

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

November 1, 2010

**RE: Summary of Hydrologic Monitoring Activities October 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 October 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 October 2010 monthly hydrologic data collection event, 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 from 30 monitoring locations in the Rose Valley area, as summarized in the attached table (Table 1). Data for this monthly field event was collected on October 18 and 20. Pressure transducer data were downloaded from 24 units, including one "BaroTroll" measuring barometric pressure. On October 5, 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 332,324,000 gallons at 12:32 hours, October 20. The HRN C Totalizer read 142,300,000 gallons at 12:33 hours, October 20. The combined totals from HRS A, HRS B, and HRN C represent approximately 719,918,000 gallons (2209 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 in acre feet (AF) with 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 0.75-year time period at specific monitoring wells. Approximately ten months (0.83 years) have elapsed since the Hay Ranch Project's pumping was initiated. Based on data collected by TEAM during the October 18 and 20 monitoring event, the groundwater elevation (GWE) in the Dunmovin Well is below the 0.75-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 09:00 on October 20, 2010 was 3250.86 feet. The 0.75-year Trigger Level for Dunmovin is 0.7 feet. The Dunmovin GWE has decreased by 1.87 feet compared to its baseline, exceeding its 0.75-year Trigger Level drawdown by 1.17 feet. The Dunmovin GWE was 0.93 feet above its Maximum Acceptable Drawdown level as of October 20. 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 3250.86 and occurred on October 20, 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 0.75-year Trigger Levels and above Maximum Acceptable Drawdowns at all other Hay Ranch Project monitoring wells which have baseline and trigger levels established.

A Dunmovin Well Assessment field event was held on October 20, 2010. This field event, similar to the July 6, 2010 event at Dunmovin, evaluated pump performance, dynamic drawdown and flow amounts from the Dunmovin Well as partial fulfillment of HMMP Tasks 1.1.h and 1.1.i. Results from this assessment will be submitted to ICWD in a separate letter report due to the confidential data contained within the report.

## **Quarterly Groundwater Monitoring**

On October 18, a groundwater sample was collected from the Little Lake Ranch North Well as part of the quarterly monitoring activities specified in the HMMP. On October 20, a groundwater sample was collected from the Dunmovin Well and as part of an additional well assessment for Dunmovin. Both 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 Horriba U52 MPS hand-held unit. Lab results from TestAmerica are included with this report.

At the Little Lake Ranch North Well (LLR North), approximately 25 gallons of groundwater were purged from the well preceding sample collection. The groundwater sample, LLR North, was collected 12:36 hours. The laboratory analytical result from LLR North was TDS 600 mg/L. The physical parameters of the groundwater from LLR North immediately prior to sampling (12:36 hours) were as follows: temperature 23.4° C; specific conductivity 918 uS/cm; TDS 588 mg/L.

At the Dunmovin Well (Dunmovin), approximately 82 gallons of groundwater were purged from the well preceding sample collection. The groundwater sample, Dunmovin, was collected at 09:33 hours. The laboratory analytical result from Dunmovin was TDS 790 mg/L. The physical parameters of the groundwater from Dunmovin immediately prior to sampling (09:32 hours) were as follows: temperature 19.5° C; specific conductivity 1190 uS/cm; TDS 761 mg/L.

## Operational Notes

The Davis Ranch South Flow flume experienced partial blockage due to biological activity (root growth) during the August to September data collection period. The flume is being cleaned during each monthly field event, and the corrective solution implemented in September appears to have eliminated the biological activity during the September to October data period.

## 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](http://www.inyowater.org)). Also, the *Hay Ranch Project Conditional Use Permit Hydrologic Monitoring and Reporting, Third Quarter Report 2010, Inyo County, California* was submitted to ICWD and posted on the ICWD web site.

\* \* \* \* \*

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**  
**October 18 and 20, 2010**

Project Name:	Hay Ranch Project HMMP	Date: October 18 & 20, 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	10/20/10	13:00	231.40		3755.52	TEAM manual read	NA	
RV-20	LADWP 816	10/05/10	13:13	79.12		3435.94	LADWP manual read	NA	Data provided by LADWP
RV-30	Cal Pumice	10/18/10	9:01	252.33		3253.56	TEAM manual read	Hourly	
RV-40	Dunmovin	10/20/10	9:00	297.01		3250.86	TEAM manual read	NA	
RV-50	Hay Ranch North	10/20/10	12:33	NM	Yes	NM	TEAM manual read	NA	142,300,000 gallons (437 AF) pumped since 12/25/09
RV-60	Hay Ranch 1A	10/20/10	12:15	196.22		3235.95	TEAM manual read	Hourly	
RV-61	Hay Ranch 1B	10/20/10	12:19	227.00		3204.85	TEAM manual read	Hourly	
RV-62	Hay Ranch 1C	10/20/10	12:24	216.05		3215.45	TEAM manual read	Hourly	
RV-70	Hay Ranch South	10/20/10	12:32	NM	Yes	NM	TEAM manual read	NA	577,618,000 gallons (1772 AF) pumped since 12/25/09
RV-80	Hay Ranch 2A	10/20/10	11:50	197.53		3235.47	TEAM manual read	Hourly	
RV-81	Hay Ranch 2B	10/20/10	12:01	223.34		3209.29	TEAM manual read	Hourly	
RV-82	Hay Ranch 2C	10/20/10	11:57	209.05		3223.05	TEAM manual read	Hourly	
RV-90	Coso Jct Ranch	10/18/10	14:49	171.43		3231.70	TEAM manual read	Hourly	
RV-100	Coso Jct Store #1	10/18/10	14:36	144.01		3228.11	TEAM manual read	Hourly	
RV-110	Davis Ranch North Well	10/18/10	15:09	6.48		3886.52	TEAM manual read	Hourly	
RV-111	Davis Ranch South Well	10/18/10	15:20	11.26		3886.74	TEAM manual read	Hourly	
RV-112	Davis Ranch South Flow	10/18/10	15:37	NA	0.012	NA	TEAM manual read	Hourly	
RV-120	Red Hill Well (BLM)	10/18/10	14:20	139.97		3200.86	TEAM manual read	Hourly	
RV-130	G-36	10/20/10	11:32	180.07		3199.95	TEAM manual read	NA	
RV-140	Lego	10/20/10	11:21	222.20		3200.65	TEAM manual read	Hourly	
RV-150	Cinder Road	10/18/10	13:22	190.96		3187.00	TEAM manual read	Hourly	
RV-160	18-28 GTH	10/20/10	11:01	173.98		3188.60	TEAM manual read	Hourly	
RV-170	Fossil Falls Campground	10/18/10	13:53	140.99		3175.78	TEAM manual read	NA	
RV-180	LLR North Well	10/18/10	12:01	40.18		3158.92	TEAM manual read	Hourly	
RV-210	LLR Dock Well	10/18/10	9:40	6.49		3147.65	TEAM manual read	Hourly	
RV-220	LLR Stilling Well (lake surface)	10/18/10	9:48	4.01		3147.03	TEAM manual read	Hourly	
RV-230	LLR Little Lake Outflow	10/18/10	10:45	NA	0.02	NA	TEAM manual read	Hourly	
RV-240	LLR Coso Springs Flow	10/18/10	10:10	NA	0.31	NA	TEAM manual read	Hourly	
RV-245	LLR North Culvert Flow	10/18/10	11:15	NA	0.77	NA	TEAM manual read	Hourly	
RV-250	LLR Siphon Discharge	10/18/10	11:10	NA	Yes	NA	TEAM visual read	NA	Siphon Well flowing into Pond 2
RV-260	LLR Hotel Well	10/18/10	9:24	0.95		3137.83	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**  
**October 2010**

Well ID	Monitoring Point	Baseline GWE <sup>1</sup>	Recent Date of Measurement	Recent GWE	Recent GWE Compared to Baseline	Recent GWE Above Max DD <sup>2</sup>	Trigger Level At .75 year elapsed	Recent GWE Compared to Trigger Level
RV-30	Cal Pumice	TBD <sup>3</sup>	10/18/10	3253.56	NA	NA	3.3	NA
RV-40	Dunmovin	3252.73	10/20/10	3250.86	-1.87	0.93	0.7	-1.17
RV-90	Coso Jct Ranch	3230.65	10/18/10	3231.70	1.05	3.55	0.9	1.95
RV-100	Coso Jct Store #1	3227.59	10/18/10	3228.11	0.52	2.82	0.7	1.22
RV-120	Red Hill Well	3200.66	10/18/10	3200.86	0.20	TBD <sup>4</sup>	TBD <sup>4</sup>	NA
RV-130	G-36	3198.35	10/20/10	3199.95	1.60	2.70	0.2	1.80
RV-140	Lego	3199.21	10/20/10	3200.65	1.44	2.54	0.2	1.64
RV-150	Cinder Road	3186.92	10/18/10	3187.00	0.08	0.78	0.2	0.28
RV-160	18-28 GTH	3187.67	10/20/10	3188.60	0.93	1.93	0.2	1.13
RV-180	LLR North Well	3158.88	10/18/10	3158.92	0.04	0.44	0.2	0.24

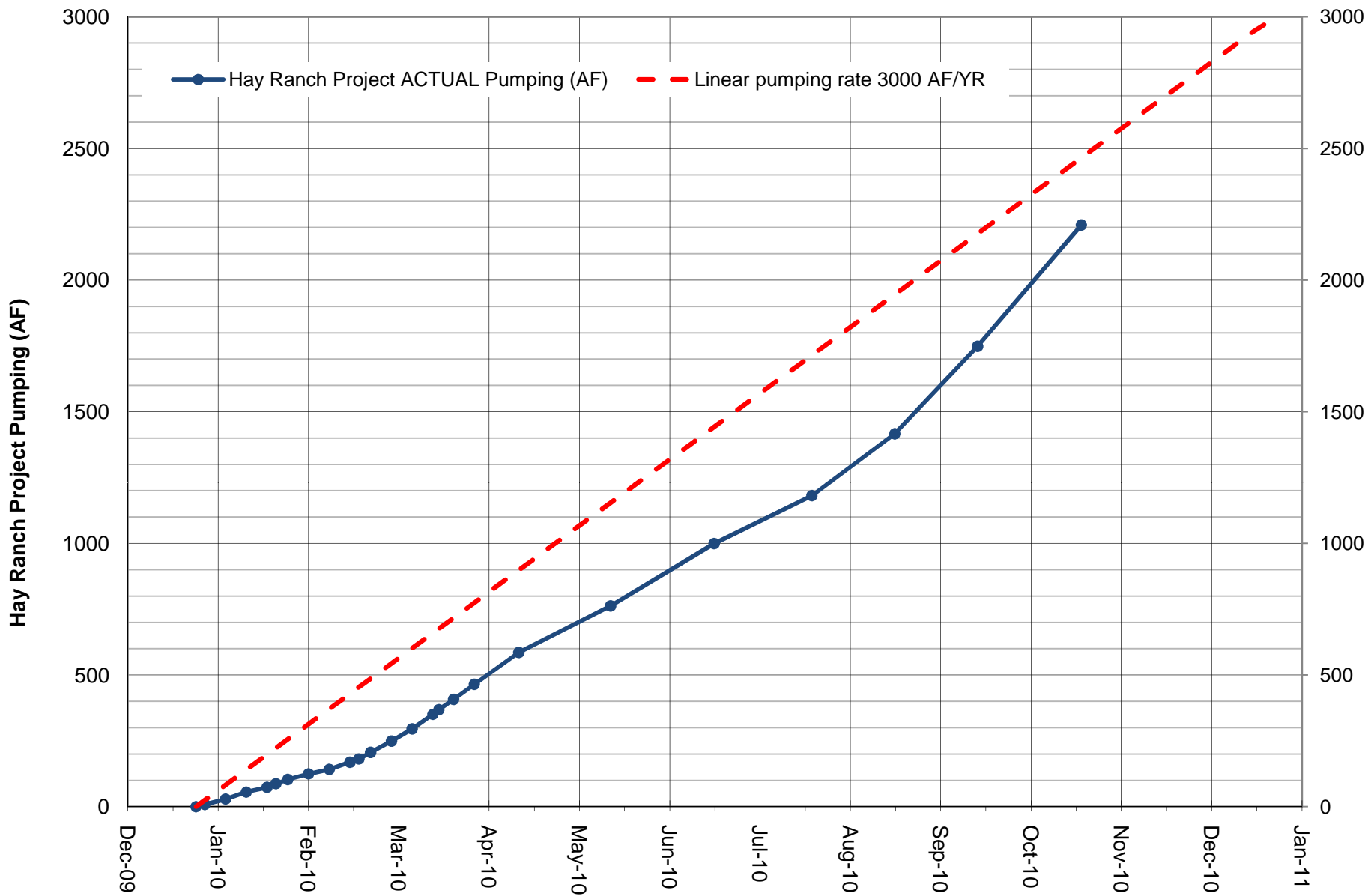
1) GWE: Groundwater elevation measured in feet above mean sea level. Baseline GWEs set 1/25/10 and approved by Inyo County Water Department

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.

## ANALYTICAL REPORT

Job Number: 720-31288-1

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  
10/25/2010 2:22 PM

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Dimple Sharma  
Project Manager I  
dimple.sharma@testamericainc.com  
10/25/2010

CA ELAP Certification # 2496

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A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

**TestAmerica Laboratories, Inc.**

TestAmerica San Francisco 1220 Quarry Lane, Pleasanton, CA 94566

Tel (925) 484-1919 Fax (925) 600-3002 [www.testamericainc.com](http://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: 720-31288-1

Lab Sample ID	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-31288-1	LLR NORTH				
Total Dissolved Solids		600	10	mg/L	SM 2540C

## METHOD SUMMARY

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31288-1

<b>Description</b>	<b>Lab Location</b>	<b>Method</b>	<b>Preparation Method</b>
<b>Matrix</b> <b>Water</b>			
Solids, Total Dissolved (TDS)	TAL CHI	SM SM 2540C	

### Lab References:

TAL CHI = TestAmerica Chicago

### Method References:

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

## SAMPLE SUMMARY

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31288-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
720-31288-1	LLR NORTH	Water	10/18/2010 1236	10/20/2010 0935

**Analytical Data**

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31288-1

---

**General Chemistry**

**Client Sample ID:** LLR NORTH

Lab Sample ID: 720-31288-1

Client Matrix: Water

Date Sampled: 10/18/2010 1236

Date Received: 10/20/2010 0935

Analyte	Result	Qual	Units	RL	Dil	Method
Total Dissolved Solids	600		mg/L	10	1.0	SM 2540C

Analysis Batch: 500-97947      Date Analyzed: 10/24/2010 0016

## DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description
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## Quality Control Results

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31288-1

### QC Association Summary

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Report Basis</u>	<u>Client Matrix</u>	<u>Method</u>	<u>Prep Batch</u>
<b>General Chemistry</b>					
<b>Analysis Batch:500-97947</b>					
LCS 500-97947/2	Lab Control Sample	T	Water	SM 2540C	
MB 500-97947/1	Method Blank	T	Water	SM 2540C	
720-31288-1	LLR NORTH	T	Water	SM 2540C	
680-62435-L-1 DU	Duplicate	T	Water	SM 2540C	
680-62435-L-1 MS	Matrix Spike	T	Water	SM 2540C	

#### Report Basis

T = Total

## Quality Control Results

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31288-1

**Method Blank - Batch: 500-97947**

**Method: SM 2540C**  
**Preparation: N/A**

Lab Sample ID: MB 500-97947/1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 10/24/2010 0010  
Date Prepared: N/A

Analysis Batch: 500-97947  
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		10

**Lab Control Sample - Batch: 500-97947**

**Method: SM 2540C**  
**Preparation: N/A**

Lab Sample ID: LCS 500-97947/2  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 10/24/2010 0013  
Date Prepared: N/A

Analysis Batch: 500-97947  
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	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids	250	256	102	80 - 120	

**Matrix Spike - Batch: 500-97947**

**Method: SM 2540C**  
**Preparation: N/A**

Lab Sample ID: 680-62435-L-1 MS  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 10/24/2010 0043  
Date Prepared: N/A

Analysis Batch: 500-97947  
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	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids	50	250	310	104	75 - 125	

## Quality Control Results

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31288-1

### Duplicate - Batch: 500-97947

**Method: SM 2540C**

**Preparation: N/A**

Lab Sample ID: 680-62435-L-1 DU  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 10/24/2010 0040  
Date Prepared: N/A

Analysis Batch: 500-97947  
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	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids	50	50.0	0	20	



STL San Francisco  
1220 Quarry Lane

Pleasanton, CA 94566  
phone 925-484-1919 fax 925-484-1096

Chain of Custody Record



STL

127644

Severn Trent Laboratories, Inc.

Client Contact TEAM Engineering & Management, Inc. P.O. Box 1265 Bishop, CA 93515 (760)872-1033 Phone (760)872-2131 FAX Project Name: Hay Ranch 2.2 Site: Rose Valley P.O.#		Project Manager: Keith Rainville Tel/Fax: 760-872-1033/872-2131		Sampler: KR Lab Contact: Dimple Sharma		Date: 10/19/10 Carrier: FedEx		COC No: _____ of _____ COCs	
Analysis Turnaround Time Calendar (C) or Work Days (W) W TAT if different from Below: 5 day <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Sample Date: 10/18/10		Sample Time: 12:36		Sample Type: Poly		Matrix: W	
Sample Identification		Sample Date		Sample Time		Sample Type		Matrix	
LLR North		10/18/10		12:36		Poly		W	
Sample Specific Notes:		Filtered Sample		TDS EPA 160.1					
		1		X					

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other \_\_\_\_\_

Possible Hazard Identification  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements & Comments: Please send results (with COC) via email to keith@teambishop.com

Relinquished by: Keith Rainville  
Company: TEAM Eng & Mgmt  
Date/Time: 10/19/10

Received by: *Josiah Hudson*  
Company: *STL*  
Date/Time: 10-20-10 9:35

Relinquished by: \_\_\_\_\_  
Company: \_\_\_\_\_  
Date/Time: \_\_\_\_\_

Received by: \_\_\_\_\_  
Company: \_\_\_\_\_  
Date/Time: \_\_\_\_\_

5.9e

## Login Sample Receipt Check List

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31288-1

Login Number: 31288

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	
Is the Field Sampler's name present on COC?	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	
Sample Preservation Verified	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	

## Login Sample Receipt Check List

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31288-1

**Login Number: 31288**

**Creator: Lunt, Jeff T**

**List Number: 1**

**List Source: TestAmerica Chicago**

**List Creation: 10/21/10 11:05 AM**

<b>Question</b>	<b>T / F / NA</b>	<b>Comment</b>
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
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	
Is the Field Sampler's name present on COC?	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	
Sample Preservation Verified	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	

## ANALYTICAL REPORT

Job Number: 720-31355-1

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  
10/25/2010 2:25 PM

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Dimple Sharma  
Project Manager I  
dimple.sharma@testamericainc.com  
10/25/2010

CA ELAP Certification # 2496

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A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

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Tel (925) 484-1919 Fax (925) 600-3002 [www.testamericainc.com](http://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: 720-31355-1

Lab Sample ID	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-31355-1	DUNMOVIN				
Total Dissolved Solids		790	10	mg/L	SM 2540C

## METHOD SUMMARY

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31355-1

<b>Description</b>	<b>Lab Location</b>	<b>Method</b>	<b>Preparation Method</b>
<b>Matrix</b> <b>Water</b>			
Solids, Total Dissolved (TDS)	TAL CHI	SM SM 2540C	

### Lab References:

TAL CHI = TestAmerica Chicago

### Method References:

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

## SAMPLE SUMMARY

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31355-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
720-31355-1	Dunmovin	Water	10/20/2010 0933	10/22/2010 1000



**Analytical Data**

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31355-1

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**General Chemistry**

**Client Sample ID:** Dunmovin

Lab Sample ID: 720-31355-1

Client Matrix: Water

Date Sampled: 10/20/2010 0933

Date Received: 10/22/2010 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Total Dissolved Solids	790		mg/L	10	1.0	SM 2540C

Analysis Batch: 500-97947      Date Analyzed: 10/24/2010 0028

## DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description
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## Quality Control Results

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31355-1

### QC Association Summary

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Report Basis</u>	<u>Client Matrix</u>	<u>Method</u>	<u>Prep Batch</u>
<b>General Chemistry</b>					
<b>Analysis Batch:500-97947</b>					
LCS 500-97947/2	Lab Control Sample	T	Water	SM 2540C	
MB 500-97947/1	Method Blank	T	Water	SM 2540C	
720-31355-1	Dunmovin	T	Water	SM 2540C	
680-62435-L-1 DU	Duplicate	T	Water	SM 2540C	
680-62435-L-1 MS	Matrix Spike	T	Water	SM 2540C	

#### Report Basis

T = Total

## Quality Control Results

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31355-1

**Method Blank - Batch: 500-97947**

**Method: SM 2540C**  
**Preparation: N/A**

Lab Sample ID: MB 500-97947/1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 10/24/2010 0010  
Date Prepared: N/A

Analysis Batch: 500-97947  
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		10

**Lab Control Sample - Batch: 500-97947**

**Method: SM 2540C**  
**Preparation: N/A**

Lab Sample ID: LCS 500-97947/2  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 10/24/2010 0013  
Date Prepared: N/A

Analysis Batch: 500-97947  
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	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids	250	256	102	80 - 120	

**Matrix Spike - Batch: 500-97947**

**Method: SM 2540C**  
**Preparation: N/A**

Lab Sample ID: 680-62435-L-1 MS  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 10/24/2010 0043  
Date Prepared: N/A

Analysis Batch: 500-97947  
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	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids	50	250	310	104	75 - 125	

## Quality Control Results

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31355-1

### Duplicate - Batch: 500-97947

**Method: SM 2540C**

**Preparation: N/A**

Lab Sample ID: 680-62435-L-1 DU  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 10/24/2010 0040  
Date Prepared: N/A

Analysis Batch: 500-97947  
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	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids	50	50.0	0	20	

720-31355

127206

### Chain of Custody Record

STL San Francisco  
1220 Quarry Lane



STL

Pleasanton, CA 94566  
phone 925-484-1919 fax 925-484-1096

Severn Trent Laboratories, Inc.

Client Contact TEAM Engineering & Management, Inc. P.O. Box 1286 Bishop, CA 93515 (760)872-1033 Phone (760)872-2131 FAX Project Name: Hay Ranch 2.2 Site: Rose Valley P O # _____		Project Manager: Keith Rainville Tel/Fax: 760-872-1033/872-2131 Analysis Turnaround Time Calendar (C) or Work Days (W) _____ W _____ TAT if different from Below _____ <input type="checkbox"/> 5 day <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Sampler: KR Lab Contact: Dimple Sharma Date: 10/21/10 Carrier: FedEx COC No: _____ of _____ COCs Job No. _____ SDG No. _____	
Sample Identification Dummovin 10/20/10 9:33 Poly W 1	Sample Date Sample Time Sample Type Matrix # of Cont.	Filtered Sample TDS EPA 160.1			
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____ Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown Special Instructions/QC Requirements & Comments: <b>Please send results (with COC) via email to keith@teambishop.com</b>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Relinquished by: Keith Rainville Relinquished by: _____ Relinquished by: _____			

## Login Sample Receipt Check List

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31355-1

**Login Number: 31355**

**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	
Is the Field Sampler's name present on COC?	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	
Sample Preservation Verified	N/A	
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	

## Login Sample Receipt Check List

Client: TEAM Engineering & Management, Inc.

Job Number: 720-31355-1

**Login Number: 31355**

**Creator: Lunt, Jeff T**

**List Number: 1**

**List Source: TestAmerica Chicago**

**List Creation: 10/23/10 10:54 AM**

<b>Question</b>	<b>T / F / NA</b>	<b>Comment</b>
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
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	
Is the Field Sampler's name present on COC?	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	
Sample Preservation Verified	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	