

April 6, 2017

Dr. Bob Harrington
Director Inyo County Water Department
PO box 337
135 South Jackson Street
Independence, CA 93526

Dear Dr. Harrington,

Geosyntec Consultants (Geosyntec) is pleased to provide the following letter on behalf of Crystal Geysers Roxane (CGR) for the Cabin Bar Ranch project in Olancho, California. The Groundwater Monitoring, Mitigation, and Reporting Plan (GMMRP) for the project was submitted to the Inyo County Water Department (ICWD) on June 18, 2014, and provided a detailed groundwater monitoring and mitigation plan for the Cabin Bar Ranch Project. In accordance with the GMMRP, baseline groundwater monitoring data have been collected since March 2016 by TEAM Engineering, Inc. The project is nearing completion of the construction phase and it is anticipated that groundwater production at the Cabin Bar Ranch property will begin in late June or early July 2017. Therefore, as proposed in the GMMRP, the monitoring team has reviewed the baseline groundwater monitoring data, and provides the following letter to document pre-pumping groundwater conditions and provide recommendations for modifications to certain trigger levels and baseline water level monitoring data.

In addition to this groundwater baseline update, Garcia and Associates (GANDA) performed updated baseline surveys of the spring fault area for fish, vegetation, benthic macroinvertebrates, spring snails, spring flow rate and physical habitat conditions between July and November 2016. The GANDA report of the updated baseline habitat conditions will be submitted to ICWD by CGR.

Baseline Groundwater Level Conditions

The baseline for groundwater levels is defined in Section 6.2.1 of the GMMRP as the lowest historical water level measured in the well preceding startup of pumping for the project. **Table 1** presents well data and the documented baseline groundwater elevation for all groundwater monitoring wells in the monitoring network.

Water level monitoring of piezometer P-15 indicated that groundwater had decreased to a depth greater than 7 feet below ground surface (bgs) and the piezometer was dry from the period of July through September 2016. P-15 is currently used for groundwater dependent vegetation monitoring. The construction of P-15 appears that it is not well suited for groundwater level monitoring and not deep enough to fully monitor water level fluctuations over a year-long hydrologic cycle. Therefore, it is proposed to install a 2-inch diameter shallow groundwater monitoring well directly adjacent (within 5-10 feet laterally) to P-15. The well installation details would be subject to lithology observed in the field, but preliminarily it is proposed to be installed to approximately 15 feet bgs with the well screen installed from 5-15 feet bgs. This well construction would allow for accurate measurement of water levels and would facilitate evaluation of the range of water level fluctuations particularly in the dry season. Additionally, it would

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allow the water level transducer to remain submerged below the water table to record the water level fluctuation over the course of the year as well.

Baseline Groundwater Quality Conditions and Trigger Level

The proposed sodium trigger level is 34 milligrams per liter (mg/L) for the northern and southern monitoring areas. The trigger level was initially based on 75% of the EPA Advisory level of 45 mg/L. Based on the baseline water quality data that have been collected to date, it appears that the sodium levels in most of the deeper zone wells on the site such as MW-3, OW-10M, and OW-7M, are significantly higher than the wells with screen zones constructed in the shallow zone. In particular, sodium in OW-10M has exceeded the GMMRP trigger level based on results of the baseline sampling events in March and June 2016. Therefore, as indicated in Section 6.2.1 of the GMMRP, we propose to amend the sodium trigger level based on the baseline water quality data indicating naturally occurring elevated concentrations in OW-10M to be set at 40.5 mg/L which is equivalent to 10% of the EPA Advisory middle range level. The proposed sodium trigger level still provides a factor of safety, but is more reasonable given the elevated concentrations observed in this well.

In accordance with Section 6.2.1 of the GMMRP, it is proposed to adopt the trigger levels that were set in Table 2 of the GMMRP, for eastern monitoring locations OW-8US and OW-9U. No revisions to the trigger levels are necessary based on the baseline water quality data collected from these monitoring wells.

All other trigger level as proposed in the GMMRP will apply. A statistical analysis of water quality data is still proposed to be used to determine if the trigger levels will be reached within a 3 year period in these wells, after production has started.

As a reminder, as stated in Section 6.2.1 of the GMMRP, water quality trigger levels are not set for western monitoring locations MW-3 and P-5, and the arsenic trigger level does not apply to southern monitoring wells OW-7U and OW-7M which have naturally occurring arsenic levels that exceed the trigger level already.

Thank you for this opportunity to provide soil vapor consulting services. If you should have any questions please do not hesitate to contact us at (805) 897-3800.

Sincerely,



Mark Grivetti, P.G., C.Hg.
Senior Principal



Kevin Coffman, P.G.
Senior Geologist

TABLE 1: SUMMARY OF GROUNDWATER MONITORING PROGRAM

Monitoring Area	Well #	Monitored Zone	Depth of Well Screen Interval (ft)	Monthly Water Level Monitoring	Quarterly Groundwater Quality Monitoring	Proposed Trigger Level (ft of drawdown)	Baseline Groundwater Elevation (Feet Above Sea Level)	Purpose or Rationale
Northern	P-10	Shallow	33 - 48	X	-	6	3,614.03	Monitor area north of production wells and provide sentinel monitoring to Cartago Area.
	OW-10U	Shallow	65 – 85	X	X	6	3,616.86	
	OW-10M	Deep	115 – 150	X	X	6	3,617.66	
Western	P-5	Shallow	23 - 28	X	X	np	3,613.23	Monitor area hydraulically upgradient of production wells.
	MW-3	Deep	200 – 420	X	X	np	3,620.67	
Southern	OW-7U	Shallow	54 - 74	X	X	10	3,611.87	Monitor area south of production wells.
	OW-7M	Deep	212 – 252	X	X	10	3,620.70	
Eastern	OW-8US	Shallow	55 – 75	X	X	np	3,603.87	Provide sentinel monitoring to potential brine intrusion from the east.
	OW-9U	Shallow	55 – 75	X	X	7	3,607.03	
Off-Site	CMW-2	Deep	115 - 150	X	X	np	3,614.52	Monitor Cartago area.
	PAT-1	Shallow/Deep	50 – 155	X	X	np	3,615.9	
Vegetation Monitoring	P-15	Shallow	4-9	X	-	5.4	--	Monitor wetland area east of production wells.
	SS-1A	Shallow	5 – 15	X	-	np	3,616.70	
	RP-1	Shallow	7.5 -8.5	X	-	np	3,611.94	

Explanation:

Y/N: Yes/No

ft btoc: feet below top of casing

X: Designated for monitoring per table heading.

ft.: feet

np: Trigger levels are not proposed for this location; listed groundwater elevation is the lowest elevation measured between March 2016 and March 2017.

--: Not calculated.