

# Sierra Pacific Industries

P.O. Box 297 | Chinese Camp, CA 95309 | (209) 588-4700

February 29, 2016

Mr. Scott Hatton  
Central Valley Regional Water Quality Control Board  
1685 E Street  
Fresno, CA 93706

**Subject: Comments to Tentative Waste Discharge Requirements for Sierra Pacific Industries Chinese Camp Mill Tuolumne County**  
Sierra Pacific Industries – Chinese Camp Mill  
Tuolumne County, California

Dear Mr. Hatton,

In response to the Tentative Waste Discharge Requirements Order (Order) and Monitoring and Reporting Program (MRP) issued for public comment on 28 January 2016, Sierra Pacific Industries (SPI) is requesting that the frequency of monitoring of oil and grease and tannin and lignin be reduced to semi-annual monitoring to align with the frequency of other chemicals of concern in the tentative MRP. Attached are the Comments to Order and MRP for SPI Chinese Camp Mill prepared by AMEC Foster Wheeler Environment & Infrastructure, Inc. Included data and discussion shows that monthly electrical conductivity monitoring and semi-annual monitoring of oil and grease and tannin and lignin is more than sufficient to evaluate short-term changes as well as annual high and low concentrations.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

We appreciate the opportunity to work cooperatively with the Regional Water Board on this matter. If you have any questions or need any additional information, please contact Gary Kramer of AMEC Foster Wheeler at (559) 264-2535 or Melissa Rice of SPI at (209) 536-2208.

Sincerely,

Ken Cooper  
Division Manager  
Sierra Pacific Industries



February 29, 2016

Project 009353

Mr. Ken Cooper  
Sierra Pacific Industries  
14333 Perricone Road  
Chinese Camp, California 95309

**Subject: Comments to Tentative Waste Discharge Requirements for Sierra Pacific Industries Chinese Camp Mill Tuolumne County**  
Sierra Pacific Industries – Chinese Camp Mill  
Tuolumne County, California

Dear Mr. Cooper:

On behalf of Sierra Pacific Industries (SPI), Amec Foster Wheeler Environment & Infrastructure, Inc., has prepared comments to the tentative Monitoring and Reporting Program (MRP) attached to tentative Waste Discharge Requirements Order (Order) for SPI's Chinese Camp Mill, which were issued for public comments on January 28, 2016, by the California Regional Water Quality Control Board – Central Valley Region (RWQCB). As discussed with RWQCB staff on February 22, 2016, SPI's specific comments focus on the frequency of oil and grease and tannin and lignin monitoring of the facility's ponds on a quarterly basis, which is addressed on pages 2 and 3 of the tentative MRP.

Under current operations the upper pond contains water year-round and is used for log deck sprinkling operations and surface water run-off containment. The upper pond receives make-up water from the supply well as needed. The lower pond is typically dry in the summer and early fall and receives excess water from the upper pond in the winter. A groundwater monitoring network has been installed around the ponds to monitor groundwater quality beneath and downgradient of the facility (Figure 1). Well 9 (MW-9) is located adjacent to the upper pond and Well 10 (MW-10) is located adjacent to the lower pond. Wells GW-4 and GW-5 are located downgradient of the ponds.

SPI is requesting that the frequency of monitoring of oil and grease and tannin and lignin be reduced to semi-annual monitoring to align with the frequency of other chemicals of concern in the tentative MRP. Electrical conductivity (EC) is currently monitored on a monthly frequency and is a good indicator parameter of short-term and seasonal changes of water quality in the ponds (Figure 2). EC in the upper pond shows general trends that are similar to data collected in monitoring Well 9 (MW-9), which is the closest well to the upper pond. Monthly monitoring of EC is more than adequate to evaluate short-term changes in pond wastewater that could potentially impact groundwater.

Oil and grease has been detected sporadically in the upper (8 detections out of 46 sampling events) and lower ponds (9 detections out of 46 sampling events, of which 25 events were dry) (Table 1). The infrequent and sporadic detections of oil and grease do not make it a good

Mr. Ken Cooper  
Sierra Pacific Industries  
February 29, 2016  
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indicator of water-quality changes in the ponds for short-term or long-term monitoring. The potential impacts of oil and grease to groundwater is low because of its hydrophobic nature resulting in low solubility and relative immobility in groundwater.

Tannin and lignin concentrations in the upper pond follow a distinct seasonal trend through the monitoring history of the upper pond (Figure 3). The lowest concentrations of tannin and lignin occur in the winter when precipitation/runoff is highest and evapotranspiration is lowest. The highest concentrations occur in summer when evapotranspiration is highest (Figure 3). The average concentration of tannin and lignin in the upper pond over monitoring history is 6.4 milligrams per liter (mg/L), with a range of 0.48 to 33 mg/L (Table 1). The typical range falls between about 1 and 10 mg/L (Figure 3). Tannin and lignin data from monitoring Wells 9 and 10 show relatively poor correlation with respect to seasonal changes observed in the upper pond (Figure 3). The seasonal changes in tannin and lignin concentrations in monitoring Wells 9 and 10 are small compared to those in the upper pond. Further, the analytical data from downgradient well GW-4 shows no impacts of tannin and lignin from the upper pond (Figure 3). These data indicate that tannin and lignin are not mobile in groundwater and that even in times where the upper pond concentrations are relatively high there is no effective transfer of these relatively higher concentrations of tannin and lignin to groundwater in the nearby wells. The data indicate that tannin and lignin concentrations are not a reliable indicator of potential impacts to groundwater from wastewater discharge from the upper pond. Further, the annual high and low concentrations in the pond typically will be captured by semi-annual monitoring.

If you have any questions or need additional information regarding this report, please call either of the undersigned.

Sincerely yours,  
Amec Foster Wheeler Environment & Infrastructure, Inc.



Gary L. Kramer, PG  
Senior Geologist



Philip P. Ross, PG  
Principal Hydrogeologist

Attachments: Table 1 – Summary of Oil and Grease and Tannin and Lignin Concentrations  
Figure 1 – Site Plan Showing Pond and Monitoring Well Locations  
Figure 2 – Time Concentration Plot Electrical Conductivity  
Figure 3 – Time Concentration Plot Tannin and Lignin

cc: Ryan Land, Sierra Pacific Industries  
Melissa Rice, Sierra Pacific Industries  
Tony Jaegel, Sierra Pacific Industries

**TABLE 1**
**SUMMARY OF OIL AND GREASE AND TANNIN AND LIGNIN CONCENTRATIONS**

 Sierra Pacific Industries - Chinese Camp Mill  
 Tuolumne County, California

Sample Location	Sample Date	Oil & Grease (mg/L) <sup>1</sup>	Tannin & Lignin (mg/L)
Upper Pond	Jun-05	5.0	4.7
	Jul-05	5.0	7.8
	Aug-05	5.0	13
	Aug-05	5.0	14
	Oct-05	5.0	8.0
	Jan-06	5.0	9.1
	Apr-06	5.0	4.4
	Jul-06	5.0	1.9
	Oct-06	5.0	7.0
	Jan-07	5.0	1.2
	Apr-07	5.0	1.8
	Jul-07	5.0	9.5
	Oct-07	5.0	0.5
	Jan-08	5.0	1.6
	Apr-08	5.0	1.0
	Jul-08	5.0	4.4
	Oct-08	13.7	33
	Jan-09	5.0	3.3
	Apr-09	5.0	0.54
	Jul-09	5.25	8.3
	Oct-09	5.0	7.6
	Jan-10	10	1.2
	Apr-10	5.0	5.2
	Jul-10	5.0	9.9
	Oct-10	5.0	6.6
	Jan-11	1	1
	Apr-11	1.1	2.6
	Jul-11	1.8	3.5
	Oct-11	1.1	0.48
	Jan-12	2.0	4.0
	Apr-12	1.0	ns
	Jul-12	1.5	27
Oct-12	1.0	4.6	
Jan-13	1.1	2.7	
Apr-13	1.0	4.0	
Jul-13	5.0	12	
Oct-13	5.0	3.2	
Jan-14	5.0	4.7	
Apr-14	5.0	4.1	
Jul-14	5.0	25	
Oct-14	5.0	3.7	

**TABLE 1**

**SUMMARY OF OIL AND GREASE AND TANNIN AND LIGNIN CONCENTRATIONS**

Sample Location	Sample Date	Oil & Grease (mg/L) <sup>1</sup>	Tannin & Lignin (mg/L)
Upper Pond	Jan-15	5.0	2.6
	Apr-15	1.7	1.8
	Jul-15	5.0	7.28
	Oct-15	1.7	1.43
	Jan-16	1.8	5.6
	<b>Average Jun-05-Dec-07</b>	<b>5.0</b>	<b>6.4</b>
	<b>Standard Deviation Jun-05-Dec-07</b>	<b>0</b>	<b>4</b>
	<b>Average Jan-08-Jul-10</b>	<b>4.0</b>	<b>6.6</b>
	<b>Standard Deviation Jan-08-Jul-10</b>	<b>3.1</b>	<b>8.2</b>
	Lower Pond	Jul-05	ns
Oct-05		ns	ns
Jan-06		5.0	8.0
Apr-06		5.0	3.9
Jul-06		ns	ns
Oct-06		ns	ns
Jan-07		5.0	5.3
Apr-07		5.0	4.1
Jul-07		ns	ns
Oct-07		ns	ns
Jan-08		5.0	3.7
Apr-08		5.0	2.5
Jul-08		ns	ns
Oct-08		12.3	26
Jan-09		ns	ns
Apr-09		5.0	1.3
Jul-09		ns	ns
Oct-09		5.0	6.8
Jan-10		10.0	2
Apr-10		5.0	2.9
Jul-10	ns	ns	
Oct-10	5.0	4.5	

**TABLE 1**
**SUMMARY OF OIL AND GREASE AND TANNIN AND LIGNIN CONCENTRATIONS**

Sample Location	Sample Date	Oil & Grease (mg/L) <sup>1</sup>	Tannin & Lignin (mg/L)
Lower Pond	Jan-11	2.5	3.4
	Apr-11	1.0	3.3
	Jul-11	1.2	2.6
	Oct-11	1.9	12
	Jan-12	2.7	6.4
	Apr-12	1.0	2.4
	Jul-12	1.0	3.3
	Oct-12	ns	ns
	Jan-13	1.0	4
	Apr-13	ns	ns
	Jul-13	ns	ns
	Oct-13	ns	ns
	Jan-14	ns	ns
	Apr-14	ns	ns
	Jul-14	ns	ns
	Oct-14	ns	ns
	Jan-15	ns	ns
	Apr-15	ns	ns
Jul-15	ns	ns	
Oct-15	ns	ns	

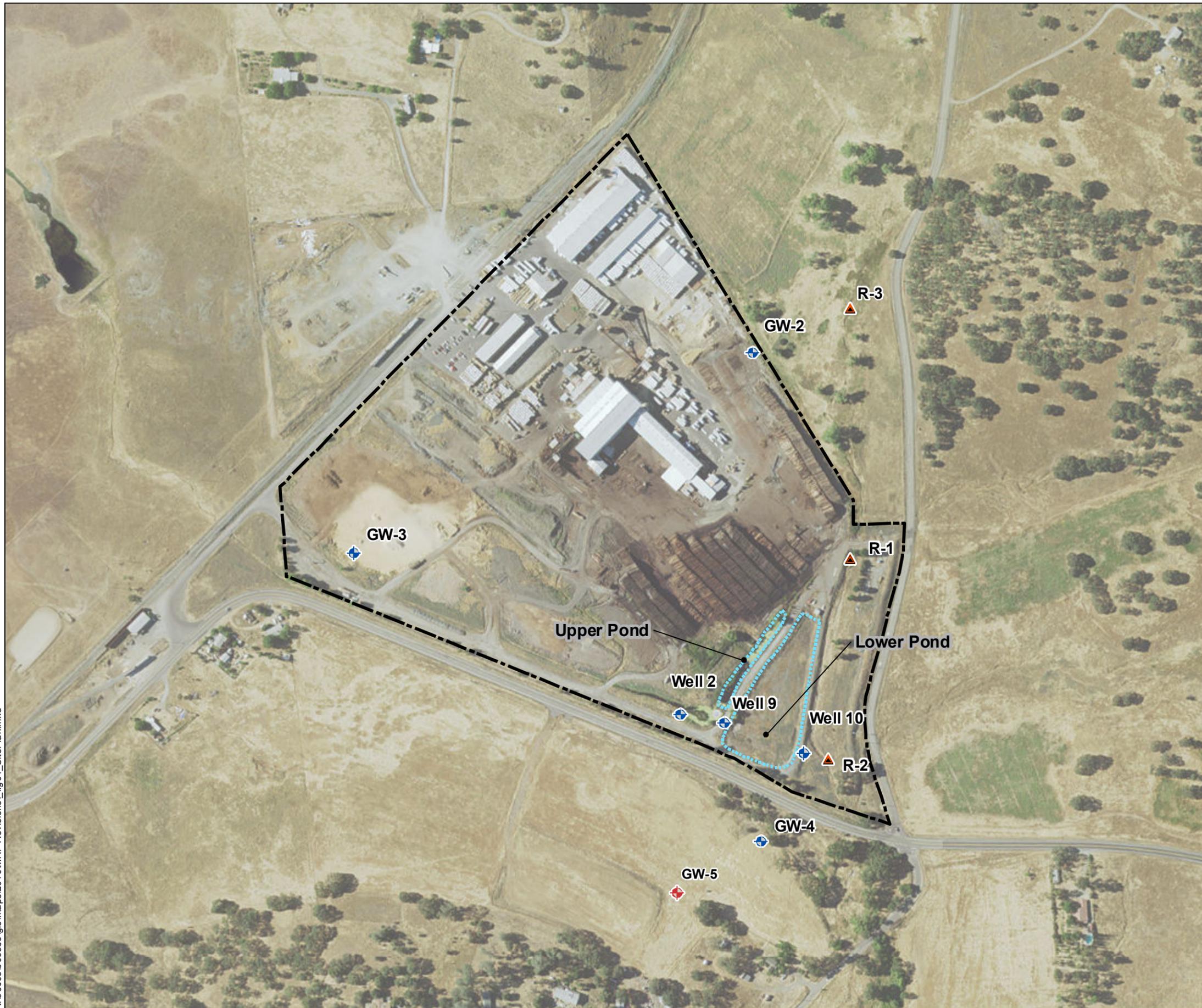
**Notes:**

- Numbers in red indicating the analyte was not detected in that sample, are the method detection limits.

**Abbreviations:**

mg/L = milligrams per liter  
 ns = not sampled

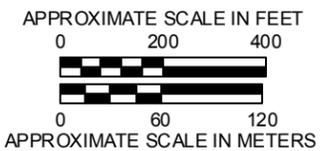
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**Explanation**

- GW-1  Existing SPI groundwater monitoring well
- GW-5  New groundwater monitoring well
- R-1  Receiving water sample location
-  Facility boundary
-  Ponds

Note:  
SPI = Sierra Pacific Industries

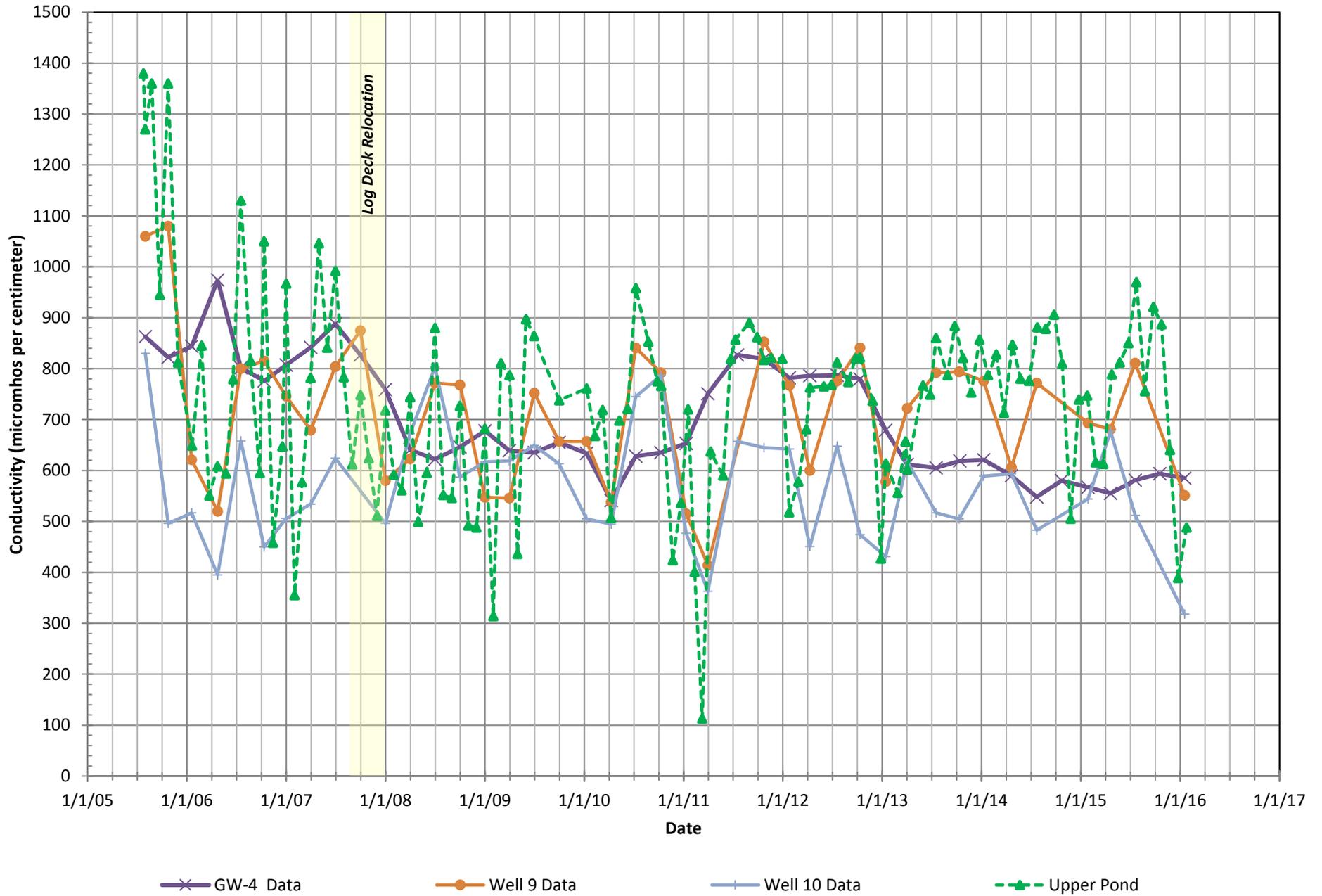


Basemap modified from ESRI Imagery World 2D  
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**SITE PLAN  
SHOWING PONDS AND  
MONITORING WELL LOCATIONS**  
Sierra Pacific Industries  
Chinese Camp Mill  
Tuolumne County, California



Date: 02/29/2016	Project No.: 009353	Figure <b>1</b>
Submitted By: PCD	Drawn By: GLK/db	



TIME CONCENTRATION PLOT ELECTRICAL CONDUCTIVITY  
 Sierra Pacific Industries - Chinese Camp Mill  
 Tuolumne County, California

By: GLK

Date: 08/16/2011

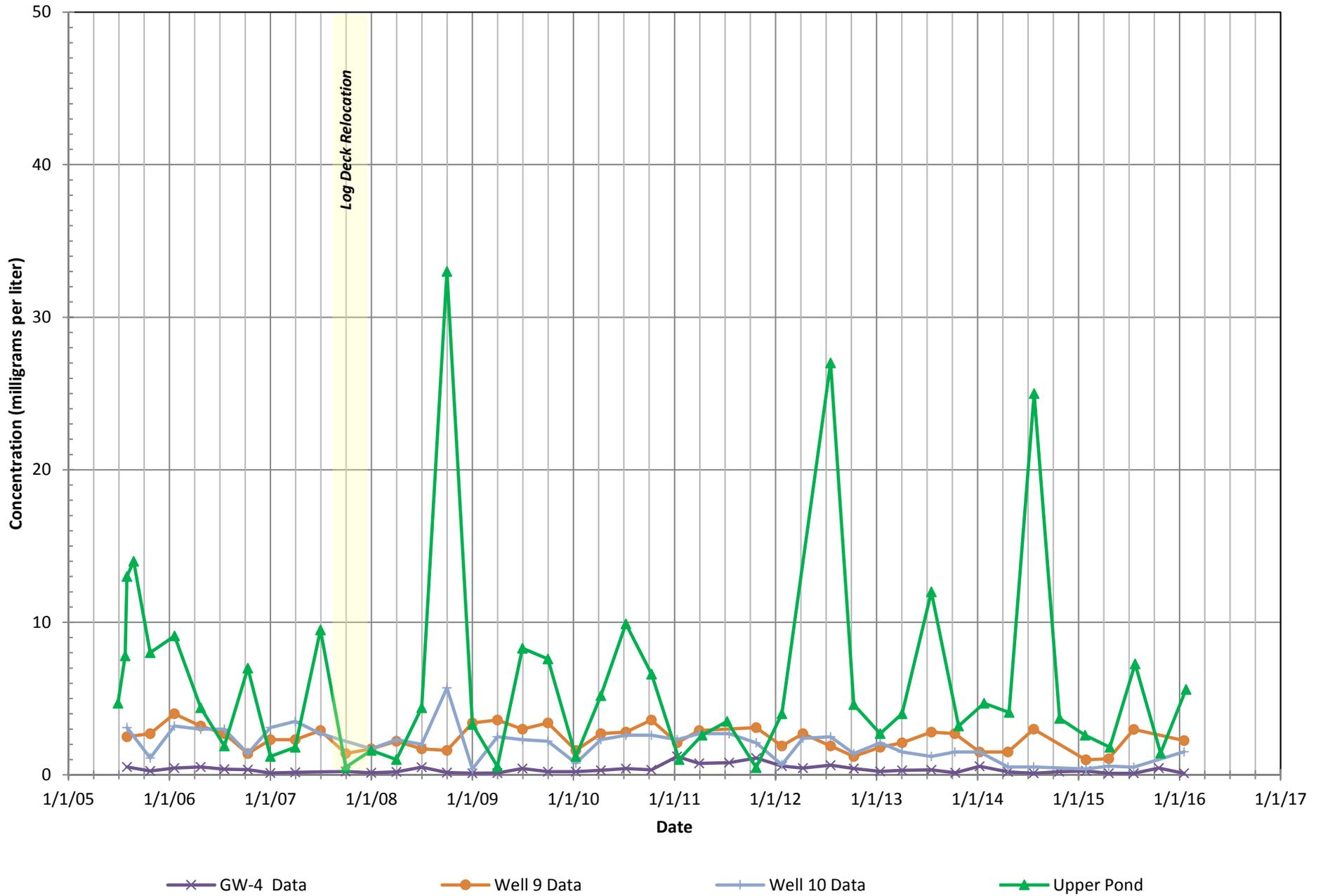
Project No.: 009353

amec foster wheeler



Figure

2



TIME CONCENTRATION PLOT TANNINS AND LIGNINS  
 Sierra Pacific Industries - Chinese Camp Mill  
 Tuolumne County, California

By: GLK

Date: 08/16/2011

Project No.: 009353



Figure

**3**