

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

September 8, 2009

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

Dear Mr. Harrington:

This letter is intended to summarize hydrologic monitoring activities conducted in August 2009 by TEAM Engineering & Management, Inc. (TEAM), related to the Hay Ranch Water Extraction Project and CUP #2007-03.

### **Baseline Data Collection**

During the period of August 19-20, 2009, static depth-to-water (DTW) measurements, one visual observation (of the Siphon Well Outflow) and one set of flow rates were collected by TEAM from 22 monitoring locations in the Rose Valley area, as summarized in the attached table (Table 1). Transducer pressure data were downloaded from 12 units, including one "BaroTroll" measuring barometric pressure. On August 4, a DTW measurement at LADWP 816 Well was taken by LADWP personnel.

A bathymetric survey was conducted by TEAM on August 28 at 21 points across Little Lake. Depth to bottom was measured and location was recorded using a hand held GPS unit. Location and depth information are provided in the attached table (Table 2) and the attached figure (Figure 1).

Historic DTW and ground water elevation data collected by Coso Operating Company staff and LADWP staff has been transferred to TEAM, and QA/QC is being conducted.

### **Baseline Data Collection Exceptions**

The pressure transducer installed in well Hay Ranch North was determined to have a faulty pressure sensor. Manual depth to water from this location was recorded. This well will become one of the Hay Ranch Project Production Wells. Manual DTW readings will continue to be taken on a monthly basis during the baseline period, but a new pressure transducer will not be installed.

### **Maintenance/Installation Activities**

Data logging pressure transducers and well security were installed at three monitoring points: the Little Lake Ranch North Well (RV-180), the Little Lake Ranch Dock Well (RV-210), and the

Little Lake Ranch Surface Level at the new Stilling Well (RV-220) located at the north end of Little Lake near the boat dock. Security was installed at G-36 Well (RV-130) and the Little Lake Ranch Hotel Well (RV-260).

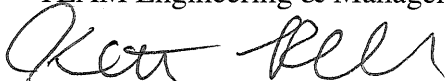
The Hay Ranch CUP Monitoring Point Matrix was updated.

Preparation and scheduling for monitoring equipment installation at the Davis Ranch and at Little Lake Ranch also occurred.

### **Data Transmittal**

An initial data transmittal system has been established between TEAM and Inyo County Water Department (ICWD) for the Hay Ranch Project. TEAM is currently developing internal Quality Assurance/Quality Control protocols and designing a comprehensive database management system for the project, with coordination with Inyo County.

Sincerely,  
TEAM Engineering & Management, Inc.

A handwritten signature in black ink, appearing to read "Keith Rainville".

Keith Rainville  
Staff Geologist

**Table 1**  
**Field Observations of Rose Valley Hydrologic Monitoring Points**  
**August 2009**

Project Name:	<b>Hay Ranch Project HMMP</b>	Date: August 31, 2009
Location:	<b>Rose Valley, Inyo County</b>	
Observer(s):	K, Rainville, N. Garcia	Page: 1 of 1

Well ID	Monitoring Point	Date	Time	DTW (ft)	Flow (gpm)	GWE (ft amsl)	Method	Transducer Log Interval	Notes
RV-10	Dews	8/19/09	9:30	232.11	-	-	TEAM manual read	NA	
RV-20	LADWP 816	8/4/09	10:46	77.2	-	3437.86	LADWP manual read	NA	Data provided by LADWP in tenths of foot
RV-30	Cal Pumice	8/19/09	9:57	239.58	-	3266.31	TEAM manual read	NA	
RV-40	Dunmovin	8/19/09	11:05	294.76	-	3253.11	TEAM manual read	NA	
RV-50	Hay Ranch North	8/20/09	14:59	191.62	-	3245.37	TEAM manual read	IO	Faulty probe
RV-60	Hay Ranch 1A	8/20/09	14:29	187.98	-	3244.19	TEAM manual read	Hourly	TDS = 812
RV-61	Hay Ranch 1B	8/20/09	14:37	188.82	-	3243.03	TEAM manual read	Hourly	TDS = 818
RV-62	Hay Ranch 1C	8/20/09	14:44	186.10	-	3245.40	TEAM manual read	Hourly	TDS = 732
RV-70	Hay Ranch South	-	-	-	-	-	-	NA	
RV-80	Hay Ranch 2A	8/20/09	13:45	191.97	-	3241.03	TEAM manual read	Hourly	TDS = 755
RV-81	Hay Ranch 2B	8/20/09	13:50	194.07	-	3238.56	TEAM manual read	Hourly	TDS = 756
RV-82	Hay Ranch 2C	8/20/09	14:11	189.54	-	3242.56	TEAM manual read	Hourly	TDS = 743
RV-90	Coso Jct Ranch	8/20/09	13:18	170.93	-	3232.20	TEAM manual read	Hourly	
RV-100	Coso Jct Store #1	8/20/09	13:01	142.65	-	3229.47	TEAM manual read	Hourly	
RV-120	Red Hill Well (BLM)	8/20/09	11:50	140.16	-	3200.67	TEAM manual read	Hourly	TDS = 515
RV-130	G-36	8/19/09	11:55	180.14	-	3199.88	TEAM manual read	NA	Locking cap adds .18 to RP elevation
RV-140	Lego	8/20/09	11:20	222.25	-	3200.58	TEAM manual read	NA	
RV-150	Cinder Road	8/20/09	12:25	190.93	-	3187.03	TEAM manual read	Hourly	
RV-160	18-28 GTH	8/20/09	10:40	174.09	-	3188.49	TEAM manual read	Hourly	
RV-170	Fossil Falls Campground	8/19/09	12:29	141.16	-	3175.61	TEAM manual read	NA	
RV-180	LLR North Well	8/20/09	9:40	40.16	-	3158.99	TEAM manual read	Hourly	PT installed 8/28/09
RV-210	LLR Dock Well	8/20/09	9:25	6.35	-	-	TEAM manual read	Hourly	PT installed 8/28/09
RV-220	LLR Surface Level	8/28/09	9:45	3.91	-	-	TEAM manual read	Hourly	Stilling Well installed 8/27/09 with PT
RV-250	LLR Siphon Discharge	8/20/09	10:05	-	Yes	-	TEAM visual read	NA	Discharging into Pond 2
RV-260	LLR Hotel Well	8/27/09	-	-	-	-	-	NA	Security installed around well
RV-110	Davis Springs North	-	-	-	-	-	-	NA	
RV-111	Davis Springs South	8/19/09	10:28	-	4.4	-	TEAM bucket/stopwatch	NA	Averaged over 5 readings: 4gal/55sec

NM - not measured; NA - not applicable; IO - Inoperative

DTW - Depth to water in feet below top of casing or other reference point

**Table 2**  
**Little Lake Bathymetry Field Observations**  
**August 2009**

Project Name:	<b>Hay Ranch Project HMMP</b>	Date: August 28, 2009
Location:	<b>Little Lake, Rose Valley</b>	<b>Bathymetry Event</b>
Observer(s):	K, Rainville	Page: 1 of 1

Time:	9:45-11:30 a.m.
Lake Level:	1.09 feet below NE corner of LLR east weir box at south end of lake Also 3.91 ft below Stilling Well top of casing at north end of lake
GPS Device:	Garmin 60 CSx used with average satellite accuracy of +/- 20 feet horizontal
Datum:	Decimal Degrees, WGS 84
Depth Device:	Depth taken with 12' tape with 1/10 foot increments
Conditions:	Warm and calm, with mild breeze from the Northwest

Location	West	North	Depth (ft)
LL 1	117.90200	35.95200	2.5
LL 2	117.90160	35.95100	3.2
LL 3	117.90270	35.95100	2.9
LL 4	117.90160	35.95000	3.4
LL 5	117.90270	35.95000	3.3
LL 6	117.90160	35.94900	3.9
LL 7	117.90270	35.94900	3.7
LL 8	117.90160	35.94800	3.8
LL 9	117.90270	35.94800	4.0
LL 10	117.90160	35.94700	4.0
LL 11	117.90270	35.94700	4.6
LL 12	117.90265	35.94535	4.7
LL 13a	117.90350	35.94640	4.8
LL 13	117.90270	35.94600	4.4
LL 14	117.90390	35.94500	4.4
LL 15	117.90400	35.94420	4.1
LL 16	117.90560	35.94383	3.6
LL 17	117.90610	35.94260	4.1
LL 18	117.90500	35.94285	4.4
LL 19	117.90625	35.94179	3.8
LL 20	117.90615	35.94090	1.7



**LEGEND:**

- LL 1 - Data Point ID
- - Data Point Location
- 2.5 - Depth (feet)

