



January 16, 2013

Transmitted via FedEx 2-Day

Ms. Kourtney Drake
Administrator
UPPER SANTA MARGARITA IRRIGATED LANDS GROUP
P.O. Box 892411
Temecula, CA 92589

RE: USMILG, QAPP Monitoring Summary for October – December 2012-2013

Dear Kourtney,

The following is a summary of the monitoring results for the Oct-Dec Quarter of the 2012-2013 monitoring year:

Event: Wet Season Sampling

Storm Start: 12/12/2012 at 6pm

Storm End: 12/13/12 at 3:30pm

Sampling Start: 12/13/2012 at 4pm

Rain Fall Readings: Based on local rainfall summaries, sampling at SG02 occurred after approx. 0.81 inch of rain, and sampling at UK03 occurred after approx. 1.1 inches of rain.

Monitoring Locations

<u>Description</u>	<u>Location</u>	<u>Site ID</u>
Santa Gertrudis Creek at Rancho California Road	33° 32' 49.48" N, 117° 02' 38.28" W	SG02
Unknown Creek at El Prado Drive	33° 27' 52.18" N, 117° 14' 26.60" W	UK03

Monitoring Results

The following table summarizes the constituents analyzed and field measurements:

<u>Parameter</u>	<u>Reporting Limit</u>	<u>SG02 Result</u>	<u>UK03 Result</u>
Alkalinity (as CaCO3)	1 mg/L	334 mg/L	146 mg/L
Ammonia (as N)	0.1 mg/L	0.42 mg/L	0.10 mg/L
Ammonium (as N)	0.1 mg/L	0.42 mg/L	0.10 mg/L
CaCO3 (Hardness)	1 mg/L	1,240 mg/L	650 mg/L
Chloride	0.25 mg/L	918 mg/L	275 mg/L
Dissolved Organic Carbon	0.6 mg/L	24.5 mg/L	9.0 mg/L
Nitrate as Nitrogen (NO3)	0.01 mg/L	3.04 mg/L	5.2 mg/L
Nitrite as Nitrogen (NO2)	0.01 mg/L	0.20 mg/L	0.10 mg/L
Nitrogen (Total)	0.1 mg/L	6.19 mg/L	6.67 mg/L

Parameter	Reporting Limit	SG02 Result	UK03 Result
Orthophosphate as P	0.01 mg/L	0.24 mg/L	0.17 mg/L
Phosphorus (Dissolved)*	0.03 mg/L	0.24 mg/L	0.19 mg/L
Phosphorus (Total) *	0.03 mg/L	0.26 mg/L	0.26 mg/L
pH (Field)	NA	7.87	8.14
Specific conductivity (EC)	2.5 μS/cm	4,300 μS/cm	1,930μS/cm
Sulfate	1.0 mg/L	537 mg/L	384 mg/L
Temperature (Field)	NA	12.3 °C	14.7 °C
TDS	10 mg/L	2,568 mg/L	1,228 mg/L
TKN (Dissolved)*	0.1 mg/L	2.35 mg/L	0.86 mg/L
TKN (Total)*	0.1 mg/L	2.95 mg/L	1.47 mg/L
TSS	0.5 mg/L	9 mg/L	148 mg/L
Turbidity (Field)	0.5 NTU	5.06 NTU	102.7 NTU
Flow velocity & Discharge (Field)	NA	0.13 cfs	5.12 cfs

*Constituent analyzed as alternative to particulate constituents (SWAMP testing protocols not available for the particulate constituents at time of monitoring event)

QA/QC Samples

Evaluation of Field Blanks (UK03) Analysis: The analysis yielded that the constituents were measured at concentrations lower than the laboratory reporting limits for the constituents. No anomalies identified.

Evaluation of Field Duplicates (UK03) Analysis: Two constituents, Ammonia and Ammonium, out of the 22 constituents, presented results which did not meet the acceptance limits for duplicates (i.e. RPD < 25%). $RPD = [(x_1 - x_2) / \bar{x}] * 100$

Constituent	Reporting Limit	UK03 (Primary) Result	UK03 (Duplicate) Result	RPD
Ammonia (as N)	0.01 mg/L	0.10 mg/L	0.06 mg/L	25%
Ammonium (as N)	0.01 mg/L	0.10 mg/L	0.06 mg/L	25%

$$RPD = ((x - t)/t) * 100$$

Comparison to Water Quality Objectives for Santa Margarita River

The following table summarizes the constituent results by sampling location for comparison to the corresponding Water Quality Objectives listed for the Inland Surface Waters outlined in the San Diego Basin Plan (Amended 04/04/11) Table 3-2:

Constituent	SG02 Result	UK03 Result	WQO for HUB 902.22*
Chloride	918 mg/L	275 mg/L	250 mg/L
Nitrogen (Total)	6.19 mg/L	6.67 mg/L	1.0 mg/L
Phosphorus (Total)	0.26 mg/L	0.26 mg/L	0.10 mg/L
Sulfate	537 mg/L	384 mg/L	250 mg/L
TDS	2,568 mg/L	1,228 mg/L	750 mg/L
Turbidity (Field)	5.06 NTU	102.7 NTU	20 NTU

Note*: The Water Quality Objectives are not specifically listed for the SG02 sampling location's corresponding Hydrologic Unit (Gertrudis Hydrologic Sub Area - HUB 902.42); therefore, the values listed are based on the proximate Hydrologic Unit (Gavilan Hydrologic Sub Area HUB 902.22), which are consistent with the objectives for the Santa Margarita River.

Please contact myself or Jeff Endicott, should you have any questions. Thank you.

Best regards,
AEI-CASC Consulting

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Engineering Director

cc: File 1282-0001