

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

November 2, 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 October 2009 by TEAM Engineering & Management, Inc. (TEAM), related to the Hay Ranch Water Extraction Project and CUP #2007-03.

Baseline Data Collection

On October 14 and 15, 2009, static depth-to-water (DTW) measurements, one visual observation (of the Siphon Well Outflow) and four sets of flow rates were collected by TEAM from 30 monitoring locations in the Rose Valley area, as summarized in the attached table (Table 1). Pressure transducer data were downloaded from 24 units, including one "BaroTroll" measuring barometric pressure. On October 27, a DTW measurement at LADWP 816 Well was taken by LADWP personnel.

On the afternoon of October 1, a groundwater sample and quality assurance duplicate sample were collected from Little Lake Ranch North Well and analyzed for total dissolved solids (TDS). The groundwater samples were analyzed by Test America, Inc. a California-Certified Analytical Laboratory. Preceding sample collection, approximately 25 gallons of groundwater were purged from the well with physical parameters being monitored by a YSI 556 MPS hand-held unit. The two groundwater samples were collected at 17:30 hours and 17:35 hours, respectively. The laboratory analytical results from the Little Lake Ranch North groundwater sample (LLRN1) and the quality assurance duplicate (LLRN2) were as follows: LLRN1 TDS 570 mg/L; LLRN2 TDS 570 mg/L. Lab results from Test America are included with this report.

The physical parameters, as measured by the YSI 556 MPS, of the groundwater from Little Lake North Well immediately before time of sample (17:27 hours) were as follows: temperature 23.4 C; specific conductivity 937 uS/cm. Readings from the Aqua Troll 200 pressure transducer installed in the Little Lake North Well were as follows: time 17:05, temperature 22.8 C, specific conductivity 935 uS/cm, TDS (calculated) 608 mg/L; time 18:05, temperature 22.8 C, specific conductivity 935 uS/cm, TDS (calculated) 608 mg/L.

Baseline Data Collection Exceptions

There were no notable baseline data collection exceptions. However, one of the project monitoring points, RV-150 (Cinder Road Well), was vandalized. The vandal was unable to gain entry to the protective job box, and there was no damage to the well casing or pressure transducer inside. The lock at RV-150 was damaged by gun-shot and, subsequently, replaced.

Maintenance/Installation Activities

Data logging pressure transducers were installed at two wells: the Davis Ranch South Well (RV-111) and at the Lego Well (RV-140). At the Davis Ranch South Well, a new well vault was installed.

Three flow monitoring devices were installed at Little Lake Ranch: Little Lake Outflow (RV230), Coso Springs (RV240), and North Culvert (RV245). Each of these three flow monitoring devices has a stilling well with a data-logging pressure transducer installed taking hourly reads.

The Hay Ranch CUP Monitoring Point Matrix was updated.

Data Transmittal

TEAM has posted updates to the "Coso" database and also posted the database export file on the ICWD web server. A data processing system is being developed for the pressure transducer data from the four, flow-measuring devices installed at Davis Ranch and Little Lakes Ranch.

TEAM has also uploaded new Rose Valley hydrographs in PDF form to the ICWD website.

Sincerely,
TEAM Engineering & Management, Inc.



Keith Rainville
Staff Geologist

Table 1
Field Observations of Rose Valley Hydrologic Monitoring Points
October 2009

Project Name:	Hay Ranch Project HMMP	Date: October 30, 2009
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	10/14/09	10:18	231.42		3755.50	TEAM manual read	NA	
RV-20	LADWP 816	10/27/09	10:05	78.22		3436.84	LADWP manual read	NA	Data provided by LADWP
RV-30	Cal Pumice	10/14/09	8:20	240.70		3265.19	TEAM manual read	Hourly	
RV-40	Dunmovin	10/14/09	10:00	294.84		3253.03	TEAM manual read	NA	
RV-50	Hay Ranch North	10/14/09	10:35	191.62		3245.37	TEAM manual read	NA	
RV-60	Hay Ranch 1A	10/14/09	10:50	188.03		3244.14	TEAM manual read	Hourly	
RV-61	Hay Ranch 1B	10/14/09	11:02	188.81		3243.04	TEAM manual read	Hourly	
RV-62	Hay Ranch 1C	10/14/09	11:10	186.03		3245.47	TEAM manual read	Hourly	
RV-70	Hay Ranch South	10/14/09	10:40	178.58		3241.67	TEAM manual read	NA	
RV-80	Hay Ranch 2A	10/14/09	14:55	191.99		3241.01	TEAM manual read	Hourly	
RV-81	Hay Ranch 2B	10/14/09	15:00	194.06		3238.57	TEAM manual read	Hourly	
RV-82	Hay Ranch 2C	10/14/09	15:12	189.43		3242.67	TEAM manual read	Hourly	
RV-90	Coso Jct Ranch	10/14/09	8:47	170.99		3232.14	TEAM manual read	Hourly	
RV-100	Coso Jct Store #1	10/14/09	9:35	142.40		3229.72	TEAM manual read	Hourly	
RV-110	Davis Ranch North Well	10/15/09	9:29	6.48		3886.52	TEAM manual read	Hourly	
RV-111	Davis Ranch South Well	10/15/09	11:20	11.26		3886.74	TEAM manual read	Hourly	PT installed 10/14/09
RV-112	Davis Ranch South Flume	10/15/09	10:00	NA	0.00971	NA	TEAM manual read	Hourly	Appx 4.36 GPM
RV-120	Red Hill Well (BLM)	10/14/09	13:26	140.17		3200.66	TEAM manual read	Hourly	
RV-130	G-36	10/14/09	13:15	180.13		3199.89	TEAM manual read	NA	
RV-140	Lego	10/14/09	12:52	222.23		3200.62	TEAM manual read	Hourly	PT installed 10/14/09
RV-150	Cinder Road	10/15/09	14:33	190.96		3187.00	TEAM manual read	Hourly	
RV-160	18-28 GTH	10/14/09	12:12	174.11		3188.47	TEAM manual read	Hourly	
RV-170	Fossil Falls Campground	10/14/09	14:17	141.16		3175.61	TEAM manual read	NA	
RV-180	LLR North Well	10/15/09	14:30	40.19		3158.91	TEAM manual read	Hourly	
RV-210	LLR Dock Well	10/15/09	14:43	6.38		3147.76	TEAM manual read	Hourly	
RV-220	LLR Surface Level	10/15/09	14:50	3.85		3147.19	TEAM manual read	Hourly	
RV-230	LLR Little Lake Outflow	10/15/09	15:17	NA	4.00	NA	TEAM manual read	Hourly	PT installed 10/3/09; test flow 10/15/09 from lake
RV-240	LLR Coso Springs Flow	10/15/09	15:44	NA	0.523	NA	TEAM manual read	Hourly	PT installed 10/3/09
RV-245	LLR North Culvert Flow	10/15/09	16:01	NA	0.774	NA	TEAM manual read	Hourly	PT installed 10/3/09; test flow 10/15/09 from lake
RV-250	LLR Siphon Discharge	10/15/09	15:40	NA	YES	NA	TEAM visual read	NA	Discharging into Pond 2
RV-260	LLR Hotel Well	10/15/09	14:10	0.07		3138.11	TEAM manual read	Hourly	

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

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

ANALYTICAL REPORT

Job Number: 720-23025-1

Job Description: Hay Ranch, Rose Valley

For:
TEAM Engineering & Management, Inc.
PO BOX 1265
Bishop, CA 93515
Attention: Mr. Keith Rainville



Approved for release.
Dimple Sharma
Project Manager I
10/13/2009 11:09 AM

Dimple Sharma
Project Manager I
dimple.sharma@testamericainc.com
10/13/2009

CA ELAP Certification # 2496

The Chain(s) of Custody are included and are an integral part of this report.

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TestAmerica Laboratories, Inc.

TestAmerica San Francisco 1220 Quarry Lane, Pleasanton, CA 94566

Tel (925) 484-1919 Fax (925) 600-3002 www.testamericainc.com

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

General Chemistry

No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: TEAM Engineering & Management, Inc.

Job Number: 720-23025-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-23025-1 Total Dissolved Solids	LLRN1	570	50	mg/L	SM 2540C
720-23025-2 Total Dissolved Solids	LLRN2	570	50	mg/L	SM 2540C

METHOD SUMMARY

Client: TEAM Engineering & Management, Inc.

Job Number: 720-23025-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Solids, Total Dissolved (TDS)	TAL SF	SM SM 2540C	

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SAMPLE SUMMARY

Client: TEAM Engineering & Management, Inc.

Job Number: 720-23025-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-23025-1	LLRN1	Water	10/01/2009 1730	10/06/2009 0935
720-23025-2	LLRN2	Water	10/01/2009 1735	10/06/2009 0935

Analytical Data

Client: TEAM Engineering & Management, Inc.

Job Number: 720-23025-1

General Chemistry

Client Sample ID: LLRN1

Lab Sample ID: 720-23025-1

Client Matrix: Water

Date Sampled: 10/01/2009 1730

Date Received: 10/06/2009 0935

Analyte	Result	Qual	Units	RL	Dil	Method
Total Dissolved Solids	570		mg/L	50	1.0	SM 2540C

Analysis Batch: 720-58977 Date Analyzed: 10/06/2009 1356

Analytical Data

Client: TEAM Engineering & Management, Inc.

Job Number: 720-23025-1

General Chemistry

Client Sample ID: LLRN2

Lab Sample ID: 720-23025-2

Client Matrix: Water

Date Sampled: 10/01/2009 1735

Date Received: 10/06/2009 0935

Analyte	Result	Qual	Units	RL	Dil	Method
Total Dissolved Solids	570		mg/L	50	1.0	SM 2540C

Analysis Batch: 720-58977 Date Analyzed: 10/06/2009 1356

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description
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Quality Control Results

Client: TEAM Engineering & Management, Inc.

Job Number: 720-23025-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:720-58977					
LCS 720-58977/2	Lab Control Sample	T	Water	SM 2540C	
LCSD 720-58977/3	Lab Control Sample Duplicate	T	Water	SM 2540C	
MB 720-58977/1	Method Blank	T	Water	SM 2540C	
720-23025-1	LLRN1	T	Water	SM 2540C	
720-23025-2	LLRN2	T	Water	SM 2540C	

Report Basis

T = Total

Quality Control Results

Client: TEAM Engineering & Management, Inc.

Job Number: 720-23025-1

Method Blank - Batch: 720-58977

Method: SM 2540C

Preparation: N/A

Lab Sample ID: MB 720-58977/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/06/2009 0906
Date Prepared: N/A

Analysis Batch: 720-58977
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Total Dissolved Solids	ND		50

Lab Control Sample/

Lab Control Sample Duplicate Recovery Report - Batch: 720-58977

Method: SM 2540C

Preparation: N/A

LCS Lab Sample ID: LCS 720-58977/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/06/2009 0906
Date Prepared: N/A

Analysis Batch: 720-58977
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 720-58977/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/06/2009 0906
Date Prepared: N/A

Analysis Batch: 720-58977
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Total Dissolved Solids	95	97	85 - 115	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Login Sample Receipt Check List

Client: TEAM Engineering & Management, Inc.

Job Number: 720-23025-1

Login Number: 23025

List Source: TestAmerica San Francisco

Creator: Mullen, Joan

List Number: 1

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	