

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

August 30, 2013

RE: Summary of Hydrologic Monitoring Activities August 2013
Rose Valley, Inyo County, California
Hay Ranch Project Conditional Use Permit #2007-03

Dear Dr. Harrington:

This letter summarizes hydrologic monitoring activities conducted in August 2013 by TEAM Engineering & Management, Inc. (TEAM), related to the Hay Ranch Water Extraction Project and CUP #2007-03.

Background

As outlined in the Hay Ranch Water Extraction Final EIR's Hydrologic Monitoring and Mitigation Plan (HMMP), Phase 1: Monitoring System Setup and Supplemental Data Collection occurred prior to December 25, 2009 at monitoring points throughout Rose Valley. With the initiation of pumping by Coso Operating Company (Coso) on December 25, 2009, the Hay Ranch Water Extraction Project entered into the Phase 2: Startup Monitoring and Reporting period. Phase 3: Model Recalibration and Redefinition of Pumping Rates and Durations occurred from September 2010 to April 2011, with recalibration of the groundwater model by Daniel B. Stephens & Associates (DBS&A) and with redefinition of pumping rates and durations by Inyo County Water Department (ICWD). With the April 1, 2011 issuance of the ICWD's "Addendum to the HMMP for CUP#2007-003/Coso Operating Company, LLC" (2011 ICWD Addendum) the project has entered Phase 4: Ongoing Monitoring, Mitigation and Reporting.

Monitoring and Reporting

During the August 2013 monthly hydrologic data collection event at 30 monitoring locations in the Rose Valley area, static depth-to-water (DTW) measurements, one visual observation of the Little Lake Ranch (LLR) Siphon Well Outflow and four sets of flow rates were collected by TEAM, as summarized in the attached table (Table 1). Data for this monthly field event was collected on August 21 and 22. Pressure transducer data was downloaded from 24 units, including one "BaroTroll" measuring barometric pressure. In August, a DTW measurement at LADWP 816 Well was taken by LADWP personnel.

At the Hay Ranch Property, Coso has pumped groundwater from two production wells: Hay Ranch North and Hay Ranch South. From December 25, 2009 to December 31, 2010, a total of approximately 3067 acre feet (AF) of groundwater were extracted from these two wells (850 AF from the Hay Ranch North Well, and 2217 AF from the Hay Ranch South Well). For the second and third years of project pumping, January 1, 2011 to January 1, 2013, a total of approximately 6832 AF of groundwater were extracted from the Hay Ranch property (3193 AF from the Hay Ranch North Well, and 3715 AF from the Hay Ranch South Well). For the current year of project pumping, January 1, 2013 to August 21, 2013, a total of approximately 1962 AF of groundwater were extracted from the Hay Ranch property (1910 AF from the Hay Ranch North Well, and 52 AF from the Hay Ranch South Well).

Figure 1 presents the combined amount of groundwater pumped from the Hay Ranch North and South wells, in acre feet, from December 25, 2009 through July 17, 2013 compared to a hypothetical pumping amount. The total amount of groundwater extracted from the Hay Ranch property from December 25, 2009 to August 21, 2013 (Hay Ranch CUP project total) is approximately 11,860 AF. The hypothetical

pumping amount assumes a pumping rate of approximately 3000 acre-feet per year (AFY) for December 25, 2009 through December 31, 2010 and assumes a pumping rate of approximately 4839 AFY from January 1, 2011 through September, 2013. These hypothetical pumping rates represent the maximum allowable pumping amounts for the 2010-2013 periods.

Trigger Levels and Maximum Acceptable Drawdowns

In Table 2 of the 2011 ICWD Addendum, drawdown at cessation of pumping trigger levels (Trigger Levels) have been set for specific monitoring wells based on an annual pumping rate of 4839 AFY.

Based on the manual DTW data collected by TEAM on August 21-22, 2013, the Trigger Levels for the Little Lake Ranch (LLR) North (RV180) and the Cinder Road (RV150) Wells have been exceeded.

The baseline groundwater elevation (GWE) for LLR North, set by Inyo County Water Department in January 2010, is 3158.88 feet. The GWE at LLR North as measured at 10:16 on August 22 was 3158.66 feet. The Trigger Level for LLR North is 0.00 feet. The LLR North GWE has decreased by 0.22 feet compared to its baseline, exceeding its Trigger Level by 0.22 feet (Table 2). The August 22 LLR North GWE was 1.08 feet above its Maximum Acceptable Drawdown level.

The baseline groundwater elevation (GWE) for Cinder Road, set by Inyo County Water Department in January 2010, is 3186.92 feet. The GWE at Cinder Road as measured at 11:05 on August 21 was 3186.70 feet. The Trigger Level for Cinder Road is 0.20 feet. The Cinder Road GWE has decreased by 0.22 feet compared to its baseline, exceeding its Trigger Level by 0.02 feet (Table 2). The August 22 Cinder Road GWE was 2.08 feet above its Maximum Acceptable Drawdown level. ICWD was notified of these two exceedances in a timely manner.

Based on data collected by TEAM during the August 2013 monitoring event, no other Trigger Levels or Maximum Acceptable Drawdowns have been exceeded at Hay Ranch Project monitoring wells which have baselines and trigger levels established.

Operational Notes

During the July to August 2013 period, the following operational issues were noted. Summer root growth occurred at the Davis Ranch Flume. The roots were removed during the August field event. At the Cal Pumice Well (RV30) and obstruction inside the well casing at depth prevented a depth-to-water measurement from being taken. TEAM will attempt to clarify and/or resolve this issue. The pressure transducer in the well is still operational and taking hourly DTW reads. Also on July 28 a notable downpour caused heavy runoff at the Davis Ranch and the Coso Junction area.

Data Transmittal

TEAM posted updates to the “Coso” database on the ICWD web server. New Hay Ranch Project hydrographs in PDF form were uploaded to the ICWD website (www.inyowater.org).

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If you have any questions or require additional information, please contact TEAM at your convenience.

Sincerely,

TEAM Engineering & Management, Inc.

Keith Rainville
Staff Geologist

TABLE 1
Field Observations of Rose Valley Hydrologic Monitoring Points
August 21-22, 2013

Project Name:	Hay Ranch Project HMMP	Date: August 21-22, 2013
Location:	Rose Valley, Inyo County	
Observer(s):	K. Rainville	Page: 1 of 1

Well ID	Monitoring Point	Date	Time	DTW (ft)	Flow (cfs)	GWE (ft amsl)	Method	Transducer Log Interval	Notes
RV-10	Dews	08/21/13	15:45	231.57		3755.35	TEAM manual read	NA	
RV-20	LADWP 816	08/12/13	-	77.11		3437.95	LADWP manual read	NA	Data provided by LADWP
RV-30	Cal Pumice	08/21/13	10:15	NM		NM	TEAM manual read	Hourly	Internal well obstruction; PT data downloaded
RV-40	Dunmovin	08/21/13	16:00	306.25		3241.62	TEAM manual read	NA	
RV-50	Hay Ranch North	08/21/13	12:38	NM	Yes	NM	TEAM manual read	NA	1,930,285,059 gallons (5924 AF) pumped since 12/25/09
RV-60	Hay Ranch 1A	08/21/13	12:50	200.75		3231.42	TEAM manual read	Hourly	
RV-61	Hay Ranch 1B	08/21/13	12:55	234.25		3197.60	TEAM manual read	Hourly	
RV-62	Hay Ranch 1C	08/21/13	13:02	229.55		3201.95	TEAM manual read	Hourly	
RV-70	Hay Ranch South			NM	No	NM	TEAM manual read	NA	1,934,433,183 gallons (5937 AF) pumped since 12/25/09
RV-80	Hay Ranch 2A	08/21/13	13:25	201.40		3231.60	TEAM manual read	Hourly	
RV-81	Hay Ranch 2B	08/21/13	13:15	225.00		3207.63	TEAM manual read	Hourly	
RV-82	Hay Ranch 2C	08/21/13	13:10	215.95		3216.15	TEAM manual read	Hourly	
RV-90	Coso Jct Ranch	08/21/13	10:35	174.19		3228.94	TEAM manual read	Hourly	
RV-100	Coso Jct Store #1	08/21/13	10:45	147.15		3224.97	TEAM manual read	Hourly	
RV-110	Davis Ranch North Well	08/21/13	13:50	6.55		3886.51	TEAM manual read	Hourly	
RV-111	Davis Ranch South Well	08/21/13	14:05	11.31		3886.75	TEAM manual read	Hourly	
RV-112	Davis Ranch South Flow	07/01/78	12:50	NA	0.01	NA	TEAM manual read	Hourly	
RV-120	Red Hill Well (BLM)	08/21/13	12:05	140.07		3200.76	TEAM manual read	Hourly	
RV-130	G-36	08/21/13	11:35	181.12		3198.90	TEAM manual read	NA	
RV-140	Lego	NA	NA	NM		NM	TEAM manual read	Hourly	Well unavailable during August field event
RV-150	Cinder Road	08/21/13	11:05	191.26		3186.70	TEAM manual read	Hourly	
RV-160	18-28 GTH	NA	NA	NM		NM	TEAM manual read	Hourly	Well unavailable during August field event
RV-170	Fossil Falls Campground	08/21/13	11:15	141.37		3175.40	TEAM manual read	NA	
RV-180	LLR North Well	08/22/13	10:16	40.44		3158.66	TEAM manual read	Hourly	
RV-210	LLR Dock Well	08/22/13	10:30	6.65		3147.49	TEAM manual read	Hourly	
RV-220	LLR Stilling Well (lake surface)	08/22/13	10:36	4.11		3146.93	TEAM manual read	Hourly	
RV-230	LLR Little Lake Outflow	08/22/13	11:25	NA	0.00	NA	TEAM manual read	Hourly	
RV-240	LLR Coso Springs Flow	08/22/13	11:07	NA	0.39	NA	TEAM manual read	Hourly	
RV-245	LLR North Culvert Flow	08/22/13	11:45	NA	0.52	NA	TEAM manual read	Hourly	
RV-250	LLR Siphon Discharge	08/22/13	11:35	NA	Yes	NA	TEAM visual read	NA	Siphon Well flowing into Pond 2
RV-260	LLR Hotel Well	08/22/13	12:15	0.86		3137.92	TEAM manual read	Hourly	

NM - not measured; NA - not applicable; IO - Inoperative; UA - Data currently unavailable

DTW - Depth to water in feet (ft) below top of casing or other reference point; a negative DTW indicates that the groundwater elevation is above the surveyed reference point

Flow - In cubic feet per second (cfs)

GWE- Groundwater elevation in feet above mean sea level (ft amsl)

TABLE 2
Hay Ranch Project Groundwater Baselines and Trigger Levels
August 2013

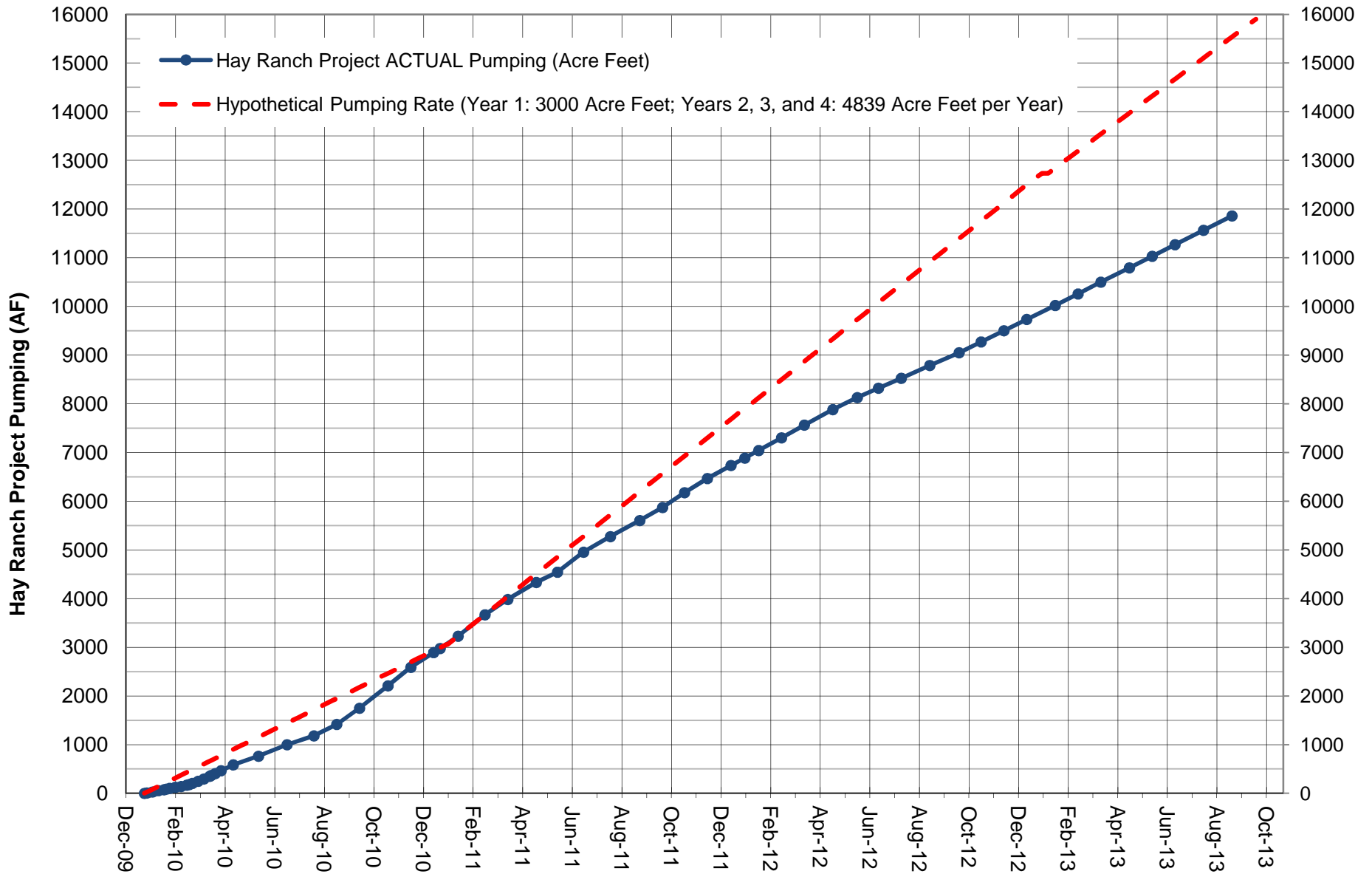
Well ID	Monitoring Point	Baseline GWE ¹ (feet amsl)	Recent Date of Measurement	Recent GWE (feet amsl)	Recent GWE Compared to Baseline (feet)	Recent GWE Above Max DD ² (feet)	Trigger Level At Cessation of Pumping ³ (feet)	Recent GWE Compared to Trigger Level (feet)
RV-40	Dunmovin	3252.73	08/21/13	3241.62	-11.11	12.19	23.2	12.09
RV-80	HR 2A	3240.92	08/21/13	3231.60	-9.32	18.28	27.6	18.28
RV-90	Coso Jct Ranch	3230.65	08/21/13	3228.94	-1.71	9.99	11.3	9.59
RV-100	Coso Jct Store #1	3227.59	08/21/13	3224.97	-2.62	7.48	9.5	6.88
RV-120	Red Hill Well	3200.66	08/21/13	3200.76	0.10	4.00	1.8	1.90
RV-130	G-36	3198.35	08/21/13	3198.90	0.55	3.95	1.0	1.55
RV-140	Lego	3199.21	07/17/13	3199.86	0.65	2.95	0.0	0.65
RV-150	Cinder Road	3186.92	08/21/13	3186.70	-0.22	2.08	0.2	-0.02
RV-160	18-28 GTH	3187.67	07/17/13	3188.45	0.78	2.88	0.0	0.78
RV-180	LLR North Well	3158.88	08/22/13	3158.66	-0.22	1.08	0.0	-0.22

1) GWE: Groundwater elevation measured in feet above mean sea level. Baseline GWEs set January 2010 and March 2011 and approved by Inyo County Water Department

2) Max DD: Maximum Acceptable Drawdown from Table 2 of "Addendum to HMMP for CUP#2007-003/Coso Operating Company, LLC"

3) Trigger Level at Cessation of Pumping from Table 2 of "Addendum to HMMP for CUP#2007-003/Coso Operating Company, LLC"

FIGURE 1
HYPOTHETICAL AND ACTUAL HAY RANCH PROJECT PUMPING



Note: Coso Operating Co. initiated Hay Ranch Project pumping on 12/25/09.

The "hypothetical pumping rate" is based on a pumping rate of 3000 AF per year for 12/25/09 to 12/31/10, and 4839 AF per year for 2011 and 2012.