

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

December 30, 2010

RE: Summary of Hydrologic Monitoring Activities December 2010
Rose Valley, Inyo County, California
Hay Ranch Project Conditional Use Permit #2007-03

Dear Dr. Harrington:

This letter is intended to summarize hydrologic monitoring activities conducted in December 2010 by TEAM Engineering & Management, Inc. (TEAM), related to the Hay Ranch Water Extraction Project and CUP #2007-03.

Phase 2: Startup Monitoring and Reporting

With the initiation of pumping by Coso Operating Company on December 25, 2009, the Hay Ranch Water Extraction Project entered into the Phase 2 Startup Monitoring and Reporting period as outlined in the Hydrologic Monitoring and Mitigation Plan (HMMP).

During the December 2010 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 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 December 13, 15 and 23. Pressure transducer data were downloaded from 24 units, including one "BaroTroll" measuring barometric pressure. On December 7, a DTW measurement at LADWP 816 Well was taken by LADWP personnel.

With the completion of the permanent water tank in May 2010 at the Hay Ranch Property, groundwater flow from the Hay Ranch South Well is being recorded at the HRS B Totalizer. This totalizer went on-line May 12, 2010 with an initial reading of 0 gallons. The HRS A Totalizer, which had captured all flow pumped from the Hay Ranch South Well before May 12, has been removed. The amount of groundwater captured by HRS A for the Hay Ranch Project was 245,294,000 gallons (753 acre feet). Groundwater pumped from the Hay Ranch North Well, the project's reserve production well, is being measured at the HRN C Totalizer. The HRN C Totalizer went online in May 2010 with an initial reading of 0 gallons.

The HRS B Totalizer read 459,455,000 gallons at 9:52 hours, December 23. The HRN C Totalizer read 264,959,000 gallons at 9:53 hours, December 23. The combined totals from HRS A, HRS B, and HRN C represent approximately 969,708,000 gallons (2976 acre feet) of groundwater extracted from the Hay Ranch property wells since project initiation on December 25, 2009.

Figure 1 presents the combined amount of groundwater pumped from the Hay Ranch North and South wells from December 25, 2009 to December 23, 2010 in acre feet (AF) compared to a hypothetical pumping amount. The hypothetical pumping amount assumes a linear pumping rate (approximately 8.2 AF/day) which starts on December 25, 2009 and reaches 3000 AF on December 25, 2010.

Dunmovin Trigger Level

In Table 3.1 of the HMMP for the Hay Ranch Project, Trigger Levels have been set for the one-year time period at specific monitoring wells. Approximately 12 months (1 year) has elapsed since the Hay Ranch Project's pumping was initiated. Based on data collected by TEAM during the December monitoring event, the groundwater elevation (GWE) in the Dunmovin Well is below the one-year Trigger Level (Table 2).

The baseline groundwater elevation (GWE) for Dunmovin, set by Inyo County Water Department (ICWD) in January 2010, is 3252.73 feet. The GWE at Dunmovin as measured at 10:00 on December 15, 2010 was 3250.37 feet. The one-year Trigger Level for Dunmovin is 1.1 feet. The Dunmovin GWE has decreased by 2.36 feet compared to its baseline, exceeding its one-year Trigger Level drawdown by 1.26 feet. The Dunmovin GWE was 0.44 feet above its Maximum Acceptable Drawdown level as of December 15. The maximum GWE recorded at Dunmovin Well was 3253.60 and occurred on January 21, 2010. The minimum GWE recorded at the Dunmovin Well was 3250.37 and occurred on December 15, 2010. Inyo County Water Department and Coso Operating Company were notified by TEAM in a timely manner regarding this continuing trigger level event.

Groundwater elevations are above one-year Trigger Levels and above Maximum Acceptable Drawdowns at all other Hay Ranch Project monitoring wells which have baseline and trigger levels established.

Quarterly Groundwater Monitoring

On December 13, groundwater samples were collected from the Hay Ranch South, Coso Junction Store #2, and Little Lake Ranch North Well as part of the quarterly monitoring activities specified in the HMMP. These groundwater samples were analyzed for total dissolved solids (TDS) by TestAmerica, Inc. a California-Certified Analytical Laboratory. During sample collection, groundwater physical parameters were monitored by a Horiba U52 MPS hand-held unit. Lab results from TestAmerica are included with this report.

At the Hay Ranch South Well (HRS), approximately 11,000 gallons of groundwater were purged from the well preceding sample collection. The groundwater sample, HR Production, was collected from the Hay Ranch South production outflow pipe at 16:35 hours. The laboratory analytical result from HR Production was TDS 730 mg/L. The physical parameters of the groundwater from HRS outflow pipe immediately prior to sampling (16:34 hours) were as follows: temperature 22.6 C; specific conductivity 1130 uS/cm; TDS 726 mg/L.

At the Coso Junction Store #2 Well (CJS#2), the groundwater sample, CJS#2, was collected from the groundwater holding tank located 20 yards north of this active supply well. Water was purged from the holding tank's sample port until groundwater physical parameters stabilized; approximately 10 gallons of water was purged. The CJS#2 groundwater sample was collected from the holding tank's sample port at 16:12 hours. The laboratory analytical result from CJS#2 was TDS 430 mg/L. The physical parameters of the groundwater from CJS#2 holding tank immediately prior to sampling (16:10 hours) were as follows: temperature 22.7 C; specific conductivity 676 uS/cm; TDS 433 mg/L.

At the Little Lake Ranch North Well (LLR North), approximately 12 gallons of groundwater were purged from the well preceding sample collection. The groundwater sample, LLR North, was collected 11:28 hours. The laboratory analytical result from LLR North was TDS 520 mg/L. The physical parameters of the groundwater from LLR North immediately prior to sampling (11:26 hours) were as follows: temperature 23.3° C; specific conductivity 882 uS/cm; TDS 565 mg/L.

Operational Notes

The pressure transducer in HR 2A (RV80) experienced technical difficulties with power supply; as a result, the November 17 to December 23 data was lost. This transducer was replaced with a temporary unit on December 23, and a permanent replacement will be installed during the January 2011 field event.

During the week of December 16-23, a large storm brought significant amounts of snow to the Sierra Nevada mountains and rain to the Owens Valley floor. Preliminary data from the LADWP weather station at South Haiwee Reservoir, located approximately 5 miles north of the Hay Ranch property, reported approximately 4.5 inches of precipitation during the December 16-23 period. During the same date range, preliminary data from the BLM's Remote Automated Weather Station (RAWS) at Five Mile Canyon road (station FMRC1), located approximately 5 miles south-southwest of Little Lake at an elevation of 4,150 feet, reported approximately 3.5 inches of precipitation. Preliminary data from the California Department of Water Resources' Cottonwood Lakes weather station, located approximately 30 miles north of the Hay Ranch property in the Sierra at an elevation of 10,150 feet, reported approximately 10 inches of water content in the form of snow during the same date range.

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).

* * * * *

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
December 13,15 and 23, 2010

Project Name:	Hay Ranch Project HMMP	Date: December 13, 15 and 23, 2010
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	12/15/10	16:00	231.29		3755.63	TEAM manual read	NA	
RV-20	LADWP 816	12/7/10	12:16	80.07		3434.99	LADWP manual read	NA	Data provided by LADWP
RV-30	Cal Pumice	12/15/10	9:52	253.03		3252.86	TEAM manual read	Hourly	
RV-40	Dunmovin	12/15/10	10:00	297.50		3250.37	TEAM manual read	NA	
RV-50	Hay Ranch North	12/23/10	9:53	NM	Yes	NM	TEAM manual read	NA	264,959,000 gallons (813 AF) pumped since 12/25/09
RV-60	Hay Ranch 1A	12/15/10	12:13	197.00		3235.17	TEAM manual read	Hourly	
RV-61	Hay Ranch 1B	12/15/10	12:20	221.95		3209.90	TEAM manual read	Hourly	
RV-62	Hay Ranch 1C	12/15/10	12:25	214.21		3217.29	TEAM manual read	Hourly	
RV-70	Hay Ranch South	12/23/10	9:52	NM	Yes	NM	TEAM manual read	NA	704,749,000 gallons (2166 AF) pumped since 12/25/09
RV-80	Hay Ranch 2A	12/15/10	15:06	198.10		3234.90	TEAM manual read	Hourly	
RV-81	Hay Ranch 2B	12/15/10	14:53	219.35		3213.28	TEAM manual read	Hourly	
RV-82	Hay Ranch 2C	12/15/10	14:46	207.60		3224.50	TEAM manual read	Hourly	
RV-90	Coso Jct Ranch	12/15/10	11:42	171.45		3231.68	TEAM manual read	Hourly	
RV-100	Coso Jct Store #1	12/15/10	12:41	144.16		3227.96	TEAM manual read	Hourly	
RV-110	Davis Ranch North Well	12/13/10	14:44	6.47		3886.53	TEAM manual read	Hourly	
RV-111	Davis Ranch South Well	12/13/10	14:13	11.25		3886.75	TEAM manual read	Hourly	
RV-112	Davis Ranch South Flow	12/13/10	14:22	NA	0.010	NA	TEAM manual read	Hourly	
RV-120	Red Hill Well (BLM)	12/15/10	14:02	139.83		3201.00	TEAM manual read	Hourly	
RV-130	G-36	12/15/10	13:44	180.05		3199.97	TEAM manual read	NA	
RV-140	Lego	12/15/10	13:31	222.01		3200.84	TEAM manual read	Hourly	
RV-150	Cinder Road	12/15/10	10:37	190.93		3187.03	TEAM manual read	Hourly	
RV-160	18-28 GTH	12/15/10	13:09	173.92		3188.66	TEAM manual read	Hourly	
RV-170	Fossil Falls Campground	12/15/10	11:10	141.01		3175.76	TEAM manual read	NA	
RV-180	LLR North Well	12/13/10	11:00	40.08		3159.02	TEAM manual read	Hourly	
RV-210	LLR Dock Well	12/13/10	11:57	6.14		3148.00	TEAM manual read	Hourly	
RV-220	LLR Stilling Well (lake surface)	12/13/10	12:02	3.67		3147.37	TEAM manual read	Hourly	
RV-230	LLR Little Lake Outflow	12/13/10	12:44	NA	0.95	NA	TEAM manual read	Hourly	
RV-240	LLR Coso Springs Flow	12/13/10	12:30	NA	0.34	NA	TEAM manual read	Hourly	
RV-245	LLR North Culvert Flow	12/13/10	13:15	NA	1.75	NA	TEAM manual read	Hourly	
RV-250	LLR Siphon Discharge	12/13/10	13:00	NA	Yes	NA	TEAM visual read	NA	Siphon Well flowing into Pond 2
RV-260	LLR Hotel Well	12/13/10	10:32	0.48		3138.30	TEAM manual read	Hourly	Pressure gauge reads 0 psi

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

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

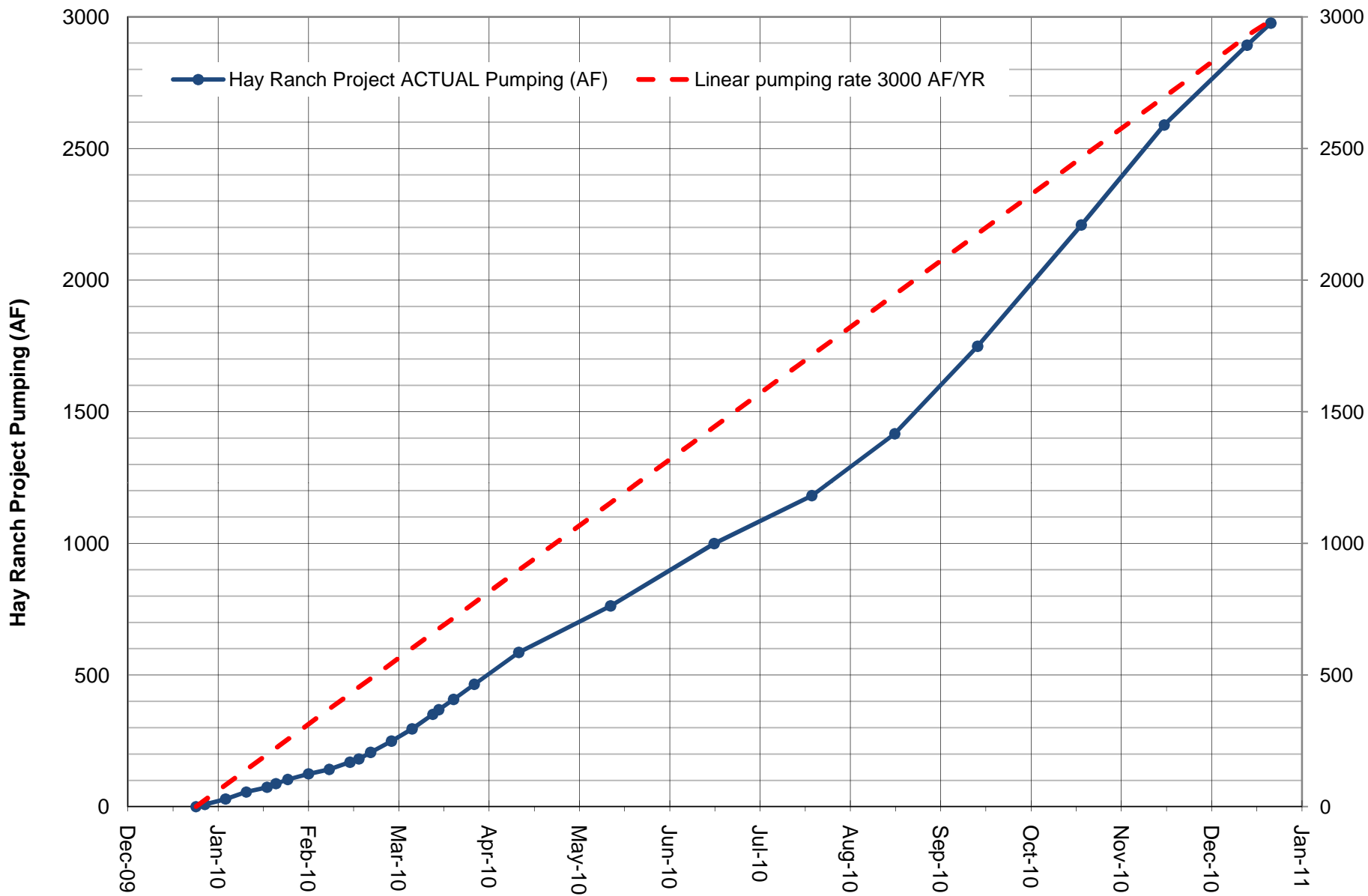
GWE- Groundwater elevation in feet above mean sea level

TABLE 2
HAY RANCH PROJECT GROUNDWATER BASELINES AND TRIGGER LEVELS
 December 2010

Well ID	Monitoring Point	Baseline GWE ¹	Recent Date of Measurement	Recent GWE	Recent GWE Compared to Baseline	Recent GWE Above Max DD ²	Trigger Level At 1 year elapsed	Recent GWE Compared to Trigger Level
RV-30	Cal Pumice	TBD ³	12/15/10	3252.86	NA	NA	5.3	NA
RV-40	Dunmovin	3252.73	12/15/10	3250.37	-2.36	0.44	1.1	-1.26
RV-90	Coso Jct Ranch	3230.65	12/15/10	3231.68	1.03	3.53	1.4	2.43
RV-100	Coso Jct Store #1	3227.59	12/15/10	3227.96	0.37	2.67	1.2	1.57
RV-120	Red Hill Well	3200.66	12/15/10	3201.00	0.34	TBD ⁴	TBD ⁴	NA
RV-130	G-36	3198.35	12/15/10	3199.97	1.62	2.72	0.2	1.82
RV-140	Lego	3199.21	12/15/10	3200.84	1.63	2.73	0.2	1.83
RV-150	Cinder Road	3186.92	12/15/10	3187.03	0.11	0.81	0.2	0.31
RV-160	18-28 GTH	3187.67	12/15/10	3188.66	0.99	1.99	0.2	1.19
RV-180	LLR North Well	3158.88	12/13/10	3159.02	0.14	0.54	0.2	0.34

- 1) GWE: Groundwater elevation measured in feet above mean sea level. Baseline GWEs set 1/25/10 and approved by Inyo County Water Department
- 2) Max DD: Maximum Acceptable Drawdown from HMMP Table 3-1
- 3) Cal Pumice Well baseline groundwater elevation has not been set
- 4) Trigger Levels and Maximum Acceptable Drawdown levels for Red Hill Well have not been set

FIGURE 1
 HYPOTHETICAL AND ACTUAL HAY RANCH PROJECT PUMPING



Note: Coso Operating Co. initiated Hay Ranch Project pumping on 12/25/09.
 The "linear pumping rate" shown above is a hypothetical pumping rate that reaches 3000 Acre Feet (AF) in one year with pumping evenly distributed at 8.2 AF/day.