration in a grab sample

Entire range of concentrations shown below.



Rev 0 - Issued with Letter VA07-00199

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

TOTAL SUSPENDED SOLIDS CONCENTRATION

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE 11

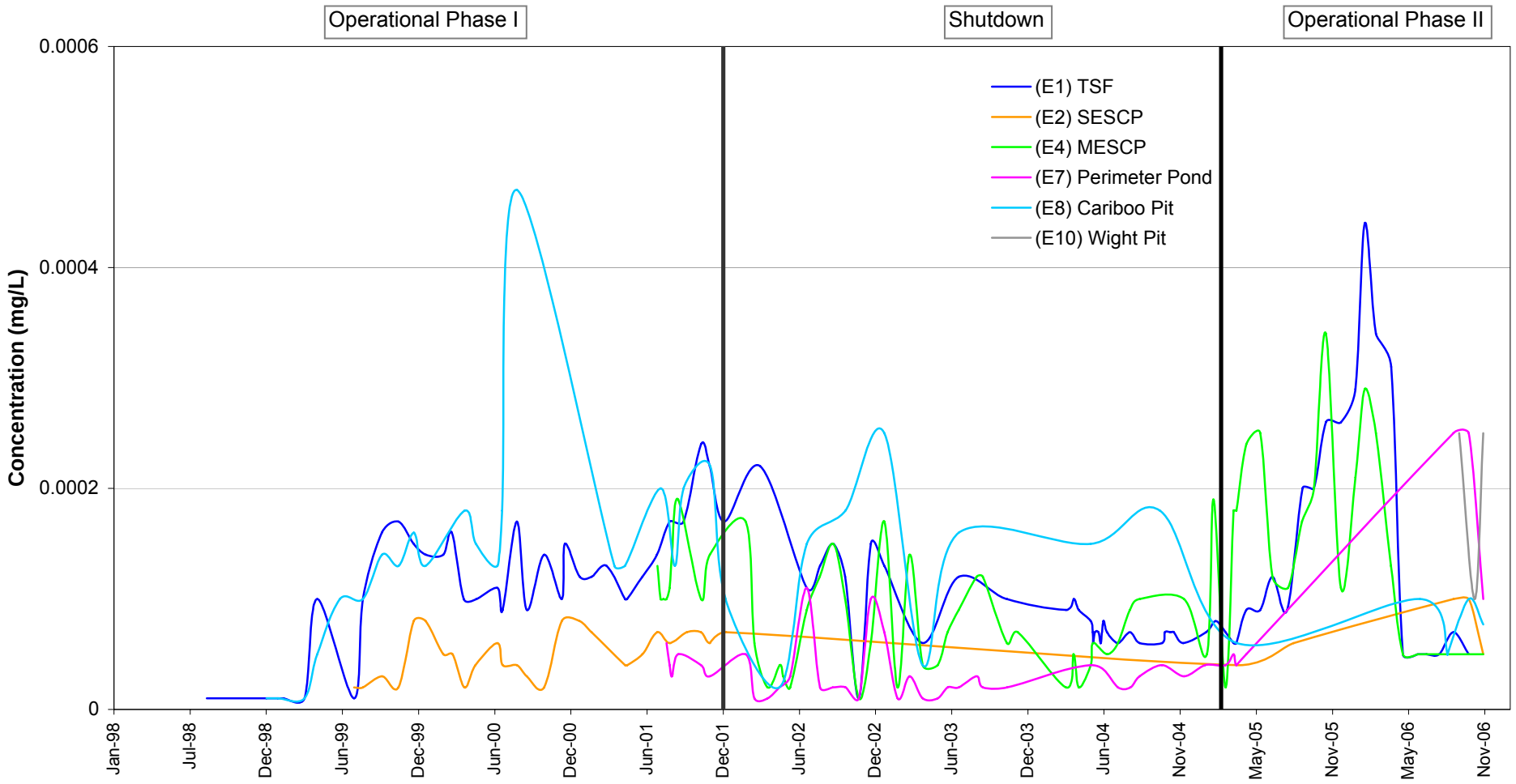
REV. 0

Knight Piésold
CONSULTING

APPENDIX A

INVESTIGATED PARAMETERS - NOT CLASSIFIED AS PRIORITY

(Figures A1.01 to A1.07)



Notes:

1) CCME limit is hardness-dependent: 10^(0.086(log(hardness))-3.2

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

DISSOLVED CADMIUM CONCENTRATION

Knight Piésold CONSULTING

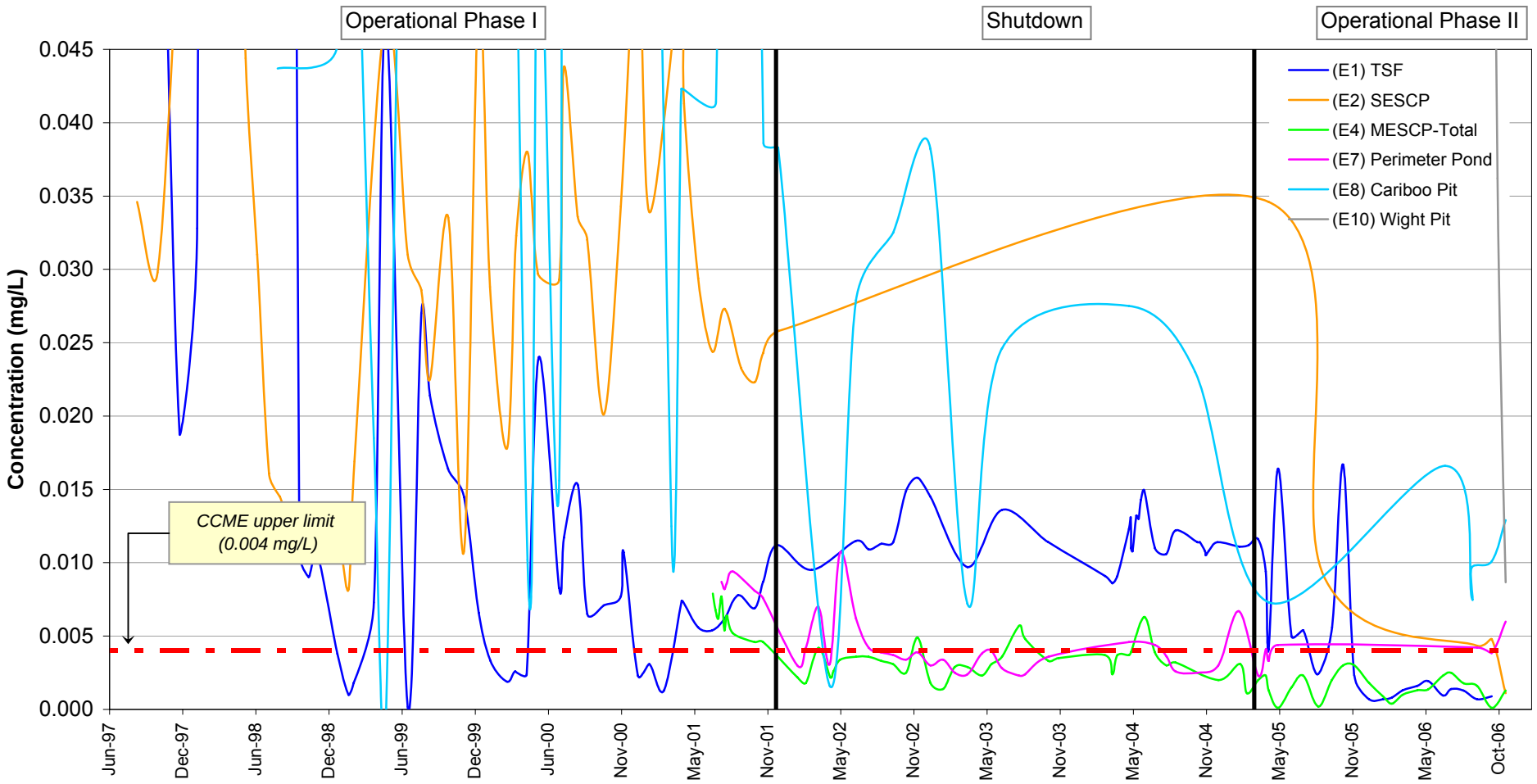
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE A1.01

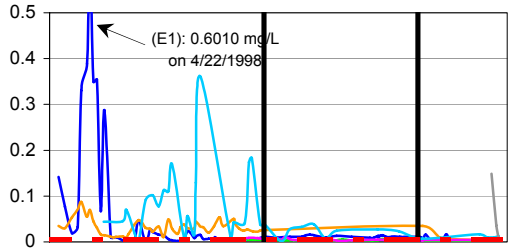
REV. 0

Rev 0 - Issued with Letter VA07-00199



Notes:
1) CCME limit is hardness dependent: 0.002 @ H = 0-120 mg/L, 0.003 @ H = 120-180 mg/L and 0.004 @ H > 180 mg/L.
2) BCWQG limit is hardness dependent: ((0.094 * Hardness)+2) / 1000
3) MMER limits for Total Copper: 0.30 mg/L - Maximum Monthly Mean, 0.45 mg/L - Max. Authorized Concentration in Composite Sample, 0.60 mg/L - Max. Authorized Concentration in Grab Sample

Entire range of concentrations shown below.



MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

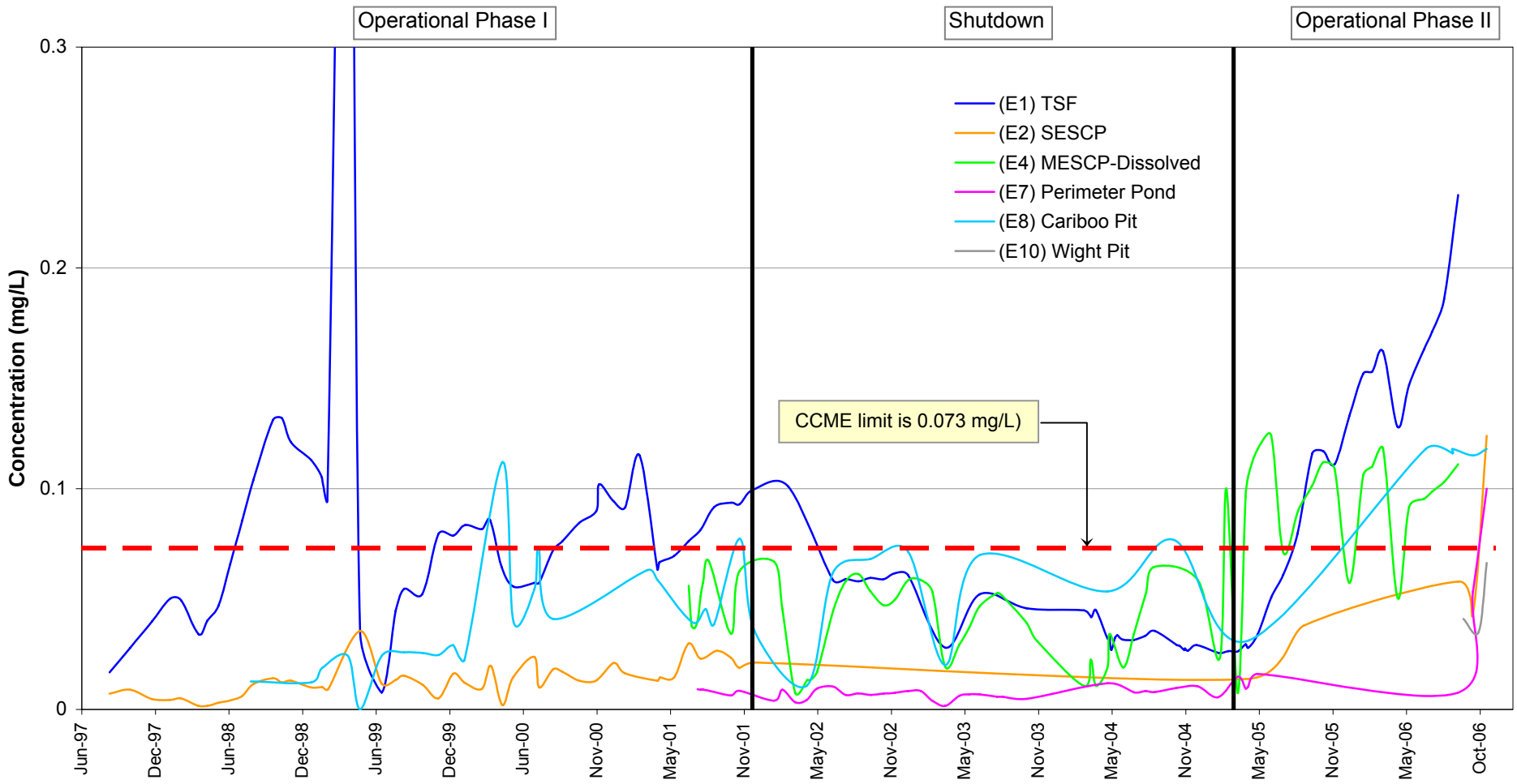
DISSOLVED COPPER CONCENTRATION

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT NO.	REF NO.
VA101-0000/13	VA07-00199

FIGURE A1.02 REV. 0

Rev 0 - Issued with Letter VA07-00199



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

DISSOLVED MOLYBDENUM CONCENTRATION

Knight Piésold CONSULTING

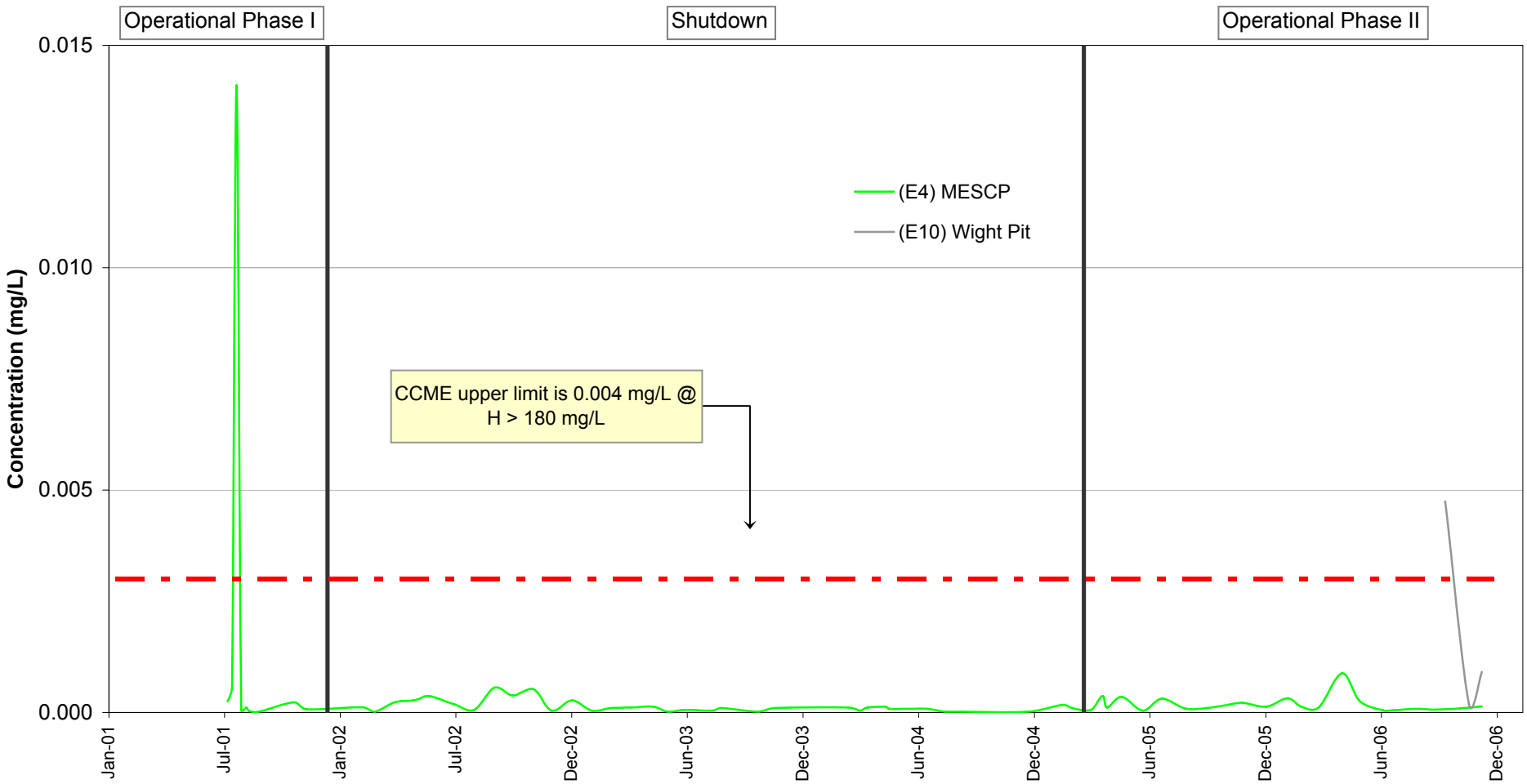
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE A1.03

REV. 0

Rev 0 - Issued with Letter VA07-00199



Notes:

1) CCME limit is hardness dependent: 0.001 @ H = 0-60 mg/L, 0.002 @ H = 60-120 mg/L, 0.003 @ H = 120-180 mg/Land 0.004 @ H > 180 mg/L.
2) BCWQG limit is hardness dependent: exp^(1.273*ln(H)-1.46)/1000
3) MMER Limits for Total Lead:
   0.20 mg/L - Maximum monthly mean
   0.30 mg/L - Maximum authorized concentration in a composite sample
   0.40 mg/L - Maximum authorized concentration in a grab sample

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

TOTAL LEAD CONCENTRATION

Knight Piésold CONSULTING

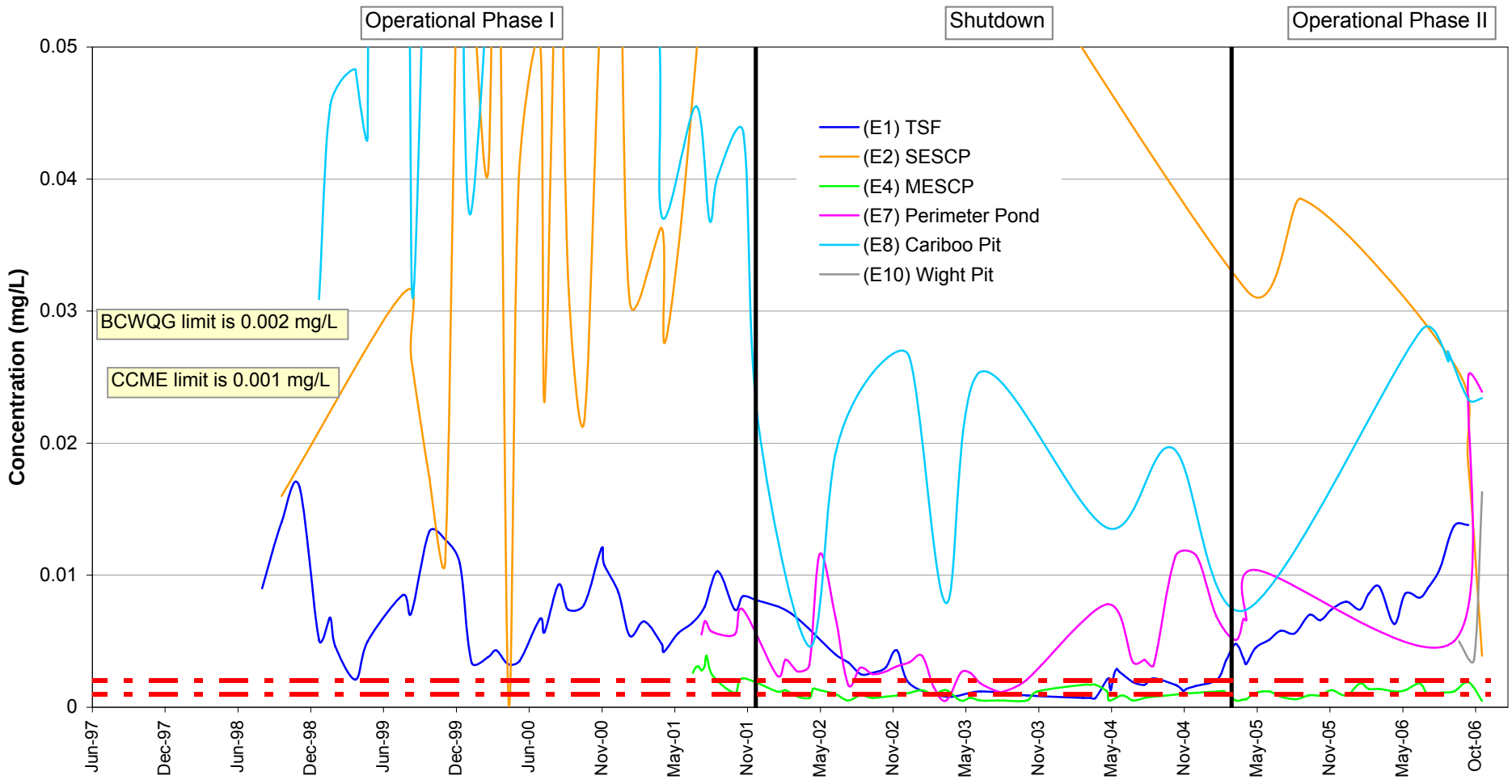
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

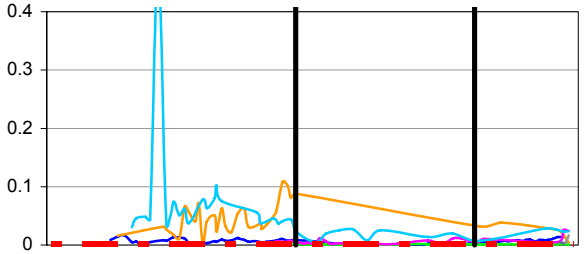
FIGURE A1.04

REV. 0

Rev 0 - Issued with Letter VA07-00199



Entire range of concentrations shown below.



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

DISSOLVED SELENIUM CONCENTRATION

Knight Piésold CONSULTING

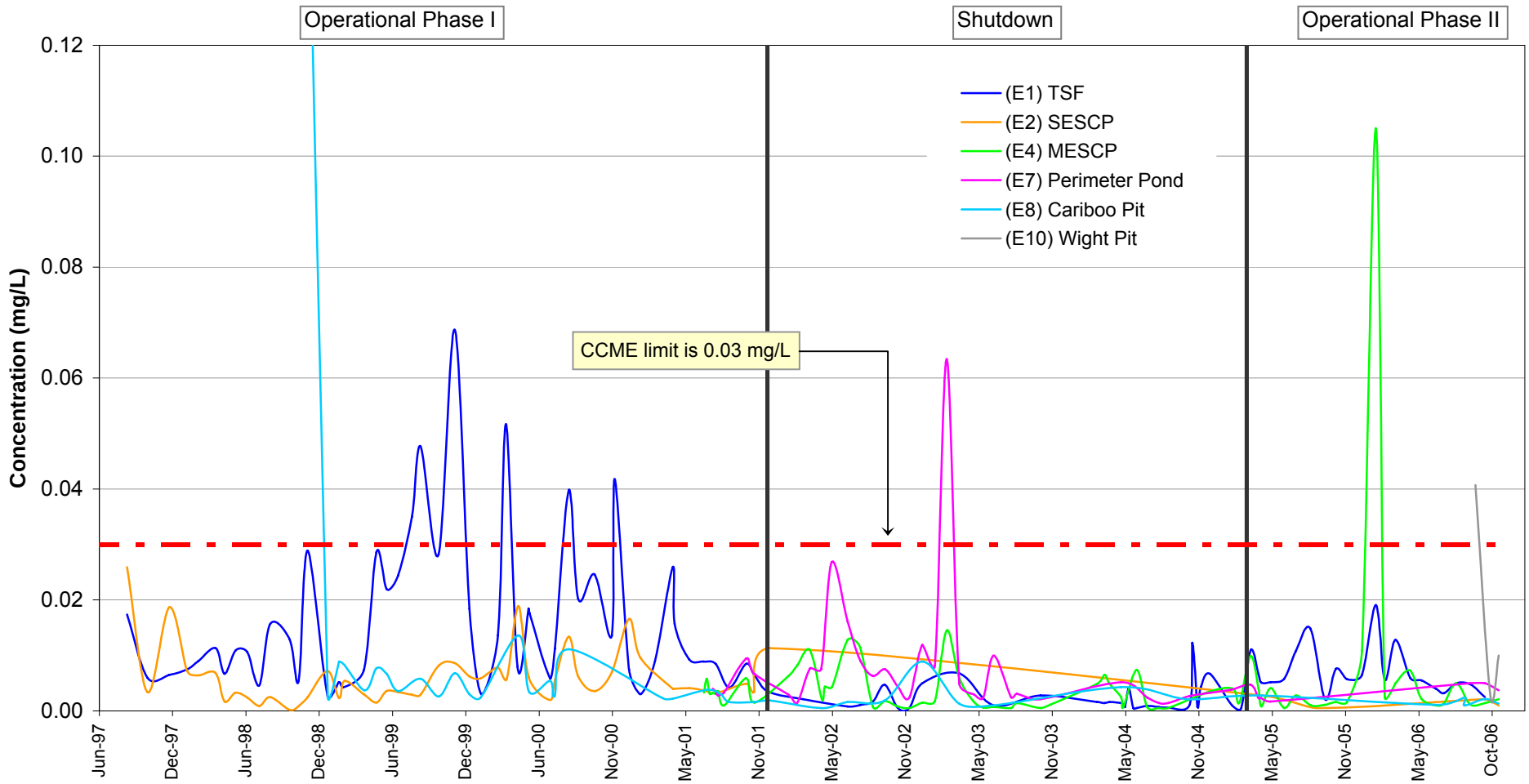
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE A1.05

REV. 0

Rev 0 - Issued with Letter VA07-00199



Notes:

1) MMER limits for Total Zinc:
   - 0.50 mg/L - Maximum Monthly Mean
   - 0.75 mg/L - Max. Authorized Concentration in Composite Sample
   - 1.00 mg/L - Max. Authorized Concentration in Grab Sample
2) BCWQG limits are hardness dependent: 33+0.75(hardness-90)/1000

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

TOTAL ZINC CONCENTRATION

Knight Piésold CONSULTING

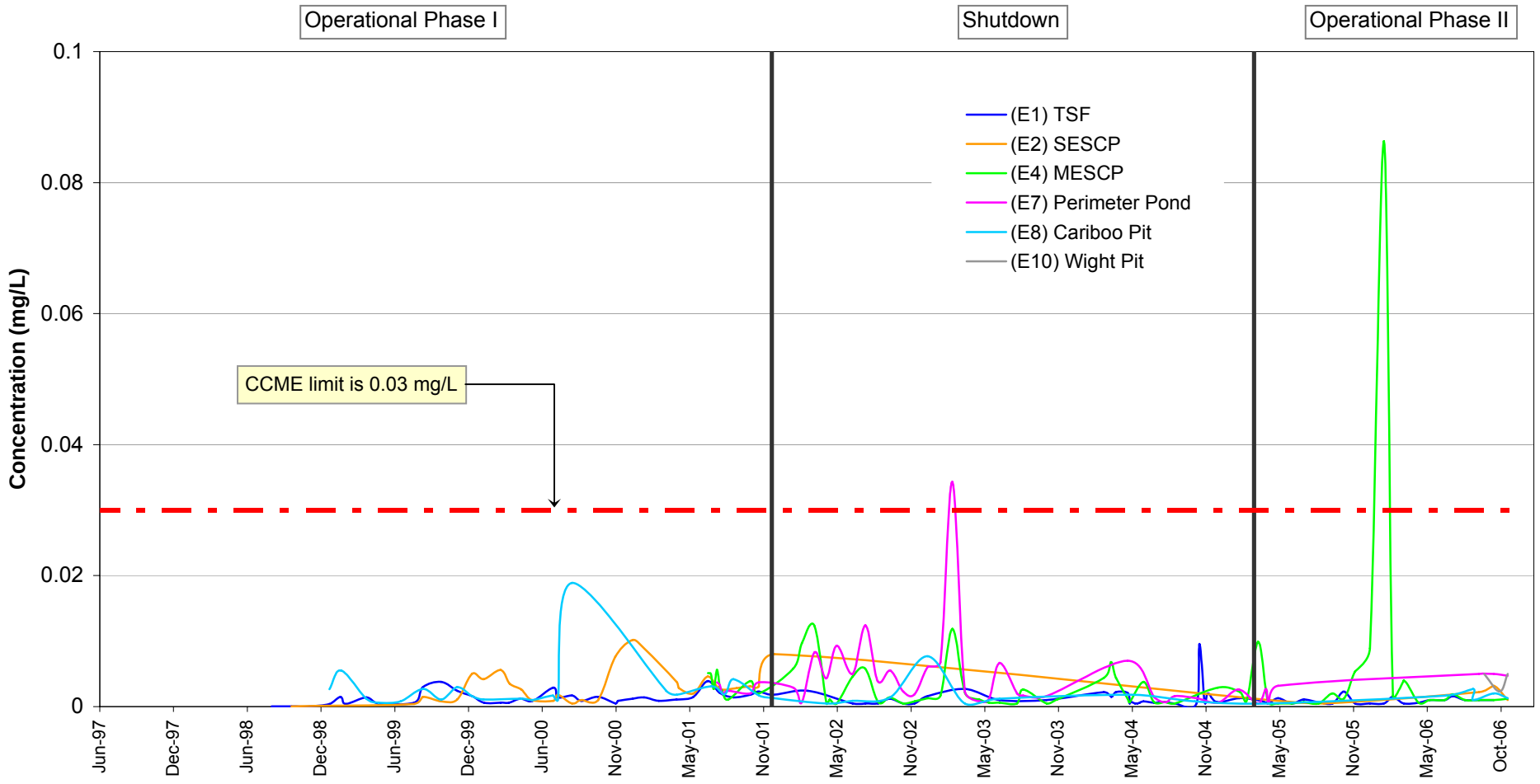
PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE A1.06

REV. 0

Rev 0 - Issued with Letter VA07-00199



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY PROJECT

DISSOLVED ZINC CONCENTRATION

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT NO. VA101-0000/13

REF NO. VA07-00199

FIGURE A1.07

REV. 0

Rev 0 - Issued with Letter VA07-00199

APPENDIX B

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

PARAMETERS WITH NO CCME, BCWQG OR MMER LIMITS

Print: 3/14/07 12:49

M:\1\01\00001\13\A\Data\Water Quality\[WQ Mount Polley_for VA07-00199_Rev_0.xls]Appendix B Rev'd Mar. 13/07

PARAMETER	Units
Physical Parameters	
Temperature	degrees C
Conductivity	µS/cm
Hardness (as $CaCO_3$)	mg/L
Total Dissolved Solids	mg/L
Turbidity	NTU
Anions and Nutrients	
Ammonia as N	mg/L
Alkalinity, Total (as CaCO3)	mg/L
Nitrate and Nitrite as N	mg/L
Total Nitrogen	mg/L
Orthophosphate	mg/L
Total Dissolved Phosphate	mg/L
Organic Parameters	
Dissolved Organic Carbon	mg/L
Metals (1)	
Aluminum	mg/L
Antimony	mg/L
Bismuth	mg/L
Calcium	mg/L
Chromium	mg/L
Lithium	mg/L
Magnesium	mg/L
Potassium	mg/L
Sodium	mg/L
Silicon	mg/L
Strontium	mg/L
Titanium	mg/L
Vanadium	mg/L

Notes:
(1) Metals include 'total' and 'dissolved', except aluminum which has no limits for 'total'.