

## TECHNICAL MEMORANDUM

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**TO:** Sergio Gonzalez, Resolution Copper Mining      **DATE:** January 12, 2009  
**FR:** Felipe Vasquez and Rens Verburg, Golder Associates      **OUR REF:** 073-92548-01.001  
**CC:** David Kidd, Don Welch, Golder Associates; Mark Logsdon, Geochimica  
**RE:** Kinetic Testing Results of Scavenger Tailings – Resolution Copper Project

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### 1.0 INTRODUCTION

This Technical Memorandum presents the results from the 43-week extended kinetic geochemical characterization program of scavenger tailings for the Resolution Copper Project conducted by Golder Associates (Golder). The program was carried out to evaluate the environmental stability of the tailings and supplement the static testing program reported in Golder (2007). It was extended from its original 20-week duration in accordance with the recommendations provided in the 20-week kinetic testing report (Golder, 2008) due to unresolved uncertainty with regard to acid generation potential. The extension of the kinetic testing program was conducted with the following specific objectives in mind:

- To determine long-term water quality for the scavenger tailings;
- To verify the acid generation potential of the scavenger tailings, which had been classified as “uncertain” based on the first 20 weeks of the program;
- To evaluate sulfide reactivity as a function of moisture content; and,
- To assist in evaluation of operational placement options and requirements.

### 2.0 TESTING PROGRAM

Three scavenger tailings samples were included in the kinetic testing program, as follows:

- HC 1-S: scavenger tailings (thickened, non-segregating, ~ 70% solids)
- HC 2-S: scavenger tailings (filter cake, ~ 83% solids)
- HC 3-S: scavenger tailings (paste, 10-inch slump, ~ 75% solids)

The kinetic testing methodology and characteristics are the same as described in Golder (2008). The total duration of the kinetic testing program for the scavenger tailings was 43 weeks.

After termination of the kinetic testing, acid base accounting (ABA) and net acid generation (NAG) testing were conducted on the remaining test charges.

### 3.0 ABA AND NAG RESULTS

Table 1 presents the ABA and NAG results before and after kinetic testing.

The paste pH for the scavenger tailings shows a small decrease, but circumneutral values are maintained, suggesting that the samples have undergone little oxidation.

Differences can be observed in the amounts of total sulfur before and after the HCT program. The total sulfide content decreased from 0.38% to approximately 0.15%. The main sulfur species responsible for this reduction is the sulfur present in the form of sulfate. As per the KCB mineralogical analysis, the majority of the sulfate was present as gypsum, most of which would have been flushed out of the columns during the first few weeks of the experiment.

The amount of sulfide sulfur has remained constant since the beginning of the test, indicating that the sulfides present in the scavenger tailings are non-reactive and confirming the observation that little oxidation has occurred.

As the acid potential (AP) is calculated from the sulfide sulfur content, this value does not show any changes over the testing period. The neutralization potential (NP), however, shows a slight decrease after the 43-week test from 4.4 to a range between 2.2 and 3.0 kg CaCO<sub>3</sub>/ton, likely due to the dissolution of carbonate minerals.

The NAG pH values have also changed since the beginning of the test. The NAG pH has increased from 4.5 at the beginning of the study to a range between 5.4 and 5.7 at the conclusion of the HCT program.

## 4.0 KINETIC TESTING RESULTS

### 4.1 Kinetic Testing Leachate Results

Scavenger HCT leachate results for the 43 weeks of testing are presented in Figures 1 to 43. The results for the cleaner tailings are included for comparison. General geochemical and ARD indicator parameters are presented first (i.e., pH, redox, conductivity, alkalinity, acidity, sulfate and hardness) followed by the remaining parameters in alphabetical order. In some cases, a log scale is used to allow for simultaneous depiction of cleaner and scavenger results while allowing improved resolution of scavenger tailings concentration trends. All analytical results are provided in Appendix A.

Leachate results for the first few weeks of kinetic testing generally are considered to be indicative of “first flush” conditions, during which readily-soluble material is removed from the solid. Soluble material includes primary minerals that may dissolve easily (e.g., sulfate minerals and certain carbonate minerals) as well as secondary minerals formed during weathering, including through sulfide oxidation. Early results therefore are not a good indication of long-term behavior, but may instead be influenced by the age of the sample as well as the manner in which the sample was obtained.

#### 4.1.1 ARD Indicator Parameters

The scavenger tailings were classified as having an “uncertain” acid generating potential based on the results from the ABA and NAG testing (Golder, 2007). The kinetic testing results show that the pH has remained neutral (6.5 to 7.7) over the 43-week testing period (Figure 1), which is significantly higher than the initial NAG pH of 4.5. There appears to be a very slight decreasing tendency over

time. Alkalinity results show a decreasing trend that started at between 40 to 55 mg/L as CaCO<sub>3</sub> and fell by approximately one order of magnitude by the end of week 43 (Figure 4).

Sulfate concentrations were initially near 1,000 to 1,500 mg/L and decreased more or less continuously to below 15 mg/L over 43 weeks (Figure 7). Sulfate leaching during the early stages of kinetic testing generally represents release of sulfate from readily-soluble components, such as gypsum or other sulfate minerals. Conductivity readings for the samples followed the sulfate trend (Figure 3), indicating that sulfate represented the principal contribution to conductivity. Conditions were oxidizing throughout the testing period (Figure 2).

No distinct differences in concentration trends of ARD indicator parameters were observed that could be attributed to the differences in moisture content between the three scavenger tailings samples.

#### 4.1.2 Metal Leaching

Kinetic testing results through week 43 were representative of metal leaching under circum-neutral conditions, with low to very low dissolved metal concentrations. Virtually all metals displayed a steady or decreasing trend, except for barium and zinc (Figures 12 and 42, respectively), which demonstrated a minor but consistent increase. Occasional departures from general concentration trends (e.g., lead, silicon) are not considered indicative of long-term leaching behavior. A comparison with Arizona Aquifer Water Quality Standards (AAWQS) (presented in Table 2) indicates no exceedances of the AAWQS.

As for the ARD indicator parameters, no distinct differences in concentration trends were observed that could be attributed to the differences in moisture content between the three scavenger tailings samples.

## 5.0 ACID GENERATION POTENTIAL

The results from the ABA, NAG testing and kinetic testing were used to evaluate rates of sulfide oxidation and depletion of neutralization potential (NP). By comparing the time required for depletion of available reactive sulfide vs. available NP, it can be determined whether the material in question will be net acid generation or net neutralizing. In addition, one of the goals of the kinetic testing program is to assess the timing of the onset of acid generation for mine waste materials.

Prior to the HCT program, the NPR value of 1.17 and the NAG pH of 4.5 suggested some ARD potential (Table 1), although it was recognized that the sulfide sulfur concentration might be too low for any significant acid to be generated. The NPR range between 0.5 and 0.7 after the testing yet again indicates an ARD potential. However the NAG pH values after the HCT program, in the range of 5.5, together with the observation that sulfides present are non-reactive and occur in a low concentration, suggest that the scavenger tailings are non acid generating.

Acid generation and neutralization depletion rates for the samples are presented in Table 3. Depletion trends are shown in Figures 44 to 48, illustrating both removal percentages as well as removal rates. Average sulfate generation and alkalinity depletion rates from weeks 15 to 43 were used to calculate the time to sulfide depletion and NP exhaustion. It was assumed that all the sulfate produced after week 15 would originate from sulfide oxidation.

For the scavenger tailings, the durations to NP depletion and sulfide depletion are estimated to be in the range between 1 and 3 years in the humidity cells. However, the calculated intervals for NP

depletion are slightly higher than for sulfide depletion, suggesting that the scavenger tailings are non acid generating in the long term.

The depletion calculations for sulfide sulfur show that, by the end of the 43 weeks, approximately 30% of the original sulfide sulfur has been consumed. However, the ABA results indicate that the amount of sulfide sulfur has not changed. This apparent discrepancy stems from the assumption that, after week 15, all of the sulfate is the product of sulfide oxidation, which appears to be incorrect based on the fact that the values for sulfide sulfur have not changed. The depletion calculations and the ABA results do agree in terms of total sulfur values. The calculations indicate that by week 43, 45% of the original total sulfur should remain in the sample (Figure 46), while the ABA results show that approximately 40% of the total sulfur is still present (Table 1). The sulfate reporting to the HCT leachates, therefore, originates from dissolution of sulfate minerals rather than sulfide oxidation.

In summary, the extended kinetic testing program has confirmed that the scavenger tailings are non acid generating and their metal leachability is low.

It should be noted that, according to the ASTM protocol for humidity cell testing, reaction rates in the cells are accelerated by about one order of magnitude for mine rock. This is generally understood to be caused by the difference in grain size between the test charges and material in a mine rock facility. The relationship between reaction rates for tailings in HCTs and in a tailings impoundment is less clear as the grain size effect is of less consequence. However, due to the aggressive nature of the leaching cycles in the HCTs, it stands to reason that some acceleration is achieved for tailings as well relative to mine conditions.

## **6.0 RECOMMENDATIONS FOR FURTHER WORK**

Construction of scavenger tailings field cells in parallel with the proposed field program for cleaner tailings will be conducted for completeness and to augment the HCT program. Although operational placement of scavenger tailings is much less constrained by their environmental characteristics than the significantly more reactive cleaner tailings, additional information on long-term weathering behavior under ambient conditions will be of value with respect to identification of appropriate tailings management alternatives.

## **7.0 REFERENCES**

- Golder Associates Inc., 2007. Geochemical Characterization of Cleaner and Scavenger Tailings – Resolution Copper Project. December 2007.
- Golder Associates Inc., 2008. Kinetic Testing Results of Cleaner and Scavenger Tailings – Resolution Copper Project. July 2008.

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**TABLE 1**  
**ABA and NAG Test Results**

| SAMPLES            |                          |  | Scavenger tailings<br>prior to HCT | HC 1S<br>after HCT | HC 2S<br>after HCT | HC 3S<br>after HCT |
|--------------------|--------------------------|--|------------------------------------|--------------------|--------------------|--------------------|
| <b>ABA RESULTS</b> | Paste pH                 | s.u.   | 7.5                                | 6.67               | 6.70               | 6.60               |
|                    | S(T)                     | %  | 0.38                               | 0.15               | 0.15               | 0.14               |
|                    | S(SO <sub>4</sub> )      | %  | 0.26                               | 0.02               | 0.02               | 0.02               |
|                    | S(S-2)                   | %  | 0.12                               | 0.13               | 0.13               | 0.12               |
|                    | AP                       | tonnes CaCO <sub>3</sub> /<br>1000 tonnes of<br>material | 3.8                                | 4.1                | 4.1                | 3.8                |
|                    | NP                       | tonnes CaCO <sub>3</sub> /<br>1000 tonnes of<br>material | 4.4                                | 3.0                | 2.2                | 2.6                |
|                    | Net NP                   | tonnes CaCO <sub>3</sub> /<br>1000 tonnes of<br>material | 0.7                                | -1.1               | -1.9               | -1.2               |
|                    | NPR                      |  | 1.17                               | 0.74               | 0.54               | 0.69               |
| <b>NAG RESULTS</b> | NAG pH<br>after reaction | s.u.   | 4.5                                | 5.75               | 5.42               | 5.67               |

**Note:**

AP is determined from calculated sulphide sulphur content: S(T) - S(SO<sub>4</sub>).

NET NP = NP - AP

**TABLE 2**  
**Arizona Water Quality Standards**

| Parameter     | Unit     | AAWQS  |
|---------------|----------|--------|
| Alkalinity    | mg/L     |        |
| Spec. Cond.   | umhos/cm |        |
| pH            | su       | 6 to 9 |
| TDS           | mg/L     |        |
| Calcium       | mg/L     |        |
| Chloride      | mg/L     |        |
| Fluoride      | mg/L     | 4.0    |
| Hardness      | mg/L     |        |
| Magnesium     | mg/L     |        |
| Potassium     | mg/L     |        |
| Sodium        | mg/L     |        |
| Sulfate       | mg/L     |        |
| <b>Metals</b> |          |        |
| Aluminum      | mg/L     |        |
| Antimony      | mg/L     | 0.006  |
| Arsenic       | mg/L     | 0.05   |
| Barium        | mg/L     | 2.0    |
| Beryllium     | mg/L     | 0.004  |
| Cadmium       | mg/L     | 0.005  |
| Chromium      | mg/L     | 0.1    |
| Cobalt        | mg/L     |        |
| Copper        | mg/L     |        |
| Iron          | mg/L     |        |
| Lead          | mg/L     | 0.05   |
| Manganese     | mg/L     |        |
| Mercury       | mg/L     | 0.002  |
| Molybdenum    | mg/L     |        |
| Selenium      | mg/L     | 0.05   |
| Silicon       | mg/L     |        |
| Silver        | mg/L     |        |
| Thallium      | mg/L     | 0.002  |
| Uranium       | mg/L     |        |
| Vanadium      | mg/L     |        |
| Zinc          | mg/L     |        |

AAWQS - Arizona Aquifer Water Quality Standards

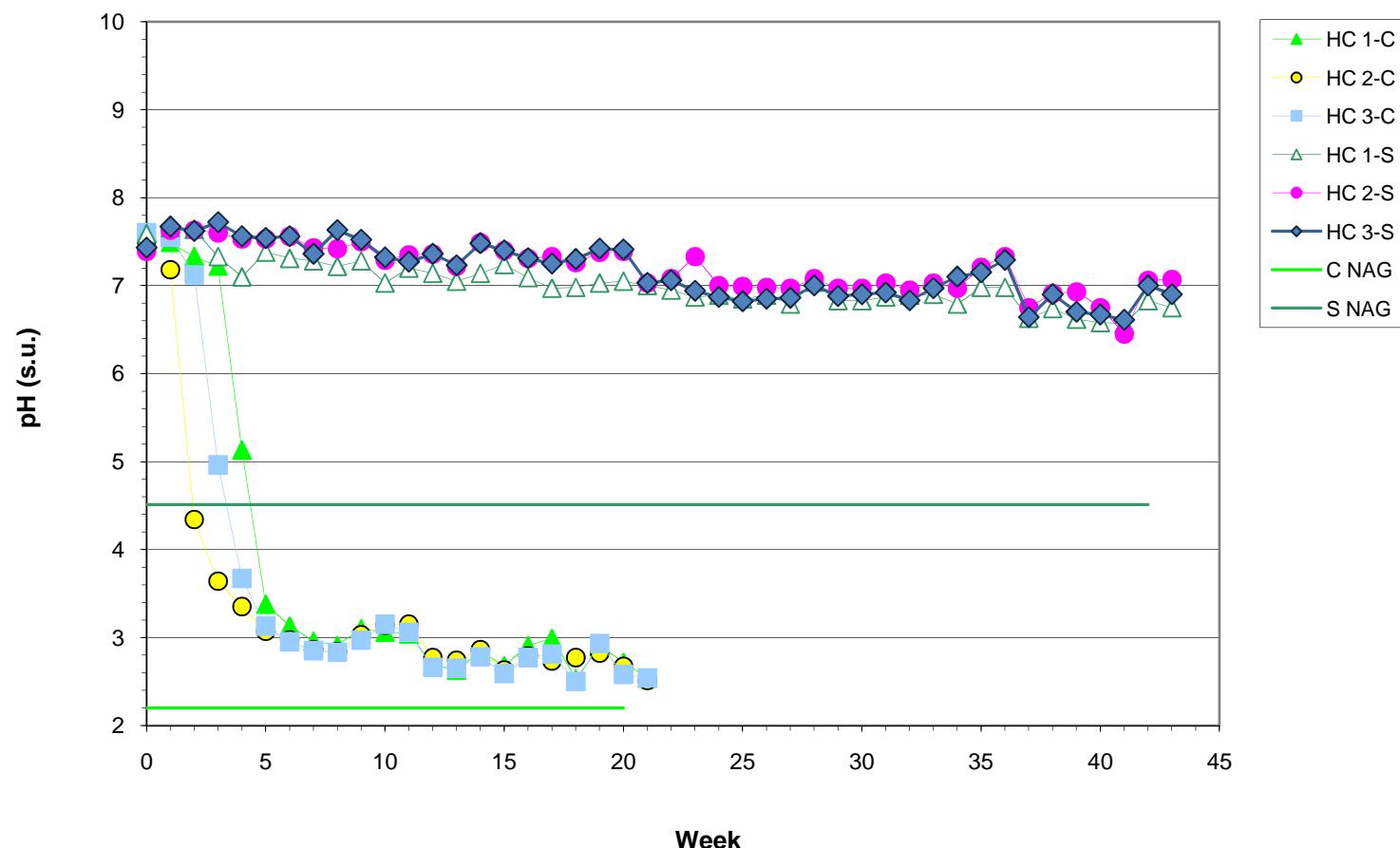
| Table 3<br>Kinetic Testing Results - Acid Generation and Neutralization Depletion Rates |           |               |              |  |                             |      |                           |                             |                      |   |                           |                                    |   |
|---|-----------|---------------|--------------|--|-----------------------------|------|---------------------------|-----------------------------|----------------------|---|---------------------------|------------------------------------|---|
| HCT   | Sample    | Material Type | Total Sulfur | Sulfide Sulfur (Total Sulfur - Sulfate Sulfur) | NP                          | AP   | NPR                       | NAG pH                      | Acid Generation Rate | Neutralization Potential Consumption Rate | Time to Sulfide Depletion | Time to NP Exhaustion - Alkalinity | Time for Sulfide Depletion > Time for NP Exhaustion |
|   |           |               | wt. %        | wt. %  | t CaCO <sub>3</sub> /1000 t | s.u. | mg SO <sub>4</sub> /kg/wk | mg CaCO <sub>3</sub> /kg/wk | years                | years                                     |                           |                                    |   |
| HC-1-S  | Scavenger | Thickened     | 0.38         | 0.12   | 4.4                         | 3.8  | 1.2                       | 4.51                        | 19.5                 | 22  | 3.0                       | 3.2                                | no  |
| HC-2-S  | Scavenger | Filter Cake   | 0.38         | 0.12   | 4.4                         | 3.8  | 1.2                       | 4.51                        | 38.0                 | 42  | 1.3                       | 1.5                                | no  |
| HC-3-S  | Scavenger | Paste         | 0.38         | 0.12   | 4.4                         | 3.8  | 1.2                       | 4.51                        | 38.8                 | 42  | 1.2                       | 1.4                                | no  |

**Notes:**

Sulfide sulfur equal to total sulfur minus sulfate sulfur (non-detect sulfate sulfur assumed equal to zero in calculation).

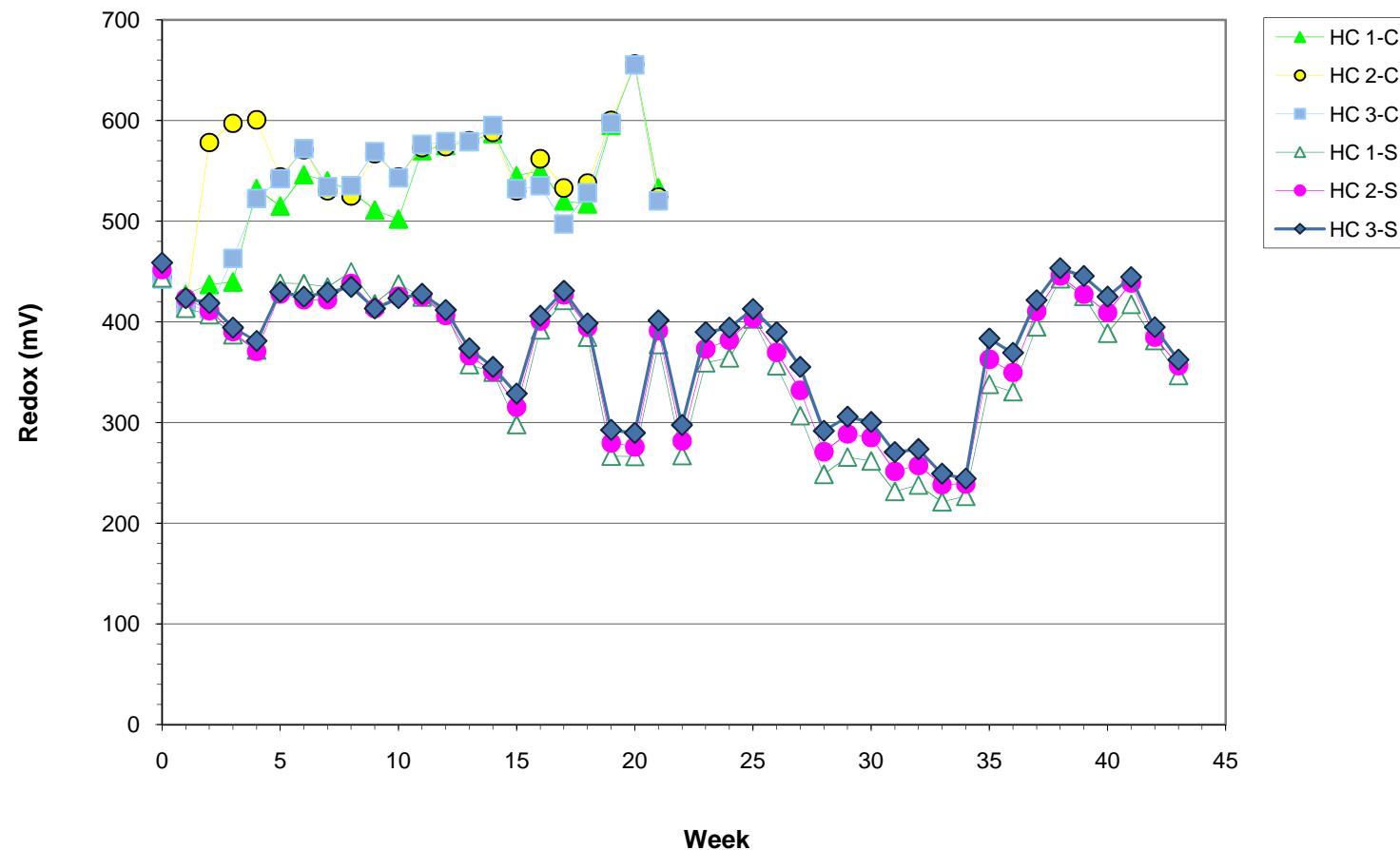
Acid generation and neutralization depletion rates for scavenger samples calculated from last twenty nine weeks of data.

## **FIGURES**



### Kinetic Testing Results - pH

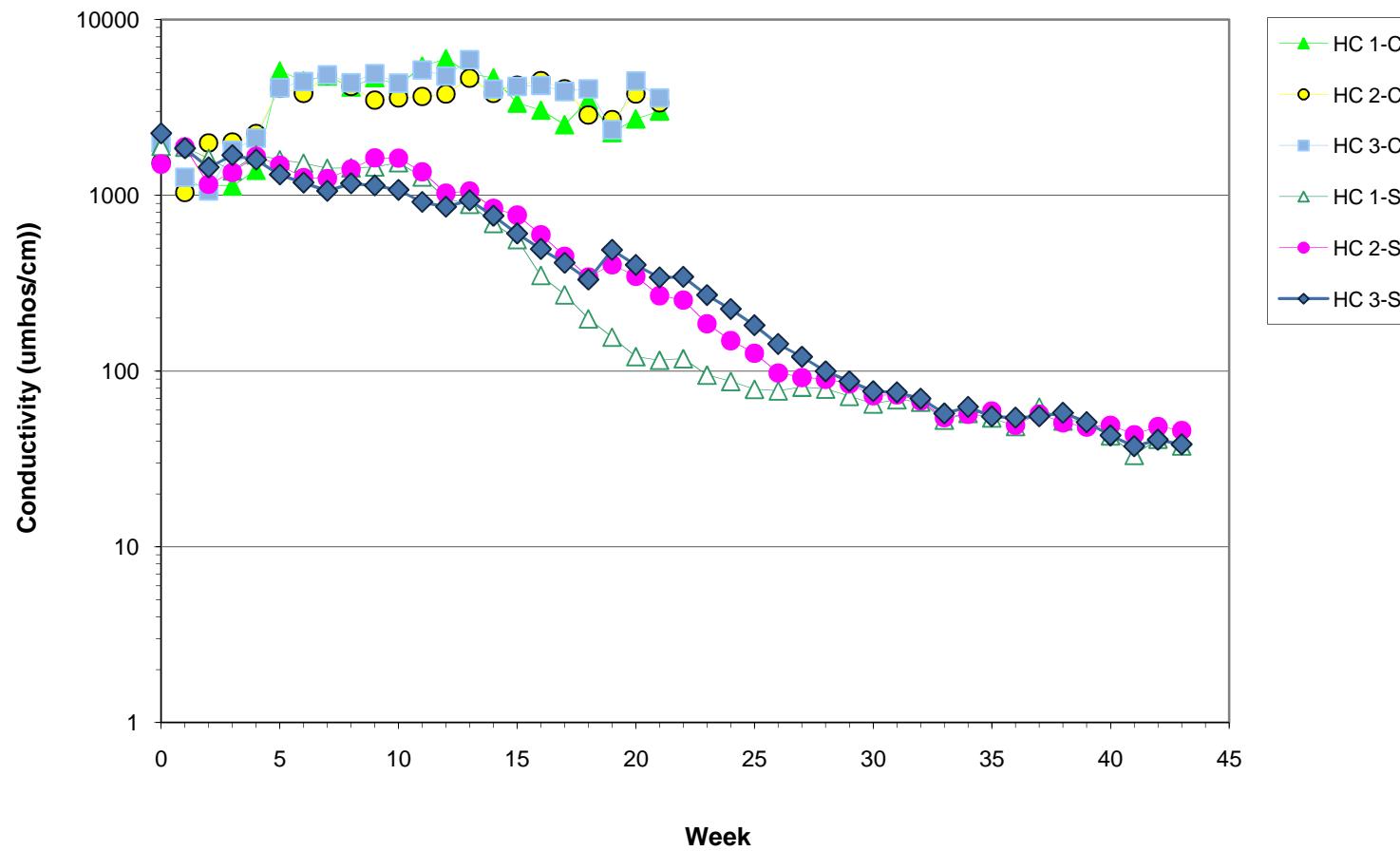
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|                   |          |  | na       |            |
|                   | REVIEWED | RV   | FILE NO. | FIGURE NO. |
|                   |          | Resolution Kinetic Testing (as Dec 22, 2008) |          | 1          |



TITLE

## Kinetic Testing Results - Redox

|            |          |    |          |  |            |           |
|------------|----------|----|----------|--|------------|-----------|
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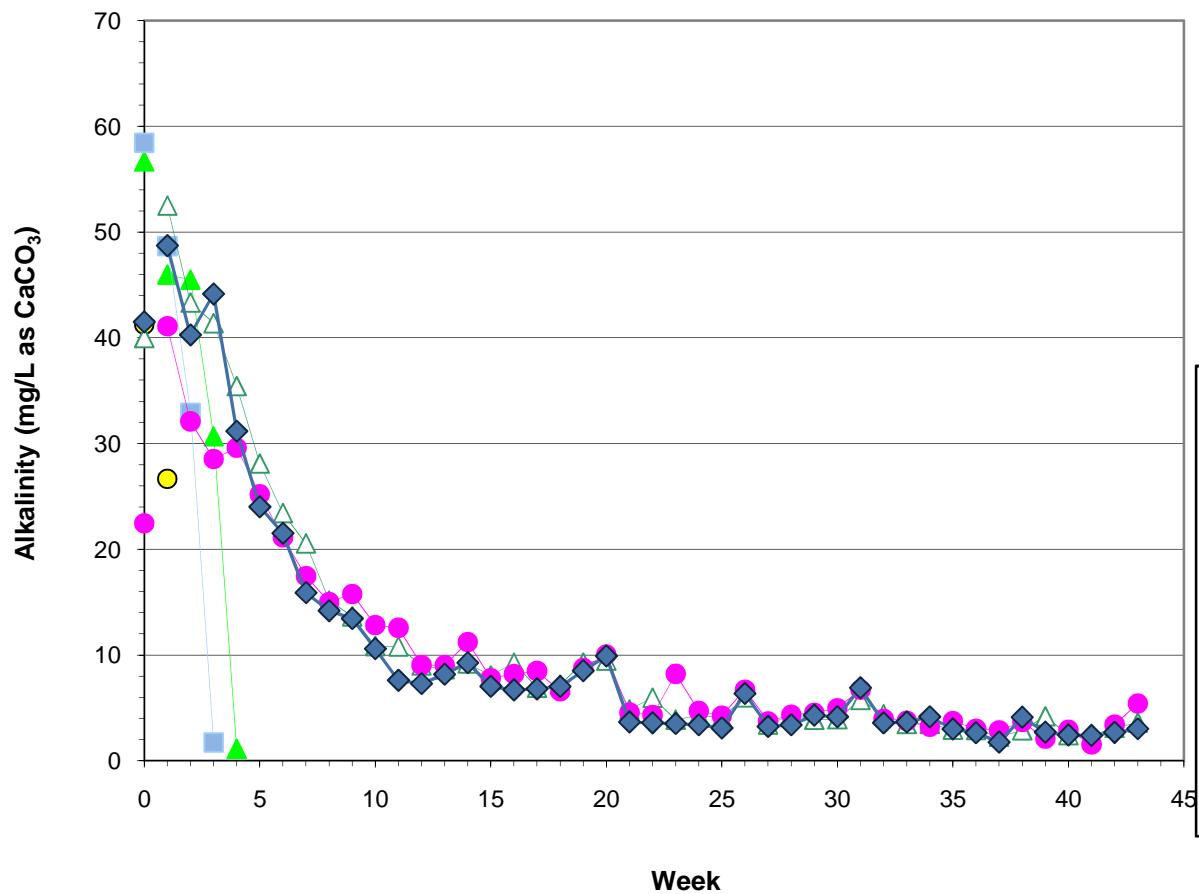


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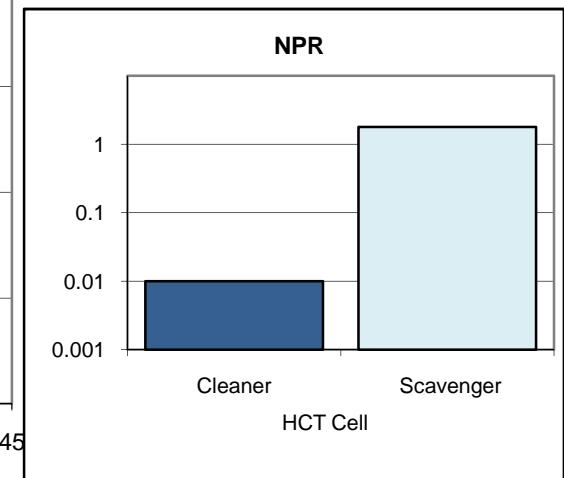
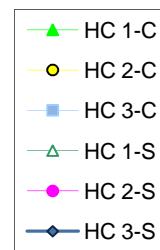
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Resolution

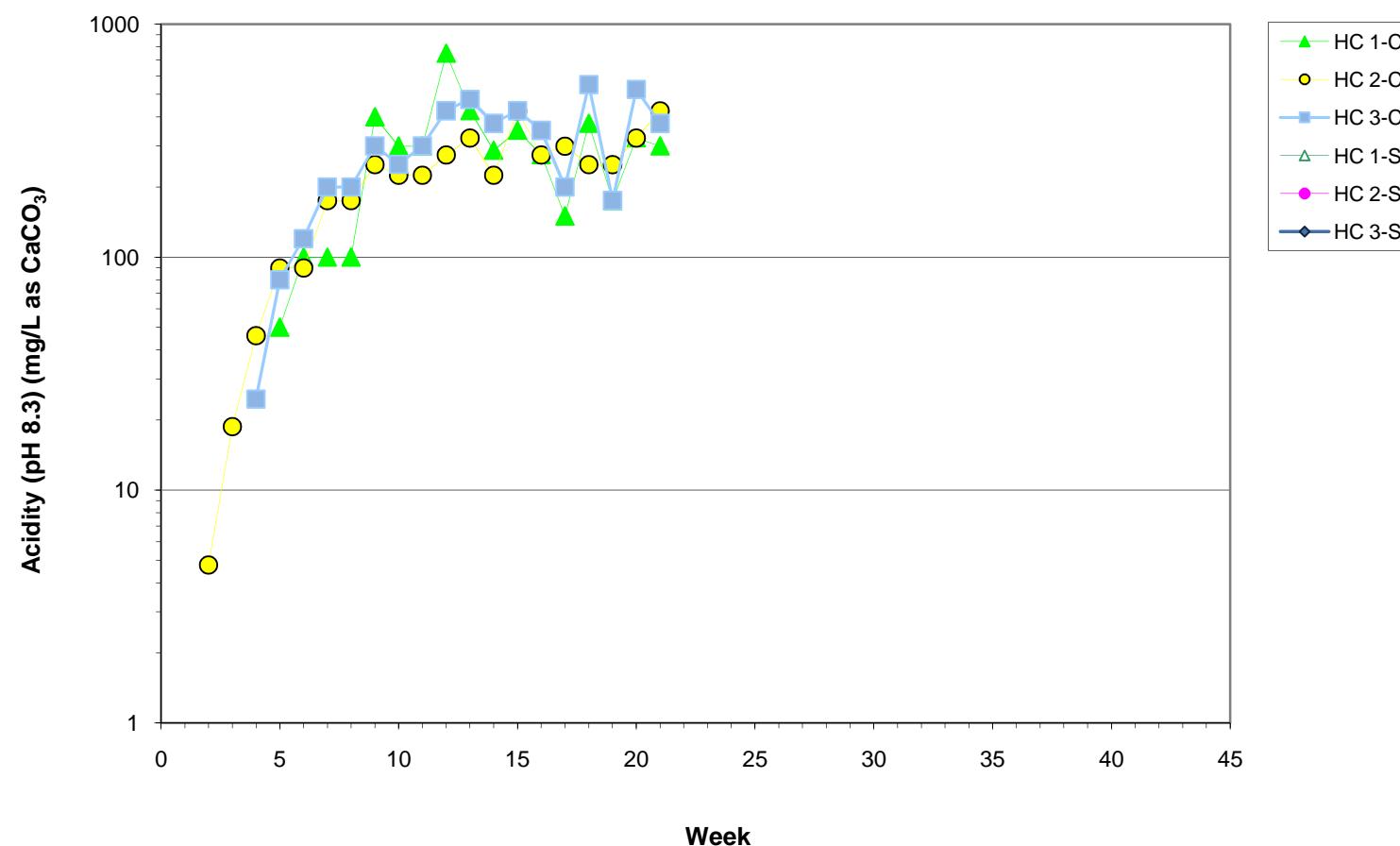
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| REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 3         |



Note: Values below detectable limits shown at the detection limit.

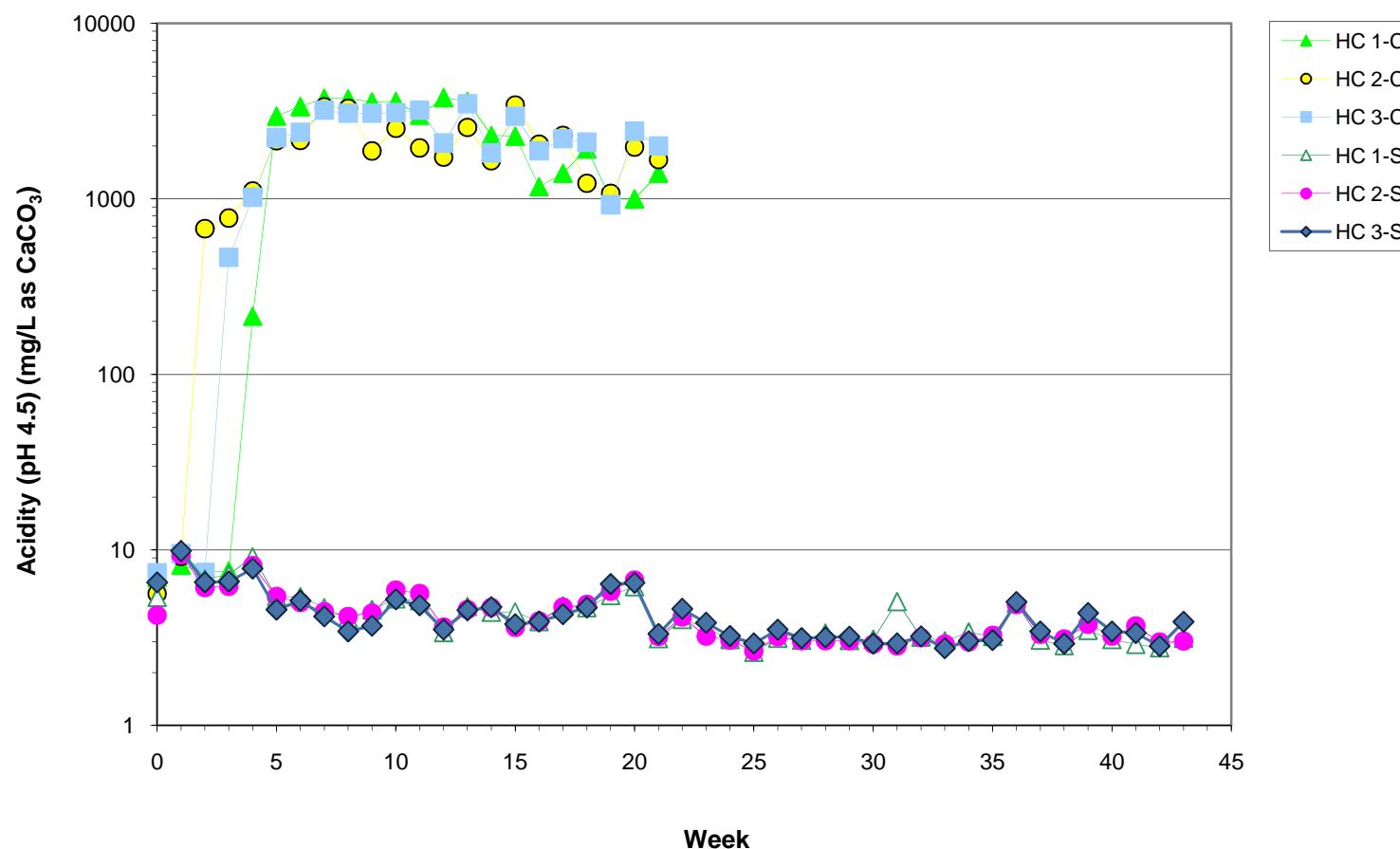


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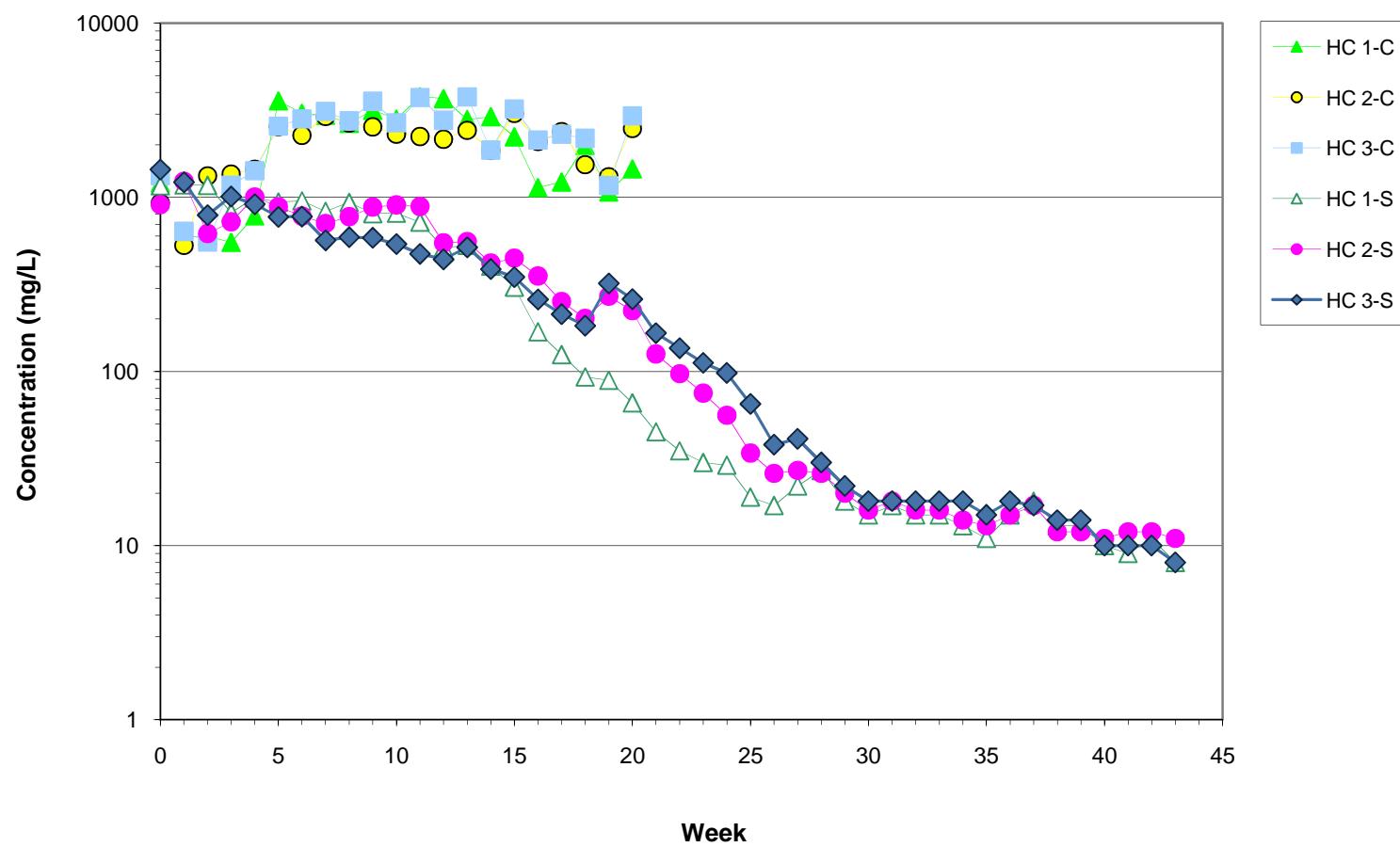
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|   |          |    | FIGURE NO. | 5  |



Note: Values below detectable limits shown at the detection limit.

|   |          |    |            |  |
|---|----------|----|------------|--|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE    |    |            |  |
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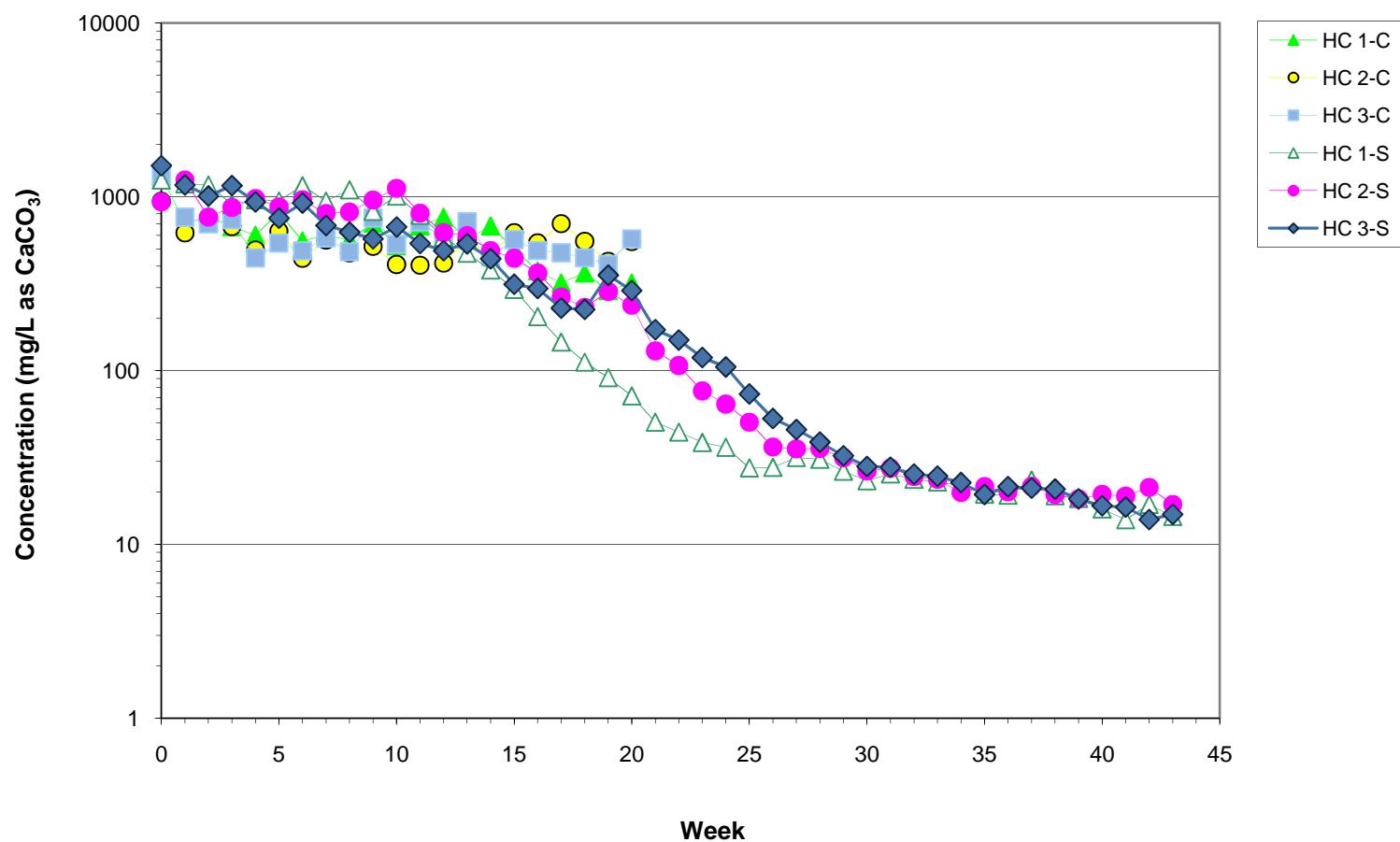


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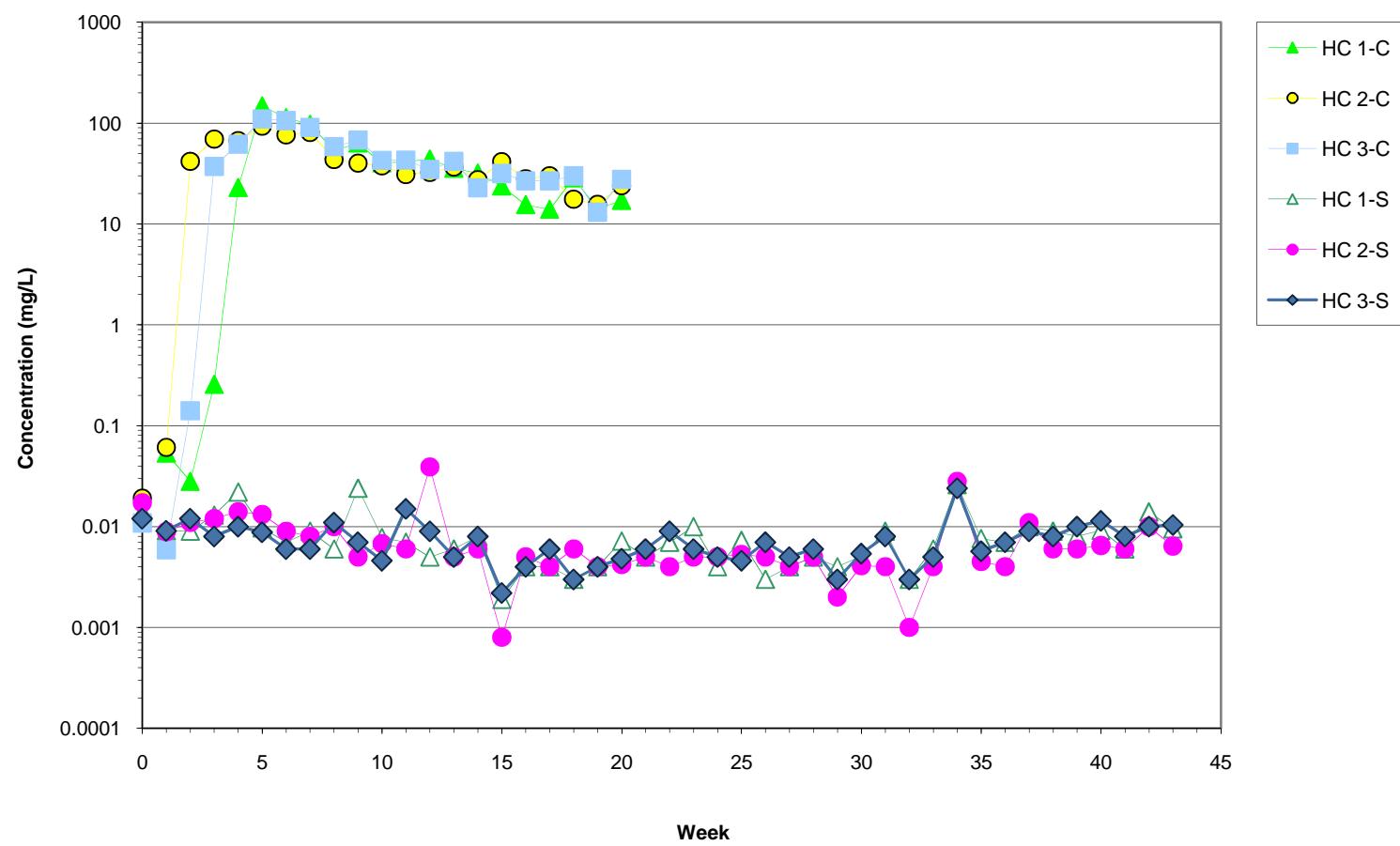
**Kinetic Testing Results - Sulfate**

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na      7  
Resolution Kinetic Testing (as Dec 22, 2008)



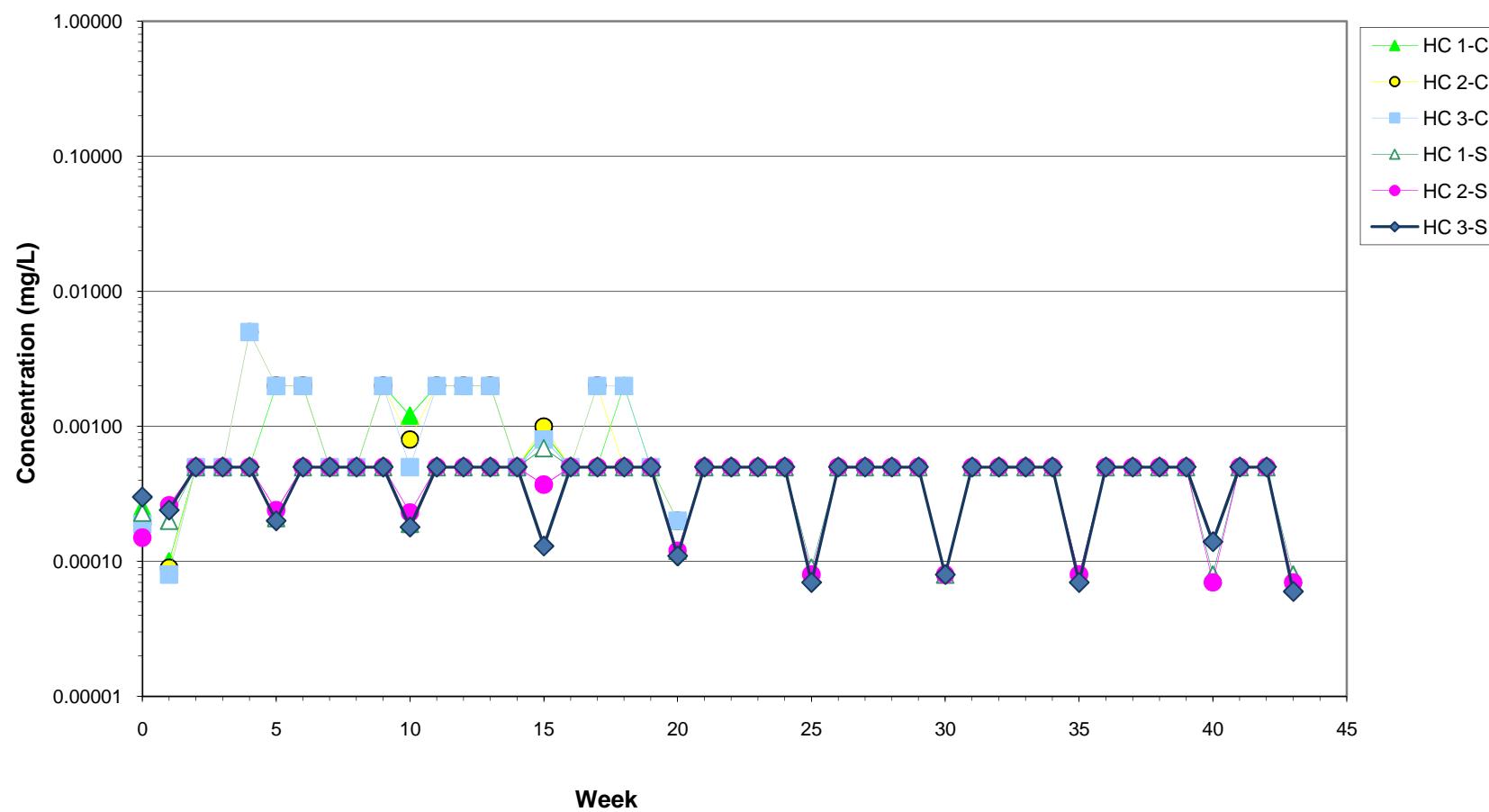
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|---|---|----|------------|--|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE                                     |    |            |  |
|   | <b>Kinetic Testing Results - Hardness</b> |    |            |  |
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|   |   |    | FIGURE NO. | 8  |



Note: Values below detectable limits shown at the detection limit.

|  |          |    |  |                 |
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|  <b>Golder<br/>Associates</b> | TITLE    |    |  |                 |
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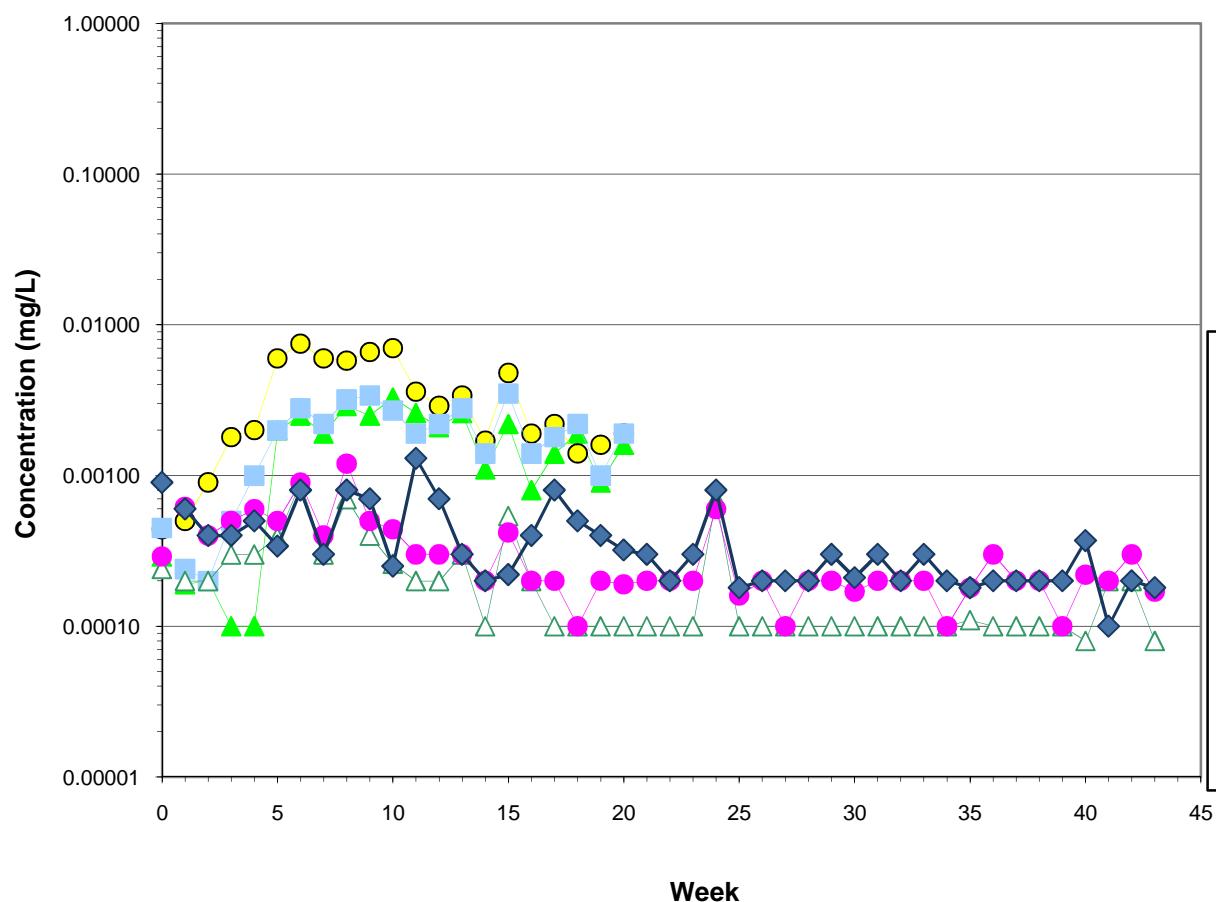


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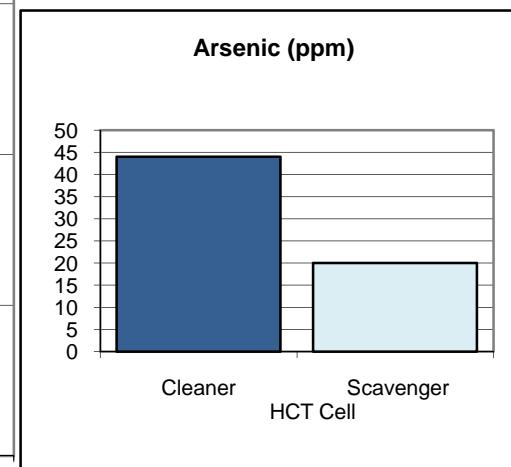


## Kinetic Testing Results - Antimony (Sb)

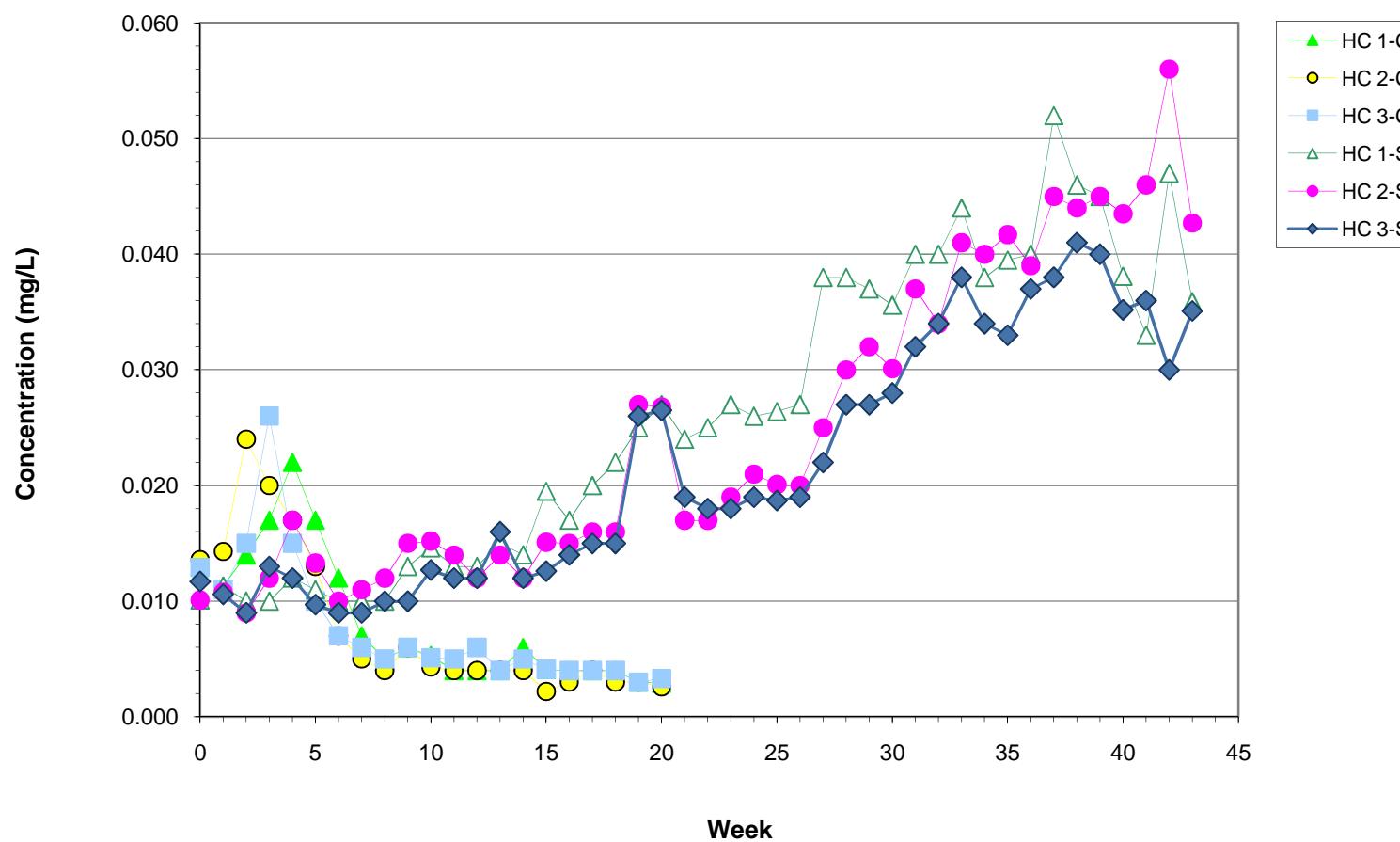
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|            |          |    | FIGURE NO. 10   |



▲ HC 1-C  
 ○ HC 2-C  
 □ HC 3-C  
 ▲ HC 1-S  
 ● HC 2-S  
 ◆ HC 3-S

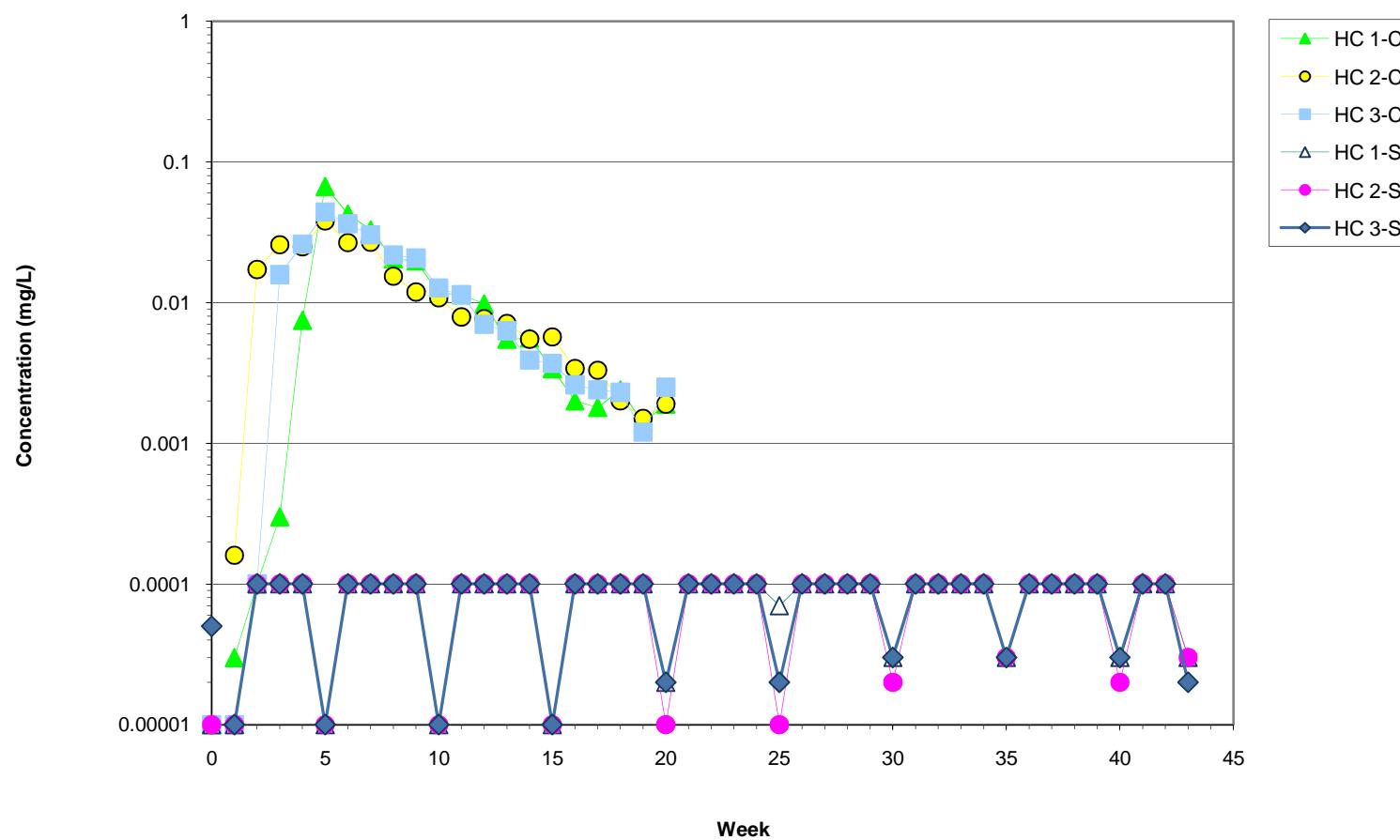


|   |          |    |             |  |
|---|----------|----|-------------|--|
| <br><b>Golder<br/>Associates</b> | TITLE    |    |             |  |
|   | DRAWN    | FV | DATE        | JOB NO.                                      |
| Resolution  | CHECKED  | RV | Dec-08      | 073-92548                                    |
|   | REVIEWED | RV | SCALE<br>na | DWG. NO.                                     |
|   |          |    | FILE NO.    | Resolution Kinetic Testing (as Dec 22, 2008) |
|   |          |    | RES. NO.    | 11   |



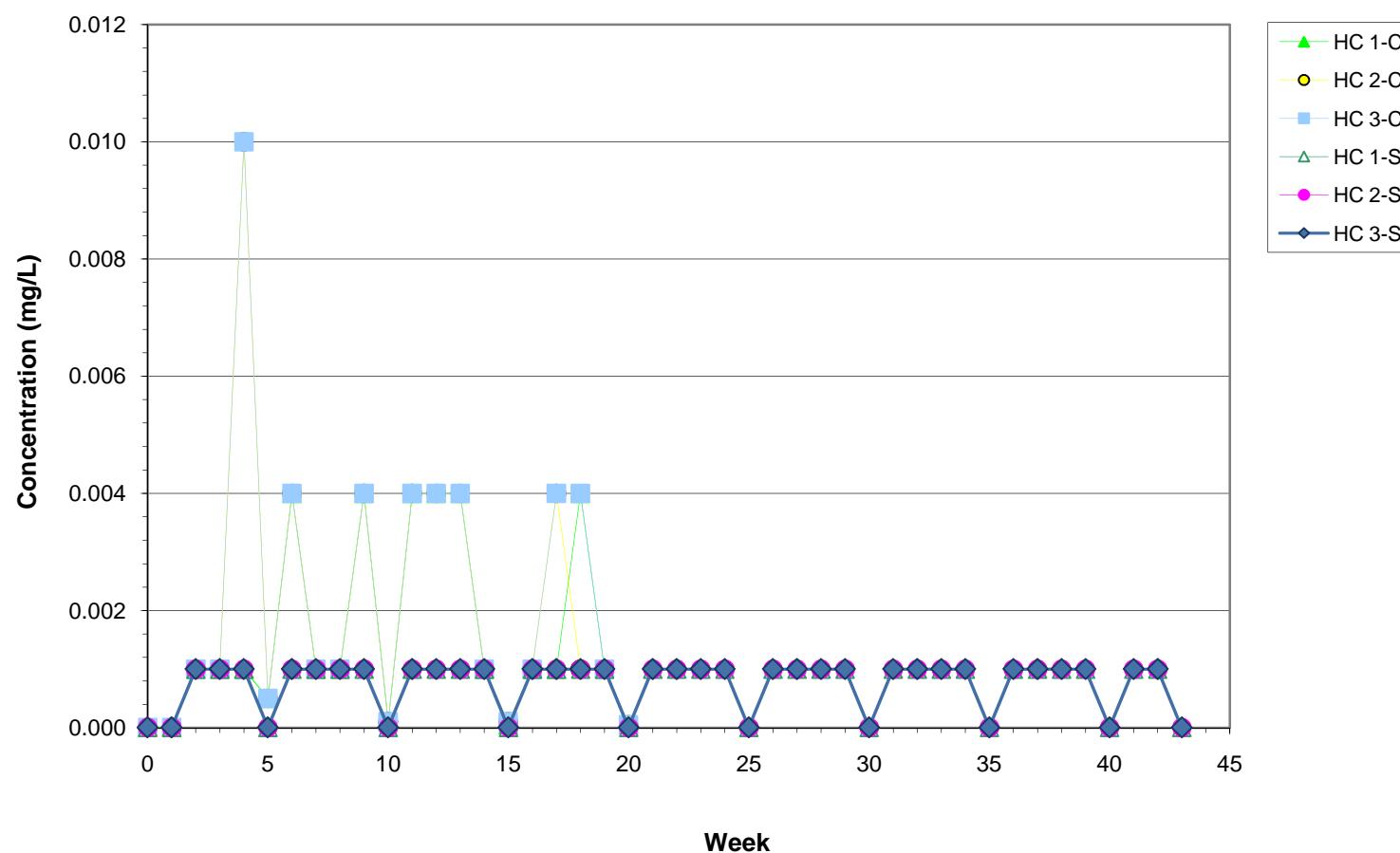
Note: Values below detectable limits shown at the detection limit.

|   |          |    |          |   |                   |
|---|----------|----|----------|---|-------------------|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE    |    |          |   |                   |
|   | DRAWN    | FV | DATE     | Dec-08  | JOB NO. 073-92548 |
|   | CHECKED  | RV | SCALE    | na  | DWG. NO.          |
|   | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008).XLSX | FIGURE NO. 12     |



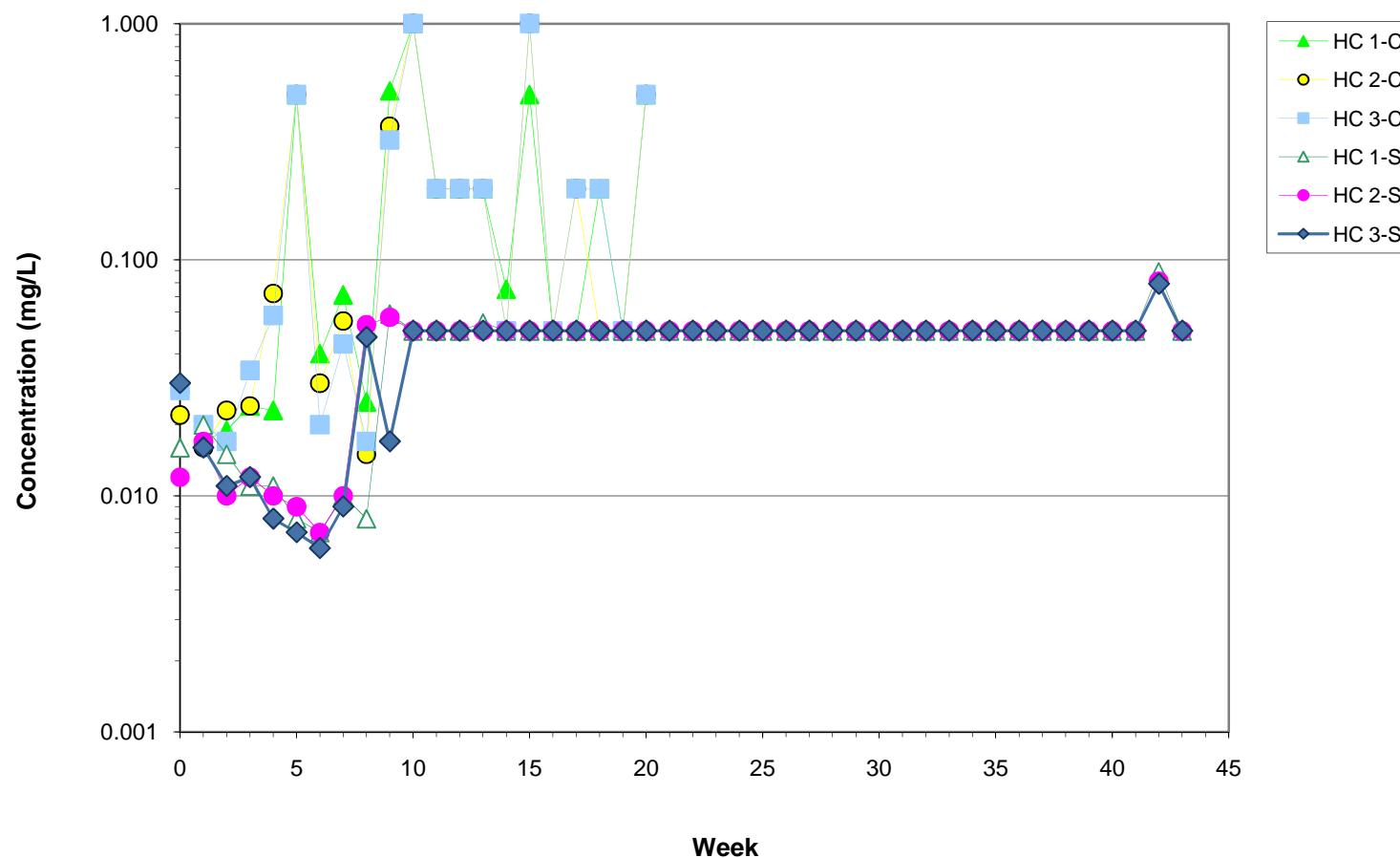
Note: Values below detectable limits shown at the detection limit.

|   |          |    |   |                  |
|---|----------|----|---|------------------|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE    |    |   |                  |
|   | DRAWN    | FV | DATE  | JOB NO.          |
|   | CHECKED  | RV | Dec-08  | 073-92548        |
|   | REVIEWED | RV | SCALE<br>na   | DWG. NO.         |
|   |          |    | FILE NO.<br>Resolution Kinetic Testing (as Dec 22, 2008).xlsx | FIGURE NO.<br>13 |



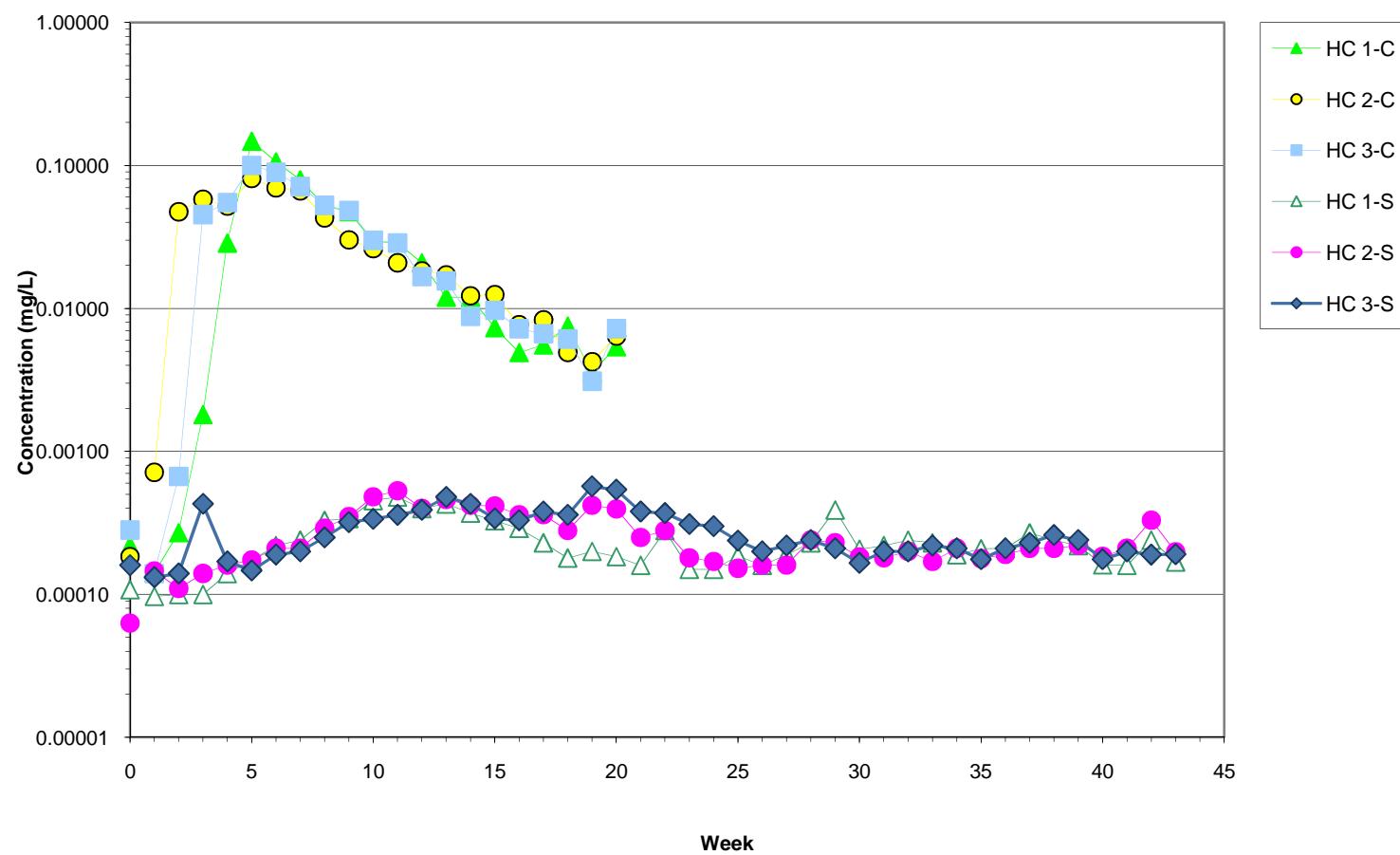
Note: Values below detectable limits shown at the detection limit.

|  |   |          |  |           |
|--|---|----------|--|-----------|
| <br><b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE   |          |  |           |
|  | <b>Kinetic Testing Results - Bismuth (Bi)</b> |          |  |           |
|  | DRAWN   | FV       | DATE   | JOB NO.   |
|  | CHECKED                                       | RV       | Dec-08                                       | 073-92548 |
| REVIEWED   |   | RV       | SCALE  | DWG. NO.  |
|  |   |          | na   |           |
|  |   | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) |           |
|  |   |          | FIGURE NO.                                   | 14        |



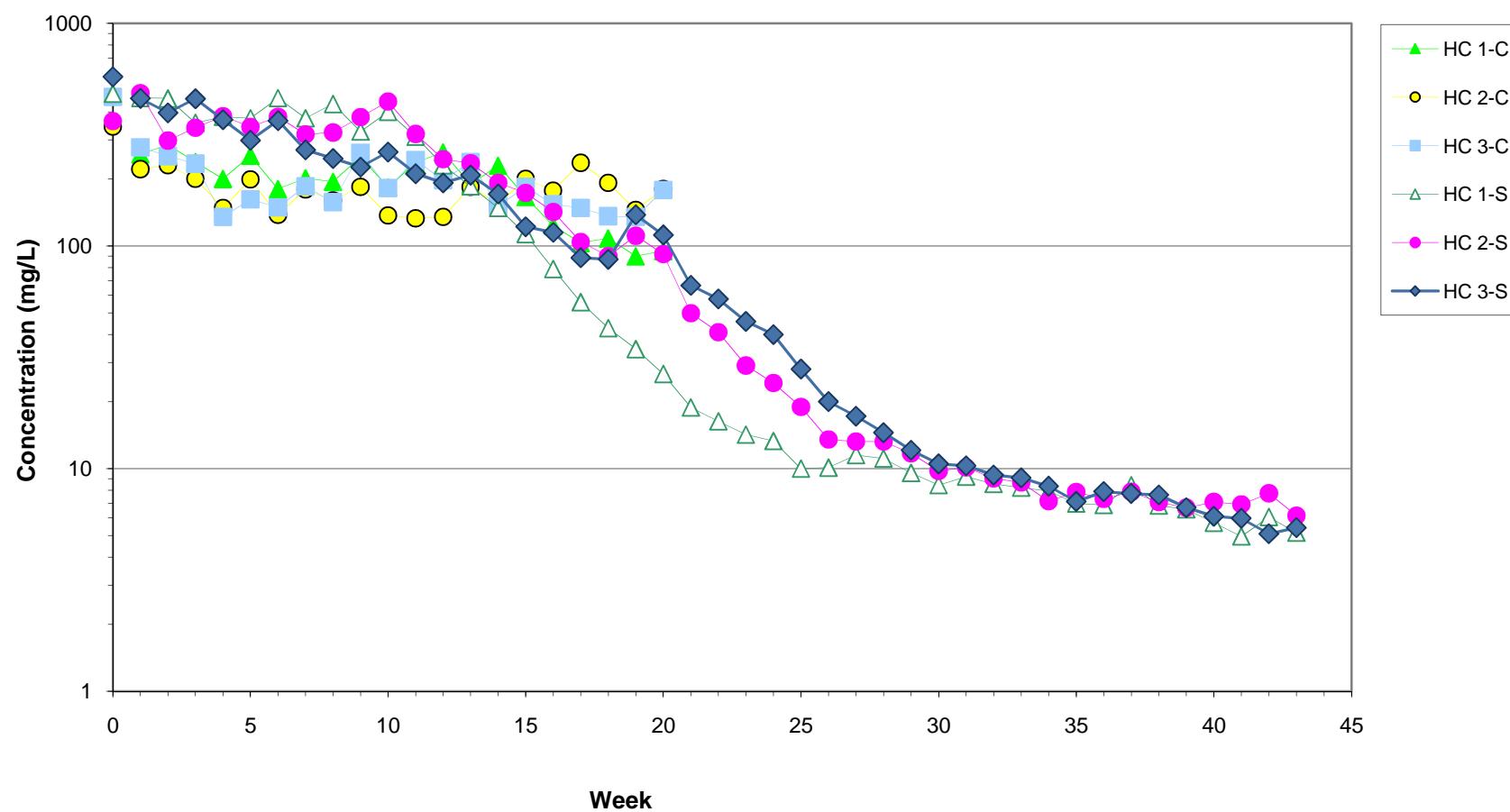
### Kinetic Testing Results - Boron (B)

|            |  |                              |                |                               |  |
|------------|--|------------------------------|----------------|-------------------------------|--|
| Resolution |  | DRAWN<br>CHECKED<br>REVIEWED | FV<br>RV<br>RV | DATE<br>Dec-08<br>SCALE<br>na | JOB NO.<br>073-92548<br>DWG. NO.<br>FILE NO.<br>Resolution Kinetic Testing (as Dec 22, 2008) |
|            |  |                              |                |                               | 15   |



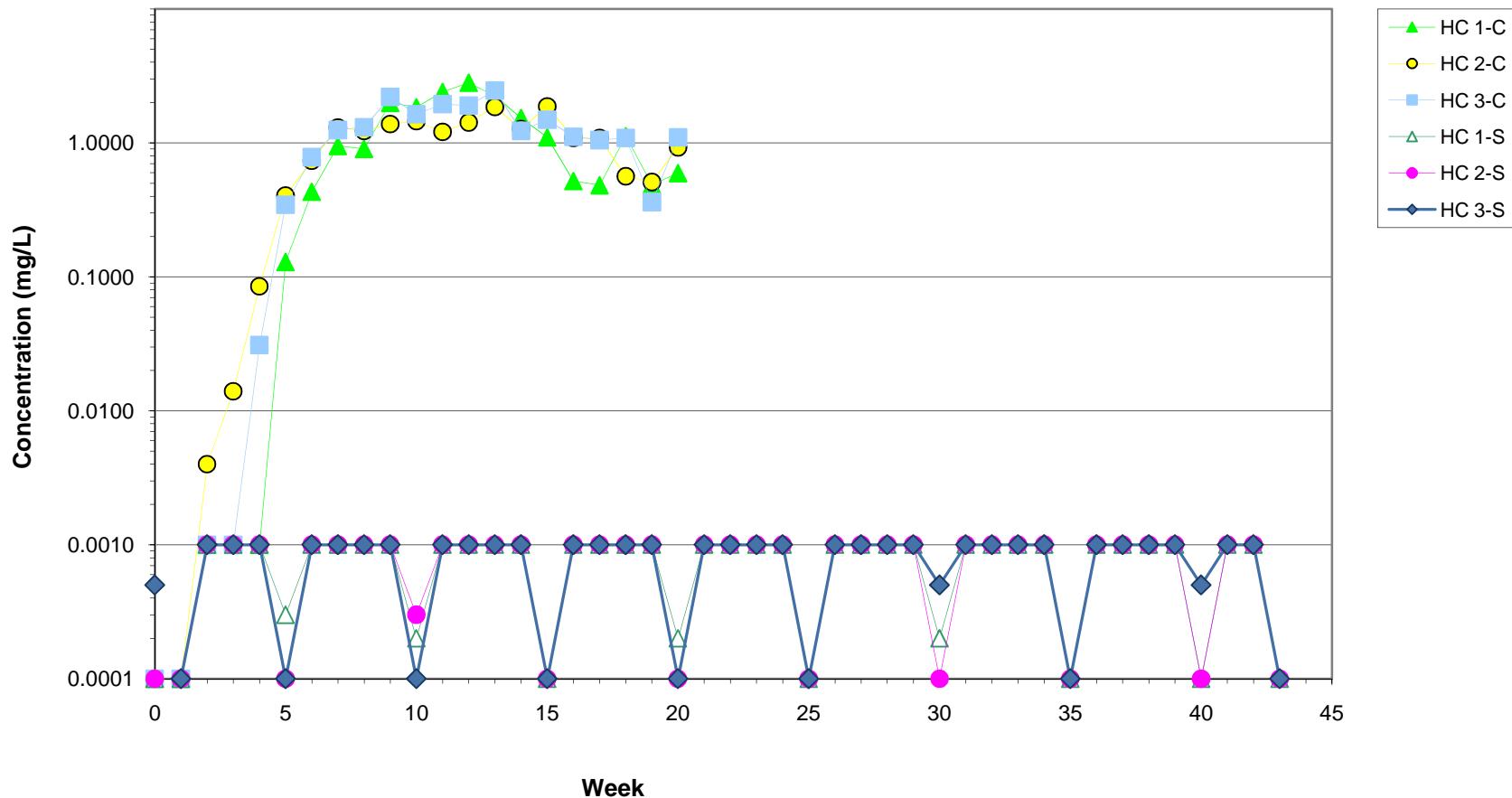
Note: Values below detectable limits shown at the detection limit.

|   |          |    |  |            |
|---|----------|----|--|------------|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE    |    |  |            |
|   | DRAWN    | FV | DATE   | JOB NO.    |
|   | CHECKED  | RV | Dec-08   | 073-92548  |
|   | REVIEWED | RV | SCALE<br>na                                      | DWG. NO.   |
|   |          |    | FILE NO.   | FIGURE NO. |
|   |          |    | Resolution Kinetic Testing (as Dec 22, 2008).JPG | 16         |



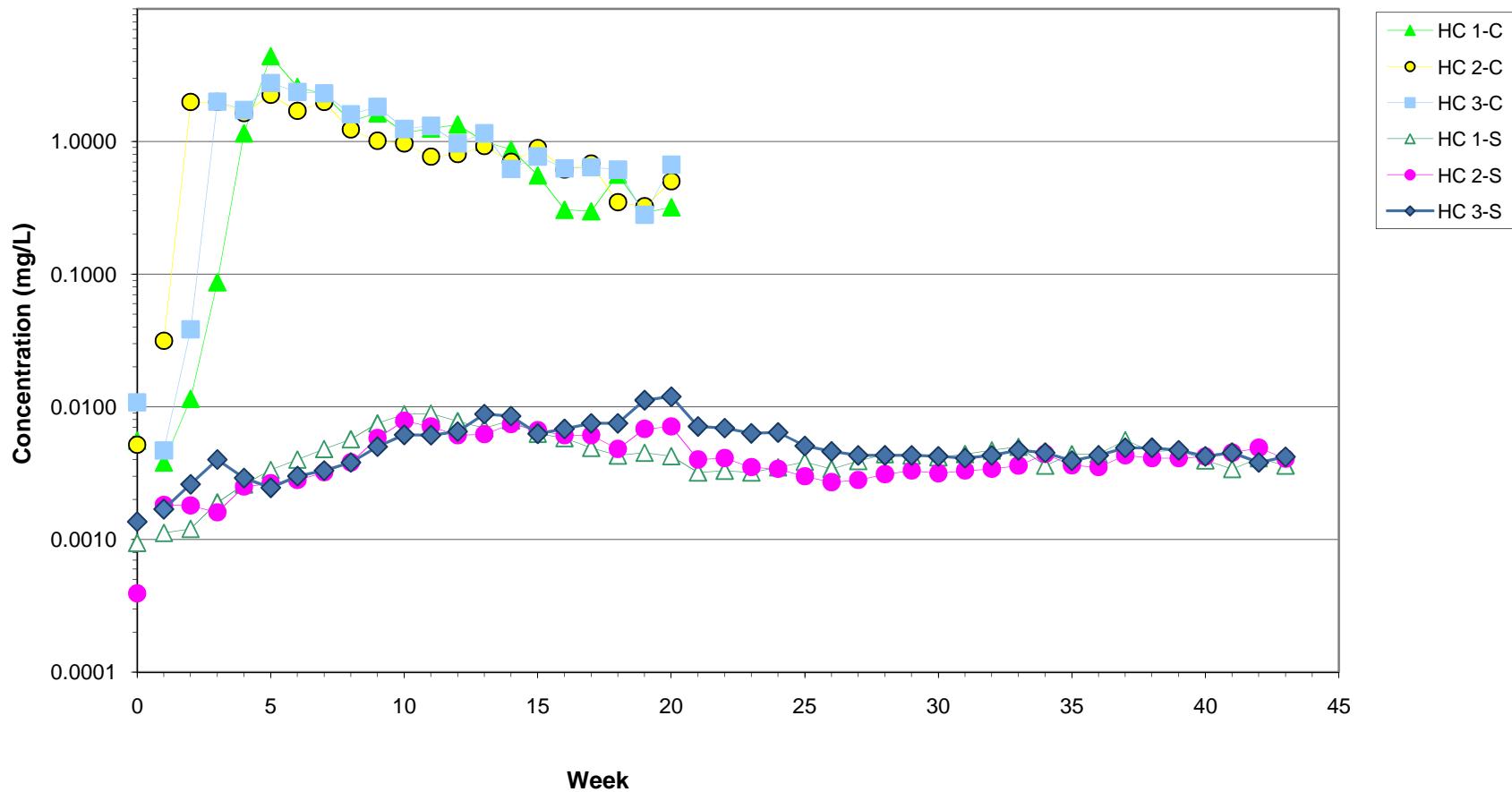
Note: Values below detectable limits shown at the detection limit.

|   |  |    |  |            |
|---|--|----|--|------------|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE<br><b>Kinetic Testing Results - Calcium (Ca)</b> |    |  |            |
|   | DRAWN  | FV | DATE   | JOB NO.    |
|   | CHECKED  | RV | Dec-08                                       | 073-92548  |
|   | REVIEWED   | RV | SCALE  | na         |
|   |  |    | FILE NO.                                     | FIGURE NO. |
|   |  |    | Resolution Kinetic Testing (as Dec 22, 2008) | 17         |



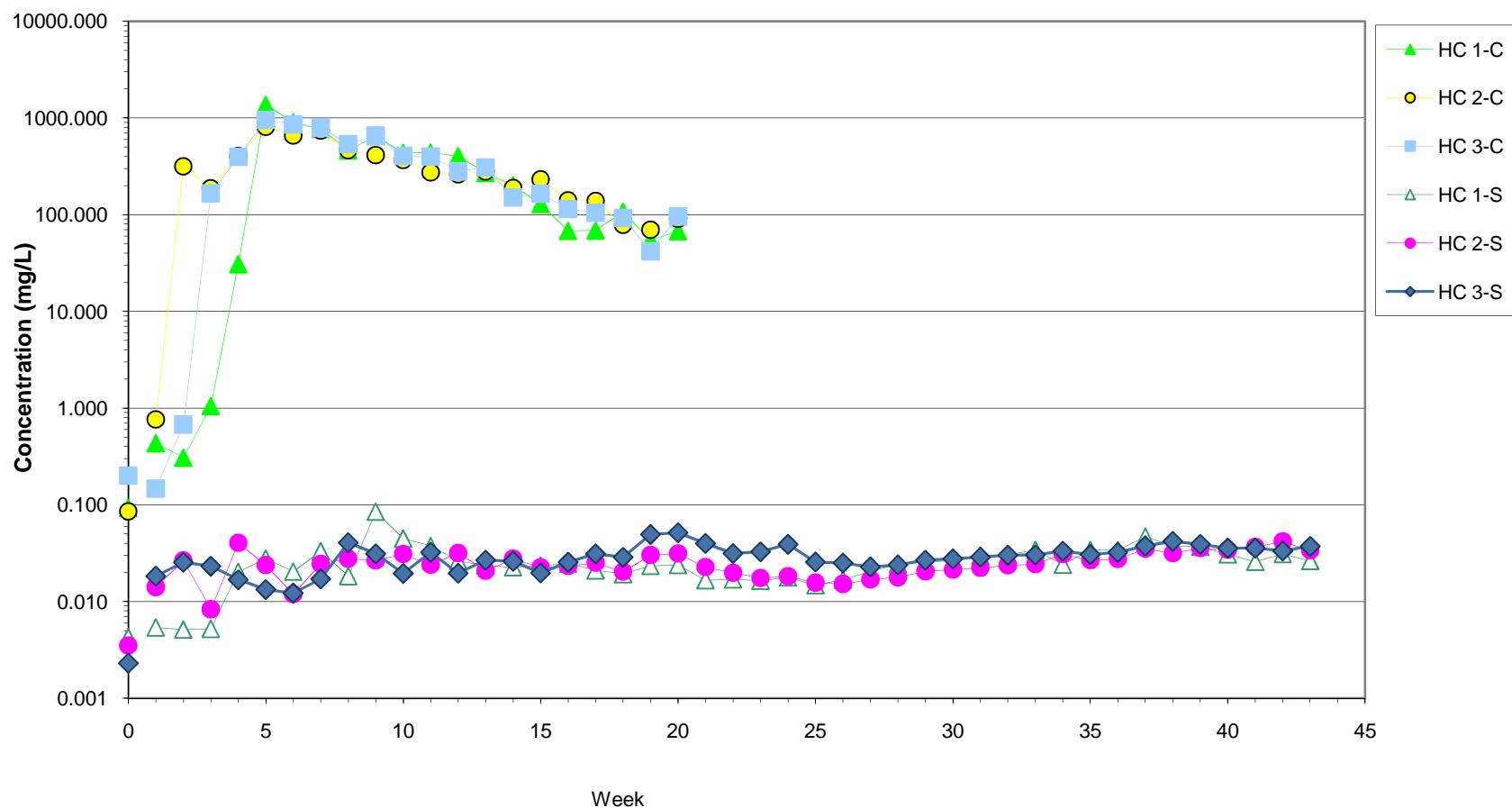
### Kinetic Testing Results - Chromium (Cr)

|            |          |    |  |            |
|------------|----------|----|--|------------|
| Resolution | TITLE    |    |  |            |
|            | DRAWN    | FV | DATE   | JOB NO.    |
|            | CHECKED  | RV | Dec-08                                       | 073-92548  |
|            | REVIEWED | RV | SCALE<br>na                                  | DWG. NO.   |
|            |          |    | FILE NO.                                     | FIGURE NO. |
|            |          |    | Resolution Kinetic Testing (as Dec 22, 2008) | 18         |



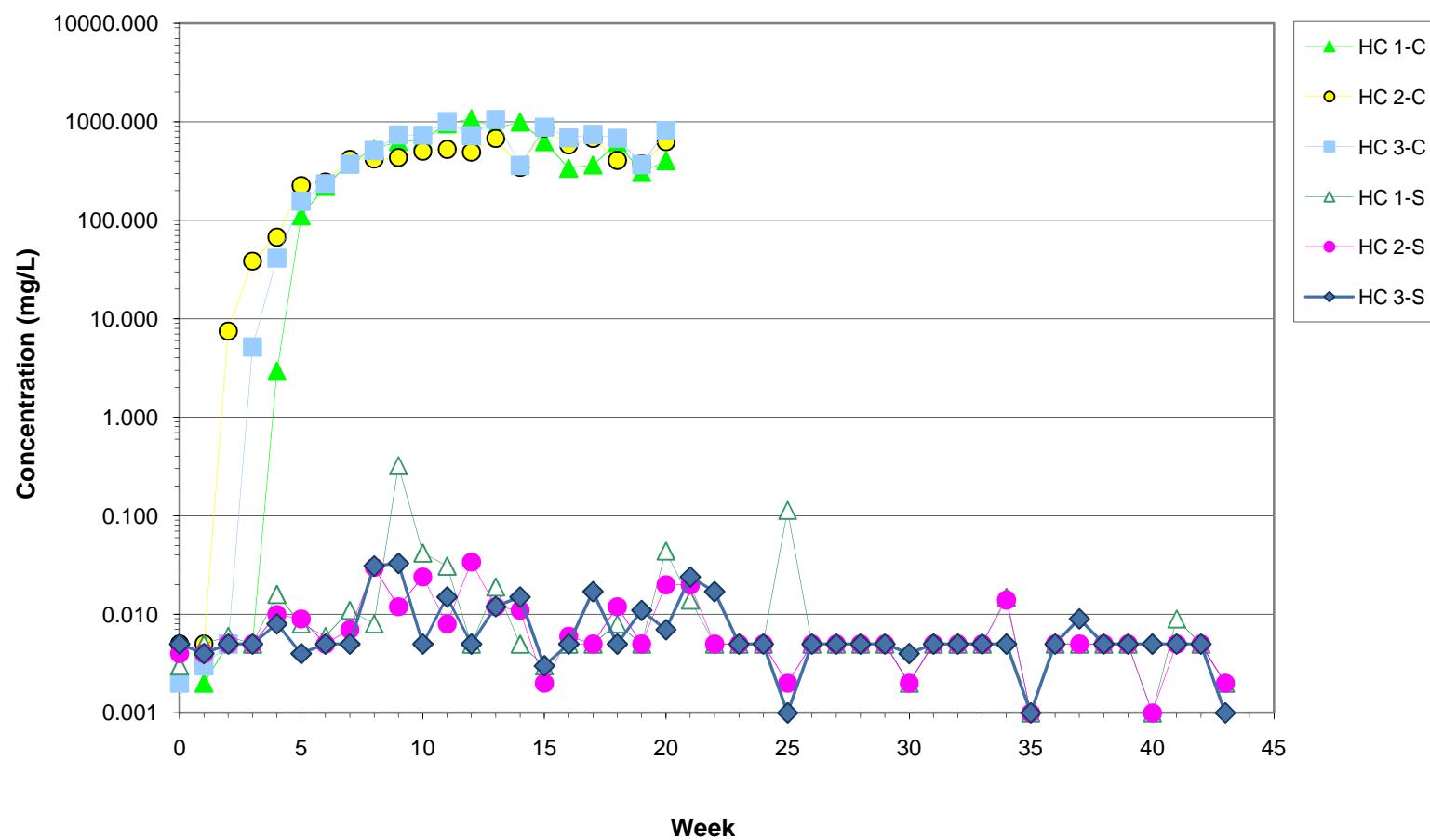
### Kinetic Testing Results - Cobalt (Co)

|            |          |    |          |   |            |           |
|------------|----------|----|----------|---|------------|-----------|
| Resolution | DRAWN    | FV | DATE     | Dec-08  | JOB NO.    | 073-92548 |
|            | CHECKED  | RV | SCALE    | na  | DWG. NO.   |           |
|            | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008).xlsx | FIGURE NO. | 19        |
|            |          |    |          |   |            |           |



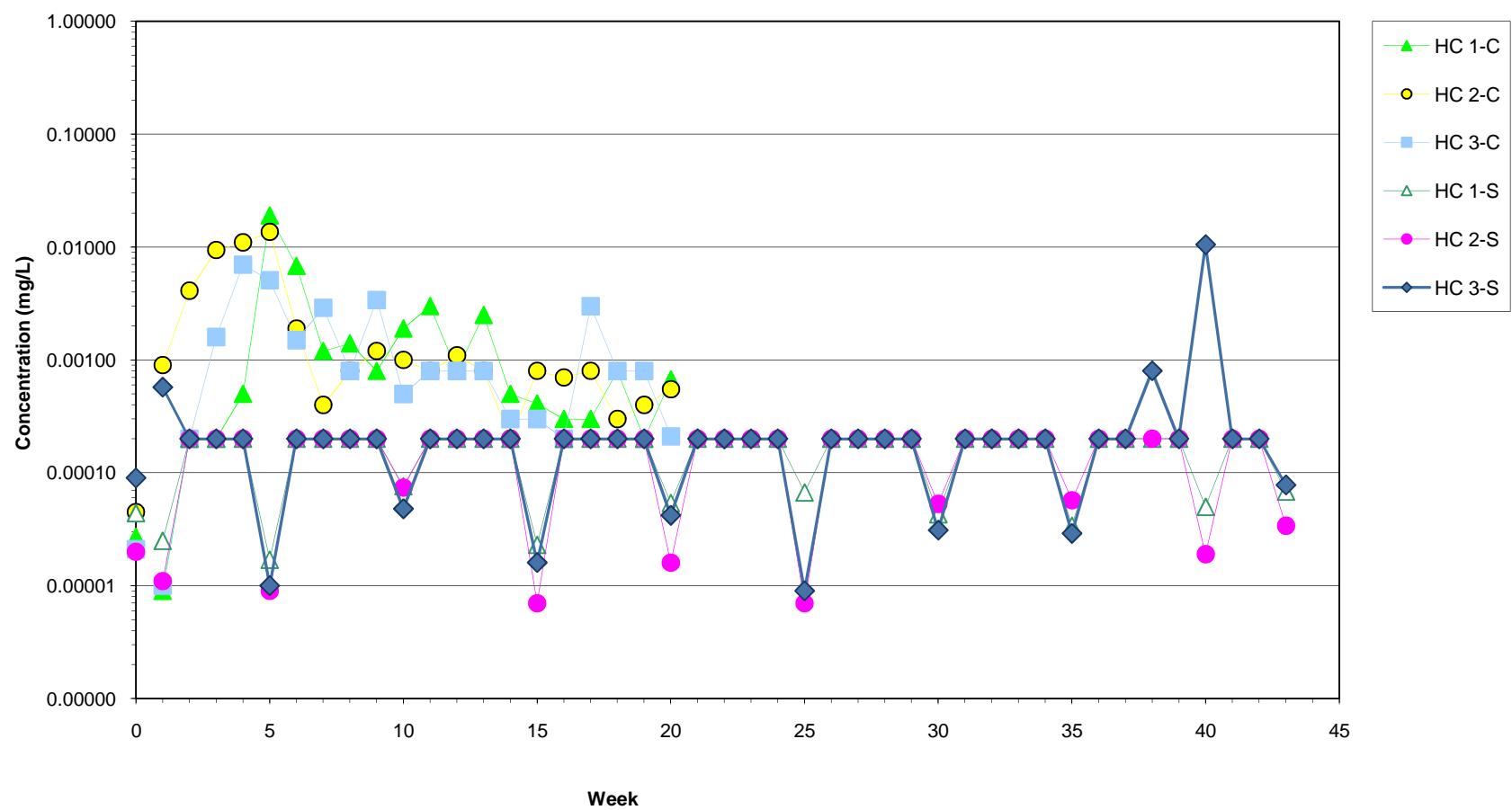
### Kinetic Testing Results - Copper (Cu)

|                   |          |    |          |  |            |           |
|-------------------|----------|----|----------|--|------------|-----------|
| <b>Resolution</b> | DRAWN    | FV | DATE     | Dec-08                                       | JOB NO.    | 073-92548 |
|                   | CHECKED  | RV | SCALE    | na   | DWG. NO.   |           |
|                   | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 20        |
|                   |          |    |          |  |            |           |



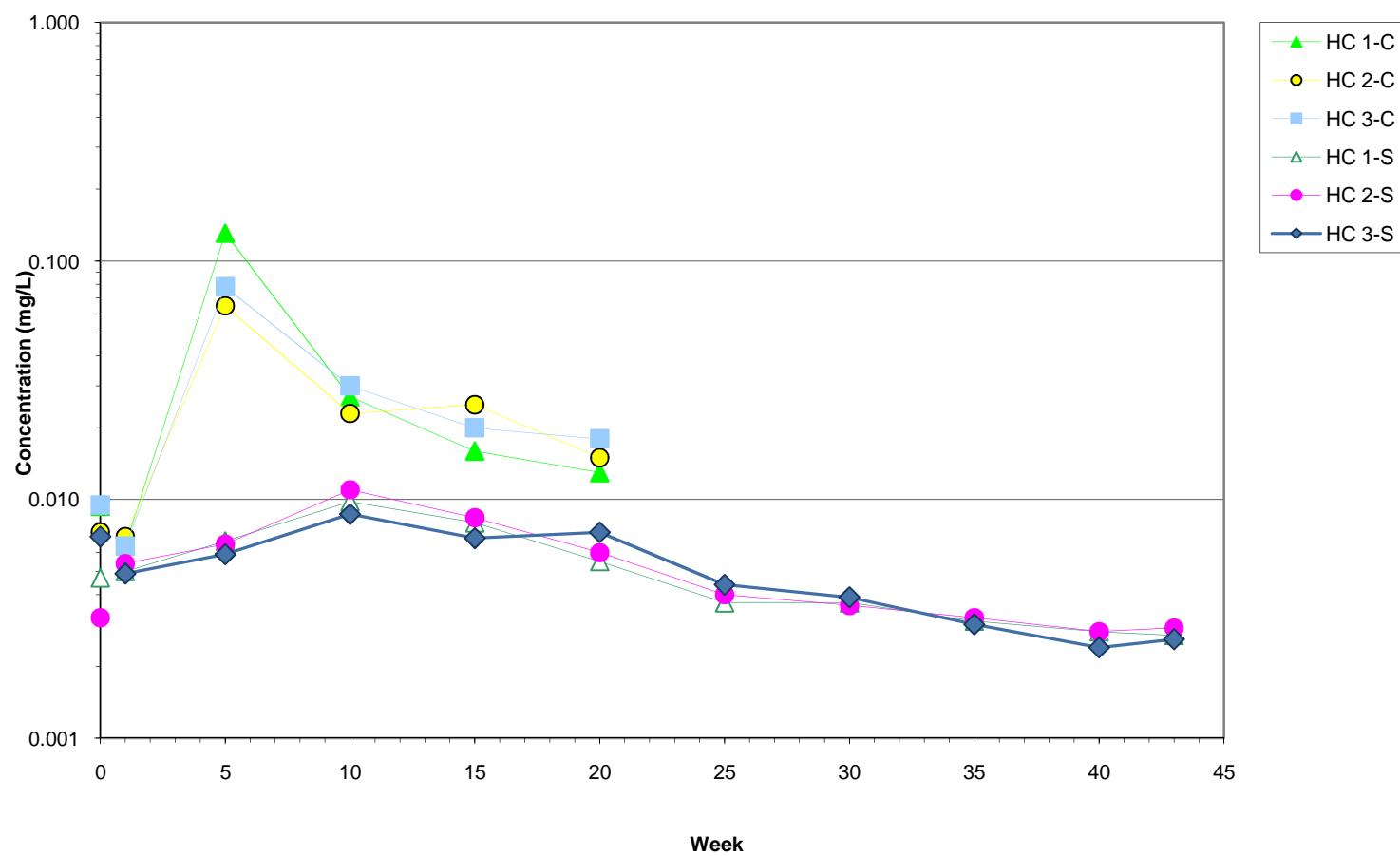
### Kinetic Testing Results - Iron (Fe)

|            |          |    |          |  |            |           |
|------------|----------|----|----------|--|------------|-----------|
| Resolution | DRAWN    | FV | DATE     | Dec-08                                       | JOB NO.    | 073-92548 |
|            | CHECKED  | RV | SCALE    | na   | DWG. NO.   |           |
|            | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 21        |
|            |          |    |          |  |            |           |



Note: Values below detectable limits shown at the detection limit.

|   |          |    |  |  |
|---|----------|----|--|--|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE    |    | <b>Kinetic Testing Results - Lead (Pb)</b> |  |
|   | DRAWN    | FV | DATE                                       | JOB NO.                                      |
|   | CHECKED  | RV | Dec-08                                     | 073-92548                                    |
|   | REVIEWED | RV | SCALE<br>na                                | DWG. NO.                                     |
|   |          |    | FILE NO.                                   | Resolution Kinetic Testing (as Dec 22, 2008) |
|   |          |    | FIGURE NO.                                 | 22   |



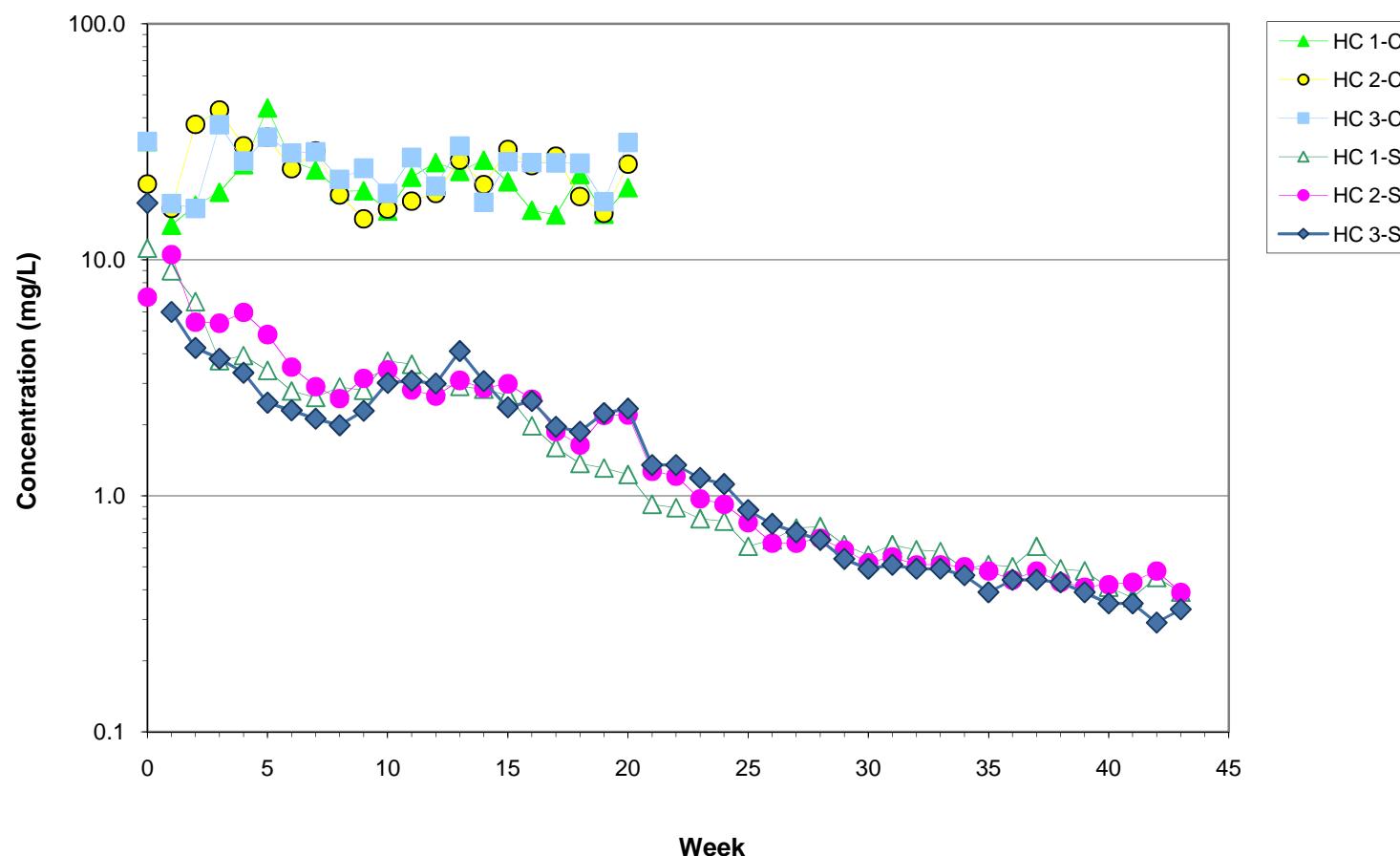
Note: Values below detectable limits shown at the detection limit.

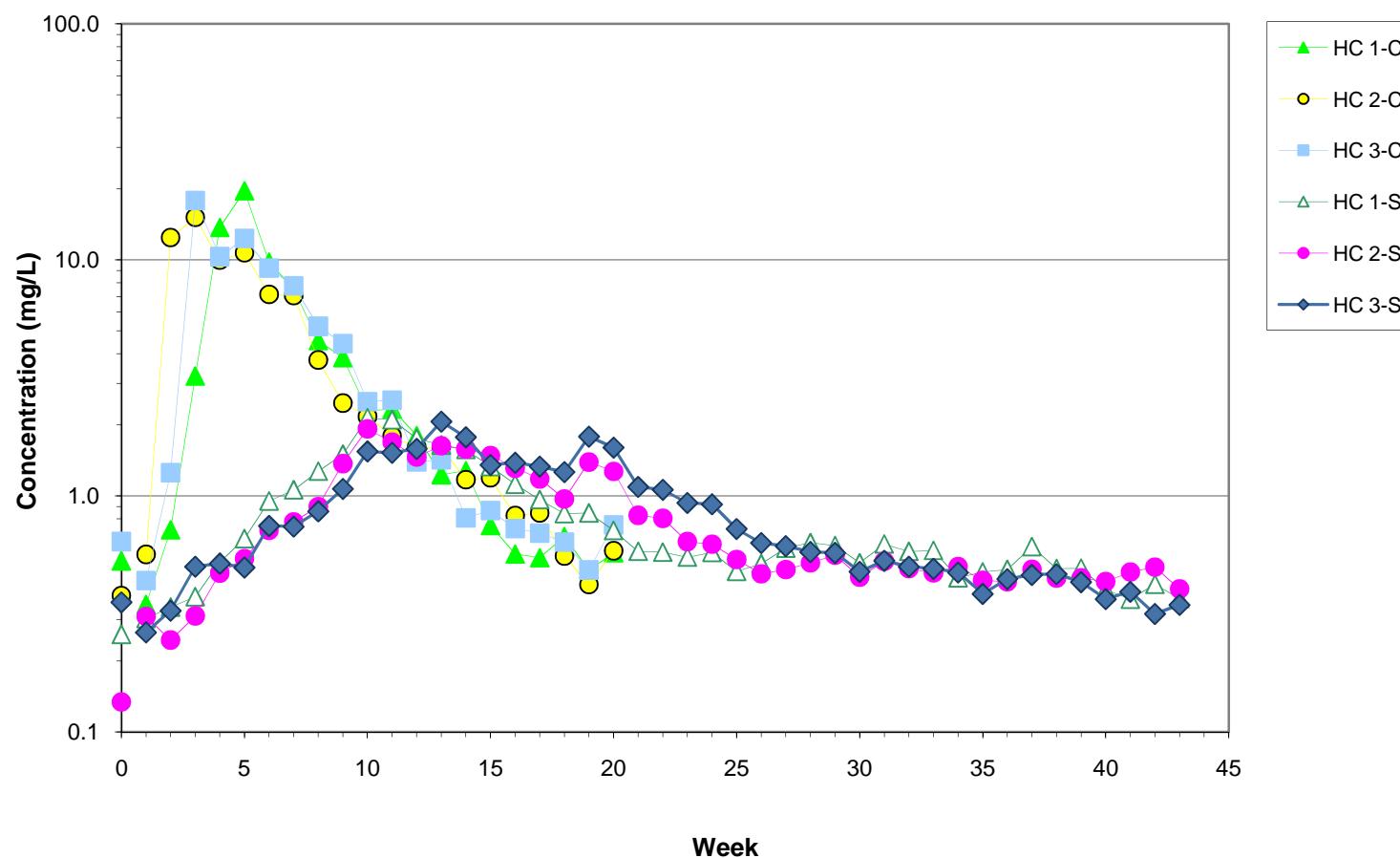


TITLE

## Kinetic Testing Results - Lithium (Li)

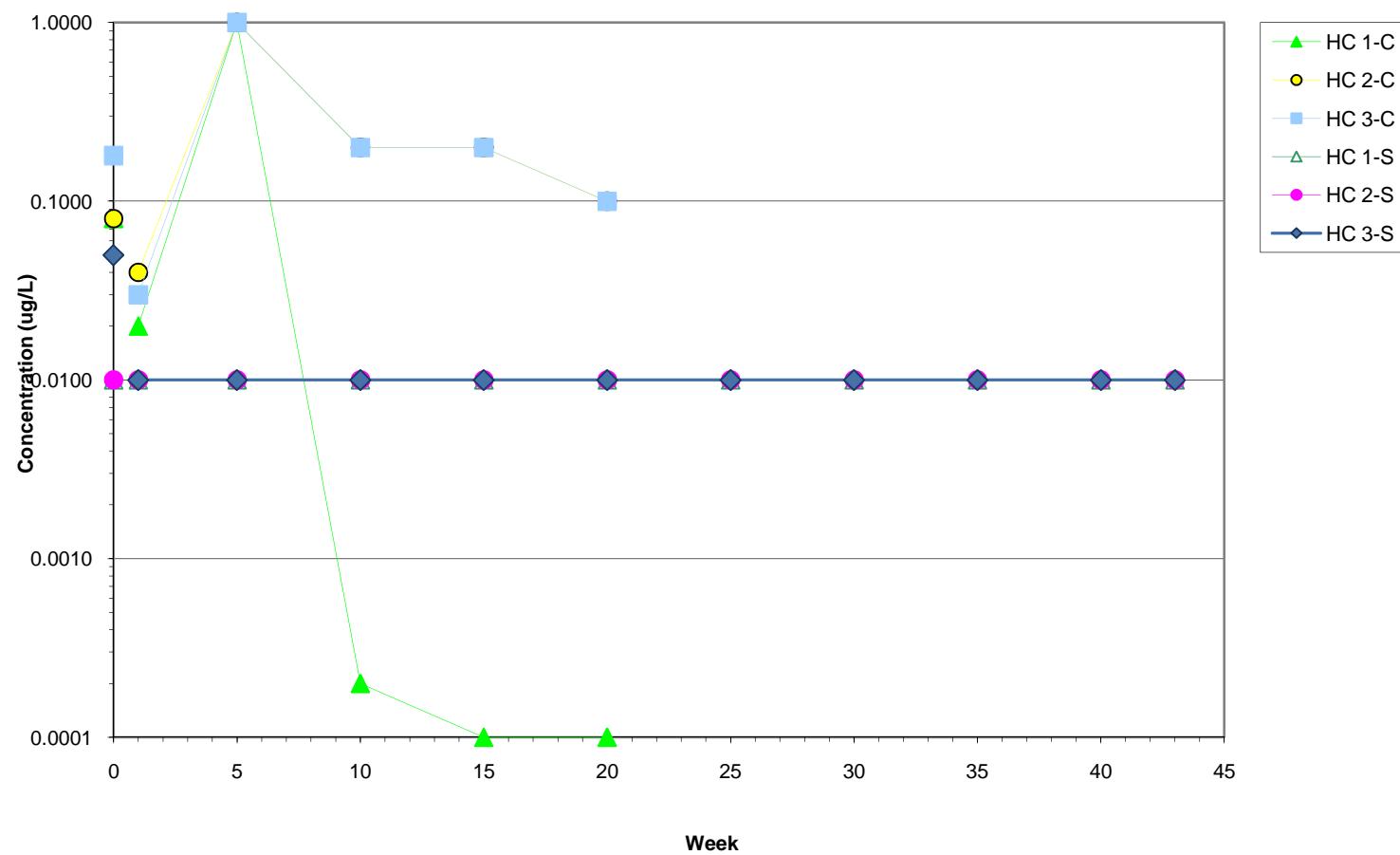
|            |          |    |          |  |            |           |
|------------|----------|----|----------|--|------------|-----------|
| Resolution | DRAWN    | FV | DATE     | Dec-08                                       | JOB NO.    | 073-92548 |
|            | CHECKED  | RV | SCALE    | na   | DWG. NO.   |           |
|            | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 23        |





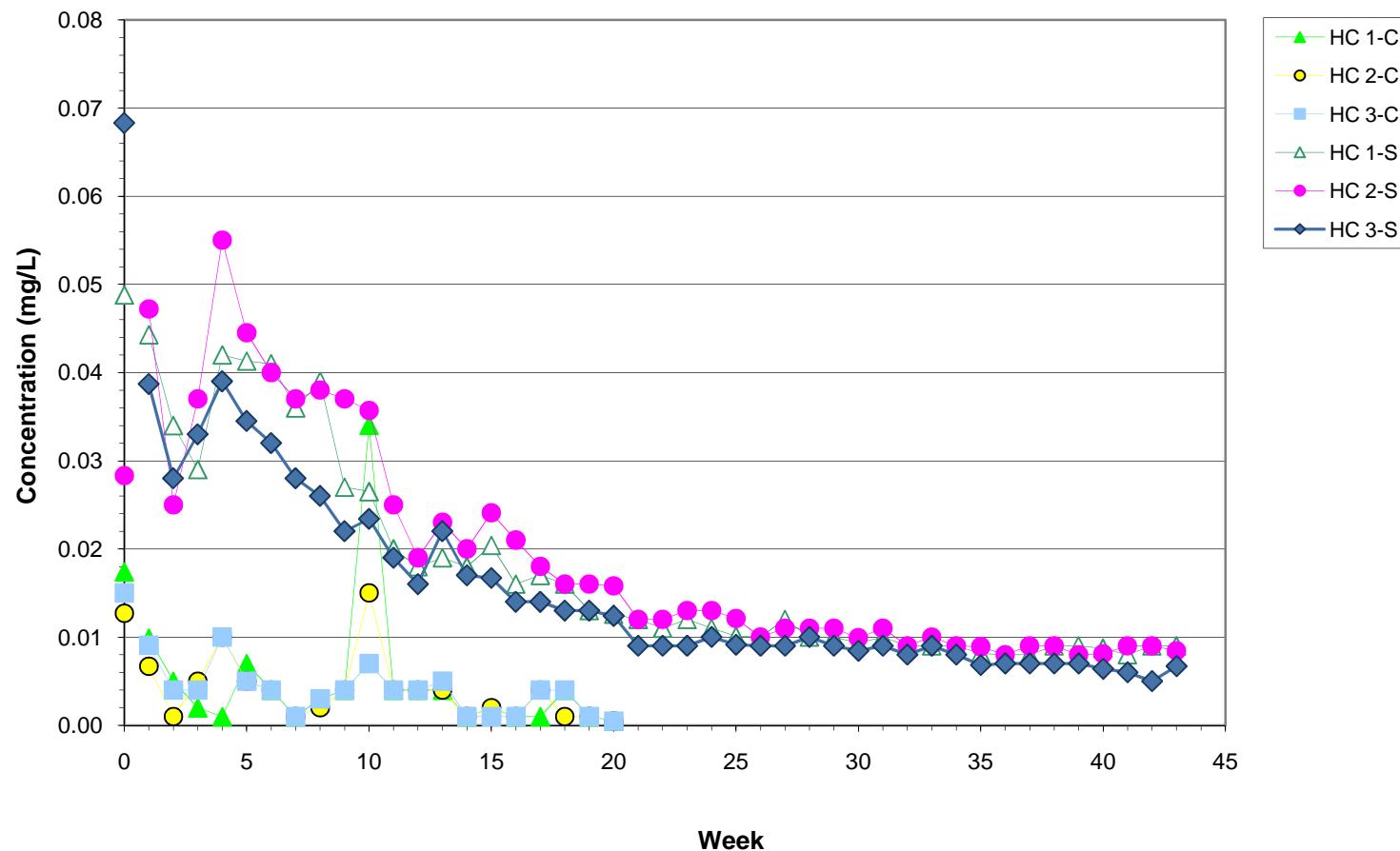
### Kinetic Testing Results - Manganese (Mn)

|                   |          |    |          |  |            |           |
|-------------------|----------|----|----------|--|------------|-----------|
| <b>Resolution</b> | DRAWN    | FV | DATE     | Dec-08                                       | JOB NO.    | 073-92548 |
|                   | CHECKED  | RV | SCALE    | na   | DWG. NO.   |           |
|                   | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 25        |
|                   |          |    |          |  |            |           |



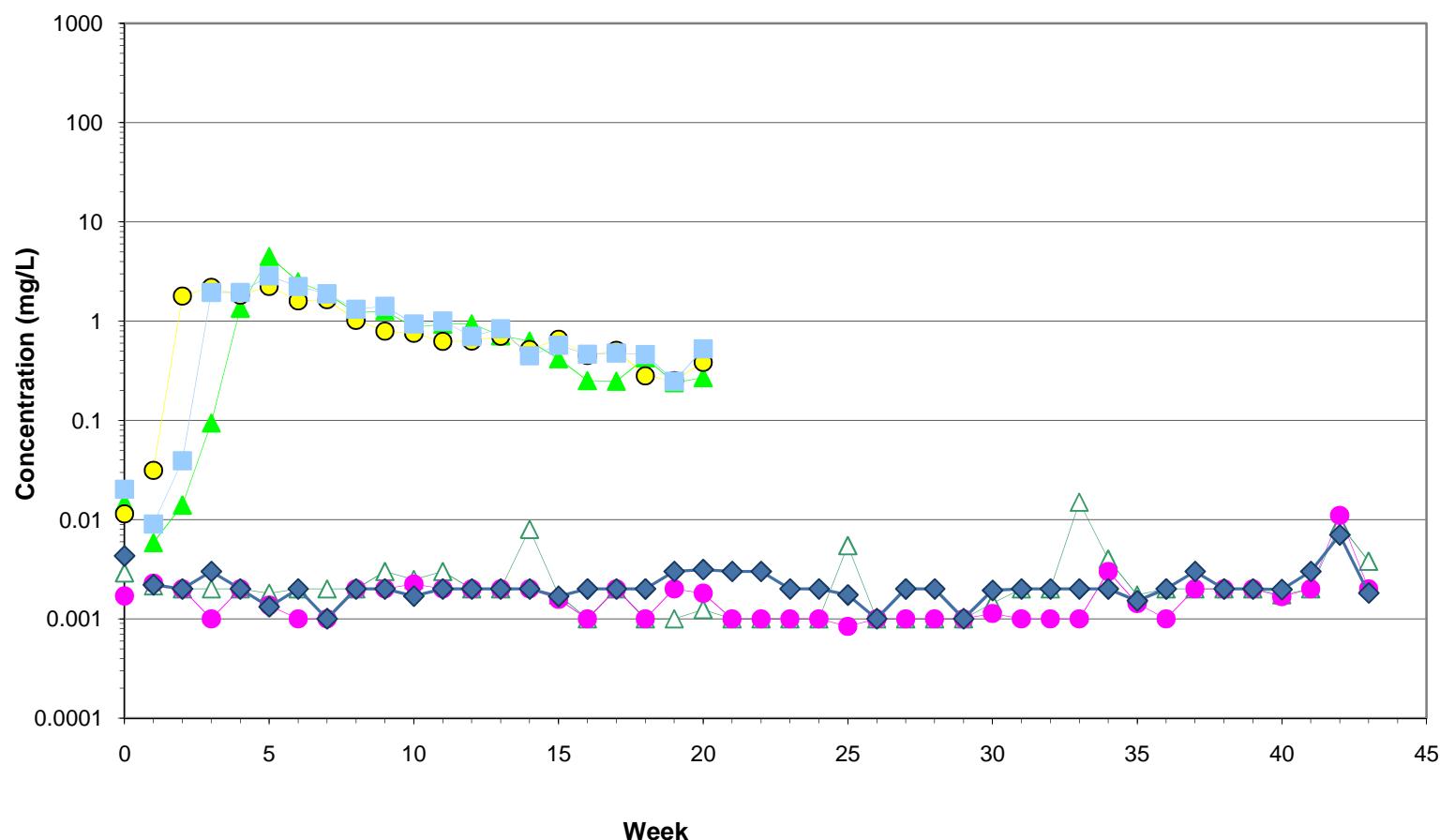
Note: Values below detectable limits shown at the detection limit.

|   |          |    |  |            |
|---|----------|----|--|------------|
| <br><b>Golder Associates</b><br><br><b>Resolution</b> | TITLE    |    |  |            |
|   | DRAWN    | FV | DATE   | JOB NO.    |
|   | CHECKED  | RV | Dec-08                                       | 073-92548  |
|   | REVIEWED | RV | SCALE  | FIGURE NO. |
|   |          |    | na   |            |
|   |          |    | FILE NO.                                     | 26         |
|   |          |    | Resolution Kinetic Testing (as Dec 22, 2008) |            |



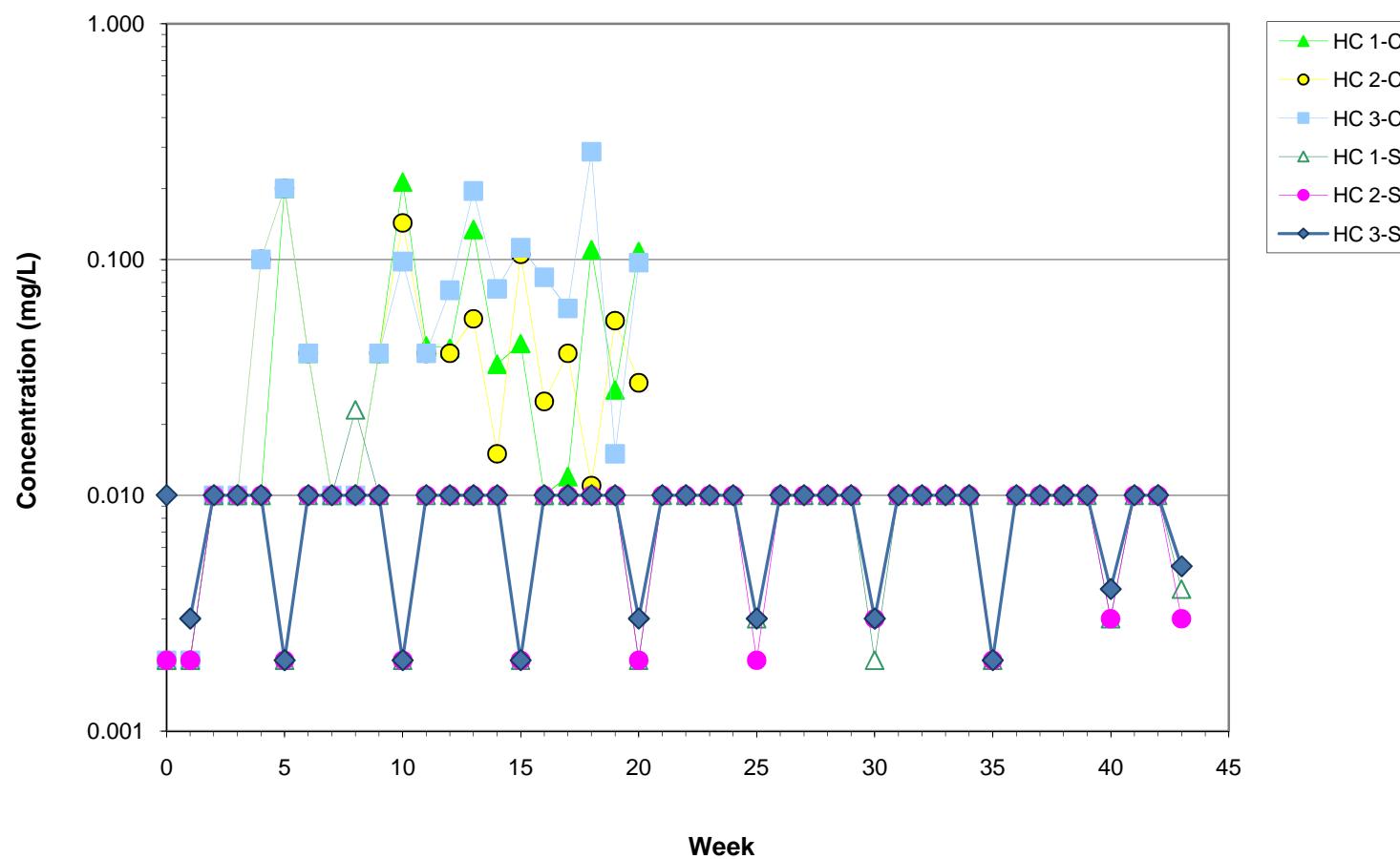
### Kinetic Testing Results - Molybdenum (Mo)

|            |          |    |          |  |            |           |
|------------|----------|----|----------|--|------------|-----------|
| Resolution | DRAWN    | FV | DATE     | Dec-08                                       | JOB NO.    | 073-92548 |
|            | CHECKED  | RV | SCALE    | na   | DWG. NO.   |           |
|            | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 27        |
|            |          |    |          |  |            |           |



## Kinetic Testing Results - Nickel (Ni)

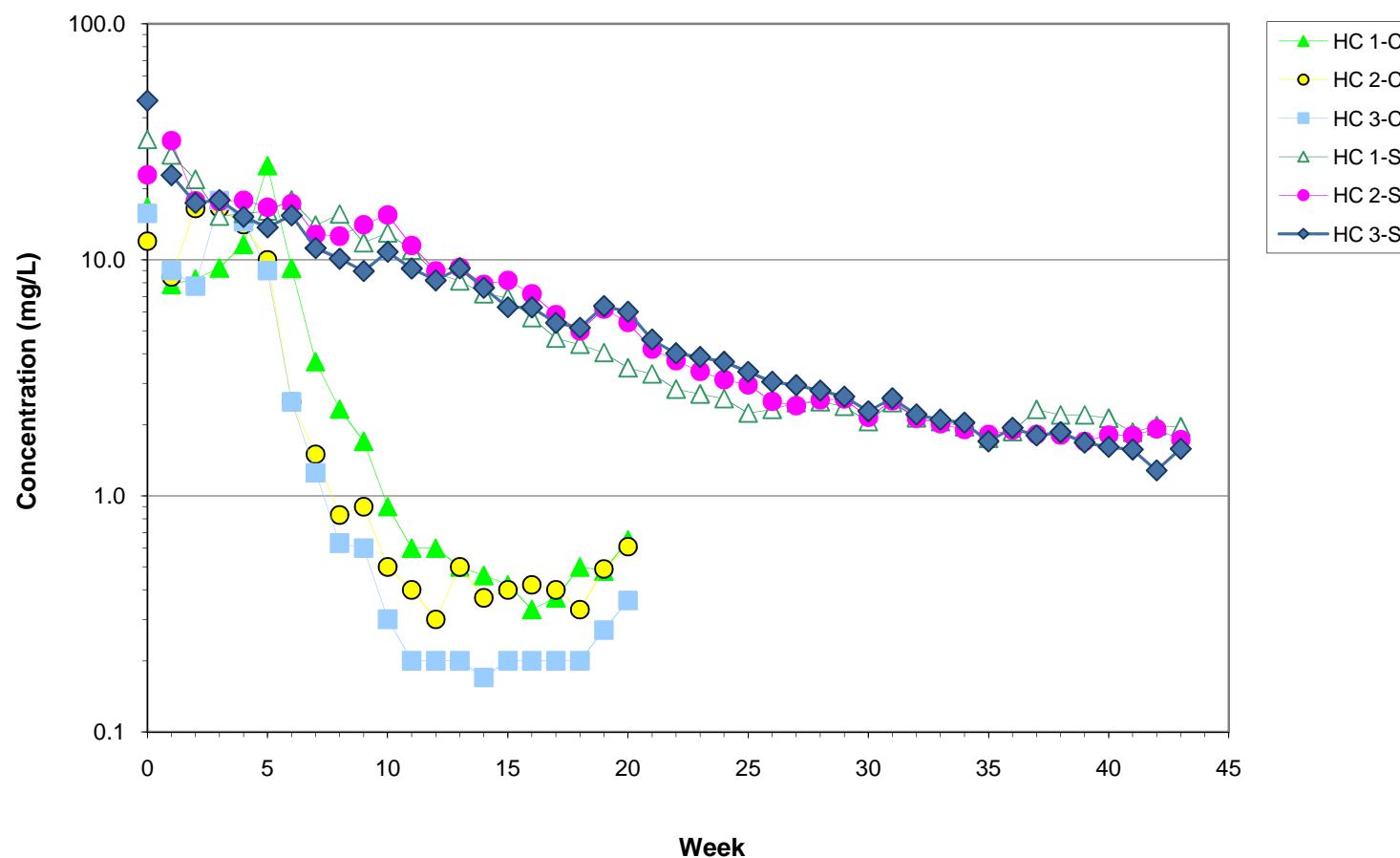
|            |          |    |          |  |            |           |
|------------|----------|----|----------|--|------------|-----------|
| Resolution | DRAWN    | FV | DATE     | Dec-08                                       | JOB NO.    | 073-92548 |
|            | CHECKED  | RV | SCALE    | na   | DWG. NO.   |           |
|            | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 28        |
|            |          |    |          |  |            |           |



### Kinetic Testing Results - Phosphorus (P)

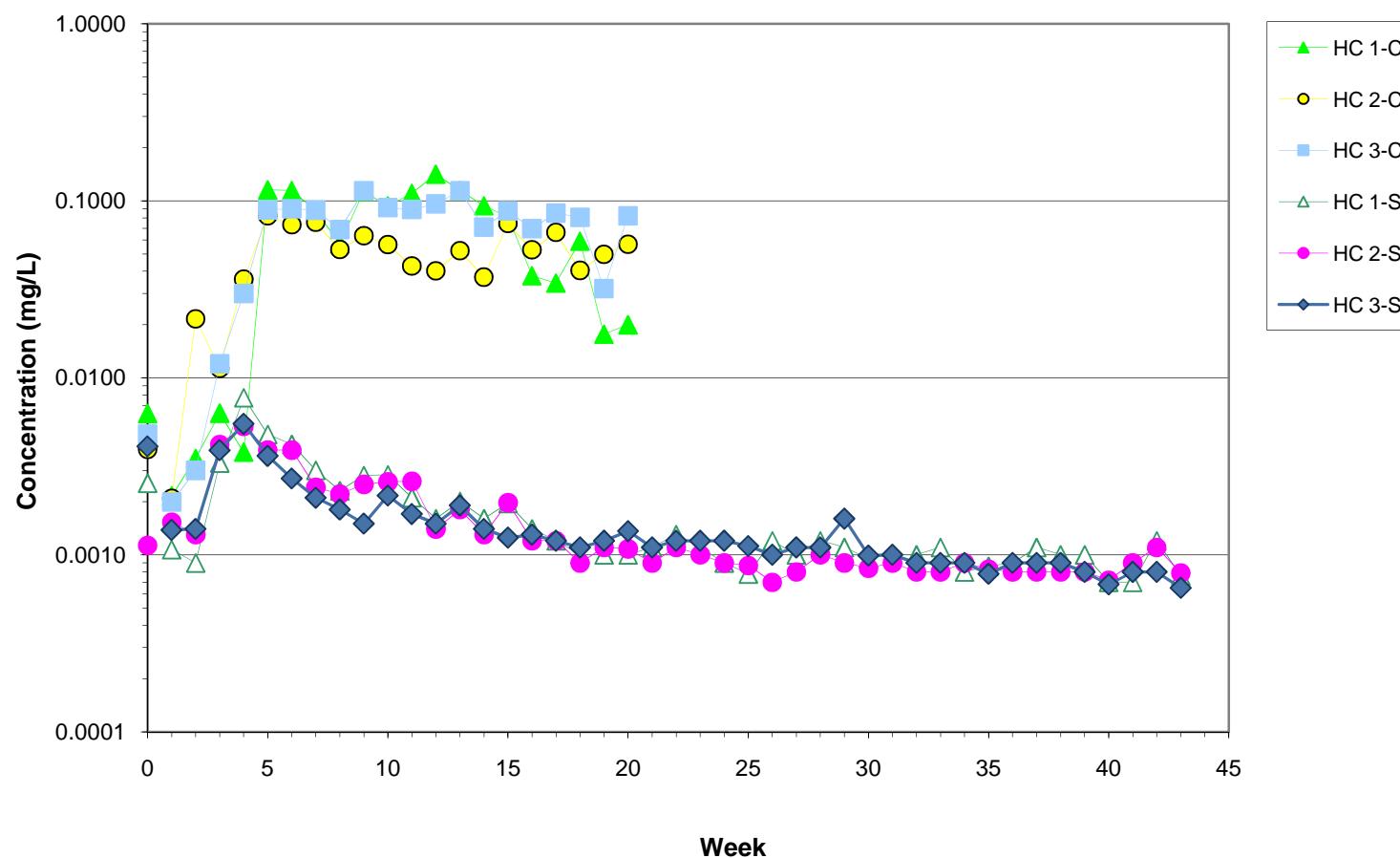
|                   |          |    |        |           |
|-------------------|----------|----|--------|-----------|
| <b>Resolution</b> | TITLE    |    |        |           |
|                   | DRAWN    | FV | DATE   | JOB NO.   |
|                   | CHECKED  | RV | Dec-08 | 073-92548 |
|                   | REVIEWED | RV | SCALE  | na        |

FILE NO. Resolution Kinetic Testing (as Dec 22, 2008) FIGURE NO. 29



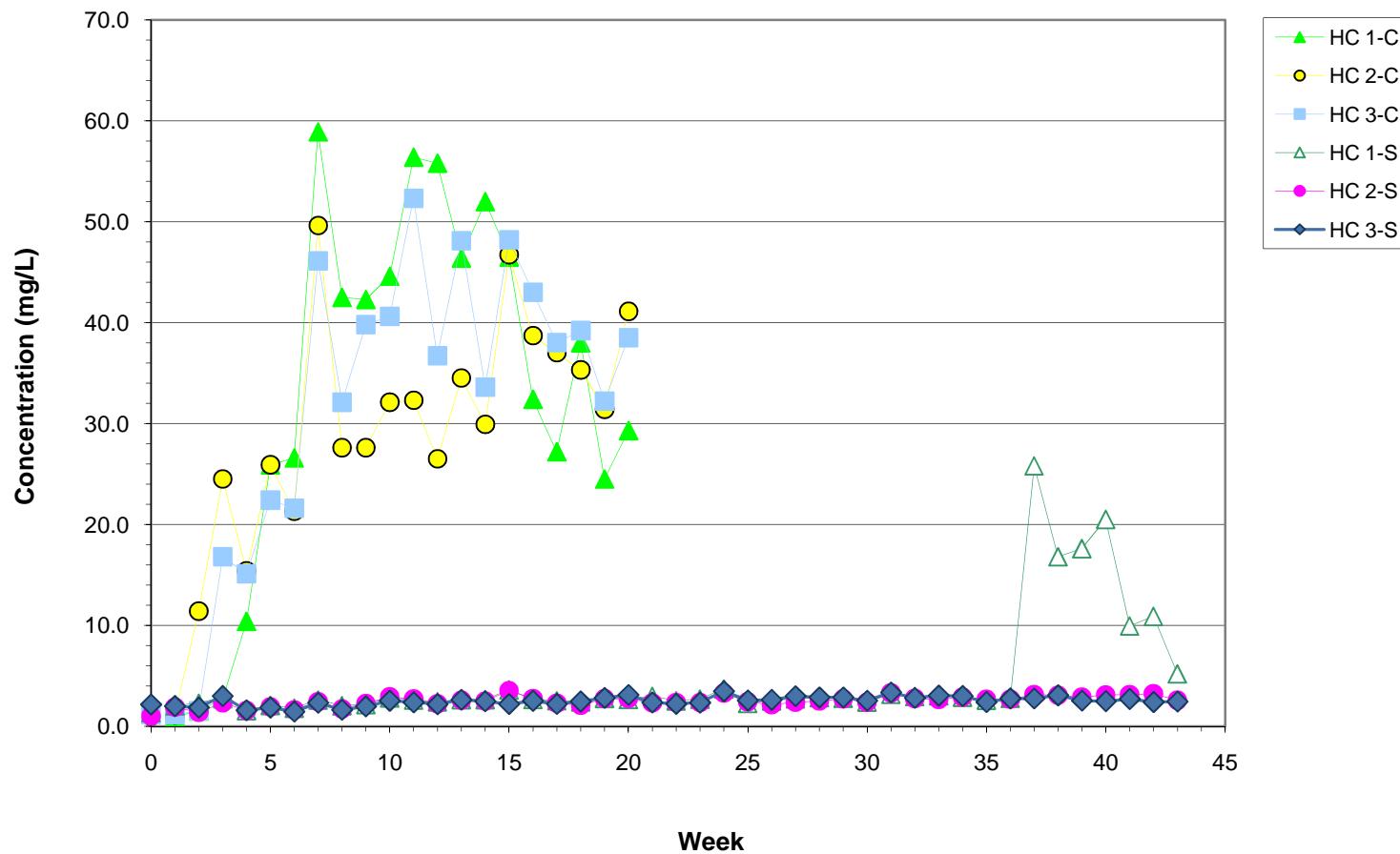
Note: Values below detectable limits shown at the detection limit.

|   |  |          |  |            |
|---|--|----------|--|------------|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE  |          |  |            |
|   | <b>Kinetic Testing Results - Potassium (K)</b> |          |  |            |
|   | DRAWN  | FV       | DATE   | JOB NO.    |
|   | CHECKED  | RV       | Dec-08                                       | 073-92548  |
| RESOLVED  |  | SCALE    | na   | DWG. NO.   |
|   |  | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. |
|   |  |          |  | 30         |



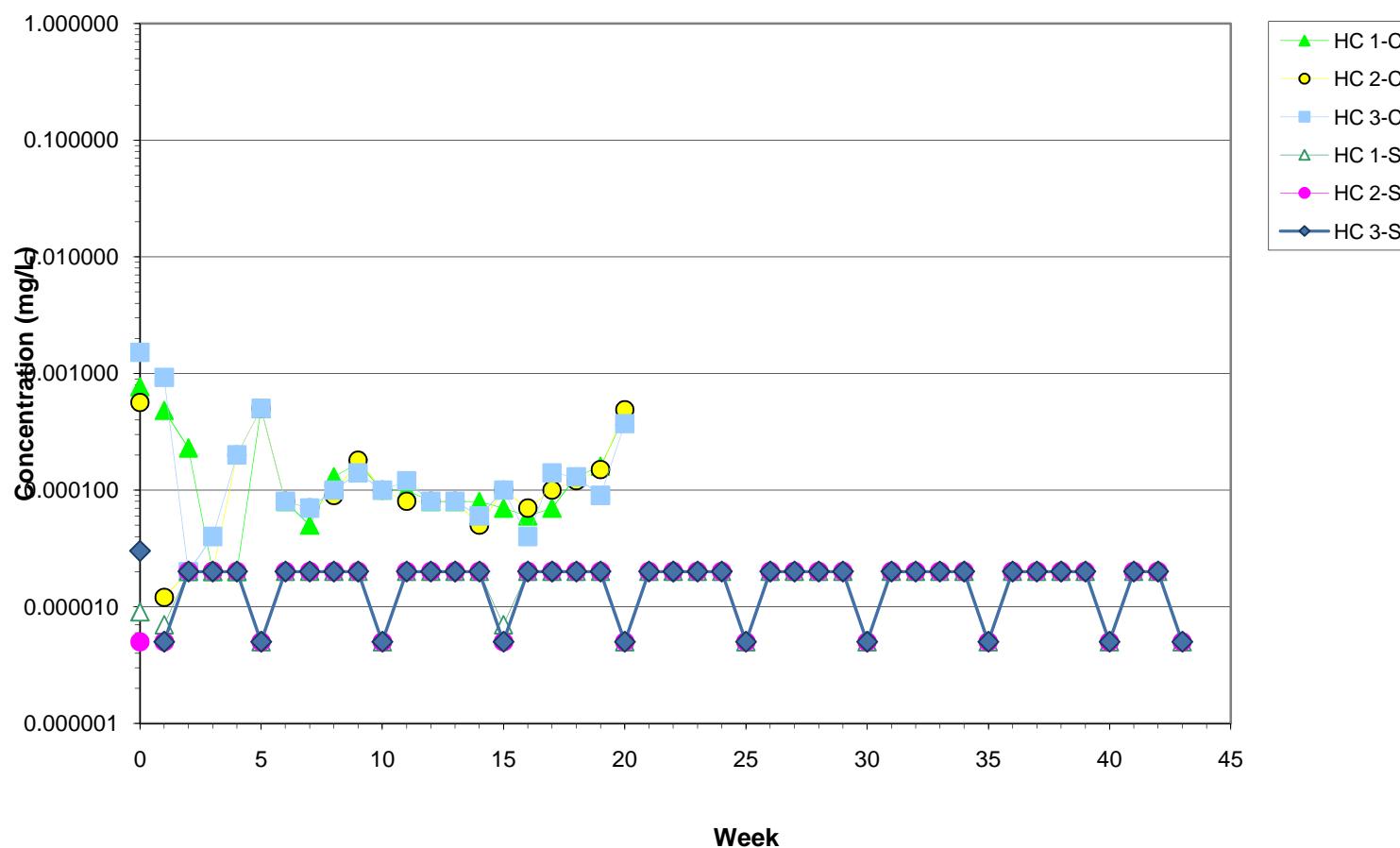
### Kinetic Testing Results - Selenium (Se)

|            |          |    |          |  |            |           |
|------------|----------|----|----------|--|------------|-----------|
| Resolution | DRAWN    | FV | DATE     | Dec-08                                       | JOB NO.    | 073-92548 |
|            | CHECKED  | RV | SCALE    | na   | DWG. NO.   |           |
|            | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 31        |
|            |          |    |          |  |            |           |

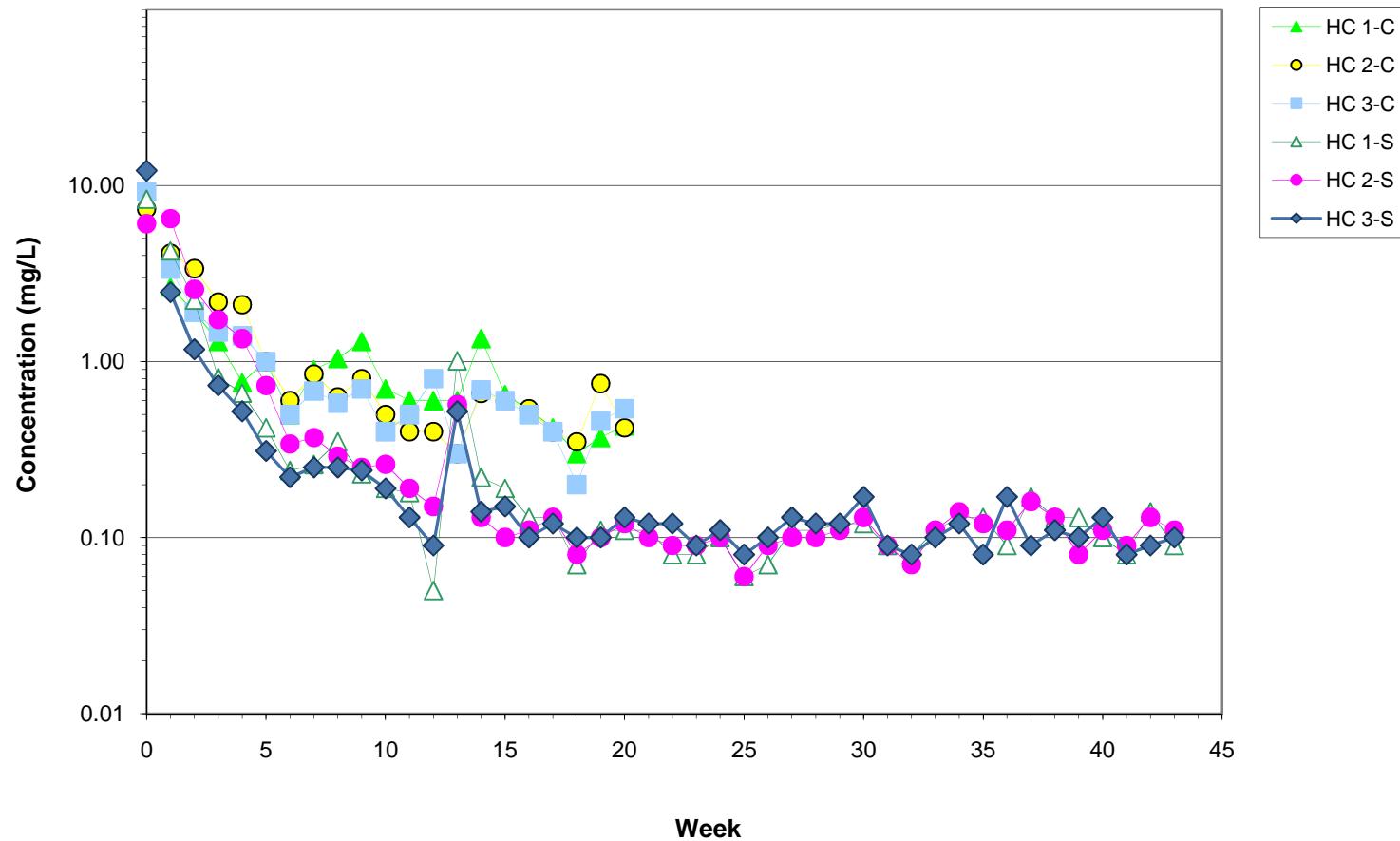


Note: Values below detectable limits shown at the detection limit.

|                       |          |    |          |  |            |           |
|-----------------------|----------|----|----------|--|------------|-----------|
| <br><b>Resolution</b> | TITLE    |    |          |  |            |           |
|                       | DRAWN    | FV | DATE     | Dec-08                                       | JOB NO.    | 073-92548 |
|                       | CHECKED  | RV | SCALE    | na   | DWG. NO.   |           |
|                       | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 32        |

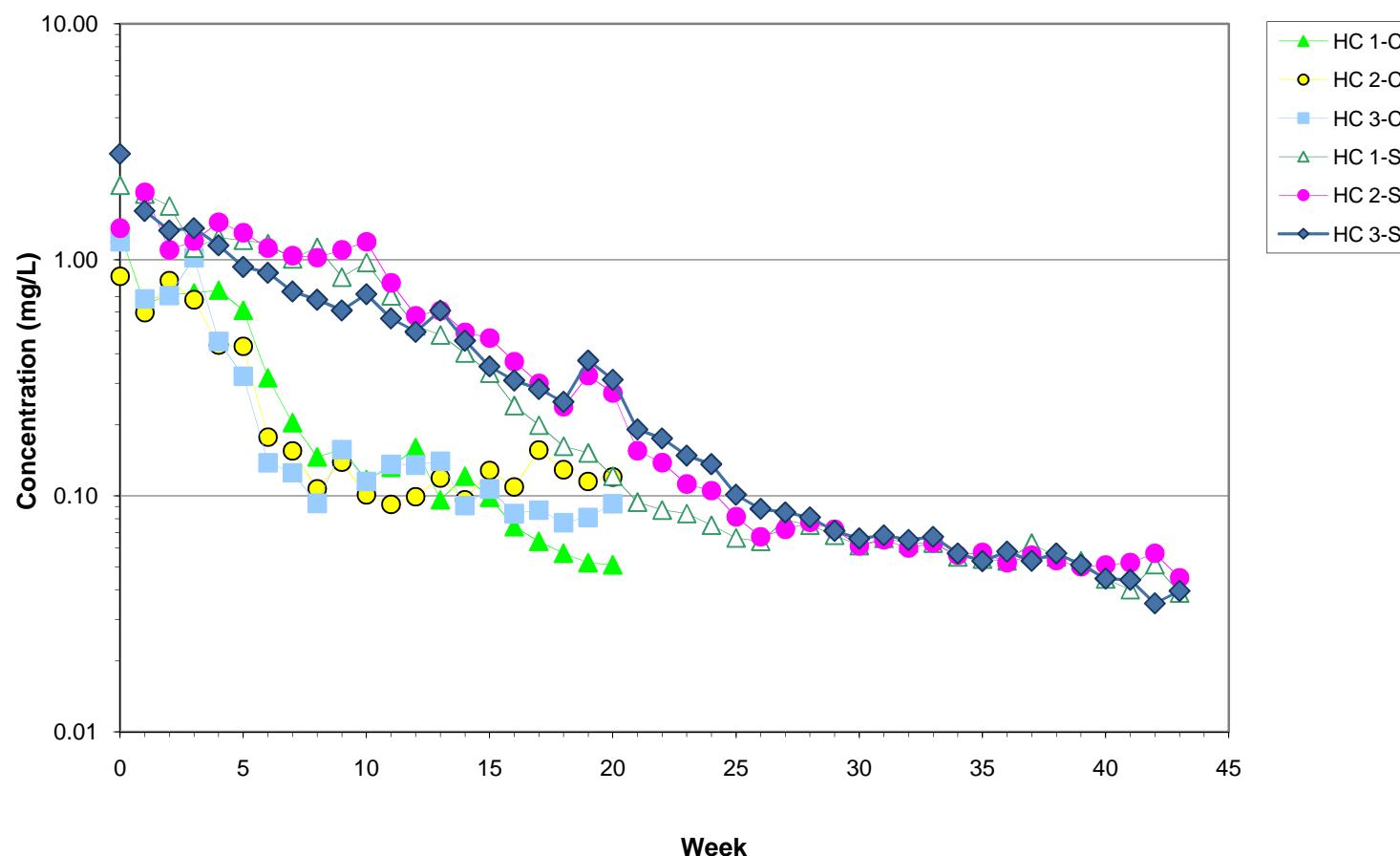


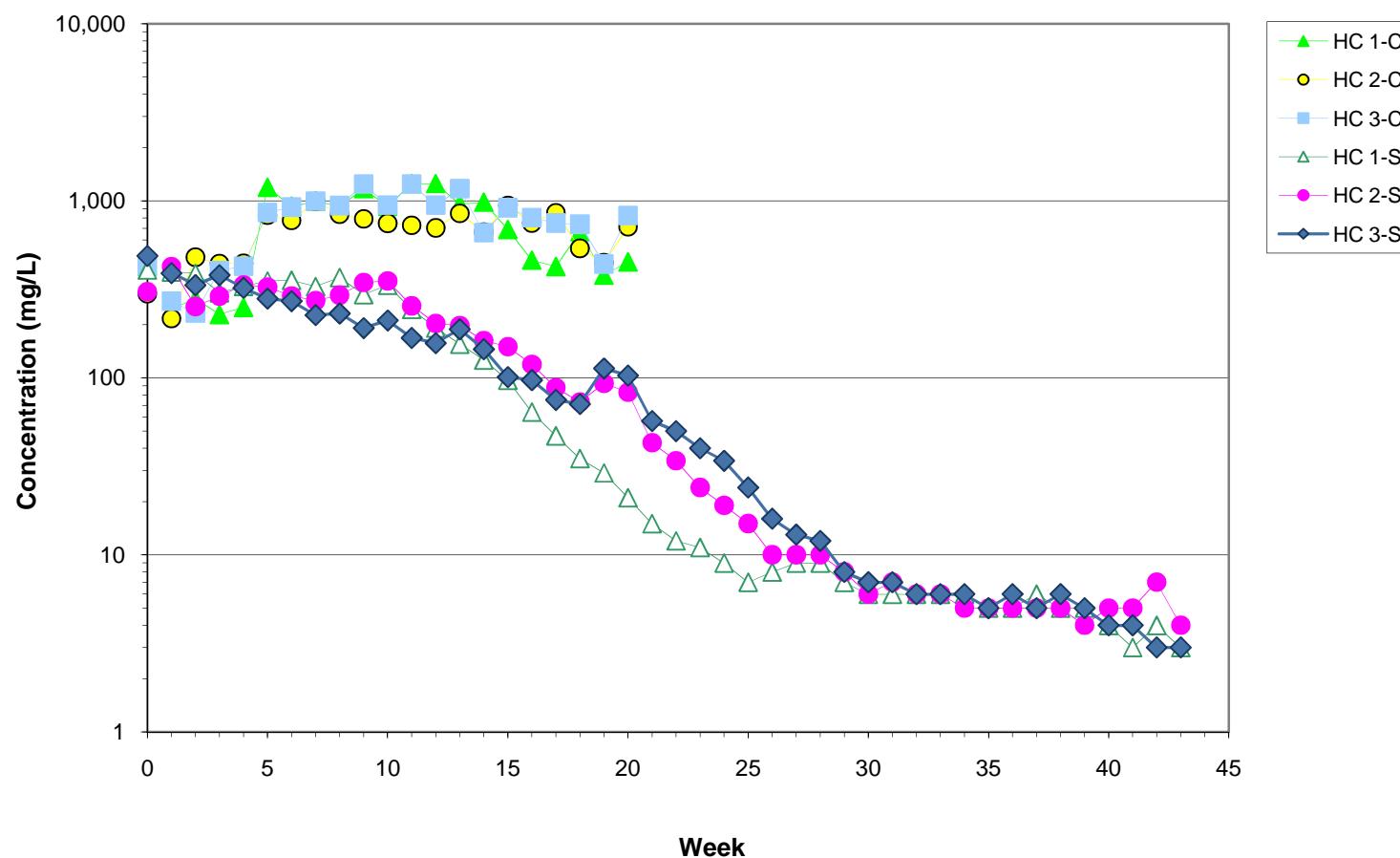
|                       |          |    |  |            |
|-----------------------|----------|----|--|------------|
| <br><b>Resolution</b> | TITLE    |    |  |            |
|                       | DRAWN    | FV | DATE   | JOB NO.    |
|                       | CHECKED  | RV | Dec-08                                       | 073-92548  |
|                       | REVIEWED | RV | SCALE  | na         |
|                       |          |    | FILE NO.                                     | FIGURE NO. |
|                       |          |    | Resolution Kinetic Testing (as Dec 22, 2008) | 33         |



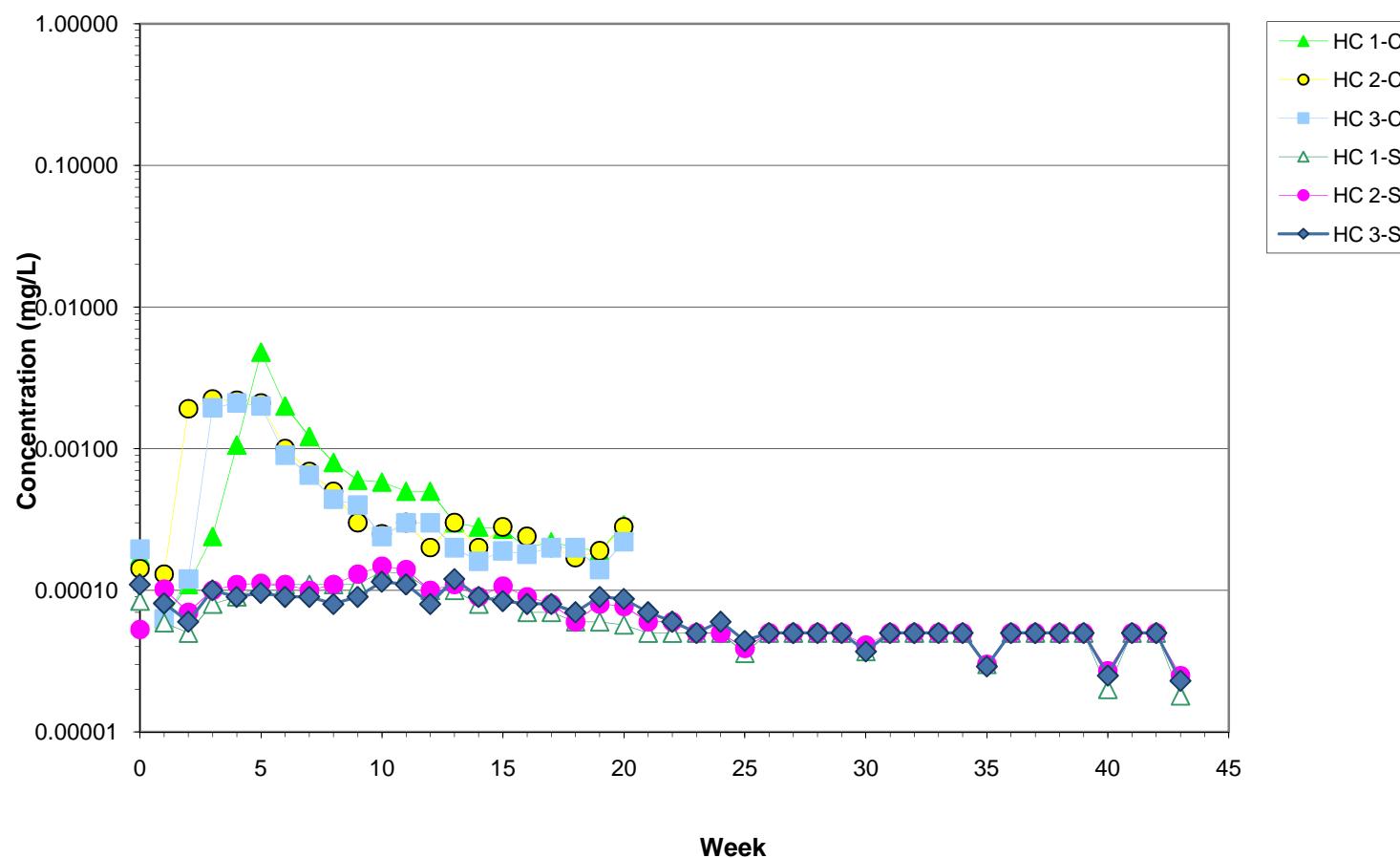
Note: Values below detectable limits shown at the detection limit.

|   |          |  |             |                              |
|---|----------|--|-------------|------------------------------|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE    |  |             |                              |
|   | DRAWN    | FV   | DATE        | JOB NO.                      |
|   | CHECKED  | RV   | Dec-08      | 073-92548                    |
|   | REVIEWED | RV   | SCALE<br>na | DWG. NO.<br>FIGURE NO.<br>34 |
| FILE NO.  |          | Resolution Kinetic Testing (as Dec 22, 2008) |             |                              |



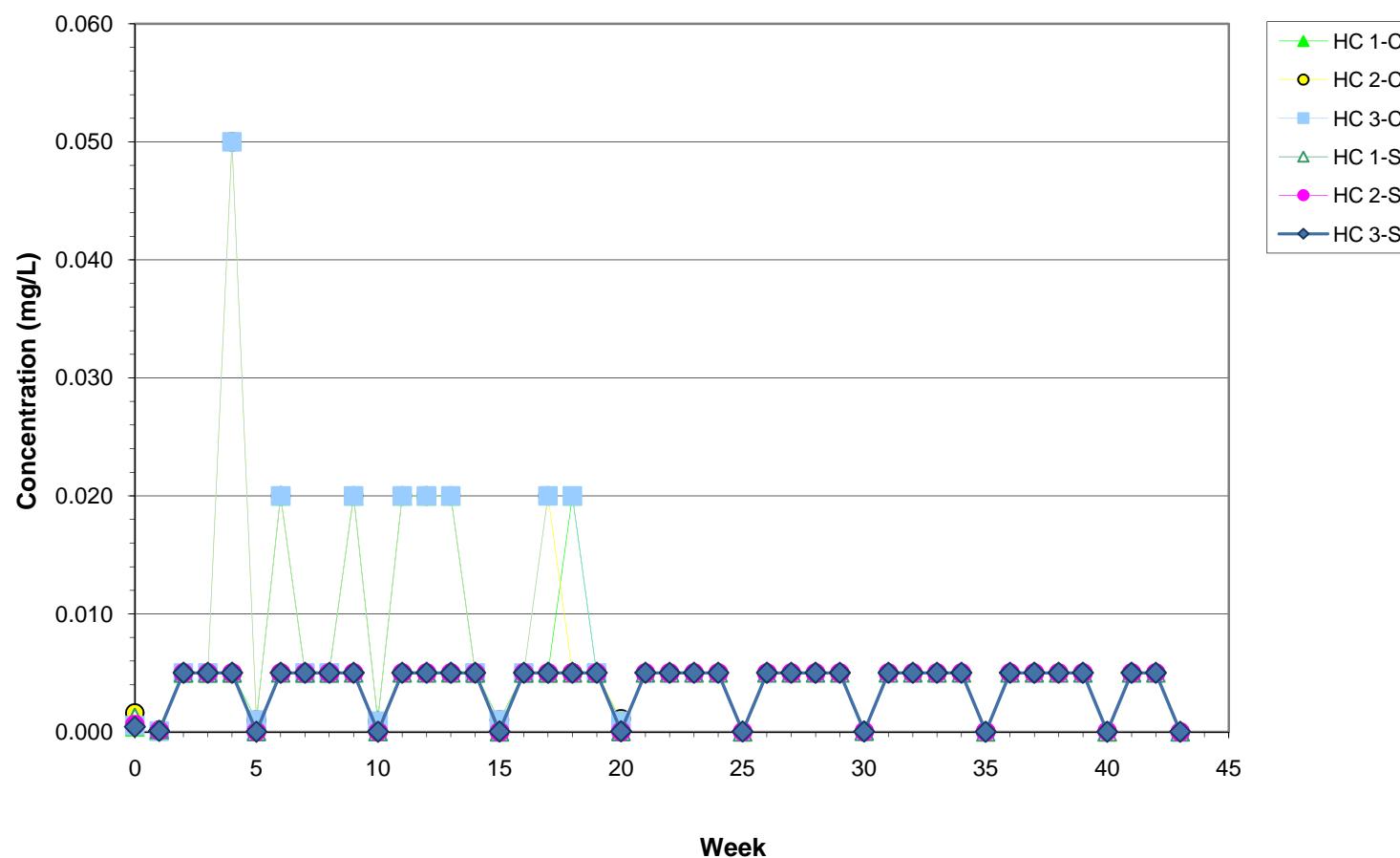


|   |          |    |  |            |
|---|----------|----|--|------------|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE    |    |  |            |
|   | DRAWN    | FV | DATE   | JOB NO.    |
|   | CHECKED  | RV | Dec-08                                       | 073-92548  |
|   | REVIEWED | RV | SCALE<br>na                                  | DWG. NO.   |
|   |          |    | FILE NO.                                     | FIGURE NO. |
|   |          |    | Resolution Kinetic Testing (as Dec 22, 2008) | 36         |



### Kinetic Testing Results - Thallium (Tl)

|                   |          |    |          |  |            |           |
|-------------------|----------|----|----------|--|------------|-----------|
| <b>Resolution</b> | DRAWN    | FV | DATE     | Dec-08                                       | JOB NO.    | 073-92548 |
|                   | CHECKED  | RV | SCALE    | na   | DWG. NO.   |           |
|                   | REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 37        |
|                   |          |    |          |  |            |           |

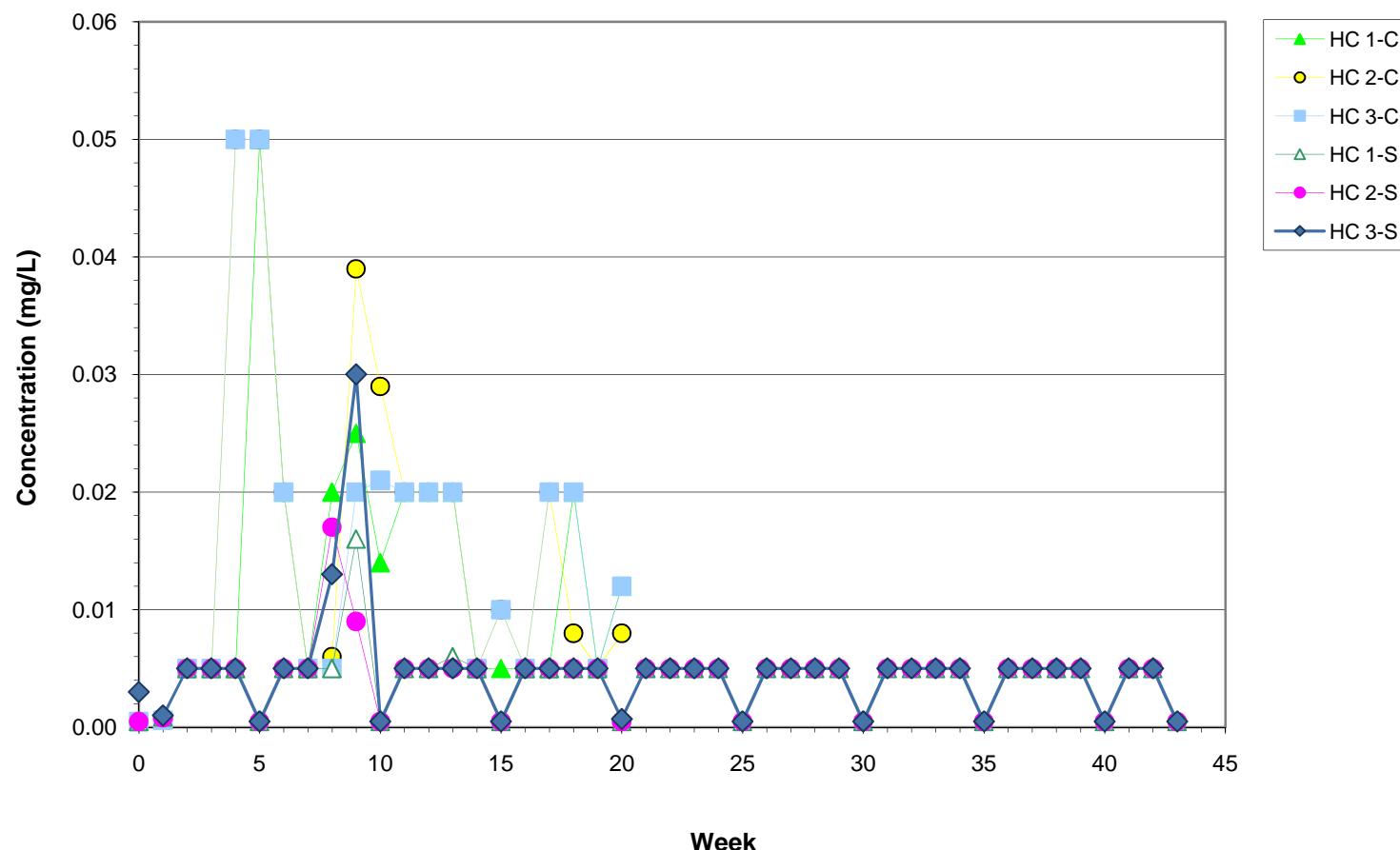


Note: Values below detectable limits shown at the detection limit.

|  |          |    |        |           |
|--|----------|----|--------|-----------|
| <br><b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE    |    |        |           |
|  | DRAWN    | FV | DATE   | JOB NO.   |
|  | CHECKED  | RV | Dec-08 | 073-92548 |
|  | REVIEWED | RV | SCALE  | na        |

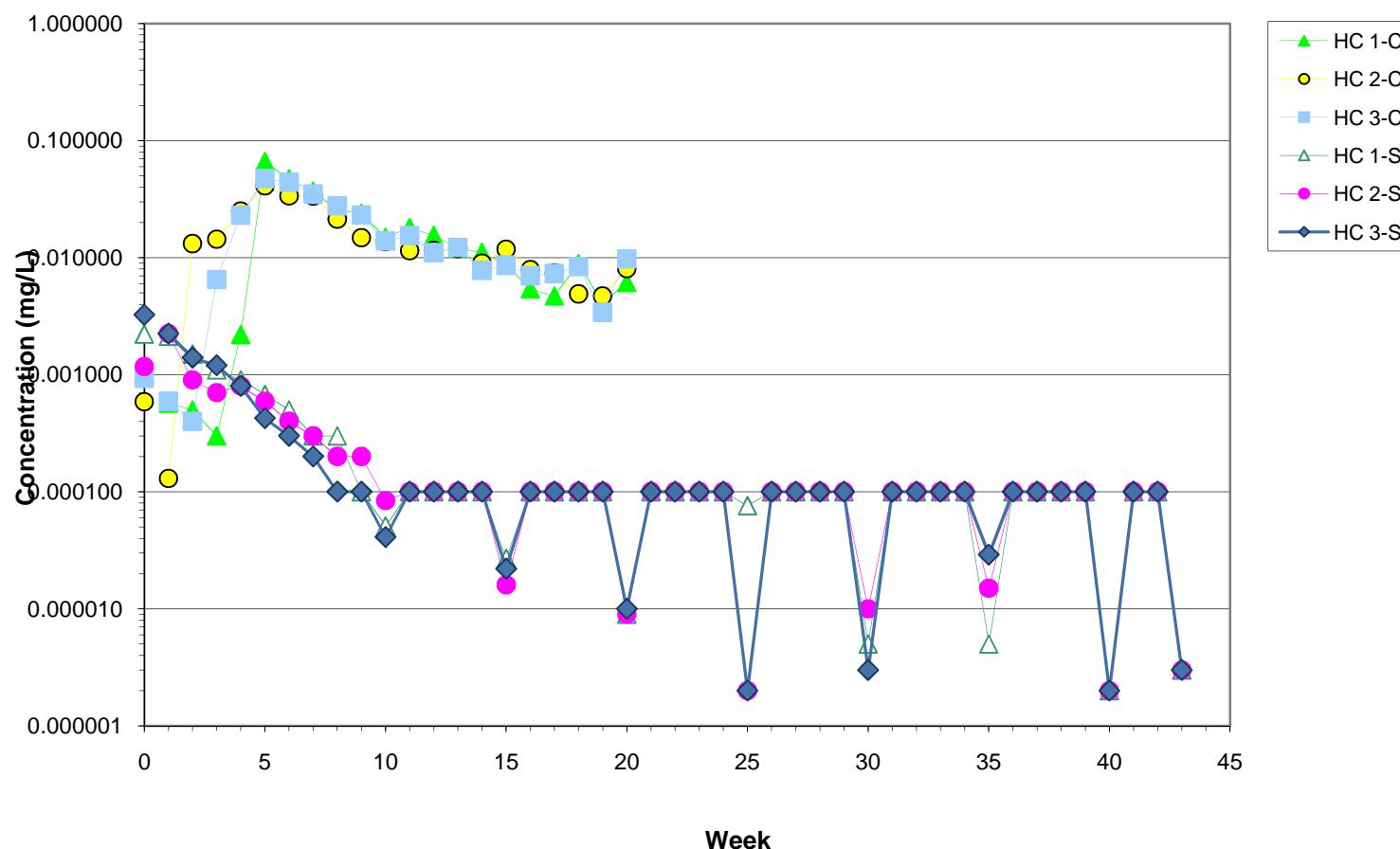
### Kinetic Testing Results - Tin (Sn)

|          |    |          |  |            |           |
|----------|----|----------|--|------------|-----------|
| DRAWN    | FV | DATE     | Dec-08                                       | JOB NO.    | 073-92548 |
| CHECKED  | RV | SCALE    | na   | DWG. NO.   |           |
| REVIEWED | RV | FILE NO. | Resolution Kinetic Testing (as Dec 22, 2008) | FIGURE NO. | 38        |



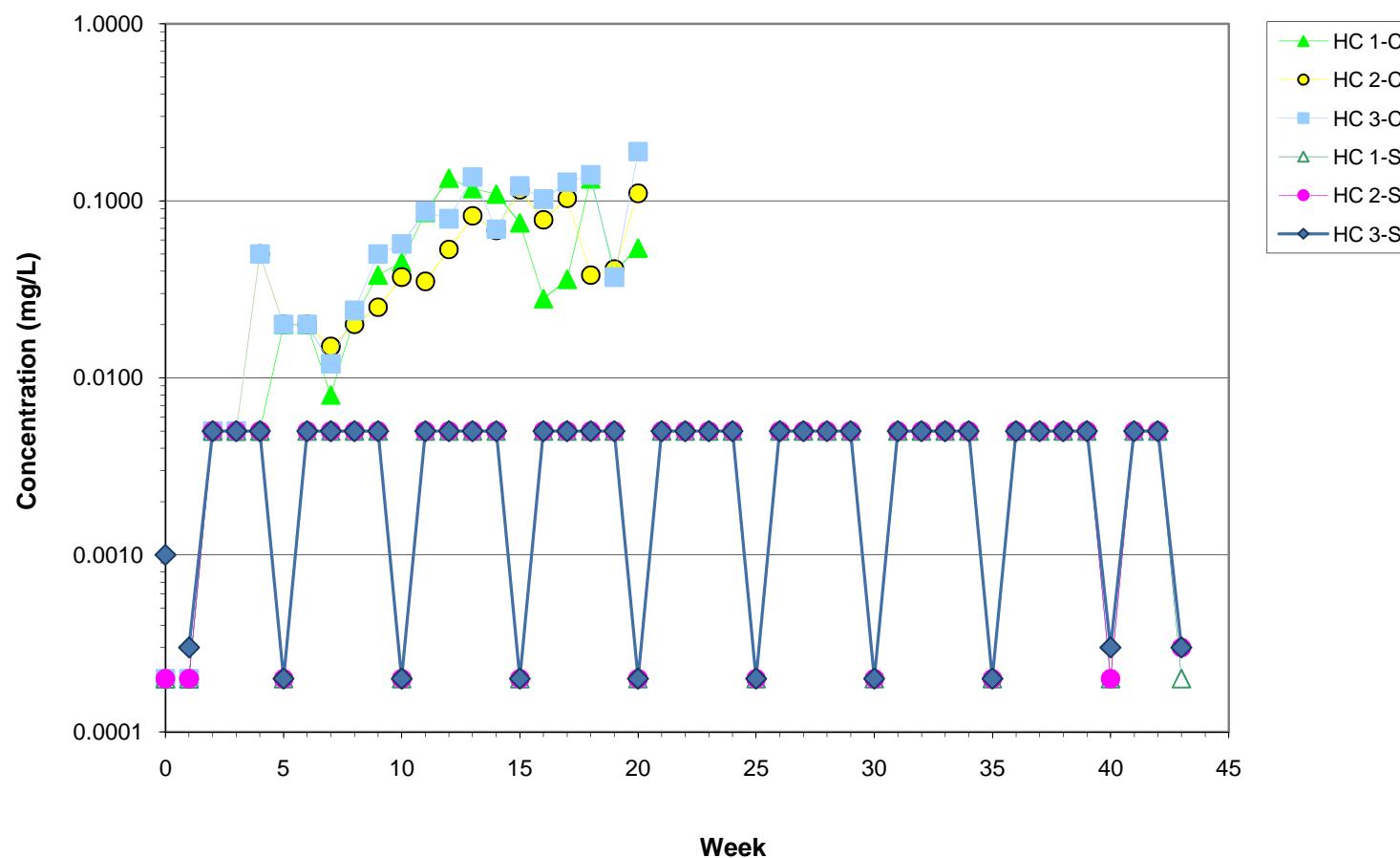
Note: Values below detectable limits shown at the detection limit.

|                       |          |    |  |            |
|-----------------------|----------|----|--|------------|
| <br><b>Resolution</b> | TITLE    |    |  |            |
|                       | DRAWN    | FV | DATE   | JOB NO.    |
|                       | CHECKED  | RV | Dec-08                                       | 073-92548  |
|                       | REVIEWED | RV | SCALE  | na         |
|                       |          |    | FILE NO.                                     | FIGURE NO. |
|                       |          |    | Resolution Kinetic Testing (as Dec 22, 2008) | 39         |

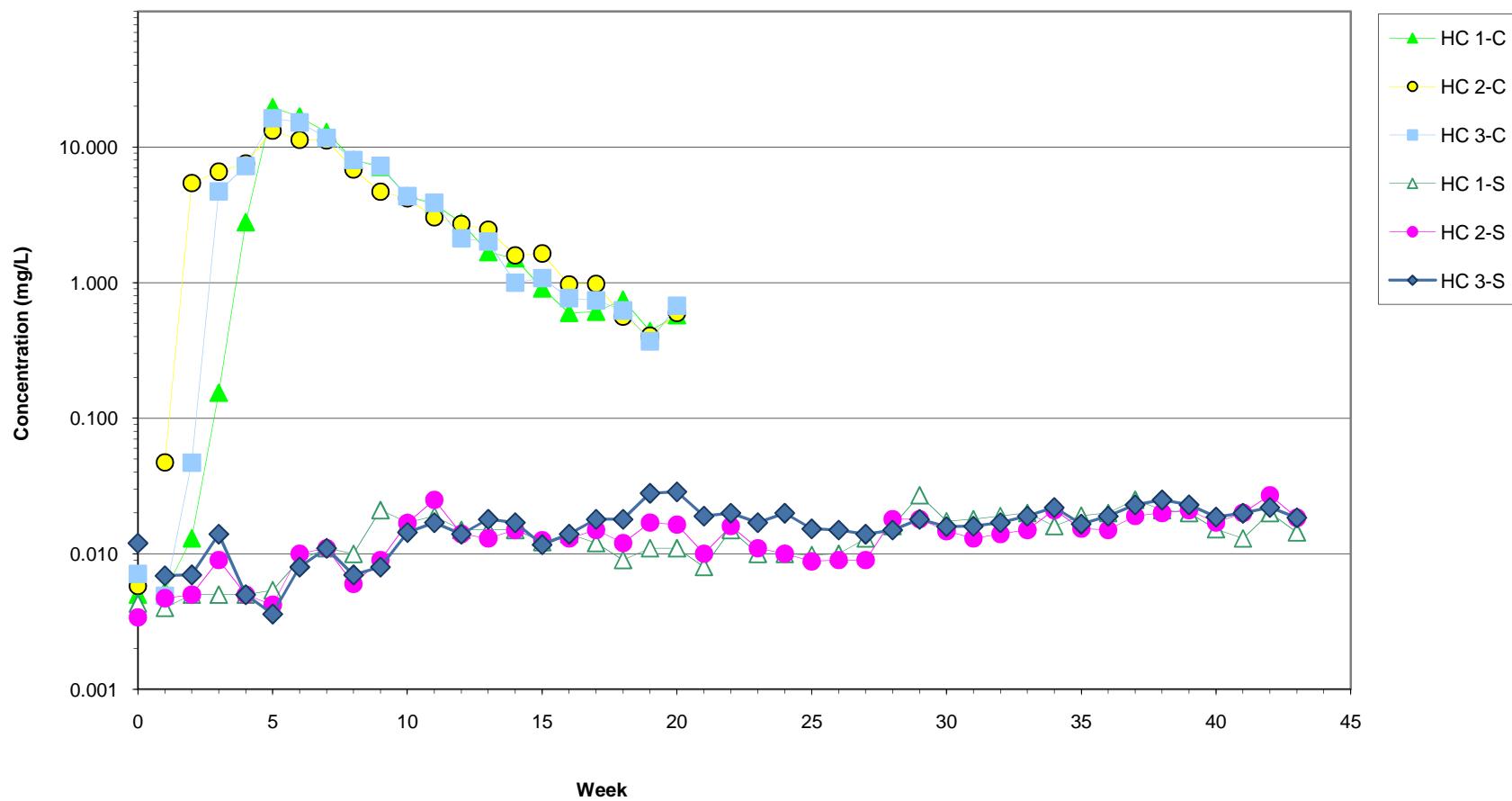


Note: Values below detectable limits shown at the detection limit.

|   |   |    |             |                              |
|---|---|----|-------------|------------------------------|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE<br><b>Kinetic Testing Results - Uranium (U)</b> |    |             |                              |
|   | DRAWN   | FV | DATE        | JOB NO.                      |
|   | CHECKED   | RV | Dec-08      | 073-92548                    |
|   | REVIEWED  | RV | SCALE<br>na | DWG. NO.<br>FIGURE NO.<br>40 |

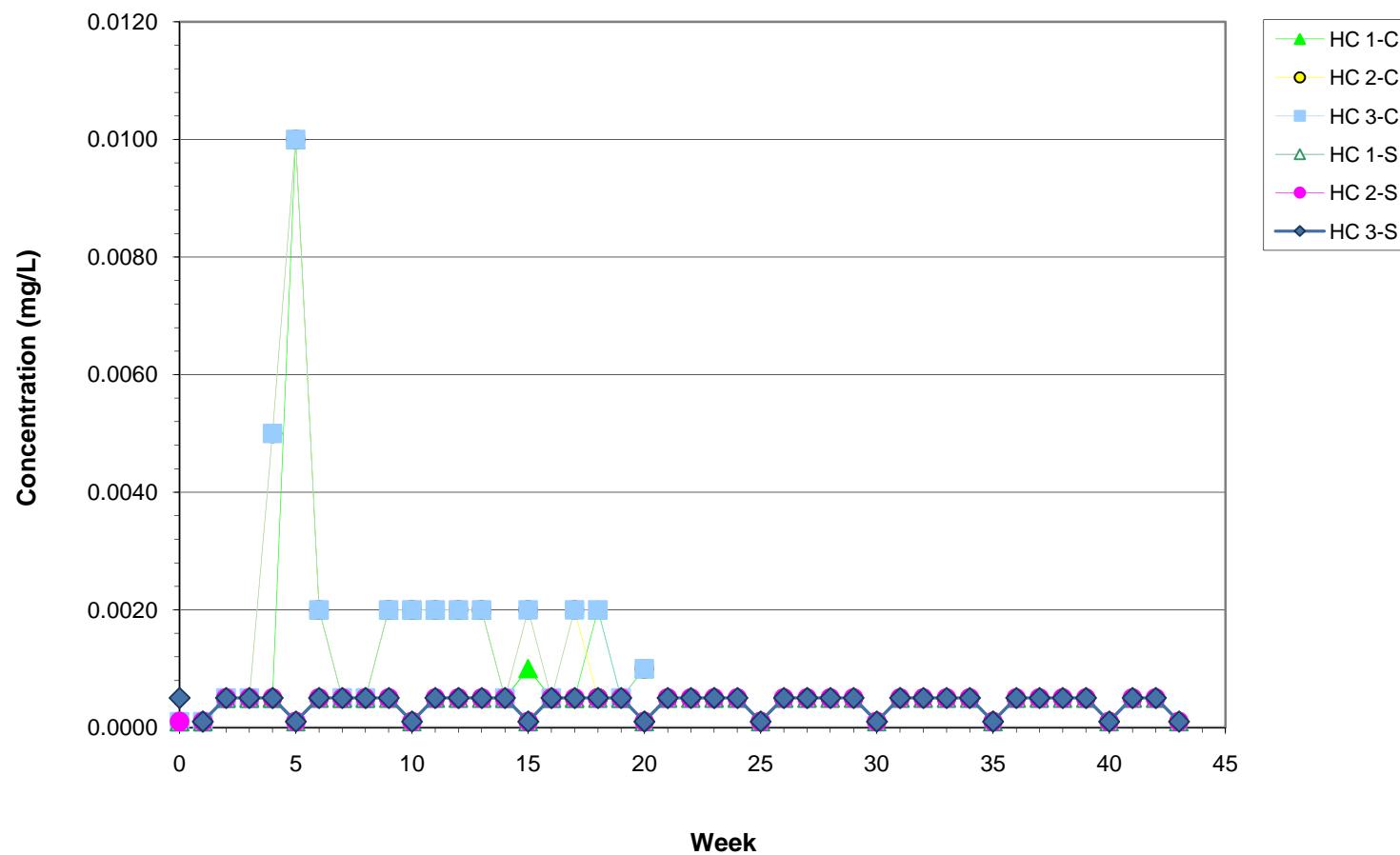


|   |          |    |   |
|---|----------|----|---|
|  Golder Associates | TITLE    |    |   |
| <b>Kinetic Testing Results - Vanadium (V)</b>   |          |    |   |
| <b>Resolution</b>   | DRAWN    | FV | DATE Dec-08   |
|   | CHECKED  | RV | SCALE na  |
|   | REVIEWED | RV | FILE NO. Resolution Kinetic Testing (as Dec 22, 2008) |
|   |          |    | FIGURE NO. 41   |



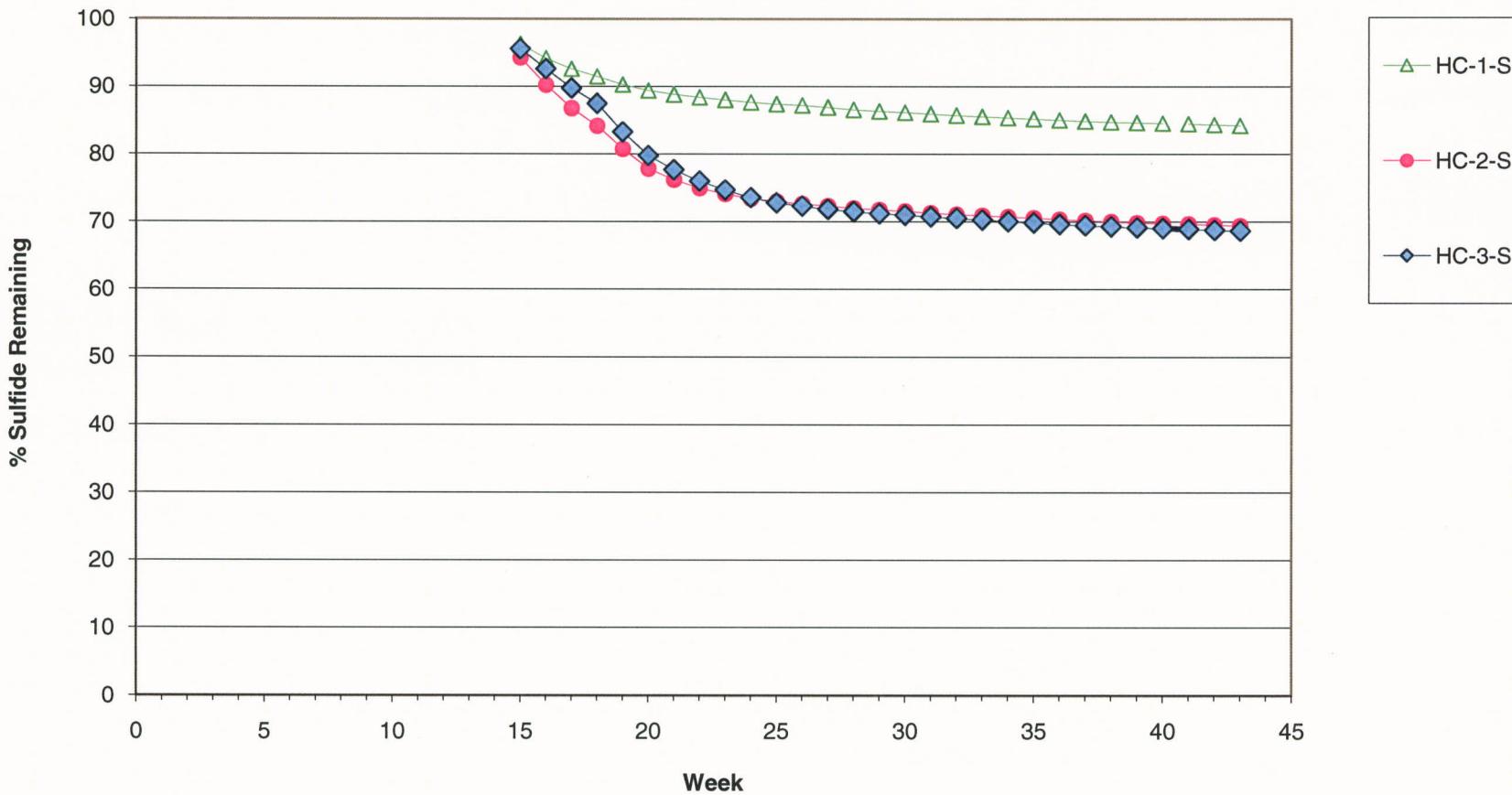
Note: Values below detectable limits shown at the detection limit.

|                       |          |    |  |            |
|-----------------------|----------|----|--|------------|
| <br><b>Resolution</b> | TITLE    |    |  |            |
|                       | DRAWN    | FV | DATE   | JOB NO.    |
|                       | CHECKED  | RV | Dec-08                                       | 073-92548  |
|                       | REVIEWED | RV | SCALE  | na         |
|                       |          |    | FILE NO.                                     | FIGURE NO. |
|                       |          |    | Resolution Kinetic Testing (as Dec 22, 2008) | 42         |

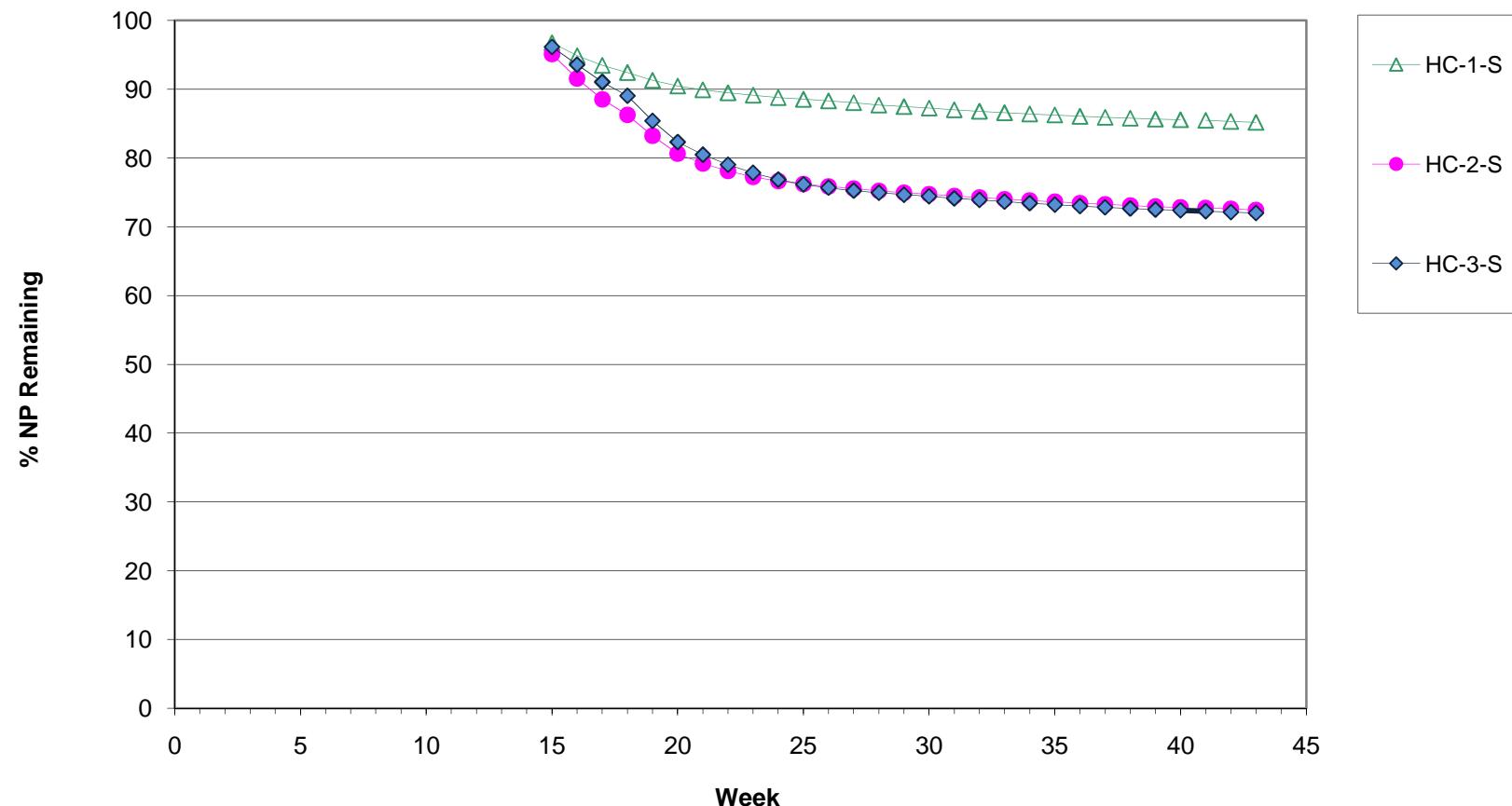


Note: Values below detectable limits shown at the detection limit.

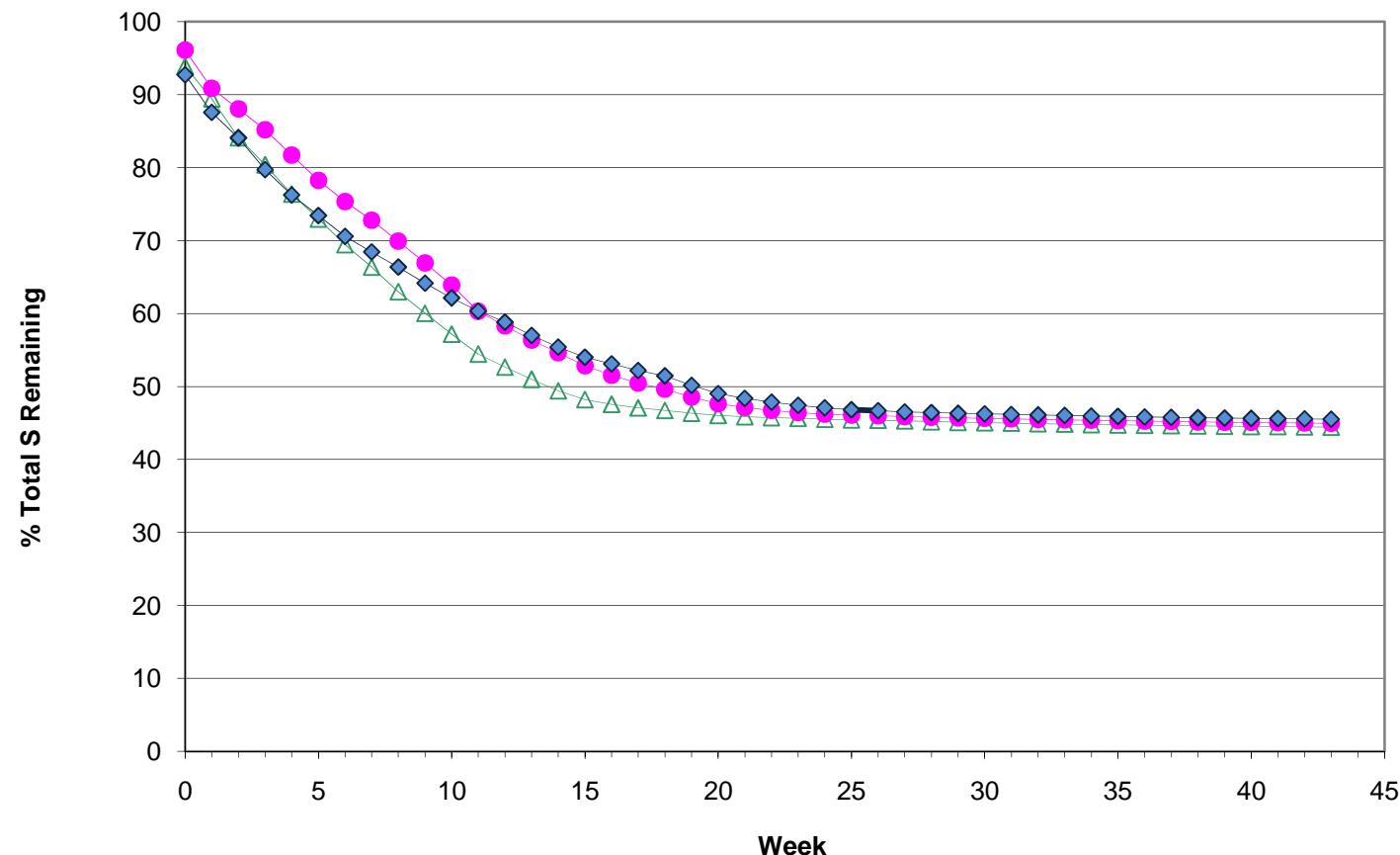
|  |          |    |  |            |
|--|----------|----|--|------------|
| <br><b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE    |    |  |            |
|  | DRAWN    | FV | DATE   | JOB NO.    |
|  | CHECKED  | RV | Dec-08                                       | 073-92548  |
|  | REVIEWED | RV | SCALE  | na         |
|  |          |    | FILE NO.                                     | FIGURE NO. |
|  |          |    | Resolution Kinetic Testing (as Dec 22, 2008) | 43         |



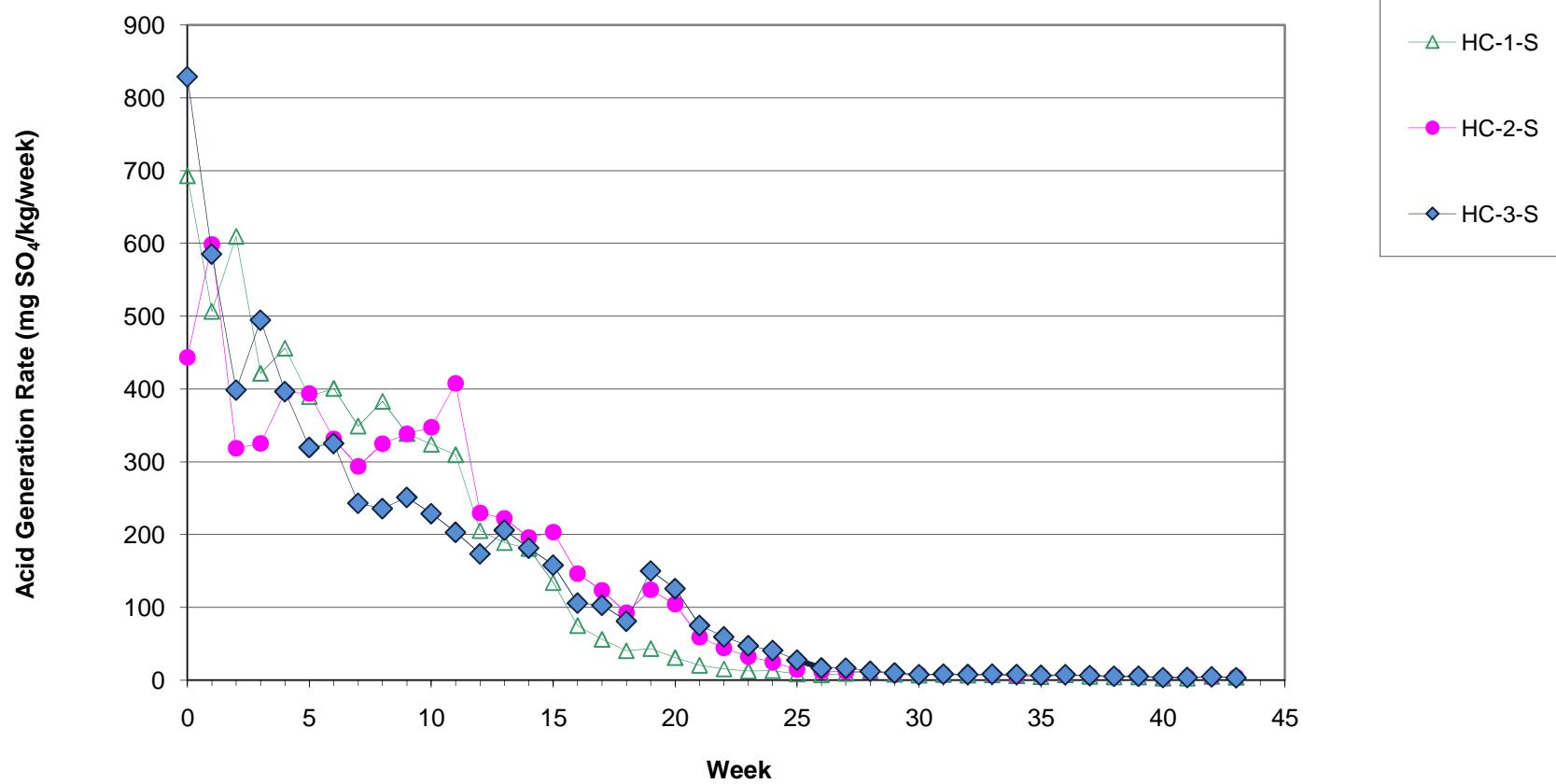
|   |  |                |  |                                   |
|---|--|----------------|--|-----------------------------------|
|  <b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE  |                |  |                                   |
|   | <b>Kinetic Testing Results - Sulfide Depletion</b> |                |  |                                   |
|   | DRAWN<br>CHECKED<br>REVIEWED                       | FV<br>RV<br>RV | DATE<br>SCALE<br>FILE NO.                | JOB NO.<br>DWG. NO.<br>FIGURE NO. |
|   |  |                | Jan-09<br>na<br>Depletion Calcs (Jan 09) | 073-92548<br>44                   |



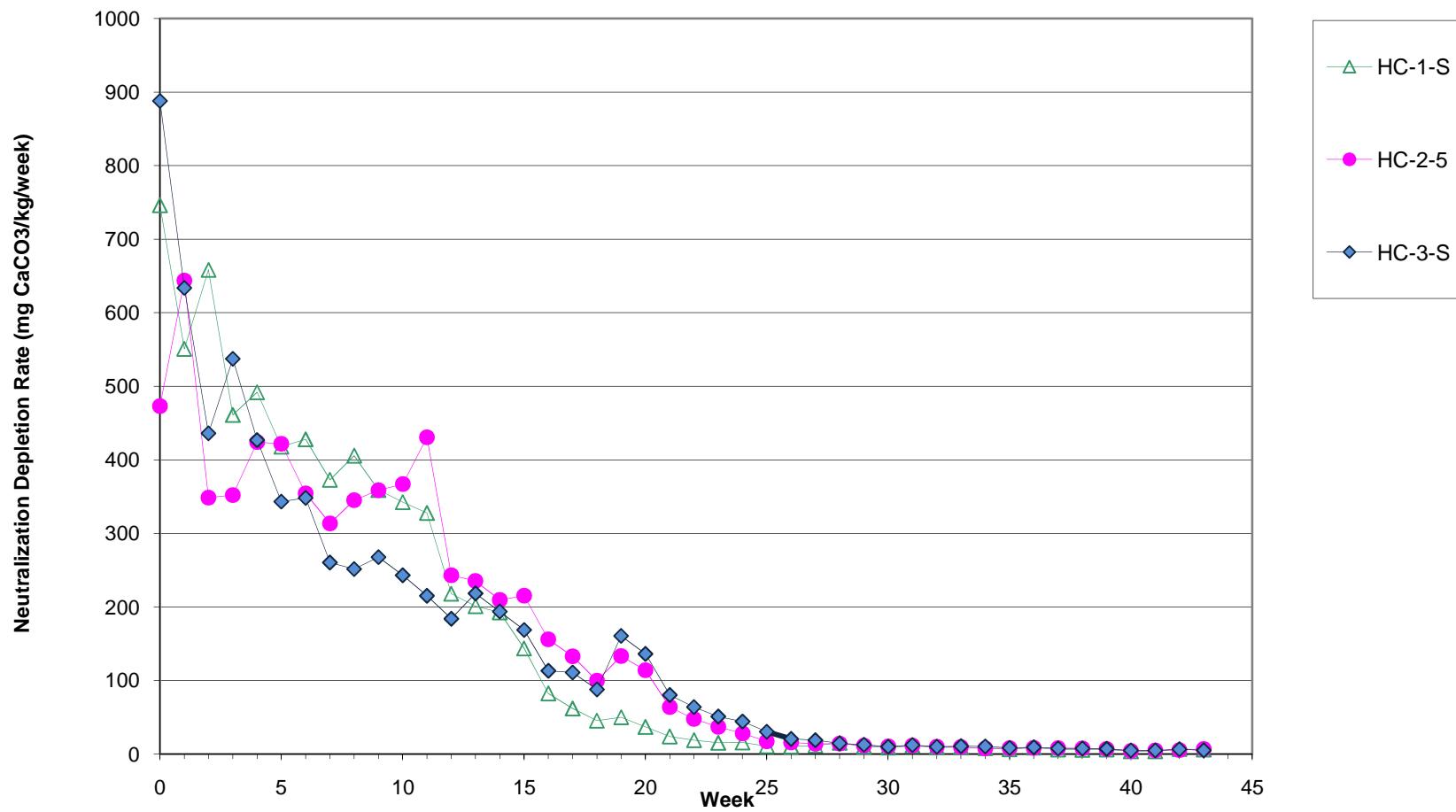
|   |   |                          |          |               |
|---|---|--------------------------|----------|---------------|
| <br><b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE   |                          |          |               |
|   | <b>Kinetic Testing Results - Neutralization Potential Depletion</b> |                          |          |               |
|   | DRAWN   | FV                       | DATE     | Jan-09        |
|   | CHECKED   | RV                       | SCALE    | na            |
| REVIEWED  |   | RV                       | FILE NO. | 073-92548     |
|   |   | Depletion Calcs (Jan 09) |          | FIGURE NO. 45 |



|  |          |    |            |                          |
|--|----------|----|------------|--------------------------|
| <br><b>Golder<br/>Associates</b><br><br><b>Resolution</b> | TITLE    |    |            |                          |
|  | DRAWN    | FV | DATE       | Jan-09                   |
|  | CHECKED  | RV | SCALE      | na                       |
|  | REVIEWED | RV | FILE NO.   | Depletion Calcs (Jan 09) |
|  |          |    | JOB NO.    | 073-92548                |
|  |          |    | DWG. NO.   |                          |
|  |          |    | FIGURE NO. | 46                       |



|  |  |                |  |                                   |
|--|--|----------------|--|-----------------------------------|
|  <b>Golder<br/>Associates</b> | TITLE  |                |  |                                   |
|  | <b>Kinetic Testing Results - Acid Generation Rates</b> |                |  |                                   |
| Resolution   | DRAWN<br>CHECKED<br>REVIEWED                           | FV<br>RV<br>RV | DATE<br>SCALE<br>FILE NO.                | JOB NO.<br>DWG. NO.<br>FIGURE NO. |
|  |  |                | Jan-09<br>na<br>Depletion Calcs (Jan 09) | 073-92548<br>47                   |



TITLE

## Kinetic Testing Results - Neutralization Depletion Rates

Resolution

|          |    |          |                          |            |           |
|----------|----|----------|--------------------------|------------|-----------|
| DRAWN    | FV | DATE     | Jan-09                   | JOB NO.    | 073-92548 |
| CHECKED  | RV | SCALE    | na                       | DWG. NO.   |           |
| REVIEWED | RV | FILE NO. | Depletion Calcs (Jan 09) | FIGURE NO. | 48        |

**APPENDIX A**

**ANALYTICAL RESULTS KINETIC TESTING**

**HC-1-S**

## Leachate Chemistry for HC-1-S

**CONFIDENTIAL**  
**DRAFT**

| Date Reporting Units | Cycle No. | Volume mL |        | pH   | Redox mV | Cond. umhos/cm | Acidity pH 4.5 mg CaCO3/L | Acidity pH 8.3 mg CaCO3/L | Alkalinity mgCaCO3/L | Sulphate mg/L | TDS mg/L | Cl mg/L | F mg/L | Hardness CaCO3 mg/L | Al mg/L | Sb mg/L | As mg/L | Ba mg/L | Be mg/L  | Bi mg/L   | B mg/L | Cd mg/L | Ca mg/L | Cr mg/L  | Co mg/L | Cu mg/L | Fe mg/L |
|----------------------|-----------|-----------|--------|------|----------|----------------|---------------------------|---------------------------|----------------------|---------------|----------|---------|--------|---------------------|---------|---------|---------|---------|----------|-----------|--------|---------|---------|----------|---------|---------|---------|
|                      |           | Input     | Output |      |          |                |                           |                           |                      |               |          |         |        |                     |         |         |         |         |          |           |        |         |         |          |         |         |         |
| 8-Feb-08             | 0         | 500       | 595    | 7.59 | 444      | 1901           | #N/A                      | 5.4                       | 40.0                 | 1165          | 1700     | 12.7    | 1.95   | 1250                | 0.0141  | 0.00023 | 0.0002  | 0.0101  | 1E-05    | :0.00000: | 0.02   | 1E-04   | 482     | <0.0001  | 0.0009  | 0.0043  | 0.003   |
| 12-Feb-08            | 1         | 500       | 430    | 7.66 | 414      | 1880           | #N/A                      | 10.1                      | 52.5                 | 1179          | 1700     | 4.7     | 2      | 1190                | 0.0091  | 0.0002  | 0.0002  | 0.0113  | 1E-05    | :0.00000: | 0.02   | 1E-04   | 462     | <0.0001  | 0.0011  | 0.0054  | 0.005   |
| 19-Feb-08            | 2         | 500       | 520    | 7.64 | 407      | 1623           | #N/A                      | 6.8                       | 43.4                 | 1173          | #N/A     | #N/A    | #N/A   | 1170                | 0.009   | <0.0005 | 0.0002  | 0.01    | <0.0001  | <0.001    | 0.015  | 0.0001  | 459     | <0.001   | 0.0012  | 0.0051  | 0.006   |
| 26-Feb-08            | 3         | 500       | 515    | 7.33 | 387      | 1380           | #N/A                      | 7.2                       | 41.4                 | 819           | #N/A     | #N/A    | #N/A   | 906                 | 0.013   | <0.0005 | 0.0003  | 0.01    | <0.0001  | <0.001    | 0.011  | 0.0001  | 357     | <0.001   | 0.0019  | 0.0052  | <0.005  |
| 4-Mar-08             | 4         | 500       | 460    | 7.10 | 372      | 1701           | #N/A                      | 9.1                       | 35.4                 | 992           | #N/A     | #N/A    | #N/A   | 965                 | 0.022   | <0.0005 | 0.0003  | 0.012   | <0.0001  | <0.001    | 0.011  | 0.0001  | 380     | <0.001   | 0.0026  | 0.0202  | 0.016   |
| 11-Mar-08            | 5         | 500       | 415    | 7.38 | 438      | 1593           | #N/A                      | 5.4                       | 28.1                 | 939           | 1400     | <0.5    | 3.8    | 947                 | 0.0097  | 0.00021 | 0.0004  | 0.011   | <0.00001 | :0.00000: | 0.008  | 0.0002  | 374     | 0.0003   | 0.0033  | 0.0277  | 0.008   |
| 18-Mar-08            | 6         | 500       | 420    | 7.31 | 438      | 1523           | #N/A                      | 5.4                       | 23.4                 | 955           | #N/A     | #N/A    | #N/A   | 1160                | 0.007   | <0.0005 | 0.0009  | 0.01    | <0.0001  | <0.001    | 0.007  | 0.0002  | 461     | <0.001   | 0.004   | 0.0203  | 0.006   |
| 25-Mar-08            | 7         | 500       | 420    | 7.28 | 435      | 1426           | #N/A                      | 4.7                       | 20.6                 | 832           | #N/A     | #N/A    | #N/A   | 945                 | 0.009   | <0.0005 | 0.0003  | 0.01    | <0.0001  | <0.001    | 0.01   | 0.0002  | 374     | <0.001   | 0.0048  | 0.0331  | 0.011   |
| 1-Apr-08             | 8         | 500       | 410    | 7.22 | 450      | 1434           | #N/A                      | 4.1                       | 15.2                 | 935           | #N/A     | #N/A    | #N/A   | 1100                | 0.006   | <0.0005 | 0.0007  | 0.01    | <0.0001  | <0.001    | 0.008  | 0.0003  | 434     | <0.001   | 0.0057  | 0.0183  | 0.008   |
| 8-Apr-08             | 9         | 500       | 420    | 7.28 | 418      | 1450           | #N/A                      | 4.6                       | 13.7                 | 807           | #N/A     | #N/A    | #N/A   | 827                 | 0.024   | <0.0005 | 0.0004  | 0.013   | 0.0001   | <0.001    | 0.059  | 0.0003  | 326     | <0.001   | 0.0075  | 0.0849  | 0.324   |
| 15-Apr-08            | 10        | 500       | 400    | 7.03 | 438      | 1533           | #N/A                      | 5.3                       | 10.9                 | 811           | 1300     | <0.5    | 1.8    | 1010                | 0.0078  | 0.00019 | 0.0003  | 0.0146  | <0.00001 | :0.00000: | <0.05  | 0.0005  | 400     | 0.0002   | 0.0088  | 0.0447  | 0.042   |
| 22-Apr-08            | 11        | 500       | 430    | 7.20 | 425      | 1274           | #N/A                      | 5.1                       | 10.8                 | 721           | #N/A     | #N/A    | #N/A   | 785                 | 0.007   | <0.0005 | 0.0002  | 0.013   | <0.0001  | <0.001    | <0.05  | 0.0005  | 309     | <0.001   | 0.0089  | 0.0374  | 0.031   |
| 29-Apr-08            | 12        | 500       | 400    | 7.14 | 409      | 958            | #N/A                      | 3.4                       | 9.0                  | 514           | #N/A     | #N/A    | #N/A   | 587                 | 0.005   | <0.0005 | 0.0002  | 0.013   | <0.0001  | <0.001    | <0.05  | 0.0004  | 230     | <0.001   | 0.0078  | 0.0262  | <0.005  |
| 6-May-08             | 13        | 500       | 440    | 7.05 | 357      | 889            | #N/A                      | 4.8                       | 8.7                  | 530           | #N/A     | #N/A    | #N/A   | 474                 | 0.006   | <0.0005 | 0.0003  | 0.015   | <0.0001  | <0.001    | 0.054  | 0.0004  | 185     | <0.001   | 0.0069  | 0.0235  | 0.019   |
| 13-May-08            | 14        | 500       | 450    | 7.14 | 350      | 693            | #N/A                      | 4.4                       | 9.2                  | 402           | #N/A     | #N/A    | #N/A   | 380                 | 0.008   | <0.0005 | <0.0001 | 0.014   | <0.0001  | <0.001    | <0.05  | 0.0004  | 148     | <0.001   | 0.0079  | 0.0226  | <0.005  |
| 20-May-08            | 15        | 500       | 440    | 7.24 | 298      | 560            | #N/A                      | 4.4                       | 8.1                  | 305           | 420      | <0.5    | 2.68   | 294                 | 0.0019  | 0.00069 | 0.0005  | 0.0195  | 1E-05    | :0.00000: | <0.05  | 0.0003  | 113     | <0.0001  | 0.0063  | 0.0234  | 0.003   |
| 27-May-08            | 16        | 500       | 445    | 7.09 | 392      | 350            | #N/A                      | 3.9                       | 9.3                  | 169           | #N/A     | #N/A    | #N/A   | 205                 | 0.004   | <0.0005 | 0.0002  | 0.017   | <0.0001  | <0.001    | <0.05  | 0.0003  | 78.7    | <0.001   | 0.0058  | 0.0247  | <0.005  |
| 3-Jun-08             | 17        | 500       | 450    | 6.97 | 421      | 272            | #N/A                      | 4.8                       | 6.9                  | 125           | #N/A     | #N/A    | #N/A   | 146                 | 0.004   | <0.0005 | 0.0001  | 0.02    | <0.0001  | <0.001    | <0.05  | 0.0002  | 55.9    | <0.001   | 0.0049  | 0.021   | <0.005  |
| 10-Jun-08            | 18        | 500       | 435    | 6.98 | 385      | 198            | #N/A                      | 4.7                       | 7.2                  | 93            | #N/A     | #N/A    | #N/A   | 112                 | 0.003   | <0.0005 | <0.0001 | 0.022   | <0.0001  | <0.001    | <0.05  | 0.0002  | 42.7    | <0.001   | 0.0043  | 0.0192  | 0.008   |
| 17-Jun-08            | 19        | 500       | 490    | 7.03 | 267      | 156            | #N/A                      | 5.5                       | 9.3                  | 89            | #N/A     | #N/A    | #N/A   | 91.3                | 0.004   | <0.0005 | 0.0001  | 0.025   | <0.0001  | <0.001    | <0.05  | 0.0002  | 34.4    | <0.001   | 0.0045  | 0.0233  | <0.005  |
| 24-Jun-08            | 20        | 500       | 470    | 7.05 | 266      | 121            | #N/A                      | 6.2                       | 9.5                  | 66            | 120      | <0.5    | 3.05   | 71.6                | 0.0072  | 0.00012 | 0.0001  | 0.027   | 2E-05    | :0.00000: | <0.05  | 0.0002  | 26.6    | 0.0002   | 0.0043  | 0.0238  | 0.044   |
| 1-Jul-08             | 21        | 500       | 460    | 7.00 | 377      | 115            | #N/A                      | 3.1                       | 4.9                  | 45            | #N/A     | #N/A    | #N/A   | 50.6                | 0.005   | <0.0005 | 0.0001  | 0.024   | <0.0001  | <0.001    | <0.05  | 0.0002  | 18.8    | <0.001   | 0.0032  | 0.0166  | 0.014   |
| 8-Jul-08             | 22        | 500       | 445    | 6.95 | 267      | 118            | #N/A                      | 4.0                       | 6.0                  | 35            | #N/A     | #N/A    | #N/A   | 44.3                | 0.007   | <0.0005 | 0.0001  | 0.025   | <0.0001  | <0.001    | <0.05  | 0.0003  | 16.3    | <0.001   | 0.0033  | 0.0169  | <0.005  |
| 15-Jul-08            | 23        | 500       | 430    | 6.87 | 359      | 95             | #N/A                      | 3.6                       | 3.9                  | 30            | #N/A     | #N/A    | #N/A   | 38.7                | 0.01    | <0.0005 | 0.0001  | 0.027   | <0.0001  | <0.001    | <0.05  | 0.0002  | 14.2    | <0.001   | 0.0032  | 0.0164  | <0.005  |
| 22-Jul-08            | 24        | 500       | 450    | 6.89 | 364      | 87             | #N/A                      | 3.1                       | 4.3                  | 29            | #N/A     | #N/A    | #N/A   | 36.3                | 0.004   | <0.0005 | 0.0007  | 0.026   | <0.0001  | <0.001    | <0.05  | 0.0002  | 13.3    | <0.001</ |         |         |         |

## Leachate Chemistry for HC-1-S

| Date Reporting Units | Cycle No. | Pb mg/L | Li mg/L | Mg mg/L | Mn mg/L | Hg ug/L | Mo mg/L | Ni mg/L | P mg/L | K mg/L | Se mg/L | Si mg/L | Ag mg/L  | Na mg/L | Sr mg/L | S mg/L | Tl mg/L  | Sn mg/L | Ti mg/L | U mg/L  | V mg/L  | Zn mg/L | Zr mg/L | Major Anions | Major Cations | Diff  | Diff (%) |
|----------------------|-----------|---------|---------|---------|---------|---------|---------|---------|--------|--------|---------|---------|----------|---------|---------|--------|----------|---------|---------|---------|---------|---------|---------|--------------|---------------|-------|----------|
| 8-Feb-08             | 0         | 4E-05   | 0.0047  | 11.2    | 0.259   | <0.01   | 0.0488  | 0.0029  | <0.002 | 32.3   | 0.0025  | 1.37    | 9E-06    | 8.36    | 2.07    | 406    | 8E-05    | 0.0012  | <0.0005 | 0.0022  | <0.0002 | 0.0043  | <0.0001 | 25.53        | 26.16         | 0.63  | 1.2%     |
| 12-Feb-08            | 1         | 3E-05   | 0.005   | 9       | 0.302   | <0.01   | 0.0443  | 0.0022  | 0.002  | 27.8   | 0.0011  | 2.03    | 7E-06    | 4.25    | 1.9     | 396    | 6E-05    | 0.0002  | 0.0009  | 0.0021  | 0.0002  | 0.004   | <0.0001 | 25.85        | 24.69         | -1.16 | -2.3%    |
| 19-Feb-08            | 2         | <0.0002 | #N/A    | 6.65    | 0.338   | #N/A    | 0.034   | 0.002   | <0.01  | 21.9   | 0.0009  | 2.29    | <0.00002 | 2.23    | 1.69    | 388    | <0.00005 | <0.005  | <0.005  | 0.0015  | <0.005  | 0.005   | <0.0005 | 25.30        | 24.11         | -1.20 | -2.4%    |
| 26-Feb-08            | 3         | <0.0002 | #N/A    | 3.74    | 0.374   | #N/A    | 0.029   | 0.002   | <0.01  | 15.3   | 0.0033  | 2.89    | <0.00002 | 0.81    | 1.12    | 302    | 8E-05    | <0.005  | <0.005  | 0.0011  | <0.005  | <0.005  | <0.0005 | 17.89        | 18.55         | 0.66  | 1.8%     |
| 4-Mar-08             | 4         | <0.0002 | #N/A    | 3.93    | 0.523   | #N/A    | 0.042   | 0.002   | <0.01  | 15.7   | 0.0077  | 1.56    | <0.00002 | 0.66    | 1.24    | 328    | 9E-05    | <0.005  | <0.005  | 0.0009  | <0.005  | <0.005  | <0.0005 | 21.38        | 19.72         | -1.66 | -4.0%    |
| 11-Mar-08            | 5         | 2E-05   | 0.0067  | 3.4     | 0.659   | 0.01    | 0.0413  | 0.0018  | <0.002 | 16.1   | 0.0048  | 2.07    | <0.00000 | 0.42    | 1.21    | 352    | 0.0001   | 4E-05   | <0.0005 | 0.0007  | <0.0002 | 0.0054  | <0.0001 | 20.32        | 19.37         | -0.95 | -2.4%    |
| 18-Mar-08            | 6         | <0.0002 | #N/A    | 2.78    | 0.951   | #N/A    | 0.041   | 0.002   | <0.01  | 17.9   | 0.0042  | 1.8     | <0.00002 | 0.24    | 1.17    | 355    | 0.0001   | <0.005  | <0.005  | 0.0005  | <0.005  | 0.009   | <0.0005 | 20.36        | 23.70         | 3.34  | 7.6%     |
| 25-Mar-08            | 7         | <0.0002 | #N/A    | 2.61    | 1.06    | #N/A    | 0.036   | 0.002   | <0.01  | 14     | 0.003   | 2.61    | <0.00002 | 0.26    | 1.01    | 327    | 0.0001   | <0.005  | <0.005  | 0.0003  | <0.005  | 0.011   | <0.0005 | 17.74        | 19.25         | 1.50  | 4.1%     |
| 1-Apr-08             | 8         | <0.0002 | #N/A    | 2.89    | 1.27    | #N/A    | 0.039   | 0.002   | 0.023  | 15.6   | 0.0023  | 2.04    | <0.00002 | 0.35    | 1.13    | 368    | 0.0001   | <0.005  | <0.005  | 0.0003  | <0.005  | 0.01    | <0.0005 | 19.78        | 22.31         | 2.53  | 6.0%     |
| 8-Apr-08             | 9         | <0.0002 | #N/A    | 2.8     | 1.5     | #N/A    | 0.027   | 0.003   | <0.01  | 11.8   | 0.0028  | 2.16    | <0.00002 | 0.23    | 0.845   | 295    | 0.0001   | <0.005  | 0.016   | <0.0001 | <0.005  | 0.021   | <0.0005 | 17.09        | 16.81         | -0.28 | -0.8%    |
| 15-Apr-08            | 10        | 8E-05   | 0.0098  | 3.72    | 2.14    | 0.01    | 0.0265  | 0.0025  | <0.002 | 13     | 0.0028  | 2.82    | <0.00000 | 0.19    | 0.973   | 333    | 0.0001   | 3E-05   | <0.0005 | 5E-05   | <0.0002 | 0.017   | <0.0001 | 17.11        | 20.61         | 3.49  | 9.3%     |
| 22-Apr-08            | 11        | <0.0002 | #N/A    | 3.61    | 2.1     | #N/A    | 0.02    | 0.003   | <0.01  | 11     | 0.0021  | 2.61    | <0.00002 | 0.18    | 0.704   | 243    | 0.0001   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.019   | <0.0005 | 15.24        | 16.01         | 0.77  | 2.5%     |
| 29-Apr-08            | 12        | <0.0002 | #N/A    | 2.93    | 1.75    | #N/A    | 0.018   | 0.002   | <0.01  | 8.76   | 0.0016  | 2.44    | <0.00002 | <0.05   | 0.525   | 191    | 0.0001   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.015   | <0.0005 | 10.89        | 11.94         | 1.05  | 4.6%     |
| 6-May-08             | 13        | <0.0002 | #N/A    | 2.91    | 1.64    | #N/A    | 0.019   | 0.002   | <0.01  | 8.14   | 0.002   | 2.65    | <0.00002 | 1.01    | 0.48    | 155    | 0.0001   | <0.005  | 0.006   | <0.0001 | <0.005  | 0.015   | <0.0005 | 11.21        | 9.68          | -1.54 | -7.3%    |
| 13-May-08            | 14        | <0.0002 | #N/A    | 2.83    | 1.57    | #N/A    | 0.018   | 0.008   | <0.01  | 7.18   | 0.0016  | 2.65    | <0.00002 | 0.22    | 0.403   | 126    | 8E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.015   | <0.0005 | 8.56         | 7.80          | -0.76 | -4.6%    |
| 20-May-08            | 15        | 2E-05   | 0.008   | 2.67    | 1.33    | <0.01   | 0.0204  | 0.0017  | <0.002 | 6.9    | 0.002   | 3.61    | 7E-06    | 0.19    | 0.331   | 97     | 1E-04    | 2E-05   | <0.0005 | 3E-05   | <0.0002 | 0.0122  | <0.0001 | 6.52         | 6.03          | -0.48 | -3.8%    |
| 27-May-08            | 16        | <0.0002 | #N/A    | 1.98    | 1.12    | #N/A    | 0.016   | 0.001   | <0.01  | 5.68   | 0.0014  | 2.66    | <0.00002 | 0.13    | 0.241   | 64     | 7E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.014   | <0.0005 | 3.71         | 4.24          | 0.53  | 6.7%     |
| 3-Jun-08             | 17        | <0.0002 | #N/A    | 1.6     | 0.963   | #N/A    | 0.017   | 0.002   | <0.01  | 4.65   | 0.0012  | 2.54    | <0.00002 | 0.13    | 0.199   | 47     | 7E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.012   | <0.0005 | 2.74         | 3.04          | 0.30  | 5.1%     |
| 10-Jun-08            | 18        | <0.0002 | #N/A    | 1.37    | 0.841   | #N/A    | 0.016   | 0.001   | <0.01  | 4.38   | 0.001   | 2.43    | <0.00002 | 0.07    | 0.162   | 35     | 6E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.009   | <0.0005 | 2.08         | 2.36          | 0.27  | 6.2%     |
| 17-Jun-08            | 19        | <0.0002 | #N/A    | 1.31    | 0.846   | #N/A    | 0.013   | 0.001   | <0.01  | 4.04   | 0.001   | 2.77    | <0.00002 | 0.11    | 0.152   | 29     | 6E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.011   | <0.0005 | 2.04         | 1.93          | -0.11 | -2.8%    |
| 24-Jun-08            | 20        | 5E-05   | 0.0055  | 1.23    | 0.713   | <0.01   | 0.0126  | 0.0012  | 0.002  | 3.48   | 0.001   | 2.66    | <0.00000 | 0.11    | 0.121   | 21     | 6E-05    | 4E-05   | <0.0005 | 9E-06   | <0.0002 | 0.011   | <0.0001 | 1.56         | 1.52          | -0.05 | -1.5%    |
| 1-Jul-08             | 21        | <0.0002 | #N/A    | 0.92    | 0.582   | #N/A    | 0.012   | 0.001   | <0.01  | 3.28   | 0.0011  | 2.97    | <0.00002 | 0.11    | 0.094   | 15     | 5E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.008   | <0.0005 | 1.03         | 1.10          | 0.06  | 3.0%     |
| 8-Jul-08             | 22        | <0.0002 | #N/A    | 0.89    | 0.577   | #N/A    | 0.011   | <0.001  | <0.01  | 2.83   | 0.0013  | 2.53    | <0.00002 | 0.08    | 0.087   | 12     | <0.00005 | <0.005  | <0.005  | <0.0001 | <0.005  | 0.015   | <0.0005 | 0.85         | 0.96          | 0.11  | 6.1%     |
| 15-Jul-08            | 23        | <0.0002 | #N/A    | 0.8     | 0.55    | #N/A    | 0.012   | 0.001   | <0.01  | 2.7    | 0.0011  | 2.7     | <0.00002 | 0.08    | 0.084   | 11     | <0.00005 | <0.005  | <0.005  | <0.0001 | <0.005  | 0.01    | <0.0005 | 0.70         | 0.84          | 0.14  | 9.1%     |
| 22-Jul-08            | 24        | <0.0002 | #N/A    | 0.78    | 0.576   | #N/A    | 0.011   | 0.001   | <0.01  | 2.58   | 0.0009  | 3.7     | <0.00002 | 0.1     | 0.075   | 9      | <0.00005 | <0.005  | <0.005  | <0      |         |         |         |              |               |       |          |

**HC-2-S**

## Leachate Chemistry for HC-2-S

CONFIDENTIAL  
DRAFT

| Date Reporting Units | Cycle No. | Volume mL |        | pH   | Redox mV | Cond. umhos/cm | Acidity pH 4.5 mg CaCO3/L | Acidity pH 8.3 mg CaCO3/L | Alkalinity mgCaCO3/L | Sulphate mg/L | TDS mg/L | Cl mg/L | F mg/L | Hardness mg/L | Al mg/L | Sb mg/L | As mg/L | Ba mg/L | Be mg/L   | Bi mg/L   | B mg/L | Cd mg/L | Ca mg/L | Cr mg/L | Co mg/L | Cu mg/L | Fe mg/L |
|----------------------|-----------|-----------|--------|------|----------|----------------|---------------------------|---------------------------|----------------------|---------------|----------|---------|--------|---------------|---------|---------|---------|---------|-----------|-----------|--------|---------|---------|---------|---------|---------|---------|
|                      |           | Input     | Output |      |          |                |                           |                           |                      |               |          |         |        |               |         |         |         |         |           |           |        |         |         |         |         |         |         |
| 8-Feb-08             | 0         | 500       | 490    | 7.39 | 452      | 1506           | #N/A                      | 4.2                       | 22.5                 | 905           | 1300     | 8.5     | 1.52   | 936           | 0.0172  | 0.00015 | 0.0003  | 0.0101  | <0.0001   | 0.000001  | 0.012  | 6E-05   | 363     | <0.0001 | 0.0004  | 0.0035  | 0.004   |
| 12-Feb-08            | 1         | 500       | 485    | 7.63 | 423      | 1884           | #N/A                      | 9.4                       | 41.1                 | 1234          | 1700     | 8       | 2.15   | 1250          | 0.0089  | 0.00026 | 0.0006  | 0.0108  | <0.0001   | 0.000001  | 0.017  | 0.0001  | 485     | <0.0001 | 0.0018  | 0.0141  | 0.004   |
| 19-Feb-08            | 2         | 500       | 515    | 7.63 | 411      | 1156           | #N/A                      | 6.1                       | 32.1                 | 619           | #N/A     | #N/A    | #N/A   | 765           | 0.011   | <0.0005 | 0.0004  | 0.009   | <0.0001   | <0.001    | 0.01   | 0.0001  | 297     | <0.001  | 0.0018  | 0.0265  | 0.005   |
| 26-Feb-08            | 3         | 500       | 450    | 7.60 | 390      | 1349           | #N/A                      | 6.2                       | 28.5                 | 723           | #N/A     | #N/A    | #N/A   | 868           | 0.012   | <0.0005 | 0.0005  | 0.012   | <0.0001   | <0.001    | 0.012  | 0.0001  | 339     | <0.001  | 0.0016  | 0.0083  | <0.005  |
| 4-Mar-08             | 4         | 500       | 395    | 7.53 | 371      | 1665           | #N/A                      | 8.1                       | 29.6                 | 1002          | #N/A     | #N/A    | #N/A   | 978           | 0.014   | <0.0005 | 0.0006  | 0.017   | <0.0001   | <0.001    | 0.01   | 0.0002  | 382     | <0.001  | 0.0025  | 0.0403  | 0.01    |
| 11-Mar-08            | 5         | 500       | 445    | 7.53 | 428      | 1485           | #N/A                      | 5.4                       | 25.2                 | 885           | 1300     | <0.5    | 3.9    | 875           | 0.0132  | 0.00024 | 0.0005  | 0.0133  | <0.0001   | 0.000001  | 0.009  | 0.0002  | 342     | <0.0001 | 0.0027  | 0.0238  | 0.009   |
| 18-Mar-08            | 6         | 500       | 425    | 7.56 | 422      | 1259           | #N/A                      | 5.0                       | 21.1                 | 780           | #N/A     | #N/A    | #N/A   | 964           | 0.009   | <0.0005 | 0.0009  | 0.01    | <0.0001   | <0.001    | 0.007  | 0.0002  | 380     | <0.001  | 0.0028  | 0.0119  | <0.005  |
| 25-Mar-08            | 7         | 500       | 415    | 7.43 | 422      | 1246           | #N/A                      | 4.5                       | 17.5                 | 708           | #N/A     | #N/A    | #N/A   | 802           | 0.008   | <0.0005 | 0.0004  | 0.011   | <0.0001   | <0.001    | 0.01   | 0.0002  | 317     | <0.001  | 0.0032  | 0.0245  | 0.007   |
| 1-Apr-08             | 8         | 500       | 420    | 7.42 | 438      | 1407           | #N/A                      | 4.2                       | 15.0                 | 774           | #N/A     | #N/A    | #N/A   | 818           | 0.01    | <0.0005 | 0.0012  | 0.012   | <0.0001   | <0.001    | 0.053  | 0.0003  | 323     | <0.001  | 0.0038  | 0.0277  | 0.03    |
| 8-Apr-08             | 9         | 500       | 385    | 7.50 | 413      | 1635           | #N/A                      | 4.4                       | 15.8                 | 879           | #N/A     | #N/A    | #N/A   | 958           | 0.005   | <0.0005 | 0.0005  | 0.015   | <0.0001   | <0.001    | 0.057  | 0.0004  | 379     | <0.001  | 0.0058  | 0.0266  | 0.012   |
| 15-Apr-08            | 10        | 500       | 385    | 7.29 | 425      | 1627           | #N/A                      | 5.9                       | 12.8                 | 903           | 1400     | <0.5    | 2.1    | 1120          | 0.0068  | 0.00023 | 0.0004  | 0.0152  | <0.0001   | 0.000001  | <0.05  | 0.0005  | 445     | 0.0003  | 0.0078  | 0.0309  | 0.024   |
| 22-Apr-08            | 11        | 500       | 460    | 7.35 | 425      | 1361           | #N/A                      | 5.6                       | 12.6                 | 886           | #N/A     | #N/A    | #N/A   | 806           | 0.006   | <0.0005 | 0.0003  | 0.014   | <0.0001   | <0.001    | <0.05  | 0.0005  | 318     | <0.001  | 0.0071  | 0.024   | 0.008   |
| 29-Apr-08            | 12        | 500       | 420    | 7.36 | 406      | 1027           | #N/A                      | 3.6                       | 9.0                  | 547           | #N/A     | #N/A    | #N/A   | 622           | 0.039   | <0.0005 | 0.0003  | 0.012   | <0.0001   | <0.001    | <0.05  | 0.0004  | 245     | <0.001  | 0.0061  | 0.0316  | 0.034   |
| 6-May-08             | 13        | 500       | 400    | 7.22 | 366      | 1056           | #N/A                      | 4.6                       | 9.0                  | 556           | #N/A     | #N/A    | #N/A   | 598           | 0.005   | <0.0005 | 0.0003  | 0.014   | <0.0001   | <0.001    | <0.05  | 0.0005  | 235     | <0.001  | 0.0062  | 0.0208  | 0.012   |
| 13-May-08            | 14        | 500       | 470    | 7.49 | 351      | 842            | #N/A                      | 4.7                       | 11.2                 | 419           | #N/A     | #N/A    | #N/A   | 490           | 0.006   | <0.0005 | 0.0002  | 0.012   | <0.0001   | <0.001    | <0.05  | 0.0004  | 192     | <0.001  | 0.0074  | 0.0276  | 0.011   |
| 20-May-08            | 15        | 500       | 455    | 7.40 | 315      | 771            | #N/A                      | 3.6                       | 7.8                  | 447           | 620      | <0.5    | 2.72   | 444           | 0.0008  | 0.00037 | 0.0004  | 0.0151  | <0.0001   | 0.000001  | <0.05  | 0.0004  | 173     | <0.0001 | 0.0066  | 0.0225  | 0.002   |
| 27-May-08            | 16        | 500       | 415    | 7.31 | 401      | 597            | #N/A                      | 3.9                       | 8.2                  | 353           | #N/A     | #N/A    | #N/A   | 365           | 0.005   | <0.0005 | 0.0002  | 0.015   | <0.0001   | <0.001    | <0.05  | 0.0004  | 142     | <0.001  | 0.0061  | 0.0233  | 0.006   |
| 3-Jun-08             | 17        | 500       | 490    | 7.33 | 427      | 450            | #N/A                      | 4.7                       | 8.5                  | 252           | #N/A     | #N/A    | #N/A   | 266           | 0.004   | <0.0005 | 0.0002  | 0.016   | <0.0001   | <0.001    | <0.05  | 0.0004  | 104     | <0.001  | 0.0061  | 0.0251  | <0.005  |
| 10-Jun-08            | 18        | 500       | 460    | 7.26 | 395      | 343            | #N/A                      | 4.9                       | 6.6                  | 202           | #N/A     | #N/A    | #N/A   | 231           | 0.006   | <0.0005 | 0.0001  | 0.016   | <0.0001   | <0.001    | <0.05  | 0.0003  | 89.9    | <0.001  | 0.0048  | 0.0203  | 0.012   |
| 17-Jun-08            | 19        | 500       | 460    | 7.38 | 280      | 403            | #N/A                      | 5.8                       | 8.8                  | 270           | #N/A     | #N/A    | #N/A   | 285           | 0.004   | <0.0005 | 0.0002  | 0.027   | <0.0001   | <0.001    | <0.05  | 0.0004  | 111     | <0.001  | 0.0068  | 0.0303  | <0.005  |
| 24-Jun-08            | 20        | 500       | 470    | 7.39 | 276      | 346            | #N/A                      | 7                         | 10                   | 223           | 360      | <0.5    | 2.69   | 238           | 0.0042  | 0.00012 | 0.0002  | 0.0268  | 1E-05     | <0.000001 | <0.05  | 0.0004  | 91.8    | 0.0001  | 0.0071  | 0.0313  | 0.02    |
| 1-Jul-08             | 21        | 500       | 470    | 7.03 | 391      | 268            | #N/A                      | 3                         | 5                    | 126           | #N/A     | #N/A    | #N/A   | 130           | 0.005   | <0.0005 | 0.0002  | 0.017   | <0.0001   | <0.001    | <0.05  | 0.0003  | 49.8    | <0.001  | 0.004   | 0.0227  | 0.02    |
| 8-Jul-08             | 22        | 500       | 455    | 7.08 | 282      | 253            | #N/A                      | 4.1                       | 4.3                  | 97            | #N/A     | #N/A    | #N/A   | 107           | 0.004   | <0.0005 | 0.0002  | 0.017   | <0.0001   | <0.001    | <0.05  | 0.0003  | 40.9    | <0.001  | 0.0041  | 0.0198  | <0.005  |
| 15-Jul-08            | 23        | 500       | 430    | 7.33 | 373      | 186            | #N/A                      | 3.2                       | 8.2                  | 75            | #N/A     | #N/A    | #N/A   | 76.4          | 0.005   | <0.0005 | 0.0002  | 0.019   | <0.0001</ |           |        |         |         |         |         |         |         |

## Leachate Chemistry for HC-2-S

| Date Reporting Units | Cycle No. | Pb mg/L | Li mg/L | Mg mg/L | Mn mg/L | Hg ug/L | Mo mg/L | Ni mg/L | P mg/L | K mg/L | Se mg/L | Si mg/L | Ag mg/L  | Na mg/L | Sr mg/L | S mg/L | Tl mg/L  | Sn mg/L | Ti mg/L | U mg/L  | V mg/L  | Zn mg/L | Zr mg/L | Major Anions | Major Cations | Diff  | Diff (%) |
|----------------------|-----------|---------|---------|---------|---------|---------|---------|---------|--------|--------|---------|---------|----------|---------|---------|--------|----------|---------|---------|---------|---------|---------|---------|--------------|---------------|-------|----------|
| 8-Feb-08             | 0         | 2E-05   | 0.0032  | 6.94    | 0.134   | <0.01   | 0.0283  | 0.0017  | <0.002 | 22.9   | 0.0011  | 1.02    | <0.00000 | 6.07    | 1.36    | 307    | 5E-05    | 0.0006  | <0.0005 | 0.0012  | <0.0002 | 0.0034  | <0.0001 | 19.62        | 19.53         | -0.09 | -0.2%    |
| 12-Feb-08            | 1         | 1E-05   | 0.0054  | 10.5    | 0.309   | <0.01   | 0.0472  | 0.0023  | 0.002  | 32     | 0.0015  | 1.9     | <0.00000 | 6.48    | 1.93    | 425    | 0.0001   | 0.0001  | 0.0008  | 0.0022  | 0.0002  | 0.0047  | <0.0001 | 26.87        | 26.17         | -0.70 | -1.3%    |
| 19-Feb-08            | 2         | <0.0002 | #N/A    | 5.44    | 0.245   | #N/A    | 0.025   | 0.002   | <0.01  | 17.8   | 0.0013  | 1.39    | <0.00002 | 2.57    | 1.1     | 253    | 7E-05    | <0.005  | <0.005  | 0.0009  | <0.005  | <0.005  | <0.0005 | 13.54        | 15.84         | 2.30  | 7.8%     |
| 26-Feb-08            | 3         | <0.0002 | #N/A    | 5.38    | 0.31    | #N/A    | 0.037   | 0.001   | <0.01  | 17.7   | 0.0042  | 2.33    | <0.00002 | 1.73    | 1.2     | 289    | 0.0001   | <0.005  | <0.005  | 0.0007  | <0.005  | 0.009   | <0.0005 | 15.63        | 17.89         | 2.25  | 6.7%     |
| 4-Mar-08             | 4         | <0.0002 | #N/A    | 5.98    | 0.47    | #N/A    | 0.055   | 0.002   | <0.01  | 17.9   | 0.0053  | 1.55    | <0.00002 | 1.35    | 1.44    | 335    | 0.0001   | <0.005  | <0.005  | 0.0008  | <0.005  | <0.005  | <0.0005 | 21.47        | 20.07         | -1.40 | -3.4%    |
| 11-Mar-08            | 5         | 9E-06   | 0.0065  | 4.82    | 0.542   | <0.01   | 0.0445  | 0.0014  | <0.002 | 16.7   | 0.0039  | 1.92    | <0.00000 | 0.73    | 1.3     | 325    | 0.0001   | 3E-05   | <0.0005 | 0.0006  | <0.0002 | 0.0042  | <0.0001 | 19.15        | 17.92         | -1.23 | -3.3%    |
| 18-Mar-08            | 6         | <0.0002 | #N/A    | 3.51    | 0.714   | #N/A    | 0.04    | 0.001   | <0.01  | 17.3   | 0.0039  | 1.62    | <0.00002 | 0.34    | 1.12    | 290    | 0.0001   | <0.005  | <0.005  | 0.0004  | <0.005  | 0.01    | <0.0005 | 16.67        | 19.71         | 3.04  | 8.3%     |
| 25-Mar-08            | 7         | <0.0002 | #N/A    | 2.9     | 0.776   | #N/A    | 0.037   | 0.001   | <0.01  | 12.8   | 0.0024  | 2.44    | <0.00002 | 0.37    | 1.04    | 273    | 0.0001   | <0.005  | <0.005  | 0.0003  | <0.005  | 0.011   | <0.0005 | 15.10        | 16.40         | 1.30  | 4.1%     |
| 1-Apr-08             | 8         | <0.0002 | #N/A    | 2.58    | 0.901   | #N/A    | 0.038   | 0.002   | <0.01  | 12.6   | 0.0022  | 1.71    | <0.00002 | 0.29    | 1.02    | 293    | 0.0001   | <0.005  | 0.017   | 0.0002  | <0.005  | 0.006   | <0.0005 | 16.42        | 16.66         | 0.24  | 0.7%     |
| 8-Apr-08             | 9         | <0.0002 | #N/A    | 3.14    | 1.37    | #N/A    | 0.037   | 0.002   | <0.01  | 14.1   | 0.0025  | 2.24    | <0.00002 | 0.25    | 1.1     | 346    | 0.0001   | <0.005  | 0.009   | 0.0002  | <0.005  | 0.009   | <0.0005 | 18.63        | 19.54         | 0.91  | 2.4%     |
| 15-Apr-08            | 10        | 7E-05   | 0.011   | 3.41    | 1.92    | 0.01    | 0.0357  | 0.0022  | <0.002 | 15.5   | 0.0026  | 2.93    | <0.00000 | 0.26    | 1.19    | 353    | 0.0001   | 3E-05   | <0.0005 | 8E-05   | <0.0002 | 0.0169  | <0.0001 | 19.07        | 22.89         | 3.83  | 9.1%     |
| 22-Apr-08            | 11        | <0.0002 | #N/A    | 2.81    | 1.69    | #N/A    | 0.025   | 0.002   | <0.01  | 11.5   | 0.0026  | 2.69    | <0.00002 | 0.19    | 0.797   | 255    | 0.0001   | <0.005  | <0.0001 | <0.005  | 0.025   | <0.0005 | 18.71   | 16.40        | -2.31         | -6.6% |          |
| 29-Apr-08            | 12        | <0.0002 | #N/A    | 2.64    | 1.46    | #N/A    | 0.019   | 0.002   | <0.01  | 8.97   | 0.0014  | 2.22    | <0.00002 | 0.15    | 0.578   | 203    | 0.0001   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.014   | <0.0005 | 11.58        | 12.68         | 1.10  | 4.5%     |
| 6-May-08             | 13        | <0.0002 | #N/A    | 3.08    | 1.63    | #N/A    | 0.023   | 0.002   | <0.01  | 9.28   | 0.0018  | 2.59    | <0.00002 | 0.57    | 0.608   | 197    | 0.0001   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.013   | <0.0005 | 11.76        | 12.24         | 0.48  | 2.0%     |
| 13-May-08            | 14        | <0.0002 | #N/A    | 2.85    | 1.58    | #N/A    | 0.02    | 0.002   | <0.01  | 7.87   | 0.0013  | 2.49    | <0.00002 | 0.13    | 0.492   | 162    | 9E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.015   | <0.0005 | 8.95         | 10.02         | 1.07  | 5.6%     |
| 20-May-08            | 15        | 7E-06   | 0.0084  | 2.98    | 1.48    | <0.01   | 0.0241  | 0.0016  | <0.002 | 8.19   | 0.002   | 3.52    | <0.00000 | 0.1     | 0.465   | 150    | 0.0001   | 2E-05   | <0.0005 | 2E-05   | <0.0002 | 0.0126  | <0.0001 | 9.47         | 9.09          | -0.38 | -2.0%    |
| 27-May-08            | 16        | <0.0002 | #N/A    | 2.56    | 1.31    | #N/A    | 0.021   | 0.001   | <0.01  | 7.17   | 0.0012  | 2.73    | <0.00002 | 0.11    | 0.37    | 119    | 9E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.013   | <0.0005 | 7.52         | 7.48          | -0.03 | -0.2%    |
| 3-Jun-08             | 17        | <0.0002 | #N/A    | 1.87    | 1.18    | #N/A    | 0.018   | 0.002   | <0.01  | 5.86   | 0.0012  | 2.29    | <0.00002 | 0.13    | 0.299   | 88     | 8E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.015   | <0.0005 | 5.42         | 5.50          | 0.08  | 0.7%     |
| 10-Jun-08            | 18        | <0.0002 | #N/A    | 1.64    | 0.97    | #N/A    | 0.016   | 0.001   | <0.01  | 4.99   | 0.0009  | 2.08    | <0.00002 | 0.08    | 0.238   | 73     | 6E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.012   | <0.0005 | 4.34         | 4.75          | 0.41  | 4.5%     |
| 17-Jun-08            | 19        | <0.0002 | #N/A    | 2.19    | 1.39    | #N/A    | 0.016   | 0.002   | <0.01  | 6.18   | 0.0011  | 2.74    | <0.00002 | 0.1     | 0.323   | 93     | 8E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.017   | <0.0005 | 5.80         | 5.88          | 0.08  | 0.7%     |
| 24-Jun-08            | 20        | 2E-05   | 0.006   | 2.2     | 1.27    | <0.01   | 0.0158  | 0.0018  | 0.002  | 5.43   | 0.0011  | 2.74    | <0.00000 | 0.12    | 0.272   | 83     | 8E-05    | 4E-05   | <0.0005 | 9E-06   | <0.0002 | 0.0164  | <0.0001 | 4.85         | 4.91          | 0.06  | 0.6%     |
| 1-Jul-08             | 21        | <0.0002 | #N/A    | 1.27    | 0.827   | #N/A    | 0.012   | 0.001   | <0.01  | 4.18   | 0.0009  | 2.32    | <0.00002 | 0.1     | 0.155   | 43     | 6E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.01    | <0.0005 | 2.72         | 2.70          | -0.01 | -0.3%    |
| 8-Jul-08             | 22        | <0.0002 | #N/A    | 1.21    | 0.803   | #N/A    | 0.012   | 0.001   | <0.01  | 3.74   | 0.0011  | 2.35    | <0.00002 | 0.09    | 0.138   | 34     | 6E-05    | <0.005  | <0.005  | <0.0001 | <0.005  | 0.016   | <0.0005 | 2.11         | 2.24          | 0.13  | 3.1%     |
| 15-Jul-08            | 23        | <0.0002 | #N/A    | 0.97    | 0.64    | #N/A    | 0.013   | <0.001  | <0.01  | 3.37   | 0.001   | 2.35    | <0.00002 | 0.09    | 0.112   | 24     | <0.00005 | <0.005  | <0.005  | <0.0001 | <0.005  | 0.011   | <0.0005 | 1.73         | 1.62          | -0.11 | -3.3%    |
| 22-Jul-08            | 24        | <0.0002 | #N/A    | 0.92    | 0.624   | #N/A    | 0.013   | 0.001   | <0.01  | 3.11   | 0.0009  | 3.29    | <0.00002 | 0.1     | 0.105   | 19     | <0.00005 | <0.005  | <0.00   |         |         |         |         |              |               |       |          |

**HC-3-S**

## Leachate Chemistry for HC-3-S

CONFIDENTIAL  
DRAFT

| Date Reporting Units | Cycle No. | Volume mL |        | pH   | Redox mV | Cond. umhos/cm | Acidity pH 4.5 mg CaCO3/L | Acidity pH 8.3 mg CaCO3/L | Alkalinity mgCaCO3/L | Sulphate mg/L | TDS mg/L | Cl mg/L | F mg/L | Hardness mg/L | AI mg/L | Sb mg/L | As mg/L | Ba mg/L | Be mg/L  | Bi mg/L   | B mg/L | Cd mg/L | Ca mg/L | Cr mg/L | Co mg/L | Cu mg/L | Fe mg/L |
|----------------------|-----------|-----------|--------|------|----------|----------------|---------------------------|---------------------------|----------------------|---------------|----------|---------|--------|---------------|---------|---------|---------|---------|----------|-----------|--------|---------|---------|---------|---------|---------|---------|
|                      |           | Input     | Output |      |          |                |                           |                           |                      |               |          |         |        |               |         |         |         |         |          |           |        |         |         |         |         |         |         |
| 8-Feb-08             | 0         | 500       | 575    | 7.43 | 458      | 2251           | #N/A                      | 6.5                       | 41.5                 | 1442          | 2000     | 15.8    | 2.51   | 1510          | 0.012   | 0.0003  | 0.0009  | 0.0117  | <0.00005 | <0.00003  | <0.03  | 0.0002  | 575     | <0.0005 | 0.0014  | 0.0023  | <0.005  |
| 12-Feb-08            | 1         | 500       | 480    | 7.67 | 423      | 1850           | #N/A                      | 9.8                       | 48.7                 | 1220          | 1700     | 2.8     | 2.18   | 1170          | 0.0091  | 0.00024 | 0.0006  | 0.0106  | <0.00001 | 0.00000   | 0.016  | 0.0001  | 460     | <0.0001 | 0.0017  | 0.0183  | 0.004   |
| 19-Feb-08            | 2         | 500       | 505    | 7.62 | 418      | 1441           | #N/A                      | 6.5                       | 40.3                 | 790           | #N/A     | #N/A    | #N/A   | 1010          | 0.012   | <0.0005 | 0.0004  | 0.009   | <0.0001  | <0.001    | 0.011  | 0.0001  | 396     | <0.001  | 0.0026  | 0.0254  | 0.005   |
| 26-Feb-08            | 3         | 500       | 490    | 7.72 | 394      | 1692           | #N/A                      | 6.6                       | 44.2                 | 1010          | #N/A     | #N/A    | #N/A   | 1160          | 0.008   | <0.0005 | 0.0004  | 0.013   | <0.0001  | <0.001    | 0.012  | 0.0004  | 458     | <0.001  | 0.004   | 0.0232  | <0.005  |
| 4-Mar-08             | 4         | 500       | 435    | 7.56 | 381      | 1595           | #N/A                      | 7.8                       | 31.2                 | 912           | #N/A     | #N/A    | #N/A   | 934           | 0.01    | <0.0005 | 0.0005  | 0.012   | <0.0001  | <0.001    | 0.008  | 0.0002  | 369     | <0.001  | 0.0029  | 0.0168  | 0.008   |
| 11-Mar-08            | 5         | 500       | 415    | 7.54 | 430      | 1311           | #N/A                      | 4.6                       | 24.0                 | 771           | 1100     | <0.5    | 3.2    | 754           | 0.0088  | 0.0002  | 0.0003  | 0.0097  | <0.00001 | 0.00000   | 0.007  | 0.0001  | 298     | <0.0001 | 0.0025  | 0.0133  | 0.004   |
| 18-Mar-08            | 6         | 500       | 420    | 7.56 | 425      | 1182           | #N/A                      | 5.1                       | 21.5                 | 775           | #N/A     | #N/A    | #N/A   | 921           | 0.006   | <0.0005 | 0.0008  | 0.009   | <0.0001  | <0.001    | 0.006  | 0.0002  | 365     | <0.001  | 0.003   | 0.0122  | <0.005  |
| 25-Mar-08            | 7         | 500       | 430    | 7.36 | 429      | 1060           | #N/A                      | 4.2                       | 15.9                 | 566           | #N/A     | #N/A    | #N/A   | 684           | 0.006   | <0.0005 | 0.0003  | 0.009   | <0.0001  | <0.001    | 0.009  | 0.0002  | 270     | <0.001  | 0.0033  | 0.0171  | <0.005  |
| 1-Apr-08             | 8         | 500       | 400    | 7.63 | 435      | 1169           | #N/A                      | 3.4                       | 14.2                 | 590           | #N/A     | #N/A    | #N/A   | 626           | 0.011   | <0.0005 | 0.0008  | 0.01    | <0.0001  | <0.001    | 0.047  | 0.0003  | 247     | <0.001  | 0.0038  | 0.0406  | 0.031   |
| 8-Apr-08             | 9         | 500       | 430    | 7.52 | 413      | 1137           | #N/A                      | 3.7                       | 13.4                 | 585           | #N/A     | #N/A    | #N/A   | 573           | 0.007   | <0.0005 | 0.0007  | 0.007   | <0.0001  | <0.001    | 0.017  | 0.0003  | 226     | <0.001  | 0.005   | 0.0311  | 0.033   |
| 15-Apr-08            | 10        | 500       | 425    | 7.32 | 423      | 1074           | #N/A                      | 5.2                       | 10.6                 | 539           | 890      | <0.5    | 2.03   | 671           | 0.0046  | 0.00018 | 0.0003  | 0.0127  | <0.00001 | 0.00000   | <0.05  | 0.0003  | 264     | 0.0001  | 0.0061  | 0.0195  | 0.005   |
| 22-Apr-08            | 11        | 500       | 430    | 7.27 | 428      | 916            | #N/A                      | 4.8                       | 7.6                  | 473           | #N/A     | #N/A    | #N/A   | 539           | 0.015   | <0.0005 | 0.0013  | 0.012   | <0.0001  | <0.001    | <0.05  | 0.0004  | 211     | <0.001  | 0.0061  | 0.0323  | 0.015   |
| 29-Apr-08            | 12        | 500       | 395    | 7.36 | 412      | 861            | #N/A                      | 3.5                       | 7.3                  | 440           | #N/A     | #N/A    | #N/A   | 490           | 0.009   | <0.0005 | 0.0007  | 0.012   | <0.0001  | <0.001    | <0.05  | 0.0004  | 192     | <0.001  | 0.0065  | 0.0196  | <0.005  |
| 6-May-08             | 13        | 500       | 400    | 7.23 | 374      | 936            | #N/A                      | 4.5                       | 8.2                  | 516           | #N/A     | #N/A    | #N/A   | 537           | 0.005   | <0.0005 | 0.0003  | 0.016   | <0.0001  | <0.001    | <0.05  | 0.0005  | 208     | <0.001  | 0.0088  | 0.0268  | 0.012   |
| 13-May-08            | 14        | 500       | 470    | 7.48 | 355      | 764            | #N/A                      | 4.7                       | 9.3                  | 387           | #N/A     | #N/A    | #N/A   | 440           | 0.008   | <0.0005 | 0.0002  | 0.012   | <0.0001  | <0.001    | <0.05  | 0.0004  | 171     | <0.001  | 0.0085  | 0.026   | 0.015   |
| 20-May-08            | 15        | 500       | 455    | 7.40 | 329      | 606            | #N/A                      | 3.8                       | 7.0                  | 348           | 460      | <0.5    | 2.52   | 314           | 0.0022  | 0.00013 | 0.0002  | 0.0126  | 1E-05    | :0.00000: | <0.05  | 0.0003  | 122     | <0.0001 | 0.0063  | 0.0197  | 0.003   |
| 27-May-08            | 16        | 500       | 410    | 7.31 | 406      | 495            | #N/A                      | 3.9                       | 6.7                  | 259           | #N/A     | #N/A    | #N/A   | 297           | 0.004   | <0.0005 | 0.0004  | 0.014   | <0.0001  | <0.001    | <0.05  | 0.0003  | 115     | <0.001  | 0.0068  | 0.0255  | <0.005  |
| 3-Jun-08             | 17        | 500       | 485    | 7.25 | 431      | 413            | #N/A                      | 4.3                       | 6.8                  | 213           | #N/A     | #N/A    | #N/A   | 229           | 0.006   | <0.0005 | 0.0008  | 0.015   | <0.0001  | <0.001    | <0.05  | 0.0004  | 88.5    | <0.001  | 0.0075  | 0.0311  | 0.017   |
| 10-Jun-08            | 18        | 500       | 445    | 7.3  | 398      | 331            | #N/A                      | 4.7                       | 7.0                  | 183           | #N/A     | #N/A    | #N/A   | 225           | 0.003   | <0.0005 | 0.0005  | 0.015   | <0.0001  | <0.001    | <0.05  | 0.0004  | 87.1    | <0.001  | 0.0075  | 0.0287  | <0.005  |
| 17-Jun-08            | 19        | 500       | 470    | 7.42 | 292      | 489            | #N/A                      | 6.4                       | 8.5                  | 320           | #N/A     | #N/A    | #N/A   | 354           | 0.004   | <0.0005 | 0.0004  | 0.026   | <0.0001  | <0.001    | <0.05  | 0.0006  | 138     | <0.001  | 0.0112  | 0.0494  | 0.011   |
| 24-Jun-08            | 20        | 500       | 485    | 7.41 | 290      | 401            | #N/A                      | 6                         | 10                   | 260           | 400      | <0.5    | 2.9    | 289           | 0.0048  | 0.00011 | 0.0003  | 0.0265  | 2E-05    | :0.00000: | <0.05  | 0.0005  | 112     | 0.0001  | 0.0119  | 0.0514  | 0.007   |
| 1-Jul-08             | 21        | 500       | 455    | 7.03 | 401      | 341            | #N/A                      | 3.3                       | 3.7                  | 166           | #N/A     | #N/A    | #N/A   | 172           | 0.006   | <0.0005 | 0.0003  | 0.019   | <0.0001  | <0.001    | <0.05  | 0.0004  | 66.5    | <0.001  | 0.0071  | 0.0398  | 0.024   |
| 8-Jul-08             | 22        | 500       | 440    | 7.06 | 297      | 343            | #N/A                      | 4.6                       | 3.6                  | 136           | #N/A     | #N/A    | #N/A   | 150           | 0.009   | <0.0005 | 0.0002  | 0.018   | <0.0001  | <0.001    | <0.05  | 0.0004  | 57.8    | <0.001  | 0.0069  | 0.0314  | 0.017   |
| 15-Jul-08            | 23        | 500       | 425    | 6.94 | 390      | 271            | #N/A                      | 3.8                       | 3.5                  | 112           | #N/A     | #N/A    | #N/A   | 119           | 0.006   | <0.0005 | 0.0003  | 0.018   | <0.0001  | <0.001    | <0.05  | 0.0003  | 45.8    | <0.001  | 0.0063  | 0.0327  | <0.005  |
| 22-Jul-08            | 24        | 500       | 420    | 6.87 | 394      | 225            | #N/A                      | 3.2                       | 3.4                  | 98            | #N/A     | #N/A    | #N/A   | 105           | 0.005   | <0.0005 | 0.0008  | 0.019   | <0.0001  | <0.001    | <0.05  | 0.0003  | 40      | <       |         |         |         |

## Leachate Chemistry for HC-3-S

| Date Reporting Units | Cycle No. | Pb mg/L | Li mg/L | Mg mg/L | Mn mg/L | Hg ug/L | Mo mg/L | Ni mg/L | P mg/L | K mg/L | Se mg/L | Si mg/L | Ag mg/L  | Na mg/L | Sr mg/L | S mg/L | Tl mg/L | Sn mg/L | Ti mg/L | U mg/L  | V mg/L  | Zn mg/L | Zr mg/L | Major Anions | Major Cations | Diff  | Diff (%) |
|----------------------|-----------|---------|---------|---------|---------|---------|---------|---------|--------|--------|---------|---------|----------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|--------------|---------------|-------|----------|
| 8-Feb-08             | 0         | 9E-05   | 0.007   | 17.4    | 0.354   | <0.05   | 0.0683  | 0.0043  | <0.01  | 47.2   | 0.0041  | 2.16    | <0.00002 | 12.1    | 2.81    | 488    | 0.0001  | 0.0004  | <0.003  | 0.0032  | <0.001  | 0.012   | <0.0005 | 31.45        | 31.86         | 0.41  | 0.6%     |
| 12-Feb-08            | 1         | 0.0006  | 0.0049  | 6.01    | 0.264   | <0.01   | 0.0387  | 0.0022  | 0.003  | 22.8   | 0.0014  | 2       | <0.00002 | 2.47    | 1.61    | 390    | 8E-05   | 9E-05   | 0.001   | 0.0022  | 0.0003  | 0.0069  | <0.0001 | 26.58        | 24.14         | -2.45 | -4.8%    |
| 19-Feb-08            | 2         | <0.0002 | #N/A    | 4.23    | 0.326   | #N/A    | 0.028   | 0.002   | <0.01  | 17.4   | 0.0014  | 1.85    | <0.00002 | 1.17    | 1.33    | 334    | 6E-05   | <0.005  | <0.005  | 0.0014  | <0.005  | 0.007   | <0.0005 | 17.26        | 20.60         | 3.34  | 8.8%     |
| 26-Feb-08            | 3         | <0.0002 | #N/A    | 3.81    | 0.501   | #N/A    | 0.033   | 0.003   | <0.01  | 17.9   | 0.0039  | 3       | <0.00002 | 0.73    | 1.36    | 380    | 0.0001  | <0.005  | <0.005  | 0.0012  | <0.005  | 0.014   | <0.0005 | 21.92        | 23.66         | 1.73  | 3.8%     |
| 4-Mar-08             | 4         | <0.0002 | #N/A    | 3.32    | 0.516   | #N/A    | 0.039   | 0.002   | <0.01  | 15.2   | 0.0055  | 1.58    | <0.00002 | 0.52    | 1.15    | 322    | 9E-05   | <0.005  | <0.005  | 0.0008  | <0.005  | <0.005  | <0.0005 | 19.62        | 19.10         | -0.53 | -1.4%    |
| 11-Mar-08            | 5         | 1E-05   | 0.0059  | 2.48    | 0.497   | <0.01   | 0.0345  | 0.0013  | <0.002 | 13.7   | 0.0036  | 1.86    | <0.00002 | 0.31    | 0.932   | 280    | 1E-04   | 2E-05   | <0.0005 | 0.0004  | <0.0002 | 0.0036  | <0.0001 | 16.71        | 15.44         | -1.27 | -4.0%    |
| 18-Mar-08            | 6         | <0.0002 | #N/A    | 2.3     | 0.745   | #N/A    | 0.032   | 0.002   | <0.01  | 15.4   | 0.0027  | 1.45    | <0.00002 | 0.22    | 0.88    | 271    | 9E-05   | <0.005  | <0.005  | 0.0003  | <0.005  | 0.008   | <0.0005 | 16.58        | 18.81         | 2.23  | 6.3%     |
| 25-Mar-08            | 7         | <0.0002 | #N/A    | 2.12    | 0.74    | #N/A    | 0.028   | 0.001   | <0.01  | 11.2   | 0.0021  | 2.32    | <0.00002 | 0.25    | 0.733   | 226    | 9E-05   | <0.005  | <0.005  | 0.0002  | <0.005  | 0.011   | <0.0005 | 12.11        | 13.94         | 1.84  | 7.0%     |
| 1-Apr-08             | 8         | <0.0002 | #N/A    | 1.99    | 0.859   | #N/A    | 0.026   | 0.002   | <0.01  | 10.1   | 0.0018  | 1.63    | <0.00002 | 0.25    | 0.677   | 231    | 8E-05   | <0.005  | 0.013   | 0.0001  | <0.005  | 0.007   | <0.0005 | 12.58        | 12.76         | 0.18  | 0.7%     |
| 8-Apr-08             | 9         | <0.0002 | #N/A    | 2.29    | 1.07    | #N/A    | 0.022   | 0.002   | <0.01  | 8.95   | 0.0015  | 1.97    | <0.00002 | 0.24    | 0.61    | 191    | 9E-05   | <0.005  | 0.03    | <0.0001 | <0.005  | 0.008   | <0.0005 | 12.46        | 11.71         | -0.75 | -3.1%    |
| 15-Apr-08            | 10        | 5E-05   | 0.0087  | 3.01    | 1.54    | 0.01    | 0.0234  | 0.0017  | <0.002 | 10.8   | 0.0022  | 2.53    | <0.00002 | 0.19    | 0.715   | 211    | 0.0001  | 2E-05   | <0.0005 | 4E-05   | <0.0002 | 0.0144  | <0.0001 | 11.44        | 13.71         | 2.26  | 9.0%     |
| 22-Apr-08            | 11        | <0.0002 | #N/A    | 3.07    | 1.52    | #N/A    | 0.019   | 0.002   | <0.01  | 9.17   | 0.0017  | 2.37    | <0.00002 | 0.13    | 0.564   | 168    | 0.0001  | <0.005  | <0.0001 | <0.005  | 0.017   | <0.0005 | 10.01   | 11.02        | 1.02          | 4.8%  |          |
| 29-Apr-08            | 12        | <0.0002 | #N/A    | 2.99    | 1.58    | #N/A    | 0.016   | 0.002   | <0.01  | 8.17   | 0.0015  | 2.19    | <0.00002 | 0.09    | 0.495   | 157    | 8E-05   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.014   | <0.0005 | 9.31         | 10.04         | 0.73  | 3.8%     |
| 6-May-08             | 13        | <0.0002 | #N/A    | 4.1     | 2.06    | #N/A    | 0.022   | 0.002   | <0.01  | 9.2    | 0.0019  | 2.63    | <0.00002 | 0.52    | 0.609   | 188    | 0.0001  | <0.005  | <0.005  | <0.0001 | <0.005  | 0.018   | <0.0005 | 10.91        | 10.97         | 0.06  | 0.3%     |
| 13-May-08            | 14        | <0.0002 | #N/A    | 3.06    | 1.77    | #N/A    | 0.017   | 0.002   | <0.01  | 7.6    | 0.0014  | 2.47    | <0.00002 | 0.14    | 0.454   | 145    | 9E-05   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.017   | <0.0005 | 8.25         | 8.99          | 0.74  | 4.3%     |
| 20-May-08            | 15        | 2E-05   | 0.0069  | 2.37    | 1.35    | 0.01    | 0.0167  | 0.0017  | <0.002 | 6.29   | 0.0013  | 2.2     | <0.00002 | 0.15    | 0.353   | 101    | 8E-05   | 3E-05   | <0.0005 | 2E-05   | <0.0002 | 0.0117  | <0.0001 | 7.39         | 6.45          | -0.94 | -6.8%    |
| 27-May-08            | 16        | <0.0002 | #N/A    | 2.52    | 1.38    | #N/A    | 0.014   | 0.002   | <0.01  | 6.28   | 0.0013  | 2.52    | <0.00002 | 0.1     | 0.308   | 97     | 8E-05   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.014   | <0.0005 | 5.53         | 6.11          | 0.58  | 5.0%     |
| 3-Jun-08             | 17        | <0.0002 | #N/A    | 1.96    | 1.33    | #N/A    | 0.014   | 0.002   | <0.01  | 5.4    | 0.0012  | 2.21    | <0.00002 | 0.12    | 0.283   | 75     | 8E-05   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.018   | <0.0005 | 4.57         | 4.72          | 0.15  | 1.6%     |
| 10-Jun-08            | 18        | <0.0002 | #N/A    | 1.87    | 1.26    | #N/A    | 0.013   | 0.002   | <0.01  | 5.15   | 0.0011  | 2.46    | <0.00002 | 0.1     | 0.25    | 71     | 7E-05   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.018   | <0.0005 | 3.95         | 4.64          | 0.68  | 8.0%     |
| 17-Jun-08            | 19        | <0.0002 | #N/A    | 2.24    | 1.78    | #N/A    | 0.013   | 0.003   | <0.01  | 6.36   | 0.0012  | 2.81    | <0.00002 | 0.1     | 0.374   | 113    | 9E-05   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.028   | <0.0005 | 6.84         | 7.24          | 0.40  | 2.8%     |
| 24-Jun-08            | 20        | 4E-05   | 0.0073  | 2.34    | 1.6     | <0.01   | 0.0124  | 0.0031  | 0.003  | 6.02   | 0.0014  | 3.11    | <0.00002 | 0.13    | 0.31    | 103    | 9E-05   | 5E-05   | 0.0007  | 1E-05   | <0.0002 | 0.0287  | <0.0001 | 5.61         | 5.94          | 0.33  | 2.8%     |
| 1-Jul-08             | 21        | <0.0002 | #N/A    | 1.35    | 1.09    | #N/A    | 0.009   | 0.003   | <0.01  | 4.59   | 0.0011  | 2.36    | <0.00002 | 0.12    | 0.191   | 57     | 7E-05   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.019   | <0.0005 | 3.53         | 3.55          | 0.02  | 0.3%     |
| 8-Jul-08             | 22        | <0.0002 | #N/A    | 1.35    | 1.06    | #N/A    | 0.009   | 0.003   | <0.01  | 4.01   | 0.0012  | 2.22    | <0.00002 | 0.12    | 0.175   | 50     | 6E-05   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.02    | <0.0005 | 2.90         | 3.10          | 0.20  | 3.3%     |
| 15-Jul-08            | 23        | <0.0002 | #N/A    | 1.19    | 0.933   | #N/A    | 0.009   | 0.002   | <0.01  | 3.87   | 0.0012  | 2.34    | <0.00002 | 0.09    | 0.148   | 40     | 5E-05   | <0.005  | <0.005  | <0.0001 | <0.005  | 0.017   | <0.0005 | 2.40         | 2.49          | 0.08  | 1.7%     |
| 22-Jul-08            | 24        | <0.0002 | #N/A    | 1.12    | 0.92    | #N/A    | 0.01    | 0.002   | <0.01  | 3.69   | 0.0012  | 3.47    | <0.00002 | 0.11    | 0.136   | 34     | 6E-05   | <0.005  | <0.005  | <0.0001 | <0.00   |         |         |              |               |       |          |