

SUMMARY OF OPERATIONS PHASE 1 ASR PROJECT

WATER YEAR 2010



JULY 2011



July 28, 2010 Project No. 06-0027

Monterey Peninsula Water Management District Post Office Box 85 Monterey, California 93942-0085

Attention: Mr. Joe Oliver, Water Resources Manager

Subject: Summary of Operations Report; Phase 1 ASR Project, Water Year 2010

Dear Mr. Oliver:

We are transmitting 12 hard copies and 1 digital image (PDF) of the subject report documenting operations of the Phase 1 ASR Project (a.k.a. Water Project 1) during Water Year 2010 (WY 2010). As you are aware, WY 2010 was an "Above Normal" hydrologic year on the Monterey Peninsula. WY 2010 was also the first year that both ASR-1 and ASR-2 wells were operational and injecting simultaneously for an entire injection season. These factors combined resulted in a total volume of 1,111 acre-feet (af) of water diverted from the Carmel River system for recharge in the Seaside Groundwater Basin, exceeding the project's projected average annual yield of 920 acre-feet per year (afy) and the sum-total of all injection for the previous 5 years of project operation.

We appreciate the opportunity to provide assistance to the District on this important project, and look forward to your comments.

Sincerely,

PUEBLO WATER RESOURCES, INC.

Robert C. Marks, P.G., C.Hg. Principal Hydrogeologist

Stephen P. Tanner, P.E. Principal Engineer

Copies submitted: 12 hard, 1 digital (PDF)

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INTRODUCTION

GENERAL STATEMENT

Presented in this report are the principal findings, conclusions, and recommendations resulting from operations of the Phase 1 Aquifer Storage and Recovery (ASR) Project (a.k.a. Water Project No. 1) during Water Year 2010 (WY 2010), which extends from October 1, 2009 through September 30, 2010. The Phase 1 ASR Project is part of the Monterey Peninsula Water Management District's (District) ongoing implementation of ASR in the Seaside Groundwater Basin (SGB). The Phase 1 ASR Project site (a.k.a. the Santa Margarita site) is located on a parcel leased by the District on former Fort Ord property along General Jim Moore Boulevard in the northeast corner of the City of Seaside, California, and is shown on Figure 1 - Site Location Map. During WY 2010, approximately 1,111 acre-feet (af) were recharged in the SGB, exceeding the project's projected average annual yield of 920 acre-feet per year (afy) and the previous single largest injection year of 411 af (in WY 2006). A histogram of injection and recovery operations at the Phase 1 ASR project site is shown on Figure 2.

BACKGROUND

The water supply for the Monterey Peninsula originates from two primary sources: the Carmel River system and the Seaside Groundwater Basin (SGB). ASR is a form of managed aquifer recharge and storage (or "groundwater banking") that involves the conjunctive use of surface and groundwater resources. As applied to the Monterey Peninsula, ASR involves the diversion of excess winter and spring time flows from the Carmel River system for conveyance to ASR wells in the SGB. The excess water is captured by California American Water (CAW) wells in the Carmel Valley during periods when flows in the Carmel River exceed fisheries bypass flow requirements, treated to potable drinking water standards, and then conveyed through CAW's distribution system to Seaside. Recharge is accomplished via injection of these excess flows into specially designed ASR wells in the SGB. The recharged water is temporarily stored underground in the SGB, utilizing the available storage space within the aquifer system. During periods of high demand, the same ASR wells and/or existing CAW production wells in the SGB are used to recover this "banked" water, which in turn allows for reduced extractions from the Carmel River system during dry periods.

The District has been developing an ASR project since 1996. The District's efforts have evolved over time from the performance of various technical feasibility investigations, leading to the construction and testing of pilot- and then full-scale ASR test wells to demonstrate the viability and operational parameters for ASR wells in the SGB. As designed, the Phase 1 ASR Project is capable of recharging up to the State Water Resources Control Board water right maximum annual diversion limit of 2,426 acre-feet per year (afy) at a combined injection rate of 6.7 cubic feet per second (equivalent to approximately 3,000 gallons per minute [gpm]), with an

average annual yield of approximately 920 afy. An Environmental Impact Report/Environmental Assessment (EIR/EA) has been certified¹ by the District for construction of the Phase 1 ASR Project, and the District has received permanent water rights for the project, held jointly with CAW, from the State Water Resources Control Board.

The Phase 1 ASR Project includes two ASR wells (ASR-1 and ASR-2) located at the Santa Margarita site. ASR-1 is designed for an injection capacity of 1,000 to 1,250 gpm and ASR-2 is designed for an injection capacity of 1,500 to 1,750 gpm. As-built schematics of ASR-1 and ASR-2 are presented on Figures 3 and 4, respectively.

PURPOSE AND SCOPE

The overall purpose of the ongoing ASR program is to recharge the SGB with excess treated Carmel River system water when it is available during wet periods for storage and later extraction (recovery) during dry periods. ASR benefits the resources of both systems by raising water levels in the SGB during the recharge and storage periods and reducing extractions from the Carmel River System during dry periods.

The project data collection and reporting program is intended to support further demonstration of the capabilities and limitations of ASR in the SGB and to comply with the requirements of the Central Coast Regional Water Quality Control Board (RWQCB) for submitting annual technical reports for the project pursuant to Section 13267 of the California Water Code² and the existing General Waiver for Specific Types of Discharges (Resolution R3-2008-0010).

The ongoing data collection, analysis, and reporting program can be categorized into issues generally associated with:

- 1) ASR well hydraulics and performance;
- 2) Movement and dispersion of injected waters;
- 3) Aquifer response to injection, and;
- 4) Water-quality issues associated with geochemical interaction and mixing of injected and native groundwaters.

The scope of work for the WY 2010 program was developed through discussions with Mr. Joseph W. Oliver, C.Hg., Water Resources Manager with the District; and included the following:

¹ Final EIR/EA for the Monterey Peninsula Water Management District Aquifer Storage and Recovery Project, State Clearinghouse #20014121065, dated August 2006.

² Letter from Roger W. Briggs, Executive Officer of the Central Coast RWQCB, to Joseph Oliver, Water Resources Manager for MPWMD, dated April 29, 2009.

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- Development of the WY 2010 hydrogeologic and water-quality testing and datacollection program.
- Assistance with the implementation of the injection and water-quality testing program.
- Engineering and design coordination for final permanent facilities at the Phase 1 ASR Project site.
- Assistance with RWQCB permitting.
- Preparation of this Summary of Operations Report documenting the ASR program, procedures, and results, including recommendations for further analysis and subsequent ASR test phases.

FINDINGS

WY 2010 ASR OPERATIONS

Recharge operations were performed during WY 2010 during the period of December 13, 2009 to May 31, 2010. WY 2010 was classified as an "Above Normal" hydrologic year³, and a total volume of approximately 1,111 acre-feet (af) of excess Carmel River system water was diverted for recharge in the SGB. The recharge water was injected at both the ASR-1 and ASR-2 wells into the Santa Margarita Sandstone aquifer of the SGB at combined average injection rates ranging from 540 to 2,667 gpm (approximately 2.4 to 11.8 acre-feet per day [afd]).

Recharge Procedures

Recharge into the SGB was accomplished during WY 2010 via injection into both ASR-1 and ASR-2. As-built schematics of ASR-1 and -2 are presented on Figures 3 and 4, respectively. It is noted that WY 2010 is the first year that both wells were operated in dual-injection mode for the entire water year. Having both wells in operation, combined with the above normal rainfall / runoff conditions, contributed to the relatively large injection volume during WY 2010 of 1,111 af. This volume of water exceeds the sum-total of all injection for the previous 5 years of project operation.

Injection feed water was potable water provided from the CAW distribution system, and was conveyed from Carmel Valley water sources through the Segunda-Crest pipeline network to the recently installed 24- x 30-inch diameter main ASR Pipeline in General Jim Moore Blvd and then to the Phase 1 ASR (Santa Margarita) site. It is noted that WY 2010 is the first year that the ASR Pipeline was utilized to route flows to the ASR site. In previous years, the injection source water was routed through the CAW distribution system in the City of Seaside to the CAW Paralta Well site, and finally to ASR-1 through a temporary aboveground 12-inch-diameter HDPE line that was installed as part of the WY 2002 capital improvements program. CAW's

³ Based on 98,419 af of unimpaired Carmel River flow at the San Clemente Dam site in WY 2010.

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conveyance system improvements have substantially improved the injection (and extraction) capacity of the project.

Injection water was introduced into the ASR wells via the pump columns. Injection rates were controlled primarily by downhole flow control valves (FCV) installed on the pump columns, and secondarily by valves on the ASR wellhead piping. Positive gauge pressures were maintained at the wellheads during injection operations to prevent cascading of water into the wells. Injection flow rates and total injected volumes were measured with 12-inch-diameter rate and totalizing meters. Water levels in the ASR wells were measured with pressure transducers coupled to data loggers.

Injection Operations Summary

Injection into ASR-1 and ASR-2 occurred during periods of available excess Carmel River system flows from the CAW distribution. Injection generally occurs at each of the ASR wells on a continuous basis when flows are available, interrupted only for periodic backflushing (discussed in a following section), which typically occurs on an approximate weekly basis. These weekly periods of continuous injection followed by backflushing are termed in this report as numbered injection "periods" at each well. During WY 2010, a total of 22 and 21 injection periods occurred at ASR-1 and ASR-2, respectively. Continuous water-level data collected at ASR-1 and ASR-2 during the WY 2010 recharge season are presented in Figures 5 and 6, respectively. Water-level data collected for each individual injection period at ASR-1 and ASR-2 are presented in Figures 7 through 28 and 29 through 49, respectively. Field data sheets collected during injection operations are presented in Appendix A - Field Data Sheets (not included in draft). Summaries of pertinent injection period operations at ASR-1 and ASR-2 are presented in Tables 1 and 2 below.

As shown in Table 1, the total duration of the 22 injection periods at ASR-1 during WY 2010 was approximately 143 days, with a total volume of 808.3 af injected at an average injection rate of approximately 1,275 gpm. For comparison, approximately 180.6 af were injected during WY 2009, which was classified as a "Normal" hydrologic year, only approximately 8.2 af were injected during WY 2007, which was classified as a "Critically Dry" hydrologic year, whereas during WY 2006, which was classified as a "Wet" hydrologic year, approximately 408 af were injected at ASR-1. It is noted that although WY 2006 was a "Wet" hydrologic year, ASR-1 was operated at an average injection rate of 1,030 gpm over a period of 89 days of injection days. In WY 2010, an "Above-Normal" hydrologic year, ASR-1 was operated at an average injection days, resulting in the comparatively greater volume of 1,275 gpm over a period of 143 injection days, resulting

As shown in Table 2, the total duration of the 21 injection periods at ASR-2 during WY 2010 was approximately 99 days, with a total volume of 297.6 af injected. As previously mentioned, WY 2010 was the first year that ASR-2 injected Carmel River system water;

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therefore, there are no previous years to compare. The total combined volume of injection at both ASR-1 and -2 during WY 2010 was 1105.9 af^4 .

				Average	
Injection				Injection	Total
Period	Dat	tes	Duration	Rate	Volume
No.	Start	End	(days)	(gpm)	(af)
		AS	R-1		
1	12/13/09	12/14/09	1.0	1,140	4.8
2	12/14/09	12/21/09	6.9	1,062	32.6
3	12/21/09	12/28/09	6.9	1,220	36.9
4	12/28/09	12/30/09	2.2	1,344	13.1
5	1/15/10	1/22/10	7.0	856	26.3
6	1/22/10	1/29/10	7.1	942	29.6
7	1/29/10	2/4/10	5.9	1,046	27.4
8	2/4/10	2/12/10	7.9	1,183	41.4
9	2/12/10	2/16/10	3.9	1,323	23.0
10	2/16/10	2/23/10	6.8	1,325	39.6
11	2/23/10	3/2/10	7.1	1,583	49.8
12	3/2/10	3/10/10	7.8	1,472	50.9
13	3/10/10	3/17/10	7.0	1,400	43.2
14	3/17/10	3/23/10	5.8	1,259	32.4
15	3/29/10	4/9/10	10.8	1,275	61.1
16	4/12/10	4/19/10	7.2	1,251	39.9
17	4/19/10	4/26/10	6.9	1,264	38.3
18	4/26/10	5/4/10	8.2	1,279	46.2
19	5/5/10	5/12/10	7.1	1,499	47.2
20	5/12/10	5/19/10	6.9	1,296	39.3
21	5/19/10	5/26/10	7.2	1,422	44.9
22	5/26/10	6/1/10	5.7	1,597	40.2
ASR-1 Sul	ototals		143.3		808.3

Table 1. WY 2010 Injection Operations Summary ASR-1

⁴ The slight difference between this value and the 1,111 af value presented on page 3 is due to the relatively small volume of pipeline flushing (approximately 5 af, or 0.5% of the total diversion volume) required to clear particulates from the piping system prior to injection, which was routed to the onsite backflush pit and allowed to percolate into the groundwater basin.

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				Average	
Injection				Injection	Total
Period	Dat	tes	Duration	Rate	Volume
No.	Start	End	(days)	(gpm)	(af)
		AS	R-2		
1	12/14/09	12/14/09	0.0	1,700	0.3
2	12/15/09	12/15/09	0.1	550	0.1
3	12/17/09	12/17/09	0.1	613	0.4
4	12/18/09	12/19/09	0.9	814	3.1
5	12/19/09	12/23/09	3.8	612	10.3
6	12/23/09	12/28/09	4.7	776	16.2
7	12/28/09	12/30/09	2.3	1,041	10.4
8	1/22/10	1/25/10	3.2	627	8.8
9	1/26/10	2/2/10	7.2	892	28.3
10	2/3/10	2/10/10	7.0	861	26.6
11	2/10/10	2/16/10	6.2	536	14.6
12	2/16/10	2/23/10	6.8	617	18.5
13	2/23/10	3/2/10	7.2	807	25.5
14	3/2/10	3/12/10	9.8	793	34.4
15	3/12/10	3/17/10	4.9	829	17.8
16	3/17/10	3/23/10	5.8	649	16.6
17	3/30/10	4/2/10	2.9	445	5.8
18	4/14/10	4/19/10	5.1	336	7.6
19	4/19/10	4/25/10	5.9	938	24.5
20	4/28/10	5/3/10	5.1	287	6.5
21	5/22/10	6/1/10	10.0	483	21.3
ASR-2 Sul	ototals		98.9		297.6

Table 2. WY 2010 Injection Operations Summary ASR-2

Backflushing

Most sources of injection water contain trace amounts of solids that slowly accumulate in the pore spaces in the well's gravel pack and adjacent aquifer materials, and the CAW source water is no exception. Periodic backflushing of ASR / injection wells is therefore necessary to maintain well performance by removing materials deposited/accumulated around the well bore during injection. The procedure is similar to backwashing a media filter to remove accumulated material deposited during filtration.

The general rule-of-thumb for ASR wells is to backflush at pumping rates that are at least two times the rate of injection in order to create pore throat velocities sufficient to remove

particles that cling to the surfaces of gravel pack and aquifer grains. A typical and prudent trigger for backflushing is when the amount of water level drawup during injection equals the available drawdown (as measured from the static water level to the top of the pump bowls) in the well for backflushing. This helps to avoid over-pressurization and compression of plugging materials, thereby maximizing the efficiency of backflushing and limiting the amount of residual plugging.

Based on the several years of testing conducted as part of the Santa Margarita Test Injection Well (SMTIW) project, a weekly backflushing frequency had been determined to be the best operational practice at ASR-1, which has also been applied to ASR-2. The general procedure consists of temporarily stopping injection and then pumping the wells at a rates of approximately 2,000 to 2,500 gpm (i.e., at least twice the rate of injection) for a period of approximately 15 to 20 minutes. Backflush water is discharged to the on-site backflush pit, where it percolates back into the groundwater basin.

During WY 2010, the initial backflush discharge was usually very turbid and of a deep orange-brown color, becoming cloudy after 3 to 5 minutes and then generally clears within 15 to 20 minutes. These observations have been generally consistent throughout the years of operating the SMTIW project. Additional "incidental" backflushing was also conducted during the WY 2010 storage period, typically as part of water-quality sampling of the stored water. Following routine backflushing operations and brief periods of water-level recovery, controlled 10-minute specific-capacity tests are typically performed to track well production performance and residual plugging between injection periods (discussed in a later section).

Well Performance

Well performance is generally measured by specific capacity (pumping) and / or specific injectivity (injection), which is the ratio of flow rate (pumping or injection) to water-level change in the well (drawdown or drawup) over a specific elapsed time. The value is expressed as gpm per foot of water level change (gpm/ft). The value normalizes well performance by taking into account differing static water levels and flow rates. As such, specific capacity / injectivity data is useful for comparing well performance over time and at differing flow rates. Decreases in specific capacity / injectivity are indicative of decreases in the hydraulic efficiency of a well due to the effects of plugging. Both injection and production well performance was tracked at ASR-1 and ASR-2 during WY 2010, as discussed below.

Injection Performance. Injection performance has been tracked at ASR-1 since the inception of the testing program in WY 2002 by measurement and comparison of 24-hour injection specific injectivities (a.k.a. injection specific capacity). Specific injectivity is the ratio of injection rate to water-level rise (drawup) in the well casing.

<u>ASR-1.</u> A summary of 24-hour specific injectivity for ASR-1 for WY 2002 through 2010 is presented in Table 3 below.

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Table 3.	Injection Performance Summary
	ASR-1

Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments			
WY2002								
Beginning Period	1,570	81.7	19.2		FCV not installed yet in WY2002.			
Ending Period	1,164	199.8	6.4	-67%	No recovery pumping performed.			
WY2003								
Beginning Period	1,070	70.0	15.5		Recovery pumping performed following			
Ending Period	1,007	49.7	20.3	+31%	WY2003 Injection			
WY2004	•	•		•	•			
Beginning Period	1,383	183.4	7.5		Recovery pumping performed following			
Ending Period	1,072	67.4	15.9	+112%	WY2004 Injection			
WY2005								
Beginning Period	1,045	46.6	22.4		Injectate dechlorinated in WY2005. No			
Ending Period	976	94.1	10.4	-54%	recovery pumping performed.			
WY2006	WY2006							
Beginning Period	1,039	71.5	15.0		Injection procedures consistent and			
Ending Period	1,008	62.2	17.5	+17%	recovery pumping performed.			
WY2007								
Beginning Period	1,098	92.4	11.9		Only one injection period in WY2007.			
Ending Period					No recovery pumping performed.			
WY2008								
Beginning Period	979	25.5	38.4		Formal rehabilitation performed prior to			
Ending Period	1,063	33.4	31.8	-17%	WY2008 injection			
WY 2009	·	·	·	·	<u>.</u>			
Beginning Period	1,119	56.1	19.9		Beginning period low specific injectivity			
Ending Period	1,069	34.3	31.1	+56%	due to high plugging rate during initial injection period. No recovery pumping performed.			
WY 2010								
Beginning Period	1,080	35.6	30.3		Saa discussion hole			
Ending Period	1,326	54.0	24.6	-19%				

The 24-hr specific injectivity values for each injection period at ASR-1 during WY 2010 are graphically presented on Figure 50. As shown in Table 3 and Figure 50, the 24-hour

specific injectivity at the beginning of WY 2010 (Injection Period No. 1) was 30.3 gpm/ft and at the end (Injection Period No. 22) it declined to 24.6 gpm/ft, an overall decline of approximately 19 percent, indicating that some residual plugging occurred over the course of the WY 2010 injection season (discussed in a following section).

In reviewing the data in Table 3, it should also be noted that there have been differences in the injection methodologies that affected the well performance. The differences in methodologies are due to various tests that have been conducted over the years to determine the best operational parameters for the ASR well. As examples: in WY 2002 the FCV had not yet been installed to control gas binding; recovery pumping was conducted only in WY 2003 and WY 2004; during WY 2005 the injectate was dechlorinated; and, ASR-1 underwent formal rehabilitation as part of the WY 2007 program (refer to the Summary of Operations Reports for those Water Years for additional details). Therefore, the well performance values and trends need to be viewed carefully within this context.

<u>ASR-2.</u> As discussed previously, WY 2010 was the first year that ASR-2 was in operation injecting Carmel River system water (prior to WY 2010, only short-term injection testing had been performed utilizing source water from the Marina Coast Water District, documented in the WY 2009 Summary of Operations Report). A summary of the beginning and ending injection performance at ASR-2 during WY 2010 is presented in Table 4 below.

Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
WY 2010					
Beginning Period	1,017	156.5	6.5		See discussion below
Ending Period	237	85.0	2.8	-57%	

Table 4. Injection Performance SummaryASR-2

The 24-hr specific injectivity for each injection period during WY 2010 at ASR-2 are graphically presented on Figure 51. As shown in Table 4 and Figure 51, the 24-hour specific injectivity at the beginning of WY 2010 (Injection Period No. 4) was 6.5 gpm/ft and at the end (Injection Period No. 17) it declined to 2.8 gpm/ft, an overall decline of approximately 57 percent, indicating that significant residual plugging occurred over the course of the WY 2010 injection season at ASR-2 (discussed in a following section).

Pumping Performance. Pumping performance has also been tracked at ASR-1 since the inception of the SMTIW testing program by measurement and comparison of specific capacity. Specific capacity is the ratio of pumping rate to water-level drawdown in the well casing. Following routine backflushing operations and periods of water-level recovery, controlled 10-minute specific-capacity tests are typically performed to track well pumping performance, similar to the tracking of injection performance from 24-hour specific injectivity.

<u>ASR-1.</u> A summary of injection season beginning and ending 10-minute specific capacity at ASR-1 for WY 2002 through 2010 is presented below in Table 5.

Water Year	Pumping Rate (gpm)	10-min DDN (feet)	Specific Capacity (gpm/ft)	Water Year Change	Comments
WY2002					
Pre-Injection	2,825	45.1	62.6		ECV not installed yet in WV2002
Post- Injection	2,800	95.3	29.4	-53%	
WY2003					
Pre-Injection	2,775	81.9	33.9		Recovery pumping performed
Post- Injection	2,600	91.7	28.4	-16%	following WY2003 Injection
WY2004					
Pre-Injection	2,000	51.8	38.6		Recovery pumping performed
Post- Injection	1,700	81.2	20.9	-46%	following WY2004 Injection
WY2005			·	·	·
Pre-Injection	1,900	49.8	38.1		Injectate dechlorinated in WY2005.
Post- Injection	1,500	87.1	17.2	-55%	No recovery pumping performed.
WY2006			·	·	·
Pre-Injection	1,500	82.4	18.2		Injection procedures consistent and
Post- Injection	1,600	74.1	21.6	+19%	recovery pumping performed.
WY2007					
Pre-Injection	1,500	81.7	18.4		Only one injection period in WY2007.
Post- Injection	1,500	79.4	18.9	+3%	No recovery pumping performed.
WY2008					·
Pre-Injection	1,980	31.0	63.8		Formal rehabilitation performed prior
Post- Injection	2,000	55.6	36.0	-44%	to WY2008 injection. No recovery pumping performed.
WY 2009				•	·
Pre-Injection	2,000	52.0	38.5		
Post- Injection	1,900	62.7	30.3	-21%	INO RECOVERY PUMPING PERFORMED.
WY 2010					
Pre-Injection	1,900	62.5	30.4		San discussion holow
Post- Injection	2,000	64.2	31.1	+2%	

Table 5. Pumping Performance SummaryASR-1

The 10-min specific capacities for each pumping test during WY 2010 at ASR-1 are graphically presented on Figure 50 along with the 24-hr specific-injectivity data. As shown on Figure 50 and in Table 5, the production specific capacity overall was relatively stable, and actually improved very slightly from approximately 30.4 to 31.1 gpm/ft over the course of WY 2010 (a negligible increase of approximately 2.3 percent). This contrasts with the injection performance results, which showed a 19 percent decline in performance over the course of WY 2010. The pumping performance results suggest that post-injection season backflush pumping was effective at removing residual plugging materials that had accumulated during the WY 2010 injection season at ASR-1.

Also shown in Table 5, the production specific capacity at ASR-1 declined from approximately 63 to 18 gpm/ft over the course of the six-year period of WY 2002 through WY 2007, an overall decline of approximately 70 percent. Following rehabilitation in 2007, the production specific capacity increased to 63.8 gpm/ft, slightly greater than the WY 2002 preinjection specific capacity. These results are comparable to the injection performance, which similarly indicated the efficacy of rehabilitation in restoring the well's hydraulic performance. The above findings for ASR-1 also suggest that rehabilitation of ASR-2 is likely to restore its lost performance as well⁵.

<u>ASR-2.</u> A summary of injection season beginning and ending 10-minute specific capacity for ASR-2 during WY 2010 is presented below in Table 6.

Water Year	Pumping Rate (gpm)	10-min DDN (feet)	Specific Capacity (gpm/ft)	Water Year Change	Comments
WY 2010					
Pre-Injection	2,200	117.7	18.7		Pre-injection is after MCWD testing
Post- Injection	2,300	136.9	16.8	-10%	(refer to WY 2009 Summary of Operation report)

 Table 6. Pumping Performance Summary

 ASR-2

The 10-min specific capacities for each ASR-2 pumping test during WY 2010 are graphically presented on Figure 51 along with the 24-hr specific injectivity data. As shown on Figure 51 and in Table 6, the production specific capacity overall was relatively stable, but did decline slightly from approximately 18.7 to 16.8 gpm/ft over the course of WY 2010 (an overall decrease of approximately 10 percent). This contrasts with the injection performance results, which showed a 57 percent decline in performance over the course of WY 2010.

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⁵ ASR-2 underwent formal rehabilitation in early 2011 as suggested in the WY 2009 Summary of Operations report. As of this writing, the post-rehabilitation results appear quite favorable; however, full analysis of the ASR-2 rehabilitation has not been completed and will be documented in the upcoming WY 2011 Summary of Operations report.

It is also noted that ASR-1 (and now ASR-2) has been operated largely as an injectiononly well since its construction in 2001, with recovery pumping taking place thus far in only 2003 and 2004 (refer to Figure 2 and the WY 2003 and WY 2004 Summary of Operations Reports for details). As shown in Table 5, following recovery pumping events the production performance of ASR-1 improved prior to the onset of the following year's injection season. The improved well performance is attributable to the additional removal of fine particulates from the well and nearbore aquifer matrix as a result of the extended pumping. As such, it is possible that once ASR-1 and ASR-2 are operated as true ASR wells as planned (i.e., with seasonal recovery pumping following each injection season), the amount of residual plugging between injection seasons and the attendant frequency of rehabilitation may be reduced.

Plugging

Experience at injection well sites around the world shows that all injection wells are subject to some amount of plugging, because no water source is completely free of particulates, bionutrients, or oxidants, all of which can contribute to well plugging; the CAW source water is no exception. During injection, trace amounts of suspended solids are continually being deposited in the gravel pack and aquifer pore spaces, much as a media filter captures particulates in the filter bed. The effect of plugging is to impede the flow of water from the injection well into the aquifer, causing increased injection heads in the well to maintain a given injection rate, or reduced injection rates at a given head level. Well plugging reduces injection and extraction capacity, and consequently, well life.

Relative measurements of the particulate matter in the injectate have historically been made at the Santa Margarita site through silt density index (SDI) testing during injection. The SDI was originally developed to quantitatively assess particulate concentrations in reverseosmosis feed waters. The SDI test involves pressure filtration of source water through a 0.45 micron membrane, and observation of the decrease in flow over time; the resulting value of SDI is dimensionless, and used as a comparative value for tracking relative well plugging rates during an injection season (i.e., plugging rates tend to vary with SDI). During WY 2010, SDI measurements were made during the first week or so of the injection season, and ranged between approximately 5 the first day, decreasing to approximately 1 to 1.5 within a few days. Unfortunately, following the initial testing at the beginning of the injection season, SDI tests were not continued during the remainder of WY 2010 as has been performed in previous years, so any variations or trends in the SDI of the injectate during WY 2010 cannot be determined (routine SDI measurements will need to be continued for future injection seasons).

For comparison, historical SDI values for Carmel River system water routed through the Luzern Booster Station at ASR-1 have typically been in the range of approximately 1 to 5. Therefore, the SDI values measured during WY 2010 with the injectate routed through the new ASR Pipeline in GJM Blvd were within the typical historical range. Values within this range are generally representative of source waters with a relatively low amount of particulates.

Plugging rates during injection have historically been estimated at the site utilizing one (or all) of three methods: 1) Graphical Observed vs. Theoretical Method; 2) Difference in Water

Level Rise Method, and / or: 3) Specific Time of Injection Method⁶. However, these analytic methods of determining the *rate* of plugging are predicated on the injection rates at the ASR wells being held relatively constant. As discussed previously and as shown on Figures 7 through 49, injection rates at both ASR-1 and ASR-2 varied significantly as a result of pressure fluctuation in the CAW system⁷; therefore, plugging rates during WY 2010 injection cannot be reliably calculated.

Residual plugging, however, can be measured from the WY 2010 data. Residual plugging is the plugging that occurs during injection and remains following backflush (or recovery) pumping⁸. Residual plugging increases drawdown during pumping, and is manifested as declining specific capacity. Increases in residual plugging are indicative of incomplete removal of plugging particulates during backflushing and have the cumulative effect of reducing well performance through time.

As discussed previously, routine 10-minute specific capacity tests have been performed at ASR-1 and ASR-2 following backflushing events. To quantify the amount of residual plugging, as measured in feet of drawdown, requires normalization of drawdown to a reference pumping rate which allows for comparison of data that have different pumping rates. For ASR-1 and ASR-2, a reference pumping rate of 2,000 gpm has been selected. Presented in Tables 7 and 8 below are summaries of the residual plugging calculations for ASR-1 and ASR-2, respectively, during WY 2010.

As discussed in previous Water Year summary of operation reports (e.g., WY 2009, dated April 2010), the amount of water-level drawup during injection should not exceed the available drawdown in the well for backflushing. This helps to avoid over-pressurization and compression of plugging materials, thereby maximizing the efficiency of backflushing and limiting the amount of residual plugging. Water-level drawup during injection is a function of the injection rate, the duration of injection, and the rate of plugging. Identifying the amount of available draw-up for any given injection well and period is a useful guide to avoid over-pressurization and compression of plugging materials while balancing both the injection rate and duration of injection between backflushing.

⁶ See Pyne (1995) and / or previous Water Year Summary of Operations Reports for description of methods.

⁷ This situation will be corrected through the installation of pressure regulating valves (PRVs) in the injection piping at both ASR-1 and ASR-2.

⁸ Pyne (1995)

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		Pumping	10-min	Normalized	Residual	Cummulative	
Test		Rate	Drawdown	Drawdown ²	Plugging	Plugging	
No.	Date	(gpm)	(ft)	(ft)	(ft)	(ft)	Comments
end WY09	10/22/09	1,900	62.5	65.8			Pre-WY2010 Injection
1	12/14/09	1,950	61.6	63.2	-2.6	-2.6	After initial WY10 24-hr injection
2	12/21/09	1,900	64.5	67.9	4.7	2.1	
3	12/28/09	1,900	63.3	66.6	-1.3	0.8	
4	1/5/10	1,900	62.4	65.7	-0.9	-0.1	
5	1/22/10	2,000	64.7	64.7	-1.0	-1.1	
6	1/29/10	1,900	66.1	69.5	4.8	3.7	
7	2/4/10	1,900	68.6	72.3	2.7	6.5	
8	2/12/10	2,000	71.6	71.6	-0.6	5.9	
9	2/16/10	2,000	69.2	69.2	-2.4	3.4	
10	2/22/10	1,900	68.4	72.0	2.8	6.2	
11	3/2/10	2,000	73.1	73.1	1.0	7.3	
12	3/11/10	2,000	72.6	72.6	-0.5	6.8	
13	3/18/10	2,000	69.0	69.0	-3.6	3.2	
14	3/23/10	2,100	70.0	66.6	-2.4	0.8	
15	4/12/10	2,000	69.1	69.1	2.5	3.3	
16	4/19/10	1,900	65.0	68.4	-0.7	2.6	
17	4/26/10	2,000	64.9	64.9	-3.5	-0.9	
18	5/4/10	1,800	63.8	70.9	6.0	5.1	
19	5/12/10	1,900	68.4	72.0	1.1	6.2	
20	5/19/10	1,800	64.6	71.8	-0.2	6.0	
21	5/21/10	1,700	72.3	85.0	13.2	19.2	
22	5/26/10	1,900	68.8	72.5	-12.5	6.7	
23	6/2/10	2,000	64.2	64.2	-8.2	-1.5	
	Averages	1,933	67.2	69.7	-0.1		
				Cı	ımmulative	-1.6	
Notes:							
1 - Specific Ca	apacity. Ratio	of pumping ra	ate to draw dow	/ n.			
2 - Normalized	based on rati	o of 2,000 gp	m to actual tes	t pumping rate.			

Table 7. Residual Plugging Summary ASR-1

		Pumping	10-min	Normalized	Residual	Cummulative	
Test		Rate	Drawdown	Drawdown ²	Plugging	Plugging	
No.	Date	(gpm)	(ft)	(ft)	(ft)	(ft)	Comments
end WY09	1/23/09	2,200	117.7	107.0			After MCWD-Source Testing.
1	12/14/09	833	120.4	289.1	182.1	182.1	After initial WY10 aborted test.
2	12/15/09	1,935	132.4	136.8	-152.3	29.8	5-min test
3	12/16/09	2,000	121.8	121.8	-15.0	14.8	
4	12/18/09	2,100	134.7	128.2	6.4	21.2	
5	12/19/09	1,800	114.4	127.1	-1.1	20.1	
6	12/23/09	1,700	112.1	131.9	4.8	24.9	
7	12/28/09	1,800	113.0	125.5	-6.4	18.5	
8	1/5/10	1,600	107.5	134.3	8.8	27.3	
9	1/26/10	2,000	115.2	115.2	-19.2	8.2	
10	2/2/10	1,900	119.8	126.1	10.9	19.1	
11	2/10/10	2,000	128.0	128.0	1.9	21.0	
12	2/16/10	2,000	135.0	135.0	7.1	28.0	
13	2/24/10	1,900	125.0	131.6	-3.5	24.6	
14	3/2/10	2,100	135.1	128.6	-3.0	21.6	
15	3/12/10	1,900	140.2	147.6	18.9	40.6	
16	3/17/10	2,200	154.2	140.2	-7.4	33.2	
17	3/23/10	2,000	132.3	132.3	-7.9	25.3	
18	4/14/10	2,100	128.7	122.6	-9.7	15.6	
19	4/19/10	2,300	136.9	119.1	-3.5	12.1	
20	6/1/10	NA	NA	NA	NA	NA	
	Averages	1,904	126.7	137.9	0.6		
				Cu	mmulative	12.1	
Notes:							
1 - Specific C	apacity. Ratio	of pumping r	ate to draw dov	vn.			
2 - Normalized	d based on rati	o of 2,000 gr	om to actual tes	t pumping rate.			

Table 8. Residual Plugging Summary ASR-2

The relationship between water-level drawup during injection and residual plugging during WY 2010 is shown on Figures 52 and 53 for ASR-1 and ASR-2, respectively. As shown, there is a general positive relationship between maximum water-level drawup during injection and the accumulation of residual plugging (i.e., residual plugging tends to increase with increased drawup during injection).

As shown on Figure 52, the recommended maximum available drawup at ASR-1 (100 feet) was exceeded only once during WY 2010, and the cumulative residual plugging was negligible during most of the season, and actually negative at the end of the season. The lack of residual plugging at ASR-1 during WY 2010 was manifested as relatively stable specific capacities and injectivities during the injection season (see Tables 3 and 5 and Figure 50).

As shown on Figure 53, the recommended maximum available drawup at ASR-2 (130 feet) was exceeded several times during WY 2010, and there was approximately 12 feet of cumulative residual plugging by the end of WY 2010. The accumulation of residual plugging at

ASR-2 during WY 2010 was manifested as an overall decline in specific capacity and injectivity during the injection season (see Tables 4 and 6 Figure 51).

It should also be noted that ASR-2 was operating during WY 2010 in an "impaired" condition as a result of residual plugging from the Marina Coast Water District source injection testing in WY 2009 (refer to the WY 2009 Summary of Operations Report, dated April 2010). As discussed in the Summary of Operations Report for the Seaside Pilot Injection Well Project report (Fugro West, Inc., October 1999), there is a relatively straightforward relationship between the plugging potential of the injectate (i.e., SDI), hydraulic conductivity, and observed plugging rates. The effect of residual plugging is to decrease the near-bore hydraulic conductivity, which, assuming an equivalent injectate plugging potential, leads to greater plugging materials, the observed plugging and overall performance at ASR-2 in the future will more closely resemble that observed at ASR-1⁹.

Aquifer Response to Injection

The response of the regional aquifer system to injection at the Phase 1 ASR Project site has been monitored since the SMTIW project was initiated in WY 2002. Submersible water level transducer/data logger units have been installed at eight existing offsite District monitoring well locations in the SGB. In addition, the recently constructed Seaside Middle School (SMS) monitoring wells (SMS Deep and Shallow) have been similarly instrumented. The locations of each offsite monitoring well are shown on Figure 1, and water-level hydrographs for WY 2010 are graphically presented on Figures 54 through 62.

As shown on the hydrographs, the regional water-level recovery after CAW ceased SGB pumping in early January 2010 is masked by the concurrent regional water-level response to injection (i.e., there was an overlap between the time when injection began in December and CAW ceased pumping in January). As such, the trend in regional water-level rise due to recovery from CAW pumping is not easily discernable from the water-level rise due to injection. Nonetheless, in order to estimate the water-level rise due to injection, the trend of the regional water-level rise is projected through the beginning of the injection season through the date when CAW ceased SGB pumping, and then subtracted from the total water-level rise from the beginning to the end of the WY 2010 injection season.

A summary of the regional water-level observations during the WY 2010 injection season is presented in Table 9 below.

⁹ ASR-2 underwent formal rehabilitation in early 2011 as suggested in the WY 2009 Summary of Operations report. As of this writing, the post-rehabilitation results appear quite favorable; however, full analysis of the ASR-2 rehabilitation has not been completed and will be documented in the upcoming WY 2011 Summary of Operations report.

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Well ID	Distance from ASR Site (feet)	Aquifer Monitored	Pre- Injection DTW (ft btoc)	End of Injection DTW (ft btoc)	Projected Regional Recovery (ft)	Net Rise Due to Injection (ft)
MW-1	on-site	Tsm	371.0	333.7	19.6	17.7
Paralta Test	660	QTp & Tsm	372.0	ND		
SMS (Deep)	1,350	Tsm	361.6	337.5	17.8	6.3
Ord Grove Test	1,600	QTp & Tsm	ND	ND		
Ord Terrace (Deep)	2,260	Tsm	262.8	ND		
FO-7 (Deep)	2 4 2 0	Tsm	492.4	481.2	8.6	2.6
FO-7 (Shallow)	3,420	QTp	456.4	ND		
PCA East (Deep)	C 400	Tsm	ND	ND		
PCA East (Shallow)	0,400	QTp	65.4	ND		
FO-9 (Deep)	7,280	Tsm	137.9	ND		
FO-8 (Deep)	7,580	Tsm	391.7	ND		

Table 9. St	Immary of WY	2010 Injection	Season Monito	oring Well Observations
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Table 9 Notes:

QTp – Paso Robles aquifer

Tsm – Santa Margarita Sandstone aquifer

DTW – Depth to Water

ND - No Data

NA – Not Applicable NR – No Response

INR – NO Response

As shown on the water-level hydrographs (Figures 54 through 62), water levels in the Santa Margarita Sandstone (Tsm) aquifer at the start of the WY 2010 recharge season ranged between approximately 15 to 35 feet below sea level. Positive response to injection at the Phase 1 ASR site during WY 2010 was observed at 5 of the 9 monitoring wells completed in the Santa Margarita Sandstone aquifer; however, it is noted that several dataloggers malfunctioned for a variety of reasons during the water year, making an evaluation of the water-level response to the full WY 2010 injection volume impossible at these wells. For the 3 monitoring wells with sufficient data (see Table 9 above), water-level responses ranged between 2.6 to 17.7 feet, decreasing with distance from the ASR wells.

It is also noted that at the near-coastal monitoring wells (PCA East and FO-9), water levels remained below sea level throughout the injection season. This means that the chronic water-level depression in the Tsm of the SGB was not completely "filled" by the injection of 1,111 af of recharge during an approximate 6-month injection season and that the landward groundwater gradient was not reversed. Under these water-level conditions, little to no groundwater flow from the Tsm aquifer offshore would be expected to occur and the "losses" associated with the ASR project operation are minimal to non-existent.

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Due to datalogger malfunctions during WY 2010, the available data are insufficient for the monitoring wells completed in the Paso Robles Formation (QTp) aquifer to determine the response to injection in this aquifer.

Recovery Operations

Recovery of the WY 2010 recharge volume was performed via existing CAW wells in the SGB (ASR-1 and ASR-2 have not yet been permitted for recovery into the CAW distribution system). As shown on Figure 2, 1,111 af were recovered during the period October 1 through December 31, 2010. The recovered water was offset by reduced pumping by CAW from the Carmel River system during this period. It is noted that in this context, ASR recovery is essentially an accounting / allocation of CAW's various water rights and pumping from the SGB, and does not represent a "molecule-for-molecule" recovery of the injected water. Rather, the volume recharged essentially increases the firm yield from the SGB by the same amount and can be "recovered" by any of CAW's wells in the SGB and / or the ASR wells themselves. It is anticipated, however, that recovery operations via ASR-1 and / or ASR-2 will occur in the future, once the wells are fully permitted for extraction into the CAW distribution system.

WATER QUALITY

General

As in previous years, water quality was monitored at ASR-1 during injection and aquifer storage operations. However, CAW deliveries and sufficient rainfall allowed the concurrent injection of water into ASR-2 during WY 2010 as well. No water recovery (i.e., production) was implemented directly at ASR-1 or ASR-2 during the WY 2010 period. However, an equivalent amount of the 1,111 af recharged volume was "recovered" from the basin via CAW production wells during the October 1 through December 31, 2010 period. Water quality was also observed at the identically-completed, small-diameter monitoring well MW-1 at the Santa Margarita site; these samples were collected via a dedicated down-hole sample pump with a production (purging) rate of 3 to 5 gpm, positioned in the well opposite the primary producing zone of the ASR wells' screened intervals. Far-field water quality was also monitored at CAW production wells Ord Grove and Paralta, as well as a single sample collection event at the newly constructed ASR-3 well (a.k.a. SMSTW) at Seaside Middle School; these data are discussed below. Summaries of the collected water-quality data at ASR-1, ASR-2 and MW-1 during WY 2010 are presented in Tables 10, 11, and 12, respectively, below. Analytic laboratory reports are presented in Appendix B (not included in draft).

Baseline Water Quality

Because injection operations have occurred annually at ASR-1 over the past 8 years, the proximate groundwater quality has been altered from the natural subsurface conditions, making a clear distinction between "native" and "non-native" water quality both complex and subjective. The selection of a water-quality baseline to assess water-quality changes during aquifer storage, therefore, requires careful consideration, and will vary to some degree on what

							Sampling	g Results			
Parameter	Unit	PQL	3/21/01	10/22/09	11/23/09	12/8/09	6/16/10	7/29/10	9/10/10	10/8/10	11/15/10
Sample Description			NGW	v	/Y 2009 Storag	e		v	/Y 2010 Storag	e	
Elapsed Storage Time	Days			211	243	258	16	59	102	130	168
Volume Pumped at Sampling	1,000 gals			342							
Major Cations	-	-									
Calcium	mg/L	1	85	71		60		41			46
Magnesium	mg/L	1	19	22		20		7			13
Potasium	mg/L	0.5	5.3	3.9		4.0		2.9			2.9
Sodium	mg/L	1	88	74		64		42			45
Major Anions											
Bicarbonate (as HCO3-)	mg/L	10	273	235		226		155			172
Chloride	mg/L	1	120	85	64	69	28	28	29	34	34
Sulfate	mg/L	1	95	87		93		78			74
General Physical	-			-			-				
pH	Std Units	0.1	7.1	7.6		7.6		7.3			7.5
Specific Conductance (EC)	uS	10	1015	812		742		493			547
Total Dissolved Solids	mg/L	10	618	520		505		308			328
Metals											
Arsenic (Total)	ug/L	1	ND	2		1	ND	ND	ND	ND	1
Barium (Total)	ug/L	10	52	123		84	58	55	57	55	63
Iron (Dissolved)	ug/L	50		ND		ND		19			ND
Iron (Total)	ug/L	50	0.12	ND		ND		25			194
Lithium	ug/L	1		10		15	3	6	6	6	7
Manganese (Dissolved)	ug/L	20		ND		ND		ND			ND
Manganese (Total)	ug/L	20	40	ND		33		ND			23
Molybdenum	ug/L	1		5		4	2	3	5	5	6
Nickel	ug/L	1									ND
Selenium	ug/L	2	ND	ND		3	ND	3	2	2	ND
Strontium (Total)	ug/L	5		317		327	222	217	216	226	240
Uranium (by ICP/MS)	ug/L	1		1		ND	ND	ND	ND	ND	ND
Vanadium (Total)	ug/L	1		ND		ND	ND	ND	ND	ND	ND
Zinc (Total)	ug/L	10	10	184		155	206	196	187	182	212
Miscellaneous											
Alkalinity, Total (as CaCO3)	mg/L	10	224	193		185		127			141
Ammonia-N	mg/L	0.05	0.33	0.07		0.11		ND			ND
Boron	mg/L	0.01	0.14	0.08		0.07		ND			ND
Chloramines	mg/L	0.05					ND	ND	ND	ND	ND
Fluoride	mg/L	0.1	0.35			0.2					0.18
Gross Alpha	pCi/L			2.67 +/- 1.59		5.36 +/- 2.22	-0.108 +/- 1.22	2.06 +/- 0.771	-0.152+/-0.825	1.09 +/- 1.58	1.10 +/- 1.60
Kjehldahl Nitrogen (Total)	mg/L	0.2		ND		ND		ND			ND
Methane	ug/L	0.4		0.8		0.63	ND	ND	ND	ND	0.5
Nitrate (as NO3)	mg/L	1	ND	0.2		1.0		0.06			ND
Nitrite (as Nitrogen)	mg/L	0.1		ND		0.1		ND			ND
Nitrogen (Total)	mg/L	0.2		ND		ND		ND			ND
o-Phosphate-P	mg/L	0.1	0.46	0.2		0.1		0.23			0.19
Phosphorous (Total)	mg/L	0.03		0.22		0.22		0.34			0.29
Radium 226	pCi/L			0.928 +/- 0.474		0.460 +/- 0.337	-0.295 +/- 0.333	0.058 +/- 0.198	-0.071 +/- 0.239	0.096 +/- 0.165	0.000 +/- 248
Organic Analyses											
Haloacetic Acids (Total)	ug/L	1.0			ND	ND	37	20	ND	8	4
Dibromoacetic Acid	ug/L	1.0			ND	ND	3.3	ND	ND	ND	ND
Dichloroacetic Acid	ug/L	1.0	L		ND	ND	19.0	4.0	ND	2.3	1.8
Monobromoacetic Acid	ug/L	1.0	L		ND	ND	ND	ND	ND	ND	ND
Monochloroacetic Acid	ug/L	2.0			ND	ND	ND	ND	ND	ND	ND
Trichloroacetic Acid	ug/L	1.0			ND	ND	15	16	ND	5.6	2.2
Organic Carbon (Dissolved)	mg/L	0.2				0.95		1.2			1.1
Organic Carbon (Total)	mg/L	0.2	6.3			1.0		1.3			1.1
I rihalomethanes (I otal)	ug/L	1.0			35	48	71	84	77	65	54
Bromodichloromethane	ug/L	0.5			11	15	23	21	20	15	12
Bromoform	ug/L	0.5			0.8	1.2	0.9	0.7	0.6	0.6	ND
Dibromochlorom	ug/L	1.0			18	23	36	54	48	44	37
Libromocnioromethane	uy/L	0.5	L		5.6	ర.ర	11.0	7.5	8.3	5.8	4.5
	0										
Presifie Conductor (50)	U UC			17.8		17.8	18.7	17.5	17.8		
Specific Conductance (EC)	uS Ostalation			865		587	570	510	530		
рн	Std Units			7.6		7.04	7.1	7.1	7.2		
Eree Chlorine Residual	ma/l			104.9		-40.1	0.0	0.6	0.2		
Dissolved Oxygen	ma/L			0.2		1.05	4.3	4.3	4 1		
Silt Density Index	Std Units			5.2		1.00	4.0	4.5	7.1		
Gas Volume	mL										
H ₂ S	mg/L										

Table 10. Summary of WY 2010 Water Quality Data ASR-1

				Sampling Result	sults		
			ŀ	ASR-2	ASR-3 (SMSTW)		
Parameter	Unit	PQL	3/27/07	12/7/09	12/22/10		
Sample Description			NGW	WY 2009 Storage	NGW		
Elapsed Storage Time	Days			257			
Volume Pumped at Sampling	1,000 gals			-			
Major Cations							
Calcium	mg/L	1	92	80	76		
Retagium	mg/L mg/l	1	19	20	18		
Sodium	ma/L	0.5	86	4.3	4.5		
Major Anions				0.	102		
Bicarbonate (as HCO3-)	ma/L	10	274	238	304		
Chloride	mg/L	1	131	121	107		
Sulfate	mg/L	1	107	93	56		
General Physical							
рН	Std Units	0.1	7.1	7.3	7.7		
Specific Conductance (EC)	uS	10	1035	912	954		
Total Dissolved Solids	mg/L	10	647	640	575		
Metals							
Arsenic (Total)	ug/L	1	ND	5	4		
Barium (Total)	ug/L	10	20	58	50		
Iron (Total)	ug/L	50	ND ND	138	21		
l ithium	ug/∟ ug/l	50	UVI oc	134	21		
Manganese (Dissolved)	ug/L	20	23	40	27		
Manganese (Disserved)	ug/L	20	42	36	27		
Molybdenum	ug/L	1		11	2.		
Nickel	ug/L	1	ND		ND		
Selenium	ug/L	2	ND	3	ND		
Strontium (Total)	ug/L	5	427	435	403		
Uranium (by ICP/MS)	ug/L	1		2			
Vanadium (Total)	ug/L	1		ND			
Zinc (Total)	ug/L	10	247	27			
Miscellaneous							
Alkalinity, Total (as CaCO3)	mg/L	10	225	195	249		
Ammonia-N	mg/L	0.05	0.28	0.21	ND		
Chlorominoc	mg/L mg/l	0.01	0.098	0.1	0.08		
Eluoride	mg/L	0.05	0.23	0.19	0.14		
Gross Alpha	nCi/l	0.1	0.20	2 72 +/- 1 84	0.14		
Kiehldahl Nitrogen (Total)	ma/L	0.2	0.5	ND	ND		
Methane	uq/L	0.4		0.54	ND		
Nitrate (as NO3)	mg/L	0.2	0.9	5	1		
Nitrite (as Nitrogen)	mg/L	0.1	ND	ND	ND		
Nitrogen (Total)	mg/L	0.2		1.2	ND		
o-Phosphate-P	mg/L	0.1	ND	ND	ND		
Phosphorous (Total)	mg/L	0.03	ND	0.07	0.03		
Radium 226	pCi/L			0.663 +/- 0.387			
Urganic Analyses							
Haloacetic Acids (Total)	ug/L	1.0	ND	ND	ND		
Diplomoacetic Acid	ug/L ug/l	1.0	ND	ND	ND		
Monobromoacetic Acid	ug/L ug/l	1.0	ND	ND	ND		
Monochloroacetic Acid	ug/L	2.0	ND				
Trichloroacetic Acid	ug/L	1.0	ND	ND	ND		
Organic Carbon (Dissolved)	mg/L	0.2	0.96	0.62	0.71		
Organic Carbon (Total)	mg/L	0.2	0.68	0.84	0.70		
Trihalomethanes (Total)	ug/L	1.0	5.8	5	ND		
Bromodichloromethane	ug/L	0.5	1.8	ND	ND		
Bromoform	ug/L	0.5	ND	3.8	ND		
Chloroform	ug/L	1.0	2.4	ND	ND		
Dibromochloromethane	ug/L	0.5	1.6	1.2	ND		
Field Parameters	0.0		-				
Lemperature	C		24.9		26.2		
Specific Conductance (EC)	UD Std Lloite		1108		991		
ORP	mV		-0.7 -06		7.0 _R2		
Free Chlorine Residual	mg/L		ND		ND		
Dissolved Oxygen	mg/L						
Silt Density Index	Std Units						
Gas Volume	mL ma/l		0.10		0.00		
1120	mg/L		0.42		0.60		

Table 11. Summary of WY 2010 Water Quality DataASR-2 and ASR-3

									5	Samping Resul	ts					
Parameter	Unit	PQL	3/21/01	10/20/09	11/23/09	12/8/09	1/22/10	3/10/10	4/3/10	4/9/10	5/12/10	6/15/10	7/29/10	9/10/10	10/8/10	11/1
Sample Description			NGW	v	VY 2009 Storag	ge		v	VY 2010 Injecti	on			١	WY 2010 Storag	je	
Elapsed Storage Time	Days			209	243	258				-		15	59	102	130	1
Volume Pumped at Sampling	1,000 gals			700												
Major Cations						•								•		
Calcium	ma/l	1	85	90		80	54			51			50			1
Magnesium	mg/L	1	10	20		10	11			13			13			
Detectum	mg/L	0.5	19	20		19	11			13			13			-
Potasium	mg/L	0.5	5.3	4.4		4.5	4.6			2.8			3.9			-
Sodium	mg/L	1	88	85		83	43			38			46			
Major Anions			-	-		-		1	-				r		-	
Bicarbonate (as HCO3-)	mg/L	10	273	292		270	171			174			165			
Chloride	mg/L	1	120	104	62	109	28	28	26	25	24	26	30		30)
Sulfate	mg/L	1	95	89		102	85			69			80			
General Physical																
pH	Std Units	0.1	7.1	7.1		7.1	7.7			8.2			7.6			
Specific Conductance (EC)	uS	10	1015	995		894	561			501			499			
Total Dissolved Solids	ma/L	10	618	637		628	355			314			318			
Metals	J															
Arconic (Total)	ua/l	1	ND	2		2	F			2			2			1
Arsenic (Total)	ug/L	10	ND 50	2		3	5			3			3			
Darium (Total)	ug/L	10	52	52		45	35			37			44			+
Iron (Dissolved)	ug/L	50		ND		55	ND			ND			ND			
Iron (Total)	ug/L	50	0.12	60		ND	ND			1895			3310			I
Lithium	ug/L	1		20		27	10			7			10			
Manganese (Dissolved)	ug/L	20		ND		ND	ND			ND			ND			
Manganese (Total)	ug/L	20	40	38		ND	ND			53			111			
Molybdenum	ug/L	1		3		3	3			3			3			
Nickel	ua/L	1		-			ND			ND						1
Selenium	ug/l	2	ND	ND		2	4			ND			ND			
Strontium (Total)	ug/L	5	ND.	422		410	100			264			226			
Uranium (hu ICD/MC)	ug/L	3		422		410	202			204			230			
Verandium (by ICP/WS)	ug/L	1		0.9		ND	1			2						-
Vanadium (Total)	ug/L	1		ND		ND	4			6			/			
Zinc (Total)	ug/L	10	10	19		67	24			23			19			
Miscellaneous																
Alkalinity, Total (as CaCO3)	mg/L	10	224	239		221	140			143			135			
Ammonia-N	mg/L	0.05	0.33	ND		0.06	ND			ND			ND			
Boron	mg/L	0.01	0.14	0.08		0.08	0.05			ND			ND			
Chloramines	ma/L	0.05					ND		0.07	0.04	0.06	ND	ND		ND)
Eluoride	ma/l	01	0.35			0.19				0.26						
Gross Alpha	nCi/l	0.1	0.00	2 65 +/- 1 67		4 10 +/- 1 90	ND +/- 1.0			2 56 ±/- 1 26			1 12 +/- 1 27		1.00 +/- 1.59	2 2 60
Kichldohl Nitrogon (Total)	poi/L	0.2		2.03 +/- 1.07		4.10 +/- 1.30	ND +/- 1.0			3.30 +/- 1.20			4.43 T/- 1.37		1.03 +/- 1.30	2.03
Kjenidani Nitrogen (Total)	mg/∟	0.2		ND 0.5		ND 4.00	ND			ND			ND ND			-
Methane	ug/L	0.4		0.5		1.30	ND			ND			ND			
Nitrate (as NO3)	mg/L	1	ND	ND		1.0	ND			1.0			0.1			-
Nitrite (as Nitrogen)	mg/L	0.1		ND		0.2	ND			ND			ND			
Nitrogen (Total)	mg/L	0.2		ND		ND	ND			ND			ND			
o-Phosphate-P	mg/L	0.1	0.46	ND		ND	ND			0.1			ND			
Phosphorous (Total)	mg/L	0.03		ND		0.13	ND			0.17			0.24			
Radium 226	pCi/L			0.427 +/- 0.335		0.873 +/- 0.360	ND +/- 0.2			0.354 +/- 0.464			0.822 +/- 0.622		0.096 +/- 0.165	0.038
Organic Analyses																
Haloacetic Acids (Total)	ua/L	1.0		ND	ND	ND	6	12	23	20	24	33	3	9.1	ND	
Dibromoacetic Acid	ua/I	1.0					עוע	10	20	25	22	27	ND	NU NU		
Dishlaragantia Acid	ua/l	1.0					24	1.9	2.2	2.0	14.0	2.1 1E 0	110	10		
Dicitioroacetic Acid	ug/L	1.0		ND	ND	ND	2.1	0.3	11.0	0.5	11.0	13.0	2.8	1.9	IND	-
wonobromoacetić Acid	ug/L	1.0	l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	IND I III	1
Monochloroacetic Acid	ug/L	2.0	ļ	ND	ND	ND	ND	ND	ND	ND	3	4	ND	ND	ND	
Trichloroacetic Acid	ug/L	1.0		ND	ND	ND	3.9	4.1	9.6	8.7	8.9	11	ND	7.2	ND	2
Organic Carbon (Dissolved)	mg/L	0.2				0.86	1.0			1.2			1.1			I
Organic Carbon (Total)	mg/L	0.2	6.3			0.9	0.98			1.3			1.2			I
Trihalomethanes (Total)	ug/L	1.0		0.8	20.0	8	45	60	65	50	62	78	77	9.6	49)
Bromodichloromethane	ug/L	0.5		ND	7.4	2.8	14	20	20	15	19	21	19	2.5	12	1
Bromoform	ua/L	0.5	1	ND	ND	ND	ND	0.9	0.8	0.8	0.9	0.8	0.6	ND	ND	
Chloroform	ua/I	1.0	i	0.8	10	5	26	3.0	0.0 AC	2.0	3.5	3.0 //R	5.0	6	24	(
Dibromochloromethane	ug/L	1.0		0.0	0.06	NID 3	5.0	0.R	30 8 8	75	0.4	40 g /	00	11		
Field Parameters	-yr-	0.0		ND	0.90		5.0	3.0	0.0	1.5	3.4	0.4	0.9	1.1	4.0	1
	0.0		1							r						-
I emperature	° C			22.5		23	19	19			19.2	18.9	15.9	18.7		
Specific Conductance (EC)	uS	L		966		687	566	580			570	580	520	580		I
pH	Std Units			7.3		7.13	7.3	7.3			6.8	6.9	7.6	6.9		
ORP	mV			-67.1		-123.2		530								
Free Chlorine Residual	mg/L			ND		ND	ND	ND			ND	ND	ND	ND		
Dissolved Oxygen	mg/L			0.11		0.33	4.5	4.5			2.3	1.8	2.3	3.1		
Silt Density Index	Std Units															
Gas Volume	mL															I
H ₂ S	mg/L					1							1			
h	-	-	-	-							•	-	•			

Table 12. Summary of WY 2010 Water Quality Data MW-1

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distinctions between in-situ and injected waters are of importance. The most illustrative basis for discussing water-quality changes for the District's ASR project is to consider groundwater conditions immediately prior to the injection season as a baseline. For the WY 2010 season, groundwater quality was monitored the week prior to the commencement of injection; the results from key indicator parameters of the presence of CAW Injectate water are presented in Table 13 below.

	CI	EC	Sr	% Inje	Avg %			
Well	(mg/L)	(umho)	(ug/L)	CI	EC	Sr	in Water	
ASR-1	69	742	237	57	50	50	52	
MW-1	109	894	410	13	14	8	12	
ASR-2	121	912	435	0	9	0	3	

 Table 13. Initial WY 2010 Water-Quality Conditions of On-Site Wells

Establishing baseline conditions this year was slightly different than previous years, and is more complex now that injection is occurring at multiple wells; essentially three different "baseline" conditions exist now, specifically at ASR-1, MW-1 and ASR-2. As Table 13 shows, none of the three locations have the same water quality prior to WY 2010 injection, and each represents a different mix of native groundwater (NGW) and water from the WY 2009 injection season. These results range from 48% NGW at ASR-1, to 97% NGW at ASR-2; with MW-1 being in between the two (both spatially and with respect to water quality) at 88% NGW. The results are noteworthy given the very close distances (i.e., under 300 feet) the wells are to each other; however, WY 2009 saw only 182 af of injection, which represents a theoretical radius-of-influence of only 159 feet¹⁰ – i.e., less than the 280-foot distance separating ASR-1 from ASR-2. The issue of precisely defining a baseline water-quality condition in the future will be increasingly difficult as injection occurs at multiple wells – noting that ASR-2 was utilized for the first time this year, and ASR-3 is planned to be operational by the commencement of WY 2012.

The yield of injection operations for WY 2010 were significantly greater than for previous years, primarily as a result of WY 2010 being a hydrological "Above Normal" year; a total of approximately 1,111 af was injected between December 13 and May 31, 2010. This volume not only exceeds the average annual yield of the project (920 afy); it also exceeds the sum-total of all combined injection over the previous 5 years of facility operation. The magnitude of this year's increase in throughput is also a result of the active operation of ASR-2 simultaneously with ASR-1; the first such year this has occurred.

¹⁰ This estimate is based on the injected volume being evenly and symmetrically dispersed over a 100 foot-thick aquifer zone of 17% porosity. The 100 foot thickness is based on Spinner Log surveys that show 96% of the injected water travels through 100 feet of the 200-foot screened interval of the well.

Based on the above analysis of the groundwater conditions at the commencement of the WY 2010 season, the water quality (specifically key water quality parameters chloride ion [CI], strontium [Sr] and conductivity [EC]) at ASR-1 were used to account for calculating a correction factor for normalizing the data where dilution-correction is desired. From Table 13 above, the Cl value of 69 milligrams per liter (mg/L), or a mixture of 48% NGW and 52% injectate, was used as the baseline condition for this year's program

Injection Water Quality

Source water for injection at ASR-1 was supplied from the CAW municipal water system, primarily from Carmel River system wells which are treated at the CAW Begonia Iron Removal Plant (BIRP) for iron and manganese removal. The BIRP water is also disinfected via free chlorine and a phosphate-based corrosion inhibitor is added to the filtered water before entering the CAW distribution system.

Injection water quality from the CAW system was typical of recent years, with slightly better (i.e., lower) levels of major anions and cations than the previous 3 years. The data in Table 14 show injection water quality throughout the injection season, and shows a trend observed in previous years with respect to the variation in Carmel River source waters. The first 1-2 months of diversions are typically higher in mineral content, and then drop by 10-20% as the injection season progresses. This is likely a result of the shallow river aquifer initially yielding "older" summer/fall waters that have resided in the river alluvium for a longer period of time being collected for the first 1-2 months of the ASR season.

The level of Trihalomethane (THM) and Haloacetic Acid (HAA) compounds was slightly lower than previous years (average 25 and 13 ug/L respectively), which is likely a result of the relatively wet hydrologic year conditions of high rainfall and river runoff, yielding short residence times in the river alluvium. The commencement of using both ASR-1 and ASR-2 wells (which effectively doubled injection capacity) also likely benefited lowering THM and HAA levels by accelerating the passage time through the CAW distribution system. CAW has also closely managed the maintenance of free chlorine residual in the distribution system this year, resulting in lower residuals in the injected water. All of these factors contribute to the lower THM / HAA levels observed.

Levels of bionutrients (oxygen, nitrogen, phosphorous, and organic carbon) were all present at levels similar to previous years.

Table 14. Summary of WY 2010 Water Quality DataInjectate

			Sampling Results WY							WY 2010			
Parameter	Unit	PQL	12/16/09	1/22/10	2/3/10	2/16/10	3/2/10	3/17/10	4/14/10	5/7/10	5/12/10	6/2/10	Injectate
Sample Description			Injectate	Injectate	Injectate	Injectate	Injectate	Injectate	Injectate	Injectate	Injectate	Injectate	Averages
Major Cations													
Calcium	mg/L	1	42	42		40		41	42		41		41
Magnesium	mg/L	1	15	14		13		12	13		14		14
Potasium	mg/L	0.5	3.4	3.2		2.8		2.9	3		2.9		3.0
Sodium	mg/L	1	44	41		43		43	40		41		42
Major Anions													
Bicarbonate (as HCO3-)	mg/L	10	157	154		157		155	157		151		155
Chloride	mg/L	1	27	27	25	26	25	28	28		26	23	26
Sulfate	mg/L	1	95	82		69		68	62		74		75
General Physical	-												
Н	Std Units	0.1	7.6	7.6		7.5		7.6	7.5		7.5		7.6
Specific Conductance (EC)	uS	10	522	528		494		493	470		486		499
Total Dissolved Solids	ma/L	10	355	385		348		300	288		308		331
Metals	J												
Arsenic (Total)	ua/l	1	ND	ND		ND		ND	ND		ND		0
Barium (Total)	ug/L	10	63	56		57		55	ND		61		49
Iron (Dissolved)	ug/L	50		ND		ND		55 ND	ND				40
Iron (Total)	ug/L	50	ND	ND		ND		ND	ND		110		0.2
lithium	ug/L		ND	IND 6		110		ND	ND		55		9.2
Managanaga (Dissolund)	ug/L	20	4	0 ND		7		3	5		J		5
Manganese (Dissolved)	ug/L	20	ND	ND		ND		ND	ND		ND		0
Manganese (Total)	ug/L	20	ND	ND		ND		ND	ND		ND		0
Molybdenum	ug/L	1	2	2		3		3	3		3		2.7
	ug/L	1	2	2	<u> </u>			ND	ND		ND		0.8
Selenium	ug/L	2	ND	3		ND		ND	2		ND		0.8
Strontium (Total)	ug/L	5	236	216		218		200	203		213		214
Uranium (by ICP/MS)	ug/L	1	ND	ND		ND		ND	ND		ND		0
Vanadium (Total)	ug/L	1	2	2		2		ND	ND		ND		1
Zinc (Total)	ug/L	10	296	220		286		194	183		242		237
Miscellaneous													
Alkalinity, Total (as CaCO3)	mg/L	10	129	126		129		127	129		124		127.3333333
Ammonia-N	mg/L	0.05	ND	ND		0.05		0.06	ND		0.09		0.03
Boron	mg/L	0.01	0.04	0.04		0.38		0.07	ND		ND		0.09
Chloramines	mg/L	0.05	0.08	0.10	0.12	0.2	0.15	0.11	0.09		ND	ND	0.09
Fluoride	mg/L	0.1	0.2			0.33		0.26	0.28		0.27		0.27
Gross Alpha	pCi/L		1.89 +/- 1.05	ND +/- 1.1				0.444 +/- 0.694	0.187 +/- 1.13		-0.029 +/- 1.06		
Kjehldahl Nitrogen (Total)	mg/L	0.2	ND	ND		ND		ND	ND		ND		0
Methane	ug/L	0.4	ND	ND		ND		ND	ND		ND		0
Nitrate (as NO3)	ma/L	1	ND	ND		1		1	ND		ND		0.3
Nitrite (as Nitrogen)	ma/L	0.1	ND	ND		ND		ND	ND		ND		0
Nitrogen (Total)	ma/L	0.2	ND	ND		ND		ND	ND		ND		0.000
o-Phosphate-P	ma/l	0.1	0.3	ND		ND		0.2	0.2		0.5		0.2
Phosphorous (Total)	mg/L	0.02	0.32	ND		ND		0.20	0.25		0.55		0.2
Radium 226	nG/L	0.05	0.32	ND ±/- 0.16		ND		0.23	0.23		0.0535 ±/- 0.348		0.24
Organic Analyses	poi/L		0.140 17 0.23	140 17 0.10				0.410 17 0.000	0.0002 17 0.22		0.0000 17 0.040		
Helesestia Asida (Total)	ua/I	1.0		6			40	46	45	40		45	42
	ug/L	1.0	14	0	9.0	11	12	16	15	19		15	13
Dibromoacetic Acid	ug/L ug/l	1.0	2.2	ND	2.4	2.1	2.1	2.1	2.4	2.3		2.2	2.0
Dicnioroacetic Acid	ug/L ″	1.0	6.4	2.1	3.8	4.8	5.2	6.5	5.5	1.1		6.5	5.4
Monobromoacetic Acid	ug/L	1.0	ND	ND	ND	ND	ND	ND	ND	2	l	ND	0.22
Monochloroacetic Acid	ug/L	2.0	ND -	ND	ND -	ND	ND	2.5	2.8	ND -		ND	0.59
Irichloroacetic Acid	ug/L	1.0	5.7	3.9	3.6	3.7	4.3	5.3	4.0	7.2		6.6	4.9
Organic Carbon (Dissolved)	mg/L	0.2	1.3	1.0		1.1		1.1	1.1		1.3		1.2
Organic Carbon (Total)	mg/L	0.2	1.6	0.98		1.0		1.4	1.4		1.3		1.3
Trihalomethanes (Total)	ug/L	1.0	26	45	19	17	20	22	21	32		25	25
Bromodichloromethane	ug/L	0.5	8.5	14.0	7.1	6.2	6.9	7.6	6.9	10.0		8.6	8.4
Bromoform	ug/L	0.5	0.7	ND	0.67	0.59	0.64	0.62	0.71	0.66		ND	0.51
Chloroform	ug/L	1.0	11.0	26.0	5.7	5.8	8.4	9.6	8.6	15.0		12.0	11.3
Dibromochloromethane	ug/L	0.5	5.5	5.0	5.6	4.3	4.4	4.6	4.8	5.8		4.6	5.0
Field Parameters													
Temperature	⁰ C		15.2	14.5	14.8	14.7	14.4		15.7	16.1	16.3	16.1	15.3
Specific Conductance (EC)	uS		568	328	559	487	520		476	492	490	501	491
pН	Std Units		7.1	7.4	7.5	7.4	7.3		7.2	7.3	7.3	7.3	7.3
ORP	mV		731	770			727						743
Free Chlorine Residual	mg/L		1.0	1.1	0.7	0.4	0.2		0.3	0.4	0.9	0.3	0.6
Dissolved Oxygen	mg/L	1	1.6	1.6	0.8	2.4	4.3		2.1	2.6	3.7	2.2	2.4
Silt Density Index	Std Units		1.6					l	1		1		1.6
Gas Volume	mL		0.5			1	l	1	1		ł		0.5
H ₂ S	mg/L		ND					1	1		1		0
	-												

Water Quality During Aquifer Storage

Table 10 presents a summary of water-guality data collected at ASR-1, Table 11 presents the limited water-quality data collected at ASR-2 and ASR-3, and Table 12 presents similar data collected at MW-1. Data for ASR-1 includes original 2001 native groundwater results obtained when the well was first constructed (3/21/01 sample), "baseline" water quality taken immediately prior to WY 2010 injection (12/08/09 sample), WY 2010 injection waterquality (CAW Injectate), and "stored" water quality (WY 2010 Storage) collected periodically from the aquifer after injection operations were terminated. To track the general mixing, dilution, and interaction between injected and native groundwaters, chloride ion (CI) was used as a natural tracer. Chloride ion is very stable, highly soluble and is present in both waters; albeit at a 400 percent concentration differential. Review of CI data collected during the 6-month storage period shows that the injected "bubble" of CAW water remained essentially intact around all three wells for the entire storage period. This condition is not unexpected due to the large volume of water injected this season. Using the same basis for estimation of radius-of-influence as discussed previously, the theoretical zone of inundation of this year's 1,111 af of injection water encompasses a radius of approximately 1,000 feet around the wells. This volume encompasses CAW's Paralta well (660 feet north) and approaches both the new ASR-3 well (1,350 feet north), and the Ord Grove well (1,600 feet southwest).

Review of other water-quality parameters gathered at ASR-1, including major anions and cations, redox potential (ORP), and conductivity all showed similar geochemical stability and a lack of dilution / intermixing with native groundwaters. This is unremarkable when compared to recent years due to the larger volume of water injected; although drift / gradient-induced migration was surely occurring, the injection bubble was sufficiently large to still encompass ASR-1, as well as MW-1 and ASR-2.

As found in previous ASR operations at the site, the only significant water -quality changes observed during aquifer storage were redox-related (and likely biologically mediated) reactions; these were primarily evidenced by the degradation of HAA and THM compounds. The results showed the following:

- HAAs showed the typical ingrowth resulting from the presence of free chlorine in the injected water and peaked in concentration at approximately 16 days after the cessation of injection. They then degraded completely during storage in a period of approximately 45 days at MW-1.
- THMs showed characteristic and significant ingrowth initially, peaking after 2-4 weeks of storage, followed by a gradual decline over the next 10-20 weeks of storage.

Subsequent decline in THMs followed the characteristic process: rapid degradation of Bromoform and the highly brominated species with much slower decline in Chloroform. The slower than historically-observed degradation of THM's may be a result of the large volume of water injected and the more thorough displacement of native groundwaters; this phenomena will need to be observed closely in subsequent operations to further assess the change in degradation rates.

Water Quality at MW-1

Monitoring well MW-1 was utilized for tracking changes in injected and stored water quality in the subsurface during WY 2010. MW-1 is perforated similarly to wells ASR-1 and ASR-2, and is located approximately 90 feet east of ASR-1 (one-third the distance between ASR-1 and ASR-2). Review of the water-quality data for MW-1 presented in Table 12 shows the same trends apparent from ASR-1 storage water quality, i.e., no evidence of ion exchange or precipitation reactions, and similar THM ingrowth and decay trends. The data also provide insight into other aquifer-storage issues previously unavailable from ASR-1 alone, including the following:

Injection Bubble Transport. Water quality at MW-1 improved (based on CI concentration data) as soon as injection started a result of displacement of native groundwaters by the higher quality CAW injectate. This trend continued until MW-1 was completely enveloped by the injection bubble, within approximately 1 week after the commencement of injection of both ASR-1 and 2. This 100% injectate condition remained stable through the cessation of injection and throughout the storage period, even through the June - September period of pumping influence from CAW's SGB wells, which tends to draw the injection "bubble" to the west.

<u>Disinfection-By-Products (DBP's) Fate and Transport.</u> Additional geochemical information is apparent by the comparison of THM and HAA data at ASR-1 and MW-1, which are graphically presented Figures 63 and 64, respectively. These data suggest the following:

- Both THM and HAA levels showed similar ingrowth and decay trends to those observed in ASR-1 during aquifer storage.
- Comparison of total THMs and individual THM species from both wells shows that the ingrowth phase peaked at the same time (approximate Storage Day 60) for both ASR-1 and MW-1. This finding is almost identical to data from WY 2009 which peaked at Day 55 (approximately), and further substantiates the conclusion that THM degradation rate is a function of time only; it also supports the finding that THM adsorption is not occurring during aquifer storage and transport. A functional characteristic of adsorption in flow through porous media is that compounds (especially larger molecular weight organics) demonstrate transit-time retardation of THM peaking at MW-1, the occurrence of THM adsorption is unlikely.
- Similar peaking and subsequent degradation of HAA's was also observed, with concurrent peaking at ASR-1 and MW-1 occurring after 16 days of aquifer storage. The more temporal peaking and faster degradation of HAA species is largely a result of Haloacetic Acid compounds being inherently less stable

compounds than THM's, particularly in an oxygenated environment. These results are similar to previous years HAA trends.

Water Quality at Far-Field Monitor Wells

Samples from the two closest CAW SGB production wells (i.e., Ord Grove and Paralta) were collected in July and November 2010 as part of the ASR sampling program. The samples were analyzed for DBP's and trace minerals which might indicate influence from the operation of the ASR wells. In addition, the construction of a third ASR well (ASR-3) was completed at the Seaside Middle School, approximately 1,350 feet north of the ASR-1 well and 700 feet north of the Paralta well. ASR-3 was test pumped in late September – early October to both develop the well and establish a baseline water quality. The laboratory results for these samples are included in Appendix B (not included in draft).

The results from these samples are notably different this year, and are a result of the far greater volumes of water injected compared to previous years. Evaluation of chloride (Cl), strontium (Sr), and electrical conductivity (EC) results all indicate that some injected water had reached the far-field wells this year.

The closest well, Paralta, showed clear signs of influence from the injected waters, with concentrations of CI, EC, and Sr all lower than historical levels. The presence of low levels of THM compounds this year also positively confirms the presence of CAW Injectate at the site; however, the Paralta well penetrates both the QTp and Tsm formations; therefore, the precise quantification of injectate capture is not possible at this time. Based on the data collected this season, the June – September pumping of Paralta saw between 50% and 62% contribution of injected water, with THM levels of 5-8 micrograms per liter (ug/L). As a matter of potable water-quality standards, the level detected at the Paralta Well is far below the current Maximum Contaminant Level (MCL) for THM's of 80 ug/L.

The next closest well is ASR-3; which was constructed in Summer 2010 and test pumped for the first time in September 2010. ASR-3 is perforated solely in the Tsm formation and is, therefore, a good data source for water quality and mixing. In comparing the results for key water-quality indicators (CI, EC, and Sr), the samples at ASR-3 showed a mixture of 10 - 14 % CAW Injectate (averaging 12 %), with the remaining 88 % being typical Tsm groundwater quality. No THM's were observed at ASR-3. This result is not surprising given the proximity of ASR-3 to the Santa Margarita ASR Facility, approximately 1,350 feet away and slightly downgradient.

Constituent	Value	% Injectate (Based on CAW WY 2010 Injectate)	% Typical Tsm Water (i.e., NGW)		
CI	107	14	86		
EC	873	12	88		
Sr	367	10	90		

Table 15. Evaluation of ASR-3 Water-Quality Data(September 24, 2010 Data)

The farthest well monitored for water quality as part of the ASR project, CAW's Ord Grove well, is approximately 1,600 feet away and directly downgradient from the Santa Margarita Facility. Unfortunately, the Ord Grove well is perforated predominately in the QTp formation, with only slight penetration into the upper portion of the Tsm. This suggests that the use of water-quality indicators will only be qualitative in evaluating the presence of injected waters at this well. Using the same indicator parameters (although Cl data from Ord Grove was not available in WY 2010), the results also show depressed levels of Sr and EC, which are indicative of intermixing with CAW injectate. No THM's were detected at the Ord Grove well.

Overall, water-quality data from WY 2010 showed no significant deviations from other years; however, the determination of precisely where the injected waters travel will likely be more challenging as multiple wells become operational and injection quantities increase. The most important factors – a) that no adverse geochemical reactions are occurring during aquifer storage, and b) that injection is showing direct and measurable benefit to the extant basin water quality - continue to be observed and are likely to persist as ASR operations continue and expand in the future.

CONCLUSIONS

Based on the findings from the Phase 1 ASR Project during WY 2010, we conclude the following:

WY 2010 Recharge Operations

WY 2010 was an "Above Normal" hydrologic year, and was also the first year that Carmel River system water was injected at ASR-2 simultaneously with ASR-1 for an entire injection season. These factors resulted in a total of approximately 1,111 af of water recharged into the Seaside Groundwater Basin at the Phase 1 ASR Project site. The volume injected during WY 2010 was the highest single-year injection volume and is greater than the operational average annual yield for the project of 920 afy. For comparison, the volume injected during WY 2007 was only 8.2 af, and during WY 2006 was 408 af, which were "Critically Dry" and "Wet" hydrologic years, respectively. The total volumes injected each year reflect the relative availability of excess Carmel River flows, as well as the number of ASR wells in operation and conveyance capacity of the CAW system. A histogram showing a summary of annual injection and recovery volumes since operations began at the Santa Margarita site is shown on Figure 2.

Well Performance

<u>ASR-1</u>. During WY 2010, ASR-1 was operated at injection rates ranging between approximately 970 to 1,650 gpm (4.3 to 7.3 afd), averaging approximately 1,275 gpm (5.6 afd). The 24-hour specific injectivity at ASR-1 at the beginning of WY 2010 was 30 gpm/ft and at the end it was 25 gpm/ft, a decline of approximately 15 percent, indicating that some residual plugging occurred at the well over the course of the WY 2010 injection season. These values are comparable to the specific injectivity at the end of WY 2009 of approximately 32 gpm/ft. The pumping specific capacity, however, was relatively stable over the course of WY 2010, at approximately 30 to 31 gpm/ft prior to and following the injection season, respectively. The maintenance of specific capacity following the injection season suggests that backflushing operations were successful at removing residual plugging that had accumulated during the injection season at ASR-1.

<u>ASR-2</u>. During WY 2010, ASR-2 was operated at average injection rates ranging between approximately 240 to 1,100 gpm (1.1 to 4.9 afd), averaging approximately 670 gpm (3.0 afd). The 24-hour specific injectivity at ASR-2 the beginning of WY 2010 was approximately 7 gpm/ft and at the end it was approximately 3 gpm/ft, a decline of approximately 60 percent, indicating that significant residual plugging occurred at this well over the course of the WY 2010 injection season. These values are also significantly lower than the specific injectivity at the end of WY 2009 of approximately 19 gpm/ft The pumping specific capacity also declined over the course of WY 2010, although to a lesser extent, from approximately 19 gpm/ft prior to injection to 17 gpm/ft at the end of the injection season, indicating that backflushing did not completely remove the accumulated residual plugging during WY 2010. It is noted, however, that ASR-2 was operating during WY 2010 in an "impaired" condition as a

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result of the significant plugging that occurred during MCWD-source water testing in WY 2009. It is anticipated that following formal rehabilitation to remove plugging materials (scheduled for December 2010), ASR-2 will be operating at performance levels comparable to ASR-1.

Water Quality

Significant conclusions regarding the water-quality investigation during WY 2010 include the following:

- Consistent with previous observations, no significant ion exchange, acid-base, or precipitation reactions were observed at the site.
- Following a short "ingrowth" period, HAAs degraded completely during aquifer storage.
- THMs showed characteristic and significant initial "ingrowth" that peaked at approximately 2 to 4 weeks of storage, followed by a gradual decline over the next 10 to 20 weeks of storage.
- THM data from the on-site monitor well also supports the finding that THM adsorption is not occurring during aquifer storage and transport; therefore, observed THM reductions during storage are likely being controlled by bioactivity.

RECOMMENDATIONS

Based on the WY 2010 ASR program results and our experience with similar ASR projects, we offer the following recommendations for continued and future operations of the Phase 1 ASR Project:

ASR-1 Well Operational Parameters

- <u>Water-Level Drawup</u>: Under the present local water-level conditions, the amount of water-level drawup should be limited to approximately 100 feet. This amount of water-level drawup during injection equals the typical available drawdown in the well for backflushing. This helps to avoid over-pressurization and compression of plugging materials, thereby maximizing the efficiency of backflushing and limiting the amount of residual plugging.
- Injection Rate: Based on the lack of overall residual plugging during WY 2010, ASR-1 can be operated at an injection rate up to approximately 1,250 gpm (5.5 AFD) to avoid excessive plugging during injection. This represents a 25 percent increase in the historical recommended injection rate of 1,000 gpm.
- <u>Backflushing Frequency</u>: During the recharge season, routine backflushing should continue to be performed on an approximate weekly basis, or when the amount of water-level drawup in the casing reaches approximately 100 feet (i.e., equal to the amount of available drawdown for pumping in order to avoid excessive residual plugging between injection periods and maintain well performance.

ASR-2 Well Operational Parameters

- <u>Water-Level Drawup</u>: Under the present local water-level conditions, the amount of water-level drawup should be limited to approximately 130 feet, which is equal to the typical amount of available drawdown in the well for backflushing. Again, this helps to avoid over-pressurization and compression of plugging materials and limiting the amount of residual plugging.
- <u>Injection Rate</u>: ASR-2 experienced a decline in performance as a result of residual plugging during both WY 2009 and WY 2010. Until the well performance is improved (i.e., through downhole rehabilitation), it is recommended that ASR-2 should be operated at a maximum injection rate of approximately 750 gpm.
- <u>Backflushing Frequency</u>: During the recharge season, routine backflushing should be performed. Drawup is a function of specific injectivity, injection rate, plugging rates, and duration of injection. Assuming an injection rate of 750 gpm and current well performance, it is estimated that the well will experience approximately 130 feet of water level drawup after one week of continuous injection; therefore, routine backflushing of ASR-2 should continue be performed on an approximate weekly basis, or when the amount of water level drawup in the casing reaches
approximately 130 feet, whichever occurs first, in order to avoid excessive residual plugging between injection periods and maintain well performance.

It is important to note that water-level drawup during injection is a function of several factors, including specific injectivity, injection rate, plugging rates, and duration of continuous injection. Therefore, establishing a maximum drawup level is a useful guide for triggering backflushing of the ASR wells under variable conditions. For example, injecting at lower injection rates and / or with an injection source water with lower plugging potential, the amount of water level drawup per unit time will be lower and the duration of continuous injection between backflushing may be extended before the drawup limitation is reached. Conversely, injecting at a higher rate and / or with injection source water having a higher plugging potential, the rate of drawup will increase and the duration between backflushing may need to be shortened.

In addition to the above ASR well operational recommendations, we offer the following recommendations for future operations of the Phase 1 ASR Project:

- 1. Perform formal downhole rehabilitation of ASR-2 to restore performance losses as a result of residual plugging during both WY 2009 and WY 2010¹¹.
- 2. Install pressure regulating valves at the ASR-1 and ASR-2 wellhead piping to maintain constant pressure and injection rates at the wells.
- 3. Install a dedicated submersible sampling pump at SMS Deep MW for waterquality sampling.
- 4. Perform an inventory of water-level dataloggers at each of the wells in the monitoring network and replace those that have failed or are obsolete models prior to the next water year.
- 5. Perform (and document) more frequent routine visits (e.g., monthly) to the monitoring well dataloggers to ensure they are operating properly on a continuous basis.
- 6. Include specific water quality investigations of the well backflush water to characterize and understand the likely reactions taking place at the well bore. This could potentially help in the future reduction of well plugging.

¹¹ It is noted that ASR-2 underwent formal rehabilitation in early 2011 as suggested in the WY 2009 Summary of Operations report. As of this writing, the post-rehabilitation results appear quite favorable; however, full analysis of the ASR-2 rehabilitation has not been completed and will be documented in the upcoming WY 2011 Summary of Operations report. This recommendation reinforces the need to having had performed the rehabilitation based on the WY 2010 findings as well.

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CLOSURE

This report has been prepared exclusively for the Monterey Peninsula Water Management District for the specific application to the ASR Project on the Monterey Peninsula. The findings and conclusions presented herein were prepared in accordance with generally accepted hydrogeologic and engineering practices. No other warranty, express or implied, is made.

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FIGURES

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SITE LOCATION MAP FIGURE 1



FIGURE 2







WY 2010 ASR PROGRAM ASR-1 WATER LEVEL DATA WY 2010 INJECTION SEASON FIGURE 5



WY 2010 ASR PROGRAM ASR-2 WATER LEVEL DATA WY 2010 INJECTION SEASON FIGURE 6



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WY2010 ASR PROGRAM ASR-1 WATER LEVEL DATA INJECTION PERIOD NO. 2 FIGURE 8



FIGURE 9





FIGURE 11





FIGURE 13









Monterey Peninsula Water Management District - Phase 1 ASR Project

ASR-1 WATER LEVEL DATA INJECTION PERIOD NO. 11 FIGURE 17

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WY2010 ASR PROGRAM ASR-1 WATER LEVEL DATA INJECTION PERIOD NO. 12 FIGURE 18



FIGURE 19





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FIGURE 23

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FIGURE 24

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WY2010 ASR PROGRAM ASR-1 WATER LEVEL DATA INJECTION PERIOD NO. 19 FIGURE 25

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WY2010 ASR PROGRAM ASR-1 WATER LEVEL DATA INJECTION PERIOD NO. 21 FIGURE 27

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Monterey Peninsula Water Management District - Phase 1 ASR Project

FIGURE 29






ASR-2 WATER LEVEL DATA INJECTION PERIOD NO. 4 FIGURE 32



SR-2 WATER LEVEL DATA INJECTION PERIOD NO. 5 FIGURE 33



WY2010 ASR PROGRAM ASR-2 WATER LEVEL DATA INJECTION PERIOD NO. 6 FIGURE 34



ASR-2 WATER LEVEL DATA INJECTION CYCLE NO. 7 FIGURE 35



ASR-2 WATER LEVEL DATA INJECTION PERIOD NO. 8 FIGURE 36





FIGURE 38



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FIGURE 39





FIGURE 41



WY2010 ASR PROGRAM ASR-2 WATER LEVEL DATA INJECTION PERIOD NO. 14 FIGURE 42









ASR-2 WATER LEVEL DATA INJECTION PERIOD NO. 18 FIGURE 46

0 **Injection Period No. 19** 20 April 19 through 25, 2010 40 Total Volume Injected = 24.5 af Average Injection Rate = 938 gpm 60 80 Sometime between 11:40 and 13:40 on 4/25/10 ASR-2 (ET 8460 and 8580 mins) the water level reached 100 groundsurface at an injection rate of 1,300 gpm. 120 Depth to Water (feet bgs) 140 160 180 200 220 **Recomended Maximum Drawup Level (130 ft)** 240 260 280 300 320 340 SWL = 364.6360 Injection rate varied between approximately 700 and 1,300 gpm 380 due to fluctuations in CAW system pressure. 400 4/26/10 4/19/10 4/20/10 4/21/10 4/22/10 4/23/10 4/24/10 4/25/10 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 **Date and Time** PUEBLO water resources WY2010 ASR PROGRAM **ASR-2 WATER LEVEL DATA**

INJECTION PERIOD NO. 19

FIGURE 47





ASR-2 WATER LEVEL DATA INJECTION PERIOD NO. 21 FIGURE 49



WY2010 ASR PROGRAM ASR-1 WELL PERFORMANCE SUMMARY FIGURE 50





WY2010 ASR PROGRAM ASR-1 DRAWUP VS. RESIDUAL PLUGGING FIGURE 52



WY2010 ASR PROGRAM ASR-2 DRAWUP VS. RESIDUAL PLUGGING FIGURE 53



WY2010 ASR PROGRAM MW-1 WATER LEVEL DATA FIGURE 54



WY2010 ASR PROGRAM PARALTA TEST WATER LEVEL DATA FIGURE 55





WY2010 ASR PROGRAM ORD GROVE TEST WATER LEVEL DATA FIGURE 57



WY2010 ASR PROGRAM ORD TERRACE WATER LEVEL DATA FIGURE 58



WY2010 ASR PROGRAM FO-7 WATER LEVEL DATA FIGURE 59



WY2010 ASR PROGRAM PCA-EAST WATER LEVEL DATA FIGURE 60



WY2010 ASR PROGRAM FO-9 WATER LEVEL DATA FIGURE 61



WY2010 ASR PROGRAM FO-8 WATER LEVEL DATA FIGURE 62



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APPENDIX A - FIELD DATA

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

ASP-1 Test:

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Sheet No. 1 of _

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Well:	A	SR-1		PHAS	SE 1 AG	PROJECT				
Test:	wy	12010	Test #	1 (Hermit -	Tost#	ŧ1)				Sheet No. 1 of <u>-</u>
			Rate	Totallzai		19979		E DUW	PREMI	
Date/1	ime	(min)	(elbin)	(gallons)	Line	-F(eac	FCV	(it bist)	(ft)	Comments/Other
12/13/09	130	0		111400 000				369.2		Line Flushing: In Meter Tot = 111100 000
. / .		1								BE mety Tot = 039747[000]
		2								FEV Tank = 990 psi
		3				I				9" Begin Flushing to pito - see spm
		4	·		<u> </u>					1150 Reduce flow to -1000 gpm (Bit filling)
	6	5	0.10					362.55		
	13	6	~ 400		94	39	180	351.28		BFMetn and = 040065 for gnls
					<u> </u>			allo 42		1300 gpm to well o gpm fol pit
						-		574.00		BF Metter = 040066 000 shis
	1210	9			0.2	26	17.3	340 CO.		
	12	10			TA-	2	140	514.07		
5 min		15	1.1.5.6.5		100	-12	171	575.02	·	
<u>5 mm</u>		20	~ 10.50		1-7~	27.	171	343 00	·····	
		25	<u> </u>			<u> </u>	h	310,01		
ar a contrational d		30						342.27.		
		35								
		40						341,45		
		45								
		50						340,91		
	ŝ	55								
10 min	14	60						340.77		
		70						340,26		
		80						340,01		
	HQ	90						374,76		
	14	100	~ 1050		92	33	172	339.37	29.8	100-min Inj. Q/5 = 1058/29.5 = 35,5 gpm/Pt
20 min	15	120		1115270001				338.80		1058 gpm Aug "
		140						338.48		
	-, 00	100		· · · · · · · · · · · · · · · · · · ·	<u> </u>			338, 32		
30 min	10	210						576,22		1010 100 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
30 1181	,200	240						337.68		10 A52.2 DTW = 382.28 (FAM. (KD)
		270						22/ 77		Apic-1 171W - SJF. SFC Elec. Soundun 1
	100	300						336.50		
		330			······································			336.54		
	1900	360						\$56.33		
		390						376.26		
	200	420						335.86		And have a second
		450						336.08		
	alo	480						333.57		

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJEC

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MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

		EIL	Rate	Totalizarea		SEMIEX	(991))	DTW/	(Descup)	
Date/1	ime	(min) =		(gallons)	Line		D.F.C.V.		986m((, (,))	Comments/Other
	2700	540				<u> </u>		333.67		
	00	570						33643		
	ລຕຶ	600				+		335.33		
	~~	630				1		33500		//////////////////////////////////////
12/14/09	P	660				-		225 00		
10/ 10/	~	690							1	
	100	720						334,75		
		750						334.79		
	200	780								a and an
		810						334.72		· · · · · · · · · · · · · · · · · · ·
	30	840						334.29		
	. 39au	870		/						
40 min	49	900						334,18		
	440	940						334.65		
1 hr	540	1000						334.40	34.8	
	640	1060				ļ		334.58		
	740	1120				ļ		334.18		
	840	1180	~1050		92	32	172	334,07		*
	940	1240		112728000*						9 Totalizan; (112728(00) - 11400000) - 1230
	100	1300							· · · · · · · · · · · · · · · · · · ·	2 1080 spm Aug.
		1300					·			45
		1420			·····					11 open value to waste for an
2 hr	;	1400								sold iticnal - Set open
		1720								1/ 1 jegin Shit ann (Tari
		1840								MOL BE
		1960		LI- Q LANGTON	al	1to			·	a unit the all by (457) (a the a - 2400 and
		2080		1127010001	0					O TO TE TO TO CO
		2200						A	10 1130	
		2320							N CV.Y	040202000 ~1950000
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		2560								10,000 90.49 ×010
		2680								-28.68 XD1
		2800								62.51 = 15.97
		2920								
		3040								
		3160					rand of			
		3280								
		3400								



Sheet No. 2 of 2

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Well: ASR-1

Test: WY 2010 Test #1 (Hamit Test#1)



Well: <u>ASR-1</u> Test: <u>WY 2010 Test # 2</u>

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Sheet No. 1 of <u>4</u>

12221		ET .	Rate	s. Totalizen.		3.11 R.M.	10EU9) 29		DIRAY	
Date	Time.	(min)	(gpm)	(gallons)	Line		ECV	(inclusiv)		Comments/Other
12/14/	091557	0		112971000	96	0	Nes	369.38		Fn; Tot 1/2962[000] 1535 Bezin Plow to sit
		1					5			BF OHOROSOOD ~ Into som
		2						368.20		9
		3					1	2		
		4						343.57		
	15	5						34252		
		6	~1050		94	37	175			Ads UI Slightly
		7						345.95		
		8		and a second				348.71		
		9						343.45		
Concern and the first of the Rest of States	1555	10	-1050		93	31	175	342.59		
		12						340.62		
5 min	1600	15						342.02		
·	1605	20					- 44 M / 10, 49	341.55		
	1610	25						341.16		
	16 15	30		······································				340.62		
	1/ 20	35						340.62		
	16 25	40						339,98		
	16 30	45						340.05		
	1635	50						341.66		
	1640	55						342.77		
10 min	1650	60						341.59		
	1700	70						340.26		
	1710	80						339,94		ann an Annaile ann an
	1720	90						342,20		
	1730	100						340.19		
20 min	ASU	120						338.55		· · · · · · · · · · · · · · · · · · ·
	1810	140						330.15		
	18 30	160						327.55		
	18 50	180						336.97		
30 min	1920	210						336,16		
	19 50	240						336.26		
	2120	270		*****				335,83		
	2150	300						335,54		
	2220	330		a name was a serie topic tells as i from rations welling \$1.80			_	334.90	an anterester este danigation in	
	22 50	360						334.90		ана, 1 ст. — Алан Алан Алан Алан Алан Алан Алан Алан
	2320	390						334,43		
	2350	420						334,36		
12 lie	0020	450						334.07		
	6050	480						334.22		

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Well: ASR-(Test: WY 2010 TEST #2

Sheet No. 2 of <u>4</u>

Date	Time	ET	Rate	Totalizer		SELIKEN	DSD)	EIN	Marawap.	
12 45 44		510	SERVER FLERALS 7 SER	halabila (I. Andri Anni I. Andri (I. Andr	li Maryinin in Societi	มีรับที่มี โรงสารเสียงสา	1010-00-00-00-00-00-00-00-00-00-00-00-00	223,26	NURATION SERVICE AND ADDRESS	
1015 04	0150	540						733.86		
	0720	570						333-68		
	meo	600						333.86		
	0220	630						333.50		
	0350	660		·····	-					
babb	0420	690						33318		
	ON 50	720						333.14		
	0520	750						333-14	· · · ·	n ingelien intra-trait Pro-
	ठेड्ड	780						332.82		369,4 369
····	0620	810						33282		- 333 . 327-
	0650	840						333-14		34 47
	0720	870						333.14		
40 min	0800	900	-1050	114016600	9Z	33 **	177	333.07	36	114016(000) - 112971000 = 1.045 000 cals
	0840	940								+ 400
1 hr	0940	1000						331.39 -		= 1/6/
	1040	1060						331,09		
	1140	1120						332.14		
	1246	1180						329,28		
	1340	1240						32978		<i>i</i> .
	1440	1300						328124		
	1546	1360						327.81		
	1640	1420						328:31		
	1740	1480						330.64		
2 hr	1940	1600						328188		
	2140	1720						328120		
	2340	1840						327.63		
12/16	0140	1960				1201	<u> </u>	32803	·	
	03.10	2080				.000		527/70		
	0540	2200	~925	115444000	92	29	177	327.42		
	0740	2320	~1000	-	92	25	177	327.27		opened FCV to 170 @ 0923 ~ 1,000 gpm
	0940	2440						327.31	42	opend V-2 SO psi O head < 30, built buch up
	1140	2560						326,95		to 1750 FCV. Adj it buck to 170 benne
	13-10	2680		1 -0011757				328.3		Q drapped to 950. left mit = 1000 gpm
	1540	2800	~1000	1128+4000	0150	<u>S</u>		331157		
	1440	2920						32.9,10		
	1940	3040					AND 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	32 2.03		
	2140	3160						329,28		
12/10	2340	3280						228.81		
1012	20 40	3400						124191		

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WY 2010 Test: ASR-TEST #Z

Sheet No. 3 of 4 + ACAMENT

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48

PT Rets Pressure (ps) Deprint of Water (ps) Deprint of Water (ps) Deprint of Water (ps) Comments/Other. 12/14/A 3520 3520 12/44/A State 47 State 48 <	Date/ 12/14/09	Time 2 0549 0549 0549 0549 0549 1240 1240 1240 1240 1240 1240 2140 2140	ET (min) 3520 3640 3760 3880 4000 4120 4120 4120 4360 4360 4480 4480 4720	Rate (gpm) ~1000	975 1110 97	tead		Depth tt ASR-1 328-74 328-65 328-63 328-63 328-63 328-63 328-63 328-63 328-63 328-63 328-63 328-63 328-63 328-63 328-63 328-74 328-7	o Water ASIR-2	(f. 513) MW/1	Drawup (ft)	(gallons)	Comments/Other
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Date/ 12/14/03	10340 0540 0540 0540 0540 0540 1240 1240 1240 1240 1240 1240 2140 21	Child) 3520 3640 3760 3880 4000 4120 4240 4240 4360 4480 4600 4720	~\\000		16ad		ASR 1 328 74/ 328 64 328 64 34 34 34 34 34 34 34 34 34 34 34 34 34				(gallons)	Comments/Other Tunka 925 04021800-15F
12/14/9 0284 3202 328/44 0190 3760 328/45 116 97800 00021860/155 1140 4000 328/45 116 97800 00021860/155 124/14 4000 328/45 116 97800 00021860/155 124/0 4000 328/45 116 97800 00021860/155 154/0 4200 328/45 116 97800 00021860/156 154/0 4200 328/45 116 97800 00021860/156 154/0 4200 328/45 116 97800 00021860/156 121/0 4800 322/57 116 97800 116 97800 116 97800 21/0 4800 322/52 116 97800 116 97800 116 97800 116 97800 221/0 4800 322/52 116 97800 116 97800 116 97800 221/0 4800 322/52 116 97800 116 97800 116 97800 131/18 0140 4400 322/52 116 97800 116 97800 116 97800 131/18 0140 4400 322/52 116 97800 116 97800 100	12/12/03	0290 05400 05400 0700 0700 0700 1240000000000	* 3520 3640 3760 3880 4000 4120 4240 4360 4360 4480 4600 4720	~1000	97	23	↓ 	328.47 328.67 328.69 328.63 328.38					
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Other 3760 1 328'64 116'97800 90807 010'021820'15F 140 4000 94'13'13 328'63 116'97800 90807 010'021820'15F 15'90 4220 328'34 116'97800 90807 010'024820 75'72 116'72 </td <td>13/18</td> <td>0499 1240 1240 1240 1240 1240 2240 2240 2240</td> <td>3760 3880 4000 4120 4240 4360 4480 4600 4720</td> <td>~1000</td> <td>97</td> <td>23</td> <td>171</td> <td>32867 328.63 328.38</td> <td></td> <td></td> <td></td> <td></td> <td>Tanks 925 040218600 - 15F</td>	13/18	0499 1240 1240 1240 1240 1240 2240 2240 2240	3760 3880 4000 4120 4240 4360 4480 4600 4720	~1000	97	23	171	32867 328.63 328.38					Tanks 925 040218600 - 15F
Chain 3880 121 1286.63 116.138000 011044 200 010044 200 1240 4000 328.17 1100 010044 200 010044 200 010044 200 1240 4100 328.17 1100 011044 200 011044 200 011044 200 1240 4300 326.184 011044 011044 011044 011044 1240 4300 326.184 011044 011044 011044 011044 1240 4800 326.184 010044 010044 010044 010044 1210 4800 326.52 010044 010044 010044 010044 1210 4800 326.52 010044 010044 010044 010044 1210 4800 326.52 010044 010044 010044 010044 0340 4800 326.52 010044 010044 010044 010044 1310 4800 326.52 010044 010044 010044 010044 0340 5200 1210044 326.63 010044 010044	12/18	0490 1240 1240 1540 1940 2140 2140 2240 0140	3880 4000 4120 4240 4360 4480 4600 4720	~1000	97 	<u>13</u>	1 <u>7</u> 1	328.63					
140 4000 326.38 1540 4200 326.17 1540 4200 326.17 1540 4200 326.17 1540 4200 326.17 1640 4200 326.17 1640 4200 326.17 1640 4200 326.17 1640 4200 326.17 1640 4200 326.17 170 4400 326.152 1710 4200 326.152 1710 4200 326.152 17213 1700 326.152 17213 1700 326.152 17213 1700 326.152 17213 1700 326.152 17213 1700 326.152 17213 1700 326.152 17213 1700 326.152 17214 1700 326.152 17215 1700 326.152 17214 1700 327.17 17215 1700 327.17 17216 3500 1700 17215 1700 327.17 17216 3500 1700 17216 3500 1700 17216 360	12/18	1240 1240 1540 1940 2140 2240 2240 2240 2240	4000 4120 4240 4360 4480 4600 4720					328.38				116938000	@0803
1240 4120 328.17 1540 4240 328.17 1640 332.70 but h we signed itse, soot to write the source to solve the source to solve to solveto to solve to solveto to	12/18	1240 1540 1940 2140 2240 2240 0140	4120 4240 4360 4480 4600 4720					1220 111					OTOYY DOD MR-2 motor
15 10 4240 325,70 Will by the back with the back for the ba	12/18	1540 1940 2140 2240 2240 0140	4240 4360 4480 4600 4720					201-0-					
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13/18 0140 4200 126.63 10040	12/18	2540	4/20				<u> </u>	32642					and a Planimetric devid
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	12/18	QIYO	10.40	The second second	1	and the P	1 4 5 3 3	700174				and the second second second second	A A PAC
1 3243 4460 326.52 113 U44000 0 340 5200 1000 92.2 14 0 940 5200 1000 92.2 14 0 940 5200 1000 92.2 14 140 326.54 93.1 3.7.7 14 140 5440 33.67 93.1 3.7.7 14 1543 5680 16.900 14.14 14.14 14.14 14.14 14.14 14.14 14.14 14.14 14.14 14.14 14.15 14.14 14.15			4840			9月21年	200	526.05				100 (AC)	PUSOS - 1104 P G DA AVE AUT CHUK
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		0340	4960					326.52					7an 2 075 0
0940 5200 1000 42 C1 1000 42 C1 1000 0940 5320 312,07 1000 1000 1000 1000 1000 1540 5660 316,00 312,07 1000 1000 1000 1540 5660 316,00 1000 1000 1000 1000 1540 5680 1000 80 74 727 723,24 1540 5880 1000 80 74 727 723,24 1740 5880 1000 80 74 727 723,24 1940 5880 1000 316,46 1000 74 727 1940 6920 316,46 1000 1000 76 76 1219 0140 6800 216,64 1000 76 76 1219 0140 6800 314,47 1000 1000 76 0840 6800 314,44 1000 1000 1000 1000 0840 6800 314,41 1000 1000 1000 1000 1140 6800 314,44 10000 1000 10000 1000 1140 <td></td> <td>0540</td> <td>5080</td> <td>1443</td> <td>6.0</td> <td>0.1</td> <td>10 X</td> <td>326.59</td> <td></td> <td></td> <td></td> <td>1. 10 LILLOLAAND</td> <td>S.T. + DET eluc, ou site e) A312-2</td>		0540	5080	1443	6.0	0.1	10 X	326.59				1. 10 LILLOLAAND	S.T. + DET eluc, ou site e) A312-2
0440 3201 3201 3201 1140 5440 332.07 021 volue to put promus on FCV, indicat 1340 5560 516.00 916.00 9201 1440 5680 1090 80 74 727 227 1440 5880 1090 80 74 727 700 700 1440 5920 316.46 74 74 700 <td< td=""><td></td><td>0740</td><td>5200</td><td>~1000</td><td>47</td><td>24</td><td>1+0</td><td>346.04</td><td></td><td></td><td>127</td><td>12 4 44 1000</td><td></td></td<>		0740	5200	~1000	47	24	1+0	346.04			127	12 4 44 1000	
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1540 3000 1090 80 74 724 320,04 10000 1000 1000 <		1140	5560					316,00		· · · ·			a contract to put progres ou PCV, inequier
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		1210	5680	a 1/191 D	20	-10	227	222.44			·		precence of 1-17 V- L- SEG ATTACTION OF THE DECK
1740 3000 1940 5320 2140 6040 2140 6040 2340 6160 316.037 1219 0140 620 516.44 1219 0140 620 514.44 1219 0140 620 514.44 1219 0140 6200 514.44 1219 0140 6200 514.44 0360 514.44 0360 514.44 0360 514.44 0360 514.44 0360 520 0340 6640 313.88 0340 6640 313.88 034.00 313.88 034.00 313.88 034.00 313.88 034.00 313.88 034.00 31.00 324.79 034.00 324.79 034.00 324.79 117.70 224.331.30 124.79 127.74 127.74 127.74 127.74 127.74		1240	5800	~010	00	71		31.79		· .	i		needs with to to ASP-2: A 1445 - NO
14 00 316.07 21 00 6160 23 40 6160 315.64 315.64 12 19 0140 6280 315.64 0340 6280 0340 6640 0340 6640 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 313.88 0340 324.37 11.40 880 12.40 7120~1100 32.437 740 12.408 7120~1100 12.408 7100 12.408 7100 12.400 7100 12.400 7100 12.400 7100 13		1743	5920					316.46					A CO ATO AL
1219 6160 315.64 44 1115 Tr. dues SDI, J6 ADS, ASP 2 to reduce Q, 1210 1219 0140 6280 314.94 14.00 14.00 0340 6400 314.94 10.00 1430 ASP.1 = 1.090 g/m 0340 6520 314.131 10.00 1430 ASP.1 = 1.090 g/m 0340 6520 314.131 10.00 1430 ASP.1 = 1.090 g/m 0340 6640 313.88 13.88 10.00 1430 ASP.1 = 1.090 g/m 0340 6640 313.88 13.88 10.0132 log 7 209000 1140 6880 324.94 -55 180132 log 7 209000 1140 6880 324.94 -55 180132 log 7 209000 1140 6880 324.94 -55 180132 log 7 209000 11400 10.00 13.974 -55 180132 log 7 209000 11400 10.00 11.000 10.00 -7.000 -7.000 10.00 -7.000 11400 118.72 11.000 11.000 -7.000 -7.000 -7.000 -7.000 -7.		5 3	6040					316.07					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1	2340	6160			<u>`</u>	<u> </u>	315.64					At 14:15 TL does SDI JO ADS, ASR-Z to reduce R,
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1119	NIYA	6280			<u> </u>	<u> </u>	314.99					(fromuch draw-up)-1001430 ASR-1=1,090a1M
0340 6520 31431 -Time = 925 0740 6640 313,88 -Time = 925 0940 66760 ~1100 80 700 221 31541 -55 120132 100 0000 1140 6880 324,34 -55 120132 100 0000 1140 6880 324,34 -55 120132 100 0000 1140 6880 324,34 -55 120132 100 0000 1250 7000 229 321,30 7600 -755 12000 7600 7600 7600 1270 7120~1100 229 321,30 752 -7000 7600 7600 -71000 7600 7600 12170 7480 317,75 -7000 7600 -71000 7720 12170 7160 316,687 -71000 7720 -71000 7720	14.	0340	6400					314.64					JO LANSTRE 1505
0740 6640 313,88		ARA -	6520				· ·	31431				····	
09400 36760 ~1100 80 70 221 31541 ~55 1201321001 00400 1140 6880 324/34 324/34 ~600930 403 FW + 280 fb 1380 7000 321.08 01540 ~600930 403 FW + 280 fb 1380 7120~1100 229 321.30 Flow Hop program ~600930 403 FW + 1280 fb 1380 7120~1100 229 321.30 Flow Hop program ~600930 403 FW + 1280 fb 1440 7240 318.32 Flow Hop program ~600930 403 FW + 1280 fb 1440 7360 318.32 FW + 1000 FW 7400 FW 7400 FW 7400 FW 2140 7380 319.78 319.78 14000 FW 14000 FW 2140 7400 319.78 319.78 319.78 319.78 12/20 0140 7720 316.46 319.78 319.78 319.78		ONO	6640					313.88			· ·		-rugh = 925
1140 6880 324/34 1360 7000 321/34 1360 7000 321/34 1360 7000 321/34 1370 7120~1100 229 321/30 1370 7120~1100 229 321/30 1370 7120~1100 229 321/30 1370 7120~1100 229 321/30 1370 718/32 71000 1440 7360 717/73 14/0 7480 319/75 7340 7600 316/68 12/20 7120 516/46		0940	6760	~1107)	.80	20	221	313/71		~	155	120132 0001	00400
1360 7000 321.08 001540 ~00920 AD3 FW + 250 f 1370 7120~1100 229 321.30 FLOW HTD BROKED TO MHODO redne Q. row ~ 1275 H ~ 1000 in 1740 318.32		1140	6880	14.00	- ¥ =	1		324134					
1540 7120~1100 229 Sali 30 Flow Htp properties to me 1000 redne Q. row ~ 1275 th ~ 1100 in 1940 7240 318,32 response to stupping to loc the 1940 7360 319,12 response to stupping to loc the 21.40 7480 319,12 stup response to stupping to loc the 7340 7480 319,12 stul AOT up AT ASK-2 7340 7600 316,68 stul AOT up AT ASK-2 12/20 0140 7120 316,46		1380	7000					521.08	@1540				~00920 AD3 rcv 4, 280 fs
1740 7240 318,32 response to stapping to low that 1640 7360 317,12 There reads are after ADT. FeV-JO 2140 7480 317,12 140 July ATASK-Z 7340 316,68 316,68 316,68 12/20 0140 7720 316,46		1540	7120	~1100			229.	321.30	FLOW N	to Droft	EDTON	1000	reduce Q. Mon ~ 1275 to ~ 1100 Th
1440 7360 317/47 There reads are after ADT. FeV-JO 2140 7480 317/15 317/15 2340 7600 316/68 316/68 12/20 0140 7720 316/46	al .	AND	7240				•	318.32					response to storany to R-2 test
2140 7480 317.25 3+11 AOJ UP AT ASK-2 7340 7600 316.68 12/20 0140 7720 316.46		IGVA	7360					317147					there reads are a Ffor ADJ. FEV-JO
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		2140	7480					317.25		1			STAL ADJ UP ATASK-Z
12/20 0140 7720 316.46		2340	7600					316.68					
	12/20	OYIO	7720					316.46					` •
0340 7840 316,03		0340	7840					316.03		1		·	
0.540 7960 31577.1		0.540	7960					315171					
0740 8080 2153		0740	8080					31517					- tunk ~ 910
09401, 8200 ~ 10.90 1883 183 1227 315,8953 1219826 001 0 6912		A 4	, 8200	~ 10.90	183	83	227	315,89			~53	121782600	100912
NHO 226 08950 NOS. FeV one last time - but no ADJ	شو	_ <u>0%40</u>		n 1143)	4		276	6,1					a manufactor of the state of th
		_ <u>0%0</u>		~n10	1		200						08950 400, FCV 012 103 HRR-Z

364 313 56

Test: ACR-WY 2010 4555 # 2

8 - - I 8 - - I Sheet No. 4 of <u></u>

				5. S.		. · · ·		SALL GALLS	1. 1. 1. 50	and the second	and the stand of the second	the second s	a state and the second seco
	N. S. Harris	FT	Rater	(Pre	ssure	(psi)	Depth	o Waker	((if prat)	Deawille	totalizers .		
Date/	Time	(min)	(gpm)	四底	Head	Fev	ASRI	ASR-2	MW	(ft)	(gallons)	Comments	Other
12/20/0	9 1100	8320	2			4 V	31417	,	1.1.1		A CONTRACTOR OF STREET		THE TAXABLE IN MILLION D. LANSING SET AND A TAXABLE AND A
	1340	8440					313.53			a senara la se a ser a para de la ser a		· · · · · · · · · · · · · · · · · · ·	
	1590	8560	j .				313142						
	1740	8680					312.99			and the second sec	and the second second of the second sec	· · · · · · · · · · · · · · · · · · ·	
	1940	8800				·	312.35	· ·			and all the second se	17	2392
	2/10	8920					31328					- 17	1782
	2320	9040				1	313.20						TELOWATINGS
12/21	01.00	9160			-		212.99					The set of	1010000000
1-1-1-1	0360	9280			1		312.81					-	- 1/24 SIM
	0500	9400		1			312.81						
	0740	9520	~1110	84	83	226	30/631			~ 5/	1233926001	@0805 - Cank = 910	
2	CANA	9640		1						-26	10000		MW-1 AND 1130
	1140	9760	2120	84	82	226			* .		127395000	01058	00764/10001217
	1340	9880		1	1				Studa	ren V-1		Stat classia FEV ale de	A 11:00
	1540	10000								0,0,7	1236000000	I WARCH POUR	1 APM
		10120								1.4-20		235	193-F
		10240										90 245	~ 800
		10360					· · ·					94 255	250
		10480			1							91 260	A 7 (7)
		10600										95 766	~50
		10720		1								94 7.77	~ & M 1100
The rest for such the same first state		10840										Clarca V-L CLAF	LAGE DEVELO
		10960										AYAZIGHTER ALE	C of an DE Marce
		11080	<i>,</i>		1							BEDGOUS (2000 14)	47-1707
		11200											XD = MIGE
		11320									analise of a second states and a species of the second distance of the second second states	REASY, 4H-	
		11440									and a second	20' 91.57 121	10 10 V 0772 10001
		11560		1								V() 20.03 B	5' 040253bad
		11680						the second second				14 19	19 6007
		11800									-	67.11	- 26 W/ / ICL
		11920											Sfmf Fit
		12040										Felio start of a	Stast 7
		12160											1435 OCTI
		12280										was prepar for tills	#2 by ADT DIV
		12400										pre- gr	1 2 17 A TED S C FVF
		12520											
		12640											
		12760									·		· · · · · · · · · · · · · · · · · · ·
		12880		1									
		13000										······································	
			dijera di si di se						المجيم				

Line = 90psi

the = 90psi		12-18-09
ADJ V to reduce	1+12 pressue in the	em ASR=1
FCV	Line	Q
180	98	500
185	51	1400
190	54	1320
195	59	1300
200	6.2	12500
205	68	1200
210	69	1050
215	70	1080

9 p~8	nc/	V	~1	mone	

217	78	(150
218	81	1250
\$Z 20	86	1300
220	88	1325
> 220	90	1375

=mismo

236	₹.0°		1000
235	· · ·	(2 Z	1000

1355 - ADS FOU to computer For TNJ & ASR-2 ASR-1 Q

5.60° -			•	•
231	×.			750
235		. .		900
202				975
210				~ 1090

1525 0 ASRA 1000 @ ASR-1 01100 mert



A Hackment to NOTES FOR ASPL 12 18/09

Well:	ASR-	-1			
Test:	#3	ind	201	0	

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Sheet No. 1 of ____

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÷.

Dat	2. Time	(min) (aom)	Totalizer (DSID STATER	(ft intst)	Drawup	Comments/Other
12/2/10	A 11/7/8		Box oo > < C.	98	28athatardanaa	7. 47	363.52	HERBER LINE RESERVE	
1.1.11	1 4 40	1	10 36 00 100	10	_1/2	010	24,04		6 5 0 ps. 1 200 gives
	1441	2							(Vanal and)
	10		· · · · ·						
	1/2	4				i			
									FLV GAM
	UF	6							+ EV 7.40 0Pm=10(1)
	144	7							235 . 850-1-10
	40	8							R30 - 989
_	Ve	9	······································						777 17-00
	Ýġ	10~1200	123600000	84	.83	220	332:21	~31	
	1451	12							
5 min	1454	15							
	1459	20							
	15 04	25							
	1509	30						5	
	1514	35							
	1519	40							
	15 24	45							
	1529	50							
	1534	55							
10 min	1539	60							
	1549	70							
	1554	80							
	1609	90							
	1619	100							
20 min	1639	120							· · · · · · · · · · · · · · · · · · ·
	1659	140							
	1719	160							
	1759	180			·				
30 min	1804	210							
L	1839	240							
	1909	2/0					······	~	
	1959	300							
	2004	300							
	2039	300							
	2109	420	· · · · · · · · · · · · · · · · · · ·	~					
	2139	420	a a sea a						
	0204	430							
	6259	400	L		_				



Sheet No. 2 of ____

		ET L -	Rate	Totalizer	e Pre	ssure	(psi)	DTW	Drawup	
Date	e/Time	(min)	(gpm)	(gallons)	Line	Hese	FCV	(ft btst)	(ft)	Comments/Other
12211	69 2309	510						721/40		
	2339	540		e treft ble Hallet	1. 1. 1.	$H^{1} \subset \mathbb{C}$		32102	15	
12/20	2 00 09	570		a second				321.02	K. B. Lander	
- 12-1-2	0639	600			1		1 20 10 3	321.03		in the second
	2100	630			1			320.72	ar a	and the second
	0129	660		an a	Rest in			320172		and the second
	01 00	690					147 e. d.	320133		
	0239	720	24 25	and the second sec			la de la composition de la composition Composition de la composition de la comp	320.37		
	0309	750	÷.			-	1	319:10		
	0339	780	24	a de la companya de l	1			320.93		
	0409	810		and a start of the						
	0434	840	la de la compañía de		میں روز انداز (1	319.79		and the second
	0209	870	1.						41 - 1 - 1 A	
40 min	0539	900			an ear			320.08		· 建石油、 建立
A Martine	0619	940		termennen schlittet	e a La casa da da		1	31951		
1 hr	6719	1000					1	319.86		TANK ~ 880 ps i
	0819	1060	1210	1249110001	84	84	221	320.58	43.3	0 0800
	0919	1120						320.08		
	1019	1180			914 (M			320.72	Hall I	
	1119	1240	S				l. Electro est	319-61	a 1917 - El Maria Maria de Carlos	
	1714	1300						319.76		
	1319	1360		in the second	7			314-54		A
	HIQ	1420	5. 3.					319.11	Maria /	and the second
	1514	1480		مى ئىسى تەرىپىيە مىر ئىسى تەرىپ			i Saltafa	318190	840 m / 1	
2 hr	1719	1600						318:22		
	1610	1720				n Martin di		318-11	in I	
	714	1840	\$		ja je sve			31718		
	7314	1960				11 g		318.54	1 - C	364
12/23	CLIK	2080					A CAN	317.32		- >1%
1.1.2	6219	2200		a destal de la contra de la contr				317.54	2010-12 10-12 10-12 10-12 10-10	<u> </u>
	0516	2320		Section de la compacta de la	2722200	1		318.29		
1.1	07-10	2440	1200	126731 000	86	182	22(317.97	~46	00809 Toute 500051 florest both 622
	96 15	2560	1300#		90	91	222			Ptur312.04 0 08/18 flomit fine.
	1114	/ 2680		126859/0001	98	98	280			* After shifting in ASR-2, a have = 1300
the first second s	13 167	2800			90222					Start shuth ASR-1 0 0948 ECV GPM
	15,9	2920		126859 600	98	28	291	346.02		@ 0959 Thisching (maletely 226 ~ 1251)
<u></u>	1219	3040	1200 *	1269450001	. 81	8	220			stopping due to CAW sustein 236 ~ 1025
	igia	3160								issue (au in Poster) (200 - doo
	7118	3280	annan an taon a Taona amin' amin Taona amin' amin				1			@ 1546, read XD = 365,985 255 - 550
~~ <u>~</u>	7216	3400	Sec. 1						Cargas	Start graning FCV agains 262 ~350
Sau.	-7v1		1 227 A	e <mark>n erest aleist, delte delte servere en aleiste alle</mark> ste alles	an Naithir	4 1 9365-00-00-005	e - soo ay ka sa kali	 Contracting and the State of the State 	 A second process of the Second se second second sec	

201645 offer adj. to ASA-2 TL+50

6 P.M. 300 1250 F 200

MPWMD

DTW @ += 0 363.87

PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: ASR-/ Test: #3 wy 2018

Sheet No. 3 of ____

		ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
Date,	/Time	(min)	(gpm)	(gallons)	Line	r GGG	FCV	(ft btst)	(ft)	Comments/Other
424/09	1 0119	3520						Marka and Andrews		
	0319	3640	Ъ.							
1997 - 19	0519	3760								
н.,	0719	3880			<u></u>		1.1			After ASR-2 FCV reduced:
	0919	4000	1250	128230000	_80	82	219	314.600		@ 1020 HERUMIT 60%
	1119	4120					신	3/2.539	51.33	made no FCV adj here
	1319	4240					1	建在这时间上去每		
	1519	4360	an a				· ·	and the second second		
- 	1719	4480		1. A.	`				a she a she a she	and the second
	1919	4600		1.1						
	2119	4720	2 	1						
	7319	4840		2.24	- 6	a da da ser esta da ser est	1 9 S			
12/25	0119	4960		•	la de servit	t die	i i			e de la companya de l
~~	0319	5080			2				والمراجع المراجع	
	0519	5200		i ang pana di		4		and the state of the		and Manager and Anna a
<u> </u>	0719	5320		1					4 99-6	and the second
2.4	099	5440	1200	1300201000				310.44	53.46	20905 Tank = 840 pri; HERMIT=61%
	U19	5560	1250	130054 0001	81	81	219	309.98		@ 0930 (after ASR-2 ody)
	1319	5680	<i>p</i>	- m/	a said di	27		309,91	e de la companya de	made in FCV add hope
	ICIA	5800	All Aller Aller March 1	and the second sec		1	je	309.23		
	1210	5920	177			1		309.37		
		6040				1		308/69		
	519	6160						358051	(
\sim \sim	7219	6280	1775		2	1		308/15		
171	A119	6400						308.01		
900	A219	6520	All and a second se					308-84		
	AGe	6640	ing and a second se		· · · · ·			308155	1	
<u>al de la construcción de la constru En la construcción de la construcción</u>	ATIC	6760						307183	· · · · ·	
	1010	6880	an a	- 19 July -				308,04		AFLOCADE - 2 FOV increased (Flow relaced):
i d	12.10	7000	1220	137070 1007	24	29	717	308.20	25.52	@ 1114 Ture = 810 psv Hernit=61%
	12.0	7120	10.3	11001 (100-)	<u> </u>			307-80	7	No Fev ali, have
	157	7240		-		1		316007		
:	1217	7240				1		206.65		
	47	7/80	enden. Bere			1	1	306.08		
	1719	7600	gaan. Seens					315.14	1~	
	6117	7300	Politiki			1		215/92	1	
12/27	2519	7940	<u>6.8</u> 1 6415			1	-	2020	÷]	
get	0/17	7040	e un Maria			<u> </u>		SILVE		
	0719	1 900				<u> </u>		210.67	i <u>na kasarata di</u> Sebagi	
Ben and the	OSA	0080						SILLE		n an
and an	049	8200	lanta.	i i sana sala		i Mara .	<u>i a a a</u>	SVVS P		en Regeneration (* 1997), et al. (* 1997), Alexandre andre

Well: ASR-1

Test: # 3 wyz010

Sheet No. 4 of $\underline{4}$

Const. Const.	ET	Rate	Totalizer	Pre	ssure	psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft bist)	(ft)	Comments/Other
12/27/04 0919	8320	1280	133799600)	82	\$3	220	307/12	56.75	0 0959 Funk ~ 850 ps!
<u> </u>	8440	-1250	133852500	80	-82	219	307144		@103a after ADS FWat ASR-C
1319	8560						307158		NUADS, Here
1519	8680						306.03		
17'9	8800						30117		
1919	8920	<u>.</u>		-			306102		
2/19	9040			1			303121	·	
2319	9160			-			316:07		
12/28/09 0119	9280						311/81		
· · O3'9	9400						308.81		
0519	9520						504.66		
0719	9640	1075	135489/0001	77	94	218	314,06	49.01	00859 tone = 840 pm 30
0919	9760	~1175	1355.25600	8	80				00929 After shotting documents R-2
1119	9880						2.1		TL
	10000								Oloss Q dropped to 21120 attar 1st and
	\10129								restart of ASR-2
1	10240					:			Began shutty FCV
	103ଁର୍0		135636000/	8		290			@ 1104 - NO rishe Flow (clapsed test Time = 4865 min
	1⁄0480	ан 1920 - С							
	[^] 10600	4. 1 - 1							
	10720								
	10840	-							
	10960					9			
	11080								
	11200							- 19 - 19 - 19 - 19 - 19 - 19 - 19 - 19	
	11320	1999 1							
	11440	1					-		
	11560								
-	11680								
	11800								
	11920								
1	12040)	
	12160								
, A	12280								
12	12400								
	12520								
	12640								
	12760	la p						27 L	
	12880				<u> </u>		4	2	
	13000			d			and had been to	Andreas Andreas	



MDWMD

		PHASE 1 AQUITEER STOL	RAGE AND RECOVERY PROJECT
Well:	ASR-1		
Test:	BF affer Test #3	(Test 3 roundy)	
	A second s	a state of early and the first of the second sector of the second	and the second

		Kate	IOGUZEI	0.4.55	- <u>}-}:18:-</u> @!	1.252.676863	D 1 0 1		
Date / Time	(min)	(apm)	(nallons)	1 march	1 PEFT	ME AVA	(ft btst)	(ft)	Comments/Other
Baney annue	Courses and the second second	CONSIGNATION AND A DESCRIPTION	(genera)						
2/28/09		1999 - 1999 -	135631000]	88	84	690			BUDSCOPOD SE MEN MERMILZOF 6
1 1				be de la set	6 A	(1) () ()			
									REDGOIHZ 2500 cla 15mb
									BC COST 19 21/22 CIRCLES
		*							O TI C Based
									@ 1135 motor off xD = 16.36'
			· 3						
	•								040356 000 Jul.
							and the second second		
				-					@ 1145 motor on La 10-min Soc test @ 54.4 Hz
			1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.						
	· ·								
									VD: G7.67 A403756007 BF10
									A DIAZECOOD ZT.
									XUIOSY, SY OYUSSOP DE DEC
	I								(3.28 19000
						<u> </u>	- <u>199</u>		C = n/H = 30.0 T
						1	la de la compañía de		9/ 1// 50/0
	· · · ·								
									1-2+51+2-2 11:57
				1			<u> </u>		5701-1201 5 0 11104
			1		dige in the		1. A.		
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		1		alas escudo	10 - L	1	and the second second		

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Sheet No. ____ of ____

W	ell:	AS	R-1	

Test: <u>#4</u>

Sheet No. 1 of <u>2</u>

		ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
Date	e/Time	(min)	(gpm)	(gallons)	Line	Ree	FCV	(ft btst)	(ft)	Comments/Other
12/28	109 1210	0		135631 000	88	90	297	362.94	Set and the	
	1211	1	50			Sec. 1	260			
	1212	2	150				250			1
	1213	3	350				240			
e ter e	1214	4	600	, in the second s			235			
	1215	5	800	and the second second		The second	230	ga ya wa wata		a fair an ann an Anna an Anna Anna Anna Anna
	1216	6								a sector and the sector of the
	1217	7	900	n an			ZZS		- 14 	
	1218	8	1050	4		<u>,</u>	220			a na sana ang kana a
J.	1219	.9		· · · · · · · · · · · · · · · · · · ·						
	1220	10				a.c.				
	1222	12	1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -	•						
5 min	1225	15	1100			132 <u>1</u>	217	and the second sec		a de la companya de l
	1230	20	n25				216			<u>an an a</u>
	1235	25	1150				219			
	NZYO	30	1210				217			
	1245	35								and the state of the second
	1250	40	1210	a di			212		gine in	
	1255	45	1210	entre dite di	and a star		210			
	1,300	50		12	1.11	1. 1.				
	1305	55							14	
10 min	1310	60	1250	135701/000	70	67	217			
	1320	70	1200				212			
	1330	80	les-	- 1994 - 1994	Star Star		1			
	1340	90	nt ja Water	2	1					
	1350	100								
20 min	1410	(20)			1.1.1.1.1.1.1					
	1430	140	1200	1358745000	71	70	212			@1530, make no adj. wo
	1450	160	la su						1	
 Alta	1510	(180			2			· .		<u>i na serie de la companya de la comp</u>
30 min	1540	210			1					
	1610	(240			<u>.</u>					
	1640	270		â.			1 - C	la pha an an an		and the second
	1710	(300)	ŕ,							
	1740	330		ter attack a substitut		- -		5		
	1810	(360)	r _{el c} entre de la companya de			12				
	1840	390								
	1910	(420)						1	star A	
	1940	450	(a.)		s - 1		1. 17		2	
1.1	2010	480		and a start of the second s		det and		har an de se d	electrone .	and and all all and a second and a second

Well: ASR-1 Test: #4

Drawup DIM Pressure (psi) Totalizer ET Rence (ft btst) (ft) Comments/Other Line Head FCV (gallons) (gpm) (min) Date/Time 12/28 316.25 (600 (720 12/29 (840 40 min 1 hr HERMIT = 67% C 1005 ZIZ @ 1045, made no adj here 311.92 TW 2 hr Projected moter reading to 0200 hr (not recorded) 12/30 139190 000 Tank = 800 HERMIT = 68% 2 1650 B 1715 Stop injection due to declining CR flow. Celopsed test time = 3245 min 304.46 98 Ø Julo

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Sheet No. 2 of <u>2</u>

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Sheet No. ____ of ___

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 ${\mathcal S}_{n-1} = {\mathcal S}_{n-1}$

		Rate		The contract	3907@3(05)) 	COTWARD	Drawup	Comments/Other
Date/Time	(min).s	a (gent) -	and Gallons)	a ne	mead		adac nasty	STREET, STREET	@1038 open V-1 - Junk = 800
1-5-2010 10	ss prov.	> B≠	13991100	92	ø	303		7	A4024(2007 BF
							260.02		Mich a le to fal colleman
1048	ofter	mm	159972000				anhe.		Jest a gradit to fit to any
<u></u>		V				4	340.01	HPOMIT	
Same in the second							300151-	11010111	BF BGOHZ DAMS then 54,4 Mz
		ala ang ang ang ang ang ang ang ang ang an							Pre 10 Mine
		and a second							BF10 0404 18-1000
							<u>_</u>		XD: 98,45 BF: 0403990007
and Antonio antonio antonio antonio antonio Antonio antonio antonio antonio antonio antonio antonio antonio antonio									NOIN 36.08 19 100 /62.37
and the second									6237
		<u></u>				-			= 38,46 gpuft
		a de la companya de la							Sample F-1
	<u> </u>								040443000 0000 1149
<u>, 1</u>			<u>e i se de se se</u>	<u></u>	State -				
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									사망 전 100 - 1987년 1987 1987년 1987년 198
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				er a Alera				<u> 1997 – 20. de</u> ,	가 같은 것이 같이 같이 있는 것이 같이 있는 것이 있는 것이 있는 것이 같은 것이 있는 것이 있는 것이 있는 것이 있다. 것이 있는 것이 있는 것이 있는 것이 있는 것이 있는 것이 있는 것이 있는 같은 것이 같은 것이 같은 것이 같은 것이 같은 것이 있는 것이 같이 있는 것이 같은 것이 있는 것이 같은 것이 없다. 것이 같은 것이 있는 것이 있는 것이 있는 것이 있는 것이 있는 것이 있는 것이 같은 것이 같은 것이 같은 것이 같은 것이 같은 것이 같은 것이 있는 것이 같은 것이 있는 것이 같은 것이 있는 것이 같은 것이 있다. 것이 같은 것이 있는 것이 같은 것이 있는 것이 없다. 것이 있
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	terre and the second								
			a la seconda da second	a ser as		1	<u>. Entre-entre-de la</u>		





Well: <u>⋏</u>ӡR-/ Test: <u>#5</u>

WYZOLO

Sheet No. 1 of $\underline{\Psi}$

	ET	Rate	Totalizer	P. P. P. P.	issure.	(ણક્સ)	DTW Dra	wup
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	ft) Comments/Other
1.15-09 11:14	0		139973600	61	62		359.19	prior to mi Flushto prt 1399 2007 mi
1 '	1						358.40	0404430001 - BF
Love when	2						356,33	FCV Tunk ~ 500 ps; FCV ~ 303 ps
water started	3	and a Angel and an angel an	1947 	<u>.</u>			348,49	SD7=1.06
going into vel	4			5 B. 1			346.17	
1119	5	5.530			$\mathbb{Z}_{n}\otimes\mathbb{Z}$		345.52	0) 1129 ADY to compensale for Low
1170	6		er ber der Der er einer sinder	and an			344.99	messure in case it comes back up to 80
	7						344.74	450 pm 230 psi FCV
	8			$\{y_{i_1}, \dots, y_{i_k}\}$			342.59	
	9				Sec. S.		339.76	
1124	10			1 30.5			3 39.73	
1126	12	602		60	60	7.05	338.98	
5 min 129	15	6		72	72		339.30	
1134	20	F					350.14	-01136 closed FCV to check system pressure
1139	25						357-90	neset to <1000 gpm in case system
1144	30	900		58	•	205	334-97	messure comes back up.
1149	35	ais			58	204	334,72	Provide the second s
1154	40					1	334,75	
1159	45			480 dW			334,36	
1201	. 50			(terles all	No. 19		234.00	
1269	55		Sector in the State				333 29	
10 min 1514	60						33350	
1274	70						33310	
1274	80			5.25 - 5.3			332.64	
nuu	90						333.00	
254	100						332-14	
20 min 13 14	120	958	14602310001	54	59	2.11	331,93	a 1300 (115min et) Tauk = 750
1271	140	1.525		1.8	68	208	327.63	E champed thill highle test conducted
130	160	5.50		74	24	219	334,90	Perly the NGEON
1414	180	~~~					335.36	
30 min 11(1)	210	aw	NO2481mg	71-	71-	271	335.26	11 church TA 219 2 950 CPM
	240	<u> </u>	102/100	10	p.p		335.40	readyments is cit of isogi-
	270						335.25	
	300			n ngariji Ngariji			335.29	
1617	330						334,20	
<u></u>	360						32052	
	300						32000	
	100						778.60	
	420						326.00	
1814	450						329.86	
19191	480						~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	



Well:	ASR	2-1		
Test:	#5	ny	201	6
iya da daga da biriya 🖓	645-11-14-11-14-1	and the second shifts		A Departmenter

Pressure (psi) Distantia Totalizer 20163 (ft btst) (fft) Comments/Other Line Read FCV (gallons) Date/Time (min) (epm) 328185 1-15-10 1944 510 329.31 540 2014 329.28 570 2044 329.14 600 2114 the talking with will + cranges it is my industraling. that the lower pressure in the system is due to the open of a value at the DPO peyclating 329.21 630 2144 660 2214 N 329.10 ZZU 690 Station, when whi shut down nyection, 328,71 720 2314 328,35 Mand the Plan was new 1300 gpm 2344 750 780 1-16-10 0014 Will also indicated the problem is the failure of 328:03 810 0044 a "najor" producny well in C.V. On t/18/10@ ~10:00 he said be was try my to get another well on-line (waitry to pass Health tests). 326,41 840 01 14 326,41 870 0144 326.02 900 40 min 6214 325,56 940 0254 325.51 1000 l hr 0354 325.59 1060 0454 325.56 1120 6554 324.84 1180 0654 324-88 1240 0754 326,59 1300 0854 @ 1030) Taukan 750 p) 0 1051 readjust FCV to get up to 950 g/m 68 141351000 68 328.92 1360 -875 219 6954 TL 329,19 30.00 7.16 1420 - 950 10.54 329 Mb 1480 18 454 32360 1600 1354 2 hr 01424 88 90 1720 1554 CELL MESSAGE ~ 1700 from C. EVANS of CAW indicated 325120 1840 1754 TL they need to short down due to mability to meet demand 325.73 lasi 1960 elsewhere, I MISSED THAT CALL, BUT DID GET ONE ON 32473 2080 215 323/48 JAN 17mot ~ 5:30 with said message, West to 2200 735 silve to close FCV, but it was already done by WILL 1-17-40 2320 32173 015 37.72 Foster around 3AM. 2440 32142 035 355/97 -OFF - NOT INTELING 2560 0554 OFF IL N 357-01 0754 2680 357,40 Dard R. V(2800 35754 54 2920 RE-OPEN FOV from 303 to 222 Th 6 1424 95 14216 10001 337.69 1254 Ø 88 303 3040 0 [45] (boot daly 16 45 veal time) 77 222 1555 357.76. 76 3160 ~950 329.31 1754 3280 328.53 3400 1954

2000 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 -

Sheet No. 2 of 🎽

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Sheet No. 3 of <u>4</u>

Well: <u>ASR-1</u> Test: # 5 WY 2010

Drawup Pressure (psi) Totalizer 201 Comments/Other (ft) (ft bist) ELINE FORD FOU (gallons) (gpm) (min) Date/Time Spoketo CE-SIAM on 1/19, Sard if would be OK 328.38 3520 2154 to mi o 4000 gpm. Asked how if we could 325.45 3640 2354 do more later - said be would call, I call 325.20 3760 1-1810 0154 how back @ 1400 + he says 1500 would be of 323,69 0354 3880 324.02 4000 0554 008:25 Tank = 690 73 74 324.23 1435460001 221 4120 -1000 0754 143546000 (4091 min 324,66 TL 4240 0954 - ((3070 mm) - 142161 00 325.84 1437471600 4360 1154 Ø = 1385 00 = 1,356 gpm (?) = 1021mm 86 87 355.68 303 OF 4480 1354 meter 15 @ 11000 355-68 4600 1554 No Adj. 356,93 1754 4720 @ 1129 - call From C.E. - unable to 357.08 manstan Flows due to pour ary -please shut down ASR-OFF@1150 1954 4840 TL 357.22 4960 357133 5080 357,29 1-19-10 0154 5200 357,29 0354 5320 Tare down "Easy up" tarp + frame - too much 35729 TL 5440 wind and vary for one more day standing えらろいん 5560 0754 @ 0905 -open For (tank= 650 psi) 357129 14374700 92 303 91 5680 0951 325.09 78 80 222 5800 1000 115 68 later today pass 01431 - ciaro raid JΓ 222 5920 144011 10001 68 ~725 1351 stand ALRE * main aldone tom 214 334.97 01436 68 6040 - 975 1551 & sensuda has 32' and to' B1455 TR 70 220 91 175 6160 ~1000 In 32523 ritical 1451 6280 324.95 ralie in now asento 6400 2151 and was closed during bests of ASP13 32348 6520 2351 321,90 6640 1-20 0151 Did not increase to 1500 gpm in ase P 321.61 6760 menered, but did bring it back to 1,000. 20805 (7014 MIN) Tanke ~ 625 psi 1250 320176 6880 0551 @ 0805 (7014 MIN) 72 225 321.73 37.34 145102/000 71 7000 ~975 0751 7014 NOADS 011274 1451020001 25 145370 1000 90 92 7120 ~ (300) ÖGSI - 5960 01134 # - 144 011 10001 311.70 217 145382000 90 7240 ~ 1500 89 15 = 1081 000 cel / 1054 = 1,026 glm any - Robert reports he went by this Am and it was 47,69 7360 35 7480 G running ~ 1300 g/m. 7600 Turke 1650 psi -adj ter efter telleng to CE. 75 7720 195 7840 215 7960 Z351 8080 1-21-00 0151 8200 0351

8454 - 7024 17701,000 per / nugo mus = 1,181,25 glm

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: NSR-1

Sheet No. 4 of 4

Test: WY2000 TEST #5

	ET	Rate	Totalizer	La Martina	GUKAN	0.50	(Felletet) (1	Comments/Other
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	S(Whileh) Band	Tout & lever post
1-21-10 551	8320				- 60-		202:05	Ad Fel dimon to ~217 thinking that the
0751	8440	~1300	146802000	20	~40	1001	323-47	accomments hull proven to accommedate an
0951	8560						324/2	Decretter in Flow, But, Flow dropped (?)
1151	8680				<u></u>		377-01	to -1050 is on ad Line pressue drapped -
1351	8800						311.1/	to a list and so I set A back for have
1551	8920						210,18	BOTTO workton down to ~980 G/M, Line = 72 psi
Ad	9040						309.55	AN RATE LAST 24 WW3 = 11181 g/m
1951	9160						322-96	
7151	9280						320158	
73<1	9400		1.				318.113	
1-22-10 015	9520		6				717.70	
6351	9640						308,42	
0151	9760						300.11	00870 (4909 ww) ave 1,139 g/m 24hrs
0751	9880	~ 400	1484461000	(γ)	68	217	77405	
04cl	10000	~850	148543000	68			52725	ALL FINE COURS FOR BE
2115	10120	6	148548000	82		300		
1201	10240	1						
1,221	10360				<u></u>			
	10480							n sensen an
Anger and Ang	10600							
	10720							
	10840							
	10960							
	11080							
	11200							
	11320)						
	11440)						
	11560	Ď						
	11680	j						
	11800)						
	11920	0						
	12040	0						
	12160	0						
	1228	0						
	1240	o						
l	1252	o						
	1264	ō						
	1204	ŏ						
	1288	ŏ						
	1200	ă l						



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Well: ABR-1 Test: BF after T#5

Sheet No. 1_ of ___

	王 王	Rate	Totalizer		SSUKEN DE SAN	(DSR) Normali	off of all	Comments/Other
a Datevilliness		at grun	MARENNON					Evade BF value
1-12-2010		$- \varphi$						040507 DOT ON BF
								\$ 1010 bern Shung FOV
								~ ~ ~
								set volves for BF of 60 Hz 15 mm
		1						003534(0) ct @ MW-1 - tum ou @ 1026
								1. M. F. M. Andrew List BF W/St
								Unable to find ansprent - de have tas is in the
	<u> </u>							at 3414 Hz Slave Langed off abot
								g/122 - 2700 Mindred / AUTOMAL STAL doch
			이 같은 것이 있는 것이 있는 것을 가지 않는다. 1995년 - 1995년 -					which after Smins (~2200 S/M)
	- 1995 - 1995 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 -							cleaned up ofter +7mms
<u>, , , , , , , , , , , , , , , , , , , </u>								040538600 after isuns at unk. Hz
	5. 1							unsuccess Fully 538000
								Tured to blow-duy - 501 000
								Jupiay ou Pev- sp
								1/ 1/ 1/ C. 3) cot buck close to original
Regeneration (V DIA 40.61 Letter ~ 54 14 Hz (2000 3/1
								(<u>1</u> ,
	1						• • • • • • • • • • • • • • • • • • •	OYUSTER DE.6
								OVOL38600 BFI
								20000 / 64,7
								scumpled F-1 = 30.4 g/m/f
				<u>.</u>			2000 - 20	<u> </u>
					and the second			
						<u>.</u>		040561000
								-0405040001
								540001
•	State of the second			<u>, 1810 -</u>				
			1					



Well: AGR-1

Test: #6 wy2020

Sheet No. 1 of $\underline{\Psi}$

Date	/Time	Ei (min)	(gpm)	(gallons)	Line H	ead FCV	(ft btst)	(ft)	Comments/Other
1-7.2-	2010-200	ና 0		148548000	86	-360	355.83	Ø	148548000 poror to seedly to BF
, , , , ,	1206	1	-400		73	219.	35465		
	boz	2					344.34		
	12.08	3					336.69		
	17.09	4					335.69		
	NIO	5		S			234,60		
	121	6	900		S. 1. 188	an de la sectore	333.75		
	1212	7		148552000	74	220	373.39		
	1213	8					333/61		
	IZW	9					232,50		
	1215	10					333.22		
in de la composition NGE internet de		12					232.82		
5 min	17.70	15	20. 20.				337.68		
	10 7/5	20					332,14		
	30	25					221.52		
	20	30					23171		
	(YO)	35					231182		
	115	40					32121		
	43	45					221 41		
		50					2-21-10		
	17 00	55					220174		
10 min	1900	60	900	1486101000	-17.	152	331.00		1313 +aule ≈ 600 ps/
1011111	1249	70	100	1.000	Te		37139	Mester - 19	
	1220	80					330.10		
	1776	00					379,97		
	1355	100					329,78		
00 min	1343	120					379.14	1	
20 min	14/25/	120		<u>de a constata de la constat Constata de la constata de la const</u>			328.96	•	
	1443	140	Gal	NOVIBARI	20	777	329100		21550
	1500	100	400	170 701000	200-	2021	37956		DU12 Coller stalt of 148R-7 con +2
00		100	800	148 80.0000	COT Y	212	379.7		40TO 1/25 L 7/2
30 min		210	100		64	<i>UT</i>	378.99		
	<u>[605</u>]	240					330 60		
	-1635	270					378.20		
	<u> </u>	300					779.00		- Part -
	নুক্ত_	330		al a constant de la constant 1 de la constant de la constant			270.10	<u>ador no polición de Pete</u> Securação de Peteos	
	1805	360					270 111		
	1835	390	Martin and Antonio and				Tigee		
	1905	420					2000		
<u>e. 8</u> 1	1935	450					- d ti T+		
	2005	480					2 28.07		

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well:	ASG	2-1				
Test:	WY	2010	1	[es	1 #1	

		ET	Rate	Totalizer	n Die	ssure ((psu)	DTW	Drawup	
Date	/Time	(min)	(gpm)	(gallons)	Line	, feed	DEC.	(ft btst)	(ft)	Comments/Other
1-22-10	2035	510						327189		
	2/05	540	And And Astronomy					327.45		
	2135	570			Šeli A			326.77		
	7705	600						327.52		
	77 30	630						326.99	1997 - 1997 -	
	7305	660								
	2335	690						326.45		
123	ODOK	720						326,34		
1	0076	750						325.77		
	0105	780						•		
	0105	810						-324.73		
	0205	840	NAME OF COMPANY					324.62		149799600 1300
	0235	870				an The second				- 14876 000 , 225
40 min	0305	900						325,52		1038600 c / 1075 = 9669pm
	0345	940						324.66		aver She yestudy
1 hr	<u><u><u></u></u><u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u></u>	1000						324.37		· · ·)
	arus	1060				1		324.20		
	05.5	1120						323.59	32.24	
	000	1180						324.23		
	Oduke	1240						324,77		
	0045	1300	850	1492930001	1.0		ZIG	325.66		Tunk = 600 ps/ No adsustunts
	1045	1360						327:06	28,77	
	nue	1420	Physical Sector			Sec. 3		327189		
	124	1480						327124		
2 hr		1600			S 198			326.70		
	llve	1720			1			324,70		
	1013	1840	•					324,62		
	2045	1960						324198		151191,000 2755
	2245	2080						324.09		149,799 000 -1300
1/12	CONS	2200						322.98		1,392 000 g/ 1455n = 957 g/m avay
	0745	2320						321.37		sime yesterduy
	AUV	2440						32012	-3511	
	01.4C	2560						320-83		
	all	2680						32147		Tunk=600
	UNE	2800	850	15/19/10007	61	63	212	324/66	31.17	01000 (2755 MM)
	17 4	2920	950	1512210001	54	60	207	324.21		@ 1050 (2005 m) addi FCV
		3040			21-		10000	323.40		<u> </u>
	1723	3160						322.91		
	1845	3280			P			325.05		
	7045	3400			SS 9040			27.2.87		



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MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: AGR-1 Test: WY 2010 Test #6

Sheet No. 3 of $\underline{4}$

	ET	Rate	Totalizer	200	SSUIC	(psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Eme.	Head	FOV	(ft brst)	(10)	Comments/Other
12410 2045	3520						32749	· · · ·	152,355,000 4005
1/25/10 0045	3640						362198		- 151,236, 000 2805
1 0245	3/60						521.69		1,19,000,10000 000 gmay
0445	3880						520147	35136	Since yesterny
0645	4000			and the second se		0	320,83	55.0	Tank = 600 psi
0845	4120	-800	182355000	59	60	212	326.63.	10845	00800 PCV heede a vibrating 210-212 as it
1045	4240	~900	152376 000	58	59	207	51008.	01045	sime & Mpressure D occurry
1245	4360						309,89		Adj, FCV 0 0825
1445	4480					9	307780		
<u>1645</u>	4600						214121	15TU 114-0	A M +++++ M +/2 (2 = FAS + 1 + 2 0
845	4720		19-1			-	518/75	MW Fime	With massiento call usik for SU & reduction & PM
-2045	4840	1300	153139 000	78	-79	14	306136	2045	02020
2245	4960	1400	-+ I r	<u> 83</u>	<u>84</u> .		-3:24.41)	1245	ANTA ADJ, POU @ ASYL- L-@ 1830
1/2 DOXY	6080	1000	153165000	88	89	7.36,	546.13	0045	02040
0295	5,00	1000	153181000	92	<u> ୩୦</u>	238	3125145	245	02048 aptersuitance
20445	<u>5</u> 520	800	153/90/000	95	95	240	505170	0445	02105 Longer after fully to M hoges
aus	5440			1000 Jacob			325.41	0645	<u> </u>
0845	5560	500	153722000	+8	80	244	3 3914-	-0845	00800
1045	5680	7100	153753000	79	74	SAR	348.96	-1045	01100 -tember -600 psi
1245	5800	900	1537560001	60	63	219	321.99.	-1245	0115
1445	5920						3 8.93		
1645	6040					2.5	319.29		
istik	6160						318-65		
2045	6280						318,43		
1 2245	6400						317/93		
127 0015	6520						315,60		
' OZYS	6640	•					31990		
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OGUS	6880	~750	154902000	56	57	209	315.96	39,87	@0745(6940mm)
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1645	7480	850	155327000	59	60		31739		01555
1845	7600						315193	· 1	
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2/20/10 22:24 2/20/10 22:24 2/21/10 0:24 2/21/10 0:24 2/21/10 8:24 2/21/10 8:24 2/21/10 8:24 2/21/10 8:24 2/21/10 12:24 2/21/10 12:24 2/21/10 13:24 2/21/10 13:24 2/21/10 13:24 2/21/10 13:24 2/21/10 13:24 2/21/10 13:24 2/21/10 13:24 2/21/10 13:24 2/21/10 22:24 7860 2/21/10 22:24 7860 2/21/10 22:24 7860 2/21/10 22:24 7860 2/21/10 22:24 7860 2/21/10 22:24 7860 2/21/10 22:24 7860 2/22/10 2:24 7860 2/22/10 2:24 7860 2/22/20 2/22/20 2/24 7860 2/22/	2/20/10 18:24	6040	·		.		ŧ	1	P	. , , , , , , , , , , , , , , , , , , ,
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2/21/10 0/24 2/21/10 2:24 2/21/10 2:24 2/21/10 8:24 6860 2/21/10 8:24 6860 2/21/10 10:24 2/21/10 10:24 2/21/10 10:24 2/21/10 14:24 2/21/10 14:24 7860 2/21/10 2:24 7860 2/22/10 0:24 7860 2/22/10 2:24 7860 2/22/10 2:24 7860	2/20/10 22:24	6280	· · · ·		~.	ŧ.				FAUFF0A/%
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2/21/10 16:24 2/21/10 18:24 2/21/10 18:24 2/21/10 20:24 2/21/10 20:24 2/21/10 20:24 2/21/10 20:24 2/21/10 20:24 7720 2/22/10 2:24 7760 2/22/10 2:24 7960 2/21/10 2:24 7960	2/21/10 14:24	7240			· .	r i	·	••• ••• • • • • •		······································
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2/22/10 2:24 7950	2/22/10 0:24	7840	1			ŀ				
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	2/22/10 4:24	8080				.		·		
2/22/10 6:24 8200	2/22/10 6:24	8200		····	Ĩ	ł	Į .			• • • • •
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Well: ASR 1

Test: ASR 1 Test 10 WY 2010

Sheet No. 4 of ____

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Date/Time	(min) -	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	🤇 (ft)	Comments/Other
2/22/10 8:24	8320	1500	199002600	80	50	209	273.76		3 1 34
2/22/10 10:24	8440								nu v v, n −
2/22/10 12:24	8580								· • • • • • • • • • • • • • •
2/32/10 14:24	8680			Í Í		ľ.	,		1
2/22/10 16:24	8800		-	· ·			24333	• •	••••••••••••••••••••••••••••••••••••••
2/22/10 18:24	8920		ľ		· ···		27276		<u> </u>
2/22/10 20:24	9040					· · ·	775122		и чила, амьлич чирова, чир
2/22/10 22:24	9160					Ì	2.95133		• • • • • • • • • • • • • • • • • • •
2/23/10 0.24	9280					<u>^</u>	2 14 24	•	
2/23/10 2:24	9400	· ·		· · -	· ·	l .	29422		· • •
2/23/10 4:24	9520	vi 21.2	с. х. — , , , , , , , , , , , , , , , , , ,			ľ	24143		••••
2/23/10 6:24	9640			1			240137	r "	
2/23/10 8:24	9760	-1510	Zoraterio	7.1	26	203	241.00	4 C . 1.	
2/23/10 10 24	9880		n in the Carl Statistical of		<u> </u>				en al contraction de la contra
2/23/10 12:24	10000	di i	221010101001		- G ?	7.02	Į.		$\mathscr{O} \cup \mathscr{D} \mathcal{V}$
2/23/10 14-24	10120	Y			- ⁻ -				CONTRACTOR RELEASED OF THE
2/23/10 16 24	10240				ĺ			······	
2/23/10 18 24	10360								Presence - Cooppany and the second
2/23/40 20-24	10490	v	. <i></i> .				I	с. ч	áshask álta , ™áithssinnaganas án dhuinnanagapp t∖du .
2/22/10 22:24	00303	.		• • •	•				
2/24/10 0-24	10720			· ·			· .		
2/24/10 2.24	10940								
9/04/10 A-34	10040	· ·					-	· · · ·	
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2/24/411 0-24	44300	ŀ	For S. S. S.					/ ^.	and the second second of the second second second second second second second second second second second second
2/24/10 0.64	11200								flar stand (<u>Carabad</u>
2024/10/10/24	11340		C1 '(@]		CAROSINELY, M. J. M. J. M. J. M. J. M. J. M. M. M. M. M. M. M. M. M. M. M. M. M.
4/44/10 12.24	1440	₽	- 			•••••		· .	L STAAL STAD, WELL MAN
4/24/10 4:24	11000	· · · · · · · · · · · · · · · · · · ·	**************************************					•	
2/24/10 10:24	000								ONDAN ((22) TOLE ALL MOLESSIE
2329/10 10:24	11000		Frence and and			. .		1	. <u>2045</u> 7
2/24/10/20/24	11920	·	······································	0.19-	rta	L	was at some	v .	سین پورس د رئیسی مسلحا رو ورسی و میشونی که بین و و د که ۲۰۰۰ م
2/24/10/22/24	12040	197.	C1 39(260)/	고스	۳ <i>2.</i> .	20 cm	346.13	· · · · · · · · · · · · · · · · · · ·	
2/25/10 0:24	12160						2		519-10-001620 Stort M. 1 - Am
2/25/10 2:24	12280		19402.jz					·····	1 1 Many - 2 miles below and No
2/25/10 4:24	12400	·				1		·	()
2/25/10 6:24	12520	1	r	~ ~				e a exercic	19 • • • • • • • • • • • • • • • • • • •
2/25/10 8:24	12640	I				l	ł		
2/25/10 10:24	12760					l	L .		· · · · · · · · · · · · · · · · · · ·
2/25/10 12:24	12880		· · · ·			Ļ			
2/25/10 14:24	13000	1				1	1	i i	

2/24 @ 757. 1600 203154700 82 82 711 28340 - dumped 6 1600 spin after ASA-2 Adjobut

Well: <u>ASR-1</u>

Test: ASR-1 Test 11 WY 2010

Sheet No. 1 of <u>4</u>

	ET	Rate	Totalizer	Pres	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
2/23/10 10:20 1 min	0	1000	201014000	92	92	302	346.13	0	Injection started ~5 minutes before test, still had test #10 running.
2/23/10 10:21	1								Totalizer and DTW are from just before injection started - TLL
2/23/10 10:22	2								
2/23/10 10:23	3	1500							
2/23/10 10:24	4								
2/23/10 10:25	5								
2/23/10 10:26	6								
2/23/10 10:27	7								
2/23/10 10:28	8								
2/23/10 10:29	9								
2/23/10 10:30	10								
2/23/10 10:32	12								
2/23/10 10:35 5 min	15								
2/23/10 10:40	20								
2/23/10 10:45	25								
2/23/10 10:50	30								
2/23/10 10:55	35								
2/23/10 11:00	40								
2/23/10 11:05	45								
2/23/10 11:10	50								
2/23/10 11:15	55								
2/23/10 11:20	60								
2/23/10 11:30 10 min	70								
2/23/10 11:40	80								
2/23/10 11:50	90								
2/23/10 12:00	100								
2/23/10 12:20 20 min	120								
2/23/10 12:40	140								
2/23/10 13:00	160								
2/23/10 13:20	180								
2/23/10 13:40 30 min	210								
2/23/10 14:10	240								
2/23/10 14:40	270								
2/23/10 15:10	300								
2/23/10 15:40	330								
2/23/10 16:10	360								
2/23/10 16:40	390								
2/23/10 17:10	420								
2/23/10 17:40	450								
2/23/10 18:10	480								

Well: ASR-1

Test: ASR-1 Test 11 WY 2010

Sheet No. 2 of $\underline{4}$

		ET	Rate	Totalizer	Pres	ssure (psi)	DTW	Drawup	
Date/Tim	e	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
2/23/10 18:40		510								
2/23/10 19:10		540								
2/23/10 19:40		570								
2/23/10 20:10		600								
2/23/10 20:40		630								
2/23/10 21:10		660								
2/23/10 21:40		690								
2/23/10 22:10		720								I
2/23/10 22:40		750								
2/23/10 23:10		780								
2/23/10 23:40		810								
2/24/10 0:10		840								
2/24/10 0:40		870								
2/24/10 1:20	40 min	900								
2/24/10 2:00		940								
2/24/10 3:00	1 hr	1000								
2/24/10 4:00		1060								
2/24/10 5:00		1120			•					
2/24/10 6:00		1180								
2/24/10 7:00		1240								
2/24/10 8:00		1300	1600	203154000	82	82	211	283.40	62.73	@07:57, Rate dropped to ~1500 after adjustment at ASR-2 (08:05)
2/24/10 9:00		1360								TLL
2/24/10 10:00		1420						-		346.13
2/24/10 11:00		1480								- 283.58
2/24/10 13:00	2hr	1600								- 62.55
2/24/10 15:00		1720	1500	203980000	78	78	210.	283,58	62.55	
2/24/10 17:00		1840								
2/24/10 19:00		1960								
2/24/10 21:00		2080								
2/24/10 23:00		2200		<u> </u>						
2/25/10 1:00		2320								
2/25/10 3:00		2440								· · · · · · · · · · · · · · · · · · ·
2/25/10 5:00		2560								
2/25/10 7:00		2680	1450	205357000	73	74	209	······		0810
2/25/10 9:00		2800			1-	1				· · · · · · · · · · · · · · · · · · ·
2/25/10 11:00		2920								
2/25/10 13:00		3040								
2/25/10 15:00		3160	1530	206006 500	77-	69	210			@1510 No adi Juo
2/25/10 17:00		3280		<u> </u>						J
2/25/10 19:00		3400								

Well: ASR-1

Test: ASR-1 TEST 11, WY 2010

Sheet No. 3 of <u>4</u>

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
2/25/10 21:00	3520								· · · · · · · · · · · · · · · · · · ·
2/25/10 23:00	3640								319.39
2/26/10 1:00	3760								- 27.145
2/26/10 3:00	3880								44.84
2/26/10 5:00	4000								
2/26/10 7:00	4120	1525	20767976	178	80	208	274:55	44.84	00813 NOLD& TLL
2/26/10 9:00	4240		· · · · · · · · · · · · · · · · · · ·	2					
2/26/10 11:00	4360								
2/26/10 13:00	4480								
2/26/10 15:00	4600								
2/26/10 17:00	4720								
2/26/10 19:00	4840								
2/26/10 21:00	4960								
2/26/10 23:00	5080								
2/27/10 1:00	5200								
2/27/10 3:00	5320								
2/27/10 5:00	5440								
2/27/10 7:00	5560								
2/27/10 9:00	5680								
2/27/10 11:00	5800								
2/27/10 13:00	5920	1525	210385/0007	72	72	206	270.14	49.25	@1400 no alj tank = 1990 psi
2/27/10 15:00	6040				•				
2/27/10 17:00	6160								- <u> </u>
2/27/10 19:00	6280								
2/27/10 21:00	6400								
2/27/10 23:00	6520								
2/28/10 1:00	6640								
2/28/10 3:00	6760								
2/28/10 5:00	6880								
2/28/10 7:00	7000								
2/28/10 9:00	7120	1525	2122416001	72	72	204	264.72	54.68	00930 NU ADJ tank= 2000 psi TLL
2/28/10 11:00	7240					1			
2/28/10 13:00	7360								
2/28/10 15:00	7480								
2/28/10 17:00	7600								
2/28/10 19:00	7720								
2/28/10 21:00	7840								•
2/28/10 23:00	7960								
3/1/10 1:00	8080								
3/1/10 3:00	8200								

.

Well: ASR-1

Test: ASR-1 TEST 11, WY 2010

Sheet No. 4 of <u>4</u>

ſ		ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
	Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
	3/1/10 5:00	8320								
	3/1/10 7:00	8440								
	3/1/10 9:00	8560	1600	2144680007	72	FZ	202	260.27	59.13	00815 Tank=1950 ps/ TLL
	3/1/10 11:00	8680								NO HOJ.
	3/1/10 13:00	8800								
3	3/1/10 15:00	8920							· · · · · · · · · · · · · · · · · · ·	
ģ. (3/1/10 17:00	9040		يم افر					·	
	3/1/10 19:00	9160					· · · · ·			
	3/1/10 21:00	9280								· · · · · · · · · · · · · · · · · · ·
	3/1/10 23:00	9400				С				1327
	3/2/10 1:00	9520	1700	217227000	78	80	203	254/1		01305 1: 0404942 10007 LACK FLUSH
	3/2/10 3:00	9640	Ø	217735000	94	95	300			2: METTA
	3/2/10 5:00	9760	•		ί.	1 -				
	3/2/10 7:00	9880								Pumper @ 60HZ for 15min
	3/2/10 9:00	10000								rid 04097000
	3/2/10 11:00	10120								
	3/2/10 13:00	10240								10 MM - 54 HZ 10 = 40999900 XD; 115-34
4	3/2/10 15:00	10360		arte di						BF: = 040970000 YDIN 42.29
	3/2/10 17:00	10480								20000 73.05
	3/2/10 19:00	10600								
	3/2/10 21:00	10720								20,000 - 24
	3/2/10 23:00	10840								73.05
	3/3/10 1:00	10960								<u> </u>
	3/3/10.3:00	11080		4						
THIN	3/3/10 5:00	11200	Ø	217-236000	92	92	305	344.49	01529	start test # 2
SIL	3/3/10 7:00	11320	1550	217-24/200)	73	72	303			(e) 1535 ⁻
	3/3/10 9:00									
	3/3/10 11:00	1560								
	3/3/10 1/3:00	11680								
23	3/3/10/15:00	11/800	1525	2188591000]	72	71	203			ð 0 8 35
	3(3/10 17:00 `	11,920								
	3/3/(10 19:00	12040								
	3/3/10,21:00	1/2160								
	/3/3/10 23;00	7,2280		AN 140 MILES						· · · · · · · · · · · · · · · · · · ·
	3/4/10/1:00	12400								
	3/4/10 3:00	12/520								······································
	3/4//10 5:00	1/2640								
	3/4/10 7:00	X 2760								
	3/4/10 9:00	12880								
	3/4/10 11:00	<i>j</i> /3000			L	``````````````````````````````````````			l	

MPWMD

Well: ASR-1

Test: ASR-1 Test #12 WY 2010

DTW ET Rate Totalizer Pressure (psi) Drawup (ft btst) (min) (gpm) Comments/Other Date/Time (gallons) Line Head FCV (ft) 3/2/10 15:29 344.49 0 TLL and JL 217236000 92 92 305 1 min 0 3/2/10 15:30 3/2/10 15:31 2 3/2/10 15:32 3 3/2/10 15:33 4 3/2/10 15:34 5 3/2/10 15:35 6 217241000 72 203 1550 73 3/2/10 15:36 3/2/10 15:37 8 3/2/10 15:38 9 3/2/10 15:39 10 12 3/2/10 15:41 15 3/2/10 15:44 5 min 3/2/10 15:49 20 25 3/2/10 15:54 30 3/2/10 15:59 3/2/10 16:04 35 3/2/10 16:09 40 3/2/10 16:14 45 50 3/2/10 16:19 55 3/2/10 16:24 60 3/2/10 16:29 70 3/2/10 16:39 10 min 3/2/10 16:49 80 90 3/2/10 16:59 3/2/10 17:09 100 3/2/10 17:29 120 20 min 3/2/10 17:49 140 3/2/10 18:09 160 180 3/2/10 18:29 3/2/10 18:49 210 30 min 3/2/10 19:19 240 270 3/2/10 19:49 3/2/10 20:19 300 3/2/10 20:49 330 3/2/10 21:19 360 390 3/2/10 21:49 3/2/10 22:19 420 3/2/10 22:49 450 3/2/10 23:19 480

Sheet No. 1 of $\frac{4}{3}$

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Well: ASR-1

Test: ASR-1 Test #12 WY 2010

Sheet No. 2 of ____

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/2/10 23:49	510								
3/3/10 0:19	540								
3/3/10 0:49	570								
3/3/10 1:19	600								
3/3/10 1:49	630								
3/3/10 2:19	660			4					
3/3/10 2:49	690								
3/3/10 3:19	720								
3/3/10 3:49	750								
3/3/10 4:19	780								
3/3/10 4:49	810								
3/3/10 5:19	840								
3/3/10 5:49	870								
3/3/10 6:29 40 min	900								
3/3/10 7:09	940								
3/3/10 8:09 1 hr	1000	1525	218859000	72	71	203			No adjustment here, but increased FCV psi at ASR-2. Did not
3/3/10 9:09	1060								check Hermit due to intense rain.
3/3/10 10:09	1120								
3/3/10 11:09	1180								
3/3/10 12:09	1240								
3/3/10 13:09	1300								
3/3/10 14:09	1360								
3/3/10 15:09	1420						-		
3/3/10 16:09	1480								
3/3/10 18:09 2hr	1600								
3/3/10 20:09	1720								
3/3/10 22:09	1840				•				
3/4/10 0:09	1960								
3/4/10 2:09	2080								
3/4/10 4:09	2200								
3/4/10 6:09	2320								
3/4/10 8:09	2440	1625	2212811000	77.	71	203	265,22		20830 NO ADJ -JL
3/4/10 10:09	2560								
3/4/10 12:09	2680								
3/4/10 14:09	2800								
3/4/10 16:09	2920								
3/4/10 18:09	3040								
3/4/10 20:09	3160								
3/4/10 22:09	3280								
3/5/10 0:09	3400								

Well: ASR-1

Test: ASR-1 TEST #12, WY 2010

Sheet No. 3 of __

$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/5/10 2:09	3520								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/5/10 4:09	3640								
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	3/5/10 6:09	3760					· · · ·			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/5/10 8:09	3880	1550	7233401000	78	79	209	267,74	76.75	NO ADJUSTMENT (0 0830
38/10 12:00 4120 38/10 12:00 420 38/10 16:00 420 38/10 18:00 4480 38/10 18:00 4480 38/10 20:00 4600 38/10 20:00 4720 38/10 20:00 4720 38/10 20:00 4720 38/10 20:00 4720 38/10 20:00 4720 38/10 20:00 4720 38/10 20:00 4840 38/10 20:00 4840 38/10 20:00 4840 38/10 20:00 5080 38/10 12:00 5200 38/10 12:00 5320 38/10 12:00 5560 13/6/10 12:00 5560 13/6/10 12:00 5560 13/6/10 12:00 5800 38/10 16:00 5820 38/10 18:00 5920 38/10 18:00 5920 38/10 18:00 5920 38/10 18:00 5920 38/10 18:00 5920 38/10 18:00 5920 38/10 18:00 5920 38/10 18:00 5920	3/5/10 10:09	4000								
36/10 14:09 4240 36/10 18:09 4380 36/10 20:09 4600 36/10 20:09 4400 36/10 20:09 4960 36/10 20:09 4960 36/10 20:09 4960 36/10 20:09 4960 36/10 10:09 5200 36/10 10:09 5200 36/10 10:09 540 36/10 10:09 540 36/10 10:09 560 36/10 10:09 660 36/10 10:09 660 36/10 10:09 660 37/10 20:09 6160 37/10 20:09 6160 37/10 10:09 6760 37/10 10:09 6760 37/10 10:09 6760 37/10 10:09 700 37/10 10:09 700 37/10 10:09 7720 37/10 10:09 7720 37/10 10:09 7720 37/10 10:09 7720 37/10 20:9 700 37/10 20	3/5/10 12:09	4120		· · · · · · · · · · · · · · · · · · ·						
38/10 18:09 4880 38/10 20:09 4880 38/10 20:09 4880 38/10 20:09 4880 38/10 20:09 4880 38/10 20:09 4880 38/10 20:09 4880 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 10:09 5800 38/10 20:09 6180 38/10 20:09 6180 38/10 20:09 6180 38/10 20:09 6180 37/10 10:09 6880 37/10 10:09 6880 37/10 10:09 6880 37/10 10:09 6880 37/10 10:09 6880 37/10 10:09 6880 37/10 10:09 6880 37/10 10:09 700 37/10 37/10 10:0 37/10 37/10 37/10 37/10 37/10 37/10 37/10 37/10 37/10 37/10 37/10 37/10 37/10 37/10 37/10	3/5/10 14:09	4240	· · · · · · · · · · · · · · · · · · ·							
336/10 18:09 4480 335/10 20:09 4600 335/10 20:09 4480 2456.65 365/10 0:09 4480 2456.65 365/10 0:09 4480 2456.65 265.6 265.6 365/10 0:09 5200 365/10 10:09 5400 365/10 10:09 5500 1500 7256.555 50 74 76 263.40 207 263.40 200 207 263.40 200 207 263.40 200 207 263.40 200 200 200 200 200 200 200 200 200 2	3/5/10 16:09	4360								· ·
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/5/10 18:09	4480								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/5/10 20:09	4600								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/5/10 22:09	4720						266.05		
3/6/10 2:09 4960 264(58	3/6/10 0:09	4840						265/69	,	· · · · · · · · · · · · · · · · · · ·
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	3/6/10 2:09	4960						26458	2	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/6/10 4:09	5080								- Black case after V-2, saw mut
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/6/10 6:09	5200		2 A		5				at well head is made wate
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/6/10 8:09	5320						263,40		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/6/10 10:09	5440	1450	225614000	71	72	208	264,44	80.05	01011 Tank ~ (900) ps:
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/6/10 12:09	5560	1500	7.25655 500	74	76	207-			a 1041 a Char ali at ASP-7 , a who have
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/6/10 14:09	5680			·····		. ,			broug an is a francisco
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/6/10 16:09	5800								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/6/10 18:09	5920								· · · · · · · · · · · · · · · · · · ·
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/6/10 20:09	6040								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/6/10 22:09	6160								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/7/10 0:09	6280								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/7/10 2:09	6400			· · · · ·					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/7/10 4:09	6520								· · · · · · · · · · · · · · · · · · ·
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/7/10 6:09	6640					·			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/7/10 8:09	6760				· · · · ·			• • • •	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3/7/10 10:09	6880						· · · · · · · · · · · · · · · · · · ·		
317/10 14:09 7120 15-75 12.8047000 76 76 209 317/10 16:09 7240 7240 700 700 700 317/10 18:09 7360 7360 7480 700 700 317/10 22:09 7600 7400 700 700 700	3/7/10 12:09	7000	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·						
3/7/10 16:09 7240 3/7/10 16:09 7240 3/7/10 18:09 7360 3/7/10 20:09 7480 3/7/10 22:09 7600 3/8/10 0.09 7720	3/7/10 14:09	7120	1575	278042000	26	16	209			\$1400 No odi here only at OSR-2
3/7/10 18:09 7360 3/7/10 20:09 7480 3/7/10 22:09 7600 3/8/10 0:09 7720	3/7/10 16:09	7240			1.0	70	· · · ·			TWO
3/7/10 20:09 7480 3/7/10 22:09 7600 3/8/10 0:09 7720	3/7/10 18:09	7360								
3/7/10 22:09 7600 3/8/10 0:09 7720	3/7/10 20:09	7480								
3/8/10 0:09 7720	3/7/10 22:09	7600							•	n
	3/8/10 0:09	7720	1							·
3/8/10 2:09 7840	3/8/10 2:09	7840	1							
3/8/10 4:09 7960 Ride Says PHAFE Broke The 2" Line Lit Laure	3/8/10 4:09	7960				-1		· · · · · ·	· · · ·	Rudy Says PEFF Broke The 2" Line List La 1 M
3/8/10 6:09 8080 have it reprived and tested	3/8/10 6:09	8080		21. C	·.)				have it repuired and tested
3/8/10 8:09 8200 1575 72.9 204/000 26 80 711 242.11 82.38 008 05 NO ADR 460. 0. 1. at KSR-2 TLL	3/8/10 8:09	8200	1005	779704600	7.9	120)	710	262.11	82.38	0/28 05 NO ADR Were m. P. of ASR-7_TLL

76PSI 69PSI

FCV 203

235372000

DT4-777.67

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: ASR-1

TEXES DATA

Test: ASR-1 TEST #12, WY 2010

0820

1500 gpm

Sheet No. 4 of ____

1833

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/8/10 10:09	8320								
3/8/10 12:09	8440								
3/8/10 14:09	8560								
3/8/10 16:09	8680								
3/8/10 18:09	8800	1450	230507100	273	74	208	·····		01707
3/8/10 20:09	8920								
3/8/10 22:09	9040								
3/9/10 0:09	9160								
3/9/10 2:09	9280								\ \
3/9/10 4:09	9400								
3/9/10 6:09	9520			:					· · · · · · · · · · · · · · · · · · ·
3/9/10 8:09	9640	1525	231809500	81	80	211	261.5		(0830 NO ADJUSTICAT - JL
3/9/10 10:09	9760								5
3/9/10 12:09	9880					·			
3/9/10 14:09	10000								
3/9/10 16:09	10120	1300	23259[000]	78	79	216			2 \$ 1700000 Set TO ZIL O ISOOGPM
3/9/10 18:09	10240							•	
3/9/10 20:09	10360								
3/9/10 22:09	10480								· · · · · · · · · · · · · · · · · · ·
3/10/10 0:09	10600	N							
3/10/10 2:09	10720			•					
3/10/10 4:09	10840								moments later Rudy repots
3/10/10 6:09	10960								a brack, says he will chorde with
3/10/10 8:09	11080	1400	23365700	76	79	217	261.14	83.35	0816 Bob about who should repair
3/10/10 10:09	11200								
3/10/10 12:09	11320		233687000						pt@ 0880 - Luselve back OCT : 8
3/10/10 14:09	11440								BF = 041003000 prior to open
3/10/10 16:09	11560								direction weat counter cluthurse -
3/10/10 18:09	11680								stopped w/m ~ 5 second 5 - veset For
3/10/10 20:09	11800								injection - re-start @ 0910
3/10/10 22:09	11920	1500	2336996007	73	76	206			0 1920
3/11/10 0:09	12040								
3/11/10 2:09	12160								
3/11/10 4:09	12280								04/00-2000/ 8/00-1095
3/11/10 6:09	12400								Brocher DV + BPack
3/11/10 8:09	12520								Dury Dary 1 contrad phase gong MTO VED
3/11/10 10:09	12640		D1225						041035600) after -15min @ -2300spm
3/11/10 12:09	12760	·	- V .						Swe obs. CCW votation as maked an purp allos
3/11/10 14:09	12880	đ	233815000	92	93	305			1110 teminitest ~54413
3/11/10 16:09	13000	1500		82	85	214			19: 119:37 BF 10 241055 6001 051058000 end
Hermat	est #3 sh	Ael 0 122	24 DTW = 34	2-13	,	0045	oy 67 - MW.	-1 after su	- ×DIO 4678 - BFi 041035660) 72.59 2000 72.6=27.65PM/
3/10017	07	~80	glm 23416000	50 59	60	220-1	adij FCV to	0195051	= 1200 SPM TL

Well: <u>ASR #1</u>

Test: Hermit Test #3

Sheet No. 1 of 🔜

	ET	Rate	Totalizer	Pres	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/10/10 12:24 1 min	0	1500	233815000	93	92	214	342.13		
3/10/10 12:25	1								
3/10/10 12:26	2								
3/10/10 12:27	3			``					
3/10/10 12:28	4								·
3/10/10 12:29	5				ς.				
3/10/10 12:30	6								
3/10/10 12:31	7								
3/10/10 12:32	8								
3/10/10 12:33	9								
3/10/10 12:34	10								
3/10/10 12:36	12								
3/10/10 12:39 5 min	15								
3/10/10 12:44	20								
3/10/10 12:49	25								
3/10/10 12:54	30								·
3/10/10 12:59	35								
3/10/10 13:04	40					2			
3/10/10 13:09	45				1				· · · · · · · · · · · · · · · · · · ·
3/10/10 13:14	50								·
3/10/10 13:19	55								
3/10/10 13:24	60								· · · · · · · · · · · · · · · · · · ·
3/10/10 13:34 10 min	70								
3/10/10 13:44	80								
3/10/10 13:54	90								
3/10/10 14:04	100								
3/10/10 14:24 20 min	120							1	
3/10/10 14:44	140								
3/10/10 15:04	160								
3/10/10 15:24	180								
3/10/10 15:44 30 min	210								
3/10/10 16:14	240		-						<u>(d) (io)</u>
3/10/10 16:44	270								
3/10/10 17:14	300	806	734 601000	59	60				171707 ADJUSTERS FOUTO 220 (2 1200GPM
3/10/10 17:44	330	-							<u>> </u>
3/10/10 18:14	360			1. A.					
3/10/10 18:44	390								
3/10/10 19:14	420					ļ			
3/10/10 19:44	450								
3/10/10 20:14	480								

and the second second second second second second second second second second second second second second second

_ X³2.

Well: <u>ASR #1</u>

Test: Hermit Test #3

Starting Water Level

342.13 Sheet No. 2 of _

	ET	Rate	Totalizer	Pres	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/10/10 20:44	510								
3/10/10 21:14	540	-							
3/10/10 21:44	570					·			
3/10/10 22:14	600								
3/10/10 22:44	630								
3/10/10 23:14	660								
3/10/10 23:44	690								
3/11/10 0:14	720								
3/11/10 0:44	750								
3/11/10 1:14	780								10 m/h on 54 Hz
3/11/10 1:44	810								xD: 120-38 0411060001
3/11/10 2:14	840			~					XD10 45.65 041091000
3/11/10 2:44	870								75.73 /5000
3/11/10 3:24 40 min	900								Flipping a little unes
3/11/10 4:04	940								When SVZi J. shandyp. Somethy what it and
3/11/10 5:04 1 hr	1000								BF cul = 0411210001 -70,000 GAA
3/11/10 6:04	1060								
3/11/10 7:04	1120								
3/11/10 8:04	1180	1500	235372 000	70	69	203	277,67		left stituings - 16
3/11/10 9:04	1240					- × J	***		
3/11/10 10:04	1300						·.		
3/11/10 11:04	1360				١				
3/11/10 12:04	1420								
3/11/10 13:04	1480	•							
3/11/10 15:04 2hr	1600		-				· .		
3/11/10 17:04	1720	1500	236157000	71	71	203	273.44		OlloSD NO ADJI TL
3/11/10 19:04	1840								
3/11/10 21:04	1960		• .						
3/11/10 23:04	2080								
3/12/10 1:04	2200								
3/12/10 3:04	2320								
3/12/10 5:04	2440	-					1.		
3/12/10 7:04	2560	1550	237689600	71	72	201	266,63	75.5	90824 TEMP Shut down /BE For the Th
3/12/10 9:04	2680	////		•	- 1				CAW vetest of SIDC - dry vat
3/12/10 11:04	2800	d	2377020007	97	94	300			066-50) 0835 041057000 BF
3/12/10 13:04	2920	9		1.6	···· / ···			\mathcal{I}	
3/12/10 15:04	3040	1620	72,8347600	72	74	202		<i>I</i>	BF. @~6002 KSMin-vest 041091602 end
3/12/10 17:04	3160		~~~~~						New toto ZOIAST, 70/22 ~1500/11
3/12/10 19:04	3280								AD NOT START NEW TEST
3/12/10 21:04	3400								N Summer Street

OILS AND NO KOJ. TL

计操作 化二丁基苯甲丁基苯基乙酰基乙酸乙

Well: <u>ASR #1</u>

Test: <u>Hermit Test</u> #3 - 13

Starting Water Level

342.13 Sheet No. 3 of _____

	ET	Rate	Totalizer	Pre	ssure ((psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/12/10 23:04	3520								
3/13/10 1:04	3640								
3/13/10 3:04	3760								
3/13/10 5:04	3880								· · · · · · · · · · · · · · · · · · ·
3/13/10 7:04	4000								
3/13/10 9:04	4120								
3/13/10 11:04	4240					· · · · · · · · · · · · · · · · · · ·	<i>v</i> .		·
3/13/10 13:04	4360	1650	240369 0001	74	68	204	271.28	70.85	21479 tank = 1800 ps; I make no adituda.
3/13/10 15:04	4480								par of the contrast of the con
3/13/10 17:04	4600								<u>100</u>
3/13/10 19:04	4720								
3/13/10 21:04	4840								
3/13/10 23:04	4960								
3/14/10 1:04	5080								
3/14/10 3:04	5200								· · · · · · · · · · · · · · · · · · ·
3/14/10 5:04	5320				· · ·				
3/14/10 7:04	5440								
3/14/10 9:04	5560								,
3/14/10 11:04	5680	1600	2422456007	76	74	206	272,36	69.77	ANOS NOADT
3/14/10 13:04	5800			·	`	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		<u> </u>	Note Hermitic as PST-NOT DST
3/14/10 15:04	5920								
3/14/10 17:04	6040								
3/14/10 19:04	6160								
3/14/10 21:04	6280								
3/14/10 23:04	6400								
3/15/10 1:04	6520							-	
3/15/10 3:04	6640	-							
3/15/10 5:04	6760								
3/15/10 7:04	6880								· · · · · · · · · · · · · · · · · · ·
3/15/10 9:04	7000	1550	244036 500	75	73	704	264.80	77.23	NO ADT ELL PORSO
3/15/10 11:04	7120			····· / ····	1				
3/15/10 13:04	7240					· · · · ·			
3/15/10 15:04	7360								1814
3/15/10 17:04	7480	1100	2147960001	47	48	195			NUME NUMES SOUTH & MRF MILLS
3/15/10 19:04	7600		The second second		<u>/</u>				almost free here that and all walk told at a to
3/15/10 21:04	7720	· · · · · ·			1	······			They will award flowt in furture to a retries used lines -
3/15/10 23:04	7840				1				a strange - drawing a the trans the start of a the
3/16/10 1:04	7960								the prive maning a uni inter our and point
3/16/10 3:04	8080								
3/16/10 5:04	8200								

Well: <u>ASR #1</u>

33

Test: Hermit Test #3 * '3

Starting Water Level 342.13 St

Sheet No. 4 of

	ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/16/10 7:04	8320								
3/16/10 9:04	8440	1300	24577200	68	66	206	269.10	·	P 0830 left settings in case
3/16/10 11:04	8560								Dessue finciease
3/16/10 13:04	8680								
3/16/10 15:04	8800								
3/16/10 17:04	8920	1500	246488500	74	72	206			C 1630 Self settings
3/16/10 19:04	9040								
3/16/10 21:04	9160								, tuned on MW
3/16/10 23:04	9280								SPIPE BRIKEN TURNEDOFF
3/17/10 1:04	9400								
3/17/10 3:04	9520	1							
3/17/10 5:04	9640								
3/17/10 7:04	9760	1400	247611 Taxe	71	67	205			POR30 1. Asottings
3/17/10 9:04	9880			1			-		
3/17/10 11:04 -	10000	U U	747893 0001			300			21200
3/17/10 13:04	10120								
3/17/10 15:04	10240								Swutchted VALUES FOR BF
3/17/10 17:04	10360								
3/17/10 19:04	10480)			· ·				BEMETER AUIZITOO
3/17/10 21:04	10600								
3/17/10 23:04	10720		· · · · · · · · · · · · · · · · · · ·					· · · · ·	
3/18/10 1:04	10840)							PULP TEST OSILIY 3 TEED
3/18/10 3:04	10960)							H1163 mm7
3/18/10 5:04	11080)							
3/18/10 7:04	11200								
3/18/10 9:04	11320								140 121.86
3/18/10 11:04	11440								20 52.86
3/18/10 13:04	11560								
3/18/10 15:04	11680)							
3/18/10 17:04	11800			· · · · · · · · · · · · · · · · · · ·					
3/18/10 19:04	11920		······································	-					· · · · · · · · · · · · · · · · · · ·
3/18/10 21:04	12040)							
3/18/10 23:04	12160								
3/19/10 1:04	12280	}			•				· · · · · · · · · · · · · · · · · · ·
3/19/10 3:04	12400								
3/19/10 5:04	12520								
3/19/10 7:04	12640								· .
3/19/10 9:04	12760								
3/19/10 11:04	12880				· · ·				
3/19/10 13:04	13000				l				
	1		1000	<u> </u>			- \ /h \ ^ '	1	
0 3/17/10 1203		Ø	24 1015 100	<u>e</u> 90	40	200	340,3	20	
-1 1		1					1. A. A.		
			TESTI	4			-		
			,	1					

Well: <u>ASR #</u> Test:	1			Herm	it Test	14		2 JWO Sheet No. 1 of		
				nem	10 1 000 .	<u>.</u> .		/		
Date/Time	ET (min)	Rate (gpm)	Totalizer (gallons)	Pre: Line	ssure (Head	psi) FCV	DTW (ft btst)/	Drawup (ft)	Comments/Other	
3/17/10 12:03 1 mir	0	0	247893000	90	90	300	(269.1	Landard and the state of the second state		
3/17/10 12:04	1						\sim			
3/17/10 12:05	2									
3/17/10 12:06	3								1	
3/17/10 12:07	4								· · · · · · · · · · · · · · · · · · ·	
3/17/10 12:08	5									
3/17/10 12:09	6			*******						
3/17/10 12:10	7									
3/17/10 12:11	8									
3/17/10 12:12	9								Alternation and an and a second and a second and a second and a second and a second and a second and a second a	
3/17/10 12:13	· 10								· · · · · · · · · · · · · · · · · · ·	
3/17/10 12:15	12									
3/17/10 12:18 5 min	15									
3/17/10 12:23	20								A POPULA Annonemia	
3/17/10 12:28	25						A			
3/17/10 12:33	30									
3/17/10 12:38	35									
3/17/10 12:43	40									
3/17/10 12:48	45					a	<u>`</u>		· · · · · · · · · · · · · · · · · · ·	
3/17/10 12:53	50									
3/17/10 12:58	55									
3/17/10 13:03	60									
3/17/10 13:13 10 min	70									
3/17/10 13:23	80									
3/17/10 13:33	. 90									
3/17/10 13:43	100									
3/17/10 14:03 20 min	120								· · · · · · · · · · · · · · · · · · ·	
3/17/10 14:23	140									
3/17/10 14:43	160									
3/17/10 15:03	180									
3/17/10 15:23 30 min	210									
3/17/10 15:53	240									
3/17/10 16:23	270									
3/17/10 16:53	300									
3/17/10 17:23	330									
3/17/10 17:53	360									
3/17/10 18:23	390									
3/17/10 18:53	420									
3/17/10 19:23	450									
3/17/10 19:53	480									

Well: <u>ASR #1</u>

Hermit Test 14

Starting Water Level

Test: __

269.1 Sheet No. 2 of ____

		ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
Date/Time		(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/17/10 20:23		510			T		1	1		
3/17/10 20:53		540								
3/17/10 21:23		570		· · · · · · · · · · · · · · · · · · ·					· ·	
3/17/10 21:53		600								
3/17/10 22:23		630								
3/17/10 22:53		660								
3/17/10 23:23		690				-		· · · · · · · · · · · · · · · · · · ·		A contract of the second secon
3/17/10 23:53		720								
3/18/10 0:23	1	750					-		•	
3/18/10 0:53		780								· · · · · · · · · · · · · · · · · · ·
3/18/10 1:23		810		· · · ·	1					
3/18/10 1:53		840				1				normal literation of months
3/18/10 2:23		870					-			
3/18/10 3:03 40) min	900	· · ·						minus	1
3/18/10 3:43		940					1			
3/18/10 4:43	1 hr	1000			1				1	· · · · · · · · · · · · · · · · · · ·
3/18/10 5:43		1060								· · · · · · · · · · · · · · · · · · ·
3/18/10 6:43		1120				1		1		
3/18/10 7:43		1180		· · · · · · · · · · · · · · · · · · ·		•				
3/18/10 8:43		1240	1400	249221 000	80	18	714	78559		JORGAN SE FUT TO 207
3/18/10 9:43		1300								
3/18/10 10:43		1360								
3/18/10 11:43		1420			1		1			
3/18/10 12:43		1480					-		19705 1770	
3/18/10 14:43	2hr	1600								
3/18/10 16:43		1720					\sim			
3/18/10 18:43		1840								
3/18/10 20:43		1960								
3/18/10 22:43		2080				• •••				- Mada
3/19/10 0:43		2200								
3/19/10 2:43		2320						····		- mile
3/19/10 4:43		2440		······································				,		And an and a second second second second second second second second second second second second second second
3/19/10 6:43		2560								
3/19/10 8:43		2680	1100	2510270001	54	×2_	200	298.05		PARSO LEFT SETARS INICASE PRESSURE A
3/19/10 10:43		2800								
3/19/10 12:43		2920								
3/19/10 14:43		3040					l			
3/19/10 16:43		3160								
3/19/10 18:43		3280								
3/19/10 20:43		3400								

Well: <u>ASR #</u>	1		-								
Test:				Herm	it Test :	14			269.1 Sheet No. 3 of 340.34(?)		
	ET ET	Rate	Totalizer	Pre	ssure ((psi)	DTW	Drawup			
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other		
3/19/10 22:43	3520					·					
3/20/10 0:43	3640								Test 00 00:00 Say 2 340,336		
3/20/10 2:43	3760				I				used this as starting WL IV		
3/20/10 4:43	3880								7		
3/20/10 6:43	4000							· · · · ·			
3/20/10 8:43	4120	1450	25286100	72	75	205	273.29	65-05	00936		
3/20/10 10:43	4240										
3/20/10 12:43	4360								·		
3/20/10 14:43	4480								avante of the second second second second second second second second second second second second second second		
3/20/10 16:43	4600	-					•				
3/20/10 18:43	4720								1440)		
3/20/10 20:43	4840										
3/20/10 22:43	4960								· • •		
3/21/10 0:43	5080					-			·		
3/21/10 2:43	5200										
3/21/10 4:43	5320										
3/21/10 6:43	5440										
3/21/10 8:43	5560										
3/21/10 10:43	5680										
3/21/10 12:43	5800	1250	255234000	56	60	199			@1313 No adj @ ASR-1. Make adj		
3/21/10 14:43	5920								@ ASR-2 to increase inj rate. gut		
3/21/10 16:43	6040				-						
3/21/10 18:43	6160				1. 1				· · · · · · · · · · · · · · · · · · ·		
3/21/10 20:43	6280	-							· · · · · · · · · · · · · · · · · · ·		
3/21/10 22:43	6400										
3/22/10 0:43	6520					·					
3/22/10 2:43	6640						290.07	T			
3/22/10 4:43	6760						289.49				
3/22/10 6:43	. 6880						26519	13,15			
3/22/10 8:43	7000	1500	256617600	70	71	200			00820 turk= 1750ps! TL		
3/22/10 10:43	7120			·		-			NU ADJ.		
3/22/10 12:43	7240) 									
3/22/10 14:43	7360										
3/22/10 16:43	7480	1150	257292 100	44	42	198					
3/22/10 18:43	7600				<u> </u>	I		I	alana and an and a second and a second and a second and a second and a second and a second and a second and a s		
3/22/10 20:43	7720	1						<u> </u>			
3/22/10 22:43	7840										
3/23/10 0:43	7960					I			1990		
3/23/10 2:43	8080								All and a second s		
3/23/10 4 43	8200		1	1	1	1	1	1			

ACD #1

Starting Water Level

Well: <u>ASR #1</u>

Test:

Hermit Test 14

269.1 Sheet No. 4 of _____

	ET	Rate	Totalizer	Pre	ssure ((psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/23/10 6:43	8320	~1600	258403000	70	72	200			007.50 shetdern - FL
3/23/10 8:43	8440	Ŕ		98		305			them wo to to R-Z to shut FCV there
3/23/10 10:43	8560	7-							BF before gran 0411646007
3/23/10 12:43	8680								BF ISMIN On 2300 almas rest , they low mo
3/23/10 14:43	8800				\sim			-	
3/23/10 16:43	8920				2				BF10 210000 XD; 112.86
3/23/10 18:43	9040				1				BF: 04119710001 XD111 4291
3/23/10 20:43	9160			~ ~~~					21000 - 19.95
3/23/10 22:43	9280								$= 30 \mathrm{gm}/\mathrm{G}$
3/24/10 0:43	9400		~						
3/24/10 2:43	9520	~~~			1 J				
3/24/10 4:43	9640				1			**************************************	
3/24/10 6:43	9760		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	The second second second second second second second second second second second second second second second s				-94797.800000000000000000000000000000000000	
3/24/10 8:43	9880								
3/24/10 10:43	10000	-	- 1230						329 10 1240 secure und
3/24/10 12:43	10120	329/10-							from WE 20K to start
3/24/10/04/0	10240	ø	258450	525	×2	305			Myletion
3/24/10 16:43	10360				· .				
3/24/10 18:43	10480								OYIZG31000 BEM
3/24/10 20:43	10600								
3/24/10 22:43	10720								ran some la am justes
3/25/10 0:43	10840								to BE sit to check it
3/25/10 2:43	10960	1300	258450 000	62	64	200			unatur is clear. Wat ok
3/25/10 4:43	11080								
3/25/10 6:43	11200					· ·			stated unertion & suborned
3/25/10 8:43	11320								D(tist)
3/25/10 10:43	11440								
3/25/10 12:43	11560								
3/25/10 14:43	11680								TEST # 15 statict of 11:43 at
3/25/10 16:43	11800								12:43 WT
3/25/10 18:43	11920								
3/25/10 20:43	12040				-				
3/25/10 22:43	12160								350,64 DTW
3/26/10 0:43	12280							<u> </u>	3/29/10
3/26/10 2:43	12400	1250	2587270007	(01)	64	205			01627
3/26/10 4:43	12520			-				· .	\$ 0800 m 3/30/10 TI
3/26/10 6:43	12640	1250	2599250001	61	63	200	4		
3/26/10 8:43	12760					· ·			
3/26/10 10:43	12880								· · · · · · · · · · · · · · · · · · ·
3/26/10 12:43	13000					Nilly			

Well: <u>ASR 1</u> Test:

49.0

.

Test 15

Sheet No. 1 of ____

	ET	Rate	Totalizer	Pres	ssure ((psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/29/10 12:43 1 min	0	1300	258450000	64	62	200	350.64	0	WF on site
3/29/10 12:44	1								
3/29/10 12:45	2								
3/29/10 12:46	3								· · · · · · · · · · · · · · · · · · ·
3/29/10 12:47	<u>`4</u>								
3/29/10 12:48	5								
3/29/10 12:49	6								
3/29/10 12:50	7								· ·
3/29/10 12:51	8								
3/29/10 12:52	9								
3/29/10 12:53	10								
3/29/10 12:55	12								
3/29/10 12:58 5 min	15								
3/29/10 13:03	20								
3/29/10 13:08	25								
3/29/10 13:13	30								
3/29/10 13:18	35								
3/29/10 13:23	40								
3/29/10 13:28	45								
3/29/10 13:33	50								
3/29/10 13:38	55								
3/29/10 13:43	60								
3/29/10 13:53 10 min	70							_	
3/29/10 14:03	80								
3/29/10 14:13	90								
3/29/10 14:23	100								
3/29/10 14:43 20 min	120								
3/29/10 15:03	140								
3/29/10 15:23	160								
3/29/10 15:43	180								
3/29/10 16:03 30 min	210								
3/29/10 16:33	240								
3/29/10 17:03	270								
3/29/10 17:33	300							•	,
3/29/10 18:03	330								·
3/29/10 18:33	360								· · · · · · · · · · · · · · · · · · ·
3/29/10 19:03	390			·					
3/29/10 19:33	420			1					
3/29/10 20:03	450				•				
3/29/10 20:33	480					<u> </u>			

Test 15 350.64 Sheet No. 2 of Test: ET Totalizer Pressure (psi) DTW Drawup Rate Comments/Other (gallons) Line Head FCV (ft btst) (ft) Date/Time (min) (gpm) 3/29/10 21:03 510 3/29/10 21:33 540 3/29/10 22:03 570 3/29/10 22:33 600 3/29/10 23:03 630 . 3/29/10 23:33 660 3/30/10 0:03 690 720 3/30/10 0:33 3/30/10 1:03 750 780 3/30/10 1:33 3/30/10 2:03 810 3/30/10 2:33 840 870 3/30/10 3:03 3/30/10 3:43 / 40 min 900 940 3/30/10 4:23 1000 3/30/10 5:23 1 hr 1060 3/30/10 6:23 3/30/10 7:23 1120 3/30/10 8:23 1180 3/30/10 9:23 1240 1300 3/30/10 10:23 1360 3/30/10 11:23 3/30/10 12:23 1420 3/30/10 13:23 1480 3/30/10 15:23 1600 2hr 3/30/10 17:23 1720 3/30/10 19:23 1840 3/30/10 21:23 1960 3/30/10 23:23 2080 3/31/10 1:23 2200 3/31/10 3:23 2320 3/31/10 5:23 2440 2560 1450 2619384000 78 76 3/31/10 7:23 211 7 6830 2680 3/31/10 9:23 3/31/10 11:23 2800 3/31/10 13:23 2920 3/31/10 15:23 3040 3/31/10 17:23 3160 3280 3/31/10 19:23 3/31/10 21:23 3400

MPWMD

Well: <u>ASR 1</u>

Starting Water Level

Well: ASR 1

Test 15

Starting Water Level

Test: _

.

350.64 Sheet No. 3 of ____

	ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/31/10 23:23	3520								
4/1/10 1:23	3640								
4/1/10 3:23	3760								
4/1/10 5:23	3880								
4/1/10 7:23	4000		263703 000	78	76	209	271.75		(10530 ND AD)
4/1/10 9:23	4120								· · ·
4/1/10 11:23	4240								
4/1/10 13:23	4360								
4/1/10 15:23	4480								
4/1/10 17:23	4600								
4/1/10 19:23	4720								· · ·
4/1/10 21:23	4840								
4/1/10 23:23	4960								
4/2/10 1:23	5080								·
4/2/10 3:23	5200								
4/2/10 5:23	5320								
4/2/10 7:23	5440	1000	265597 [60	58	207-			DOGO
4/2/10 9:23	5560				C				
4/2/10 11:23	5680								
4/2/10 13:23	5800								
4/2/10 15:23	5920		26602500		C. An				31630 MW 95050 0/62
4/2/10 17:23	6040								
4/2/10 19:23	6160								
4/2/10 21:23	6280								•
4/2/10 23:23	6400								· · ·
4/3/10 1:23	6520								
4/3/10 3:23	6640								
4/3/10 5:23	6760								
4/3/10 7:23	6880								· · · · · · · · · · · · · · · · · · ·
4/3/10 9:23	7000	6001	2671821000	62	66	208	293.68	56.96	00955
4/3/10 11:23	7120			Ĩ,					NO ADJ, - Collect DBP's from Mhr 1 4
4/3/10 13:23	7240								معن المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع الم
4/3/10 15:23	7360								
4/3/10 17:23	7480						•		and the second second second second second second second second second second second second second second second
4/3/10 19:23	7600	•							
4/3/10 21:23	7720								·
4/3/10 23:23	7840								
4/4/10 1:23	7960								
4/4/10 3:23	8080								
4/4/10 5:23	8200								

Well: ASR 1			<u></u>		· · · · · · · · · · · ·				Starting Water Level
Test:			—	Т	est 15				350.64 Sheet No. 4 of
					star	tic WL =	: 350.64		4
	ЕТ	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/4/10 7:23	8320				`				
4/4/10 9:23	8440				ļ ,				
4/4/10 11:23	8560	1650	269119 1000	85	88/72	216	263.65	86.99	@11:23 FCV regulator was set at 208 psi.
4/4/10 13:23	8680			Ŭ	· ·				I reset to 212 psi so that flow rate
4/4/10 15:23	8800								will not appreciably increase il system
4/4/10 17:23	8920								pressure rises any more.
4/4/10 19:23	9040								Juo
4/4/10 21:23	9160								
4/4/10 23:23	9280		NOTE: Press	the ga	er clo	sest 7	o welke	ed was	3
4/5/10 1:23	9400		stick	in .	Befor	tam	ina = 70	osi	
4/5/10 3:23	9520			17	Alter	tass	in = 90	si	
4/5/10 5:23	9640		Show	be	redue	A."	1 0	· /	
4/5/10 7:23	9760		a and a subscription of the second second second second second second second second second second second second	and the second second second second second second second second second second second second second second second			a a subsection of the second second second second second second second second second second second second second	Caratal States and a second states of the second st	
4/5/10 9:23	9880	1350	270705/0007	90	91/90				\$ 1000 No sti. Awaiting word from CAN to
4/5/10 11:23	10000								restart ini@ASR-2, run
4/5/10 13:23	10120								juo
4/5/10 15:23	10240								
4/5/10 17:23	10360	1000	271128 00	61					0 1645
4/5/10 19:23	10480								<u> </u>
4/5/10 21:23	10600						<		
4/5/10 23:23	10720								
4/6/10 1:23	10840								
4/6/10 3:23	10960								· · · · ·
4/6/10 5:23	11080								
4/6/10 7:23	11200	950	2720031000	66	64	ZA	303.96		10 0830 Jet TO 25 ZIO
4/6/10 9:23	11320					•			
4/6/10 11:23	11440								
4/6/10 13:23	11560								
4/6/10 15:23	11680						-		
4/6/10 17:23	11800								
4/6/10 19:23	11920							· ·	
4/6/10 21:23	12040								
4/6/10 23:23	12160								
4/7/10 1:23	12280								
4/7/10 3:23	· 12400						•		
4/7/10 5:23	12520								
4/7/10 7:23	12640	1100	273880000	61	64	208	287.92	62.72	00810
4/7/10 9:23	12760								
4/7/10 11:23	12880								
4/7/10 13:23	13000								
4 8 10 0800		1350	27571500	60	63	199	277.34	73.30	Ø08:00
4/10 0900	ر	2200	2783661000	112	45				shut down men stores

MPWMD

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: ASR 1

Test:

t. Mik

Hermit test #6

Sheet No. 1 of ____

	S. CET SA	Rate	Totalizer	Pressure (psi)		DTW	Drawup		
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/12/10 8:43 1 min	0						349.92		
4/12/10 8:44	1								
4/12/10 8:45	2								
4/12/10 8:46	3								
4/12/10 8:47	4								
4/12/10 8:48	5				1				
4/12/10 8:49	6								
4/12/10 8:50	7								
4/12/10 8:51	8								~
4/12/10 8:52	9								
4/12/10 8:53	10								•
4/12/10 8:55	12								
4/12/10 8:58 5 min	15								
4/12/10 9:03	20								
4/12/10 9:08	25							·	
4/12/10 9:13	30								
4/12/10 9:18	35								
4/12/10 9:23	40								
4/12/10 9:28	45								
4/12/10 9:33	50								
4/12/10 9:38	55				<u> </u>				T
4/12/10 9:43	60								
4/12/10 9:53 10 min	70						-		
4/12/10 10:03	80								
4/12/10 10:13	90								
4/12/10 10:23	100								
4/12/10 10:43 20 min	120				I				
4/12/10 11:03	140								
4/12/10 11:23	160								
4/12/10 11:43	180								·
4/12/10 12:03 30 min	210								
4/12/10 12:33	240								
4/12/10 13:03	270								
4/12/10 13:33	300								· · · · · · · · · · · · · · · · · · ·
4/12/10 14:03	330								
4/12/10 14:33	360	1200	278928 000	62	60				
4/12/10 15:03	390								· · · · · · · · · · · · · · · · · · ·
4/12/10 15:33	420								
4/12/10 16:03	450								
4/12/10 16:33	480			L					

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT Starting Water Level Well: ASR 1 Hermit test #6 349.92

Test:

ET Rate Totalizer Pressure (psi) DTW Drawup (min) (gallons) Line Head FCV (ft btst) (ft) Comments/Other Date/Time (gpm) 4/12/10 17:03 510 4/12/10 17:33 540 4/12/10 18:03 570 4/12/10 18:33 600 630 4/12/10 19:03 4/12/10 19:33 660 4/12/10 20:03 690 4/12/10 20:33 720 750 4/12/10 21:03 780 4/12/10 21:33 . 4/12/10 22:03 810 840 4/12/10 22:33 4/12/10 23:03 870 4/12/10 23:43 900 40 min 940 4/13/10 0:23 4/13/10 1:23 1000 1 hr 4/13/10 2:23 1060 4/13/10 3:23 1120 4/13/10 4:23 1180 4/13/10 5:23 1240 4/13/10 6:23 1300 1360 4/13/10 7:23 1420 1800 SET FOU TO ZI3 (2) 1600GPM 4/13/10 8:23 28040350 82 80 2.09 4/13/10 9:23 1480 4/13/10 11:23 1600 2hr 4/13/10 13:23 1720 281280 10007 64 @ 1645 SET FLY TO 214 1840 1750 82_ 4/13/10 15:23 211 4/13/10 17:23 1960 4/13/10 19:23 2080 2200 4/13/10 21:23 2320 4/13/10 23:23 4/14/10 1:23 2440 4/14/10 3:23 2560 4/14/10 5:23 2680 20830 SEF FOUTO ZIN (2 1600GPm 82 80 2800 1800 2526341000 700 4/14/10 7:23 4/14/10 9:23 2920 4/14/10 11:23 3040 4/14/10 13:23 3160 4/14/10 15:23 3280 4/14/10 17:23 3400

Sheet No. 2 of _____

Well: ASR 1

Hermit test #6

Starting Water Level 349.92 She

Test:

.....

Sheet No. 3 of ____

	ET	Rate	Totalizer	Pressure ((psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/14/10 19:23	3520				T				
4/14/10 21:23	3640								
4/14/10 23:23	3760					T OS	cillating !		
4/15/10 1:23	3880						ſ		
4/15/10 3:23	4000					4			01
4/15/10 5:23	4120	800	284210 1000	65	67	ZIB			30800 Adi FCV to 206 psi te increase flow.
4/15/10 7:23	4240		· · · · · · · · · · · · · · · · · · ·						J ^w
4/15/10 9:23	4360	1000	284751 0007	58	56	206			PORYS TH
4/15/10 11:23	4480								<u> </u>
4/15/10 13:23	4600								
4/15/10 15:23	4720								
4/15/10 17:23	4840	1000	2847360007	59	58	218		/	\$1650 NO +75
4/15/10 19:23	4960								fee de la constant de la constant de la constant de la constant de la constant de la constant de la constant de
4/15/10 21:23	5080								0077000 on MCW 2" meter
4/15/10 23:23	5200						285.73	64,19	4. Luck Flow- "Decent Store B WARDON
4/16/10 1:23	5320								41/50 Walt orige was pucht
4/16/10 3:23	5440								TTL TTL
4/16/10 5:23	5560								Lots of all in water at 2" bib - ASID-1
4/16/10 7:23	5680		_						
4/16/10 9:23	5800	1400	785801000	79	80	217~	261,35	88.57	a) 0755
4/16/10 11:23	5920	1500		82	84	212			O OSIG of the cold ASP-2 +11
4/16/10 13:23	6040								
4/16/10 15:23	6160								007 to I DT on BE with - Not show m
4/16/10 17:23	6280								any leak when all closed - Loth bibs 5+111
4/16/10 19:23	6400								blown lots of air
4/16/10 21:23	6520								
4/16/10 23:23	6640								
4/17/10 1:23	6760								
4/17/10 3:23	6880		<i>e</i> :						
4/17/10 5:23	7000								
4/17/10 7:23	7120								
4/17/10 9:23	7240	1.100	3-87610000	59	10	205	280.46		00943
4/17/10 11:23	7360				~~		<i>— p</i>		· ·
4/17/10 13:23	7480								
4/17/10 15:23	7600	·							
4/17/10 17:23	7720								
4/17/10 19:23	7840			[
4/17/10 21:23	7960								
4/17/10 23:23	8080								·
4/18/10 1:23	8200								



Well: <u>ASR 1</u> Test:			PHASE	1 AQU Herm	IIFER S nit test #	MPN STORAG	· Ar Poor NMD GE AND REC		ROJECT Starting Water Level 6 extend 349.92 Sheet No. 4 of
	Aliantia -a decensional	Pate	Totalizar	Dro	ssure ((isi)	DTW	Drawup	
Date/Time	(min)	(apm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/18/10 3·23	8320				and the second second	9896563- 75 95-699	1999 - Carlos Color de Color de Color de Color		
4/18/10 5:23	8440						772,07-		······································
4/18/10 7:23	8560						011/00		
4/18/10 9:23	8680	1500	289287-000	80	77	211-	255-11	94,81	@ 0930 aL
4/18/10 11:23	8800				† <i>' '</i>				
4/18/10 13:23	8920								» <u> </u>
4/18/10 15:23	9040					[
4/18/10 17:23	9160						· · · · · · · · · · · · · · · · · · ·		
4/18/10 19:23	9280				,	· ·			······································
4/18/10 21:23	9400								
4/18/10 23:23	9520								
4/19/10 1:23	9640							,	
4/19/10 3:23	9760								
4/19/10 5:23	9880								•
4/19/10 7:23	10000	1175	290959000	61	64	204	273.79	7613	00803 T4
4/19/10 9:23	10120		01013160	 • (Tauk ~ 1600 psi
4/19/10 11:23	10240								
4/19/10 13:23	10360							-	
4/19/10 15:23	10480	1100	291380100	54	52	701	278,54		
4/19/10 17:23	10600				<u> </u>				
4/19/10 19:23	10720								······
4/19/10 21:23	10840								
4/19/10 23:23	10960								
4/20/10 1:23	11080	1050	291380 00	54	52	201	44.915	ø	4/19/16 1408 DIF
4/20/10 3:23	11200							6	150 B WT
4/20/10 5:23	11320								
4/20/10 7:23	11440	1050	797 474 200	58	56	210			@ 0900 NO ADI
4/20/10 9:23	11560			<u> </u>	1				<u> </u>
4/20/10 11:23	11680		-						
4/20/10 13:23	11800								
4/20/10 15:23	11920								
4/20/10 17:23	12040			l	1				
4/20/10 19:23	12160								
4/20/10 21:23	12280								
4/20/10 23:23	12400								
4/21/10 1:23	12520		147		: Alexien				
4/21/10 3:23	12640								
4/21/10 5:23	12760					-0. ⁹	× > .		
4/21/10 7:23	12880		•				N		
4/21/10 9.23	13000								".¢

Well: <u>ASR 1</u>

Test:

Hermit test #7

Sheet No. 1 of ____

	ET Co	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/19/10 15:08 1 min	0						349.95		
4/19/10 15:09	1								
4/19/10 15:10	2						·		s
4/19/10 15:11	3								
4/19/10 15:12	4			1	·				· · · · · · · · · · · · · · · · · · ·
4/19/10 15:13	5								
4/19/10 15:14	6								
4/19/10 15:15	7								· · · · · · · · · · · · · · · · · · ·
4/19/10 15:16	8								· .
4/19/10 15:17	9								
4/19/10 15:18	10		•						
4/19/10 15:20	12								
4/19/10 15:23 5 min	15								
4/19/10 15:28	20								
4/19/10 15:33	25			· .					
4/19/10 15:38	30								
4/19/10 15:43	35								
4/19/10 15:48	40								
4/19/10 15:53	45								
4/19/10 15:58	50								
4/19/10 16:03	55								
4/19/10 16:08	60								
4/19/10 16:18 10 min	70								
4/19/10 16:28	<u>_</u> 80								
4/19/10 16:38	90				· ·				
4/19/10 16:48	100								
4/19/10 17:08 20 min	120								
4/19/10 17:28	140								
4/19/10 17:48	160				·				
4/19/10 18:08	180								
4/19/10 18:28 30 min	210								
4/19/10 18:58	240								
4/19/10 19:28	270								· · · · · · · · · · · · · · · · · · ·
4/19/10 19:58	300								
4/19/10 20:28	330								
4/19/10 20:58	360								
4/19/10 21:28	390								
4/19/10 21:58	420								
4/19/10 22:28	450								
4/19/10 22:58	480			<u> </u>			l		

SOPSI

Well: ASR 1

Hermit test #7

Starting Water Level

Test:_____

349.95 Sheet No. 2 of ____

		ET	Rate	Totalizer	Pre	ressure (psi)		DTW	Drawup			
Date/Tim	Ie	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other		
4/19/10 23:28		510										
4/19/10 23:58		540										
4/20/10 0:28		570										
4/20/10 0:58		600										
4/20/10 1:28		630	-									
4/20/10 1:58		660		;						· · · · · · · · · · · · · · · · · · ·		
4/20/10 2:28	-	690										
4/20/10 2:58		720								\sim		
4/20/10 3:28		750										
4/20/10 3:58		780										
4/20/10 4:28		810								·		
4/20/10 4:58		840								· · · · · · · · · · · · · · · · · · ·		
4/20/10 5:28		870				4				-		
4/20/10 6:08	40 min	900										
4/20/10 6:48		940										
4/20/10 7:48	1 hr	1000										
4/20/10 8:48		1060										
4/20/10 9:48		1120					5.					
4/20/10 10:48		1180										
4/20/10 11:48		1240										
4/20/10 12:48		1300										
4/20/10 13:48		1360										
4/20/10 14:48		1420										
4/20/10 15:48		1480	2: 1000	292955	52	500	ZOL			C 1645		
4/20/10 17:48	2hr	1600)							
4/20/10 19:48		1720										
4/20/10 21:48		1840										
4/20/10 23:48		1960								·		
4/21/10 1:48		2080								•		
4/21/10 3:48		2200										
4/21/10 5:48		2320			·					· · · · · · · · · · · · · · · · · · ·		
4/21/10 7:48		2440										
4/21/10 9:48		2560	1350	294086 1000	172	58	206	283.47	66.48	(1 0830		
4/21/10 11:48		2680	Г Г	<u>`````````````````````````````````````</u>			~		•			
4/21/10 13:48		2800					· · · ·					
4/21/10 15:48		2920						ļ				
4/21/10 17:48		3040										
4/21/10 19:48		3160										
4/21/10 21:48		3280					<u> </u>					
4/21/10 23:48		3400				I		<u> </u>	1			

Well: <u>ASR 1</u>

Hermit test #7

Starting Water Level 349.95 Sheet

Test:_____

Sheet No. 3 of _____

	ET State	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup		
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)		Comments/Other
4/22/10 1:48	3520									
4/22/10 3:48	3640									
4/22/10 5:48	3760	1400)	2958050007	72	70	207			•	
4/22/10 7:48	3880								10 0830	
4/22/10 9:48	4000									
4/22/10 11:48	4120					·				
4/22/10 13:48	4240									
4/22/10 15:48	4360									
4/22/10 17:48	4480	1000	296518 0001	57	50	503			@ 1645	-
4/22/10 19:48	4600									
4/22/10 21:48	4720									
4/22/10 23:48	4840									
4/23/10 1:48	4960									·
4/23/10 3:48	5080									· · · · · · · · · · · · · · · · · · ·
4/23/10 5:48	5200									
4/23/10 7:48	5320	1400	297568/000	72	70	207	268.20	81.75	WOKD5	268.20 4/23/10 6:47
4/23/10 9:48	5440									
4/23/10 11:48	5560									
4/23/10 13:48	5680									
4/23/10 15:48	5800	1050	298225/000	52	D	200			@ 1620	293.43 4/23/10 (a) 14:47
4/23/10 17:48	5920									11
4/23/10 19:48	6040									
4/23/10 21:48	6160									
4/23/10 23:48	6280							·		•
4/24/10 1:48	6400									·
4/24/10 3:48	6520									
4/24/10 5:48	6640									۰
4/24/10 7:48	6760									
4/24/10 9:48	6880	1450	299 716 000	72	70	205	261.35	88.6	@1005	261.35 4/24/10 @ 8.47
4/24/10 11:48	7000									• • •
4/24/10 13:48	7120									
4/24/10 15:48	7240									
4/24/10 17:48	7360									
4/24/10 19:48	7480									
4/24/10 21:48	7600									
4/24/10 23:48	7720									
4/25/10 1:48	7840									
4/25/10 3:48	7960						257.58			
4/25/10 5:48	8080						283.65			
4/25/10 7:48	8200						257-55			

INMAL Q 2050 6	m a	REA ~		20	~~~~			Nor	DEVIATION OF COLOR PATTERN LLARED UPP 700
FINAL Q FOXE	~		112/0 1000]		<u> </u>	$> \Box$			
WLI IRAS	C B	SF7 ALI	1379 10007	(1)29	-48Z)				
NIL 2 48.12		- 0-1				MP	WMD		
	$\Gamma \mathcal{R}$	F3 041	STI OSOPHASE	1 AQU	JIFER S	STORA	GE AND RE	COVERY PF	ROJECT
Well: <u>ASR 1</u>									Starting Water Level
Test:				Herm	nit test	#7			349.95 Sheet No. 4 of
	ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/25/10 9:48	8320				-	1	283.65		
4/25/10 11:48	8440						285.35	64.60	
4/25/10 13:48	8560	1250	3021741000	61	63	202			0405 -AFter strange ASP-2 11100
4/25/10 15:48	8680								When I first dring for T
4/25/10 17:48	8800								NO ADShare
4/25/10 19:48	8920		,						
4/25/10 21:48	9040								
4/25/10 23:48	9160								· · · · · · · · · · · · · · · · · · ·
4/26/10 1:48	9280								
4/26/10 3:48	9400								
4/26/10 5:48	9520							1. W	
4/26/10 7:48	9640	1750	3036412 2002	$\langle c \rangle$	59	19.93	27178	1997 - W. 1997 - W.	1 08-20
4/26/10 9:48	9760		3.38 10 [0-0]			110			
4/26/10 11:48	9880	~	302868 6	90	80	300	71991		۰ د ۲
4/26/10 13:48	10000		1	00			(61.70		
4/26/10 15:48	10120								· · · · ·
4/26/10 17:48	10240								
4/26/10 19:48	10360	1200	313818 1007	13:00		201			$u_{7/10} = 17^{3}$
4/26/10 21:48	10480	1250	20200000	1.2	10			· · · · · · · · · · · · · · · · · · ·	
4/26/10 23:48	10600			66	60				·
4/27/10 1:48	10720						-		
4/27/10 3:48	10720								·
4/27/10 5:48	10960								
A/27/10 7:48	11080	INNO	2051025	~	-0	77			
A/27/10 9:48	11200		30360 12001	15	17	107		;	0 0830 SEI FOUTO ZIS CE 1500 GRA
4/27/10 11:48	11200								
4/27/10 12:48	11440						····.		
4/27/10 15:40	11440								
A/27/10 17:40	11690	14512	2.71.000	49	~~	0211			A 1920 11/20/11)
A/27/10 10:40	11800	1130	201625 000	101	87	1204			(00xx 41cx/10
A/27/10 21:40	11000								
1/27/10 22:40	12040	1300	200000	9-	100	22.	100 11		· · · · · · · · · · · · · · · · · · ·
A/28/10 1.40	12040	120	DOR Renge	82	80		1-201-16		A such the m
4/20/10 1.40	12100	-							CP 1645 74810
4/20/10 3.40	12200						-		
4/20/10 3:40	12400		7001	60	80	111	787 24		
4/20/10 /:48	12520	1400	5016301000	02	00	LU	200,0-		10 0830 4/21/10 - TO ZI8
4/28/10 9:48	12640			I					
4/28/10 11:48	12/60			l	-	.			
4/28/10 13:48	12880			N					
4/28/10 15:48	13000	<u>I</u>		I	<u>I. </u>	1			
					a di s				
•							\$		
				1. A.					

Test:			Sheet No. 1 of						
Date/Time	ET (min)	Rate (apm)	Totalizer (gallons)	Pre	ssure (Head	(psi) L FCV	DTW (ft btst)	Drawup (ft)	Comments/Other
4/26/10 12:31 1 mir	0			81 210 22 41 0 48 22 4 0		1 25345,000-6027,0000	200 55		
4/26/10 12:32	1						359.5		· · · ·
4/26/10 12:33	2								
4/26/10 12:34	3							3	
4/26/10 12:35	. 4		·····						
4/26/10 12:36	5								
4/26/10 12:37	6								
4/26/10 12:38	7								
4/26/10 12:39	8								
4/26/10 12:40	9				-				
4/26/10 12:41	10		•						
4/26/10 12:43	12								
4/26/10 12:46 5 mir	n 15								
4/26/10 12:51	20								
4/26/10 12:56	25								
4/26/10 13:01	30						•.		· · · · · · · · · · · · · · · · · · ·
4/26/10 13:06	35								
4/26/10 13:11	40								
4/26/10 13:16	45	-							а Тарана с собрана с собрана с собрана с собрана с с с с с с с с с с с с с с с с с с
4/26/10 13:21	50				-				
4/26/10 13:26	55								
4/26/10 13:31	60				-				
4/26/10 13:41 10 mir	n 70								
4/26/10 13:51	80								
4/26/10 14:01	90								
4/26/10 14:11	100		.*						
4/26/10 14:31 20 mir	n 120								
4/26/10 14:51	. 140						•		
4/26/10 15:11	160	• •							
4/26/10 15:31	180								
4/26/10 15:51 30 mir	n 210								
4/26/10 16:21	240								
4/26/10 16:51	270								
4/26/10 17:21	300								· · ·
4/26/10 17:51	330								
4/26/10 18:21	360								
4/26/10 18:51	390								
4/26/10 19:21	420								
4/26/10 19:51	450								
4/26/10 20:21	480		1	1	1		ł	1	

Well: ASR 1

Well: <u>ASR 1</u>

Hermit test 8

Starting Water Level

Test:_____

269.56 Sheet No. 2 of ____

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	n an an an an an an an an an an an an an
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/26/10 20:51	510			1					
4/26/10 21:21	540								
4/26/10 21:51	570								
4/26/10 22:21	600								
4/26/10 22:51	630								
4/26/10 23:21	660								
4/26/10 23:51	690								
4/27/10 0:21	720								
4/27/10 0:51	750								
4/27/10 1:21	780								
4/27/10 1:51	810								
4/27/10 2:21	840	-	······						
4/27/10 2:51	870								•
4/27/10 3:31 40 min	900								
4/27/10 4:11	940								
4/27/10 5:11 1 hr	1000		•						
4/27/10 6:11	1060								
4/27/10 7:11	1120								
4/27/10 8:11	1180								
4/27/10 9:11	1240								
4/27/10 10:11	1300								
4/27/10 11:11	1360		•						
4/27/10 12:11	1420								
4/27/10 13:11	1480								
4/27/10 15:11 2hr	1600								
4/27/10 17:11	1720								
4/27/10 19:11	1840								
4/27/10 21:11	1960								
4/27/10 23:11	2080								
4/28/10 1:11	2200								
4/28/10 3:11	2320								•
4/28/10 5:11	2440								
4/28/10 7:11	2560		-						
4/28/10 9:11	2680								
4/28/10 11:11	2800								
4/28/10 13:11	2920				•				
4/28/10 15:11	3040								
4/28/10 17:11	3160								
4/28/10 19:11	3280								
4/28/10 21:11	3400								

Well: <u>ASR 1</u>								Starting Water Level			
Test:		,		Hern	nit test	8			269.56 ^(?) Sheet No. 3 of		
- <u> </u>									347.27(?)		
	ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup			
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other		
4/28/10 23:11	3520						· · ·				
4/29/10 1:11	3640										
4/29/10 3:11	3760								•		
4/29/10 5:11	3880										
4/29/10 7:11	4000										
4/29/10 9:11	4120										
4/29/10 11:11	4240							-			
4/29/10 13:11	4360								2		
4/29/10 15:11	4480							-			
4/29/10 17:11	4600	BSD	3102ALTON	81	79	216			@ Kyr		
4/29/10 19:11	4720										
4/29/10 21:11	4840										
4/29/10 23:11	4960								· · · · · · · · · · · · · · · · · · ·		
4/30/10 1:11	5080										
4/30/10 3:11	5200						· · ·				
4/30/10 5:11	5320										
4/30/10 7:11	5440	1000	311719 10001	46	84	24	271,78		PBR3D		
4/30/10 9:11	5560	13									
4/30/10 11:11	5680								ý.		
4/30/10 13:11	5800								· · · · · · · · · · · · · · · · · · ·		
4/30/10 15:11	5920										
4/30/10 17:11	6040						•	· · · · · · · · · · · · · · · · · · ·			
4/30/10 19:11	6160		· · · · · · · · · · · · · · · · · · ·						· · · · · · · · · · · · · · · · · · ·		
4/30/10 21:11	6280										
4/30/10 23:11	6400					·					
5/1/10 1:11	6520										
5/1/10 3:11	6640										
5/1/10 5:11	6760										
5/1/10 7:11	6880								· · · · · · · · · · · · · · · · · · ·		
5/1/10 0:11	7000							1	342,72 = 221,21 = 96,06		
5/1/10 11:11	7000										
5/1/10 11:11	7120	10-7-5	ZIUZACTO	02	0.07	115	72121	4601	alala ALA ADT		
5/1/10 15.11	7240	13 13	319 2013/000	83	28	415	271.21	1000	01010 101005.		
5/1/10 15.11	7300										
5/1/10 17:11	7480										
5/1/10 19:11	/600										
5/1/10 21:11	//20				-		l				
5/1/10/23:11	/840			 		-					
5/2/10 1:11	/960						-				
5/2/10 3:11	8080	· • · · ·	10 projek 11			.			· · · · · · · · · · · · · · · · · · ·		
5/2/10 5:11	8200	1	1	1	1.	1	1	I			

BF M1	041399
F BFM2	041424 [000] @ 1111
L BF M3	041442007 6 1900

<= [W] 102.39' - W 2 38.57

	Well: ASR 1	L		_						Starting Water Level		
	Test:	****			Heri	mit test	8	TEST 1	8	<u></u>		
	Nato/Timo	ET	Rate	Totalizer (gallons)	Pre	essure	(psi)	DTW (ft.btst)	Drawup	Comments/Other		
	5/2/10 7:11	8220	(gpm)	(galions)	EIIIG	- nead	T			connento, otner		
	5/2/10 7.11	8440	1100	316204600	84	81	-	220.22	77.01			
	5/2/10 9.11	8560	1600	210311000	0	00	-2.2	270.25	11/04			
	5/2/10 11.11	8000								······································		
	5/2/10 15.11	8000								, · ·		
	5/2/10 13.11	8020								· · · · · · · · · · · · · · · · · · ·		
	5/2/10 17.11	0920				-	-					
	5/2/10 19.11	9040										
	5/2/10/21.11	9100										
	5/2/10/23:11	9260								/		
	5/3/10 1:11	9400					-			· · · · · · · · · · · · · · · · · · ·		
	5/3/10 3:11	9520				_	-					
	5/3/10 5:11	9640			C NI	1				00020 111 11 0		
	5/3/10 7:11	9760	1300	318285100	64	62	206-	282,50		CODO up setting.		
	5/3/10 9:11	9880					· · ·					
	5/3/10 11:11	10000				~			· · · · · · · · · · · · · · · · · · ·			
	5/3/10 13:11	10120										
	5/3/10 15:11	10240										
	5/3/10 17:11	10360					$\sum_{i=1}^{n}$					
	5/3/10 19:11	10480				_						
	5/3/10 21:11	10600					<u> </u>					
	5/3/10 23:11	10720										
	5/4/10 1:11	10840										
	5/4/10 3:11	10960										
	5/4/10 5:11	11080	ß	318930 000			300			01645		
	5/4/10 7:11	11200	1	· · ·		_						
	5/4/10 9:11	11320					\					
	5/4/10 11:11	11440				CALIFORNIA CONTRACTOR OF CONTRACTOR		COLUMN-SOLATION AND AND AND AND AND AND AND AND AND AN	C Description of the survey survey			
TOF	5/4/10 13:11	11560								DUT WT		
	5/4/10 15:11	11680	1350	318930 1000	64	62	20	356.61		5 5 10 7:52 -> 8:52		
STAKT	5/4/10 17:11	11800			- 1							
5/5/10	5/4/10 19:11	11920	1300	319499 000	64	62	202			5/5/10 1700 - JL		
/ / .	5/4/10 21:11	12040	1									
	5/4/10 23:11	12160										
	5/5/10 1:11	12280										
	5/5/10 3:11	12400		-								
	5/5/10 5:11	12520			I		1	· ·				
	5/5/10 7:11	12640		_						······································		
	5/5/10 9:11	12760								356-61		
	5/5/10 11:11	12880								-2+483		
	5/5/10 13:11	13000								81.78		
			11-7	22.07	07			778102	81.74	t FILL a cone		
	-		1650	2002 +8600	22	85	215	674185	21. 10	2 1 1 1 0 (0) 08 0 2		

Well: ASR-1									Star	arting Water Level		
Test:	Hermit Test 9 TEST 19 WYZOLO					6	356.61	Sheet No. 1 of				
	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup				
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	\sim	Comments,	/Other	
5/5/10 7:52 1 min	0	1350	318930000	64	62	201	356.61	0	7:52 (8:52 (JL)			
5/5/10 7:53	1							·.				
5/5/10 7:54	2		х.									
5/5/10 7:55	3											
5/5/10 7:56	4	· .										·····
5/5/10 7:57	5											
5/5/10 7:58	6											
5/5/10 7:59	7											
5/5/10 8:00	8											
5/5/10 8:01	9											
5/5/10 8:02	10											
5/5/10 8:04	12											
5/5/10 8:07 5 min	15										21/19/20 10/19/10/10/10/10/10/10/10/10/10/10/10/10/10/	
5/5/10 8:12	20								and a space spectrum constraint of a statistical state			
5/5/10 8:17	25							• ••• • • • • • • • • • • • • • • • •	·····			
5/5/10 8:22	30								Name (
5/5/10 8:27	35								Mari a tot i standa ayan in tanan kiki bi yin ya tan tanan		······································	
5/5/10 8:32	40											
5/5/10 8:37	45		· · · · · · · · · · · · · · · · · · ·									
5/5/10 8:42	50								······································			
5/5/10 8:47	55											
5/5/10 8:52	60		· · · · · · · · · · · · · · · · · · ·									
5/5/10 9:02 10 min			;									
5/5/10 9:12	00										· · ·	
5/5/10 9:22	90											
5/5/10 9.32 5/5/10 0:52 00 min	100								· · · · · · · · · · · · · · · · · · ·			
5/5/10 9.52 20 mm	140											
5/5/10 10:32	140											
5/5/10 10:52	180											
5/5/10 10:02	210											
5/5/10 11:12 30 100	240											
5/5/10 12:12	270										1. 2. 10.1 K (1) (2010) (20	
5/5/10 12:42	300											
5/5/10 13:12	330											
5/5/10 13:42	360											
5/5/10 14:12	390											
5/5/10 14:42	420				 	1		-				
5/5/10 15:12	450					1						
5/5/10 15:42	480											

Well: <u>ASR-1</u>

Hermit Test 9

Starting Water Level

Test: #19 WY 2010

356.61 Sheet No. 2 of ____

			ET	Rate	Totalizer	Pres	Pressure (psi)		DTW	Drawup			
	Date/Tim	ne	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other		
	5/5/10 16:12		510										
	5/5/10 16:42		540										
	5/5/10 17:12		570	1300	319499000	64	62	202		······	@ 17:00 (JL)		
	5/5/10 17:42		600										
	5/5/10 18:12		630										
	5/5/10 18:42		660										
	5/5/10 19:12		690										
	5/5/10 19:42		720										
	5/5/10 20:12		750								/		
	5/5/10 20:42		780										
	5/5/10 21:12		810			····							
	5/5/10 21:42		840										
	5/5/10 22:12		870				•						
	5/5/10 22:52	40 min	900										
	5/5/10 23:32		940										
	5/6/10 0:32	1 hr	1000										
	5/6/10 1:32		1060							a 14, 7 an 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a			
	5/6/10 2:32		1120										
	5/6/10 3:32		1180										
	5/6/10 4:32		1240										
1968 - S. S. S.	5/6/10 5:32		1300										
· · ·	5/6/10 6:32		1360						074.00	04 70	CODOF (TI) as adjustments ASD 2 is off		
	5/6/10 7:32		1420	1650	320878000	83	85	215	274.83	81.78			
	5/6/10 8:32		1480								·		
	5/6/10 10:32	2hr	1600										
	5/6/10 12:32		1720					·					
	5/6/10 14:32		1840								allar		
	5/6/10 16:32		1960	1725	321699000	86	_88_	212					
	5/6/10 18:32		2080	~						-,			
	5/6/10 20:32		2200								· · · · · · · · · · · · · · · · · · ·		
	5/6/10 22:32		2320										
	5/7/10 0:32		2440								5 H 11		
	5/7/10 2:32		2560								93 A) C		
	5/7/10 4:32		2680								- 260101		
	5/7/10 6:32		2800	17721	222120	61	ad	717	7100	6522	AP2820 NO ADT ISTE		
	5/7/10 8:32		2920	1772	222498609	86	88	un	260.87	72.10			
	5/7/10 10:32		3040			·					· ·		
	5/7/10 12:32	·	3160										
	5/7/10 14:32		3280					 					
	5/7/10 16:32		3400		L	<u>I</u>	I	L	l	I	1		
Well: <u>ASR-1</u> Test: _____

Hermit Test 9

Starting Water Level

Sheet No. 3 of ____

356.61

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
5/7/10 18:32	3520								
5/7/10 20:32	3640								
5/7/10 22:32	3760								
5/8/10 0:32	3880								
5/8/10 2:32	4000								356.61
5/8/10 4:32	4120								- 263.43
5/8/10 6:32	4240								<u>G3.18</u>
5/8/10 8:32	4360								
5/8/10 10:32	4480	1150	3258074000	84	86	212	263.43	93,18	BOAST NO ADJ, TL
5/8/10 12:32	4600			,					
5/8/10 14:32	4720								
5/8/10 16:32	4840								
5/8/10 18:32	4960								
5/8/10 20:32	5080								and a particular second second second second second second second second second second second second second sec
5/8/10 22:32	5200								
5/9/10 0:32	5320								
5/9/10 2:32	5440								·
5/9/10 4:32	5560								
5/9/10 6:32	5680								
5/9/10 8:32	5800								
5/9/10 10:32	5920								Tank ~ 1500 psi
5/9/10 12:32	6040	1750	32837910007	85	87-	214	254ray	101-67	@ 12/8 strut adj to ~216 psi ou FCV
5/9/10 14:32	6160								-+/
5/9/10 16:32	6280								· •
5/9/10 18:32	6400								
5/9/10 20:32	6520								
5/9/10 22:32	6640	· ·							
5/10/10 0:32	6760								
5/10/10 2:32	6880								
5/10/10 4:32	7000								
5/10/10 6:32	7120								
5/10/10 8:32	7240	1400	329987600	86	90	22	273-		0812 - Reset to 215 psi
5/10/10 10:32	7360								
5/10/10 12:32	7480								
5/10/10 14:32	7600								
5/10/10 16:32	7720		1						
5/10/10 18:32	7840					-			
5/10/10 20:32	7960								4.6.48.97 PT
5/10/10 22:32	8080								
5/11/10 0:32	8200						[·		

ASR2 TT					5 100	5,36	~ WL1		BF1 841444,000 5.12.10 1245
BF1090408.	soc h	JL1 0			> 36	.96	wL2		F BFZ 041466000 JL
BF2	w	LZ		(MP	WMD		L BF3 041485000 ~ 1900gpm
			PHASE	1 AQU	IFER S	STORAG	GE AND RE	COVERY P	ROJECT
well: <u>ASR-1</u>			. .	11		•			Starting water Level
lest:				Hern	nit Test	9			330.01 Sheet No. 4 01
	ET	Rate	Totalizer	Pre	ssure ((psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
5/11/10 2:32	8320		-				· · · · · · · · · · · · · · · · · · ·		
5/11/10 4:32	8440								
5/11/10 6:32	8560			~~~~	~				() (0.0 p)
5/11/10 8:32	8680	1000	332182 000	84	87	219	266	90	<u>C-8-20</u>
5/11/10 10:32	0088					 		 	
5/11/10 12:32	0920								
5/11/10 14:02	0160					2			······································
5/11/10 18:32	9100					1			
5/11/10 20:32	9200	· ·							
5/11/10 20:32	9400								
5/12/10 0.32	9640								
5/12/10 2:32	9760								
5/12/10 4:32	9700						· · · · · · · · · · · · · · · · · · ·		а мажата кака така жана бала кака кака кака кака кака кака как
5/12/10 6:32	10000								an man a se is is family to the man is in the man is an an an and the start of the
5/12/10 8:32	10120								
5/12/10 10:32	10240	d	224325000	44	88	305			0 1100
5/12/10 12:32	10360	<i>P</i>	551000						
5/12/10 14:32	10480								
5/12/10 16:32	10600								
5/12/10 18:32	10720								
5/12/10 20:32	10840								
5/12/10 22:32	10960								
5/13/10 0:32	11080								
5/13/10 2 32	4200	1400	334325000	5/4	82	215	352.80		2 1154WT 1054 DUT
5/13/10 4:32	11320	1500	336263000	86	84	217			12 0850 5.13.10
5/13/10 6:32	11440				_ /				<u> </u>
5/13/10 8:32	11560								
5/13/10 10:32	11680								
5/13/10 12:32	11800								
5/13/10 14:32	11920								
5/13/10 16:32	12040								
5/13/10 18:32	12160								
5/13/10 20:32	12280		· · · · · · · · · · · · · · · · · · ·					·	
5/13/10 22:32	12400							l	
5/14/10 0:32	12520							 	
5/14/10 2:32	12640		· · · · · · · · · · · · · · · · · · ·					I	
5/14/10 4:32	12760								
5/14/10 6:32	12880					 			
5/14/10 8:32	13000	L	<u> </u>	L	L	<u> </u>	L	L	

Well: ASR 1

Test:

Test 20

Sheet No. 1 of ____

	and et state	Rate	Totalizer	Pre	ssure ((psi) DTW Drawı		Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
5/12/10 11:54 1 min	0	0	334325000	86	84	300	356.86		
5/12/10 11:55	1								
5/12/10 11:56	2								
5/12/10 11:57	3								
5/12/10 11:58	4								
5/12/10 11:59	5								
5/12/10 12:00	6								
5/12/10 12:01	7							-	
5/12/10 12:02	8								
5/12/10 12:03	9								
5/12/10 12:04	10								~
5/12/10 12:06	12								
5/12/10 12:09 5 min	15								
5/12/10 12:14	20								
5/12/10 12:19	25					_			
5/12/10 12:24	30								
5/12/10 12:29	35								
5/12/10 12:34	40								· · · · · · · · · · · · · · · · · · ·
5/12/10 12:39	45								
5/12/10 12:44	50								
5/12/10 12:49	55								
5/12/10 12:54	60								
5/12/10 13:04 10 min	70								
5/12/10 13:14	80								
5/12/10 13:24	90								
5/12/10 13:34	100								
5/12/10 13:54 20 min	120								
5/12/10 14:14	140								
5/12/10 14:34	160								
5/12/10 14:54	180								
5/12/10 15:14 30 min	210								
5/12/10 15:44	240								
5/12/10 16:14	270								
5/12/10 16:44	300								
5/12/10 17:14	330								
5/12/10 17:44	360								
5/12/10 18:14	390								
5/12/10 18:44	420								
5/12/10 19:14	450								
5/12/10 19:44	480								

288000 MPWMD

Test 20

Well: ASR 1

Test:

Starting Water Level

Sheet No. 2 of ____

356.86

		ET Sta	Rate	Totalizer	Pre	ssure	(psi)	DTW/	Drawup	
Date/Tin	ne	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	2 Comments/Other
5/12/10 20:14		510)		1					·
5/12/10 20:44		540					-		1	
5/12/10 21:14		570							/	
5/12/10 21:44		600)						/ /	
5/12/10 22:14		630								
5/12/10 22:44		660								
5/12/10 23:14		690						/		· · · · · · · · · · · · · · · · · · ·
5/12/10 23:44		720)					1		
5/13/10 0:14		750)							
5/13/10 0:44		780)							
5/13/10 1:14		810)							
5/13/10 1:44		840)							
5/13/10 2:14		870))						
5/13/10 2:54	40 min	900		У	-					
5/13/10 3:34		940)	6						
5/13/10 4:34	. 1 hr	1000		4C3						
5/13/10 5:34		1060)							
5/13/10 6:34		1120								
5/13/10 7:34		1180								
5/13/10 8:34		1240	1500	336263000	86	84	217			800
5/13/10 9:34		1300								
5/13/10 10:34		1360								· · · · · · · · · · · · · · · · · · ·
5/13/10 11:34		1420								
5/13/10 12:34		1480								
5/13/10 14:34	2hr	1600	1600	79694600	88	26	ZZI			
5/13/10 16:34		1720					·			
5/13/10 18:34		1840								
5/13/10 20:34		1960		7						
5/13/10 22:34		2080								
5/14/10 0:34		2200								
5/14/10 2:34		2320								,
5/14/10 4:34		2440								
5/14/10 6:34		2560								
5/14/10 8:34		2680	1900	338328000	67	80	120			VOORD
5/14/10 10:34		2800			Da					
5/14/10 12:34		2920								
5/14/10 14:34		3040								
5/14/10 16:34		3160	1300	33591600	82	80	771			0 1600
5/14/10 18:34		3280								
5/14/10 20:34		3400								

Well: ASR 1

Test:

Test 20

Starting Water Level 356.86 Sheet No. 3 of ____

	ET	Rate	Totalizer	Pre	ssure ((psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
5/14/10 22:34	3520								
5/15/10 0:34	3640							-	
5/15/10 2:34	3760					-			
5/15/10 4:34	3880								
5/15/10 6:34	4000								
5/15/10 8:34	4120								
5/15/10 10:34	4240								
5/15/10 12:34	4360	1,100	240013/000	78	86	22	305-91)	ntor	012/7 ADT FOUNDATE + 12/17
5/15/10 14:34	4480		1210312[-00		<u> </u>				DICT + NUST CUSING IS CIT
5/15/10 16:34	4600								
5/15/10 18:34	4720								
5/15/10 20:34	4840								
5/15/10 22:34	4960								
5/16/10 0:34	5080		-						
5/16/10 2:34	5200								
5/16/10 4:34	5320								
5/16/10 6:34	5440						29318	1.368	аланан аланан аланан аланан аланан аланан аланан аланан аланан аланан аланан аланан аланан аланан аланан алана Аланан аланан
5/16/10 8:34	5560							<u>a</u> j eo	
5/16/10 10:34	5680							· · · · · · · · · · · · · · · · · · ·	
5/16/10 12:34	5800	1.100	7471980001	81	02	725	302,42	CUILY	OUST - Od, I thought Low M.
5/16/10 14:34	5920				0/			······	PEN dessing yout, due of Chasted of Cil
5/16/10 16:34	6040								the FCV is set to 217 - men D value - move
5/16/10 18:34	6160								- Marihe it was to cut aparta FCV (2)
5/16/10 20:34	6280								- rady act i was all gois copear a rea (.)
5/16/10 22:34	6400								
5/17/10 0:34	6520								
5/17/10 2:34	6640		A 448 - 111						· · · · · · · · · · · · · · · · · · ·
5/17/10 4:34	6760								
5/17/10 6:34	6880								
5/17/10 8:34	7000	1160	243683 000	81	83	721	307.17		PASSO SET FOU TO 217
5/17/10 10:34	7120					<u></u>			
5/17/10 12:34	7240								
5/17/10 14:34	7360						8-9412	1.7.5	· · · · · · · · · · · · · · · · · · ·
5/17/10 16:34	7480	1775	744751 10001	83	90	221			211,32 Setto 217 AGAIN
5/17/10 18:34	7600				-10				
5/17/10 20:34	7720								
5/17/10 22:34	7840								
5/18/10 0:34	7960								
5/18/10 2:34	8080								
5/18/10 4:34	8200								

Well: <u>ASR 1</u>

Test: ____

Test 20

Starting Water Level 356.86 Sheet No. 4 of ____

	ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
5/18/10 6:34	8320		V	I	1	Τ		I	
5/18/10 8:34	8440	1300	345509 10007	012	70	27/2	202.60		20530
5/18/10 10:34	8560								
5/18/10 12:34	8680								
5/18/10 14:34	8800								
5/18/10 16:34	8920								
5/18/10 18:34	9040								
5/18/10 20:34	9160								
5/18/10 22:34	9280								
5/19/10 0:34	9400								
5/19/10 2:34	9520						-		
5/19/10 4:34	9640								P+ Q dise - Que From 1. 11-1191 + Q3
5/19/10 6:34	9760						307-08	(19.78	+> 950 + 23
5/19/10 8:34	9880	1,000	347-107-10007	23	87	224			20811
5/19/10 10:34	10000		342116 600			305			O a 877 aFF
5/19/10 12:34	10120								
5/19/10 14:34	10240								OULYSGOOD BF in Iral
5/19/10 16:34	10360		,						REALAHZ (2200) and low a not
5/19/10 18:34	10480					-			le congression la marej
5/19/10 20:34	10600								OUISULDED LOS VG
5/19/10 22:34	10720								0415736601 $43.89 = 770$
5/20/10 0:34	10840								10 AGA - TUCE CEL
5/20/10 2:34	10960								6 4.00 5/3m/ F7-
5/20/10 4:34	11080								OFF B MAZE = OYISSG bad
5/20/10 6:34	11200								Ne-shart For CAW Grand of 0935
5/20/10 8:34	11320					1			ave to the all a light
5/20/10 10:34									UTEOT POUL END DE
5/20/10 12:34	11560				The second second second second second second second second second second second second second second second s				
5/20/10 14:34	11680								· · · · · · · · · · · · · · · · · · ·
5/20/10 16:34	11800	as'	JYZ IL LOOD	• • • • • • • • • • • • • • • • • • • •		311	3555		Chat Test 21 6670 Hermon power
5/20/10 18/34	11920	1					202.08		BIDDE (AGAS Hoven't true)
5/20/10 20:34	12040	1300		07	95	717			
5/20/10/22:34	12160				0/	217			
5/21/10 0:34	12280								
5/21/10 2:34	12400	1100	348772 000	75	72	210			Q (830) 500010 2'
5/2/1/10 4:34	12520								
5/21/10 6:34	12640								
5/21/10 8:34	12760								
5/21/10 10:34	12880			1	l		1		
5/21/10 12:34	13000			1					

Well: <u>ASR 1</u>

Test:_____

Test 21

355.58 Sheet No. 1 of ____

	ET	Rate	Totalizer	Pres	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
5/20/10 9:05 1 min	0	0	347116000			310	355.58	0	at 10:05 real time
5/20/10 9:06	1								
5/20/10 9:07	2								
5/20/10 9:08	3	1300		83	85	217			
5/20/10 9:09	.4								
5/20/10 9:10	5								
5/20/10 9:11	6								
5/20/10 9:12	7								
5/20/10 9:13	8								
5/20/10 9:14	9								•
5/20/10 9:15	10								
5/20/10 9:17	12								
5/20/10 9:20 5 min	15								
5/20/10 9:25	20								
5/20/10 9:30	25	1100	348772000	75	73	210			
5/20/10 9:35	30								
5/20/10 9:40	35								
5/20/10 9:45	40								
5/20/10 9:50	45								
5/20/10 9:55	50								
5/20/10 10:00	55								
5/20/10 10:05	60		N						
5/20/10 10:15 10 min	70								
5/20/10 10:25	80								
5/20/10 10:35	90								
5/20/10 10:45	100								
5/20/10 11:05 20 min	120								
5/20/10 11:25	140								
5/20/10 11:45	160								
5/20/10 12:05	180								
5/20/10 12:25 30 min	210								
5/20/10 12:55	240								
5/20/10 13:25	270								
5/20/10 13:55	300								
5/20/10 14:25	330								
5/20/10 14:55	360								
5/20/10 15:25	390								
5/20/10 15:55	420							I	
5/20/10 16:25	450								
5/20/10 16:55	480								
				•					

Well: ASR 1

Test:

Test 21

Starting Water Level 355.58 Sheet No. 2 of ____

		ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
Date/Tim	ne	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
5/20/10 17:25		510		1		1	1	1	T	
5/20/10 17:55		540				[4
5/20/10 18:25		570								
5/20/10 18:55		600								
5/20/10 19:25		630								
5/20/10 19:55		660								
5/20/10 20:25		690								
5/20/10 20:55		720								
5/20/10 21:25		750								
5/20/10 21:55		780								
5/20/10 22:25		810		· · · · · · · · · · · · · · · · · · ·						
5/20/10 22:55		840								
5/20/10 23:25		870								
5/21/10 0:05	40 min	900								· · · · · · · · · · · · · · · · · · ·
5/21/10 0:45		940								
5/21/10 1:45	1 hr	1000								
5/21/10 2:45		1060								
5/21/10 3:45		1120								
5/21/10 4:45		1180								
5/21/10 5:45		1240								
5/21/10 6:45		1300								
5/21/10 7:45		1360								
5/21/10 8:45		1420								
5/21/10 9:45		1480	1600	\$50957600,	88	88	217	260.14	95.44	OD910 realtrice RE-
5/21/10 11:45	2hr	1600	Ø	350 962600					``	heed to shot down + BF for CAW sumply
5/21/10 13:45		1720	1450	3509766007	89	91	220	@ 1035	[SFF BOGIS
5/21/10 15:45		1840		Englished (041674600 BE -15MIN @ 24005M
5/21/10 17:45		1960	1500	351500 6001	90	90	ZIG	299.49	@ 1630	10 MIN Rost, then
5/21/10 19:45		2080					(10 MIN @ "54 Hz
5/21/10 21:45		2200							\\	041732000 102.97
5/21/10 23:45		2320								0417156001 30.72
5/22/10 1:45	1	2440								1710001 - 72.05
5/22/10 3:45		2560						•		226 000114-
5/22/10 5:45		2680								5 C S 10 8 pm (1)
5/22/10 7:45		2800						<u>.</u>		Kesune (11) @ 1024 014754 pool BF.
5/22/10 9:45		2920	1520	353081003	44	88	217	293,36		010:00 Th Tauk=1150psi
5/22/10 11:45		3040								
5/22/10 13:45		3160								
5/22/10 15:45		3280								
5/22/10 17:45		3400							J	

Well: ASR 1

Test: ____

Test 21

Starting Water Level 355.58 Sheet No. 3 of ____

	ET	Rate	Totalizer	Pre	ssure ((psi)	DTW	Drawup			
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)		Comments/Oth	er
5/22/10 19:45	3520				Γ	ł	I	1			
5/22/10 21:45	3640										
5/22/10 23:45	3760							~			
5/23/10 1:45	3880								-		
5/23/10 3:45	4000						1				
5/23/10 5:45	4120										
5/23/10 7:45	4240										
5/23/10 9:45	4360				-				·····	· · · · · · · · · · · · · · · · · · ·	
5/23/10 11:45	4480	1500	355424 10001	85	85	220	285.37	70.21	@ 1200	no ali	JWO
5/23/10 13:45	4600										
5/23/10 15:45	4720				· · · · · · · · · · · · · · · · · · ·				~		· · · · · · · · · · · · · · · · · · ·
5/23/10 17:45	4840										
5/23/10 19:45	4960										
5/23/10 21:45	5080					~					
5/23/10 23:45	5200										
5/24/10 1:45	5320										
5/24/10 3:45	5440										
5/24/10 5:45	5560										
5/24/10 7:45	5680	1025	357230000	67	67	214	311.66	43.92	@ 0300	no adj	JWO
5/24/10 9:45	5800				······						· · · · · · · · · · · · · · · · · · ·
5/24/10 11:45	5920										
5/24/10 13:45	6040										
5/24/10 15:45	6160	1050	357795000	68	70	216	298.91	56.67	@ 1700	Open FCV to 210 psi	JWD
5/24/10 17:45	6280									1 1	
5/24/10 19:45	6400										
5/24/10 21:45	6520										
5/24/10 23:45	6640										
5/25/10 1:45	6760										
5/25/10 3:45	6880										
5/25/10 5:45	7000										
5/25/10 7:45	7120	1150	359 000 000)	66	68	210	298,73	56.85	@0830	Open PCV to 205 psi	JWO
5/25/10 9:45	7240									Y	
5/25/10 11:45	7360										
5/25/10 13:45	7480										
5/25/10 15:45	7600	1400	359751 [000]	72	68 ?	205			e 1730	no adj	Juo
5/25/10 17:45	7720									J	
5/25/10 19:45	7840		-								
5/25/10 21:45	7960										
5/25/10 23:45	8080										
5/26/10 1:45	8200							<u> </u>			

Test 21

Well: ASR 1

Test:

Starting Water Level

Sheet No. 4 of _____

355.58

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
5/26/10 3:45	8320								
5/26/10 5:45	8440								
5/26/10 7:45	8560	1550	361121000	78	80	205	Z69.49	86.09	Ø 0805
5/26/10 9:45	8680								
5/26/10 11:45	8800								
5/26/10 13:45	8920	1675	36(758 000)	80	80	207	266.19	E	Shutdown + AT
5/26/10 15:45	9040	1400	361765100	82	84	216	& RESTART O	Pter PSF	0417546007 BF:
5/26/10 17:45	9160			, .					BEIDMINS
5/26/10 19:45	9280		-						041779000 DE 25,000/10
5/26/10 21:45	9400								2500 crem
5/26/10 23:45	9520								rest set lover for 10 minkst
5/27/10 1:45	9640								110.42 041798000
5/27/10 3:45	9760	/							- 4(158 0417-7967)
5/27/10 5:45	9880								68.84 19.000
5/27/10 7:45	10000	1450	36321810001	84	83	219	294.19	61.39	50800
5/27/10 9:45	10120								1=27-6 Spin/Ft/
5/27/10 11:45	10240								
5/27/10 13:45	10360)						
5/27/10 15:45	10480	1450	5636121000						slut dery or 1235 resumed info
5/27/10 17:45	10600	1500		NA	NA	212			04180300 (FF)
5/27/10 19:45	10720								041848600 ad BF
5/27/10 21:45	10840								80+051 001+#2 ROP 1315
5/27/10 23:45	10960								genes trun, moled (Crw) FUJ +11 (335
5/28/10 1:45	11080								
5/28/10 3:45	11200								
5/28/10 5:45	11320								
5/28/10 7:45	11440	1525	365400 000	83	82	212	295.15	60.43	20830 FCV regulator was closed. Reset to
5/28/10 9:45	11560	1600							210 pgi and verify open nec. The
5/28/10 11:45	11680								
5/28/10 13:45	11800								21345 Injoff for CAW WQ sample collection while BF
5/28/10 15:45	11920								21430 Inj flow back on.
5/28/10 17:45	12040	1600		80		209			
5/28/10 19:45	12160		<u>i</u>						
5/28/10 21:45	12280		····						
5/28/10 23:45	12400								-
5/29/10 1:45	12520								· · · · · · · · · · · · · · · · · · ·
5/29/10 3:45	12640		· · · · · · · · · · · · · · · · · · ·						
5/29/10 5:45	12760	·····							
5/29/10 7:45	12880								
5/29/10 9:45	13000	1625	367996 1000	81	80	209	291.75	63.83	@ 1200 no adj Jwo
5130		1625	3701666001	70	SÒ	207	- 287,49	68-09	BOQTO I'LL THE
5-31		MAX	372787-15001	Sh	76	205	283.65	- (@ 1153 11 11
(_1			274 U/m ma		102	261	280.21	75.57	2 020- off- shut devis int
6 1		φ	> 1 10 W YOU	» د <i>ر</i> .	491	501	10-0	0745 Leshud	Kine -

041887000 BF Sten 5/mg 06/02 10 BF ASR-10 13:00 041928 200 041908 600 deter whal 10 mm 560H3 XDi= 101.28

×Dio 37.04 64.24

20,000

$\phi = -\frac{1}{2} \left(\frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \right) + \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} + \frac{1}{2} \right) \right)$

= 31.13 growf Ff

ASR-2 Test:

Sheet No. 1 of ____

113000 113000

23.2

574

		Manager Providence and					and a post too a loss	11 / CO. 11/1 (0102) CO. 10	No. of the second second		
Date/Time	/min)	Rate	Eres	SUILE) (P51))	C.E.D.D.T.		(netblest))	Drawup	allone	Commative / Other
12 b loa		ANSI AMPAN			7.60					<u>ี และเคย</u>	
10(+100	1				ma	·	38683				1 + 0 + 0 = 7 = 7 7 (1)
	2		· · · · ·		<u> </u>		tind				- ANNE DI MARTE - D DOUD SIT ISTN C
Sample	3						or an		······································	· ·	625271071For invitin ture 0.22 (Fm
As2-2	4					· ·					
,	5										Started curanter
	6										Tropped whim sid from OFF to Hand
	7										RAN 5-10 Seconds 1
	8					····					Collect in the collection of t
	9										polyses march , + som or of W 19 ains - Cull SI +1019
	- 10	i				·				* 	OKP - 89.9 5 putapartie have
· ·	14	·		·						·	po fort of fore For
	20										et to ++ +
	25										
	30		-				······		······································		
	35										0112760001 end val
	40										ann - Ann an Anna an Annaich ann an Annaich ann an Annaich a tha an Annaich ann an Annaich ann an Annaich ann an Annaich ann an Annaich ann an Annaich ann ann an Annaich ann ann an Annaich ann ann an Annaich ann ann an Annaich ann ann an Annaich ann ann an Annaich ann ann an Annaich ann ann an Annaich ann ann an Annaich ann ann ann an Annaich ann ann ann an Annaich ann ann ann ann ann ann ann ann ann an
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	55								*******		1
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	70							a die Band Libbertann versen matter of		ne gran kalanan menalikan kara ana ana karan	n a manuna serial matu matu matu matu matu matu matu matu
	80										и на полити стато со достива — советни и полити советни и полити и на кака и полити советна се со со со советнити Полити
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	180	1									
•	210	1									Alan Bernen oppengige Jewer Kaan men pleid Famerolle. Het versten die Verste Anzeiten der Franklich Landelsen einer Verste Statistichen die verster vers
	240										
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	420	<u> </u>									
	450	<u>}</u>									
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 $\frac{1}{128} = \frac{2300}{128} = 17.97$

2,300 GPM

Well: Test:	AS	$\frac{1}{2}$	Test 2	ZI (Harm	+ 7.	est #	(2)			Sheet No. 1 of
I ÇƏLI		77010				PEUFO		I COMPANY & WAY AND		
Date/	Time	Ei (min)	(apm)	(gallons)	Line	Head	T FCV	(ft btst)	(ft)	Comments/Other
12/14/09	1245	0	0	011285000	92	0	285	383.78	10	1245 Brein agening FCV
		1				1			Winned .	
· · · · · · · · · · · · · · · · · · ·		2		· · · · · · · · · · · · · · · · · · ·						
		3					1			
		5			85	72	255	308,4	75.4	n
		6								
		7	~1200		 	_				1000 xn/s/45 secs = 1333 gpm
		9	• P							hair chair ACZ-1 Club (m con an
	1255	10	·				[·			intrements.
		, 12	?				245		·	flow cavitating / system flow, più Pluetunky
5 min		15						-		open both cafe Unlives, stop vibration,
	13	20	·····		10	65	270		· · · · · · · · · · · · · · · · · · ·	Out Meter neckle fluctuating Getween Of
	1315	30	2				230	76.8	306.94	With Repid Y cising air pushin out
	25	35						······		Casing Vent & S. Dube. Begin Closing FCU
	13	. 40								-> Hab C 6.5. 1 open what whiles,
	132	,45 50		· · · · · · · · · · · · · · · · · · ·	42	0	300	alalaha karangan karang karang karang karang karang karang karang karang karang karang karang karang karang ka		@ASR-2 #ASR-1; Close For Stop Inj.
		55	· · · · · · · · · · · · · · · · · · ·	0113325000					······ /webser/a/- ////	Back Elizabia 1620
10 min		60	·····							
		70				l		·····		Luce: 0,23 fm, Up: 61 ps; dawn:50
		80								Tot: 626100 \$4"
		90 100		4 MARGANIA						Tot = 0/1332/1000) 16 sturt 2000
20 min		120		······································						
		140								1640 PWL = S19,5 Gtst 1000 gpm
		160						· · · · · · · · · · · · · · · · · · ·		45 psi Q/572.4
30 min		210	0							10 Breaken tops
001181		240								175 Sur anh/36 sees > 833 apm
		270								PWL = 604,2, 64 ps.
		300								12 G/5= 833 5pm+120,4 = 6,9 gp-/FT
		330							,	17 Brenken trips again.
		390								Shut derin genjenatur
		420								
		450								· · · · · · · · · · · · · · · · · · ·
		480								

Well: AS ?	2-2		_						
Test: レソ	2010 1	#2 (H	mit Test	# 3	1-1-	min 1	inour).	FCU -	Test Sheet No. 1 of
	<u>v = . o .</u>				}				
	ET	Rate	Totalizer	Pre	ssure ((psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
12/15/07 1335	0	0	01194650	90	0	276	376.1		1335 april ante values, fill (al Dise.
· • ·		?		90	73	276			1350 Line full, detect/hear
		2		90	85	320			flow. Increase Feu to -320
		0		90	85	335			Still have slight flow (check value
			anna an an Arabahan an Arabahan an an an Arabahan an an an Arabahan an an an Arabahan an			.			lanking?)
197			· .	89	84	300			14" Bain open; Fev in 5 ps. Inmul
		5		87	84	275	373.8	2.5	Hen low Flow, out mater not turning.
1.120		*7	, 1	88	33	290	~ ? · `	40	A/A
1425				87	82	273	541.2	7.9	
17				46	NO YO	225	2/2/	9.7	1 Y M
		7		44	80	220	267.0	A .0	
······		2		82	28	265	3158	103	A /a
1430		~ ~		72	73	260	339 5	36.6	ala note needle band slightly
1435		7		74	70	2.55	313.4	62	Ala
1440		-2007		73	69	250	293.0	83.1	meter movin stightly now
1450		-500		70	66	245	249.1	127.0	For needle fluctuation rapidly + 5 psi
1455		-600		70	65	240	178,3	1197.8	Feu needle, Psi anges fluctuati_ runsidh
									6 st. a/s + 600 pm + 197.8 = 3.0 com/sh/
50			the second second second second						Begin Closin Fev to -330 psi stop Inj.
150		******	011193000	90	0	335			
	and the second	and the second	AND STOLEN CONTRACTOR AND AND AND AND AND AND AND AND AND AND	No. of Contract of Contract of Contract	1000 and 100 and	**************************************	ين من «منه رالي برند" (د الله من من وي الي منهم المنه وي الله المنهم المنهم المنهم المنهم المنهم الم		BEYUSHI AS2.3
									Moter 08/193 000
			No. 1979 Automatical States and S						1527 start pump - 450 - 1150 spin
				~	1				15to Pump hips off
·									
		······							70+2-2-2 11/87(000)
			· · · · · · · · · · · · · · · · · · ·						10 Kestar Yump
anana an an an an an an an an an an an a									01 - 1000 gall 10 secs - 13 - 1002 Jun 154
									169 aug tine we
			· · · · · · · · · · · · · · · · · · ·						16 D Rock of Public
and a second second data and the second second second second second second second second second second second s			······································		onton i tor commu				1633 40 ps. 100 001/35 Sec. = 21214 8000
				1			······		PWL = 504,90 0/5=1714+128.8= 413.31 10m/14
									10th PUMP trips aff (FCV A 345 psi)
				and an end					170 Restart Pump
			······································						1305 30 psi, 1000 gals/31 Secs = 1935 gom
									OWL-508.5 Q15= 1935 + 132, 4 = 14.6 gr / Ft
									1704 Sump trips off - Shot down for day.
			L						REM

Well: ASR 2

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Test: SURGING

Sheet No. $\underline{1}$ of $\underline{2}$

Date/Time	er ET (min)	Rate (gpm)	Totalizer (gallons)	Pressure	(psi) I FCV	DTW (ft.btst)	Drawup (ft)	Comments/Other
12/16/09 10:00			11135[000]			· ·		STATE WL=> 372.9
				· · · · · · · · · · · · · · · · · · ·				~ 2,000 GPM WATCH TEST
								Romping WL=> 506.2
01:01			11114 1000					11135-11114 = 21 ; 21000/10MIN=>2100GPM
								2100 / 133.3 = 15.0 GPM HT- BRAKER TOPP 13.5MIN
						•		LET WELL REST
10:45			11068 000					* May not be FULLY RECOVERED STATIC 377.3
							· · · · · · · · · · · · · · · · · · ·	102:000 GPM WATCH TEST
10:5			111088 [000]					Runping WL=> SOI.5
								PUMP TRIP (2 \$,5MIN
							· ·	20,000 GAL / 2.5 MIN = 2300 GPM
								2100GPM 124= 16.9 GPM KT
								Let were Rest
		· · · · · · · · · · · · · · · · · · ·						
				· · · · · · · · · · · · · · · · · · ·				
······								

Well: ASR #Z BF

Test: BACKWASH

1994 5 - 1

Sheet No. Z of 2

					-				
Date/Time	(min)	(gpm)).	(gallens)	se terre S stimer		020) (a) (5.50) (a)		Drawup ((ft)	comments/Other Internation
12/16/09			011088000						DTW 379.40 - Hermot
1415			011068 000						PUMPING SOLZ' SouNDER
		- 11 - 14 - 14 - 14 - 14 - 14 - 14 - 14	· · · · · · · · · · · · · · · · · · ·						NZ,000GPM @ 36PSI WATCH TEST
									501.2-379.4= 121.8
									20,000 GAL = 2,000 GPM
	······	· · · · · · · · · · · · · · · · · · ·							2;000 (gpm/ 121.8' = 16,42
			· · · · · · · · · · · · · · · · · · ·						CIR BRAK @ 14 MIN
				······································					let moster Rast
<u> </u>			011061 [000]		10.00 T 1 0.00 MAKEN			•••••	STATIC 380.5
									METER START CIOCIDOOD
							***		~ 2,000GPm @ 38 PS1
									PUMPING 501.0
									50.0 - 380.4 = 171
עבז			011044						END METER AN AVII LOOD
7791									
									1000 JAC TISMIN = (300 Grad
									TRIPPEDCE 9MIN 3054C
									1800 / 121 = 14.9
a Ali Luccu			1						At NOS A complete TESTA
	a 10 00 0000 unarr 200 a 11 00 0000	un gans de 12 añorde, 51 y las y ver munue, o des							

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Sheet No. $\frac{1}{2}$ of $\frac{2}{2}$

Well: ASR-2

Test: 3 HARMUT TEST #3 AMIN INTERVAL

Date/Time	ET (min)	(gom)	Cotalizat Coalistast			(plat) Televi	i i contra In contration	C Drawop	Comments/Other
12-17-09		A NEW YORK AND A NEW YORK AND AND A	- /		Construction on the			a here the week to be the	WILL Installer Dowing TARE ON INFLUL)
1045			7				380.4	1	The ST. TO #ST and CAC STATIC 380.4'
						1			
1100			WETTO BROKEN	1		331			REGAN FILLING WHELL RASKIP 330 PSI : DANKER 2020
				-				1	And from a 44 to 122 c pm
					1			1	
and an example of the second part of the second sec				90	87	336	380.21	· · · · · · · · · · · · · · · · · · ·	1 column Fill @ ~1120 pressure countizm
					1				
1130				90	86	336	380.20		WIIZA ~1.2 gpm on paving = lealing
					1				OPENCO VALVE# 1(ful)
1135		100 FLOW				330	380.104	1	
						325	585.075		
						320	380, 790		
	and a second second second second second second second second second second second second second second second	Paramteris							
1136				90	86	315	380.079		
1137				90	86	310	380.079		
1138		w	$\lambda /$	90	86	305	380,079		
1139		Y	V	90	86	300	380.011	1	
UHI)		40 :		10	86	295	379.36	0.71	Maw beguns @ 295 audible flow
1144		600	······································	90	86	292	318.70	1.38	
149		1026-1		88	85	291	377.41	2.6	
1152		1340000		88	85	288	37598	4.1	
1200		2291		88	84	285	374.60	5.5	
1205		2751	A	88	84	28218	373.19	6.9	less insterns & mul head pussing
1210		297		87	83	280	371.60	8.3	
1215		3561		85	82	277	369.645	10.4	
1220		1221		85	81	274	367.6	12.4	
1225		507,		85	80	270	364.7	15.3	
1230		581		84	80	267	360.6	19.2	
12.35		690	· *(84	78	265	<u>3\$7.Z</u>	22.8	мании
1240		1166.		44	74	410	331.2	48.8	
12.50		1245		74	71	251	320,8	59:2	
1258		1310		75	70	124	3145	65.0	
1500		1340		1-7-	61	450	205.0	750	
1305		1445	······································	14	60	241		93	FCV goge begins to flutter
1310		1995		172	61	612	28		
1315		1587		70	65	270	261		
1320		100		68	64	<u>25</u>	400		Rolen DI H. in a Lit
(550		1960	· · · · · · · · · · · · · · · · · · ·	.04	60	232	123		The gage Flutterity Subsides
(350	L	2012		L	L	231	103	L	IEnd phoneoding CA Test, start closing FCV
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$\hat{U}_{ij} = \hat{U}_{ij}$		*					the state		

and the second

Sheet No. $\frac{2}{2}$ of

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Test:	thermit	Test # 3	(1-min	interval
Well:	ASR-Z	••••••••••		PHASE 1 A

	ET	Rate	Totalizer	Pre.	ssure (psi)	DTW.	Drawup	
Date/Time	(min)	(gpm)	(gailons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
12-17-19, 1339						250			
1242						264			
1350						272			
1351		578				230			·
1352						220			
1354						299			4 h h h h h h h h h h h h h h h h h h h
1355						302			
1357		9.5				305			
1358		8.0		90	85	310			
1359				90	80	320			
1400		3.0		90	10	320			FCV shut but head press continues to drop -
									likely represent check velas, Dealeine
									Test is stopped so MPE can install
									neplacement head for elen meter
						с. С.			New for land? Water Specialties
		с.							Serial No. 20081180-12-
									totalizar 2000381000gcl
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Test: ASP-2 Now ASP-1 BF Ime

Sheet No. 1 of ___

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AND OUN						<u> </u>	· · · · ·	······			ASC-1 115 - UL OVELOUDI
100			· · · · ·								N= 020/14/0701
T1 _1+			1			-					12 0 201018 0001
·····	4			· · · · · · · · · · · · · · · · · · ·				·		Anno 1999	00732951=11W-100935
1994. August	5	· · ·	· · · · · · · · · · · · · · · · · · ·								
	6	· · · ·								· · · · · · · · · · · · · · · · · · ·	011276/0001 ASR-2
	7			1		,					P instrul blest
······	8								•		- strut 0) (0:00 anty
	9										all flow min 152-2 BF 15t, bround, New
· · · ·	10	· · · · · · · · · · · · · · · · · · ·									St clock MSR-2 BF so all hum
	12										RR-1BF
	15	<u>-</u>	ļ				_				
****	20			ļ		· · ·					INJ 760/2 CTOO glm
	25				ļ					****	<u>BF</u>
	30			·							1st unity us dVM
	35									LUDRAHA	ty breaker trapped appr vuc alles
An in the last of the l	40		-	· · · · ·						11109 700-	(TO) RE EN 20104/000
** *****	40				•	· · · · ·					1.K- DF 039070000
	55								1.58 - 16- 1-9-1 000 -5-64 1-9-1		Nue soft a rea-7 = 2 (M)
	00				ł					· · · · · · · · · · · · · · · · · · ·	LOUNT REAL AND STREP
	70		+		-			·		a ann ann an Reisead sann. Ara ar à as 5-5-and 6 mar 1986 ar 1986	A252 10 1992
	80		+							n fyner yr y chradell referenin allefer yn y canrol - Seneddau a	The much to zate that (al MP)
	90	• 30 tar + t								and the finite substitution is also prove to a second second second second second second second second second s	but tro-7 ~ 1850
	100			,	1					n an an an an an an an an an an an an an	All to 2200 at BF (and INT)
	120					1		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	and 1312-7 = 159, leas - tripped
	140	1			·					T	dwy this
	160										
	180										RAINYKEAN are leve by to cet SIN
	210			1	· · ·					1	off circ pratie on compare parel some
	240					ļ			· · · · ·	,	tint & the problem - a new encade
	270				·				_		penel 4343 \$ 35,000!
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	330						<u> </u>				h
	360							-			1 rive to test we closed USV by get to site ad
	390		+						-		exerce value in road between Squar D box of his with
	420										to allow of From ASR-2 to go drough ASR-1 Bit
······	450								+		
	400	1					<u> </u>	<u> </u>		1	

Well:	ASR-2		
Test:	Production	Testin	Ĺ

Sheet No. ____ of ____

	<u> </u>		1					Dravidioum	
Real Providence	E	STREET.	a feitellizer för		1.1.1.2		Free AND CONT	NIP.	
Date/Time	(min)	(gpm)	(gallons)	Lines	1.000	IN COM	(ft btst)	i (ft)	Comments/Other
12.118 1× 9									0000326007 New meter start
1-1-1-1	, -·	Instantaneo	us						D931 enche at ste (TO)
· · · · · · · · · · · · · · · · · · ·	- 22	Willer specie	rties	N		1			
1000	0	0	0000 38 000		0	333	329.3	· · ·	start mit wike one value
1001		3000	?		<u>(</u>				
1009	G	1600	1		68	7			Linch Gui to bR bel
1410	10	1900	01001910001		40		4958	·····	12-min Q/= = 1902 (a,)/495 a-320 2=163
1010	17			1	30	1	be/ 505		10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1212		IGM			40		612 50		Decus IT Marin Z" luke flow 0.25 Hile @ Fl as:
1174		1,00			40		J.T.		mature hash i week = 1900 1 Runsting = 1820
1021					10		510 4	-	meet cheet : when - 1080 pomakelpig = 1520
1021				1			21.0.	f	mating old
		instant						f	
		P T-	pero .						
		Konsmetrucs	· · · · · · · · · · · · · · · · · · ·						
						1			
1057	*		9999810001		0		282.91		moter on
10.5-	1	7140			44				
1255	3	1960			40				
1057	5	1925			35			····	
1100	G	1070	·····						mate - hock , mod = 1950 Bran Dice = 1910
1/02	12	······	9999960 [000]	-/			573 50		10 min ale - analy 1577 5-387.9 = 149
1104	17		1992945 000				Je7.00		10-min als = 2100 (are) / 367.0 - 100.0 - 17.1
			117 103 0000						maar of
1110	6		000055500		0		28/85		MA Trans
1154		19~0			21		201.00		17-35-97 BP
1158	10	1-100	900334 and				576,5 F	*****	10-min 0/c = 2100/m)/516 E-38/55 = 156
17.01	12						010-5 2		matter all
									<u></u>
1732	n	. 0	0999922 ond		0	1	30/82		motor on: don't anoth val at - mark 10-14
12-2.1		2800+	(6 [] = ([] =]		0	···/	-aliaz		the start preserver the former former
1735					~	1			mater charles mech = 2550; Panametrice = 7475
1738		7365	9999(3600)		0	1 bal	525.2		T. Th
							<u></u>		more of 0
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b,				-/					
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			an the second as the track of the track of the second second second second second second second second second s		***	* ************************************			
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				1		In the second second			

Test: ASR-Z WY2010 Test 3 INJ. TOAHY

Sheet No. 1 of 2

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	ments/Other
12/18/09 1252 0 0 381,91 99993 100 Free meter before 5	juit
53 1	126 a los sumitur
12.54 2 175 2.67 378.94 17.	5 slag medan
55 3 378.26	
1256 4 200 285 377.73	an waar wa canada a sa aana waa aa aa
5 2 20 90 84 200 376.18 - 0419 210 m pan	metre
58 6 ZEO 250 375.33 - 540 Mile deste	(65 when comman)
1259 7 374.91 ~ 287m pan in	ter
13:00 8	
1301 9450 88 82 275 373.92 -420 pan metry	ана на такима на има на такима на такима и на така на україни на україни на україни на така на така на така на
1302 10 37-1.51	
1344 12 540 -271 370.60 -500 pm. meter	a na maga na mang ng
1307-15 367-64	
1312 20 765.47	w was - were a first and a state to be a state to be a state with a state was a state of the state of the state
1317 25 675 85 80 265 360.00 ~660 parametrics	ւս որով կարում ունությունների և և սու միրվելաբողաները բարև կարել գլարի կունի ունուստեսեր սեսու է և ու է սունես նա նրա կան
13-02 30 1075 80 75 263 345.68 38.23 1990 persone tris	
1327 35 1260 78 74 261 329.74 52.17 190 proventines	ter i me di anci a i te da (come tetti tento antici en antico antico antico antico antico antico antico antic
1332 40 318.77	
1332 45 1300 72 255 312,44	
1342 50 1350 71 253 304.44	
347 55 1450 67 251 299.71 - 1390 penentrus : 1	rote FCV needle (lutter@7.50psi
1357 60 287.16 94.75 999966 000 53,000 sal / 66 min	= 88340m X
1/02 70 1480 65 246 276.53 105.33 @1405 feduce RCV 5	24-37 get water trickle sounde 1520.
1412 80 /520 258.41 123.50 000000 000	
1422 (80 1520 246 244,07 140.84 OOGO 12000 @ 1428, set 227.79 (tup= 154); increase FeVie 250
1432 100 1350 75 70 250 233,83 148.08 P 1438, at 239.80 ((Whit 142); increase FCV = 262
1452 120 1225 75 70 262 238.81	
1512 140 234.24	
1532 160 230.26 (hrsn 9,0 to 210 m	u (120 min elasport) = 1233 ×)
1552 180 1225 226.72	
1622 (210) 248.11 133.80 0000 160000 (2 1619, XD = 222.03 (d'	up = 159.59): raise FCV = 265
[752] 240 @ 1652, xp=245. 4 (d'	Up=136.80); raise FCV = 267 950 %
18 22 270	
1857 300	
19 22 330	
1952 360	
2012 390	a a se a se a se a se a se a se a se a
2052 420	
2 72 450	
215-1 480	

s att.

Sheet No. 2 of 2

Test: ASR-2

ET Release Plessure (per), Department (consist) Drawip ... Totalizer o Comments/Other Date/Time (min) (gpm) Ene Head FCV FASR-1 ASR-2 MW-2C (ff) - (gallons) 30 12/18/09 2222 510 540 2252 570 2322 600 2352 12/19 630 0022 - 0010 82 mg - 999913000) - 1,173,000 gals + 1155 mms = 1017 ypm 4-5 660 690 0122 720 0152 750 02.22 780 na 810 HERMIT very Low battery («10%) 0302 840 0357 @ 0905 DTW = 225.01 : drawup = 156.9 Fev wis 267 @~900 glu 0422 870 900 0455 MD. 00908 meter = 0010861000 940 έ. The ADS FON to get Plan to 750 gpm head - 74 ps/ DTW = 274.8 0635 1000 60 1060 227.13 AFter Act 00 1086 000 267 900 1120 0835 began pinekny back FCV 0 0925 (275 FCU 0935, Step (low), FCV = 330 psi tunk = 1850 psi 1180 0435 KL00923 001099000 Will do puck (wet : will start with open than shut in discharge valve when We below proke a bottom of bourds @ 521'; from here will use HERMIT for WL. 17 Motor on Pinch back after Wh drops below 521 Б 375.63 001099 000) 1003 50 2000 2900 1004 220 1700 60 001089 000 1008 10-min 9/1= 1900 / 118.88 = 16.0 001080/000 1013 494.51 mater 16 motor ou Õ 001065 000 2700 1043 380.10 1720 60 1046 1051 1680 001047 0001 10-min 9/0 = 1800 / 114.42 = 494.52 @ 1054 1053 motor off 1059 00/142 500

496.95 = bottom of BERMIT preke setting

Well: ASR-Z Test: #5 (MDWMO HERMIT-Swapped out PWR Hermit due to very low batternes)

Sheet No. 1 of _

	Dat	e/Time	ET . (min)	Rate (apm)	Totalizer (gallons)	Pre	Ssure ((psi) ECV	DTW (ff htst)	Drawup (ft)	Comments (Other
	10/10	100 M177	0		001040 1000	Notion Addition of	a land a kandra dangi	100000000000000000000000000000000000000	300.77.	1	and ally a line at page line
	i catal	1428	1					1	180119	-9	Jow Freig warren - 1/000 Stra
	[24	2								01432 colum Filled DO1046,000
		30	- 3				<u> </u>				
		31	4		· · · · · · · · · · · · · · · · · · ·						
		1432	5		007046000						-Stat bleedy nessure AFFCV @ 1432
		33	6							· ,	sp st st
		34	7								
		1435	8		001046000	88	84	295	379,27		
		36	9				,				
		37	10	2100				290			
		1439	12	2200		88	78	285	-376.65		
	5 min	1443	15	~250	001047000			275	375.77	~5	-idolecol to 275 on FCV
		48	20	250	001048000	88	66	270	374.22	~6	21447, time look deal @ 225 gpm
		52	25	300	001049000]	87	6Z_	265			
		1458	30		-				373.343		Tom goes to ASR-1 to check & adjust to 1100 your
		1502	35	275	001052 000				373.069		0
		08-	40					262			
		13	45						372.278		
		184	50	290		87	54	2.59	372.253		
		1522	55		-						
	10 min	1527	60	700	001060 000	84	77	267			@ 1525 notice GV. notopen all the way adjust op
		1537	70	575	0010 66 000	84	80	272	355.99	24.33	@ 1540, Tom increases flow @ ASR-1
		1547	80								
		1557	90	600	001078 6001	83	79	270	356.34	23.98	Plan to keep at 600 gpm - check Tomorrow.
		1607	100				ļ		355.54		, y ,
	20 min	1627	120					L	354.52		
		1647	140						3.55.68		
		1707	160				ļ		352,99		
	<u> </u>		180					ļ	352.77		
	30 min	1757	210					ļ	352.36		
		1827	240				l	[352-01		
		18.57	270					_	351.65		
52~		1927	300						351.65		
		7957	330				I.,	· ·	351.09	·····	
Ghr		2027	360				·		251.09	.	
	ļ	2057	390	Į	· · · · ·		ļ		350,80		
thr		2127	420			· · · ·		· · · ·	350156		
61		<u>C757</u>	450	.				 	24072		
Ohr	L	< 227	480	I		L	L	L	21115	L	

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MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well:	H7K-	- Z.,		
Test:	# 5	(HERMIT	15R-2 05)

Sheet No. 2 of ____

		ana anti in the set of the	ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
	Date	a/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
		2252	510	//					349113		
3 hr		2327	540		· · · · ·			·	348-63		
		2357	570						349.49		
3 62	12/20	0027	600						348-57		
		0057	630			<u> </u>	<u> </u>	<u> </u>	347-85		
		0127	660			'	<u> </u>				
		0157	690	[/		\square'			347-62		
z hr		0227	720	· · ·		\Box	<u> </u>	<u> </u>	347.26		
		0257	750	′	//						
		0327	780	['					346.89		
		0357	810	′		\square	['		346.72		
		0427	840	′	′	\square	['	!	346.70		
		0457	870	<u> </u>		L/	<u> </u>	′			
	40 min	0537	900	L'		<u> </u>	L′	L′	346,23		
		P617	940	·	· · · · · · · · · · · · · · · · · · ·	L/	<u> </u>	'	345.96		
	1 hr	0717	1000	l'		L/	l/	L'	3\$5-60		
		0817	1060	L'	· · · · · · · · · · · · · · · · · · ·	L/	L'	L'	345.12		Hermit Batting = 99 %
		0917	1120	-600	001703000]	82	72	269	34440		00925 Jank= 1800
		1017	1180	L′		\square	!	L/	344.56	3517	001703000 -001042000
		1117	1240	└─── ′	ļ!	└──′	L'	L'	343,77		= 661,000 -1128
		12771	1300	└─── ′	ļ/		!	L'	342.60		= 586 gpm
		1317	1360	 '	↓/	└── ′	└── ′	└── ′	340.66		
	<u> </u>	141+	1420	↓ ′		└── ′	└───′	└── ′	33917		
		1517	1480	┣────′	↓ ′	!	Į/		377.10		
	2 hr	1717	1600	f'	↓ ′	──′	└──′	—	337170		
		1917	1/20	'	ļ!	↓ /	└── ′	↓ ′	5 TU 20		240.7
		2/11	1840	↓ ′	ļ!	├ ───′	└── ′	└──′	31011		220
	-	2517	1900	<u>↓</u> ′		/	└── ′		230.46		<u> </u>
	12121		2000	<u> </u>	ļ/	└── /	<u> </u>	└── ′	239,21		
		0517	2200	'	l	F	└── ′	<u> </u>	3 39.00		Taulo 6 1295
		0311	2440	-59.5*	4075	051	27	272-	714.38	·	ART the first we berden up
		0717	2560		0022	0		2+-	7.21,95	- 67.	B a cast any source per up who a
		-0117	2680	1700	20262421	<i>a</i> 1		286	>>710	-36	minute increase in those of Azi-1 white more
0	1157-	1212	2800	700	Do Z (chad	9.7	87	2.51			alled to a slight avap in Flow here of AXC C
~	1.07 (1077), 1071,177 (1783), phylor. An Mg.	1072	2920	15414	00200000	\$7	75	221			1/1 char a con El 1 acon
		1212	3040	1-3 -0 -		P.C.	10-				Er V 12
		1912	3160	ļ'	ļ /		└── ′	<u> </u>			-282 ~550 muslut
		115	3280				<u> </u>	('			-281 -600
		7317	3400	·	ļ,		<u> </u>	\vdash			

#@1458 after stury + sR-1 tes + #3,405 PCU to 270, Q=600

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Test: #5 (Harmit Test ASR-2 #5)

Well: ASR-2

1302

D. F. M. Maria 1100 Date/Time COMMENCE//ONDER ((0)))) 2 (10 p 10) (S) Istal an actor 12/22/09 0/17 334.02 3520 333.47 6317 3640 380,32 state 334-09 0517 3760 - 334.16 PWL TANK= 1750 PSI 0717 333.77 3880 ~ 580 003404009 0 0800 82 77 272 46.16 elrawop 0917 262 334.16 +Hermittime 09:06, but only 08:10 rail time 4000 ~ 610 82 76 46.2 4120 327-06 ADJ FCV~08112 to 267051 0=610 1/m 1117 4240 323-48 1317 322.59 4360 1517 321.40 4480 ~ 705 262 @ 1701 ADJ FCV, flow hed gotten our 700gpm **ITA** 08378810001 1917 33129 4600 ~ 600 78 271 AVE & SILLE last 105 Was 719 gin 79 ZIA 330148 4720 329,04 234 4840 0/ /1 4960 327,83 12/23 328.14 0317 5080 329,29 0517 5200 Hermit but = 920% TANKE ELT 40 PSI 0717 330.12 5320 Ogh 5440 ~580 0043590001 80 272 329.45 -50 90847 ~ 540 gpm Avis since last ad pritunt 77 **5**56Ø 6 00 80 75 267 Not to 267 ps/ on FeV = 600 g/m 77 82 sporce to writ Frei need to singt dawn \$68¢ 300 20431010001 - Spoke + Dale Beatly + Alan Fromes 1001, Wine 5800 á) 5920 @ 0935 begun closing FCV 6040 FCU CPM ~ 283 ~ 320 6160 Heard Q stop ~0941 6280 ~ 292 ~ 175 (elapsed fest time = 5416 min) 6400 ~ 300 Ì 6520 6640 · BF between Lest # 5 and test # 6 6760 @ 1101 can lade to ASR-2-Some flow still getty by FCV; 4100 gpm, 004 39 000, Lond up fCV +0 311 6880 1000 Read MCWD 2" meter = 71190 ft3 (ON) Motor on & 1200 m; mited &= 2850 gg 7120 24 004391 000 382.507 1200 7360 Pinch GV To get 60 pri had press Pinch GV to \$2 psi as UL below 496.75 1201 7480 1205 1208 7800 10-min @/a= 1750 / 114-177 = 15.3 00 4375500 1210 496.684 7720 (not 100% confident that ending We is true) 7840 96 · Motor on, intel Q c 2800 gpm; sur · Rudene & 75 psi and 1540 gpm 0043651000 8080 384.145 1250 *1*8200 1252 496.270 · 10-min 9/4 = 1700/112.125 = 15.2 004348 000 1300

00434800

Sheet No. 3 of $\underline{2}$

· Motor off -- end of BFing today .

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: Test: #6

ASR-2

HERMIT KSR.+2 \$6)

Sheet No. 1 of _

		IE T	Rate	Totalizer	Pre	155141726	(1531)	DTW.	Drawep	
17/12/		n (unu) -		ACH ANS ACK	a sta	neac	2/8	2.91 HUG		Connence/outer
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	10	2								n <u>en en u>
	13	3						and a second state of the		
	14	4								
	15	5	an an an an an an an an an an an an an a							
	14	6								
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	22	12	200	004350 000	85	80	280			
5 min	16 25	15	300		84	79	275	374.366		
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	35	25	600	0043551000	80	76	265		e galiti a	
机等外的	16 40		750	604358 600			260	354.639	s Branda e	
NATE OF	1645	35	775	004362000			260	348.910	32.5	
na fa she Marta	1650			004365000	77	74	259	347.080	34.4	will try to hold at you you. jut
	1655	45						344310	经保险股份公	
1 Sections	1700	50		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				343.533		
	1705	55						342.262	a da ante da la compositiona da ante da ante da ante da ante da ante da ante da ante da ante da ante da ante d Atempositica da ante da ante da ante da ante da ante da ante da ante da ante da ante da ante da ante da ante da	and a second stand of the second stand of the second stand stand stands and the second stand stand stand stand
10 min	1710	60	den ser en s En ser en					342-191		
la Agrica	1720	70	<u> Maria an</u> an an an an an an an an an an an an an		<u> </u>	<u>133994</u>	: Sec) ::	340.353	<u>la selende</u>	a server a server a server a server a server a server a server a server a server a server a server a server a s
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<u>a trada e</u>	1740	90	<u> Halan</u> ,		ar a kipa					a second and the
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	1830	140	<u> Balancest</u>					534.955		
<u> 1937 (* 194</u>	1850	160								
	1410	180		<u></u>		i lerrikk		333. 149		
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	2010	240	<u></u>					530.117		
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Well:		ASR-	-2		• • •	PI	1A
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ASR-2, Well: #6 Test:

Sheet No. 3 of <u>3</u>

-		1	Teres	and a state of the					Crawdp.	
pare/			(gpm)s	e (galions)	Line	neau		(it plst)	- (IC)	
469	0960	3520						· Car41		
	0550	3040				al and		-41.14	94 CU14 CU	
	0400	3760						292,42		
	0960	3880	010	ALBACINED			977	292,25	<u> </u>	Planut = 8276
<u>.</u>	ur	4000	~860	007803007	75	+7_	1001	240.88	9016	10 6 OC)
<u> </u>	1200	4120	~ 810				COL.	70907	- Andrew -	dramp-29 she yesterday, very structural to
	15 10	4240						287195	07.4	FCV @ 1108 -263 - marte wo disfame ofthe 3 miles
	1200	4300			the state			28+172	95.7	so wout to ASR- to check status while this equillant
	1900	4480						211.18		Q= 810, FCV = 262 @ 1127 (color & orizzling)
<u>.</u>	2100	4000						234.44	10 00	
<u>, 13 , 13 , 13 , 13 , 13 , 13 , 13 , 13</u>	2300	4720			l			5381+5	- 42.72	Ewly so much variability
17	0100	4840						5-24,55		
	0300	4960			<u>/1931</u>		<u>der stat</u>	515107		
	0500	5080						518467		
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<u></u>	0900	5320	n 650	008 770 000	19	179	665	511.07	70.28	21010 Tank= 1710 rsi
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PHASE 1 AQUIFER	STORAGE AND	RECOVERY	PROJECT

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MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT Sheet No. 1 of 1

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Well: ASR-2 Test: WY 2010 TEST 8

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Well: ASR-2

Test: WY ZOLO Test #6

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Sheet No. 3 of <u>3</u>

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MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Sheet No. 1 of

TL

Test: 12 2010 #9

Well:

KSR-2

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Sheet No. 2 of

Well: ASR-2 Test: WH 2010 TEST 9

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Sheet No. 3 of

Well: <u>ASR-2</u> Test: <u>WY 2010 Test #9</u>

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Well: ASR ARZ

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Sheet No. 2 of $\underline{4}$

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Sheet No. 3 of $\frac{1}{2}$

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	OZIE	5320			1 12			341.73		and the second sec
1.7 J.	AV 18	5440						338.92	÷	
	1610	5560						305.00		361.14
	1818	5680					21	298.23		- 291.12
•	1018	5800						291142	70:02-	70.02
	12.10	5920	200	63689010001	73	1.9	254	284,51		01700
	14	6040	700	0 / 08 10 0 - 0/				26419	100.25	Reset FCV to /257 oct)~900 also
	11	6160	1			· · ·	· ·	328.92	100107	
,	1270	6280						328143		
•	7.0	6400		: ;		<u> </u>		324/20		
	2.7	6520	-					323,98	-	
2/1	RAID	6640						325.33		
_~ <i>µ</i> s	010	6760	1					324/02		31.1.411 361.44
	AVIA	6880	· · · ·				<u> </u>	326000	2 2 2	- 261-10 204 51
	St. 1/1	7000	1.1.					324161	·	10/25 22/3
	1 11 11	7120	-10	TING DALTA	-210	7.7	7.67	294,21	72113	0 0955 (usta)
	t1)10	7240	-FIG				1-10	-015		
	1210	7360	- 720 - 10 - 1					272.58		
	NIG	7480						321.30		ERIE & MOTH
	1610	7600						372,48	s i san and	
2 13 2 2 2	1410	7720						326.38		a na sense na sense se
n an in i A String	7010	7840					1977 - X	327/04		
	2710	7960		and the second second second second second second second second second second second second second second secon				326.94		
2111	Only	8080	n en la composition National National					327.36		
-JID	0010	8200						222.51		
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and the second second second second second second second second second second second second second second second			1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	1.89
WAIL ASR-7		e a'		2.5
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Techy W/VOO1	O HACDO Toot	444 /110	It Toot 41	
IESL: WIZUL	U ASKZ IESL	#11 (Пегн	IIL I ESL # 1)	583

	*	12.2	-	Sand and the state of the second
		1.05.00		A STATE OF A STATE OF A STATE OF A STATE OF A STATE OF A STATE OF A STATE OF A STATE OF A STATE OF A STATE OF A
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		112412		- AN ARAGE BARARS AND A CONSTRUCTION
				The second second second second second second second second second second second second second second second se

0,220 12/1/10	la ann an ann an an an an an an an an an	600	03862110001	and the second second	. 	264	. 330.6Z	an an an an an an an an an an an an an a	Reser to 255
		E to Ke	A SALOUEUPAR		EQUIC:	(pet)		DECUS	
2/16/10 4:18	8320						X72 G128		361 49
2/16/10 6:18	8440			and the second	an de la corea Se mil Andrea	7	294.23	67,21	- 294.25 - 285-62
2/16/10 8:18	8560	650	038089 000	76	72	260			00003 67-21 75.82 PM 00748
2/16/10 10:18	8680	750	028202 0001	76	77_	261			01049
2/16/10 12:18	8800	With a start of the second sec		1996.8	\$5.55				
2/16/10 14:18	8920	820	0383656001	75	72	267			10138 72409 CE on Lato Line
2/16/10 16:18	9040	解: ····································	038366000		N 26 (S.		and the second second		ate arena 1040 Ant Haussian
2/16/10 18:18	9160			مناطق روم المراجع مراجع روم المراجع	a Karista				24/21/05
2/16/10 20:18	9280			CENTRAL AL			and the second second second second second second second second second second second second second second second		
2/16/10 22:18	9400	Q				対した意			780
2/17/10 0:18	9520		STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET,		4. A. A.				O.1 M Po.281
2/17/10 2:18	9640				Sec. 1		A TRACE		171.30 0383666000
2/17/10 4:18	9760	Charles in				1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	and a start of the start		- 36,76 038346 F000
2/17/10 6:18	9880				S. 1. 18		C. A. C. C. C. C. C. C. C. C. C. C. C. C. C.	e dan merupakan seberah Referi dan merupakan seberah	13564 20000 / 10MIN = 2000GPM
2/17/10 8:18	10000	部位的过去	CONTRACTOR OF STREET		e Marine and Ar Anna Anna Anna	111110			\mathbf{I}_{i}
2/17/10 10:18	10120				1 Cal	關國語。		and the second of the second o	Prichel to ~ 50/si atter 3 mins
2/17/10 12:18	10240						andren i de ser ser ser ser ser ser ser ser ser se		
2/17/10 14:18	10360							编译和正行的	FULL FIDLL CATE STIST
2/17/10 16:18	10480			E Stantes		e y e viziogradigi Nel es petrogra		n an an an an an an an an an an an an an	
2/17/10 18:18	10600							常常为新闻了	SIGURIA
2/17/10 20:18	10720				<u>新作業</u>	152239			7.25 02
2/17/10 22:18	10840		151	alt i den de la Frank e Side	8 C - D		a the second and the second		169°C
2/18/10 0:18	10960	Charles &							10,50 MALL DO
2/18/10 2:18	11080			1. Jan		n an an an an an an an an an an an an an	and the second second second second second second second second second second second second second second second		THO MY ORP
2/18/10.4:18	11200	朝) 第二	038337000	Des A					O. BYRESIDUALCH DEENG
2/18/10 6:18	11320			REALE					
2/18/10 8:18	11440	Warne Caller H	 A state of the second se	1 + 16 12 5311 	e la tendeten i	和保险资源的		and the second second second second second second second second second second second second second second second	
2/18/10 10:18	11560	750	038337 0000		24	255	(363.74)		TEST #12 ASR-2 STARED @ 10 24
2/18/10 12:18	11680			Frankris - Standing Notes - Standing	1 Markan		a ser a si fe		
2/18/10 14:18	11800	250			56	255			5
2/18/10 16:18	11920	Reference de la companya de la compa			and and a				1735 unlus opening the FCV we willinge
2/18/10 18:18	12040			S. Margura	Er Martin				system puspice diap from
2/18/10 20:18	12160	and the second second		i Seris Astro		an an an an Arlan Ar an Arlan Ara Ar an Araban Ara			TO OSI TO SO ALLA ASRZ
2/18/10 22:18	12280	\$P	<u> Mendelskapperskapf</u>					and the second second	will head ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
2/19/10 0:18	12400		1 House and the	1. 68.45					
2/19/10 2:18	12520		一口的方法问题和论述			161153			mill dominicad puesin read
2/19/10 4:18	12640		- Realization and the second	Marine State		1.7 . 7.29			
2/19/10 6:18	12760	E. C. Star		a the hall				and a state of the	
2/19/10 8:18	12880	the shirt of	n i harring and the start					新教学学生	
2/19/10 10:18	13000			Sec. 1				a Barrel Barris and A	

Well: ASR 2

Test: ASR 2 Test 12 WY 2010

Sheet No. 1 of ____

1

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
2/16/10 15:24 1 min	0	0	38337000		80	305	363.74		
2/16/10 15:25	1	250			56	255			Pressure dropped in system as shown on pressure graph
2/16/10 15:26	2								
2/16/10 15:27	3								
2/16/10 15:28	4								
2/16/10 15:29	5								0 · · · · · · · · · · · · · · · · · · ·
2/16/10 15:30	6					- ·			IN I THE ENGINE A COMPANY AND A COMPANY OF
2/16/10 15:31	7								• • • • • • • • • • • • • • • • • • •
2/16/10 15:32	8								18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2/16/10 15:33	9								
2/16/10 15:34	10					and the state of t			
2/16/10 15:36	12		and the second se	Ab 1. 1	anana ya podzi				ANNELLIN F DE LA COMPANY ANNO 1999 ANNO 19
2/16/10 15:39 5 min	15		manal semination and the fit of the set of the pro-						anna a' anna a' anna a' a' a' ann anna ann an ann an
2/16/10 15:44	20	Manta an Esta a de las				**** * * ***			· · · · · · · · · · · · · · · · · · ·
2/16/10 15:49	25				-				
2/16/10 15:54	30								N 1 1 N
2/16/10 15:59	35	10.1							
2/16/10 16:04	40								5 1 No. 100 Distanti de suarios e no societas mensiones reconstructiones entre en
2/16/10 16:09	45	dentes data i concerne		···· ··	··· ··	-			Analista
2/16/10 16:14	50								
2/16/10 16:19	55								
2/16/10 16:24	60							AT 251500 58.4	
2/16/10 16:34 10 min	70	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				- · · ·			
2/16/10 16:44	80								1. 1
2/16/10 16:54	90								
2/16/10 17:04	100								
2/16/10 17:24 20 min	120								
2/16/10 17:44	140				Pa				
2/16/10 18:04	160								n an an an an an an an an an an an an an
2/16/10 18:24	180		and a second second second second second second second second second second second second second second second						1)
2/16/10 18:44 30 min	210		water and the over any and any second						anna
2/16/10 19:14	240					···· · · · · · · · · ·			
2/16/10 19:44	270				1				
2/16/10 20:14	300								
2/16/10 20:44	330								· · · · · · · · · · · · · · · · · · ·
2/16/10 21:14	360								
2/16/10 21:44	390		and the film		· · · ·				
2/16/10 22:14	420							• • • • • • • • • • • • • • • • • • • •	
2/16/10 22:44	450		a the dest number allow here	···· · · · · ·	· · · ·				
2/16/10 23:14	480						lana an ann a a a a		NUMERAL DE LE ALLE AN ANNAL DE LE ALLE DE
	100								

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Well: ASR 2 _____

Test: ASR 2 Test 12 WY 2010

Sheet No. 2 of ____

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
2/16/10 23:44	510								
2/17/10 0:14	540								
2/17/10 0:44	570								
2/17/10 1:14	600								· · · · · · · · · · · · · · · · · · ·
2/17/10 1:44	630								
2/17/10 2:14	660								
2/17/10 2:44	690								
2/17/10 3:14	720								
2/17/10 3:44	750								
2/17/10 4:14	780								
2/17/10 4:44	810								
2/17/10 5:14	840								
2/17/10 5:44	870								03862 1000
2/17/10 6:24 40 min	900								038337000
2/17/10 7:04	940		-						284(000) - 1000 = 284 gpm Ay
2/17/10 8:04 1 hr	1000	600	0386211000		.74	264	330.02	33,72	adjusted FCU TO 254 C 900 GPM &
2/17/10 9:04	1060								
2/17/10 10:04	1120								
2/17/10 11:04	1180								
2/17/10 12:04	1240								
2/17/10 13:04	1300								······································
2/17/10 14:04	1360								
2/17/10 15:04	1420	·····							
2/17/10 16:04	1480	325	039045000		56	ZS3			@1519 NO AUS TLL
2/17/10 18:04 2hr	1600								
2/17/10 20:04	1720								
2/17/10 22:04	1840								
2/18/10 0:04	1960		· · · · · · · · · · · · · · · · · · ·						· · · · · · · · · · · · · · · · · · ·
2/18/10 2:04	2080		·						a a ar a go a sana ana ang a a a a a a a a a a a a a a
2/18/10 4:04	2200								and the second second second second second second second second second second second second second second second
2/18/10 6:04	2320								анстинения и и и и собларя в нем в 1 маюти их лаката — с склата на мана начала начала на жиза -
2/18/10 8:04	2440	600	0395011009		72	261	328.21		SET ECV TO 255 @ TOO GPM
2/18/10 10:04	2560								""", ' '
2/18/10 12:04	2680								
2/18/10 14:04	2800								
2/18/10 16:04	2920	1000	039896 000		10	2.55			
2/18/10 18:04	3040								
2/18/10 20:04	3160				····· ···				
2/18/10 22:04	3280						· · · · · · · · · · · · · · · · · · ·		
2/19/10 0:04	3400								

Well: <u>ASR 2</u>

Test: ASR 2 Test 12 WY 2010

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Winc. .

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
2/19/10 2:04	3520								
2/19/10 4:04	3640								
2/19/10 6:04	3760								
2/19/10 8:04	3880	700	040497100		72	260	302.7	61.04	reset to 255 C 1000 GPM
2/19/10 10:04	4000				۰ ۱				, , , , , , , , , , , , , , , , , , ,
2/19/10 12:04	4120								
2/19/10 14:04	4240								
2/19/10 16:04	4360								
2/19/10 18:04	4480								
2/19/10 20:04	4600								
2/19/10 22:04	4720								
2/20/10 0:04	4840								
2/20/10 2:04	4960								
2/20/10 4:04	5080								
2/20/10 6:04	5200								
2/20/10 8:04	5320						and the st		
2/20/10 10:04	5440								
2/20/10 12:04	5560	900	041701 aug		70	257	278,35	115	Set TO ZSS
2/20/10 14:04	5680								
2/20/10 16:04	5800								
2/20/10 18:04	5920								
2/20/10 20:04	6040								
2/20/10 22:04	6160								
2/21/10 0:04	6280								
2/21/10 2:04	6400								
2/21/10 4:04	6520								
2/21/10 6:04	6640								
2/21/10 8:04	6760								
2/21/10 10:04	6880								
2/21/10 12:04	7000								
2/21/10 14:04	7120								
2/21/10 16:04	7240	950	042890 000	72	69	2.56			@ 1724 - leave settings - will likely be
2/21/10 18:04	7360						-		Shutting derun injection to morrow
2/21/10 20:04	7480								TWO
2/21/10 22:04	7600								J
2/22/10 0:04	7720								
2/22/10 2:04	7840								
2/22/10 4:04	7960								
2/22/10 6:04	8080								
2/22/10 8:04	8200	7.5D	043376 0007	75	72	260			ADS39 TL

Well: ASR 2

Test: ASR 2 Test 12 WY 2010

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an a manifestation and a state of the state	ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
2/22/10 10:04	8320								
2/22/10 12:04	8440								
2/22/10 14:04	8560								2 Summer based and in the second definition in the second memory of the second seco
2/22/10 16:04	8680						and a second sec		
2/22/10 18:04	8800		a contraction of the second second second		_	· · · · · · · · · · · · · · · · · · ·			
2/22/10 20:04	8920					Part 8 100			1 I I MARKET DE ALLEMAN AND AND AND AND AND AND AND AND AND A
2/22/10 22:04	9040				···· ·· ·· ·			V	
2/23/10 0:04	9160							af obs'	na on the second s
2/23/10 2:04	9280		•						a manana a a a a da Mandra a mananda a ginan na mananana manana ana ana ana ana a
2/23/10 4:04	9400	No							
2/23/10 6:04	9520		· · · · · · · · · · · · · · · · · · ·			+			an a fair an ann an an an ann an an ann an an ann an a
2/23/10 8:04	9640				· · · · ·		····· · · ·		
2/23/10 10:04	9760						·····		
2/23/10 12:04	9880	alay of a second of a solution							
2/23/10 14:04	10000	1,011 (1111)							
2/23/10 16:04	10120								
2/23/10 18:04	10240				-				
2/23/10 20:04	10360								
2/23/10 22:04	10480								
2/24/10 0:04	10400								
2/24/10 2:04	10720	na							· · · · · · · · · · · · · · · · · · ·
2/24/10 2:04	10840						19		a a management of the second second second second second second second second second second second second second
2/24/10 4:04	10040								a hiterature communication of the average of the descence of the second
2/24/10 0.04	110900	doc	NU12Cot		a	271		Q1 00	
2/24/10 10:04	11200	2100	044 323 100		80	$\propto 1$	ade la	-16,10	MORT SOFF
2/24/10 10.04	11200								SAN DOWN AND BACKINGSH. 4
2/24/10 12:04	11320								TSO LUBE TOTS
2/24/10 14:04	11440								WETER 1:04-135 000 / 1
2/24/10 16:04	11560								2.044536 (000/
2/24/10 18:04	11680					Į			Store 1:3= 1-100 AM
2/24/10 20:04	11800								
2/24/10 22:04	11920								TROBE 1: 164.91 100 157
2/25/10 0:04	12040								2' 39.905 125
2/25/10 2:04	12160								BEWY 1005
2/25/10 4:04	12280								Slouskm
2/25/10 6:04	12400								172 MV 08-P
2/25/10 8:04	12520								1.20/24
2/25/10 10:04	12640								15.100
2/25/10 12:04	12760	· · · ·		_				17 mil 16.4 \ 19.4	C. May Dissuz
2/25/10 14:04	12880								
p a press and approximate the state	12000	4				1			

Well: <u>ASR 2</u>

1 1

Test: ASR 2 Test 13 WY 2010

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行政的时候,这些正规	ET	Rate	Totalizer	- Pre	ssure (psi)🗠	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
2/23/10 10:09 1 min	0	0	044331000		86	305	371.13	0	TLL transcription of JL notes
2/23/10 10:10	1								
2/23/10 10:11	2								
2/23/10 10:12	3								
2/23/10 10:13	4		• • •						
2/23/10 10:14	5								
2/23/10 10:15	6								
2/23/10 10:16	7								
2/23/10 10:17	8								
2/23/10 10:18	9								
2/23/10 10:19	10								
2/23/10 10:21	12								
2/23/10 10:24 5 min	15								
2/23/10 10:29	20								
2/23/10 10:34	25								
2/23/10 10:39	30								
2/23/10 10:44	35								
2/23/10 10:49	40								
2/23/10 10:54	45								
2/23/10 10:59	50								
2/23/10 11:04	55								
2/23/10 11:09	60								
2/23/10 11:19 10 min	. 70								
2/23/10 11:29	80								
2/23/10 11:39	90								
2/23/10 11:49	100								
2/23/10 12:09 20 min	120								
2/23/10 12:29	140								
2/23/10 12:49	160	_							
2/23/10 13:09	180								
2/23/10 13:29 30 min	210								
2/23/10 13:59	240								
2/23/10 14:29	270								
2/23/10 14:59	300								
2/23/10 15:29	330								
2/23/10 15:59	360								
2/23/10 16:29	390								
2/23/10 16:59	420								
2/23/10 17:29	450								
2/23/10 17:59	480								

Well: ASR 2

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Test: ASR 2 Test 13 WY 2010

Sheet No. 2 of ___

(Sector) Almain in the sector	1. C.M.	ET **	Rate	Totalizer	Pre	ssure (psi) 🐃	DTW	Drawup	
Date/Time		(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
2/23/10 18:29		510								
2/23/10 18:59		540								
2/23/10 19:29		570								
2/23/10 19:59		600								
2/23/10 20:29		630								
2/23/10 20:59		660								
2/23/10 21:29		690								
2/23/10 21:59		720								
2/23/10 22:29	_	750								
2/23/10 22:59		780					,			· · · · · · · · · · · · · · · · · · ·
2/23/10 23:29		810								
2/23/10 23:59		840						1.004		
2/24/10 0:29		870								
2/24/10 1:09 4	0 min	900								
2/24/10 1:49		940								TA THE LOU, BULL BARE
2/24/10 2:49	1 hr	1000								
2/24/10 3:49		1060								
2/24/10 4:49		1120								
2/24/10 5:49		1180							1	
2/24/10 6:49		1240								
2/24/10 7:49		1300	325	044707000		76	275	333.70	37.43	@ 08:05, re-set FCV to 257 psi, ~650 gpm TLL
2/24/10 8:49		1360	650				257			
2/24/10 9:49		1420		W.						
2/24/10 10:49		1480						303.44		
2/24/10 12:49	2hr	1600								
2/24/10 14:49		1720								
2/24/10 16:49		1840	850	04513900	72	70	257	Z90.99	71.14	81649 NO ADJ.
2/24/10 18:49		1960								
2/24/10 20:49		2080								
2/24/10 22:49		2200								
2/25/10 0:49		2320								
2/25/10 2:49		2440								371.13
2/25/10 4:49		2560								- 299.99
2/25/10 6:49		2680							10111	71.14
2/25/10 8:49		2800	1.050	046100000	69	67	255	262.46	108.67	00815 - ADJ FOV to ZST TLL
2/25/10 10:49		2920								
2/25/10 12:49		3040					-	ر د		
2/25/10 14:49		3160	900	046426 10001	74	71	259	276.51	94.62	@1439 No adi Juo
2/25/10 16:49		3280					· · ·	225.66		
2/25/10 18:49		3400						2.77.49		

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Well: ASR 2

Test: ASR 2 Test 13 WY 2010

Sheet No. 3 of _

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
2/25/10 20:49	3520						282.24		
2/25/10 22:49	3640						284.33		37(13
2/26/10 0:49	3760						295,49		28414
2/26/10 2:49	3880		1111 0 (ALLER COMP				201.52		EAppears to be a CEPY
2/26/10 4:49	4000						284.65		Little more fluctation here flour of tok-1
2/26/10 6:49	4120	725	104725210001	70	66	267	284.19	86.14	20821 - slightly ali ECV TUL
2/26/10 8:49	4240	- 880				2.58			- Tanker Elyers yo - Hand ader
2/26/10 10:49	4360	- 400				155			03857 (44/ 3pm on paning bil meter) TLL
2/26/10 12:49	4480								
2/26/10 14:49	4600								
2/26/10 16:49	4720								
2/26/10 18:49	4840								
2/26/10 20:49	4960								
2/26/10 22:49	5080								
2/27/10 0:49	5200								
2/27/10 2:49	5320								
2/27/10 4:49	5440								
2/27/10 6:49	5560								
2/27/10 8:49	5680								
2/27/10 10:49	5800								
2/27/10 12:49	5920								
2/27/10 14:49	6040	1150	049195 10001	69	65	252	241.04	130.09	@1409 I increase FeV to 256 psi and
2/27/10 16:49	6160	1050					245.82		@ 1419 flow drops to 1050 gpm
2/27/10 18:49	6280					Commence of the	241.85		
2/27/10 20:49	6400						244.82		tank = 710psi. TUO
2/27/10 22:49	6520						243.87		
2/28/10 0:49	6640						242.93		
2/28/10 2:49	6760						2.11.70		
2/28/10 4:49	6880						2:39.12		
2/28/10 6:49	7000						237.45		
2/28/10 8:49	7120	1050	050425000	69	66	255	239.82	131.31	00939 Increase FCV to 258
2/28/10 10:49	7240			l					1000 flow doorpod to 1,000
2/28/10 12:49	7360								
2/28/10 14:49	7480								
2/28/10 16:49	7600								
2/28/10 18:49	7720								
2/28/10 20:49	7840								
2/28/10 22:49	7960								
3/1/10 0:49	8080								
3/1/10 2:49	8200								

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Well: <u>ASR 2</u>

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Test: ASR 2 Test 13 WY 2010

Sheet No. 4 of _

		ET	Rate	Totalizer	Pre	ssure ((psi)	DTW	Drawup	
	Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
	3/1/10 4:49	8320								,
	3/1/10 6:49	8440								391.13
	3/1/10 8:49	8560	950	05178200	68	66	522	239.88	131.25	00820
	3/1/10 10:49	8680								Adi FCU to 257
	3/1/10 12:49	8800								
	3/1/10 14:49	8920								01
	3/1/10 16:49	9040								,
	3/1/10 18:49	9160								
	3/1/10 20:49	9280								BF WO SIDNS/CM
	3/1/10 22:49	9400								15.0°C
	3/2/10 0:49	9520								7.28 24
	3/2/10 2:49	9640								0.31 Mail DO
	3/2/10 4:49	9760								714 MV ORP
	3/2/10 6:49	9880								
	3/2/10 8:49	10000								
	3/2/10 10:49	10120								
	3/2/10 12:49	10240	875	052643000	9/	87	263	273,03		01353
	3/2/10 14:49	10360	Ø	0526476001	97	95	307			01400 73023CFLUSELILL
	3/2/10 16:49	10480	/	in the start						start succenter 0.23 cm
	3/2/10 18:49	10600								
	3/2/10 20:49	10720								· x0 170:06
	3/2/10 22:49	10840								M; 052647600 XD10 "N("
	3/3/10 0:49	10960								MID 0571276 8001 XD12 34199
	3/3/10 2:49	11080								21,000 + 135.07
	3/3/10 4:49	11200								hotte = 15.5 gimilt
J. L				and the second s						Choose connection where cable attacked to
241A	3/3/10 8/49	11440	- \$	052616000	97	93	307	366.60	<u>ø</u>	+ @ 1443 start tost #14 neel, but XD is
12	3/3/10 10:49	11560								not changing way mach
314	3/3/10(12:49	11680	1100				258			O(453 let FUV-wet equilibratist yet
	3/3/10 14:49	11800		15 100 10 10 10 10 10 10 10 10 10 10 10 10						ASR-1 OFA GOUBE
,	3/3/10 16:49	11920								
33	3/3/10 18:49	12040	1100	05378910007	48	66	251			00838 ADS FCV 6256
	/3/3/10 20:49	12/160								very intense ran-sliggered hermit the
/	3/3/10 22:49	1,2280								
	3/4/10 0:49	12400								
	3/4/10 2:49	12520								
	3/4/10 4:49	12640								
	3/4/10 6:49	12760								
	3/4/10 8:49	12880								
	3/4/10 10:49	13000								

Well: ASR 2

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Test: ASR 2 Test #14 WY 2010

Sheet No. 1 of ____

States and the construction of the states of	ET ET	Rate	Totalizer	Pre	ssure (pši)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/2/10 14:43 1 min	0	0	052616000	92	93	307	366.60	0	TLL and JL
3/2/10 14:44	1								
3/2/10 14:45	2								
3/2/10 14:46	3								
3/2/10 14:47	4								
3/2/10 14:48	5								
3/2/10 14:49	6								
3/2/10 14:50	7								
3/2/10 14:51	8								
3/2/10 14:52	9								
3/2/10 14:53	10	1100				258			Last adjustment to FCV before leaving here; ASR-1 is off for BF,
3/2/10 14:55	12								so all may not be equilibrated yet.
3/2/10 14:58 5 min	15								
3/2/10 15:03	20								
3/2/10 15:08	25								
3/2/10 15:13	30								
3/2/10 15:18	35								
3/2/10 15:23	40								
3/2/10 15:28	45								
3/2/10 15:33	50								
3/2/10 15:38	55								
3/2/10 15:43	60								11/6.41.00
3/2/10 15:53 10 min	70								
3/2/10 16:03	80								
3/2/10 16:13	90								
3/2/10 16:23	100								
3/2/10 16:43 20 min	120								
3/2/10 17:03	140								
3/2/10 17:23	160								
3/2/10 17:43	180								
3/2/10 18:03 30 min	210								
3/2/10 18:33	240								
3/2/10 19:03	270								
3/2/10 19:33					_				
3/2/10 20:03	330								
3/2/10 20:33	360								
3/2/10 21:03	390								
3/2/10 21:33	420								
3/2/10 22:03	450								
3/2/10 22:33	480								

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Well: ASR 2 ____

Test: ASR 2 Test #14 WY 2010

Sheet No. 2 of ___

Section and the section of the secti		ET	Rate	Totalizer	- Pressure (psi)		DTW	Drawup		
Date/Time		(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/2/10 23:03		510								
3/2/10 23:33		540								
3/3/10 0:03		570			_					
3/3/10 0:33		600								
3/3/10 1:03		630								-
3/3/10 1:33		660								
3/3/10 2:03		· 690								
3/3/10 2:33		720								
3/3/10 3:03		750								
3/3/10 3:33		780								,
3/3/10 4:03		810								
3/3/10 4:33		840								<u>`</u>
3/3/10 5:03		870								
3/3/10 5:43 40) min	900								
3/3/10 6:23		940								
3/3/10 7:23	1 hr	1000								
3/3/10 8:23		1060	1100	53789000	68	66	251			@ 8:28 Did not check Hermit due to intense rain, but anticipated
3/3/10 9:23		1120								rapid drawup, and therefore, set FCV to 256. TLL
3/3/10 10:23		1180								=1173000 cals= 1065= 1102 Apm
3/3/10 11:23		1240								free free, most i van gree
3/3/10 12:23		1300								
3/3/10 13:23		1360								
3/3/10 14:23		1420								
3/3/10 15:23		1480								
3/3/10 17:23	2hr	1600								
3/3/10 19:23		1720								
3/3/10 21:23		1840								
3/3/10 23:23		1960								
3/4/10 1:23		2080								
3/4/10 3:23		2200								
3/4/10 5:23		2320								
3/4/10 7:23		2440	900	055061 194	67	68	256	265,80	100,80	@ 0830 ADJ TO 254 @ 1,000 GPM
3/4/10 9:23		2560							-	
3/4/10 11:23		2680								
3/4/10 13:23		2800								
3/4/10 15:23		2920								
3/4/10 17:23		3040								
3/4/10 19:23		3160								
3/4/10 21:23		3280								
3/4/10 23:23		3400								

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Well: ASR 2

Test: ASR 2 Test #14 WY 2010

Sheet No. 3 of ____

	E SAME ET SAME	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line.	Head	FCV	(ft btst)	(ft)	Comments/Other
3/5/10 1:23	3520								
3/5/10 3:23	3640								
3/5/10 5:23	3760								
3/5/10 7:23	3880	750	055931 000	74	72	261	280,31	86.29	COSSO RESETFLU TUZSY / 1000GPM
3/5/10 9:23	4000			,					· · · · · · · · · · · · · · · · · · ·
3/5/10 11:23	4120								
3/5/10 13:23	4240								
3/5/10 15:23	4360							•	
3/5/10 17:23	4480								
3/5/10 19:23	4600								
3/5/10 21:23	4720								
3/5/10 23:23	4840								
3/6/10 1:23	4960								
3/6/10 3:23	5080		Manufalla						
3/6/10 5:23	5200								
3/6/10 7:23	5320								TAUK = 625051
3/6/10 9:23	5440	1225	057717600	66	64	247	217.59	19.01	01033 1268 gpm on palitimetrics
3/6/10 11:23	5560						- 0 - 1	· · · ·	cet FC1/ to 257
3/6/10 13:23	5680	975	057724 5001	72	68	259			\$1040 - still equilibrate after afjustment
3/6/10 15:23	5800					1			983 g/m an agen a TU
3/6/10 17:23	5920								
3/6/10 19:23	6040								
3/6/10 21:23	6160								
3/6/10 23:23	6280								
3/7/10 1:23	6400								
3/7/10 3:23	6520								
3/7/10 5:23	6640								
3/7/10 7:23	6760								366.60 start
3/7/10 9:23	6880								
3/7/10 11:23	7000								
3/7/10 13:23	7120	775	058472(000)	74	72	260	270.23	96.37	@1405 Lower FCV to slightly increase (low,
3/7/10 15:23	7240	900		73	70	255	253.55		@ 1415 I expect flow will continue to rise slightly.
3/7/10 17:23	7360						246.01		
3/7/10 19:23	7480						21018		Jue
3/7/10 21:23	7600						235.31		
3/7/10 23:23	7720						22474		
3/8/10 1:23	7840						2 89,85		
3/8/10 3:23	7960						241.60		
3/8/10 5:23	8080						281.03		
3/8/10 7:23	8200						273.94		

Well: ASR 2

Test: ASR 2 Test #14 WY 2010

Sheet No. 4 of ____

	and the second second second second second second second second second second second second second second second
Date/Time (min) (gpm) (gallons) Line Head FCV (ft btst) (ft)	Comments/Other
3/8/10 9:23 8320 700 059303 000 76 72 ZG1 27397 92.63 00 051≥	1d(FeV to 255
3/8/10 11:23 8440 875 059311/000 72 69 255 00823	- 939 gly on Nan TL
3/8/10 13:23 8560	
3/8/10 15:23 _ 8680	
3/8/10 17:23 8800 1090 059856 000 70 67 254 61709	ADJ to 257 psi
3/8/10 19:23 8920 2.57	left keys back at asta TL
3/8/10 21:23 9040	• (• • • • • • • • • • • • • • • • • •
3/8/10 23:23 9160	
3/9/10 1:23 9280	
3/9/10 3:23 9400	
3/9/10 5:23 9520	
3/9/107:23 9640 550 060315 10007 76 75 267 2.89.4 80830	SET FOU TO ZSUP 950GPM - JL
3/9/10 9:23 9760	
3/9/10 11:23 9880 950 060496 000 80 77	Presence in system drops - C. Evans is doing
3/9/10 13:23 10000	aflow test & DRO reg Station @ 1220 backing
3/9/10 15:23 10120	from S90 to 775 som. TWO
$3/9/10 17:23$ 10240 900 060742 000 72 74 $\rightarrow g_{s}$	t settings luke line Engline IL
3/9/10 19:23 10360	
3/9/10 21:23 10480	
3/9/10 23:23 10600	
3/10/10 1:23 10720	
3/10/10 3:23 10840	
3/10/10 5:23 10960	73051 CF
3/10/10723 11080 For 06/20710101 26 73 262 (9823)	3/10 Adi to 253 - go shut drug ASE-1/or OF
3/10/10 9:23 11200	No MCWD water through lube line - Later Bob P.
3/10/10 11:23 11320 1202 061421 000 88 86 269	Tells Put to fix Et Party sous he will but it
3/10/10 13:23 11440	with take a little while due to need to hand doe
3/10/10 15:23 11560 11/26	2/10 Adi FCV to 275 while #1, 50 ill VTL
3/10/10 17:23 11680 100 06/1578/000 60 55 270	
3/10/10 19:23 11800 56 57 242	Respt FCV 7L
3/10/10 21:23 11920	
3/10/10 23:23 12040	
3/11/10 1:23 12160	7,405
3/11/10 3:23 12280	je s de la companya de la companya de la companya de la companya de la companya de la companya de la companya d
3/11/10 5:23 12400	
3/11/10 7:23 12520 1000 062207 0001 66 64 254 213.6 153 @083	O left settings BF this atternoon TL
3/11/10 9:23 12640	(OVER)
3/11/10 11:23 12760	
3/11/10 13:23 12880	
3/11/10 15:23 13000	i i i i i i i i i i i i i i i i i i i
3/11/10 17.22 1150 062769 502 68 65 250 19.1702	Hdi FCV, could not BE till lule line recoursed
(ST) 57. 255	10
550 5Z 255	

Well: ASR 2

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Test: ASR 2 Test #14 WY 2010 #15

Sheet No. 1 of ____

AND ALL AND THE REAL PROPERTY OF		ET	Rate	Totalizer	Pre	ssure ((psi)	H DTW	Drawup	
Date/Tim	e	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/12/10 11:38	1 min	0	0	063825000			305	357.69	0	TLL and JL
3/12/10 11:39		1								
3/12/10 11:40		2								
3/12/10 11:41		3								
3/12/10 11:42		4								
3/12/10 11:43		5								9- y 5 4/10
3/12/10 11:44	_	6								
3/12/10 11:45		7								
3/12/10 11:46		8								
3/12/10 11:47		9								
3/12/10 11:48		10								
3/12/10 11:50		12								1211 - Alj 104
3/12/10 11:53	5 min	15	900		68	67	252			
3/12/10 11:58		20						_		
3/12/10 12:03		25								
3/12/10 12:08		30								
3/12/10 12:13		35								
3/12/10 12:18		40								
3/12/10 12:23		45								· · · · · · · · · · · · · · · · · · ·
3/12/10 12:28		50								
3/12/10 12:33		55								
3/12/10 12:38		60								
3/12/10 12:48	10 min	70								
3/12/10 12:58		80								
3/12/10 13:08		90		ar						·····
3/12/10 13:18		100								
3/12/10 13:38	20 min	120								
3/12/10 13:58	_	140		<u>.</u>						
3/12/10 14:18		160								
3/12/10 14:38		180								
3/12/10 14:58	30 min	210								
3/12/10 15:28		240								
3/12/10 15:58		270		ac up and			500			
3/12/10 16:28		300	1,000	069175000	-6-8	6	235			01652 NO AV).
3/12/10 16:58		330								SIC pyred Hernit - Valy
3/12/10 17:28		360								¥
3/12/10 17:58		390								
3/12/10 18:28		420								
3/12/10 18:58		450								
3/12/10 19:28		480								

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Well: ASR 2

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starting water level

Test: ASR 2 Test ### WY 2010 # 15

357.69 Sheet No. 2 of ____

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		C. CIUSH	Rate	- rotalizer	R Pie	ssureit	psı)	Seven In March	Drawup	
Date/Time		(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/12/10 19:58		510								
3/12/10 20:28		540								
3/12/10 20:58		570								
3/12/10 21:28		600								
3/12/10 21:58		630								
3/12/10 22:28		660								
3/12/10 22:58		690								,
3/12/10 23:28		720								
3/12/10 23:58		750								
3/13/10 0:28		780								
3/13/10 0:58		810								
3/13/10 1:28		840								
3/13/10 1:58		870								
3/13/10 2:38 40) min	900								
3/13/10 3:18		940								
3/13/10 4:18	1 hr	1000								
3/13/10 5:18		1060								CORRECT -> re
3/13/10 6:18		1120								-TLL (1 assur
3/13/10 7:18		1180								plais 18
3/13/10 8:18		1240	<u> </u>				1 (The data
3/13/10 9:18		1300	325	044707000		X76	275	3,33,70	\$7.43	@ 08:05 re-set FCV to 257 psi, ~650 gpm) old 0.
3/13/10 10:18		1360	650			7	/257	-		1. + did + 1
3/13/10 11:18	_	1420					1			the deleter
3/13/10 12:18		1480				and the second se				t get de jaget
3/13/10 14:18	2hr	1600	875	064957000	71	68	256	272.37	85.32	@1424 & make no aditaday Mi this 9
3/13/10 16:18		1720								as time pressure is not when inted!
3/13/10 18:18		1840								near max and could was pro two/
3/13/10 20:18		1960								come up. A note that
3/13/10 22:18		2080								HERMIT is not on externel power.
3/14/10 0:18		2200								and that jumper cable lock broken. Jwo
3/14/10 2:18		2320								= 1132000 cm12 1606 mins= 705 apm
3/14/10 4:18		2440								<i>.</i> ,
3/14/10 6:18		2560						321.52	36.17	TLIJL failed to fully "hove beater" back on -
3/14/10 8:18		2680						318.85		Te hand it an it lewit back on EP
3/14/10 10:18		2800						314.23		
3/14/10 12:18		2920						279,02	78162	< for 11:17 on 4(erwit (12:18 DIT han) T2
3/14/10 14:18		3040	775	065780 000]	72	69	256			@ 1213 Pan methodid hot "Water" which I wit enter
3/14/10 16:18		3160								Pan. meter has Irght and rating "charge -
3/14/10 18:18		3280								<i>p</i>
3/14/10 20:18		3400								

DWMD

starting water level

Test: ASR 2 Test #24 WY 2010 #15

Well: ASR 2

357.69 Sheet No. 3 of ____

a second and second second second	El	Kate	lotalizer	Pre	ssure	(psi)	DIW S	Prawup	
Date/Time	(min) -	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/14/10 22:18	3520								
3/15/10 0:18	3640)							
3/15/10 2:18	3760								
3/15/10 4:18	3880								
3/15/10 6:18	4000								
3/15/10 8:18	4120	750	066572 [00]	68	69	208	273.92	83,77	12 0830 · SET TO ZOY 12 1000 GPM
3/15/10 10:18	4240								TURNED FLOW METHR RACK ON
3/15/10 12:18	4360								
3/15/10 14:18	4480								1819
3/15/10 16:18	4600	850	0670126001	43	417	Z30	265.63	92.06	@ 19 363 un Can. netin
3/15/10 18:18	4720				· · / ·				NOADT -LOW DE SSM.
3/15/10 20:18	4840								
3/15/10 22:18	4960								
3/16/10 0:18	5080								
3/16/10 2:18	5200								
3/16/10 4:18	5320		· · · · · · · · · · · · · · · · · · ·						,
3/16/10 6:18	5440				-				
3/16/10 8:18	5560	12.00	067911 000)	(4	(:7)	246	213.1	144.6	Q 0830 THENEDERY FD 754 (950).
3/16/10 10:18	5680			1 st	00				will haddelligh tomorrow
3/16/10 12:18	5800								
3/16/10 14:18	5920	1							
3/16/10 16:18	6040	1000	DC837/1007	70	LA	256			PIGO LATA HUDA
3/16/10 18:18	6160		0000000		00	230			the true
3/16/10 20:18	6280								Manged an Allen Inte
3/16/10 22:18	6400			-	· · ·				727 80
3/17/10 0:18	6520		·			<u> </u>	l conte		
3/17/10 2:18	6640								
3/17/10 4.18	6760		· · · · · · · · · · · · · · · · · · ·	<u> </u>			· · · · · · · · · · · · · · · · · · ·		
3/17/10 6:18	6880	1700	N9321 10001	17	15	251			a with her to 2558 1005 Culture
3/17/10 8:18	7000	1200	1/2/201 1001	<u>~</u>	62				A 0.830 AL ACT TO 235 C 100 110
3/17/10 10:18	7120						· · · · · · · · · · · · · · · ·		
3/17/10 12:18	7240	,			-				
3/17/10 14:18	7360	1200	1269636000	GR	מר	7511	199,9	1574	Just daying to beachdusta
3/17/10 16:18	7480	100		<u> </u>		07		121.0	such arrive the more punch.
3/17/10 18:18	7600					·			RE MARCAGENER
3/17/10 20:18	7720				•••••••				
3/17/10 22:18	7840				L				X01 18927
3/18/10 0.18	7960			<u> </u>				······	XO2 25 AU 22 LARKEN 1-1
3/18/10 2:18	8080		· · · · · · · · · · · · · · · · · · ·						10- 30.09 CC10001 - 114.2
3/18/10 4.18	8200								154,23
0/10/10 4/10	0200				L	L		~	NAM.

1338 WT

RESTIG 3/17/10 1238 -1000

7271 256 351.1

Well: <u>ASR 2</u>

Test: ASR 2 Test #14 WY 2010 # 15

starting water level

357.69

Sheet No. 4 of ____

Lager C. C. Lager and State	STATE THAT SEE	Rate	Totalizer	Pres	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/18/10 6:18	8320								
3/18/10 8:18	8440								
3/18/10 10:18	8560								
3/18/10 12:18	8680					_			
3/18/10 14:18	8800								
3/18/10 16:18	8920								
3/18/10 18:18	9040		······						
3/18/10 20:18	9160								
3/18/10 22:18	9280								
3/19/10 0:18	9400								
3/19/10 2:18	9520								
3/19/10 4:18	9640								
3/19/10 6:18	9760								
3/19/10 8:18	9880								
3/19/10 10:18	10000								
3/19/10 12:18	10120								
3/19/10 14:18	10240			4,					
3/19/10 16:18	10360								
3/19/10 18:18	10480								
3/19/10 20:18	10600								
3/19/10 22:18	10720								
3/20/10 0:18	10840								
3/20/10 2:18	10960								
3/20/10 4:18	11080								
3/20/10 6:18	11200								
3/20/10 8:18	11320								
3/20/10 10:18	11440								
3/20/10 12:18	11560								
3/20/10 14:18	11680								
3/20/10 16:18	11800								
3/20/10 18:18	11920								
3/20/10 20:18	12040								
3/20/10 22:18	12160								
3/21/10 0:18	12280		· · ·						
3/21/10 2:18	12400								
3/21/10 4:18	12520								
3/21/10 6:18	12640								
3/21/10 8:18	12760								
3/21/10 10:18	12880								
3/21/10 12:18	13000			14 19 19 19					

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Well: <u>ASR #2</u>

Test:

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Hermit Test 16

Sheet No. 1 of ____

and the second second second	ET	Rate	Totalizer	Pres	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/17/10 12:38 1 min	0	0	69619000	72	72	300	359.11		
3/17/10 12:39	1								
3/17/10 12:40	2								
3/17/10 12:41	3		· · · · · · · · · · · · · · · · · · ·						
3/17/10 12:42	4								
3/17/10 12:43	5								
3/17/10 12:44	6				·,				
3/17/10 12:45	7								
3/17/10 12:46	8								
3/17/10 12:47	9								
3/17/10 12:48	10								
3/17/10 12:50	12								
3/17/10 12:53 5 min	15								
3/17/10 12:58	20								
3/17/10 13:03	25								
3/17/10 13:08	30								
3/17/10 13:13	35								
3/17/10 13:18	40								
3/17/10 13:23	45								
3/17/10 13:28	50								· · ·
3/17/10 13:33	55								
3/17/10 13:38	60								
3/17/10 13:48 10 min	70	-							
3/17/10 13:58	80								
3/17/10 14:08	90								
3/17/10 14:18	100								
3/17/10 14:38 20 min	120							NOW .	
3/17/10 14:58	140								
3/17/10 15:18	160								
3/17/10 15:38	180								
3/17/10 15:58 30 min	210								
3/17/10 16:28	240								
3/17/10 16:58	270								
3/17/10 17:28	300								
3/17/10 17:58	330								
3/17/10 18:28	360								
3/17/10 18:58	390								
3/17/10 19:28	420								
3/17/10 19:58	450								
3/17/10 20:28	480								

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Well: <u>ASR #2</u>

Hermit Test 16

Starting Water Level

Test:

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359.11 Sheet No. 2 of ____ ì

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	A LONGED MAR	Rate	Totalizer	Pressure (psi)		DTW	Drawup	a second second second second second second second second second second second second second second second second	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/17/10 20:58	510								
3/17/10 21:28	540		Linksk						
3/17/10 21:58	570		T						
3/17/10 22:28	600			-					
3/17/10 22:58	630								
3/17/10 23:28	660					-			
3/17/10 23:58	690								
3/18/10 0:28	720								
3/18/10 0:58	750								
3/18/10 1:28	780								
3/18/10 1:58	810								
3/18/10 2:28	840								
3/18/10 2:58	870								
3/18/10 3:38 40 mi	n 900								
3/18/10 4:18	940								
3/18/10 5:18 1 h	n 1000								
3/18/10 6:18	1060								
3/18/10 7:18	1120								
3/18/10 8:18	1180	750	070129100	-74	72	260	295.03	64.08	POSSO SET FEU TO 206
3/18/10 9:18	1240								= 510000 culs + 1192 mins = 428 apm
3/18/10 10:18	1300								
3/18/10 11:18	1360								
3/18/10 12:18	1420								
3/18/10 13:18	1480								
3/18/10 15:18 2h	ar 1600								
3/18/10 17:18	1720								
3/18/10 19:18	1840								
3/18/10 21:18	1960			_					
3/18/10 23:18	2080							of in.	
3/19/10 1:18	2200		<u> </u>				to	Two	
3/19/10 3:18	2320						new	5	
3/19/10 5:18	2440					5			
3/19/10 7:18	2560	300	070958 00	50	49 1		331.60	27.91	C 0830 # SET FW TO 247 JL
3/19/10 9:18	2680	360	670989 000	53	49	247			@ 1000 Set FCV to 232 psi. JWO
3/19/10 11:18	2800	725		47	46	232			@ 1010 Record settings after adjustment. Two
3/19/10 13:18	2920	1075	07/163 000	70	66	254			@ 1315 Check settings. Two
3/19/10 15:18	3040								e
3/19/10 17:18	3160								
3/19/10 19:18	3280								
3/19/10 21:18	3400								

Well: ASR #2

Test:

Hermit Test 16

Starting Water Level

359.11 Sheet No. 3 of ____ Rate **ET** Totalizer Pressure (psi) DTW Drawup Date/Time (min) (gpm) (gallons) Line Head FCV (ft btst) (ft) **Comments/Other** 3/19/10 23:18 3520 3/20/10 1:18 3640 3/20/10 3:18 3760 3/20/10 5:18 3880 3/20/10 7:18 4000 1.120 Mu ou pan. 2946 Tweeto nei just abit but manich any fouring. AD: to 254 psi M 3/20/10 9:18 244.91 4120 1100 68 65 114,90 00946 072273 000] 253 3/20/10 11:18 4240 3/20/10 13:18 4360 3/20/10 15:18 4480 3/20/10 17:18 4600 3/20/10 19:18 4720 3/20/10 21:18 4840 3/20/10 23:18 4960 3/21/10 1:18 5080 3/21/10 3:18 5200 3/21/10 5:18 5320 3/21/10 7:18 5440 5560 3/21/10 9:18 3/21/10 11:18 5680 286.71 72.40 © 1318 d'adj FLV to allow I'inj rote. © 1338 Read setting after aquilibration. Leave have as line pressure is likaly to increase later today. Power is off a ASR-Z - PGIE Crews are replacing poles & service on GIMB today. J 072985 000 54 3/21/10 13:18 5800 150 625 336.64 22.47 50 255 48 3/21/10 15:18 5920 45 234 3/21/10 17:18 6040 3/21/10 19:18 6160 3/21/10 21:18 6280 I double - checked this to make sure it is set to this pressure. 3/21/10 23:18 6400 TWO 3/22/10 1:18 6520 3/22/10 3:18 6640 3/22/10 5:18 6760 3/22/10 7:18 6880 239.72 120.09 00830 11075 Ju a pau 7000 1,025 C73848607 3/22/10 9:18 66 64 252 239.01 TL 3/22/10 11:18 7120 NO 127. 3/22/10 13:18 7240 3/22/10 15:18 7360 074306 000 860 42 40 3/22/10 17:18 7480 TRNGD ON LUSE LINE 241 81645 3/22/10 19:18 7600 3/22/10 21:18 7720 734 Rd FT3 3/22/10 23:18 7840 3/23/10 1:18 7960 3/23/10 3:18 8080 3/23/10 5:18 8200

Well: ASR #2

Hermit Test 16

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Starting Water Level

Test:

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AND A DESCRIPTION OF A

359.11 Sheet No. 4 of ____

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Date/Time	(min)	(apm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/23/10 7:18	8320	1125	OF COLVIDOU	86	84	162			After cluther espel clut the tril "
3/23/10 9:18	8440	125			01	- W 7			Prista section Asker ; sear this leb
3/23/10 11:18	8560								
3/23/10 13:18	8680								
3/23/10 15:18	8800								
3/23/10 17:18	8920								075015 1000 157 2000 150
3/23/10 19:18	9040								074995 Tool 7 NP 122 - 15.2
3/23/10 21:18	9160								20 000
3/23/10 23:18	9280								
3/24/10 1:18	9400								167.52 XD1
3/24/10 3:18	9520								35.25 x0Z
3/24/10 5:18	9640								
3/24/10 7:18	9760								
3/24/10 9:18	9880								
3/24/10 11:18	10000		0749930001						A and of heachthush
3/24/10 13:18	10120								
3/24/10 15:18	10240								V V
3/24/10 17:18	10360								
3/24/10 19:18	10480								
3/24/10 21:18	10600								
3/24/10 23:18	10720								when simma fle well
3/25/10 1:18	10840								meter was spinning
3/25/10 3:18	10960								un last purpusat
3/25/10 5:18	11080								Mad sate
3/25/10 7:18	11200								Totalinger 1100
3/25/10 9:18	11320								alphonumo
3/25/10 11:18	11440								Jost millsom
3/25/10 13:18	11560								per a augusture
3/25/10 15:18	11680								front last of
3/25/10 17:18	11800								
3/25/10 19:18	11920		0/5067000)						Payometic usdua
3/25/10 21:18	12040		· · · · · · · · · · · · · · · · · · ·						S flow J
3/25/10 23:18	12160				20				
3/26/10 1:18	12280	1000	78 1	71	12	207			(360.03) ININA (man
3/26/10 3:18	12400								363,
3/26/10 5:18	12520								B100
3/26/10 7:18	12640								
3/26/10 9:18	12760								
3/26/10 11:18	12880					<u> </u>			
3/26/10 13:18	13000								

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Test:	Test 18	· · ·	Sheet No. 1 of
Well:	Linit 1-		
Well: ASR 2			

	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
3/30/10 10:07 1 min	0	1000	76069000	72	71	209	360.03	0	WF on site
3/30/10 10:08	1					ad. 1918 . 1			
3/30/10 10:09	2			· - · · · · · · · · · · · · · · · · · ·					
3/30/10 10:10	3								
3/30/10 10:11	4								/
3/30/10 10:12	5								
3/30/10 10:13	6			2. 1111					
3/30/10 10:14	7					1.00			
3/30/10 10:15	8								
3/30/10 10:16	9								and and an analysis of the second many one of the second
3/30/10 10:17	10		al and an an an an an an an an an an an an an				···· · · · · · · · · · · · · · · · · ·		
3/30/10 10:19	12		and the statement of the state of						· · · · · · · · · · · · · · · · · · ·
3/30/10 10:22 5 min	15								
3/30/10 10:27	20								
3/30/10 10:32	25								
3/30/10 10:37	30								
3/30/10 10:42	35						and a first state of the		
3/30/10 10:47	40								The second second second second second second second second second second second second second second second s
3/30/10 10:52	45				-				
3/30/10 10:57	50								In the second state of the
3/30/10 11:02	55		,				· · · · · · · · · · · · · · · · · · ·		
3/30/10 11:07	60								
3/30/10 11:17 10 min	70								
3/30/10 11:27	80	g you where the heats	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				· · · ·		
3/30/10 11:37	90								
3/30/10 11:47	100						and the second sec	the second s	
3/30/10 12:07 20 min	120								
3/30/10 12:27	140	and a second second second second second second second second second second second second second second second							
3/30/10 12:47	160								
3/30/10 13:07	180								
3/30/10 13:27 30 min	210		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			· · · · · · · · · · · · · · · · · · ·			
3/30/10 13:57	240		· · · ·			·····			
3/30/10 14:27	270				Nas		*		
3/30/10 14:57	300								A CONTRACTOR OF A CONTRACTOR O
3/30/10 15:27	330		· · · ·						
3/30/10 15:57	360						the set of a second set of the second		
3/30/10 16:27	390						10 C 10 C 10 C 10 C 10 C 10 C 10 C 10 C		
3/30/10 16:57	420								
3/30/10 17:27	450								
3/30/10 17:57	480								

-34-24 M

PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: ASR 2 Test:

Test 18/ 17

Pressure (psi) Totalizer Drawup Rate DEM Het Mill (gpm) (min) (gallons) Line Head FCV (ft btst) (ft) **Comments/Other** Date/Time 3/30/10 18:27 510 3/30/10 18:57 540 570 3/30/10 19:27 3/30/10 19:57 600 630 3/30/10 20:27 660 3/30/10 20:57 690 3/30/10 21:27 720 3/30/10 21:57 750 3/30/10 22:27 3/30/10 22:57 780 810 3/30/10 23:27 3/30/10 23:57 840 = 29000 guls 076098000] 74 72 210 uset FCU 3/31/10 0:27 870 800 TO 206 3/31/10 1:07 900 40 min 940 3/31/10 1:47 1000 3/31/10 2:47 1 hr 3/31/10 3:47 1060 3/31/10 4:47 1120 3/31/10 5:47 1180 3/31/10 6:47 1240 3/31/10 7:47 1300 3/31/10 8:47 1360 1420 3/31/10 9:47 3/31/10 10:47 1480 1600 3/31/10 12:47 2hr 3/31/10 14:47 1720 3/31/10 16:47 1840 1960 3/31/10 18:47 3/31/10 20:47 2080 3/31/10 22:47 2200 4/1/10 0:47 2320 4/1/10 2:47 2440 4/1/10 4:47 2560 4/1/10 6:47 2680 291.99 C 0830 mut to 206 = 657000 gn1 + 2783 = 237 gpm 2800 800 68.04 4/1/10 8:47 076726000 74 72 212 4/1/10 10:47 2920 4/1/10 12:47 3040 4/1/10 14:47 3160 4/1/10 16:47 3280 4/1/10 18:47 3400

MPWMD

Starting Water Level

360.03

Sheet No. 2 of _

Well: ASR 2 Starting Water Level Test 18/17-Test: 360.03 Sheet No. 3 of Pressure (psi) . . Rate Totalizer Drawup DTW Date/Time (min) (gpm) (gallons) Line | Head | FCV (ft btst) **Comments/Other** (ft) 4/1/10 20:47 3520 4/1/10 22:47 3640 4/2/10 0:47 3760 4/2/10 2:47 3880 4/2/10 4:47 4000 4/2/10 6:47 4120 077948 4240 62 235 4/2/10 8:47 950 60 (20830) SAVE DOWN PER WE 4/2/10 10:47 4360 ø 300 4/2/10 12:47 4480 4/2/10 14:47 4600 4/2/10 16:47 4720 4/2/10 18:47 4840 4/2/10 20:47 4960 4/2/10 22:47 5080 4/3/10 0:47 5200 4/3/10 2:47 5320 5440 4/3/10 4:47 4/3/10 6:47 5560 4/3/10 8:47 5680 5800 4/3/10 10:47 4/3/10 12:47 5920 4/3/10 14:47 6040 4/3/10 16:47 6160 4/3/10 18:47 6280 4/3/10 20:47 6400 4/3/10 22:47 6520 4/4/10 0:47 6640 4/4/10 2:47 6760 4/4/10 4:47 6880 4/4/10 6:47 7000 4/4/10 8:47 7120 © 1147 Injection still off per vegnest from C. Evans on 4/2. I note that 110 v power has been restored to ASR-2. 7240 Ø 0779480000 81 312 4/4/10 10:47 84 357.47 4/4/10 12:47 7360 7480 4/4/10 14:47 4/4/10 16:47 7600 site, Two 4/4/10 18:47 7720 7840 4/4/10 20:47 4/4/10 22:47 7960 4/5/10 0:47 8080 4/5/10 2:47 8200

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Test 18/17

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المريد ا

Starting Water Level

Test:

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Well: ASR 2

_____ 360.03

Sheet No. 4 of ____

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		Rate	Totalizer	D. Pre	ssure ((psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/5/10 4:47	8320								
4/5/10 6:47	8440								
4/5/10 8:47	8560								
4/5/10 10:47	8680								
4/5/10 12:47	8800								
4/5/10 14:47	8920								
4/5/10 16:47	9040					FB1.1 100 F F F F F			
4/5/10 18:47	9160								A A A A A A A A A A A A A A A A A A A
4/5/10 20:47	9280								
4/5/10 22:47	9400						· · · · · · · ·	··· ···	
4/6/10 0:47	9520								
4/6/10 2:47	9640					· ·			
4/6/10 4:47	9760								
4/6/10 6:47	9880			~					
4/6/10 8:47	10000		- Laborate strategy of memory at the second			-			
4/6/10 10:47	10120								
4/6/10 12:47	10240								a and a set of the set
4/6/10 14:47	10360	A							anna an an an an an an an an an an an an
4/6/10 16:47	10480				Nons				
4/6/10 18:47	10600								an name of an angle from the second second second second second second second second second second second second
4/6/10 20:47	10720								
4/6/10 22:47	10840								
4/7/10 0:47	10960								
4/7/10 2:47	11080								
4/7/10 4:47	11200			-					
4/7/10 6:47	11320			,					
4/7/10 8:47	11440								
4/7/10 10:47	11560							·	
4/7/10 12:47	11680								
4/7/10 14:47	11800								
4/7/10 16:47	11920								
4/7/10 18:47	12040								
4/7/10 20:47	12160								
4/7/10 22:47	12280								
4/8/10 0:47	12400								
4/8/10 2:47	12520								
4/8/10 4:47	12640								
4/8/10 6:47	12760								
4/8/10 8:47	12880								
4/8/10 10:47	13000								

14 _ J I

Well: ASR 2

test 19/14 Test: Sheet No. 1 of ____ Pressure (psi) Rate Totalizer Drawup DTW a designation of the second second · 在中国的公司的关键,在12月1日 (gallons) Date/Time (min) (gpm) Line Head FCV (ft btst) (ft) **Comments/Other** 4/14/10 13:01 359.32 1 min 500 77926000 55 53 267 4/14/10 13:02 4/14/10 13:03 4/14/10 13:04 4/14/10 13:05 4/14/10 13:06 4/14/10 13:07 4/14/10 13:08 4/14/10 13:09 ۶ 4/14/10 13:10 0 4/14/10 13:11 10 12 4/14/10 13:13 4/14/10 13:16 15 5 mir 20 4/14/10 13:21 25 4/14/10 13:26 30 4/14/10 13:31 35 4/14/10 13:36 4/14/10 13:41 40 45 4/14/10 13:46 50 4/14/10 13:51 55 4/14/10 13:56 4/14/10 14:01 60 4/14/10 14:11 70 10 min 4/14/10 14:21 80 4/14/10 14:31 90 4/14/10 14:41 100 4/14/10 15:01 20 mir 120 4/14/10 15:21 140 4/14/10 15:41 160 4/14/10 16:01 180 4/14/10 16:21 30 min 210 4/14/10 16:51 240 4/14/10 17:21 270 4/14/10 17:51 300 4/14/10 18:21 330 4/14/10 18:51 360 4/14/10 19:21 390 420 4/14/10 19:51 4/14/10 20:21 450 4/14/10 20:51 480
MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: ASR-2 Starting Water Level test 19/1 % Test: 359.32 Sheet No. 2 of ___ Rate S E T & Totalizer Pressure (psi) DIAN Drawup Date/Time (min) Line Head FCV (gpm) (gallons) (ft btst) (ft) **Comments/Other** 4/14/10 21:21 510 4/14/10 21:51 540 4/14/10 22:21 570 4/14/10 22:51 600 4/14/10 23:21 630 4/14/10 23:51 660 4/15/10 0:21 690 4/15/10 0:51 720 4/15/10 1:21 750 4/15/10 1:51 780 4/15/10 2:21 810 4/15/10 2:51 840 4/15/10 3:21 870 4/15/10 4:01 900 40 min 4/15/10 4:41 940 4/15/10 5:41 1000 1 hr 4/15/10 6:41 1060 361.74 COBIO Adj FCV to 246 psi to increase to Sorgpus =285000 gon + 1149 = 248 gpm Jus 58 078211 1000 4/15/10 7:41 1120 75 62 268 4/15/10 8:41 1180 500 4/15/10 9:41 1240 1300 4/15/10 10:41 4/15/10 11:41 1360 4/15/10 12:41 1420 4/15/10 13:41 1480 4/15/10 15:41 1600 2h 078505600 D1640 Adj. a hair 10246, but when I double choosed with a SEV the cluber 1 to have the jumped up to 257! Rect any the to 247 = 539,000 golds + 1659 = 349 com 575 4/15/10 17:41 1720 56 52 244 33287 26.15 4/15/10 19:41 1840 4/15/10 21:41 1960 4/15/10 23:41 2080 4/16/10 1:41 2200 4/16/10 3:41 2320 4/16/10 5:41 2440 @0800 1st rented the setting - 272 - makes No secre. Turaked Fred - 26 - 11 hours 0813 HLL 725 257 309,70 41.62 2560 4/16/10 7:41 07897007776 72 500 4/16/10 9:41 2680 260 78 75 2800 4/16/10 11:41 200 260 @ 1415 Ad; FCV from 260 to 250 psi to increase injections rate. JWO 4/16/10 13:41 2920 350 60 250 4/16/10 15:41 3040 4/16/10 17:41 3160 4/16/10 19:41 3280 4/16/10 21:41 3400

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\sim						$\langle = \rangle$	CIDMI	N wh	2 34,90 M2 080075 000
						MPV	NMD		73577 -> u 2" mi
Well: ASR 2			PHASE	1 AQU	IFER S	TORAG	E AND REC	COVERY PR	ROJECT Starting Water Level
Test:			-	t	est 19/	4			359.32 Sheet No. 3 of
	towner Ethnology (Rate	Totalizer	Pre	ssure ((psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
1/16/10 23:41	3520								
4/17/10 1:41	3640								
4/17/10 3:41	3760								
4/17/10 5:41	3880								
4/17/10 7:41	4000								
4/17/10 9:41	4120	380	079481600	57	53	241		annan a' familia bila t	00951
/17/10 11:41	4240								NO + DS. 16 GASE ANTANIS COMPANY TL.
/17/10 13:41	4360			8			a a portas 1.1		and a second second second second second second second second second second second second second second second
/17/10 15:41	4480		and and an an an and a short the state of th	an					
1/17/10 17:41	4600		• 1. 1. magnetic marks and the last the state of the last the last the last the last the last the state of the last the state of the last the l						
1/17/10 19:41	4720		ar tas - 11, yr 15, 1 m - 11 m - 11 m - 11 m					announce a set southala a set a s	
/17/10 21:41	4840				- · ·				
1/17/10 23:41	4960			•• ••••				1000-100-1 1 1 1 1 1 1 1 1	· · · · · · · · · · · · · · · · · · ·
A/19/10 1:41	5080								
4/10/10 1.41	5200	No Postaria y Col Maria - Co		··· ·					
4/10/10 3.41	5200		a partar a second and an and an Alexandra					ener at an featured in a state of	
4/18/10 3:41	5320						TTECT	7121.200	
4/18/10 7:41	5440	1.40	a a a a a t				212.86	9596	6) 1022 0
4/18/10 9:41	5560	680	079999000		72	2.58			909 28 - incrementally increased to V hay i 2
1/18/10 11:41	5680								as hopen to see us praise in flow water within
4/18/10 13:41	5800								- 16 amonthe back buil som ho papares but
4/18/10 15:41	5920								T(VSOLA 2651-51- FLA- SINO 6750 10:00
4/18/10 17:41	6040								
1/18/10 19:41	6160						v		
1/18/10 21:41	6280			·					(ON 4/16/19 JOBATIN dissembled Libertine
1/18/10 23:41	6400								a of flusted sculte, 1000 from 2" MCWALLE-
4/19/10 1:41	6520			101 W. 1					reassembled to alive tushes tortane filter; Did raise
4/19/10 3:41	6640								Set Lube Libro D. Sylette
4/19/10 5:41	6760								76562 ct an televise al actil
4/19/10 7:41	6880	75	0801750001	59	56	263			0)0809 - Resold (VAL 242, 500 G/M
4/19/10 9:41	7000			1					-(
4/19/10 11:41	7120								
4/19/10 13:41	7240								
1/19/10 15:41	7360	650	08029300	49	50	749	311,46	47.86	SNUT DRUMM 4 RF (21520
4/19/10 17:41	7480								
4/19/10 19:41	7600								
4/19/10 21:41	7720	550	080372100	50	44	249	369.32	Ø	WT 1545 START TERT#70
4/19/10 23:41	7840			aruse	· · · · · · · · · · · · · · · · · · ·				4/14/10 (787)
4/20/10 1:41	7960								2 march Dart - 11
4/20/10 3:41	8080			· · · -	F				
4/20/10 5:41	8200	Marina 1, 1997 - 1		1714	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				
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MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: <u>ASR 2</u> Starting Water Level test 19/1% Sheet No. 4 of ____ 359.32 Test: Pressure (psi) Rate Totalizer DTY Drawup 管理网络官 **Comments/Other** Line | Head | FCV Date/Time (min) (gpm) (gallons) (ft btst) (ft) 4/20/10 7:41 8320 4/20/10 9:41 8440 4/20/10 11:41 8560 4/20/10 13:41 8680 4/20/10 15:41 8800 4/20/10 17:41 8920 4/20/10 19:41 9040 4/20/10 21:41 9160 4/20/10 23:41 9280 9400 4/21/10 1:41 9520 4/21/10 3:41 4/21/10 5:41 9640 4/21/10 7:41 9760 4/21/10 9:41 9880 4/21/10 11:41 10000 10120 4/21/10 13:41 4/21/10 15:41 10240 10360 4/21/10 17:41 4/21/10 19:41 10480 4/21/10 21:41 10600 4/21/10 23:41 10720 10840 4/22/10 1:41 10960 4/22/10 3:41 4/22/10 5:41 11080 4/22/10 7:41 11200 4/22/10 9:41 11320 11440 4/22/10 11:41 4/22/10 13:41 11560 4/22/10 15:41 11680 11800 4/22/10 17:41 4/22/10 19:41 11920 4/22/10 21:41 12040 4/22/10 23:41 12160 12280 4/23/10 1:41 12400 4/23/10 3:41 4/23/10 5:41 12520 4/23/10 7:41 12640 4/23/10 9:41 12760 4/23/10 11:41 12880 13000 4/23/10 13:41





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MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: ASR 2

4/19/10 23:35

Test 20/14 Test: Sheet No. 1 of ____ 97° 🗉 (2008) Rate Pressure (psi) Totalizer DTW Drawup a de station de la service de la contraction de la contraction de la contraction de la contraction de la contra Date/Time (min) (gallons) Line Head FCV (ft btst) **Comments/Other** (gpm) (ft) 4/19/10 15:45 1 min 359.32 Ω 4/19/10 15:46 ft settings 76 4/19/10 15:47 Z13 800 OXSLYERO 78 4/19/10 15:48 4/19/10 15:49 4 4/19/10 15:50 5 4/20/10 SET TO 1000 80832 300 82 6 188782600 276 4/19/10 15:51 1551 . . 8 . 4/19/10 15:52 257 4/19/10 15:53 8 200 9 4/19/10 15:54 10 4/19/10 15:55 12 4/19/10 15:57 15 4/19/10 16:00 5 min 412 20 4/19/10 16:05 25 4/19/10 16:10 Incorre 4/19/10 16:15 30 35 4/19/10 16:20 40 4/19/10 16:25 45 4/19/10 16:30 L, 50 4/19/10 16:35 55 4/19/10 16:40 60 4/19/10 16:45 70 4/19/10 16:55 10 min 80 4/19/10 17:05 90 4/19/10 17:15 4/19/10 17:25 100 4/19/10 17:45 20 min 120 4/19/10 18:05 140 160 4/19/10 18:25 180 4/19/10 18:45 4/19/10 19:05 30 min 210 240 4/19/10 19:35 4/19/10 20:05 270 4/19/10 20:35 300 4/19/10 21:05 330 360 4/19/10 21:35 4/19/10 22:05 390 420 4/19/10 22:35 4/19/10 23:05 450

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

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Test:

Test 20

Starting Water Level

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359.32 Sheet No. 2 of ____

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in menuly & rights by	an sa gadea	A RELAX CONTRACT	Kate	lotalizer	- PL6	ssure	(psi)	ALCONTRACTOR	Prawup	
Date/Tin	ne	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/20/10 0:05		510								
4/20/10 0:35		540								
4/20/10 1:05		570								
4/20/10 1:35		600								
4/20/10 2:05		630								
4/20/10 2:35		660								
4/20/10 3:05		690								
4/20/10 3:35		720								
4/20/10 4:05		750								
4/20/10 4:35		780								
4/20/10 5:05		810		N who shows and						
4/20/10 5:35		840								
4/20/10 6:05		870								
4/20/10 6:45	40 min	900							-	
4/20/10 7:25		940								
4/20/10 8:25	1 hr	1000								
4/20/10 9:25		1060								
4/20/10 10:25		1120	and to be an an an							
4/20/10 11:25		1180								
4/20/10 12:25	Table	1240		·····						enninge som av attender and the sound the sound of the
4/20/10 13:25		1300								anna a ar 110 111 111 111 111 111 111 111 111 11
4/20/10 14:25		1360								аналананан а алау айлайындын мөнөн өсөнө өсөнө на алауылаанын өөдө үүрэд ААНК алаад ар тоолооноо өөөнөөнөө өөрөө өөрөө алауы ал ал ал тоолоо ал
4/20/10 15:25		1420								
4/20/10 16:25		1480				. <i>.</i>				
4/20/10 18:25	2hr	1600	Internet in the second second							
4/20/10 20:25		1720	700	681292 1000)	48	46	249			Q. 1650
4/20/10 22:25		1840		· · · · · · · · · · · · · · · · · · ·	•••••••	e.a			-	
4/21/10 0:25		1960								
4/21/10 2:25		2080			_					
4/21/10 4:25		2200		-						
4/21/10 6:25		2320					~	202 20		
4/21/10 8:25		2440	1020	082082 000		68	ZSY	218.94	80,83	C 0845
4/21/10 10:25		2560						1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		
4/21/10 12:25		2680								
4/21/10 14:25		2800								
4/21/10 16:25		2920		and the second second second second second second second second second second second second second second second						The second s
4/21/10 18:25		3040								
4/21/10 20:25		3160								
4/21/10 22:25		3280								
4/22/10 0:25		3400								

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: <u>ASR 2</u> Test: _____

Test 20

Starting Water Level 359.32 Sh

Sheet No. 3 of ____

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n en alter her inder alle alter alter	: Marcheller Barrelater	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup		
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)		Comments/Other
4/22/10 2:25	3520									
4/22/10 4:25	3640									
4/22/10 6:25	3760	and a second at a second second								
4/22/10 8:25	3880	1050	683359 0007	70	68	254			0830	and a second secon
4/22/10 10:25	4000									
4/22/10 12:25	4120	T · · ·		T						1 TOTAL REPORT OF A CONTRAC
4/22/10 14:25	4240	-								
4/22/10 16:25	4360	850	08392510001	48	46	245	275,97	83,35	01645	
4/22/10 18:25	4480									
4/22/10 20:25	4600									
4/22/10 22:25	4720				,					
4/23/10 0:25	4840		· · · · · · · · · · · · · · · · · · ·	y 1100000 1			11		anna i annaiseine rain rain an	1 Lawrence - Construction of APPENDENT ACCOUNTS A CONSTRUCT A CONSTRUCT ACCOUNTS AND A CONSTRUCT ACCOUNTS A A CONSTRUCT ACCOUNTS AND A CONSTRUCT ACCOUNTS AND A CONSTRUCT ACCOUNTS AND A CONSTRUCT ACCOUNTS AND A CONSTRUCT ACCOUNTS AND A CONSTRUCT ACCOUNTS AND A CONSTRUCT ACCOUNTS AND A CONSTRUCT ACCOUNTS AND A CONSTRUCT ACCOUNTS AND A CONSTRUC
4/23/10 2:25	4960									annon , a a anna , a ffianna , a an anna , a an anna an a a anna an an anna anna an an
4/23/10 4:25	5080		a mandar i i rappenara							
4/23/10 6:25	5200			familie in the second					· · · · · · · · · · · · · · · · · · ·	The second second second second second second second second second second second second second second second se
4/23/10 8:25	5320	1050	84752 000	70	66	254	249.01	110.31	@ 0815	249.01 @ 7:40 ou 4/23/10
4/23/10 10:25	5440									and a second second second second second second second second second second second second second second second
4/23/10 12:25	5560									
4/23/10 14:25	5680								that a second second	
4/23/10 16:25	5800	850	85227000	50	46	235			@ 1630	279.25 @ 1540 ON 4/23/10
4/23/10 18:25	5920		to a construction of a construction and a construction of a constr							
4/23/10 20:25	6040		A 100 - 1							
4/23/10 22:25	6160									
4/24/10 0:25	6280		Personal and Contractory and	10000 1 1 per						
4/24/10 2:25	6400				1007 I					a nada dinangkananya ya na mananananya sa dinangkananya nayo samanandahananya manangkananya sa sa samanana da s
4/24/10 4:25	6520				· · · · · · · · · · · · · · · · · · ·					
4/24/10 6:25	6640		a a second state of a second state of the	10 ¹ 1 - 2 ¹ 2 ¹ 1 - 2 ¹ 2 ¹ 1			-			
4/24/10 8:25	6760		· · · · · · · · · · · · · · · · · · ·				a dallan ar a succession a		and the second sec	
4/24/10 10:25	6880	1200	86370 000	70	68	250	230,09	129.23	1001011	230.09 @ 940 ON 4/24/10
4/24/10 12:25	7000							a an fan fan fan de staar en se	· · · · · · · · · · · · · · · · · · ·	
4/24/10 14:25	7120		······				222.85	130.54	the second second second second second second second second second second second second second second second se	ne naty internet and a construction of the second second second second second second second second second second
4/24/10 16:25	7240	aler					219.58			and and a construction of a construction of the second second second second second second second second second
4/24/10 18:25	7360		and the local state of the second state of the		· · · · ·		214.48		and the second	
4/24/10 20:25	7480						104.47			
4/24/10 22:25	7600		International and a second secon				201.82			an and all the properties of the second second of the second second second second second second second second s
4/25/10 0:25	7720						157.22			ор отножны на на на на на на на на на на на на на
4/25/10 2:25	7840	analysis in a relation		and the second s		and the second sec	144.55	214,77		
4/25/10 4:25	7960		·····				159.75			and a second
4/25/10 6:25	8080		All the second sec		• •		16937	·····		
4/25/10 8:25	8200		tot and the second second second second second second second second second second second second second second s	1			162.02			

STEVE (808) (220-2238

73599 (F Livelme tuid on to 0.30 CF @ 1500

1997 - 1997 - 19

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MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Starting Water Level

Well: <u>ASR 2</u> Test: _____

Test 20

359.32 S

32 Sheet No. 4 of _____

lain headacha ann à cettre is sin is loimea	AL AND BLACK	Rate	Totalizer	Pre	ssure (<u>(psi)</u>	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/25/10 10:25	8320						165.87	156:09	
4/25/10 12:25	8440	~1300	688325 000	52	56	1250	203.27		@1340 water blasting out of vent and soundly take, pad
4/25/10 14:25	8560			Ø	BYO-		363.84		to chem building flooded as is sur wad and "Lafe Tanner "
4/25/10 16:25	8680					'			Turned up to 300 to stop inj. Hermit floating in 1000
4/25/10 18:25	8800								NO Xternal power 180% batter, Bracker did not appear
4/25/10 20:25	8920								bipped-still in the 'ow' position. Turnedit off
4/25/10 22:25	9040								then and and did same at switch, but skill no
4/26/10 0:25	9160						· · · · · · · · · · · · · · · · · · ·		yternal pondy, Sounder and Trollable blown
4/26/10 2:25	9280								Navtrally out of hole, TL
4/26/10 4:25	9400								
4/26/10 6:25	9520								
4/26/10 8:25	9640								
4/26/10 10:25	9760								
4/26/10 12:25	9880	•	1			. * *]			
4/26/10 14:25	10000					1. N			
4/26/10 16:25	10120								
4/26/10 18:25	10240								
4/26/10 20:25	10360								
4/26/10 22:25	10480								5 Store 19 10 10
4/27/10 0:25	10600								
4/27/10 2:25	10720								۵. <u>محمد میں کی درمان میں میں میں میں میں میں میں میں میں میں</u>
4/27/10 4:25	10840								
4/27/10 6:25	10960								
4/27/10 8:25	11080								
4/27/10 10:25	11200								
4/27/10 12:25	11320								4 25 10 18 01:40:48 NW 129.776
4/27/10 14:25	11440								
4/27/10 16:25	11560					International Academic Process			Juistud Davi
4/27/10 18:25	11680								
4/27/10 20:25	11800								Line to
4/27/10 22:25	11920								
4/28/10 0:25	12040								
4/28/10 2:25	12160								- uni hua a 1800 2 DU Looksk
4/28/10 4:25	12280								
4/28/10 6:25	12400								
4/28/10 8:25	12520								
4/28/10 10:25	12640								
4/28/10 12:25	12760			the factor was a second					
4/28/10 14:25	12880								
4/28/10 16:25	13000								

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: <u>ASR 2</u>

Test: ____

Test 21 20

Sheet No. 1 of ____

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	ET	Rate	Totalizer	Pre	ssure	(psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/28/10 13:15 1 min	0)		Γ					
4/28/10 13:16	1 1								
4/28/10 13:17	2	2							
4/28/10 13:18	3								
4/28/10 13:19	4	ł							
4/28/10 13:20	5	;							
4/28/10 13:21	6								
4/28/10 13:22	7	1							
4/28/10 13:23	8								
4/28/10 13:24	9								
4/28/10 13:25	10								
4/28/10 13:27	12								
4/28/10 13:30 5 min	15								
4/28/10 13:35	20								
4/28/10 13:40	25								
4/28/10 13:45	30								
4/28/10 13:50	35							1007 Weblinder (
4/28/10 13:55	40								
4/28/10 14:00	45								
4/28/10 14:05	50						,		THE DBS SUBJECT OF GRADUATION OF A REAL AND A DECK
4/28/10 14:10	55	i							
4/28/10 14:15	60								
4/28/10 14:25 10 min	70								
4/28/10 14:35	80								
4/28/10 14:45	90								
4/28/10 14:55	100								
4/28/10 15:15 20 min	120								
4/28/10 15:35	140)							
4/28/10 15:55	160		An electronic distance in the second second second						
4/28/10 16:15	180								
4/28/10 16:35 30 min	210)							
4/28/10 17:05	240		· · · · · · · · · · · · · · · · · · ·						
4/28/10 17:35	270								
4/28/10 18:05	300								
4/28/10 18:35	330								
4/28/10 19:05	360								
4/28/10 19:35	390								
4/28/10 20:05	420)							
4/28/10 20:35	450								
4/28/10 21:05	480								

300-360

~360 STARTING 360 DIW = 150

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: <u>ASR 2</u>

Test:

Test 21 20

Starting Water Level 0

Sheet No. 2 of ____

		Rate	Totalizer	Pre	ssure ((psi)	DTW	Drawup	
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
4/28/10 21:35	510)							
4/28/10 22:05	540	D		-					
4/28/10 22:35	570	5							
4/28/10 23:05	600	5							· · · · · · · · · · · ·
4/28/10 23:35	630	5							· · · · · · · · · · · · · · · · · · ·
4/29/10 0:05	660	ō		* * ***					
4/29/10 0:35	690					1			THE DEFINITION OF A DEFINITIONO OF A DEFINITA DEFINITIONO OF A
4/29/10 1:05	720	5							a a a an ann an An An Ann an An Ann an An Ann an An Ann an An Ann an An Ann an An Ann an An Ann an An Ann an An
4/29/10 1:35	750								· · · · · · · · · · · · · · · · · · ·
4/29/10 2:05	780	- · ·							
4/29/10 2:35	810	5							
4/29/10 3:05	840								
4/29/10 3.35	870			· .			- · ·		· · · · · · · · · · · · · · · · · · ·
4/29/10 4·15 40 r	ain 900					••••			· · · · · · · · · · · · · · · · · · ·
4/29/10 4:55	940								
4/29/10 5:55	hr 1000								· · · · · · · · · · · · · · · · · · ·
4/29/10 6:55	1060	5							·····
4/29/10 7:55	1120	5							· · · · · · · · · · · · · · · · · · ·
4/29/10 8:55	1180	· ·	·						1.0000 1
A/29/10 0:55	1240	ń							
4/29/10 10:55	1300								· · · · · · · · · · · · · · · · · · ·
4/29/10 11:55	1360	S.							
4/29/10 12:55	1420								
4/29/10 12:55	1420								· · · · · · · · · · · · · · · · · · ·
4/29/10 15:55	1400		6000711400		71				
4/29/10 13:55	1720	-100	08411-1000	14	10	261			C 16 70 a uma a como a como a como a como a como a como a como a como a como a como a como a como a como a como
4/29/10 10:55	1840								1 NO 10000 1
4/20/10 21:55	1040					1. A. 1.			
4/29/10 21:55	1900	ŝ							and a construction of the second second second second second second second second second second second second s
4/29/10 23.55	2000			·· -					the second second second second second second second second second second second second second second second se
4/30/10 1.55	2200	- · ·	· · · · ·						· · · · · · · · · · · · · · · · · · ·
4/30/10 3.55	2320	200	180 2 TO	<i>4</i> .7 ····	- -	1			A 1830
4/30/10 5.55	2440		001311000	SL.	<u>, so</u>	$\propto 11$			
4/30/10 7.55	2000						··· ·		
4/30/10 9.55	2000	(· · · · · · · · · · · · · · · · · · ·
4/30/10 11.55	2000			· ·					
4/30/10 13:55	2920				•				n
4/30/10 15:55	3040								а с на праводата на праводата на праводата се се се се се се се се се се се се се
4/30/10 17:55	3160							· -	
4/30/10 19:55	3280			· · ·	-				
4/30/10 21:55	3400)							





BF1 904275000) BF2 90 408 1000

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

Well: ASR 2

Starting Water Level

0

Test:

Test 21 20

Sheet No. 3 of ____

5/5

- 1643

	and the second	ST PET WE	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	
	Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
	4/30/10 23:55	3520								
$\hat{\mathbf{O}}$	5/1/10 1:55	3640								
(й)	5/1/10 3:55	3760				1				
V)	5/1/10 5:55	3880								
	5/1/10 7:55	4000								258,79
2	5/1/10 9:55	4120								- 160
ě.	5/1/10 11:55	4240								98,79
6)	5/1/10 13:55	4360	250	089767000	82	79	280	258.79	98.39	01225 - checked FCV by closing both 5 fer
	5/1/10 15:55	4480				, i				of realizator, bleed and pressures then only
	5/1/10 17:55	4600								pour ECV- more loke Z90 psi I dout
	5/1/10 19:55	4720								before the rea, but very cloutin energy
	5/1/10 21:55	4840								the tev Doublacked the test.
	5/1/10 23:55	4960								
	5/2/10 1:55	5080								I BE INTERNET THE ALL AND ALL A
	5/2/10 3:55	5200								
	5/2/10 5:55	5320								
	5/2/10 7:55	5440								
	5/2/10 9:55	5560								
	5/2/10 11:55	5680								01018 - Norsa,
	5/2/10 13:55	5800	300	0901110001	22	79	277	263.40	100.40	= Z63-163. 1 constitution " is and rol" - vit
	5/2/10 15:55	5920				,				West respectives and there is "agreenter and
	5/2/10 17:55	6040				1				
	5/2/10 19:55	6160								
	5/2/10 21:55	6280								
	5/2/10 23:55	6400								
	5/3/10 1:55	6520								
	5/3/10 3;55	6640								
	5/3/10 5:55	6760								
	5/3/10 7:55	6880	Ø	C90234 0007	58	58	279		\bigcirc	CORSO well not uning liket test -1-
	5/3/10 9:55	7000	/		· .					meanine diamano honde rielo \$
	5/3/10 11:55	7120								offerred to 11
	5/3/10 13:55	7240								- for the form
	5/3/10 15:55	7360								SET FOUTO 256 @ 300 GPM
	5/3/10 17:55	7480	.							
	5/3/10 19:55	7600	6	090427100	-		aE			1645
	5/3/10 21:55	7720								
	5/3/10 23:55	7840								
	5/4/10 1:55	7960	Ann. 1991 1. 1			1				
	5/4/10 3:55	8080								
	5/4/10 5:55	8200								

MPWMD PHASE 1 AQUIFER STORAGE AND RECOVERY PROJECT

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Well: ASR 2

Test: ____

Test 21 20

Starting Water Level
0 Sh

Sheet No. 4 of ____

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The second second second second second second second second second second second second second second second s	ET	Rate	Totalizer	Pre	ssure (psi)	DTW	Drawup	a na ana amin'ny fanisana amin'ny fanisana amin'ny fanisana amin'ny fanisana amin'ny fanisan'i Amin' amin'ny fa
Date/Time	(min)	(gpm)	(gallons)	Line	Head	FCV	(ft btst)	(ft)	Comments/Other
5/4/10 7:55	8320								
5/4/10 9:55	8440								
5/4/10 11:55	8560								
5/4/10 13:55	8680								
5/4/10 15:55	8800								a talan a tala talan a talan ang sana ang sana ang sana ang sana ang sana ang sana ang sana ang sana ang sana a
5/4/10 17:55	8920								
5/4/10 19:55	9040							-	
5/4/10 21:55	9160								
5/4/10 23:55	9280							••	
5/5/10 1:55	9400						-		
5/5/10 3:55	9520								· · · · · · · · · · · · · · · · · · ·
5/5/10 5:55	9640					-			· · · · · · · · · · · · · · ·
5/5/10 7:55	9760		• •						1 1 1100 1990
5/5/10 9:55	9880								· · · · · · · · · · · · · · · · · · ·
5/5/10 11:55	10000								IN AT ANY OF A RECEIPTION OF A RECE
5/5/10 13:55	10120								
5/5/10 15:55	10240								
5/5/10 17:55	10360		·						
5/5/10 19:55	10480								
5/5/10 21:55	10600								
5/5/10 23:55	10720	-							
5/6/10 1:55	10840								
5/6/10 3:55	10960								a i i trati i kili i i i i i i i i i i i i i i i i
5/6/10 5:55	11080								
5/6/10 7:55	11200								···· · · · · · · · · · · · · · · · · ·
5/6/10 9:55	11320		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						The experimental sector of the experimental constraints of the sector of
5/6/10 11:55	11440			· · · ·					
5/6/10 13:55	11560								· · · · · · · · · · · · · · · · · · ·
5/6/10 15:55	11680							-	, ,
5/6/10 17:55	11800	L .		···· · -	-				
5/6/10 19:55	11920	1						- ·	
5/6/10 21:55	12040		-						
5/6/10 23:55	12160								I I I I I I I I I I I I I I I I I I I
5/7/10 1:55	12280			ana					
5/7/10 3:55	12200				· · · · · · · · · · · · · · · · · · ·			•••• ··• ··· ··	
5/7/10 5:55	12400								
5/7/10 3:55	12020		· · · · · · · · · · · · · · · · · · ·				· ·		
5/7/10 7:55	12760	· · · · · · · · · · · · · · · · · · ·							
5/7/10 11:55	12/00								
5/7/10 12:55	12000								
5/1/10 13:55	13000								

Vate 09 10700 P/L P/H FCV 15/21/10	@ 1600 (respiring 0 1500 mm - 80mm)
No BE prior to mj TLL	
5/22/10	
367.68 DTW @ 1015 Soundin. 165.886 = French Statictul	· · · · · · · · · · · · · · · · · · ·
\$ 090416000 85/83	
Set #CV to 275 running @ 350 g/m 82/79 @ 1039	
5/23/2000 1200	1000 m 1 - (814 h +)
400 gpm WL proba = 340.55	339.40 C 5/23 10:01 366.32 C 5/22 9.22 JW0 266.92 du
5/24/2010 C 0800 091393 0000 gel 60/58 Fer = 274	363.58 @ 5/24 8:15 366.32 @ 5/22 9:22 JWD
200 gpm 58/55 FCN 2 260 Open FCN to A flow Check HERMIT probe 175 Ft and risis	2.74 du
5/24 2010 @ 1630 091552 [000] gel 74/70 FCN = 260 Verily FCN setting 260 - was at 254 psi, so reset to 260 psi	340.16 (2 5/24 14:01 Juro 366.32 (2 5/22 9:22 26.16 du
5/25/2016 @ 0800 64/60 F-CN = 263 Verity FCV setting@ 260-no, 262! Reset to 254 pri - now 350 gpm- 250 spm	366.32 @ 5/22 9:22 JWO 353.72 @ 5/25 6:01 12.60 du
5/25/2010 @ 1230 68/64 Fer = 255 Reset FCV to 258 psi - 092235(000]	366.32 313.39 @ 5/25 15:01 Juno 12.93 du
5/26/2010 00812 74/70 FCV= 256 700 6pm - Hisetto	366132 304.76 62.16 du ADO TO 267 ON FEV = 500 8/PM

REPORT OF FIELD OBSERVATIONS

M T W T F S 🗴 12/13/09 Job No.: Date: 06-0025 Phase 1 45R Site MPWMD Client: Location: Project: Weather: Irain Wy 2010 cloudy. Start: 745 Stop: 1710 Observer: RLM Observation Period 745 on site AS2.2. Sub = 38667' Gtst. Set Up PWR SUD PSIA PXD & Hermit 3000 34,1 Ft H.O e 6.5. Set XD e ~ 500' ×D Hand = 147.62 (-34.1) + 386.67 = 500,19' btot settin ~830 Start Test #1, 2 min linear. ASR-1: Reduce MAND Harmit w/ PWR Hurmit. PXD-261 SN 8097, 260 paig Linem 1.9217. Senle 247.378 offset - 0.0073. SWL = 369.23' Gtst , XD head = 91.61 × D setting = 460.84 '6tst fluching to waste an spm 1 Lan sheets -1300 Berin injecty ASR-1 1320 Site for lonch THTI Leave 1430 Back (see data sheets) on site. Injecting @ ~ 1050 gpm 1710 Leave Si Page / of

ater resources

PUEBLO water resources

12/14/08 **X**TWTF Job No.: Date: S S 06-0025 Client: ASR site Location: MPWMD 1 phase panth Project: clondy Weather: WY 2010 SO Start: 800 Observer: **Observation Period** Stop: 17 RLM 800 on site ASA inchi 1050 de -1 e. See 9 m gus XD Ca 10 Sha ra XD 10'0 9528.0 6 flow closed wa 34 cfm 0. Pressure 00 2 51 psi down = 2 1 000 30 Runnin Extract DTW 62 Leave running O 1220 - 1000 1000 jpm ASRwas 1230 Bog £.111. ASR-2 Co Sheets 1730 1 of Page_

PUEBLO Walter resources

12/15/09 м 🗶 w т ғ s Job No.: 06-0025 Date: S SMTIN Site Client: MPWMD Location: Phi ASR, WY 2010 Project: Clondy Weather: Start: 805 Stop:)735 Observation Period Observer: Rem 805 on site Tom Lindby on site, rendings @ Ask-1 Anlein 815 ASR-2! Start generator. Totalizen=011308[55] gals FCU = -272 ps; Tank = 1980 psi, SWL= 381.5 Lube: 698310] ft3, 0.24 cfm. PSi Up: 51, down = 52 450 stant pump. 900 PWL = 505.6 6+st, 50 psi, 1000 gal/43 secs = 1395 gpm Q/S = 1395 + 124.1 = 11.2 gram/Ft 905 Pump trips off. 935 Restant pump 945 PWL = 505.8, 45 ps; 1000 gnl/36 secs = 1667 gpm Q/2 = 1667 + 124.3 = 13.4 gpm/ Ft 947 Pump trips off 10' Restart pump 10'5 U-V: 4460V, V-W: 480V, W-UZ 480V, U: 540 Amps, V: 540 Amps, W: 540 4 1020 PWL = 507.2, 40 psi, 1000 gal/34 secs = 1765 gpm 21 10 Pump tips of Q/3=1765+125.7=14.0 (Ad) 15%= 16.1 gaulft 1040 Restart pump 1045 psi, 1000 gn1/34 secs = 1765 gpm 35 1047 Pump trips off (7-min only) ~11°0 will Fost (chu) on sit 1 of 2 Page

PUEBLO water resources

12/15/09 MXWTFSS Job No.: 06-0025 Date: Client: SMTIN site MPWMD Location: Ale cloud Project: Weather: 12010 Start: 805 Stop: 1735 REM Observer: **Observation Period** 1125 Restart pump. 12+1000 gal/32 sees - 1875 gpm, 30 psi 1130 PWL = 509.6 (128.1' DON W/s = 14.6 gpm/ff) 1135 PWL = 509.8 32 psi, 1000 cml/ pump trips off 1200 Rostart Pump 1205 Pub = 508.5, 28 psi, 1000 gal/31 secs = 1935 gpm Q15=1935+127'= 15.2 gpm/ft 12" PWL=509.8, 30 psi, Pump Trips off. Shut down 1230 Leave sit stays on site r. Cwill Fost 1250 Brick on site, 13° Due Oliver on site, Propose to conduct FCU test P A52-2 1330 ASR-2 Few test (see durin sheets) start 15° complete FLU Test Bog:n brackFlushing ASR-2 (See date sheet) 1530 1735 of A Page ≺

Job No .: 06-0025 Date: 1/20/10 M Т TFSS Fort ord / sensid Client: MPWMO Location: Rain Weather: Project: Wy 2010 Asr Start: 15 Stop: 17 Observer: **Observation Period** Rum 1600 on site. No personel activity Corcept ASR -1 injection ي د Take photos o arens, etc 1640 ASR-1: Totaliza= 145801000) gpm DTW = 323.05 , FLU = 219 psi Download Test #4 + 5 (# 5 is currently running settin: RP= 369.23, XD Hand = 91.61 => 460,84 St Gtoc YD 1710 Leave Site of Page

PUEBLO Water resources

MTWKFSS Job No .: 06-0025 Date: 1/21/10 Fort ord / seacide Client: Location: MPWMD Rain Project: WY 2010 ASR Weather: Stop: / 5 Start: 200 Rcm **Observation Period** Observer: 000 ASR -1: Totalizen = 146860 1000 , - 900 gpm, Line = 70 psi FLU= 219 psi DTW = 310.52 (0851) > Projected, Pluceholden for 951 = 323,87, XD @ 910 = 136,46 (460.33) 920 ASR-2: Test # 7 running. Last DTW = 370,95 @ 818 Manual DTW = 369.55, XD = 160.00 (529,54 ??) Extract pata, Last only pt = 369.75 0 918. OK 935 Line Pressure @ ASR-2=68 psi 940 MW-1: Extract test data. Wy 2009#2 Running 15% used memory 13% used battery. 100 last data st = 352.34. Attempt to get manuel pTw, but unable to get Soundly past 200' in coli pipe (no room in 3/4" situle) Ш^{'5} SDI! ET Sec => 0.49 0 25 5 26 10 27 15 27 Leave Site Page $l_of Z$

PUEBLO waiter researces

REPORT OF FIELD OBSERVATIONS

1/21/10 MTW NIFISIS Job No.: Date: 06-0025 Client: MPWMD Location: t Ord Weather: Project: WY 2010 ASR overcast Start: 900 Stop: 1≤ **Observation Period** Observer: RCM 1400 ASR-1: ~ 925 gpm, 72 psi LP, Feu = 220 psi Totaliza = 147158/000) . Extract Test#5 DTW 2 322.67 @ 1351 Process / plot/e-mail Tost #5 4 1515 Totaliza: 147241/000, 92 psiLP 45R-1: ~1300 DTW = 311.16 (x0-150.15 - 4615) FLU = 226 of 2 Page 🖌

4478 Market St., Suite 705 = Ventura, California 93003 = 805.644.0470 = Fax 805.644.0480



Observer:		~	L,JL		
Date:	10/201	09	* ·		
Observation Period:	Start:	1305	Stop:	1345	
Well ID:	MW-1				
Weather:	(LOUDY, WI	ND ~ SMPH F	ROM NW	·····	

Purging/Water Level I	Data	Notes:					
WellStatus	RUNINUMA						
Purge Rate (gpm)	13						
Totalizer Reading Start (gals)	100730107	0~1005 0073600701305					
Totalizer Reading End (gals)	00.73710	@~1450					
Purge Volume (gals)	700						
Static Water Level*	364.29 DTW	361.440 ASR-1@1300					
Data Logger Water Level 👘 🛶	3						

Pump must be off a minimum of 10 minutes prior to measuring.

Water Quality Parameter Data						
Time:	1330		,			×
Temperature (°C)	22.5°C					4
Conductivity (umhos/cm)	966 NSKM					
рН	7.3			-		
ORP (mV)	-67.1mV			· · · ·		ŕ
Free Chlorine Residual (mg/L)	MD				2 2	
Dissolved Oxygen (mg/L)	O.Ilmall					•
Silt Density Index	Low					
Gas Volume (mL)						
H2S (mg/L)						
Visual Observation	CLEAR				· .	

Sampling Data

Sample Container Type	Preservative	Laboratory	Laboratory Analyses Requested
TTH,	us L		
HAA	<i>S</i>		
G	-1	×	· · ·
5	, [·		
Notes: Flow	v rate of 100 ml/min for T	HM and HAA samp	ble collection.
Disi	nfect sample port prior to	BACT sample colle	ection

Additional Information	and Observations		,
			W. N
	376.73 FITCH SCHOOL	MONITOR	SHALLOW
	356.28@ Fitch Decie	@ 1500	
	MONITOR		
	· · · · · · · · · · · · · · · · · · ·		
		· · ·	·
•			12.

Page ____ of ___

PUEBLO water resources

ASR2-382,40





Observer:	TL/	51_			-	
Date:	10/2	0109 10/22	109	•	·	
Observation Period:	Start:	1530	Stop:	1600		
Well ID:	ASR-I					
Weather:	put				•	

Purging/Water Level I	Data	Notes:			
Well Status	ON	Regular BF Cycla			
Purge Rate (gpm)					
Totalizer Reading Start (gals)	035585000	-BF			
Totalizer Reading End (gals)	035927000	•			
Purge Volume (gals)	20,000+				
Static Water Level*		×	•		
Data Logger Water Level		· · · · · · · · · · · · · · · · · · ·	,		
* Pump must be off a minimum of 10 min	nutes prior to measuring.				

Water Quality Parameter Data						
Time	: 1600		· ·			
Temperature (°C)	17.8					
Conductivity (umhos/cm)	865			•		
рН	File					
ORP (mV)	104.9					1 - 1 - 1
Free Chlorine Residual (mg/L)	NO					
Dissolved Oxygen (mg/L)	0.20					
Silt Density Index	~~~~					
Gas Volume (mL)	-					,
H2S (mg/L)						
Visual Observation	clean				Y	

Sampling Data

Sample Container Type	Preservative	Laboratory	Laboratory Analyses Requested				
G-1, 5-1, DB755							
· · · ·							
-							
Notes: Flow rate o	f 100 ml/min for TH	IM and HAA sampl	e collection.				
Disinfect sample port prior to BACT sample collection							

Additional Information and Observations

Page ____ of __





Observer:	TL/	52				· · · ·
Date:	11-4-0	9.		• • •	· · · ·	
Observation Period:	Start:	1145	Stop:	12	45	
Well ID:	ASR-1		-			
Weather:	Figgy WI	mey			· · ·	

Munched to 1000 son
Nunhad to 1000 goe
· · · · · · · · · · · · · · · · · · ·

Fortip must be on a minimum or to minutes prior to measuring.

Water Quality Parameter Data							
Time:	1200		-	•	·		
Temperature (°C)	18.1						
Conductivity (umhos/cm)	901						
pН	7,						
ORP (mV)	120	· .		•		1	
Free Chlorine Residual (mg/L)		· .					
Dissolved Oxygen (mg/L)	0132					• .	
Silt Density Index							
Gas Volume (mL)	Í				- ·	• .	
H2S (mg/L))				1		
Visual Observation	•			-	1	•	

Sampling Data Not	VE- THIS Flush	was a demons	tratern four visitions from
Sample Container Type	Preservative	Laboratory	Laboratory Analyses Requested
·		•	
		· .	
	· .	······································	
Notes: Flow rate Disinfect	of 100 ml/min for TI sample port prior to	HM and HAA samp BACT sample coll	ole collection. ection

Additional Information and Observations





Observer:	RCM						
Date:	12/15/	09	· · · · ·				1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
Observation Period:	Start:	15'0		Stop:	1	540	
Well ID:	ASR-1		· · ·				
Weather:	Cloudy	Irnin					

Purging/Water Level I	Data	Notes:
Well Status	Injecting	
Purge Rate (gpm)	NA	
Totalizer Reading Start (gals)	NA	
Totalizer Reading End (gals)	NA	
Purge Volume (gals)	NA	
Static Water Level*	NA .	
Data Logger Water Level	NA	

Pump	must be	off a minimum of	10 minutes price	r to measuring.	
				,	

Water Quality Parame	ter Data				
Time	: 1530				
Temperature (°C)	14.7	and the second			
Conductivity (umhos/cm)	582		· · · ·		
рH	7.8				
ORP (mV)	727				
Free Chlorine Residual (mg/L)	0.7	•	· . '		
Dissolved Oxygen (mg/L)	3,5				
Silt Density Index	5.2				••
Gas Volume (mL)	0.3		х.		
H2S (mg/L)			V.		
Visual Observation	Clean			• • •	

Sampling Data

			•		N
Sample Container Type	Preservative	÷	Laboratory	Laboratory Ar	alyses Requested
		·			
	54 - S.				
Notes: Flow rate of	100 ml/min fo	THN	A and HAA sample	collection.	÷
Disinfect sal	nole port prio	ros	ACI sample collect	101	

Additional Information and	I Ubservations
-	Calibration Check Orion 290
Fel Only	STO Mensured
	PK 4.0 3.8 V
· · ·	7.0 6.9 V
	10.0 9.8
	08P 244 MV P B.9°C V

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1 i i

SDI TESTING DATA SHEET

Testing Intervals	Hou	Irs
Location ASR-1		
Project #		
Project ASR-1	WY2010	•

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e 1. 12

Sheet	of 3
Date 12/1	3/09
Sampler	TRCM/TLL

Time	Minutes	Milliliters	Fill Time Seconds	Comments
10:00	0	500	25	2000 gpts, heating SOI setup
	5	500	126	
	10	500	213	
	15	500	265	50I = 6.04
	-			
1030	0	500	21	
	5	500	. 71	
×	10	500	108	
	15	500	141	SDF = 5.7
1100	0	500	21	
	5	500	64	
-	10	500	105	
	15	500	136	SOI = 5.6
1140				- 1000 gpm to waste
	0	500	21	. 0'
	5	500	42	
	10	500	65	· · ·
÷ ,	15	500	99	50=-5.25
1200				
	0	500	21	
	5	500	39	
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SDI TESTING DATA SHEET

Project #	45K-1	wy2010	
Project#		· · · · · · · · · · · · · · · · · · ·	
Location	ASR-1		·
Testing Ir	ntervals	Hours	8

Sheet	2	of	3	· .
Date <u>/2</u>	<u>/13</u>	109	,	
Sampler	•	RCm/TL	<u> </u>	

	Time	Minutos	Millilitore	Fill Time	Commonte
•	1030	-0	500	21	Comments
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· ·		10	500	26	
	•	.15	500	27	SpE = 1.7
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		5	500	22	
·		10	500	25	
	-	15	500	27	SPI = 17
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SDI TESTING	DATA SHEE	ET
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Project	• •		• .	Sheet of
Project	#	·		Date//
Locatio	on ASR-1			Sampler TL/JL
Testing	ntervals	_Hours		,
		To v 100)/15	· · · · · · · · · · · · · · · · · · ·	
12-16-0 Time	Minutes	Milliliters	Fill Time Seconds	Comments
1127	0	500	19	501=1-6
1132	5	500	19	
- (1 37	10	500	23	
11.42	15	500	25	
12-18-	09 -1410			old SDI 144
1410	0	500	28	
1415	5	500	30	
142	0 10	500	. 32	501=1.0
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12-18.	09 01615			
16.15	0	500	26	@ 11 mutes
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1625	10	500	μ · ·	
+6-3(D <u>15</u>	500	32	SD1 = 1,3
12/22/	09 0930			
0430	0	500	25	puper hours very clean
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	* ¹			
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<u> </u>	15	500		



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		· · · · · · · · · · · · · · · · · · ·				Section States	and the second second	 	
Observer:	TL	_							
Date:	12/16/	9	6.5						n an an an an an an an an an an an an an
Observation Period:	Start:	10	50		Stop:		1215		
Well ID:	ASR-1	IN-	TECTA	τG		-		 	
Weather:						ананан Старалан <u>тара</u>			

Purging/Water Level Da	ata	Notes:	
Well Status	Insecting	~1000 gpm	
Purge Rate (gpm)			
Totalizer Reading Start (gais)			
Totalizer Reading End (gals)			
Purge Volume (gals)			
Static Water Level*			
Data Logger Water Level			

Pump must be off a minimum of 10 minutes prior to measuring

				 e en la seconomia de la seconomia de la seconomia de la seconomia de la seconomia de la seconomia de la seconom La seconomia de la -------------------------------	---------	---	--------------------------------------	--
Water Quality Paramete	er Data		en hijf te de til Net allte angel					
Time:	1055							
Temperature (°C)	15.2							
Conductivity (umhos/cm)	568							
Ηq	7.1							
ORP (mV)	731-							
Free Chlorine Residual (mg/L)	1.00							
Dissolved Oxygen (mg/L)	1.55							
Silt Density Index	1-6	Y						
Gas Volume (mL)	0.5							
H2S (mg/L)	٨Þ							
Visual Observation								

Sampling Data

Sample Container T	ype		Preservative		Laboratory	Laboratory	Analyses	Requested
DOPS								
G-1								
5-1							. ' ' '	
· · · ·		-						
Notes:	Flow ra	te of st sa	100 ml/min fo mole port prio	r THM	I and HAA sample	collection.		*

Page

of

Additional Information and Observations





				· · · · · · · · · · · · · · · · · · ·
Observer.	TL/JL	a state in the second second second second second second second second second second second second second second		
Date:	12/2/09			
Observation Period:	Start: 09	10 Stop	: 0930	
Well ID:	MW-1	* · · · ·		
Weather:	clear cald to	Langertandare)		

Purging/Water Level Dat	a	Notes:
Well Status	ZUNNINA	ran overnight - 0 N 0 130 12/21/09
Purge Rate (gpm)	4.3 00822	608150 Q @0822
Totalizer Reading Start (gals) 06:	7-64110	@ 1217 on 12/21/04
Totalizer Reading End (gals) oo	\$1790.8	00930 ,FF0 0832
Purge Volume (gals)	5,38 101	
Static Water Level*	V/A	
Data Logger Water Level		

Pump must be off a minimum of 10 minutes prior to measuring.

Water Quality Parameter	er Data			·	· · · · · ·	
Time:	0910	T .				30
Temperature (°C)	64°F			-		
Conductivity (umhos/cm)	621	e with at	katon TO:	testar due	to low ba	ts on ytee
pH	7.54	Kwitho	RPIPHM	the "	u e je	
ORP (mV)	314.2					
Free Chlorine Residual (mg/L)	ND .				1. A	
Dissolved Oxygen (mg/L)	1.49		÷.,		·	
Silt Density Index	· •••••	01960	ASR-1			and a second sec
Gas Volume (mL)			• -		24	
H2S (mg/L)	ج				1. T.	
Visual Observation	clear					

Sampling Data

Sample Container Type	Preservative	Laboratory	Laboratory Analyses Requested
NONE			
			· · · · ·
Notes: Flow Disinf	rate of 100 mi/min for T ect sample port prior to	HM and HAA sample BACT sample collect	collection. tion

Additional Information and Observations

F-1 ONLY - Battomes low on both tonduction and pH meter, so used back-ups

Page ____ of ___

06-0024 SAP field form Jan09.xis

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5 5,3 to gan Putter TEMP 649F CONO 631 LUMINUCUN PH 3.54 NND FI ND DO 1.49 Mg/L TEMP 15.7% CONO 478 Jumo/cun PH 6.8 WV PEL 6.5 Mg (L FEL 0.05 Mg (L Date T-MW E ASA 0121 12.22.09 0910 M Location SM ASR 1.5.20 Project / Client 1000 5 2001 7.8 787 m 0.7 mg/L 3.5 mg/L 5.2 mol COND 568 unites lon Date_ CONO 582 minus lan J. ž 12.13.09 1500 RM INVERTIG NECTER Tendo 14.7% 0,1 TEMP 15,2°C 1.55 0.5 13 H 1.6) 0 0 0 ΗĄ E DO opp OEP 8 SDI FCI **ি**A\$ Location SM ASR IOSO TL Project / Client 12.16 .09 8

Location SM ASR Date:	M50002 T1354 Joseph 30000	TEMP 14.9°G	COND 559 HUMPICM	THE HE	W CBP 762	E1 0,08 mall	DO 1,46 ma (L)			E-354 11 0011 01.98.1	TEMP IS.6 °C	COND 425 MMM /cm	HG P.L	CRP	F cl R A	00 1.12 mg 1L	
Date	INJECTATE		let .		Ŵ	wa LL	malle	7		· · · · · · · · · · · · · · · · · · ·	MECHIZ		we lows		Ň		هرال ا ا	
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SM	0251	TEMP	COND	ĦQ	ORP	F.	8	\$ ⁰ ;	(JAS		9 <mark>98</mark>	TEMP	COND	Hd	ORP	۲ <u>آ</u>	8	DRP
tion ect /	0.0						· · · · · · · · · · · · · · · · · · ·	1			0.0							

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SM - ASK Date V	TEMP 12:32 TEMP 12:32 PH 7:2 PH 7:2 DD 098 mall	ORYO MELTATE 10005PM TEMP 14.89C 10005PM CONC 559 Jundre John PH 71.5 PH 71.5 PH 71.5 PH 71.5 PH 71.5 PH 11.5 PH 11.5
LocationProject / Client	1.22.10	3 3 2
	B CBW	10CCO C PW
Date	INTECRATE 16.3 °C 16.3 °C 2.5 NIA NIA 1.47 L.47	INJECTATE 14.8°C SSA Jumbolom AIA NIA NA NA NA IL O.77 Mg IL
ASK	LEMP PH TEMP DRB DRB	DBP DBP
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ation _	0.1.	0.10 0

Location SMA- ASR Project / Client	3.0.10 0930 Ju 10160775	TAMD 16 °C	01H 7.3	NW BB WN	Fc1 2 016 mg/L	Do leves mail		4.14.10 1230 JL INJECTATE	TEMP IL Sec	COND 425 minubele	PH 12	OCO	Fel Or 7 Magle	10 2.8 mg/L	
Date	INJECTATE	H4.46.C.	automotor:	NW HZE	0.22 mall	4.2 mol	sampled		هر د د	580 diminitan	7.3	530 wv	£ 7	4.5 mall	an dataman an
26 Location SM - ASR Project / Client	3.2.10 1230 JL	Lawb T	Hd	QSA	E1.	8	0eP	3.10.10 0830 JL	Tevo	(c N D	FIO	<u>Ś</u> cP		20	

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Location	9.10.10 1.6 2.10.10 1.6 2.1 1.6 2.1 2.6 2.1 2.6 2.1 2.6 2.1 2.6 2.1 2.6 2.1 2.6 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7	
30 Location	6:16:10 D30 TL INJECTATE TEMP 13.7°C COND 570 Jumblow FEI 0.9 mg/L FEI 0.9 mg/L FEI 0.6 mg/L FEI 0.6 mg/L FEI 0.6 mg/L FEI 0.6 mg/L	

Ficch Rock -18-10 MU-1 PH 7.3 PH 7.3 PH 7.3 PH 7.3 PH 7.3 PH 7.3 PH 7.3 PH 7.3 PO 4.5 Mall PO 4.5 Mall PO 4.5 Mall PO 2.3 PD 266 Los loon PD 266 Los loon PD 266 Los loon PD 266 Los loon PD 27.3 PD	1-10 mm-1 CoNDS10uston PH 7.4
-18-10 MW-1. COUD SBO JISKM FH 7:3 FH 7:3 FH 7:3 FH 7:3 FH 7:3 FH 7:3 FH 7:3 FU NP MU Magle FU NP Magle FU NP MU	1-10 miw-1 CoNDS10us/cm
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PH 7.3 Treme 19° C CORP NIA MU CORP NIA MU DO 4/5 Majl Fu. ND Majl Fu. ND Majl Convo Sele usion Temp 15.5° C DO 3.2 Rengil	h.7 Hq
Tremp 19° C CR2P NIA MU DO 41.5 Mayle Fue ND Mayle Fue ND Mayle And C PIH Fue ND Mayle COND Sele usion TEMP 15.5° C POD 3.2 Revalle	
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Cono Sele custom p14 7.6 Temp 15.5° C DO 3.2 angle	
P14 7.6 Temp 15.5° C DO 3.2 amall	CONO 520 USCON
Temp 15.5° C OEP N/A MV DO 3.2 amg/L	PH 7.6
DO 3.2 REMAIL	Temp 15,9 °C
DO 3.2 augle	00 2.3 mal
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OUT OF DEDER Date _

roject / Client FIELD QUALITY

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		CRP	NA	mu	
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1		1			
5-10	IN /G	TATE			
5-10	IN764	TATE	. · .		
5-10	IN?G	COND	487	ustem	
5-10	N?&	COND PH	487	uslem	
5.10	IN764	COND PH TEMP	487	us/cm oc	
5.10	INJ&	COND PH TEMP ORP	487 74 16-1 N/A	us/em °C mv	
5-10	N)&	COND PH TEMP ORP DO	H87 724 161 N/A 2.4	us/cm °C mv moile	
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TRANSCRIBED FROM JL FIELD Book

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Project / Client _____

Location_

_____ Date ___

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APPENDIX B – WATER QUALITY DATA



Wednesday, July 27, 2011

Pueblo Water Resources, Inc Michael Burke 4478 Market St., Suite 705 Ventura, CA 93003

Lab Number: AA61441

Collection Date/Time: 10/20/2009 Submittal Date/Time: 10/20/2009

)/2009 13:40)/2009 15:43 Sample Collector: LINDBERG, T

Sample ID

	Sam	ple Des	cription: MW-1			
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed
Alkalinity, Total (as CaCO3)	2320B	mg/L	239	2		10/20/2009
Ammonia-N	4500NH3 D	mg/L	Not detected	0.05		10/27/2009
Arsenic, Total	EPA200.8	ug/L	2	1	10	11/10/2009
Barium, Total	EPA200.8	ug/L	52	10	1000	11/10/2009
Bicarbonate (as HCO3-)	2320B	mg/L	292	10		6/3/2011
Boron, Total	EPA200.8	mg/L	0.08	0.01		11/10/2009
Calcium	EPA200.7	mg/L	90	1		10/30/2009
Carbonate as CaCO3	2320B	mg/L	Not Detected	10		10/22/2009
Chloride	EPA300.0	mg/L	104	1	250	10/22/2009
Fluoride	EPA300.0	mg/L	0.18	0.10	2.0	10/22/2009
Gross Alpha	EPA900.0	pCi/L	2.65 +/- 1.67 E		15	11/28/2009
Haloacetic Acids	EPA552	ug/L	Attached E		60	10/26/2009
Hardness (as CaCO3)	2340B	mg/L	307	10		6/3/2011
Iron, Total	EPA 200.7	ug/L	60	50		10/28/2009
Iron, Dissolved	EPA 200.7	ug/L	Not detected	50	300	10/28/2009
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected	0.2		10/27/2009
Langlier Index (60 deg. C)	2330B		0.47			6/3/2011
Lithium	EPA200.8	ug/L	20	1		11/10/2009
Magnesium	EPA200.7	mg/L	20	1		10/30/2009
Manganese, Dissolved	EPA 200.7	ug/L	Not detected	20	50	10/8/2009
Manganese, Total	EPA 200.7	ug/L	38	20	50	10/28/2009
Methane	EPA174/175	ug/L	0.50 E	0.4		11/3/2009
Molybdenum, Total	EPA200.8	ug/L	3	1	1000	11/10/2009
Nitrate as NO3	EPA300.0	mg/L	Not Detected	1	45	10/22/2009
Nitrate as NO3-N	EPA300.0	mg/L	Not detected	0.1	10	10/22/2009
Nitrite as Nitrogen	EPA300.0	mg/L	Not detected	0.1	1.00	10/22/2009

- mg/L: Milligrams per liter (=ppm)
- ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



Wednesday, July 27, 2011

Pueblo Water Resources, Inc Michael Burke 4478 Market St., Suite 705 Ventura, CA 93003 Lab Number: AA61441

Collection Date/Time: 10/20/2009 13:40 Submittal Date/Time: 10/20/2009 15:43 Sample Collector: Sample ID

LINDBERG, T

Sample Description: MW-1										
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed				
Nitrite as NO2-N	EPA300.0	mg/L	Not detected	0.1	1.00	10/22/2009				
o-Phosphate-P	EPA300.0	mg/L	Not detected	0.05		10/22/2009				
pH (Laboratory)	4500-H+B	STD. Units	7.1			10/20/2009				
Phosphorus, Total	HACH 8190	mg/L	Not detected	0.03		10/24/2009				
Potassium	EPA200.7	mg/L	4.4	0.5		10/30/2009				
QC Anion Sum x 100	Calculation	%	96%			6/3/2011				
QC Anion-Cation Balance	Calculation	%	2			6/3/2011				
QC Cation Sum x 100	Calculation	%	100%			6/3/2011				
QC Ratio TDS/SEC	Calculation		0.64			6/3/2011				
Radium 226	EPA903.1	pCi/L	0.427+/- 0.335 E		3	12/3/2009				
Selenium, Total	EPA200.8	ug/L	Not detected	2	50	11/10/2009				
Sodium	EPA200.7	mg/L	85	1		10/30/2009				
Specific Conductance (E.C)	2510B	umhos/cm	995	1	900	10/20/2009				
Strontium, Total	EPA200.8	ug/L	422	5		11/10/2009				
Sulfate	EPA300.0	mg/L	89	1	250	10/22/2009				
Total Diss. Solids	2540C	mg/L	637	10	500	10/20/2009				
Total Nitrogen	Calculation	mg/L	Not Detected	0.5		10/27/2009				
Trihalomethanes	EPA524.2	ug/L	Attached E		80	10/26/2009				
Uranium by ICP/MS	EPA200.8	ug/L	0.9 J	1	30	11/10/2009				
Vanadium, Total	EPA200.8	ug/L	Not detected	5	1000	11/10/2009				
Zinc, Total	EPA200.8	ug/L	19	10	5000	11/10/2009				

Sample Comments:

Report Approved by:

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

E = Analysis performed by External Laboratory; See External Laboratory Report attachments. H = Analyzed ouside of hold time



Wednesday, July 27, 2011

Pueblo Water Resources, Inc Michael Burke 4478 Market St., Suite 705 Ventura, CA 93003 Lab Number: AA61550

Collection Date/Time: 10/22/2009 16:00 Submittal Date/Time: 10/22/2009 16:35

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LINDBERG, T

Sample Collector:

Sample ID

Sample Description: ASR-1										
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed			
Alkalinity, Total (as CaCO3)	2320B	mg/L	193		2		10/22/2009			
Ammonia-N	4500NH3 D	mg/L	0.07		0.05		10/27/2009			
Arsenic, Total	EPA200.8	ug/L	2		1	10	11/10/2009			
Barium, Total	EPA200.8	ug/L	123		10	1000	11/10/2009			
Boron, Total	EPA200.8	mg/L	0.08		0.01		11/10/2009			
Calcium	EPA200.7	mg/L	71		1		10/30/2009			
Chloride	EPA300.0	mg/L	85		1	250	10/23/2009			
Gross Alpha	EPA900.0	pCi/L	2.67 +/- 1.59	E		15	11/28/2009			
Iron, Total	EPA 200.7	ug/L	Not detected		50		10/28/2009			
Iron, Dissolved	EPA 200.7	ug/L	Not detected		50	300	10/28/2009			
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.2		10/27/2009			
Lithium	EPA200.8	ug/L	10		1		11/10/2009			
Magnesium	EPA200.7	mg/L	22		1		10/30/2009			
Manganese, Dissolved	EPA 200.7	ug/L	Not detected		20	50	10/28/2009			
Manganese, Total	EPA 200.7	ug/L	Not detected		20	50	10/28/2009			
Methane	EPA174/175	ug/L	0.80	E	0.4		11/3/2009			
Molybdenum, Total	EPA200.8	ug/L	5		1	1000	11/10/2009			
Nitrate as NO3-N	EPA300.0	mg/L	0.2		0.1	10	10/23/2009			
Nitrite as Nitrogen	EPA300.0	mg/L	Not detected		0.1	1.00	10/23/2009			
Nitrite as NO2-N	EPA300.0	mg/L	Not detected		0.1	1.00	10/23/2009			
o-Phosphate-P	EPA300.0	mg/L	0.20		0.05		10/23/2009			
pH (Laboratory)	4500-H+B	STD. Units	7.6				10/22/2009			
Phosphorus, Total	HACH 8190	mg/L	0.22		0.03		10/24/2009			
Potassium	EPA200.7	mg/L	3.9		0.5		10/30/2009			
Radium 226	EPA903.1	pCi/L	0.928+/-0.474	Е		3	12/3/2009			
Selenium, Total	EPA200.8	ug/L	Not detected		2	50	11/10/2009			
Sodium	EPA200.7	mg/L	74		1		10/30/2009			
Specific Conductance (E.C)	2510B	umhos/cm	812		1	900	10/22/2009			
Strontium, Total	EPA200.8	ug/L	317		5		11/10/2009			
Sulfate	EPA300.0	mg/L	87		1	250	10/23/2009			

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

E = Analysis performed by External Laboratory; See External Laboratory Report attachments. H = Analyzed ouside of hold time



Wednesday, July 27, 2011

Pueblo Water Resources, Inc Michael Burke 4478 Market St., Suite 705 Ventura, CA 93003 Lab Number: AA61550

Collection Date/Time: 10/22/2009 16:00 Submittal Date/Time: 10/22/2009 16:35 Sample Collector: Sample ID

Sample Description: ASR-1 Analyte Method Unit Result Qual PQL MCL Date Analyzed Total Diss. Solids 2540C mg/L 520 10 500 10/22/2009 Total Nitrogen Calculation Not Detected 0.5 10/27/2009 mg/L Uranium by ICP/MS EPA200.8 11/10/2009 ug/L 1 1 30 Vanadium, Total EPA200.8 Not detected 5 11/10/2009 ug/L 1000 Zinc, Total EPA200.8 184 10 5000 11/10/2009 ug/L

LINDBERG, T

Sample Comments:

Report Approved by:

David Holland, Laboratory Director

 mg/L: Milligrams per liter (=ppm)
 ug/L : Micrograms per liter (=ppb)
 PQL : Practical Quantitation Limit

 H = Analyzed ouside of hold time
 E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

 D = Method deviates from standard method due to insufficient sample for MS/MSD



MPWMA / Padre Associates Robert Marks / Joe Oliver P.O. Box 85 Monterey, CA 93942-0085

Lab Number: AA62276

Collection Date/Time:11/23/200911:00Sample Collector:LINDBERG TSubmittal Date/Time:11/23/200914:25Sample ID

Sample Description: ASR-1										
Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed				
Chloride	300.0	mg/L	64		1	11/23/2009				
Haloacetic Acids	EPA 552	ug/L	Attached	E		12/2/2009				
Trihalomethanes	EPA 524.2	ug/L	Attached	Е		11/25/2009				

Sample Comments:

Report Approved by:

Dettel

David Holland, Laboratory Director

Sunday, January 10, 2010



Sunday, January 10, 2010

MPWMA / Padre Associates Robert Marks / Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA62277

Collection Date/Time:11/23/200913:30Sample Collector:LINDBERG TSubmittal Date/Time:11/23/200914:25Sample ID

Sample Description: MW-1										
Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed				
Chloride	300.0	mg/L	62		1	11/23/2009				
Haloacetic Acids	EPA 552	ug/L	Attached	E		12/2/2009				
Trihalomethanes	EPA 524.2	ug/L	Attached	Е		11/25/2009				
0 1 0 1										

Sample Comments:

Report Approved by:

Dettel

David Holland, Laboratory Director



1414 Stanislaus Street Fresno, California 93706 (559) 497-2888 Fax (559) 485-6935

David Holland Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940

BSK Submission #: 2009111614

BSK Sample ID #: 1188001

Certificate of Analysis NELAP Certificate #04227CA ELAP Certificate #1180

Report Issue Date: 12/11/2009

Project ID:		Project Desc	: MPWN	1D				
Submission Comments:Sample Type:LiquidSample Description:ASR-1Sample Comments:62276							Dat Tim Date	e Sampled: 11/23/2009 c Sampled: 1100 : Received: 11/24/2009
Organics							Drop	Anolycia
Analyte	Method	Result	Units	PQL I	Dilution	DLR	Date/Time	Date/Time
Bromodichloromethane	EPA 524.2	11	μg/L	0.50	1	0.50	11/25/09	11/26/09
Bromoform	EPA 524.2	0.82	μg/L	0.50	1	0.50	11/25/09	11/26/09
Chloroform	EPA 524.2	18	μg/L	0.50	1	0.50	11/25/09	11/26/09
Dibromochloromethane	ÉPA 524.2	5.6	μg/L	0.50	1	0.50	11/25/09	11/26/09
Total Trihalomethanes	EPA 524.2	35	μg/L	-	-	N/A .		
Dibromoacetic Acid	EPA 552.2	NÐ	μg/L	1.0	1	1.0	12/02/09	12/09/09
Dichloroacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/02/09	12/09/09
Monobromoacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/02/09	12/09/09
Monochloroacetic Acid	EPA 552.2	ND	μg/L	2.0	1	2.0	12/02/09	12/09/09
Total Haloacetic Acids	EPA 552.2	ND	μg/L	-		N/A	12/10/09	12/10/09
Trichloroacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/02/09	12/09/09
Surrogate								
1,2-Dichlorobenzene-d4	EPA 524.2	77	% Rec		1	N/A	11/25/09	11/26/09
4-Bromofluorobenzene	EPA 524.2	82	% Rec	-	1	N/A	11/25/09	11/26/09
2,3-Dibromopropionic Acid	EPA 552.2	110	% Rec	-	1	N/A	12/02/09	12/09/09

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) μg/L: Micrograms/Liter (ppb) μg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates)

%Rec: Percent Recovered (surrogate Report Authentication Code: PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting : PQL x Dilution

ND: None Detected at DLR

PCi/L: Picocurie per Liter

- H: Analyzed outside of hold time
- P: Preliminary result
- S: Suspect result. See Case Narrative for comments.
- E: Analysis performed by External laboratory.
- See External Laboratory Report attachments. MDC: Min Detectable Concentration

Page 1 of 2



1414 Stanislaus Street Fresno, California 93706 (559) 497-2888 Fax (559) 485-6935

Project Desc: MPWMD

David Holland Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940

BSK Submission #: 2009111614

BSK Sample ID #: 1188002

Project ID: Submission Comments:

Organics

Sample Type: Liquid Sample Description: MW-1

Sample Description: MW-1 Sample Comments: 62277

Certificate of Analysis NELAP Certificate #04227CA ELAP Certificate #1180

Report Issue Date:	12/11/2009
--------------------	------------

Date Sampled: 11/23/2009 Time Sampled: 1330 Date Received: 11/24/2009

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Bromodichloromethane	EPA 524.2	7.4	μg/L	0.50	ŀ	0.50	11/25/09	11/26/09
Bromoform	EPA 524.2	ND	μg/L	0.50	1	0.50	11/25/09	11/26/09
Chloroform	EPA 524.2	12	μg/L	0.50	1	0.50	11/25/09	11/26/09
Dibromochloromethane	EPA 524.2	0.96	µg/L	0.50	1	0.50	11/25/09	11/26/09
Total Trihalomethanes	ÉPA 524.2	20	μg/L	-	-	N/A		
Dibromoacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/02/09	12/09/09
Dichloroacetic Acid	EPA 552.2	NÐ	μg/L	1.0	1	1.0	12/02/09	12/09/09
Monobromoacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/02/09	12/09/09
Monochloroacetic Acid	EPA 552.2	ND	μg/L	2.0	1	2.0	12/02/09	12/09/09
Total Haloacetic Acids	EPA 552.2	ND	μg/L	-	-	N/A	12/10/09	12/10/09
Trichloroacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/02/09	12/09/09
Surrogate								
1,2-Dichlorobenzene-d4	EPA 524.2	77	% Rec	-	1	N/A	11/25/09	11/26/09
4-Bromofluorobenzene	EPA 524.2	83	% Rec	-	1	N/A	11/25/09	11/26/09
2,3-Dibromopropionic Acid	EPA 552.2	120	% Rec	-	1	N/A	12/02/09	12/09/09

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) μg/L: Micrograms/Liter (ppb) μg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting : PQL x Dilution ND: None Detected at DLR

pCi/L: Picocurie per Liter

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- H: Analyzed outside of hold time
- P: Preliminary result
- S: Suspect result. See Case Narrative for comments.
- E: Analysis performed by External laboratory.
- See External Laboratory Report attachments. MDC: Min Detectable Concentration

Report Authentication Code:

Page 2 of 2



Wednesday, February 03, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA62629

Collection Date/Time: 12/8/2009 14:20 Submittal Date/Time: 12/8/2009 15:20 Sample Collector: Sample ID

LINDBERG, T

Sample Description: ASR-1											
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed				
Alkalinity, Total (as CaCO3)	2320B	mg/L	185		2		12/9/2009				
Ammonia-N	4500NH3 D	mg/L	0.11		0.05		12/28/2009				
Arsenic, Total	200.8	ug/L	1		1	10	12/11/2009				
Barium, Total	200.8	ug/L	84		10	1000	12/11/2009				
Bicarbonate (as HCO3-)	2320B	mg/L	226		10		12/8/2009				
Boron, Total	EPA200.8	mg/L	0.07		0.01		12/11/2009				
Calcium	3111B	mg/L	60		1		12/20/2009				
Carbonate as CaCO3	2320B	mg/L	Not detected		10		12/8/2009				
Chloride	300.0	mg/L	69		1	250	12/9/2009				
Dissolved Organic Carbon	SM5310-C	mg/L	0.95		0.2		12/16/2009				
Fluoride	300.0	mg/L	0.20		0.10	2.0	12/9/2009				
Gross Alpha	EPA 900.0	pCi/L	Attached	Е		15	1/8/2010				
Haloacetic Acids	EPA 552	ug/L	Attached	Е		60	12/17/2009				
Hardness (as CaCO3)	2340B	mg/L	232		10		2/3/2010				
Iron, Dissolved	3111B	ug/L	Not detected		50	300	12/22/2009				
Iron, Total	3111B	ug/L	Not detected		50	300	12/11/2009				
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.2		12/10/2009				
Langlier Index (15 deg. C)	2330B		0.11				2/3/2010				
Langlier Index (60 deg. C)	2330B		0.71				2/3/2010				
Lithium	EPA 200.8	ug/L	15		1		12/11/2009				
Magnesium	3111B	mg/L	20		1		12/20/2009				
Manganese, Dissolved	3111B	ug/L	Not detected		20	50	12/22/2009				
Manganese, Total	3111B	ug/L	33		20	50	12/10/2009				
Methane	EPA 174/175	ug/L	0.63	E	0.4		12/11/2009				
Molybdenum, Total	200.8	ug/L	4		1	1000	12/11/2009				
Nitrate as NO3	300.0	mg/L	1		1	45	2/3/2010				
Nitrate as NO3-N	300.0	mg/L	0.2		0.1	10	12/9/2009				
Nitrite as NO2-N	300.0	mg/L	0.1		0.1	1.00	12/9/2009				
o-Phosphate-P	300.0	mg/L	0.1		0.1		12/9/2009				
pH (Laboratory)	4500-H+B	STD. Units	7.6				12/8/2009				
Phosphorus, Total	HACH 8190	mg/L	0.22		0.03		12/18/2009				
Potassium	3111B	mg/L	4.0		0.5		12/20/2009				
QC Anion Sum x 100	Calculation	%	102%				2/3/2010				
QC Anion-Cation Balance	Calculation	%	0				2/3/2010				
QC Cation Sum x 100	Calculation	%	101%				2/3/2010				
QC Ratio TDS/SEC	Calculation		0.68				2/3/2010				
ma/l : Milliarams per liter (-ppm)	ug/L : Micro	arame nor litor	(-nnh)	POL ·	Practical Out	antitation I	imit				

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



Wednesday, February 03, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA62629

Collection Date/Time:12/8/200914:20Sample Collector:LINDBERG, TSubmittal Date/Time:12/8/200915:20Sample ID

Sample Description: ASR-1										
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed			
Radium 226	EPA 903.1	pCi/L	Attached	E		3	1/4/2010			
Selenium, Total	200.8	ug/L	3		2	50	12/11/2009			
Sodium	3111B	mg/L	64		1		12/20/2009			
Specific Conductance (E.C)	2510B	umhos/cm	742		1	900	12/9/2009			
Strontium, Total	200.8	ug/L	327		5		12/11/2009			
Sulfate	300.0	mg/L	93		1	250	12/9/2009			
Total Diss. Solids	2540C	mg/L	505		10	500	12/11/2009			
Total Nitrogen	Calculation	mg/L	Not detected		0.5		2/2/2010			
Total Organic Carbon	SM5310C	mg/L	1.00	E	0.20		12/14/2009			
Trihalomethanes	EPA 524.2	ug/L	Attached	E		80	12/15/2009			
Uranium by ICP/MS	200.8	ug/L	Not detected		1		12/11/2009			
Vanadium, Total	200.8	ug/L	Not detected		5	1000	12/11/2009			
Zinc, Total	200.8	ug/L	155		10	5000	12/11/2009			

Sample Comments:

Report Approved by:

De Holl

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm)ug/L : Micrograms per liter (=ppb)PQL : Practical Quantitation LimitH = Analyzed ouside of hold timeE = Analysis performed by External Laboratory; See External Laboratory Report attachments.D = Method deviates from standard method due to insufficient sample for MS/MSD



Wednesday, February 03, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA62630

Collection Date/Time: 12/8/2009 15:00 Submittal Date/Time: 12/8/2009 15:20 Sample Collector: LINDBERG, T Sample ID

Sample Description: MW-1											
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed				
Alkalinity, Total (as CaCO3)	2320B	mg/L	221		2		12/9/2009				
Ammonia-N	4500NH3 D	mg/L	0.06		0.05		12/28/2009				
Arsenic, Total	200.8	ug/L	3		1	10	12/11/2009				
Barium, Total	200.8	ug/L	45		10	1000	12/11/2009				
Bicarbonate (as HCO3-)	2320B	mg/L	270		10		12/8/2009				
Boron, Total	EPA200.8	mg/L	0.08		0.01		12/11/2009				
Calcium	3111B	mg/L	80		1		12/20/2009				
Carbonate as CaCO3	2320B	mg/L	Not detected		10		12/8/2009				
Chloride	300.0	mg/L	109		1	250	12/9/2009				
Dissolved Organic Carbon	SM5310-C	mg/L	0.86		0.2		12/16/2009				
Fluoride	300.0	mg/L	0.19		0.10	2.0	12/9/2009				
Gross Alpha	EPA 900.0	pCi/L	Attached	E		15	1/8/2010				
Haloacetic Acids	EPA 552	ug/L	Attached	E		60	12/17/2009				
Hardness (as CaCO3)	2340B	mg/L	278		10		2/3/2010				
Iron, Dissolved	3111B	ug/L	55		50	300	12/22/2009				
Iron, Total	3111B	ug/L	Not detected		50	300	12/11/2009				
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.5		12/10/2009				
Langlier Index (15 deg. C)	2330B		-0.21				2/3/2010				
Langlier Index (60 deg. C)	2330B		0.38				2/3/2010				
Lithium	EPA 200.8	ug/L	27		1		12/11/2009				
Magnesium	3111B	mg/L	19		1		12/20/2009				
Manganese, Dissolved	3111B	ug/L	Not detected		20	50	12/22/2009				
Manganese, Total	3111B	ug/L	Not detected		20	50	12/10/2009				
Methane	EPA 174/175	ug/L	1.3	E	0.4		12/11/2009				
Molybdenum, Total	200.8	ug/L	3		1	1000	12/11/2009				
Nitrate as NO3	300.0	mg/L	1		1	45	2/3/2010				
Nitrate as NO3-N	300.0	mg/L	0.2		0.1	10	12/9/2009				
Nitrite as NO2-N	300.0	mg/L	0.2		0.1	1.00	12/9/2009				
o-Phosphate-P	300.0	mg/L	Not detected		0.1		12/9/2009				
pH (Laboratory)	4500-H+B	STD. Units	7.1				12/8/2009				
Phosphorus, Total	HACH 8190	mg/L	0.13		0.03		12/18/2009				
Potassium	3111B	mg/L	4.5		0.5		12/20/2009				
QC Anion Sum x 100	Calculation	%	108%				2/3/2010				
QC Anion-Cation Balance	Calculation	%	-2				2/3/2010				
QC Cation Sum x 100	Calculation	%	104%				2/3/2010				
QC Ratio TDS/SEC	Calculation		0.7				2/3/2010				
mg/L: Milligrams per liter (-ppm)	ua/L · Micro	arame per liter	(-nnh)		Practical Out	ntitation I	imit				

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



Wednesday, February 03, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA62630

Collection Date/Time:12/8/200915:00Sample Collector:LINDBERG, TSubmittal Date/Time:12/8/200915:20Sample ID

Sample Description: MW-1										
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed			
Radium 226	EPA 903.1	pCi/L	Attached	E		3	1/4/2010			
Selenium, Total	200.8	ug/L	2		2	50	12/11/2009			
Sodium	3111B	mg/L	83		1		12/20/2009			
Specific Conductance (E.C)	2510B	umhos/cm	894		1	900	12/9/2009			
Strontium, Total	200.8	ug/L	410		5		12/11/2009			
Sulfate	300.0	mg/L	102		1	250	12/9/2009			
Total Diss. Solids	2540C	mg/L	628		10	500	12/11/2009			
Total Nitrogen	Calculation	mg/L	Not Detected		0.5		12/10/2009			
Total Organic Carbon	SM5310C	mg/L	0.89		0.20		12/14/2009			
Trihalomethanes	EPA 524.2	ug/L	Attached	E		80	12/15/2009			
Uranium by ICP/MS	200.8	ug/L	Not detected		1		12/11/2009			
Vanadium, Total	200.8	ug/L	Not detected		5	1000	12/11/2009			
Zinc, Total	200.8	ug/L	67		10	5000	12/11/2009			

Sample Comments:

Report Approved by:

De Holl

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm)ug/L : Micrograms per liter (=ppb)PQL : Practical Quantitation LimitH = Analyzed ouside of hold timeE = Analysis performed by External Laboratory; See External Laboratory Report attachments.D = Method deviates from standard method due to insufficient sample for MS/MSD



ANALYTICAL RESULTS

Project: MPWMD/62629/62630

Pace Project No.: 3020440

Sample: ASR-1 PWS:	Lab ID: 3020440 Site ID:	001 Collected: 12/08/09 16:20 Sample Type:	Received:	12/28/09 11:30 M	latrix: Drinking \	Water
Parame	ers Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	5.36 ± 2.22 (2.81)	pCi/L	01/08/10 12:43	12587-46-1	
Radium-228	EPA 904.0	0.460 ± 0.337 (0.675)	pCi/L	01/04/10 11:35	15262-20-1	

Date: 01/19/2010 06:08 PM

REPORT OF LABORATORY ANALYSIS

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Page 5 of 9



ANALYTICAL RESULTS

Project: MPWMD/62629/62630

Pace Project No.: 3020440

Sample: MW-1 PWS:	Lab ID: 30204400 Site ID:	02 Collected: 12/08/09 15:00 Sample Type:	Received:	12/28/09 11:30 M	Aatrix: Drinking V	Water
Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	4.10 ± 1.90 (2.89)	oCi/L	01/08/10 13:11	12587-46-1	
Radium-228	EPA 904.0	0.873 ± 0.360 (0.654)	oCi/L	01/04/10 11:35	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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Page 6 of 9

	ampbell Analyti	<u>cal, Inc.</u>	1534 Willow F Web: www.mccamp Telephone: 8	Pass Road, Pittsbur bell.com E-mail 377-252-9262 Fa	g, CA 945 : main@m ax: 925-25	565-1701 ccampbell.c 2-9269	om
Monterey Bay An	nalytical	Client Project ID:	#62629, 62630; Pueblo	Date Sample	ed: 12	/08/09	
A Justin Court Su	ita D			Date Receiv	ved: 12/11/09		
+ Justin Court, Su		Client Contact: D	David Holland	Date Extract	/11/09		
Monterey, CA 939	940	Client P.O.:		Date Analyz	zed 12	/11/09	
		Light Gas H	ydrocarbons*				
Extraction method RSK	174/175	Analytical r	methods RSK174/175		Wo	rk Order:	0912293
Lab ID	Client ID	Matrix	Methane		DF	% SS	Comments
001A	ASR-1	W	0.63		1	N/A	
002A	MW-1	W	1.3		1	N/A	
Reportin ND mean	ng Limit for DF =1; ns not detected at or	W	0.4			μg/L	
above	the reporting limit	8	NA			NA	
* water samples are re	eported in μg/L.						

DHS ELAP Certification 1644



Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940

David Holland

1414 Stanislaus Street Fresno, California 93706 (559) 497-2888 Fax (559) 485-6935

Certificate of Analysis NELAP Certificate #04227CA **ELAP Certificate #1180**

BSK Submission #: 2009	120979							
BSK Sample ID #: 11939 Project ID:	98	Project Desc	: MPWI	мD			Repor	t Issue Date: 12/24/2009
Submission Comments: Sample Type: Liquid Sample Description: ASR-1 Sample Comments: 62629							Dat Tim Date	e Sampled: 12/08/2009 e Sampled: 1420 e Received: 12/11/2009
Inorganics								
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Dissolved Organic Carbon (DOC)	SM 5310-C	0.95	mg/L	0.20	1	0.20	12/16/09	12/16/09
Total Organic Carbon (TOC)	SM 5310-C	1.0	mg/L	0.20	1	0.20	12/14/09	12/14/09
Organics								
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Bromodichloromethane	EPA 524,2	15	μg/L	0.50	1	0.50	12/14/09	12/15/09
Bromoform	EPA 524.2	1.2	μg/L	0.50	1	0.50	12/14/09	12/15/09
Chloroform	EPA 524.2	23	μg/L	0.50	ł	0.50	12/14/09	12/15/09
Dibromochloromethane	EPA 524.2	8.8	μg/L	0.50	1	0.50	12/14/09	12/15/09
Total Trihalomethanes	EPA 524.2	48	μg/L	-	-	N/A		
Dibromoacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/15/09	12/17/09
Dichloroacetic Acid	EPA \$52.2	ND	μg/L	1.0	1	1.0	12/15/09	12/17/09
Monobromoacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/15/09	12/17/09
Monochloroacetic Acid	EPA 552.2	NÐ	μg/L	2.0	1	2.0	12/15/09	12/17/09
Total Haloacetic Acids	ÉPA 552.2	NÐ	μg/L	-	-	N/A	12/18/09	12/18/09
Trichloroacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/15/09	12/17/09
Surrogate								
1,2-Dichlorobenzene-d4	EPA 524.2	100	% Rec]	N/A	12/14/09	12/15/09
4-Bromofluorobenzene	EPA 524.2	92	% Rec	-	1	N/A	12/14/09	12/15/09
2,3-Dibromopropionic Acid	EPA 552.2	110	% Rec	-	1	N/A	12/15/09	12/17/09

mg/L: Milligrams/Liter (ppm) mg/Kg/Milligrams/Kilogram (ppm) µg/L: Micrograms/Liter (ppb) µg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting : PQL x Dilution

ND: None Detected at DLR

pCi/L: Picocurie per Liter

H: Analyzed outside of hold time

P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory.

See External Laboratory Report and MDC: Min Detectable Concentration Page 1 of 2

Report Authentication Code:



Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940

David Holland

1414 Stanislaus Street Fresno, California 93706 (559) 497-2888 Fax (559) 485-6935

Certificate of Analysis NELAP Certificate #04227CA **ELAP Certificate #1180**

BSK Submission #: 2009	120979							
BSK Sample ID #: 11939 Project ID:	99	Project Desc	: MPWN	٧D		Repor	t Issue Date: 12/24/2009	
Submission Comments: Sample Type: Liquid Sample Description: MW-1 Sample Comments: 62630							Dat Tim Date	e Sampled: 12/08/2009 e Sampled: 1500 e Received: 12/11/2009
Inorganics					· · · · · · · · ·	······································		
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Dissolved Organic Carbon (DOC)	SM 5310-C	0.86	mg/L	0.20	1	0.20	12/16/09	12/16/09
Total Organic Carbon (TOC)	SM 5310-C	0.89	mg/L	0.20	1	0.20	12/14/09	12/14/09
Organics								
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Bromodichloromethane	EPA 524.2	2.8	μg/L	0.50	I	0.50	12/14/09	12/15/09
Bromoform	EPA 524.2	ND	μg/L	0.50	1	0.50	12/14/09	12/15/09
Chloroform	EPA 524.2	5.4	μg/L	0.50	1	0.50	12/14/09	12/15/09
Dibromochloromethane	EPA 524,2	ND	μg/L	0.50	1	0.50	12/14/09	12/15/09
Total Trihalomethanes	EPA 524.2	8.2	μg/L	-	-	N/A		
Dibromoacetic Acid	EPA 552.2	ND	μg/L	1.0	I	1.0	12/17/09	12/19/09
Dichloroacetic Acid	EPA 552.2	ND	μg/L	1.0	L	1.0	12/17/09	12/19/09
Monobromoacetic Acid	EPA 552.2	ND	μg/L	1.0	l	1.0	12/17/09	12/19/09
Monochloroacetic Acid	EPA 552.2	ND	μg/L	2.0	1	2.0	12/17/09	12/19/09
Total Haloacetic Acids	EPA 552.2	ND	μg/Ľ	-	-	N/A	12/20/09	12/20/09
Trichloroacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/17/09	12/19/09
Surrogate								
1,2-Dichlorobenzene-d4	EPA 524.2	99	% Rec	-	l	N/A	12/14/09	12/15/09
4-Bromofluorobenzene	EPA 524.2	9 7	% Rec	-	1	N/A	12/14/09	12/15/09
2,3-Dibromopropionic Acid	EPA 552.2	100	% Rec	-	1	N/A	12/17/09	12/19/09

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) µg/L: Micrograms/Liter (ppb) µg/Kg: Micrograms/Kilogram (ppb) %Rcc; Percent Recovered (surrogates) Report Authentication Code:

: PQL x Dilution ND: None Detected at DLR pCi/L: Picocuric per Liter

PQL: Practical Quantitation Limit

DLR: Detection Limit for Reporting

- H: Analyzed outside of hold time
- P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory.

See External Laboratory Report attachments. See External Laboratory Report MDC: Min Detectable Concentration Page 2 of 2



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net

ELAP Certification Number: 2385

Wednesday, February 03, 2010

Page 1 of 2

MPWMD

Joe Oliver

P.O. Box 85

Lab Number: AA62584

Collection Date/Time: 12/7/2009 Submittal Date/Time: 12/7/2009

Monterey, CA 93442-0085

16:10 16:10 Sample Collector: Sample ID

LINDBERG, T

	Sample Description: ASR-2										
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed				
Alkalinity, Total (as CaCO3)	2320B	mg/L	195		2		12/8/2009				
Ammonia-N	4500NH3 D	mg/L	0.21		0.05		12/28/2009				
Arsenic, Total	200.8	ug/L	5		1	10	12/11/2009				
Barium, Total	200.8	ug/L	58		10	1000	12/11/2009				
Bicarbonate (as HCO3-)	2320B	mg/L	238		10		12/8/2009				
Boron, Total	EPA200.8	mg/L	0.10		0.01		12/11/2009				
Calcium	3111B	mg/L	80		1		12/8/2009				
Carbonate as CaCO3	2320B	mg/L	Not detected		10		12/8/2009				
Chloride	300.0	mg/L	121		1	250	12/9/2009				
Dissolved Organic Carbon	SM5310-C	mg/L	0.62	E	0.2		12/16/2009				
Fluoride	300.0	mg/L	0.19		0.10	2.0	12/9/2009				
Gross Alpha	EPA 900.0	pCi/L	Attached	E		15	1/8/2010				
Haloacetic Acids	EPA 552	ug/L	Attached	E		60	12/15/2009				
Hardness (as CaCO3)	2340B	mg/L	282		10		2/3/2010				
Iron, Dissolved	3111B	ug/L	138		50	300	12/22/2009				
Iron, Total	3111B	ug/L	164		50	300	12/11/2009				
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.5		12/10/2009				
Langlier Index (15 deg. C)	2330B		-0.07				2/3/2010				
Langlier Index (60 deg. C)	2330B		0.53				2/3/2010				
Lithium	EPA 200.8	ug/L	27		1		12/11/2009				
Magnesium	3111B	mg/L	20		1		12/8/2009				
Manganese, Dissolved	3111B	ug/L	40		20	50	12/22/2009				
Manganese, Total	3111B	ug/L	36		20	50	12/10/2009				
Methane	EPA 174/175	ug/L	0.54	E	0.4		12/11/2009				
Molybdenum, Total	200.8	ug/L	11		1	1000	12/11/2009				
Nitrate as NO3	300.0	mg/L	5		1	45	2/3/2010				
Nitrate as NO3-N	300.0	mg/L	1.2		0.1	10	12/9/2009				
Nitrite as Nitrogen	300.0	mg/L	Not detected		0.1	1.00	12/9/2009				
Nitrite as NO2-N	300.0	mg/L	Not detected		0.1	1.00	12/9/2009				
o-Phosphate-P	300.0	mg/L	Not detected		0.1		12/9/2009				
pH (Laboratory)	4500-H+B	STD. Units	7.3				12/8/2009				
Phosphorus, Total	HACH 8190	mg/L	0.07		0.03		12/18/2009				
Potassium	3111B	mg/L	4.5		0.5		12/8/2009				
QC Anion Sum x 100	Calculation	%	102%				2/3/2010				

MCL: Maximum Contamination Level mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Lab Number:	AA62584										
Collection Date/Time:	12/7/2009	16:10	Sample	e Collector:	LINDBERG, T						
Submittal Date/Time:	12/7/2009	16:10	Sample	e ID							
Sample Description: ASR-2											
Analyte		Me	ethod	Unit	Result	Qual	PQL	MCL	Date Analyzed		
QC Anion-Cation Balar	nce	Ca	alculaltion	%	0				2/3/2010		
QC Cation Sum x 100		Ca	alculatiion	%	102%				2/3/2010		

QC Ratio TDS/SEC	Calculation		0.7				2/3/2010	
Radium 226	EPA 903.1	pCi/L	Attached	Е		3	1/7/2010	
Selenium, Total	200.8	ug/L	3		2	50	12/11/2009	
Sodium	3111B	mg/L	81		1		12/8/2009	
Specific Conductance (E.C)	2510B	umhos/cm	912		1	900	12/8/2009	
Strontium, Total	200.8	ug/L	435		5		12/11/2009	
Sulfate	300.0	mg/L	93		1	250	12/9/2009	
Total Diss. Solids	2540C	mg/L	640		10	500	12/11/2009	
Total Nitrogen	Calculation	mg/L	1.2		0.5		12/10/2009	
Total Organic Carbon	SM5310C	mg/L	0.84	Е	0.20		12/14/2009	
Trihalomethanes	EPA 524.2	ug/L	Attached	Е		80	12/14/2009	
Uranium by ICP/MS	200.8	ug/L	2		1		12/11/2009	
Vanadium, Total	200.8	ug/L	Not detected	I	5	1000	12/11/2009	
Zinc, Total	200.8	ug/L	27		10	5000	12/11/2009	

Sample Comments:

Report Approved by:

Dettel

David Holland, Laboratory Director



ANALYTICAL RESULTS

Project: Pace Project No.:	MPWMD/6258 3020438	4					
Sample: ASR-2 PWS:		Lab ID: 302043 Site ID:	8001 Collected: 12/07/09 16:10 Sample Type:	Received:	12/28/09 11:30	Matrix: Drinking	Water
Parame	eters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha Radium-228		EPA 900.0 EPA 904.0	2.72 ± 1.84 (2.96) 0.663 ± 0.387 (0.751)	pCi/L pCi/L	01/08/10 13:11 01/07/10 11:24	i 12587-46-1 i 15262-20-1	

Date: 01/19/2010 06:07 PM

REPORT OF LABORATORY ANALYSIS

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Page 5 of 8



Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940

David Holland

1414 Stanislaus Street Fresno, California 93706 (559) 497-2888 Fax (559) 485-6935

Certificate of Analysis NELAP Certificate #04227CA **ELAP Certificate #1180**

BSK Submission #: 2009120981 BSK Sample ID #: 1194013 Project ID: Submission Comments:	9120981 913	Project Desc	: MPWN	٧D		·	Repor	t Issue Date: 12/18/2009
Submission Comments: Sample Type: Liquid Sample Description: ASR-2 Sample Comments: 62584							Dat Tim Date	e Sampled: 12/07/2009 e Sampled: 1610 e Received: 12/11/2009
Inorganics	•							
Апајуtе	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Dissolved Organic Carbon (DOC)	SM 5310-C	0.62	mg/L	0.20	1	0.20	12/16/09	12/16/09
Total Organic Carbon (TOC)	SM 5310-C	0.84	mg/L	0.20	-	0.20	12/14/09	12/14/09
Organics			÷	••=•	-		1201000	12/1/00/
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Bromodichloromethane	EPA 524.2	ND	μg/L	0.50	1	0.50	12/14/09	12/15/09
Bromoform	EPA 524.2	3.8	μg/L	0.50	1	0.50	12/14/09	12/15/09
Chloroform	EPA 524.2	NÐ	μg/L	0.50	1	0.50	12/14/09	12/15/09
Dibromochloromethane	EPA 524.2	1.2	μg/L	0.50	ĩ	0.50	12/14/09	12/15/09
Total Trihalomethanes	EPA 524.2	5.0	μg/L	-	-	N/A		
Dibromoacetic Acid	EPA 552.2	ND.	µg/L	1.0	1	1.0	12/15/09	12/17/09
Dichloroacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/15/09	12/17/09
Monobromoacetic Acid	EPA 552.2	ND	µg/L	1.0	1	1.0	12/15/09	12/17/09
Monochloroacetic Acid	'EPA 552.2	ND	μg/L	2.0	1	2.0	12/15/09	12/17/09
Total Haloacetic Acids	EPA 552.2	ND	μg/L	÷	-	N/A	12/18/09	12/18/09
Trichloroacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/15/09	12/17/09
Surrogate								
1,2-Dichlorobenzene-d4	EPA 524.2	100	% Rec	-	1	N/A	12/14/09	12/15/09
4-Bromofluorobenzene	EPA 524.2	90	% Rec	-	1	N/A	12/14/09	12/15/09
2,3-Dibromopropionic Acid	EPA 552.2	110	% Rec	-	1	N/A	12/15/09	12/17/09

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) µg/L: Micrograms/Liter (ppb) µg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates) Report Authentication Code:

. ij

PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting : PQL x Dilution

ND: None Detected at DLR

pCi/L: Picocurie per Liter

- H: Analyzed outside of hold time
- P: Preliminary result
- S: Suspect result. See Case Narrative for comments.
- E: Analysis performed by External laboratory.
- See External Laboratory Report MDC: Min Detectable Concentration Page 1 of 1

	McCampbell Analyti	1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269						
Monterey	Bay Analytical	Client Project ID:	#62584; Pueblo	Date Sample	ed: 12	/07/09		
4 Justin C	'ourt Suite D		Date Receiv	ved: 12/11/09				
r sustin c	Surt, Surte D	Client Contact: D	avid Holland	Date Extract	Date Extracted: 12/11/09			
Monterey	, CA 93940	Client P.O.:		Date Analyz	xed 12	/11/09		
		Light Gas Hy	ydrocarbons*					
Extraction met	hod RSK 174/175	Analytical n	nethods RSK174/175		Wo	rk Order:	0912295	
Lab ID	Client ID	Matrix	Methane		DF	% SS	Comments	
001A	ASR-2	W	0.54		1	N/A		
·	Reporting Limit for DF =1;	W	0.4			μg/L	l	
	ND means not detected at or above the reporting limit	NA			NA			
* water sam	ples are reported in µg/L.							

DHS ELAP Certification 1644



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

ELAP Certification Number: 2385

Monday, April 05, 2010

Page 1 of 2

Lab Number: AA62820 Collection Date/Time: 12/16/2009 16:25 Submittal Date/Time: 12/16/2009 16:25

Sample Collector: LINDBERG, T Sample ID

Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed					
Alkalinity, Total (as CaCO3)	2320B	mg/L	129		2	12/21/2009					
Ammonia-N	4500NH3 D	mg/L	Not detected		0.05	12/28/2009					
Arsenic, Total	200.8	ug/L	Not detected		1	12/23/2009					
Barium, Total	200.8	ug/L	63		10	12/23/2009					
Bicarbonate (as HCO3-)	2320B	mg/L	157		10	12/21/2009					
Boron, Total	EPA200.8	mg/L	0.04		0.01	12/23/2009					
Calcium	3111B	mg/L	42		1	12/20/2009					
Carbonate as CaCO3	2320B	mg/L	Not detected		10	12/21/2009					
Chloramines	SM 4500-CI G	mg/L	0.08		0.05	12/16/2009					
Chloride	300.0	mg/L	27		1	12/18/2009					
Dissolved Organic Carbon	SM5310-C	mg/L	1.3	Е	0.2	12/28/2009					
Fluoride	300.0	mg/L	0.20		0.10	12/18/2009					
Gross Alpha	EPA 900.0	pCi/L	1.89 +/- 1.05	Е		1/4/2010					
Haloacetic Acids	EPA 552	ug/L	Attached	Е		12/28/2009					
Hardness (as CaCO3)	2340B	mg/L	167		10	4/5/2010					
Iron, Dissolved	3111B	ug/L	Not detected		50	12/22/2009					
Iron, Total	3111B	ug/L	Not detected		50	12/22/2009					
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.2	12/22/2009					
Langlier Index (15 deg. C)	2330B		-0.17			4/5/2010					
Langlier Index (60 deg. C)	2330B		0.43			4/5/2010					
Lithium	EPA 200.8	ug/L	4		1	12/23/2009					
Magnesium	3111B	mg/L	15		1	12/20/2009					
Manganese, Dissolved	3111B	ug/L	Not detected		20	12/22/2009					
Manganese, Total	3111B	ug/L	Not detected		20	12/22/2009					
Methane	EPA 174/175	ug/L	Not detected		5	12/30/2009					
Molybdenum, Total	200.8	ug/L	2		1	12/23/2009					
Nickel, Total	200.8	ug/L	2		1	12/23/2009					
Nitrate as NO3	300.0	mg/L	0		1	4/5/2010					
Nitrate as NO3-N	300.0	mg/L	0.1		0.1	12/18/2009					
Nitrite as Nitrogen	300.0	mg/L	Not detected		0.1	12/18/2009					
Nitrite as NO2-N	300.0	mg/L	Not detected		0.1	12/18/2009					
o-Phosphate-P	300.0	mg/L	0.3		0.1	12/18/2009					
pH (Laboratory)	4500-H+B	STD. Units	7.6			12/17/2009					
Phosphorus, Total	HACH 8190	mg/L	0.32		0.03	12/25/2009					
Potassium	3111B	mg/L	3.4		0.5	12/20/2009					
QC Anion Sum x 100	Calculation	%	102%			4/5/2010					
QC Anion-Cation Balance	Calculation	%	0			4/5/2010					
QC Cation Sum x 100	Calculation	%	102%			4/5/2010					
mg/L: Milligrams per liter (=ppm)	ug/L : Mic	crograms per lit	er (=ppb)	PQL : P	ractical Quan	titation Limit					

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

J = Result is less than PQL

Page 2 of 2						Monday, April 05, 2010
QC Ratio TDS/SEC	Calculation		0.68			4/5/2010
Radium 228	RA-05	pCi/L	0.148+/- 0.29	Е		1/7/2010
Selenium, Total	200.8	ug/L	Not detected		2	12/23/2009
Sodium	3111B	mg/L	44		1	12/20/2009
Specific Conductance (E.C)	2510B	umhos/cm	522		1	12/21/2009
Strontium, Total	200.8	ug/L	236		5	12/23/2009
Sulfate	300.0	mg/L	95		1	12/18/2009
Total Diss. Solids	2540C	mg/L	355		10	12/18/2009
Total Nitrogen	Calculation	mg/L	Not Detected		0.5	12/23/2009
Total Organic Carbon	SM5310C	mg/L	1.6	Е	0.20	12/28/2009
Trihalomethanes	EPA 524.2	ug/L	Attached	Е		12/28/2009
Uranium by ICP/MS	200.8	ug/L	Not detected		1	12/23/2009
Vanadium, Total	200.8	ug/L	2		1	12/23/2009
Zinc, Total	200.8	ug/L	296		10	12/23/2009

Sample Comments:

Report Approved by:

Dettel

David Holland Laboratory Director

	McCampbell Analyti	1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269						
Monterey I	Bay Analytical	Client Project ID: #62820; MPWMD Date Sampled: 12/16/09						
			Date Receiv	ved: 12	/30/09			
4 Justin Co	urt, Suite D	Client Contact: D	Date Extract	Date Extracted: 12/30/09				
Monterey,	CA 93940	Client P.O.:		Date Analyz	zed 12	/30/09		
		Light Gas H	lydrocarbons*	1				
Extraction metho	od RSK 174/175	Analytical 1	methods RSK174/175		Wo	rk Order:	0912716	
Lab ID	Client ID	Matrix	Methane	DF	% SS	Comments		
001A	ASR-1 Injectate	w	ND		1	N/A		
]	Reporting Limit for DF =1;	W	0.4			μg/L		
1	ND means not detected at or above the reporting limit	NA			NA			
* water sampl	es are reported in µg/L.	· · ·			<u>.</u>			

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager



Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940

David Holland

1414 Stanislaus Street Fresno, California 93706 (559) 497-2888 Fax (559) 485-6935

Certificate of Analysis NELAP Certificate #04227CA **ELAP Certificate #1180**

BSK Submission #: 2009:	121461							
BSK Sample ID #: 11963 Project ID: 62820	98	Project Desc	: MPWN	110			Report	: Issue Date: 01/04/2010
Submission Comments: Sample Type: Liquid Sample Description: ASR-1 Injectate Sample Comments: 62820	e 						Dat Tim Date	e Sampled: 12/16/2009 c Sampled: 1400 : Received: 12/18/2009
Inorganics								· · · ·
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Date/Time
Dissolved Organic Carbon (DOC)	SM 5310-C	1.3	mg/L	0.20	I	0.20	12/28/09	12/28/09
Total Organic Carbon (TOC)	SM 5310-C	1.6	mg/L	0.20	1	0.20	12/28/09	12/28/09
Organics	N A A A A		.	nor	Thaile as	DI D	Prep	Analysis
Analyte	vietnod	Kesult	Units	PQL	Dilution	DLR	Date/ Time	Date/Time
Bromodichloromethane	EPA 524.2	8.5	μg/L	0.50	1	0.50	12/28/09	12/29/09
Bromoform	EPA 524.2	0.66	μg/L	0.50	1	0.50	12/28/09	12/29/09
Chloroform	EPA 524.2	11	μg/L	0.50	1	0.50	12/28/09	12/29/09
Dibromochloromethane	EPA 524.2	5.5	μg/L	0.50	1	0,50	12/28/09	12/29/09
Total Trihalomethanes	EPA 524.2	26	μg/L	-	-	N/A		
Dibromoacetic Acid	EPA 552.2	2.2	μg/L	1.0	1	1.0	12/28/09	12/30/09
Dichloroacetic Acid	EPA 552.2	6.4	μg/L	1.0	1	1.0	12/28/09	12/30/09
Monobromoacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	12/28/09	12/30/09
Monochioroacetic Acid	EPA 552.2	ND	μg/L	2.0	ł	2.0	12/28/09	12/30/09
Total Hafoacetic Acids	EPA 552.2	14	μg/L	-	-	N/A	12/28/09	12/30/09
Trichloroacetic Acid	EPA 552.2	5.7	μg/L	1.0	1	1.0	12/28/09	12/30/09
Surrogate								
1,2-Dichlorobenzenc-d4	EPA 524.2	100	% Rec	-	1	N/A	12/28/09	12/29/09
4-Bromofluorobenzene	EPA 524.2	93	% Rec	-	1	N/A	12/28/09	12/29/09
2,3-Dibromopropionic Acid	EPA 552.2	100	% Rec	-	Ι	N/A	12/28/09	12/30/09

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) µg/L: Micrograms/Liter (ppb) µg/Kg; Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates) POL: Practical Quantitation Limit DLR: Detection Limit for Reporting : PQL x Dilution

ND: None Detected at DLR

pCi/L: Picocurie per Liter

H: Analyzed outside of hold time

P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

See External Laboratory reprint MDC: Min Detectable Concentration Page 1 of 1



ANALYTICAL RESULTS

Project: MPWMD/62820

Pace Project No.: 3020469

Sample: ASR-1 iNJECTATE PWS:	Lab ID: 30204690 Site ID:	01 Collected: 12/16/09 14:00 Sample Type:	Received:	12/28/09 10:30 M	latrix: Drinking \	Nater
Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	1.89 ± 1.05 (1.58)	oCi/L	01/04/10 13:49	12587-46-1	
Radium-228	EPA 904.0	0.148 ± 0.290 (0.650)	oCi/L	01/07/10 14:05	15262-20-1	

Date: 01/19/2010 06:31 PM

REPORT OF LABORATORY ANALYSIS

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Page 5 of 8



Thursday, March 11, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA63479

Collection Date/Time: 1/22/2010 Submittal Date/Time: 1/22/2010

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Sample Collector: Sample ID

11:30

14:00

LINDBERG, T

Sample Description: ASR-1 Injectate									
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed		
Alkalinity, Total (as CaCO3)	2320B	mg/L	126		2		1/26/2010		
Ammonia-N	4500NH3 D	mg/L	Not detected		0.05		1/28/2010		
Arsenic, Total	200.8	ug/L	Not detected		1	10	1/22/2010		
Barium, Total	200.8	ug/L	56		10	1000	1/22/2010		
Boron, Total	EPA200.8	mg/L	0.04		0.01		1/22/2010		
Calcium	3111B	mg/L	42		1		2/2/2010		
Chloramines	SM 4500-CI G	mg/L	0.10		0.05		1/22/2010		
Chloride	300.0	mg/L	27		1	250	1/26/2010		
Dissolved Organic Carbon	SM5310-C	mg/L	Attached	E	0.2		1/29/2010		
Gross Alpha	EPA 900.0	pCi/L	Attached	E		15	3/3/2010		
Haloacetic Acids	EPA 552	ug/L	Attached	E		60	2/4/2010		
Iron, Total	200.8	ug/L	Not detected		50	300	1/22/2010		
Iron_Dissolved	EPA 200.8	ug/L	Not detected		50		1/22/2010		
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.5		1/28/2010		
Lithium	EPA 200.8	ug/L	6		1		1/22/2010		
Magnesium	3111B	mg/L	14		1		2/2/2010		
Manganese, Dissolved	200.8	ug/L	Not detected		10	50	1/22/2010		
Manganese, Total	200.8	ug/L	Not detected		10	50	1/22/2010		
Methane	EPA 174/175	ug/L	Attached	E	5		1/29/2010		
Molybdenum, Total	200.8	ug/L	2		1	1000	1/22/2010		
Nickel, Total	200.8	ug/L	2		2	100	1/22/2010		
Nitrate as NO3-N	300.0	mg/L	Not detected		0.1	10	1/26/2010		
Nitrite as Nitrogen	300.0	mg/L	Not detected		0.1	1.00	1/26/2010		
o-Phosphate-P	300.0	mg/L	Not detected		0.1		1/26/2010		
pH (Laboratory)	4500-H+B	STD. Units	7.6				1/26/2010		
Phosphorus, Total	HACH 8190	mg/L	Not detected		0.03		2/16/2010		
Potassium	3111B	mg/L	3.2		0.5		2/2/2010		
Radium 226	EPA 903.1	pCi/L	Attached	E		3	3/3/2010		
Selenium, Total	200.8	ug/L	3		2	50	1/22/2010		
Sodium	3111B	mg/L	41		1		2/2/2010		
Specific Conductance (E.C)	2510B	umhos/cm	528		1	900	1/26/2010		
Strontium, Total	200.8	ug/L	216		5		1/22/2010		
Sulfate	300.0	mg/L	82		1	250	1/26/2010		
Total Diss. Solids	2540C	mg/L	385		10	500	1/25/2010		
Total Nitrogen	Calculation	mg/L	Not Detected		0.2		1/29/2010		
Total Organic Carbon	SM5310C	mg/L	Attached	Е	0.20		1/30/2010		
mg/L: Milligrams per liter (=ppm)	ua/L : Micro	arams per liter	(=ppb)	PQL :	Practical Qua	antitation I	imit		

igrams per liter (=ppm)

ns pe r (=ppb) ıg/ ogra

E = Analysis performed by External Laboratory; See External Laboratory Report attachments. H = Analyzed ouside of hold time



Thursday, March 11, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA63479

 Collection Date/Time:
 1/22/2010
 11:30

 Submittal Date/Time:
 1/22/2010
 14:00

Sample Collector: Sample ID

Sample Description: ASR-1 Injectate

LINDBERG, T

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed			
Total Trihalomethanes (THMs)	EPA 524.2	ug/L	16	E	0.5	80	1/30/2010			
Bromodichloromethane	EPA 524.2	ug/L	5.7	Е	0.5		1/30/2010			
Bromoform	EPA 524.2	ug/L	0.63	E	0.5		1/30/2010			
Chloroform	EPA 524.2	ug/L	5.9	E	0.5		1/30/2010			
Dibromochloromethane	EPA 524.2	ug/L	4.2	E	0.5		1/30/2010			
Uranium by ICP/MS	200.8	ug/L	Not detected	d	1		1/22/2010			
Vanadium, Total	200.8	ug/L	2		5	1000	1/22/2010			
Zinc, Total	200.8	ug/L	220		10	5000	1/22/2010			
Comple Commenter										

Sample Comments:

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Report Approved by:

Dettel

David Holland, Laboratory Director



Thursday, March 11, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA63480

Collection Date/Time: 1/22/2010 Submittal Date/Time: 1/22/2010

Sample ID

13:30

14:00

Sample Collector: LINDBERG, T

Sample Description: MW-1									
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed		
Alkalinity, Total (as CaCO3)	2320B	mg/L	140		2		1/26/2010		
Ammonia-N	4500NH3 D	mg/L	Not detected		0.05		1/28/2010		
Arsenic, Total	200.8	ug/L	5		1	10	1/22/2010		
Barium, Total	200.8	ug/L	35		10	1000	1/22/2010		
Boron, Total	EPA200.8	mg/L	0.05		0.01		1/22/2010		
Calcium	3111B	mg/L	54		1		2/2/2010		
Chloramines	SM 4500-CI G	mg/L	Not detected		0.05		1/22/2010		
Chloride	300.0	mg/L	28		1	250	1/26/2010		
Dissolved Organic Carbon	SM5310-C	mg/L	Attached	Е	0.2		1/29/2010		
Gross Alpha	EPA 900.0	pCi/L	Attached	E		15	3/3/2010		
Haloacetic Acids	EPA 552	ug/L	Attached	E		60	2/4/2010		
Iron, Total	200.8	ug/L	Not detected		50	300	1/22/2010		
Iron_Dissolved	EPA 200.8	ug/L	Not detected		50		1/22/2010		
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.5		1/28/2010		
Lithium	EPA 200.8	ug/L	10		1		1/22/2010		
Magnesium	3111B	mg/L	11		1		2/2/2010		
Manganese, Dissolved	200.8	ug/L	Not detected		10	50	1/22/2010		
Manganese, Total	200.8	ug/L	Not detected		10	50	1/22/2010		
Methane	EPA 174/175	ug/L	Attached	E	5		1/29/2010		
Molybdenum, Total	200.8	ug/L	3		1	1000	1/22/2010		
Nickel, Total	200.8	ug/L	Not detected		2	100	1/22/2010		
Nitrate as NO3-N	300.0	mg/L	Not detected		0.1	10	1/26/2010		
Nitrite as Nitrogen	300.0	mg/L	Not detected		0.1	1.00	1/26/2010		
o-Phosphate-P	300.0	mg/L	Not detected		0.1		1/26/2010		
pH (Laboratory)	4500-H+B	STD. Units	7.7				1/26/2010		
Phosphorus, Total	HACH 8190	mg/L	Not detected		0.03		2/16/2010		
Potassium	3111B	mg/L	4.6		0.5		2/2/2010		
Radium 226	EPA 903.1	pCi/L	Attached	Е		3	3/3/2010		
Selenium, Total	200.8	ug/L	4		2	50	1/22/2010		
Sodium	3111B	mg/L	43		1		2/2/2010		
Specific Conductance (E.C)	2510B	umhos/cm	561		1	900	1/26/2010		
Strontium, Total	200.8	ug/L	282		5		1/22/2010		
Sulfate	300.0	mg/L	85		1	250	1/26/2010		
Total Diss. Solids	2540C	mg/L	355		10	500	1/25/2010		
Total Nitrogen	Calculation	mg/L	Not Detected		0.2		1/29/2010		
Total Organic Carbon	SM5310C	mg/L	Attached	E	0.20		1/30/2010		
mg/L: Milligrams per liter (=ppm)	ug/L : Microg	grams per liter	(=ppb)	PQL :	Practical Qua	antitation L	imit		

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



Thursday, March 11, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA63480

Collection Date/Time:1/22/201013:30Sample Collector:LINDBERG, TSubmittal Date/Time:1/22/201014:00Sample ID

Sample Description: MW-1										
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed			
Total Trihalomethanes (THMs)	EPA 524.2	ug/L	45	E	0.5	80	1/30/2010			
Dibromochloromethane	EPA 524.2	ug/L	5.0	E	0.5		1/30/2010			
Bromoform	EPA 524.2	ug/L	Not detected	E	0.5		1/30/2010			
Chloroform	EPA 524.2	ug/L	26	E	0.5		1/30/2010			
Bromodichloromethane	EPA 524.2	ug/L	14	E	0.5		1/30/2010			
Uranium by ICP/MS	200.8	ug/L	1		1		1/22/2010			
Vanadium, Total	200.8	ug/L	4		5	1000	1/22/2010			
Zinc, Total	200.8	ug/L	24		10	5000	1/22/2010			

Sample Comments:

Report Approved by:

Dettel

David Holland, Laboratory Director

	CCampbell Analyti "When Ouality Counts"	cal, Inc.	1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269						
Monterey Bay AnalyticalClient Project ID: #63479 & 63480Date Sampled: 01/22/10									
4 Justin Court	t Suito D		Date Received: 01/28/10						
4 Justin Court	, Suite D	Client Contact: D	Date Extract	ted: 01	/29/10				
Monterey, CA	A 93940	Client P.O.:		Date Analyz	zed 01	/29/10			
		Light Gas H	ydrocarbons*						
Extraction method	RSK 174/175	Analytical n	Analytical methods RSK174/175						
Lab ID	Client ID	Matrix	Methane			% SS	Comments		
001A	ASR-1 Injectate	W	ND	1	N/A				
002A	MW-1	W	ND	1	N/A				
Rej	porting Limit for DF =1;	W	0.4			µg/L			
ND means not detected at or above the reporting limit S NA									
* water samples a	are reported in μg/L.								

DHS ELAP Certification 1644



Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940

David Holland

1414 Stanislaus Street Fresno, California 93706 (559) 497-2888 Fax (559) 485-6935

Certificate of Analysis NELAP Certificate #04227CA ELAP Certificate #1180

BSK Submission #: 2010 BSK Sample ID #: 12086 Project ID:	011755 976	Project Desc	: MPWN	MD		Report Issue Date: 02/08/2010			
Submission Comments: Sample Type: Liquid Sample Description: ASR Injectate Sample Comments: 63479							Dat Tim Date	e Sampled: 01/22/2010 c Sampled: 1130 e Received: 01/28/2010	
Inorganics							~		
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Dissolved Organic Carbon (DOC)	SM 5310-C	0.91	mg/L	0.20	l	0.20	01/29/10	01/29/10	
Total Organic Carbon (TOC)	SM 5310-C	1.1	mg/L	0.20	l	0.20	01/30/10	01/30/10	
Organics									
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Bromodichloromethane	EPA 524.2	5.7	µg/L	0.50	1	0.50	01/29/10	01/30/10	
Bromoform	EPA 524.2	0.63	μg/L	0.50	1	0.50	01/29/10	01/30/10	
Chloroform	EPA 524.2	5.9	μg/L	0.50	1	0.50	01/29/10	01/30/10	
Dibromochloromethane	EPA 524.2	4.2	μg/L	0.50	1	0.50	01/29/10	01/30/10	
Total Trihalomethanes	EPA 524.2	16	μg/L	-	-	N/A			
Dibromoacetic Acid	EPA 552,2	2.4	μg/L	1.0	1	1.0	02/01/10	02/04/10	
Dichloroacetic Acid	EPA 552.2	4.8	μg/L	1.0	1	1.0	02/01/10	02/04/10	
Monobromoacetic Acid	EPA 552.2	ND	μg/L	1.0]	1.0	02/01/10	02/04/10	
Monochloroacetic Acid	EPA 552.2	ND	μg/L	2.0	1	2.0	02/01/10	02/04/10	
Total Haloacetic Acids	EPA 552.2	11	μg/L	-	-	N/A	02/04/10	02/04/10	
Trichloroacetic Acid	EPA 552.2	4.0	µg/L	1.0	1	1.0	02/01/10	02/04/10	
Surrogate									
1,2-Dichlorobenzene-d4	EPA 524.2	100	% Rec	-	1	N/A	01/29/10	01/30/10	
4-Bromofluorobenzene	EPA 524.2	93	% Rec	-	1	N/A	01/29/10	01/30/10	
2,3-Dibromopropionic Acid	EPA 552.2	100	% Rec	-	1	N/A	02/01/10	02/04/10	

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) µg/L: Micrograms/Liter (ppb) µg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates)

Report Authentication Code:

PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting : PQL x Dilution

ND: None Detected at DLR

pCi/L: Picocurie per Liter

- H: Analyzed outside of hold time
- P: Preliminary result
- S: Suspect result. See Case Narrative for comments.
- E: Analysis performed by External laboratory.

See External Laboratory Report attachments. See External Laboratory Transformer MDC: Min Detectable Concentration Page 1 of 2



1414 Stanislaus Street Fresno, Callfornia 93706 (559) 497-2888 Fax (559) 485-6935

David Holland Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940

BSK Submission #: 2010011755

X XXX U 4800 CMM

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Certificate of Analysis NELAP Certificate #04227CA ELAP Certificate #1180

BSK Sample ID #: 1208677							Report Issue Date: 02/08/2010		
Project ID: Project Desc: MPWMD									
Submission Comments:									
Sample Type: Liquid							Dat	te Sampled: 01/22/2010	
Sample Description: MW-1 Sample Comments: 63480							Time Sampled: 1330		
							Date Received: 01/28/2010		
Inorganics									
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Dissolved Organic Carbon (DOC)	SM 5310-C	1.0	mg/L	0.20	1	0.20	01/29/10	01/29/10	
Total Organic Carbon (TOC)	SM 5310-C	0.98	mg/L	0.20	1	0.20	01/30/10	01/30/10	
Organics									
Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Bromodichloromethane	EPA 524.2	14	μg/L	0.50	1	0.50	01/29/10	01/30/10	
Bromoform	EPA 524.2	ND	μg/L	0.50	1	0.50	01/29/10	01/30/10	
Chloroform	EPA 524,2	26	μg/L	0.50	1	0.50	01/29/10	01/30/10	
Dibromochloromethane	EPA 524.2	5.0	μg/L	0.50	1	0.50	01/29/10	01/30/10	
Total Trihalomethanes	EPA 524.2	45	μg/L	-	-	N/A			
Dibromoacetic Acid	EPA 552.2	ND	μg/L	1.0	1	1.0	02/01/10	02/04/10	
Dichloroacetic Acid	EPA 552.2	2.1	μg/L	1.0]	1.0	02/01/10	02/04/10	
Monobromoacetic Acid	EPA 552.2	NÐ	μg/L	1.0	1	1.0	02/01/10	02/04/10	
Monochloroacetic Acid	EPA 552.2	ND	µg/L	2.0	1	2.0	02/01/10	02/04/10	
Total Haloacetic Acids	EPA 552.2	6.0	μg/L	-	-	N/A	02/05/10	02/05/10	
Trichloroacetic Acid	EPA 552.2	3.9	µg/L	1.0	1	1.0	02/01/10	02/04/10	
Surrogate					-				
1,2-Dichlorobenzene-d4	EPA 524.2	110	% Rec	-	1	N/A	01/29/10	01/30/10	
4-Bromofluorobenzene	EPA 524.2	96	% Rec	-	1	N/A	01/29/10	01/30/10	
2,3-Dibromopropionic Acid	EPA 552.2	100	% Rec	-	1	N/A	02/01/10	02/04/10	

mg/L: Milligrams/Liter (ppm) mg/Kg: Milligrams/Kilogram (ppm) μg/L: Micrograms/Liter (ppb) μg/Kg: Micrograms/Kilogram (ppb) %Rec: Percent Recovered (surrogates)

Report Authentication Code:

PQL: Practical Quantitation Limit DLR: Detection Limit for Reporting : PQL x Dilution

ND: None Detected at DLR

pCi/L: Picocurie per Liter

- H: Analyzed outside of hold time
- P: Preliminary result

S: Suspect result. See Case Narrative for comments.

E: Analysis performed by External laboratory.

See External Laboratory Report attachments. MDC: Min Detectable Concentration

Page 2 of 2


March 05, 2010

Client: Monterey Bay Analytical Address: 4 Justin Court Ste D Monterey, CA 93940

Received: 2/26/2010 Project #: MPWMD/Pueblo

<u>Client ID#</u> 63479	<u>Lab ID#</u> 1002772-01	Collected Analyte 22-Jan-10 Gross Alpha	<u>Result</u> ND +/- 1.1	<u>Units</u> pci/l	<u>Matrix</u> L	Method EPA 900.0	<u>DF</u> 1	<u>LOQ</u> 3	<u>Run</u> <u>Analyst</u> 03-Mar-10 MO
<u>Client ID#</u> 63479	<u>Lab ID#</u> 1002772-01	Collected Analyte 22-Jan-10 Radium-226	<u>Result</u> ND +/- 0.16	<u>Units</u> pci/l	<u>Matrix</u> L	<u>Method</u> EPA 903.0	DF 1	<u>LOQ</u> 1	<u>Run</u> <u>Analyst</u> 03-Mar-10 MO
<u>Client ID#</u> 63480	<u>Lab ID#</u> 1002772-02	Collected Analyte 22-Jan-10 Gross Alpha	<u>Result</u> ND +/- 1.0	<u>Units</u> pci/l	<u>Matrix</u> L	Method EPA 900.0	<u>DF</u> 1	LOQ 3	<u>Run Analyst</u> 03-Mar-10 MO
<u>Client ID#</u> 63480	<u>Lab ID#</u> 1002772-02	Collected Analyte 22-Jan-10 Radium-226	<u>Result</u> ND +/- 0.2	<u>Units</u> pci/l	<u>Matrix</u> L	Method EPA 903.0	<u>DF</u> 1	LOQ 1	<u>Run</u> <u>Analyst</u> 03-Mar-10 MO



ELAP Certification Number: 2385

Tuesday, March 16, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Page 1 of 1

Lab Number: AA63726

Collection Date/Time: 2/3/2010 Submittal Date/Time: 2/3/2010

0 8:40 0 9:30

Sample Collector: LEAR, J Sample ID

Sample Description: Injectate										
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed			
Chloramines	SM 4500-CI G	mg/L	0.12		0.05		2/3/2010			
Chloride	300.0	mg/L	25		1	250	2/5/2010			
Haloacetic Acids	EPA 552	ug/L	Attached	E		60	2/8/2010			
Trihalomethanes	EPA 524.2	ug/L	Attached	E		80	2/8/2010			
Sample Comments:										

Report Approved by:

Oe Hel

David Holland, Laboratory Director



Analytical Laboratory Service - Since 1964

Certificate of Analysis

Report Date: Wednesday, February 10, 2010 Received Date: Thursday, February 4, 2010 Received Time: 8:20 am Turnaround Time: Normal

> Phones: (831) 375-6227 Fax: (831) 641-0734

P.O. #:

4 Justin Court, Suite D Monterey, CA 93940 Attn: David Holland

Client: Monterey Bay Analytical Services

Project: MPWMD

Lab Sample ID: 0B04004-01	Sample ID:	Injec	tate							Matri	ix: Water
Sampled by: Lear, J	Sampled: 0	02/03/10 08:40		Sa	ample I	Note: 63726	5				
Analyte	Result	DL	RL	Units	Dil	Method	Prepared	Analyz	ed	Batch	Qualifier
Bromodichloromethane	7.1	0.13	0.50	ug/l	1x1	EPA 524.2	2/8/10	2/8/10	22:37	W0B0393	
Bromoform	0.67	0.17	0.50	ug/l	1x1	EPA 524.2	2/8/10	2/8/10	22:37	W0B0393	
Chloroform	5.7	0.17	0.50	ug/l	1x1	EPA 524.2	2/8/10	2/8/10	22:37	W0B0393	
Dibromochloromethane	5.6	0.19	0.50	ug/l	1x1	EPA 524.2	2/8/10	2/8/10	22:37	W0B0393	
THMs, Total. Surrogate: 1,2-Dichlorobenzene-d4 Surrogate: 4-Bromofluorobenzene			0.50 70-130 70-130	ug/l	1x1	EPA 524.2	2/8/10	2/8/10	22:37	W0B0393	
Dibromoacetic acid (dbaa)	2.4	0.13	1.0	ug/l	1x1	EPA 552.2	2/5/10	2/9/10	0:57	W0B0232	
Dichloroacetic acid (dcaa)	3.8	0.41	1.0	ug/l	1x1	EPA 552.2	2/5/10	2/9/10	0:57	W0B0232	
HAA5, Total	9.8		1.0	ug/l	1x1	EPA 552.2	2/5/10	2/9/10	0:57	W0B0232	
Monobromoacetic acid (mbaa)	ND	0.21	1.0	ug/l	1x1	EPA 552.2	2/5/10	2/9/10	0:57	W0B0232	
Monochloroacetic acid (mcaa)	ND	0.32	2.0	ug/l	1x1	EPA 552.2	2/5/10	2/9/10	0:57	W0B0232	
Trichloroacetic acid (tcaa) Surrogate: 2,3-Dibromopropionic ac	3.6 d 103 %	0.22	1.0 <i>70-130</i>	ug/l	1x1	EPA 552.2	2/5/10	2/9/10	0:57	W0B0232	



ELAP Certification Number: 2385

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Page 1 of 2

Lab Number: AA64033

Collection Date/Time: 2/16/2010 Submittal Date/Time: 2/16/2010

14:00 14:15 Sample Collector: LEAR, J Sample ID

Sample Description: Injectate											
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed				
Alkalinity, Total (as CaCO3)	2320B	mg/L	129		2		2/17/2010				
Ammonia-N	4500NH3 D	mg/L	0.05		0.05		2/21/2010				
Arsenic, Total	200.8	ug/L	Not detected	1	1	10	3/5/2010				
Barium, Total	200.8	ug/L	57		10	1000	3/5/2010				
Bicarbonate (as HCO3-)	2320B	mg/L	157		10		3/16/2010				
Boron, Total	EPA200.8	mg/L	0.38		0.01		3/5/2010				
Calcium	3111B	mg/L	40		1		2/23/2010				
Carbonate as CaCO3	2320B	mg/L	Not detected	1	10		2/17/2010				
Chloramines	SM 4500-CI G	mg/L	0.20		0.05		2/16/2010				
Chloride	300.0	mg/L	26		1	250	2/17/2010				
Dissolved Organic Carbon	SM5310-C	mg/L	1.1	E	0.2		2/26/2010				
Fluoride	300.0	mg/L	0.33		0.10	2.0	2/17/2010				
Gross Alpha	EPA 900.0	pCi/L	Attached	E		15	3/3/2010				
Haloacetic Acids	EPA 552	ug/L	Attached	Е		60	2/27/2010				
Hardness (as CaCO3)	2340B	mg/L	153		10		3/16/2010				
Iron, Dissolved	3111B	ug/L	Not detected	ł	50	300	2/23/2010				
Iron, Total	3111B	ug/L	Not detected	ł	50	300	2/23/2010				
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected	ł	0.2		3/3/2010				
Langlier Index (15 deg. C)	2330B		-0.29				3/16/2010				
Langlier Index (60 deg. C)	2330B		0.31				3/16/2010				
Lithium	EPA 200.8	ug/L	7		1		3/5/2010				
Magnesium	3111B	mg/L	13		1		2/23/2010				
Manganese, Dissolved	3111B	ug/L	Not detected	1	20	50	2/23/2010				
Manganese, Total	3111B	ug/L	Not detected	1	20	50	2/23/2010				
Methane	EPA 174/175	ug/L	Not detected	ΙE	0.4		2/22/2010				
Molybdenum, Total	200.8	ug/L	3		1	1000	3/5/2010				
Nickel, Total	200.8	ug/L	3		1	100	3/5/2010				
Nitrate as NO3	300.0	mg/L	1		1	45	2/17/2010				
Nitrate as NO3-N	300.0	mg/L	0.2		0.1	10	2/17/2010				
Nitrite as Nitrogen	300.0	mg/L	Not detected	1	0.1	1.00	2/17/2010				
Nitrite as NO2-N	300.0	mg/L	Not detected	1	0.1	1.00	2/17/2010				
o-Phosphate-P	300.0	mg/L	Not detected	1	0.1		2/17/2010				
pH (Laboratory)	4500-H+B	STD. Units	7.5				2/16/2010				
Phosphorus, Total	HACH 8190	mg/L	Not detected	1	0.03		2/16/2010				
Potassium	3111B	mg/L	2.8		0.5		2/23/2010				
QC Anion Sum x 100	Calculation	%	96%				3/16/2010				
QC Anion-Cation Balance	Calculation	%	2				3/16/2010				
QC Cation Sum x 100	Calculation	%	101%				3/16/2010				
QC Ratio TDS/SEC	Calculation		0.7				3/16/2010				
Radium 226	EPA 903.1	pCi/L	Attached	E		3	3/3/2010				
								_			

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



Lab Number: AA64033

Collection Date/Time:	2/16/2010	
Submittal Date/Time:	2/16/2010	

14:00Sample Collector:14:15Sample ID

ble Collector: LEAR, J ble ID

Tuesday, March 16, 2010

Sample Description: Injectate											
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed				
Selenium, Total	200.8	ug/L	Not detected		2	50	3/5/2010				
Sodium	3111B	mg/L	43		1		2/23/2010				
Specific Conductance (E.C)	2510B	umhos/cm	494		1	900	2/16/2010				
Strontium, Total	200.8	ug/L	218		5		3/5/2010				
Sulfate	300.0	mg/L	69		1	250	2/17/2010				
Total Diss. Solids	2540C	mg/L	348		10	500	2/18/2010				
Total Nitrogen	Calculation	mg/L	Not Detected		0.5		3/4/2010				
Total Organic Carbon	SM5310C	mg/L	1.0	Е	0.20		2/26/2010				
Trihalomethanes	EPA 524.2	ug/L	Attached	Е		80	2/24/2010				
Uranium by ICP/MS	200.8	ug/L	Not detected		1		3/5/2010				
Vanadium, Total	200.8	ug/L	2		1	1000	3/5/2010				
Zinc, Total	200.8	ug/L	286		10	5000	3/5/2010				

Sample Comments:

Report Approved by:

Dettelle

David Holland, Laboratory Director



Certificate of Analysis

Report Issue Date: 03/02/2010 16:04 Received Date: 02/19/2010 Received Time: 07:30

Lab Sample ID:	A0B0333-01	Sample Description:	Injectate // 64033
Sample Date:	02/16/2010 14:00		
Sample Control Q	ualifiers:	Matrix:	Ground Water
Sample Type:	Grab	Sampled by:	J Lear

Organics

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
Total Trihalomethanes by E	PA 524.2								
Bromodichloromethane	EPA 524.2	6.2	0.50	ug/L	1	A000187	02/23/10	02/24/10	
Bromoform	EPA 524.2	0.59	0.50	ug/L	1	A000187	02/23/10	02/24/10	
Chloroform	EPA 524.2	5.8	0.50	ug/L	1	A000187	02/23/10	02/24/10	
Dibromochloromethane	EPA 524.2	4.3	0.50	ug/L	1	A000187	02/23/10	02/24/10	
*Total Trihalomethanes	EPA 524.2	17		ug/L					
*Surrogate: 1,2-Dichlorobenzene-d4			101 %	Acceptab	le range: 7	70-130 %			
*Surrogate: 4-Bromofluorobenzene			93 %	Acceptab	le range: 7	70-130 %			
Haloacetic Acids									
Dibromoacetic Acid (DBAA)	EPA 552.2	2.1	1.0	ug/L	1	A000272	02/25/10	02/27/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	4.8	1.0	ug/L	1	A000272	02/25/10	02/27/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A000272	02/25/10	02/27/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	ND	2.0	ug/L	1	A000272	02/25/10	02/27/10	
*Total Haloacetic Acids (HAA)	EPA 552.2	11		ug/L					
Trichloroacetic Acid (TCAA)	EPA 552.2	3.7	1.0	ug/L	1	A000272	02/25/10	02/27/10	
Surrogate: 2,3-Dibromopropionic Aci	ď		83 %	Acceptab	le range: i	70-130 %			

A0B0333 FINAL 03022010 1604



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Certificate of Analysis

Report Issue Date: 03/02/2010 16:04 Received Date: 02/19/2010 Received Time: 07:30

Lab Sample ID: A0B0333-01 Sample Date: 02/16/2010 14:00 Sample Control Qualifiers: Sample Type: Grab

Sample Description: Injectate // 64033

Matrix: Ground Water

Sampled by: J Lear

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
General Chemistry									
Dissolved Organic Carbon	SM 5310 C	1.1	0.20	mg/L	1	A000336	02/26/10	02/26/10	X01
Total Organic Carbon	SM 5310 C	1.0	0.20	mg/L	1	A000337	02/26/10	02/26/10	

	McCampbell Analyt	ical, Inc.	1534 Willow F Web: www.mccamp Telephone: 8	Pass Road, Pittsbur bell.com E-mail 377-252-9262 Fa	g, CA 945 : main@mo ax: 925-252	565-1701 ccampbell.c 2-9269	com	
Monterey	Bay Analytical	Client Project ID:	MPWMD	Date Sample	ed: 02	/14/10		
				ved: 02	/19/10			
4 Justin C	ourt, Suite D	Client Contact: D	avid Holland	Date Extrac	cted: 02/22/10			
Monterey	, CA 93940	Client P.O.:		Date Analyz	zed 02	/22/10		
		Light Gas H	ydrocarbons*	<u> </u>				
Extraction met	hod RSK 174/175	Analytical r	nethods RSK174/175		Wo	1002477		
Lab ID	Client ID	Matrix	Methane		DF	% SS	Comments	
001A	Injectate	W	ND		1	N/A		
	Reporting Limit for DF =1;	W	0.4			μg/L	·	
	ND means not detected at or above the reporting limit	S	NA			NA		
* water samp	ples are reported in µg/L.				<u>.</u>			

DHS ELAP Certification 1644



ELAP Certification Number: 2385

Monday, March 29, 2010

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MPWMD

Joe Oliver

P.O. Box 85

Monterey, CA 93442-0085

Lab Number:	AA64534								
Collection Date/Time:	3/10/2010	12:15	Samp	le Collector:	LINDBERG, T.				
Submittal Date/Time:	3/10/2010	14:20	Samp	le ID					
			Sa	mple Desc	ription: MW-1				
Analyte			Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Chloride			300.0	mg/L	28		1	250	3/12/2010
Haloacetic Acids			EPA 552	ug/L	Attached	E		60	3/19/2010
Trihalomethanes			EPA 524.2	ug/L	Attached	E		80	3/18/2010
Sample Comments:									

Report Approved by:

Dettel

David Holland, Laboratory Director



A0C1017-01 Lab Sample ID: Sample Date: 03/10/2010 12:15 Sample Type: Grab Sample Control Qualifiers:

Certificate of Analysis

Report Issue Date: 03/23/2010 15:50 **Received Date: 03/12/2010** Received Time: 07:30

Client Project: MPWMD Matrix: Water Sampled by: Lindberg, T

Sample Description: MW-1 // 64534

Organics

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
Total T dealers there a hard to									
I otal I rinalomethanes by EPA 5	<u>524.2</u>								
Bromodichloromethane	EPA 524.2	20	0.50	ug/L	1	A001120	03/18/10	03/18/10	
Bromoform	EPA 524.2	0.93	0.50	ug/L	1	A001120	03/18/10	03/18/10	
Chloroform	EPA 524.2	30	0.50	ug/L	1	A001120	03/18/10	03/18/10	
Dibromochloromethane	EPA 524.2	9.8	0.50	ug/L	1	A001120	03/18/10	03/18/10	
Total Trihalomethanes	EPA 524.2	60		ug/L					
Surrogate: 1,2-Dichlorobenzene-d4			105 %	Acceptable range	e: 70-130	%			
Surrogate: 4-Bromofluorobenzene			95 %	Acceptable range	e: 70-130	%			
Haloacotic Acids									
naioacette Acius									
Dibromoacetic Acid (DBAA)	EPA 552.2	1.9	1.0	ug/L	1	A001005	03/16/10	03/19/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	6.3	1.0	ug/L	1	A001005	03/16/10	03/19/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A001005	03/16/10	03/19/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	ND	2.0	ug/L	1	A001005	03/16/10	03/19/10	
Total Haloacetic Acids (HAA)	EPA 552.2	12		ug/L					
Trichloroacetic Acid (TCAA)	EPA 552.2	4.1	1.0	ug/L	1	A001005	03/16/10	03/19/10	
Surrogate: 2,3-Dibromopropionic Acid			103 %	Acceptable range	e: 70-130	%			

A0C1017 FINAL 03232010 1550



ELAP Certification Number: 2385

Thursday, March 25, 2010

Page 1 of 1

MPWMD

Joe Oliver

P.O. Box 85

Monterey, CA 93442-0085

Lab Number:	AA64322											
Collection Date/Time:	3/2/2010	13:40	Sample	Collector:	LINDBERG, T.							
Submittal Date/Time:	3/2/2010	16:00	Sample	ID								
Sample Description: ASR-1 Injectate												
Analyte			Method	Unit	Result	Qual	PQL	MCL	Date Analyzed			
Chloramines			SM 4500-CI G	mg/L	0.15		0.05		2/26/2010			
Chloride			300.0	mg/L	25		1	250	3/5/2010			
Haloacetic Acids			EPA 552	ug/L	Attached	E		60	3/10/2010			
Trihalomethanes			EPA 524.2	ug/L	Attached	E		80	3/12/2010			
Sample Comments:												

Report Approved by:

De Holha

David Holland, Laboratory Director



Certificate of Analysis

Report Issue Date: 03/16/2010 9:59 Received Date: 03/05/2010 Received Time: 07:30

Lab Sample ID: Sample Date:	A0C0473-01 03/02/2010 13:40	Sample Description: Client Project:	ASR-1 Injectate // 64332 MPWMD	
Sample Control Q	ualifiers:	Matrix:	Water	
Sample Type:	Grab	Sampled by:	J Lear	

Organics

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
Total Trihalomethanes by EF	<u>A 524.2</u>								
Bromodichloromethane	EPA 524.2	6.9	0.50	ug/L	1	A000835	03/11/10	03/12/10	
Bromoform	EPA 524.2	0.64	0.50	ug/L	1	A000835	03/11/10	03/12/10	
Chloroform	EPA 524.2	8.4	0.50	ug/L	1	A000835	03/11/10	03/12/10	
Dibromochloromethane	EPA 524.2	4.4	0.50	ug/L	1	A000835	03/11/10	03/12/10	
Total Trihalomethanes	EPA 524.2	20		ug/L					
Surrogate: 1,2-Dichlorobenzene-d4			107 %	Acceptab	le range: 7	70-130 %			
Surrogate: 4-Bromofluorobenzene			96 %	Acceptab	le range: 7	70-130 %			
Haloacetic Acids									
Dibromoacetic Acid (DBAA)	EPA 552.2	2.1	1.0	ug/L	1	A000642	03/06/10	03/10/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	5.2	1.0	ug/L	1	A000642	03/06/10	03/10/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A000642	03/06/10	03/10/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	ND	2.0	ug/L	1	A000642	03/06/10	03/10/10	
Total Haloacetic Acids (HAA)	EPA 552.2	12		ug/L					
Trichloroacetic Acid (TCAA)	EPA 552.2	4.3	1.0	ug/L	1	A000642	03/06/10	03/10/10	
Surrogate: 2,3-Dibromopropionic Acid	1		95 %	Acceptab	le range: 7	70-130 %			

A0C0473 FINAL 03162010 0959



MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Page 1 of 2

Lab Number: AA64741

Collection Date/Time: 3/17/2010 12:30 Sample Collector: LEAR, J Submittal Date/Time: 3/17/2010 14:00 Sample ID

	Sample	e Descripti	ion: Injectate	е			
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Alkalinity, Total (as CaCO3)	2320B	mg/L	127		2		3/18/2010
Ammonia-N	4500NH3 D	mg/L	0.06		0.05		3/23/2010
Arsenic, Total	200.8	ug/L	Not detected	ł	1	10	3/30/2010
Barium, Total	200.8	ug/L	55		10	1000	3/30/2010
Bicarbonate (as HCO3-)	2320B	mg/L	155		10		3/19/2010
Boron	4500B-B	mg/L	0.07		0.05		4/9/2010
Calcium	3111B	mg/L	41		1		3/30/2010
Carbonate as CaCO3	2320B	mg/L	Not detected	1	10		3/13/2010
Chloramines	SM 4500-CI G	mg/L	0.11		0.05		3/17/2010
Chloride	300.0	mg/L	28		1	250	3/17/2010
Dissolved Organic Carbon	SM5310-C	mg/L	1.1	Е	0.2		3/24/2010
Fluoride	300.0	mg/L	0.26		0.10	2.0	3/17/2010
Gross Alpha	EPA 900.0	pCi/L	Attached	E		15	4/11/2010
Haloacetic Acids	EPA 552	ug/L	Attached	Е		60	3/25/2010
Hardness (as CaCO3)	2340B	mg/L	152		10		4/1/2010
Iron, Dissolved	3111B	ug/L	Not detected	1	50	300	3/30/2010
Iron, Total	3111B	ug/L	Not detected	1	50	300	3/30/2010
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected	1	0.5		3/18/2010
Langlier Index (15 deg. C)	2330B		-0.17				3/30/2010
Langlier Index (60 deg. C)	2330B		0.43				3/30/2010
Lithium	EPA 200.8	ug/L	5		1		3/30/2010
Magnesium	3111B	mg/L	12		1		3/30/2010
Manganese, Dissolved	3111B	ug/L	Not detected	1	20	50	3/30/2010
Manganese, Total	3111B	ug/L	Not detected	1	20	50	3/30/2010
Methane	EPA 174/175	ug/L	Not detected	ΙE	5		3/24/2010
Molybdenum, Total	200.8	ug/L	3		1	1000	3/30/2010
Nickel, Total	200.8	ug/L	Not detected	1	10	100	3/30/2010
Nitrate as NO3	300.0	mg/L	1		1	45	3/18/2010
Nitrate as NO3-N	300.0	mg/L	0.3		0.1	10	3/17/2010
Nitrite as Nitrogen	300.0	mg/L	Not detected	1	0.1	1.00	3/17/2010
Nitrite as NO2-N	300.0	mg/L	Not detected	1	0.1	1.00	3/17/2010
o-Phosphate-P	300.0	mg/L	0.2		0.1		3/17/2010
pH (Laboratory)	4500-H+B	STD. Units	7.6				3/18/2010
Phosphorus, Total	HACH 8190	mg/L	0.29		0.03		3/26/2010
Potassium	3111B	mg/L	2.9		0.5		3/30/2010
QC Anion Sum x 100	Calculation	%	97%				4/1/2010
QC Anion-Cation Balance	Calculation	%	2				4/1/2010
QC Cation Sum x 100	Calculation	%	101%				4/1/2010

PRECISION . ACCURACY DEPENDABILITY

ELAP Certification Number: 2385

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Wednesday, May 05, 2010

Page 2 of 2

Lab Number: AA64741

Collection Date/Time:	3/17/2010	12:30	Sample Collector:	LEAR, J
Submittal Date/Time:	3/17/2010	14:00	Sample ID	

Sample Description: Injectate										
Analyte	Method	d Unit Result Qual				MCL	Date Analyzed			
QC Ratio TDS/SEC	Calculation		0.61				3/29/2010			
Radium 226	EPA 903.1	pCi/L	Attached	Е		3	4/14/2010			
Selenium, Total	200.8	ug/L	Not detected		2	50	3/30/2010			
Sodium	3111B	mg/L	43		1		3/30/2010			
Specific Conductance (E.C)	2510B	umhos/cm	493		1	900	3/18/2010			
Strontium, Total	200.8	ug/L	200		5		3/30/2010			
Sulfate	300.0	mg/L	68		1	250	3/17/2010			
Total Diss. Solids	2540C	mg/L	300		10	500	3/22/2010			
Total Nitrogen	Calculation	mg/L	Not Detected		0.5		3/19/2010			
Total Organic Carbon	SM5310C	mg/L	1.4	Е	0.20		3/23/2010			
Total Trihalomethanes (THMs)	EPA 524.2	ug/L	22	Е	0.5	80	3/23/2010			
Chloroform	EPA 524.2	ug/L	9.6	Е	0.5		3/23/2010			
Bromoform	EPA 524.2	ug/L	0.62	Е	0.5		3/23/2010			
Bromodichloromethane	EPA 524.2	ug/L	7.6	Е	0.5		3/23/2010			
Dibromochloromethane	EPA 524.2	ug/L	4.6	Е	0.5		3/23/2010			
Uranium by ICP/MS	200.8	ug/L	Not detected		1		3/30/2010			
Vanadium, Total	200.8	ug/L	Not detected		5	1000	3/30/2010			
Zinc, Total	200.8	ug/L	194		10	5000	3/30/2010			
Comple Commenter										

Sample Comments:

Report Approved by:

Dettel

David Holland, Laboratory Director



Lab Sample ID: A0C1465-01 03/17/2010 12:30 Sample Date: Sample Type: Grab Sample Control Qualifiers:

Sample Description: Injectate // 64741

Organics

Analyte	Method	Result	RL	Units	Dil		Batch	Prepared	Analyzed	Qualifiers
Total Trihalomethanes by EPA	<u>524.2</u>									
Bromodichloromethane	EPA 524.2	7.6	0.50	ug/L	1		A001215	03/22/10	03/23/10	
Bromoform	EPA 524.2	0.62	0.50	ug/L	1		A001215	03/22/10	03/23/10	
Chloroform	EPA 524.2	9.6	0.50	ug/L	1		A001215	03/22/10	03/23/10	
Dibromochloromethane	EPA 524.2	4.6	0.50	ug/L	1		A001215	03/22/10	03/23/10	
Total Trihalomethanes	EPA 524.2	22		ug/L						
Surrogate: 1,2-Dichlorobenzene-d4			104 %	Acceptable	e range:	: 70-	130 %			
Surrogate: 4-Bromofluorobenzene			93 %	Acceptable	e range.	: 70-	130 %			
Haloacetic Acids										
Dibromoacetic Acid (DBAA)	EPA 552.2	2.1	1.0	ug/L	1		A001261	03/23/10	03/25/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	6.5	1.0	ug/L	1		A001261	03/23/10	03/25/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L		1	A001261	03/23/10	03/25/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	2.5	2.0	ug/L	1		A001261	03/23/10	03/25/10	
Total Haloacetic Acids (HAA)	EPA 552.2	16		ug/L						
Trichloroacetic Acid (TCAA)	EPA 552.2	5.3	1.0	ug/L	1		A001261	03/23/10	03/25/10	
Surrogate: 2,3-Dibromopropionic Ac	rid		106 %	Acceptable	e range:	: 70-	130 %			

Certificate of Analysis

Client Project: MPWMD

Sampled by: J Lear

Matrix: Water

Report Issue Date: 03/29/2010 15:41 **Received Date:** 03/19/2010 Received Time: 07:45

A0C1465 FINAL 03292010 1541



Certificate of Analysis

03/29/2010 15:41 Report Issue Date: Received Date: 03/19/2010 Received Time: 07:45

Lab Sample ID:	A0C1465-01
Sample Date:	03/17/2010 12:30
Sample Type:	Grab

Client Project: MPWMD Sampled by: J Lear Matrix: Water

Sample Description: Injectate // 64741

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
General Chemistry									
Dissolved Organic Carbon	SM 5310 C	1.1	0.20	mg/L	1	A001318	03/24/10	03/24/10	
Total Organic Carbon	SM 5310 C	1.4	0.20	mg/L	1	A001205	03/23/10	03/23/10	

A0C1465 FINAL 03292010 1541

	McCampbell Analyt	ical, Inc.	1534 Willow H Web: www.mccamp Telephone: 8	Pass Road, Pittsbur bbell.com E-mai 877-252-9262 F	rg, CA 945 l: main@m ax: 925-25	565-1701 ccampbell.o 2-9269	com
Monterey	Bay Analytical	Client Project ID:	MPWMD	/17/10			
4 Justin C	Yourt Suita D			Date Receiv	ved: 03	/23/10	
4 Justin C	oun, suite D	Client Contact: D	avid Holland	Date Extrac	ted: 03	/24/10	
Monterey	, CA 93940	Client P.O.:		Date Analy	zed 03	/24/10	
		Light Gas H	ydrocarbons*				
Extraction met	hod RSK 174/175	Analytical r	nethods RSK174/175		Wo	rk Order:	1003630
Lab ID	Client ID	Matrix	Methane		DF	% SS	Comments
001A	Injectate	W	ND		1	N/A	
	Reporting Limit for DF =1;	W	0.4			μg/L	
	ND means not detected at or above the reporting limit	S	NA			NA	
* water sam	ples are reported in µg/L.						

DHS ELAP Certification 1644



ANALYTICAL RESULTS

Project: MPWMD - 64741

Pace Project No.: 3025508

Sample: Injectate PWS:	Lab ID: 3025508001 Site ID:	Collected: 03/17/10 12:30 Sample Type:	Received:	04/02/10 09:45 N	/latrix: Drinking \	Nater
Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha Radium-226	EPA 900.0 0. EPA 903.1 0.	.445 ± 0.694 (1.18) .418 ± 0.335 (0.189)	pCi/L pCi/L	04/11/10 16:28 04/14/10 12:35	12587-46-1 13982-63-3	

Date: 04/15/2010 04:25 PM

REPORT OF LABORATORY ANALYSIS

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ELAP Certification Number: 2385

Thursday, April 22, 2010

P.O. Box 85 Monterey, CA 93442-0085

Page 1 of 1

MPWMD

Joe Oliver

Lab Number: AA65107

Collection Date/Time: 4/3/2010 10:15 Sample Collector: LINDBERG T Submittal Date/Time: 4/3/2010 Sample ID 11:15 Sample Description: MW-1 Method Unit PQL Analyte Qual Date Analyzed Result SM 4500-CI G 4/3/2010 Chloramines mg/L 0.07 0.05 Chloride 300.0 26 4/9/2010 mg/L 1 EPA 552 Haloacetic Acids ug/L Attached Е 4/10/2010 Trihalomethanes EPA 524.2 Е 4/8/2010 ug/L Attached

Sample Comments:

Report Approved by:

Dettel

David Holland Laboratory Director

mg/L: Milligrams per liter (=ppm)ug/L : Micrograms per liter (=ppb)PQL : Practical Quantitation LimitH = Analyzed ouside of hold timeE = Analysis performed by External Laboratory; See External Laboratory Report attachments.D = Method deviates from standard method due to insufficient sample for MS/MSDJ = Result is less than PQL



Lab Sample ID: A0D0284-01 04/03/2010 10:15 Sample Date: Sample Type: Grab Sample Control Qualifiers:

Sample Description: MW-1 // 65107

Organics

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
Total Trihalomethanes by EPA	<u>524.2</u>								
Bromodichloromethane	EPA 524.2	20	0.50	ug/L	1	A001857	04/07/10	04/08/10	
Bromoform	EPA 524.2	0.76	0.50	ug/L	1	A001857	04/07/10	04/08/10	
Chloroform	EPA 524.2	36	0.50	ug/L	1	A001857	04/07/10	04/08/10	
Dibromochloromethane	EPA 524.2	8.8	0.50	ug/L	1	A001857	04/07/10	04/08/10	
Total Trihalomethanes	EPA 524.2	65		ug/L					
Surrogate: 1,2-Dichlorobenzene-d4			102 %	Acceptable	range: 70-	-130 %			
Surrogate: 4-Bromofluorobenzene			91 %	Acceptable	range: 70	-130 %			
Haloacetic Acids									
Dibromoacetic Acid (DBAA)	EPA 552.2	2.2	1.0	ug/L	1	A001920	04/08/10	04/10/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	11	1.0	ug/L	1	A001920	04/08/10	04/10/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A001920	04/08/10	04/10/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	ND	2.0	ug/L	1	A001920	04/08/10	04/10/10	
Total Haloacetic Acids (HAA)	EPA 552.2	23		ug/L					
Trichloroacetic Acid (TCAA)	EPA 552.2	9.6	1.0	ug/L	1	A001920	04/08/10	04/10/10	
Surrogate: 2,3-Dibromopropionic Ac	cid		91 %	Acceptable	range: 70-	·130 %			

Certificate of Analysis

Client Project: MPWMD

Matrix: Water

Sampled by: T Lindberg

Report Issue Date: 04/12/2010 16:51 **Received Date:** 04/06/2010 Received Time: 11:58

A0D0284 FINAL 04122010 1651

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ELAP Certification Number: 2385

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Page 1 of 2

Tuesday, May 18, 2010

Lab Number: AA65462 Collection Date/Time: 4/14/2010 Submittal Date/Time: 4/14/2010

12:30

16:00

Sample Collector: LEAR, J Sample ID

Sample Description: Injectate											
Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed					
Alkalinity, Total (as CaCO3)	2320B	mg/L	129		2	4/14/2010					
Ammonia-N	4500NH3 D	mg/L	Not detected		0.05	4/27/2010					
Arsenic, Total	200.8	ug/L	Not detected		1	4/23/2010					
Barium, Total	200.8	ug/L	Not detected		10	4/23/2010					
Bicarbonate (as HCO3-)	2320B	mg/L	157		10	4/16/2010					
Boron	4500B-B	mg/L	Not detected		0.05	4/23/2010					
Calcium	3111B	mg/L	42		1	4/23/2010					
Carbonate as CaCO3	2320B	mg/L	Not detected		10	4/14/2010					
Chloramines	SM 4500-CI G	mg/L	0.09		0.05	4/14/2010					
Chloride	300.0	mg/L	28		1	4/15/2010					
Dissolved Organic Carbon	SM5310-C	mg/L	Attached	E	0.2	4/29/2010					
Fluoride	300.0	mg/L	0.28		0.10	4/15/2010					
Gross Alpha	EPA 900.0	pCi/L	0.187 +/-1.13	E		5/7/2010					
Haloacetic Acids	EPA 552	ug/L	Attached	E		4/30/2010					
Hardness (as CaCO3)	2340B	mg/L	158		10	5/10/2010					
Iron, Dissolved	3111B	ug/L	Not detected		50	4/26/2010					
Iron, Total	3111B	ug/L	Not detected		50	4/23/2010					
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.5	4/22/2010					
Langlier Index (15 deg. C)	2330B		-0.25			4/26/2010					
Langlier Index (60 deg. C)	2330B		0.35			4/26/2010					
Lithium	EPA 200.8	ug/L	5		1	4/23/2010					
Magnesium	3111B	mg/L	13		1	4/23/2010					
Manganese, Dissolved	3111B	ug/L	Not detected		20	4/26/2010					
Manganese, Total	3111B	ug/L	Not detected		20	4/23/2010					
Methane	EPA 174/175	ug/L	Not detected	E	0.4	5/11/2010					
Molybdenum, Total	200.8	ug/L	3		1	4/23/2010					
Nickel, Total	200.8	ug/L	Not detected		10	4/23/2010					
Nitrate as NO3	300.0	mg/L	Not detected		1	4/15/2010					
Nitrate as NO3-N	300.0	mg/L	Not detected		0.1	4/15/2010					
Nitrite as Nitrogen	300.0	mg/L	Not detected		0.1	4/15/2010					
Nitrite as NO2-N	300.0	mg/L	Not detected		0.1	4/15/2010					
o-Phosphate-P	300.0	mg/L	0.2		0.1	4/15/2010					
pH (Laboratory)	4500-H+B	STD. Units	7.5			4/14/2010					
Phosphorus, Total	HACH 8190	mg/L	0.25		0.03	4/22/2010					
Potassium	3111B	mg/L	3.0		0.5	4/23/2010					
QC Anion Sum x 100	Calculation	%	99%			5/10/2010					
QC Anion-Cation Balance	Calculation	%	3			5/10/2010					

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments. D = Method deviates from standard method due to insufficient sample for MS/MSD

J = Result is less than PQL

Page 2 of 2						Tuesday, May 18, 2010
QC Cation Sum x 100	Calculation	%	106%			5/10/2010
QC Ratio TDS/SEC	Calculation		0.61			4/22/2010
Radium 226	EPA 903.1	pCi/L	0.0662 +/-0.22	E		5/10/2010
Selenium, Total	200.8	ug/L	2		2	4/23/2010
Sodium	3111B	mg/L	40		1	4/23/2010
Specific Conductance (E.C)	2510B	umhos/cm	470		1	4/15/2010
Strontium, Total	200.8	ug/L	203		5	4/23/2010
Sulfate	300.0	mg/L	62		1	4/15/2010
Total Diss. Solids	2540C	mg/L	288		10	4/19/2010
Total Nitrogen	Calculation	mg/L	Not Detected		0.2	4/22/2010
Total Organic Carbon	SM5310C	mg/L	Attached	E	0.20	4/28/2010
Total Trihalomethanes (THMs)	EPA 524.2	ug/L	21	E	0.5	4/23/2010
Chloroform	EPA 524.2	ug/L	8.6	E	0.5	4/23/2010
Bromoform	EPA 524.2	ug/L	0.71	E	0.5	4/23/2010
Bromodichloromethane	EPA 524.2	ug/L	6.9	E	0.5	4/23/2010
Dibromochloromethane	EPA 524.2	ug/L	4.8	E	0.5	4/23/2010
Uranium by ICP/MS	200.8	ug/L	Not detected		1	4/23/2010
Vanadium, Total	200.8	ug/L	Not detected		5	4/23/2010
Zinc, Total	200.8	ug/L	183		10	4/23/2010
Sample Comments:						

Report Approved by:

Dettelle

David Holland Laboratory Director



ANALYTICAL RESULTS

Project: MPWMD/AA65462

Pace Project No.: 3026921

Sample: Injectate PWS:	Lab ID: 30269210 Site ID:	01 Collected: 04/14/10 12:00 Sample Type:	Received:	04/30/10 10:00 N	latrix: Water	
Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0m	0.187 ± 1.13 (2.96)	oCi/L	05/07/10 08:33	12587-46-1	
Radium-226	EPA 903.1	0.0662 ± 0.225 (0.487)	oCi/L	05/10/10 12:04	13982-63-3	

Date: 05/12/2010 05:25 PM

REPORT OF LABORATORY ANALYSIS

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Monterey	Bay Analytical	Client Project ID:	MPWMD	Date Sample	ed: 04	/14/10	
				Date Receiv	ved: 04	/21/10	
4 Justin C	ourt, Suite D	Client Contact: D	avid Holland	Date Extrac	ted: 04	/21/10	
Monterey	, CA 93940	Client P.O.:		Date Analyz	zed 04	/21/10	
		Light Gas H	vdrocarbons*				
Extraction met	hod RSK 174/175	Analytical n	nethods RSK174/175		Wo	rk Order:	1004650
Lab ID	Client ID	Matrix	Methane		DF	% SS	Comments
001A	Injectate	W	ND		1	N/A	
<u> </u>							
	Reporting Limit for DF =1; ND means not detected at or	W	0.4			μg/L	
	above the reporting limit	S	NA			NA	
* water sam	ples are reported 1n μg/L.						

DHS ELAP Certification 1644



Lab Sample ID: A0D1478-01 04/14/2010 12:30 Sample Date: Sample Type: Grab Sample Control Qualifiers:

Sample Description: Injectate // 65462

Organics

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
Total Trihalomethanes by EPA	<u>524.2</u>								
Bromodichloromethane	EPA 524.2	6.9	0.50	ug/L	1	A002540	04/22/10	04/23/10	
Bromoform	EPA 524.2	0.71	0.50	ug/L	1	A002540	04/22/10	04/23/10	
Chloroform	EPA 524.2	8.6	0.50	ug/L	1	A002540	04/22/10	04/23/10	
Dibromochloromethane	EPA 524.2	4.8	0.50	ug/L	1	A002540	04/22/10	04/23/10	
Total Trihalomethanes	EPA 524.2	21		ug/L					
Surrogate: 1,2-Dichlorobenzene-d4			113 %	Acceptable	range: 70-	130 %			
Surrogate: 4-Bromofluorobenzene			96 %	Acceptable	range: 70-	130 %			
Haloacetic Acids									
Dibromoacetic Acid (DBAA)	EPA 552.2	2.4	1.0	ug/L	1	A002698	04/27/10	04/30/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	5.5	1.0	ug/L	1	A002698	04/27/10	04/30/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A002698	04/27/10	04/30/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	2.8	2.0	ug/L	1	A002698	04/27/10	04/30/10	
Total Haloacetic Acids (HAA)	EPA 552.2	15		ug/L					
Trichloroacetic Acid (TCAA)	EPA 552.2	4.0	1.0	ug/L	1	A002698	04/27/10	04/30/10	
Surrogate: 2,3-Dibromopropionic Aci	id		93 %	Acceptable	range: 70-	130 %			

Certificate of Analysis

Client Project: MPWMD

Sampled by: J Lear

Matrix: Ground Water

Report Issue Date: 05/03/2010 14:31 **Received Date:** 04/21/2010 Received Time: 07:40

A0D1478 FINAL 05032010 1431



Certificate of Analysis

05/03/2010 14:31 Report Issue Date: Received Date: 04/21/2010 Received Time: 07:40

Lab Sample ID:	A0D1478-01				
Sample Date:	04/14/2010	12:30			
Sample Type:	Grab				

Client Project: MPWMD Sampled by: J Lear Matrix: Ground Water

Sample Description: Injectate // 65462

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
General Chemistry									
Dissolved Organic Carbon	SM 5310 C	1.1	0.20	mg/L	1	A002816	04/29/10	04/29/10	X01
Total Organic Carbon	SM 5310 C	1.4	0.20	mg/L	1	A002750	04/28/10	04/28/10	



ELAP Certification Number: 2385

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MPWMD

Joe Oliver

P.O. Box 85

Monterey, CA 93442-0085

Lab Number:	AA66045										
Collection Date/Time:	5/7/2010	13:30	Sample	Collector:	LEAR, J						
Submittal Date/Time:	5/7/2010	15:45	Sample	ID							
Sample Description: Injectate											
Analyte		Me	thod	Unit	Result	Qual	PQL	MCL	Date Analyzed		
Haloacetic Acids		EP	A 552	ug/L	Attached	E		60	5/19/2010		
Trihalomethanes		EP	A 524.2	ug/L	Attached	Е		80	5/15/2010		
Sample Comments:											

Sample Comments:

Report Approved by:

Dettel

David Holland, Laboratory Director

Sunday, June 20, 2010



Lab Sample ID:A0E0812-01Sample Date:05/07/2010 13:30Sample Type:GrabSample Control Qualifiers:

Sample Description: Injectate // 66045

Organics

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
Total Trihalomethanes by EPA	<u>524.2</u>								
Bromodichloromethane	EPA 524.2	10	0.50	ug/L	1	A003429	05/14/10	05/15/10	
Bromoform	EPA 524.2	0.66	0.50	ug/L	1	A003429	05/14/10	05/15/10	
Chloroform	EPA 524.2	15	0.50	ug/L	1	A003429	05/14/10	05/15/10	
Dibromochloromethane	EPA 524.2	5.8	0.50	ug/L	1	A003429	05/14/10	05/15/10	
Total Trihalomethanes	EPA 524.2	32		ug/L					
Surrogate: 1,2-Dichlorobenzene-d4			104 %	Acceptable	range: 70-	130 %			
Surrogate: 4-Bromofluorobenzene			89 %	Acceptable	range: 70-	.130 %			
Haloacetic Acids									
Dibromoacetic Acid (DBAA)	EPA 552.2	2.3	1.0	ug/L	1	A003452	05/15/10	05/19/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	7.7	1.0	ug/L	1	A003452	05/15/10	05/19/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	2.0	1.0	ug/L	1	A003452	05/15/10	05/19/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	ND	2.0	ug/L	1	A003452	05/15/10	05/19/10	
Total Haloacetic Acids (HAA)	EPA 552.2	19		ug/L					
Trichloroacetic Acid (TCAA)	EPA 552.2	7.2	1.0	ug/L	1	A003452	05/15/10	05/19/10	
Surrogate: 2,3-Dibromopropionic Ac	id		97 %	Acceptable	range: 70-	130 %			

Certificate of Analysis

Client Project: MPWMD

Sampled by: J Lear

Matrix: Water

 Report Issue Date:
 05/25/2010
 11:42

 Received Date:
 05/13/2010

 Received Time:
 07:40

A0E0812 FINAL 05252010 1142



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net ELAP Certification Number: 2385

Monday, June 21, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA66124

 Collection Date/Time:
 5/12/2010
 11:00

 Submittal Date/Time:
 5/12/2010
 12:45

Sample Collector: LEAR, J Sample ID

Sample Description: Injectate											
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed				
Alkalinity, Total (as CaCO3)	2320B	mg/L	124		2		5/13/2010				
Ammonia-N	4500NH3 D	mg/L	0.09		0.05		5/18/2010				
Arsenic, Total	200.8	ug/L	Not detected		1	10	5/13/2010				
Barium, Total	200.8	ug/L	61		10	1000	5/13/2010				
Bicarbonate (as HCO3-)	2320B	mg/L	151		10		5/14/2010				
Boron	4500B-B	mg/L	Not detected		0.05		5/13/2010				
Calcium	3111B	mg/L	41		1		5/19/2010				
Carbonate as CaCO3	2320B	mg/L	Not detected		10		5/13/2010				
Chloramines	SM 4500-CI G	mg/L	Not detected		0.05		5/12/2010				
Chloride	300.0	mg/L	26		1	250	5/12/2010				
Dissolved Organic Carbon	SM5310-C	mg/L	1.3	E	0.2		5/15/2010				
Fluoride	300.0	mg/L	0.27		0.10	2.0	5/12/2010				
Gross Alpha	EPA 900.0	pCi/L	-0.029+/-1.06	E		15	6/8/2010				
Haloacetic Acids	EPA 552	ug/L	Attached	E		60	5/21/2010				
Hardness (as CaCO3)	2340B	mg/L	160		10		5/26/2010				
Iron, Dissolved	3111B	ug/L	Not detected		50	300	5/13/2010				
Iron, Total	3111B	ug/L	55		50	300	5/13/2010				
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.2		5/17/2010				
Langlier Index (15 deg. C)	2330B		-0.29				5/26/2010				
Langlier Index (60 deg. C)	2330B		0.31				5/26/2010				
Lithium	EPA 200.8	ug/L	5		1		5/13/2010				
Magnesium	3111B	mg/L	14		1		5/19/2010				
Manganese, Dissolved	3111B	ug/L	Not detected		20	50	5/13/2010				
Manganese, Total	3111B	ug/L	Not detected		20	50	5/13/2010				
Methane	EPA 174/175	ug/L	Not detected	E	5		5/25/2010				
Molybdenum, Total	200.8	ug/L	3		1	1000	5/13/2010				
Nickel, Total	200.8	ug/L	Not detected		10	100	5/13/2010				
Nitrate as NO3	300.0	mg/L	Not detected		0.2	45	5/12/2010				
Nitrate as NO3-N	300.0	mg/L	Not detected		0.05	10	5/12/2010				
Nitrite as Nitrogen	300.0	mg/L	Not detected		0.1	1.00	5/12/2010				
Nitrite as NO2-N	300.0	mg/L	Not detected		0.1	1.00	5/12/2010				
o-Phosphate-P	300.0	mg/L	0.5		0.05		5/12/2010				
pH (Laboratory)	4500-H+B	STD. Units	7.5				5/12/2010				
Phosphorus, Total	HACH 8190	mg/L	0.55		0.03		5/14/2010				
Potassium	3111B	mg/L	2.9		0.5		5/19/2010				
QC Anion Sum x 100	Calculation	%	98%				6/20/2010				
A A A A A A A A A A A A A A A A A A A			(DOI			111				

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net **ELAP Certification Number: 2385**

Monday, June 21, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA66124

Collection Date/Time: 5/12/2010 Sample Collector: 11:00 Submittal Date/Time: 5/12/2010 12:45

LEAR, J Sample ID

Sample Description: Injectate										
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed				
	Ostavlatis	0/	•			0/00/0040				
QC Anion-Cation Balance	Calculation	%	3			6/20/2010				
QC Cation Sum x 100	Calculation	%	104%			5/26/2010				
QC Ratio TDS/SEC	Calculation		0.63			5/19/2010				
Radium 226	EPA 903.1	pCi/L	0.0535+/-0.348 E		3	6/16/2010				
Selenium, Total	200.8	ug/L	Not detected	2	50	5/13/2010				
Sodium	3111B	mg/L	41	1		5/19/2010				
Specific Conductance (E.C)	2510B	umhos/cm	486	1	900	5/13/2010				
Strontium, Total	200.8	ug/L	213	5		5/13/2010				
Sulfate	300.0	mg/L	74	1	250	5/12/2010				
Total Diss. Solids	2540C	mg/L	308	10	500	5/13/2010				
Total Nitrogen	Calculation	mg/L	Not Detected	0.5		6/21/2010				
Total Organic Carbon	SM5310C	mg/L	1.3 E	0.20		5/14/2010				
Trihalomethanes	EPA 524.2	ug/L	Attached E		80	5/19/2010				
Uranium by ICP/MS	200.8	ug/L	Not detected	1		5/13/2010				
Vanadium, Total	200.8	ug/L	Not detected	5	1000	5/13/2010				
Zinc, Total	200.8	ug/L	242	10	5000	5/13/2010				
Sample Comments:										

Report Approved by:

Dettel

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD



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MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA66125

Collection Date/Time: 5/12/2010 Sample Collector: LEAR, J 10:30 Submittal Date/Time: 5/12/2010 Sample ID 12:45

Sample Description: MW-1									
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed		
Chloramines	SM 4500-CI G	mg/L	0.06		0.05		5/1/2010		
Chloride	300.0	mg/L	24		1	250	5/12/2010		
Haloacetic Acids	EPA 552	ug/L	Attached	Е		60	5/21/2010		
Trihalomethanes	EPA 524.2	ug/L	Attached	Е		80	5/15/2010		

Sample Comments:

Report Approved by:

Dettel

David Holland, Laboratory Director

Monday, June 21, 2010



Lab Sample ID: A0E0811-01 05/12/2010 10:30 Sample Date: Sample Type: Grab Sample Control Qualifiers:

Sample Description: MW-1 // 66125

Organics

									0
Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
Total Trihalomethanes by EPA	<u>524.2</u>								
Bromodichloromethane	EPA 524.2	19	0.50	ug/L	1	A003593	05/19/10	05/19/10	
Bromoform	EPA 524.2	0.89	0.50	ug/L	1	A003593	05/19/10	05/19/10	
Chloroform	EPA 524.2	33	0.50	ug/L	1	A003593	05/19/10	05/19/10	
Dibromochloromethane	EPA 524.2	9.4	0.50	ug/L	1	A003593	05/19/10	05/19/10	
Surrogate: 1,2-Dichlorobenzene-d4			93 %	Acceptable	range: 70-	130 %			
Surrogate: 4-Bromofluorobenzene			88 %	Acceptable	range: 70-	130 %			
Haloacetic Acids									
Dibromoacetic Acid (DBAA)	EPA 552.2	2.2	1.0	ug/L	1	A003586	05/19/10	05/21/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	11	1.0	ug/L	1	A003586	05/19/10	05/21/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A003586	05/19/10	05/21/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	2.5	2.0	ug/L	1	A003586	05/19/10	05/21/10	
Total Haloacetic Acids (HAA)	EPA 552.2	24		ug/L					
Trichloroacetic Acid (TCAA)	EPA 552.2	8.9	1.0	ug/L	1	A003586	05/19/10	05/21/10	
Surrogate: 2,3-Dibromopropionic Ac	id		83 %	Acceptable	range: 70-	130 %			

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Certificate of Analysis

Matrix: Water

Sampled by: J Lear

Report Issue Date: 05/25/2010 15:53 **Received Date:** 05/13/2010 Received Time: 07:40

A0E0811 FINAL 05252010 1553



ELAP Certification Number: 2385

Wednesday, June 30, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Page 1 of 1

Lab Number: AA66514

Collection Date/Time:6/2/2010Submittal Date/Time:6/2/2010

13:00 14:15

Sample Collector: LEAR, J Sample ID

Sample Description: Injectate										
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed				
Chloramines	SM 4500-CI G	mg/L	Not detected	0.05		6/2/2010				
Chloride	300.0	mg/L	23	1	250	6/3/2010				
Haloacetic Acids	EPA 552	ug/L	Attached E		60	6/17/2010				
Trihalomethanes	EPA 524.2	ug/L	Attached E		80	6/9/2010				
Sample Comments:										

Report Approved by:

Oe Hel

David Holland, Laboratory Director



Lab Sample ID: A0F0384-01 06/02/2010 13:00 Sample Date: Sample Type: Grab Sample Control Qualifiers:

Sample Description: Injectate // 66514

Organics

Analyte Method Result RL Units Dil. Batch Prepared Analyzed Qualifiers Total Trihalomethanes by EPA 524.2 Bromodichloromethane EPA 524.2 0.50 ug/L A004316 06/08/10 06/09/10 8.6 1 Bromoform EPA 524.2 ND 0.50 ug/L 1 06/08/10 06/09/10 A004316 Chloroform EPA 524.2 0.50 ug/L 1 A004316 06/08/10 06/09/10 12 A004316 06/08/10 Dibromochloromethane 0.50 06/09/10 EPA 524.2 ug/L 1 4.6 **Total Trihalomethanes** EPA 524.2 25 ug/L Surrogate: 1,2-Dichlorobenzene-d4 105 % Acceptable range: 70-130 % 87 % Surrogate: Bromofluorobenzene Acceptable range: 70-130 % Haloacetic Acids Dibromoacetic Acid (DBAA) EPA 552.2 1.0 06/17/10 2.2 ug/L 1 A004498 06/11/10 Dichloroacetic Acid (DCAA) EPA 552.2 1.0 A004498 06/11/10 06/17/10 6.5 ug/L 1 Monobromoacetic Acid (MBAA) EPA 552.2 ND 1.0 A004498 06/11/10 06/17/10 ug/L 1 ND 2.0 Monochloroacetic Acid (MCAA) EPA 552.2 A004498 06/11/10 06/17/10 ug/L 1 Total Haloacetic Acids (HAA) EPA 552.2 15 ug/L Trichloroacetic Acid (TCAA) EPA 552.2 1.0 A004498 06/11/10 06/17/10 6.6 ug/L 1 Surrogate: 2,3-Dibromopropionic Acid 100 % Acceptable range: 70-130 %

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Certificate of Analysis

Report Issue Date: 06/17/2010 14:35 Received Date: 06/04/2010 Received Time: 07:15

Client Project: MPWMD Matrix: Water Sampled by: J Lear

> A0F0384 FINAL 06172010 1435 www.bsklabs.com

> > Page 3 of 10



ELAP Certification Number: 2385

Monterey, CA 93442-0085 Page 1 of 1

MPWMD

Joe Oliver

P.O. Box 85

Thursday, July 01, 2010

Lab Number: AA66834

Collection Date/Time: 6/15/2010 Submittal Date/Time: 6/15/2010

12:00 14:05

Sample Collector: LEAR J Sample ID

Sample Description: MW-1									
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed			
Chloramines	SM 4500-CI G	mg/L	Not detected	0.05		6/15/2010			
Chloride	300.0	mg/L	26	1	250	6/17/2010			
Haloacetic Acids	EPA 552	ug/L	Attached E		60	6/26/2010			
Trihalomethanes	EPA 524.2	ug/L	Attached E		80	6/24/2010			
Sample Comments:									

Report Approved by:

Oe Hel

David Holland, Laboratory Director



Certificate of Analysis

Client Project: MPWMD Sampled by: J Lear

Matrix: Ground Water

 Report Issue Date:
 06/29/2010
 14:02

 Received Date:
 06/22/2010

 Received Time:
 08:15

A0F1632-01 06/15/2010 12:00 Grab

Sample Description: MW-1 // 66834

Organics

Lab Sample ID:

Sample Date:

Sample Type:

Analyte	Method	Result	t RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers	
Total Trihalomethanes by EPA 524.2										
Bromodichloromethane	EPA 524.2	21	0.50	ug/L	1	A004979	06/23/10	06/24/10		
Bromoform	EPA 524.2	0.75	0.50	ug/L	1	A004979	06/23/10	06/24/10		
Chloroform	EPA 524.2	48	0.50	ug/L	1	A004979	06/23/10	06/24/10		
Dibromochloromethane	EPA 524.2	8.4	0.50	ug/L	1	A004979	06/23/10	06/24/10		
[CALC]										
Total Trihalomethanes	EPA 524.2	78		ug/L						
Haloacetic Acids										
Dibromoacetic Acid (DBAA)	EPA 552.2	2.7	1.0	ug/L	1	A004961	06/23/10	06/26/10		
Dichloroacetic Acid (DCAA)	EPA 552.2	15	1.0	ug/L	1	A004961	06/23/10	06/26/10		
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A004961	06/23/10	06/26/10		
Monochloroacetic Acid (MCAA)	EPA 552.2	3.7	2.0	ug/L	1	A004961	06/23/10	06/26/10		
Trichloroacetic Acid (TCAA)	EPA 552.2	11	1.0	ug/L	1	A004961	06/23/10	06/26/10		
[CALC]										
Total Haloacetic Acids (HAA)	EPA 552.2	33		ug/L						
		<u>1</u>	Method	<u>Result</u>						
Surrogate: 1,2-Dichlorobenzene-d4		ł	EPA 524.2	108 %	Acceptable r	ange: 70-1	30 %			
Surrogate: Bromofluorobenzene			EPA 524.2	93 %	Acceptable range: 70-130 %					
Surrogate: 2,3-Dibromopropionic Acid			EPA 552.2	114 %	Acceptable range: 70-130 %					

A0F1632 FINAL 06292010 1402

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ELAP Certification Number: 2385

Page 1 of 1

MPWMD

Joe Oliver

P.O. Box 85

Monterey, CA 93442-0085

Lab Number:	AA66872								
Collection Date/Time:	6/16/2010	10:30	Sample	Collector:	LINDBERG, T				
Submittal Date/Time:	6/16/2010	12:01	Sample	ID					
			Sam	ple Descr	ription: ASR-1				
Analyte			Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Arsenic, Total			200.8	ug/L	Not detected		1	10	6/25/2010
Barium, Total			200.8	ug/L	58		10	1000	6/25/2010
Chloramines			SM 4500-CI G	mg/L	Not detected		0.05		6/16/2010
Chloride			300.0	mg/L	28		1	250	6/16/2010
Gross Alpha			EPA 900.0	pCi/L	-0.108+/-1.22	Е		15	7/2/2010
Haloacetic Acids			EPA 552	ug/L	37	Е		60	6/19/2010
Lithium			EPA 200.8	ug/L	3		1		6/25/2010
Methane			EPA 174/175	ug/L	Not detected	Е	5		6/23/2010
Molybdenum, Total			200.8	ug/L	2		1	1000	6/25/2010
Radium 226			EPA 903.1	pCi/L	-0.295+/-0.333	Е		3	7/12/2010
Selenium, Total			200.8	ug/L	Not detected		2	50	6/25/2010
Strontium, Total			200.8	ug/L	222		5		6/25/2010
Trihalomethanes			EPA 524.2	ug/L	71	Е		80	6/18/2010
Uranium by ICP/MS			200.8	ug/L	Not detected		1		6/25/2010
Vanadium, Total			200.8	ug/L	Not detected		1	1000	6/25/2010
Zinc, Total			200.8	ug/L	206		10	5000	6/25/2010

Sample Comments:

Report Approved by:

Dettel

David Holland, Laboratory Director

Friday, July 23, 2010

When Ouality Counts"			1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269						
Monterey	Bay Analytical	Client Project ID:	#66872	Date Sample	ed: 06	/16/10			
4 Justin Co	urt Suite D			Date Receiv	ed: 06	/17/10			
r sustin ee		Client Contact: Da	avid Holland	Date Extract	ed: 06	/23/10			
Monterey,	CA 93940	Client P.O.:		Date Analyz	xed 06	/23/10			
		Light Gas Hy	ydrocarbons*						
Extraction meth	od RSK 174/175	Analytical m	nethods RSK174/175		Wo	ork Order:	1006476		
Lab ID	Client ID	Matrix	Methane		DF	% SS	Comments		
001A	ASR-1	w	ND		1	N/A			
	Reporting Limit for DF -1.	W	0.4			<u>на/</u>			
]	ND means not detected at or	S	NA			μg/L NA			
* water samp	es are reported in µg/L.				<u> </u>				
%SS = Percer	nt Recovery of Surrogate Standard								
DF = Dilution	1 Factor								

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager



Analytical Laboratory Service - Since 1964

Page 1 of 4

Certificate of Analysis

Wednesday, June 23, 2010
Thursday, June 17, 2010
8:30 am
Normal

Phones: (831) 375-6227 Fax: (831) 641-0734

P.O. #:

Client: Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey, CA 93940

Attn: David Holland Project: MPWMD

Lab Sample ID: 0F17012-01	Sample I	D: A	SR-1						Ма	trix: Water
Sampled by: Lindberg,T	Sampled	: 06/16/10	0 12:00	Sa	mple No	ote: 66872				
Analyte	Result	DL	RL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Bromodichloromethane	23	0.13	0.50	ug/l	1x1	EPA 524.2	6/18/10	6/18/10 20:25	W0F0900	
Bromoform	0.87	0.17	0.50	ug/l	1x1	EPA 524.2	6/18/10	6/18/10 20:25	W0F0900	
Chloroform	36	0.17	0.50	ug/l	1x1	EPA 524.2	6/18/10	6/18/10 20:25	W0F0900	
Dibromochloromethane	11	0.19	0.50	ug/l	1x1	EPA 524.2	6/18/10	6/18/10 20:25	W0F0900	
THMs, Total			0.50	ug/l	1x1	EPA 524.2	6/18/10	6/18/10 20:25	W0F0900	
Surrogate: 1,2-Dichlorobenzene-d4	100 %		70-13	0						
Surrogate: 4-Bromofluorobenzene	100 %		70-13	0						
Dibromoacetic acid (dbaa)	3.3	0.13	1.0	ug/l	1x1	EPA 552.2	6/18/10	6/19/10 2:13	W0F0747	
Dichloroacetic acid (dcaa)	19	0.41	1.0	ug/l	1x1	EPA 552.2	6/18/10	6/19/10 2:13	W0F0747	
HAA5, Total	37		1.0	ug/l	1x1	EPA 552.2	6/18/10	6/19/10 2:13	W0F0747	
Monobromoacetic acid (mbaa)	ND	0.21	1.0	ug/l	1x1	EPA 552.2	6/18/10	6/19/10 2:13	W0F0747	
Monochloroacetic acid (mcaa)	ND	0.32	2.0	ug/l	1x1	EPA 552.2	6/18/10	6/19/10 2:13	W0F0747	
Trichloroacetic acid (tcaa)	15	0.22	1.0	ug/l	1x1	EPA 552.2	6/18/10	6/19/10 2:13	W0F0747	
Surrogate: 2,3-Dibromopropionic acid	111 %		70-13	0						



ANALYTICAL RESULTS

Project: MPWMD/66872

Pace Project No.: 3030160

Sample: ASR-1 (66872) PWS:	Lab ID: 303016000 Site ID:	Collected: 06/16/10 10:30 Sample Type:	Received:	06/24/10 10:30 N	Atrix: Drinking	Water
Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0 -	0.108 ± 1.22 (2.93)	oCi/L	07/02/10 07:27	12587-46-1	
Radium-226	EPA 903.1 -	0.295 ± 0.333 (0.944)	oCi/L	07/12/10 12:01	13982-63-3	

Date: 07/12/2010 04:57 PM

REPORT OF LABORATORY ANALYSIS

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Page 5 of 8



Thursday, August 26, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA68047

Collection Date/Time: 7/29/2010 Submittal Date/Time: 7/29/2010 16:00 Sar 16:20 Sar

Sample Collector: LINDBERG, T Sample ID

Sample Description: ASR-1							
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Alkalinity, Total (as CaCO3)	2320B	mg/L	127		2		8/6/2010
Ammonia-N	4500NH3 D	mg/L	Not Detected		0.05		8/17/2010
Arsenic, Total	EPA200.8	ug/L	Not detected		1	10	8/3/2010
Barium, Total	EPA200.8	ug/L	55		10	1000	8/3/2010
Boron	EPA200.7	mg/L	Not detected		0.05		8/6/2010
Calcium	EPA200.7	mg/L	41		1		8/6/2010
Chloramines	SM4500-CI G	mg/L	Not Detected		0.05		7/29/2010
Chloride	EPA300.0	mg/L	28		1	250	7/30/2010
Dissolved Organic Carbon	SM5310-C	mg/L	1.2	E	0.2		8/18/2010
Gross Alpha	EPA900.0	pCi/L	2.06+/-0.771	E		15	8/5/2010
Haloacetic Acids	EPA552	ug/L	20	E		60	8/6/2010
Iron	EPA 200.7	ug/L	25		10		8/6/2010
Iron, Dissolved	EPA 200.7	ug/L	19		10	300	8/6/2010
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.2		8/3/2010
Lithium	EPA200.8	ug/L	6		1		8/3/2010
Magnesium	EPA200.7	mg/L	7		1		8/6/2010
Manganese, Dissolved	EPA 200.7	ug/L	Not Detected		10	50	8/6/2010
Manganese, Total	EPA 200.7	ug/L	Not Detected		10	50	8/6/2010
Methane	EPA174/175	ug/L	Not detected	E	5		8/5/2010
Molybdenum, Total	EPA200.8	ug/L	3		1	1000	8/3/2010
Nitrate as NO3-N	EPA300.0	mg/L	0.06		0.05	10	7/30/2010
Nitrite as Nitrogen	EPA300.0	mg/L	Not detected		0.05	1.00	7/30/2010
Nitrite as NO2-N	EPA300.0	mg/L	Not detected		0.05	1.00	7/30/2010
o-Phosphate-P	EPA300.0	mg/L	0.23		0.05		7/30/2010
pH (Laboratory)	4500-H+B	STD. Units	7.3				7/29/2010
Phosphorus, Total	HACH 8190	mg/L	0.34		0.03		8/9/2010
Potassium	EPA200.7	mg/L	2.9		0.5		8/6/2010
Radium 226	EPA903.1	pCi/L	0.058+/-0.198	E		3	8/12/2010
Selenium, Total	EPA200.8	ug/L	3		2	50	8/3/2010
Sodium	EPA200.7	mg/L	42		1		8/6/2010
Specific Conductance (E.C)	2510B	umhos/cm	493		1	900	8/2/2010
Strontium, Total	EPA200.8	ug/L	217		5		8/3/2010
Sulfate	EPA300.0	mg/L	78		1	250	7/30/2010

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD



Thursday, August 26, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA68047

 Collection Date/Time:
 7/29/2010
 16:00

 Submittal Date/Time:
 7/29/2010
 16:20

Sample Collector: LINDBERG, T Sample ID

Sample Description: ASR-1							
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed	
Total Diss. Solids	2540C	mg/L	308	10	500	8/3/2010	
Total Nitrogen	Calculation	mg/L	Not Detected	0.2		8/9/2010	
Total Organic Carbon	SM5310C	mg/L	1.3 E	0.20		8/10/2010	
Dibromochloromethane	EPA 524.2	ug/L	7.5	0.5		8/4/2010	
Bromodichloromethane	EPA 524.2	ug/L	21	0.5		8/4/2010	
Chloroform	EPA 524.2	ug/L	54	0.5		8/4/2010	
Total Trihalomethanes (THMs)	EPA 524.2	ug/L	84	0.5	80	8/4/2010	
Bromoform	EPA 524.2	ug/L	0.66	0.5		8/4/2010	
Uranium by ICP/MS	EPA200.8	ug/L	Not detected	1		8/3/2010	
Vanadium, Total	EPA200.8	ug/L	Not detected	1	1000	8/3/2010	
Zinc, Total	EPA200.8	ug/L	196	10	5000	8/3/2010	

Sample Comments:

Report Approved by:

51)C

David Holland, Laboratory Director



LINDBERG, T

Thursday, August 26, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA68048

 Collection Date/Time:
 7/29/2010
 16:00

 Submittal Date/Time:
 7/29/2010
 16:20

Sample Collector: Sample ID

Sample Description: MW1							
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Alkalinity, Total (as CaCO3)	2320B	mg/L	135		2		8/6/2010
Ammonia-N	4500NH3 D	mg/L	Not Detected		0.05		8/17/2010
Arsenic, Total	EPA200.8	ug/L	3		1	10	8/3/2010
Barium, Total	EPA200.8	ug/L	44		10	1000	8/3/2010
Boron	EPA200.7	mg/L	Not detected		0.05		8/6/2010
Calcium	EPA200.7	mg/L	50		1		8/6/2010
Chloramines	SM4500-CI G	mg/L	Not Detected		0.05		7/29/2010
Chloride	EPA300.0	mg/L	30		1	250	7/30/2010
Dissolved Organic Carbon	SM5310-C	mg/L	1.1	Е	0.2		8/18/2010
Gross Alpha	EPA900.0	pCi/L	4.43+/-1.37	Е		15	8/5/2010
Haloacetic Acids	EPA552	ug/L	2.8	Е		60	8/6/2010
Iron	EPA 200.7	ug/L	3310		10		8/6/2010
Iron, Dissolved	EPA 200.7	ug/L	Not Detected		10	300	8/6/2010
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	Not detected		0.2		8/3/2010
Lithium	EPA200.8	ug/L	10		1		8/3/2010
Magnesium	EPA200.7	mg/L	13		1		8/6/2010
Manganese, Dissolved	EPA 200.7	ug/L	Not Detected		10	50	8/6/2010
Manganese, Total	EPA 200.7	ug/L	111		10	50	8/6/2010
Methane	EPA174/175	ug/L	Not detected	E	5		8/5/2010
Molybdenum, Total	EPA200.8	ug/L	3		1	1000	8/3/2010
Nitrate as NO3-N	EPA300.0	mg/L	0.07		0.05	10	7/30/2010
Nitrite as Nitrogen	EPA300.0	mg/L	Not detected		0.05	1.00	7/30/2010
Nitrite as NO2-N	EPA300.0	mg/L	Not detected		0.05	1.00	7/30/2010
o-Phosphate-P	EPA300.0	mg/L	Not detected		0.05		7/30/2010
pH (Laboratory)	4500-H+B	STD. Units	7.6				7/29/2010
Phosphorus, Total	HACH 8190	mg/L	0.24		0.03		8/9/2010
Potassium	EPA200.7	mg/L	3.9		0.5		8/6/2010
Radium 226	EPA903.1	pCi/L	0.822+/-0.622	E		3	8/12/2010
Selenium, Total	EPA200.8	ug/L	Not detected		2	50	8/3/2010
Sodium	EPA200.7	mg/L	46		1		8/6/2010
Specific Conductance (E.C)	2510B	umhos/cm	499		1	900	8/2/2010
Strontium, Total	EPA200.8	ug/L	236		5		8/3/2010
Sulfate	EPA300.0	mg/L	80		1	250	7/30/2010

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD



Thursday, August 26, 2010

MPWMD Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Lab Number: AA68048

Collection Date/Time:7/29/201016:00Sample Collector:LINDBERG, TSubmittal Date/Time:7/29/201016:20Sample ID

Sample Description: MW1								
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	
Total Diss. Solids	2540C	mg/L	318		10	500	8/3/2010	
Total Nitrogen	Calculation	mg/L	Not Detected		0.2		8/9/2010	
Total Organic Carbon	SM5310C	mg/L	1.2	E	0.20		8/10/2010	
Total Trihalomethanes (THMs)	EPA 524.2	ug/L	77		0.5	80	8/4/2010	
Dibromochloromethane	EPA 524.2	ug/L	6.9		0.5		8/4/2010	
Bromoform	EPA 524.2	ug/L	0.61		0.5		8/4/2010	
Bromodichloromethane	EPA 524.2	ug/L	19		0.5		8/4/2010	
Chloroform	EPA 524.2	ug/L	50		0.5		8/4/2010	
Uranium by ICP/MS	EPA200.8	ug/L	Not detected		1		8/3/2010	
Vanadium, Total	EPA200.8	ug/L	7		1	1000	8/3/2010	
Zinc, Total	EPA200.8	ug/L	19		10	5000	8/3/2010	

Sample Comments:

Report Approved by:

51)C

David Holland, Laboratory Director



ANALYTICAL RESULTS

Project:	Monterey Peninsula Wate	r Mgmt.					
Pace Project No .:	3031902						
Sample: ASR 1 PWS:	Lab Site	ID: 3031902001 ID:	Collected: 07/29/10 16: Sample Type:	00 Received:	08/03/10 10:00 M	Matrix: Water	
Parame	ters M	ethod	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0)m 2.06 ±	0.771 (0.155)	pCi/L	08/05/10 18:53	12587-46-1	
Radium-226	EPA 903.1	0.0583	3 ± 0.198 (0.429)	pCi/L	08/12/10 12:47	13982-63-3	
Sample: MW1	Lab	ID: 3031902002	Collected: 07/29/10 16:	00 Received:	08/03/10 10:00 M	Matrix: Water	
PWS:	Site	ID:	Sample Type:				
Parame	ters M	ethod	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0)m 4.43 ±	1.37 (1.29)	pCi/L	08/05/10 20:23	12587-46-1	
Radium-226	EPA 903.1	0.822	± 0.622 (0.763)	pCi/L	08/12/10 12:47	13982-63-3	

Date: 08/18/2010 05:23 PM

REPORT OF LABORATORY ANALYSIS

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Page 7 of 10



 Lab Sample ID:
 A0H0076-01

 Sample Date:
 07/29/2010
 16:00

 Sample Type:
 Grab

Sample Description: ASR 1 // 68047

General Chemistry

RL Units Qualifiers Analyte Method Result Dil. Batch Prepared Analyzed **Total Organic Carbon** SM 5310 C 1.3 0.20 mg/L 1 A006966 08/10/10 08/10/10 Organics Method Result RL Units Dil. Batch Prepared Analyzed Qualifiers Analyte Total Trihalomethanes by EPA 524.2 EPA 524.2 0.50 A006763 08/04/10 08/04/10 Bromodichloromethane 21 ug/L 1 Bromoform EPA 524.2 0.66 0.50 ug/L 1 A006763 08/04/10 08/04/10 Chloroform EPA 524.2 54 0.50 ug/L 1 A006763 08/04/10 08/04/10 EPA 524.2 0.50 A006763 08/04/10 08/04/10 Dibromochloromethane 7.5 ug/L 1 [CALC] EPA 524.2 **Total Trihalomethanes** 84 ug/L Haloacetic Acids Dibromoacetic Acid (DBAA) EPA 552.2 ND 1.0 ug/L A006767 08/04/10 08/06/10 1 EPA 552.2 08/06/10 Dichloroacetic Acid (DCAA) 10 ug/L 1 A006767 08/04/10 4.0 Monobromoacetic Acid (MBAA) EPA 552.2 ND 1.0 ug/L 1 A006767 08/04/10 08/06/10 Monochloroacetic Acid (MCAA) EPA 552.2 ND 2.0 ug/L 1 A006767 08/04/10 08/06/10 EPA 552.2 1.0 08/06/10 Trichloroacetic Acid (TCAA) 16 ug/L 1 A006767 08/04/10 [CALC] Total Haloacetic Acids (HAA) EPA 552.2 20 ug/L Method <u>Result</u> Surrogate: 1,2-Dichlorobenzene-d4 EPA 524.2 110 % Acceptable range: 70-130 % Surrogate: Bromofluorobenzene EPA 524.2 87 % Acceptable range: 70-130 % EPA 552.2 Surrogate: 2,3-Dibromopropionic Acid 98 % Acceptable range: 70-130 %

Certificate of Analysis

 Report Issue Date:
 08/10/2010
 10:45

 Received Date:
 08/03/2010

 Received Time:
 08:00

Client Project: Monterey Regional Water Management District Sampled by: J Lear Matrix: Drinking Water

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A0H0076 FINAL 08102010 1045

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Certificate of Analysis

Sampled by: J Lear

Matrix: Drinking Water

Report Issue Date: 08/10/2010 10:45 **Received Date:** 08/03/2010 Received Time: 08:00

Client Project: Monterey Regional Water Management District

Lab Sample ID: A0H0076-02 Sample Date: 07/29/2010 16:00 Sample Type: Grab

Sample Description: MW 1 // 68048

General Chemistry

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
Total Organic Carbon	SM 5310 C	1.2	0.20	mg/L	1	A006966	08/10/10	08/10/10	
Organics									
Analyte	Method	Result	RI	Units	Dil	Batch	Prenared	Analyzed	Qualifiers
, individ	Mothod	Roount		01110		Baton	Tioparou	, maryzou	Qualifiero
Total Trihalomethanes by EPA 5	<u>24.2</u>								
Bromodichloromethane	EPA 524.2	19	0.50	ug/L	1	A006763	08/04/10	08/04/10	
Bromoform	EPA 524.2	0.61	0.50	ug/L	1	A006763	08/04/10	08/04/10	
Chloroform	EPA 524.2	50	0.50	ug/L	1	A006763	08/04/10	08/04/10	
Dibromochloromethane	EPA 524.2	6.9	0.50	ug/L	1	A006763	08/04/10	08/04/10	
[CALC]									
Total Trihalomethanes	EPA 524.2	77		ug/L					
Haloacetic Acids									
Dibromoacetic Acid (DBAA)	EPA 552.2	ND	1.0	ug/L	1	A006767	08/04/10	08/06/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	2.8	1.0	ug/L	1	A006767	08/04/10	08/06/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A006767	08/04/10	08/06/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	ND	2.0	ug/L	1	A006767	08/04/10	08/06/10	
Trichloroacetic Acid (TCAA)	EPA 552.2	ND	1.0	ug/L	1	A006767	08/04/10	08/06/10	
[CALC]									
Total Haloacetic Acids (HAA)	EPA 552.2	2.8		ug/L					
		<u>Method</u>		<u>Result</u>					
Surrogate: 1,2-Dichlorobenzene-d4		EPA 524	4.2	108 %	Acceptable ra	ange: 70-1	30 %		
Surrogate: Bromofluorobenzene		EPA 524	4.2	89 %	Acceptable ra	ange: 70-1	30 %		
Surrogate: 2,3-Dibromopropionic Acie	d	EPA 552	2.2	96 %	Acceptable ra	ange: 70-1	30 %		

A0H0076 FINAL 08102010 1045

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Environmental Engineering | Geotechnical Engineering | Materials Testing



Certificate of Analysis

 Report Issue Date:
 08/19/2010
 11:39

 Received Date:
 08/10/2010

 Received Time:
 08:30

Lab Sample ID:	A0H0710-01
Sample Date:	08/02/2010 12:45
Sample Type:	Grab

Sampled by: Lindberg, T Matrix: Water

Sample Description: PRTIW // 68120

General Chemistry

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
Dissolved Organic Carbon	SM 5310 C	0.79	0.20	mg/L	1	A007401	08/18/10	08/18/10	

A0H0710 FINAL 08192010 1139

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Certificate of Analysis

 Report Issue Date:
 08/19/2010
 11:39

 Received Date:
 08/10/2010

 Received Time:
 08:30

Lab Sample ID:	A0H0710-02
Sample Date:	08/02/2010 14:45
Sample Type:	Grab

Sample Description: SCS-Deep // 68121

General Chemistry

Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
Dissolved Organic Carbon	SM 5310 C	0.54	0.20	mg/L	1	A007401	08/18/10	08/18/10	

Sampled by: Lindberg, T Matrix: Water

A0H0710 FINAL 08192010 1139

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WcCampbell Analytical, Inc.			Inc.	1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269						
Monterey Ba	y Analytical	Clier	nt Project ID:	MPWMD	Date Sample	ed: 07	/29/10			
4 Justin Cour	t Suite D				Date Received: 08/03/10					
i sustii cour	, Suite D	Clier	nt Contact: D	David Holland Date Extrac			ted: 08/05/10			
Monterey, CA	A 93940	Clier	nt P.O.:	Date Analyzed 08/05/10						
			Light Gas Hy	ydrocarbons*						
Extraction method	RSK 174/175		Analytical m	nethods RSK174/175		Wo	rk Order:	1008035		
Lab ID	Client ID		Matrix	Methane		DF	% SS	Comments		
001A	ASR 1		W	ND		1	N/A			
002A	MW 1		W	ND			N/A			
Re	porting Limit for DF =1;		W	0.4			μg/L			
ND al	bove the reporting limit		S	NA			NA			
* water samples	are reported in µg/L.		ı			•				
%SS = Percent F DF = Dilution F	Recovery of Surrogate Standard actor									

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net

ELAP Certification Number: 2385

Wednesday, October 13, 2010

Page 1 of 1

MPWMD

Joe Oliver

P.O. Box 85

Monterey, CA 93442-0085

Lab Number:	AA69141								
Collection Date/Time: Submittal Date/Time:	9/10/2010 9/10/2010	10:45 12:44	Sampl Sampl	e Collector: e ID	LEAR J				
			Sar	nple Desci	ription: ASR 1				
Analyte			Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Arsenic, Total			EPA200.8	ug/L	Not Detected		1	10	9/21/2010
Barium, Total			EPA200.8	ug/L	57		10	1000	9/21/2010
Chloramines			SM4500-CI G	mg/L	Not Detected				9/10/2010
Chloride			EPA300.0	mg/L	29		1	250	9/11/2010
Gross Alpha			EPA900.0	pCi/L	-0.152 ± 0.825	E		15	9/25/2010
Haloacetic Acids			EPA552	ug/L	Not Detected	E		60	9/21/2010
Lithium			EPA200.8	ug/L	6		1		9/21/2010
Methane			EPA174/175	ug/L	Not Detected	E	5		9/17/2010
Molybdenum, Total			EPA200.8	ug/L	5		1	1000	9/21/2010
Radium 226			EPA903.1	pCi/L	-0.071 ± 0.239	E		3	9/27/2010
Selenium, Total			EPA200.8	ug/L	2		2	50	9/21/2010
Strontium, Total			EPA200.8	ug/L	216		5		9/21/2010
Trihalomethanes			EPA524.2	ug/L	77	E		80	9/20/2010
Uranium by ICP/MS			EPA200.8	ug/L	Not Detected		1		9/21/2010
Vanadium, Total			EPA200.8	ug/L	Not Detected		1	1000	9/21/2010
Zinc, Total			EPA200.8	ug/L	187		10	5000	9/21/2010
Sample Comments:									
Lab Number:	AA69142								
Collection Date/Time:	9/10/2010	10:20	Sampl	e Collector:	LEAR J				
Submittal Date/Time:	9/10/2010	12:44	Sampl	e ID					
			Sai	nple Desc	ription: MW 1				
Analyte			Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Haloacetic Acids			EPA552	ug/L	9.1	E		60	9/21/2010
Trihalomethanes			EPA524.2	ug/L	9.6	E		80	9/20/2010
Sample Comments:			Report Appro	oved by:	$\overline{\mathbf{O}}$	4	el_	$\langle \rangle$	
David Holland, Laboratory Director									

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

When Ouality Counts"			1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269						
Monterey Ba	y Analytical	Client Project ID:	ASR 1 (S-1)	Date Sample	ed: 09	/10/10			
4 Justin Cour	t Suite D			Date Receiv	ed: 09	/15/10			
i subtili Cour	, Suite D	Client Contact: D	avid Holland	Date Extract	eted: 09/17/10				
Monterey, CA	A 93940	Client P.O.:		Date Analyz	xed 09	/17/10			
		Light Gas Hy	ydrocarbons*						
Extraction method	RSK 174/175	Analytical m	nethods RSK174/175		Wo	rk Order:	1009388		
Lab ID	Client ID	Matrix	Methane		DF	% SS	Comments		
001A	ASR 1	w	ND		1	N/A			
Re	porting Limit for DF =1;	W	0.4			μg/L			
ND means not detected at or s above the reporting limit S			NA			NA			
* water samples %SS = Percent F DF = Dilution F	are reported in µg/L. Recovery of Surrogate Standard actor								

Angela Rydelius, Lab Manager



ANALYTICAL RESULTS

Project: Monterey Peninsula Water Mgmt.

Pace Project No.: 3034173

Sample: ASR 1/69141 PWS:	Lab ID: 303417300 Site ID:	Collected: 09/10/10 10:45 Sample Type:	Received:	09/16/10 10:00 M	latrix: Drinking	Water
Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0 -	0.152 ± 0.825 (2.22)	pCi/L	09/25/10 19:39	12587-46-1	
Radium-226	EPA 903.1 -	0.071 ± 0.239 (0.655)	pCi/L	09/27/10 13:16	13982-63-3	

Date: 10/07/2010 06:50 PM

REPORT OF LABORATORY ANALYSIS

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Surrogate: 2,3-Dibromopropionic acid

Weck Laboratories, Inc.

Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey CA, 93940	Report Project	ID: 0I1501 ID: Monter Manag	8 ey Peninsula wa ement Distric	ater	Date Received: Date Reported:	09/15/10 10:30 09/23/10 16:47
	0115	018-01	ASR-1			
Sampled: 09/10/10 10:45		Sampled By	: lear, J			Matrix: Water
Sample Note: 66872						
	HA	As by EPA 5	52.2			
Method: EPA 552.2	Batch: W0I0645	Prepared: 09	/17/10 07:41	Analyzed:	09/21/10 18:56	Analyst: aal
Analyte	Result	MDL	MRL	Units	Dilution	Qualifier
Dibromoacetic acid (dbaa)	ND	0.13	1.0	ug/l	1x1	
Dichloroacetic acid (dcaa)	ND	0.41	1.0	ug/l	1x1	
HAA5, Total	ND		1.0	ug/l	1x1	
Monobromoacetic acid (mbaa)	ND	0.21	1.0	ug/l	1x1	
Monochloroacetic acid (mcaa)	ND	0.32	2.0	ug/l	1x1	
Trichloroacetic acid (tcaa)	ND	0.22	1.0	ug/l	1x1	

Volatile Organic Compounds by EPA Method 524.2

70-130

96 %

Method: EPA 524.2	Batch: W0I0805	Prepared: 09/2	20/10 08:38	Analyzed: 0	Analyst: mdt	
Analyte	Result	MDL	MRL	Units	Dilution	Qualifier
Bromodichloromethane	20	0.13	0.50	ug/l	1x1	
Bromoform	0.60	0.17	0.50	ug/l	1x1	
Chloroform	48	0.17	0.50	ug/l	1x1	
Dibromochloromethane	8.3	0.19	0.50	ug/l	1x1	
THMs, Total	77		0.50	ug/l	1x1	
Surrogate: 1,2-Dichlorobenzene-d4	100 %		70-130			
Surrogate: 4-Bromofluorobenzene	96 %		70-130			



Surrogate: 2,3-Dibromopropionic acid

Weck Laboratories, Inc.

Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey CA, 93940	Report I Project I	D: 0I15018 D: Montere Manage	ey Peninsula wa ment Distric	ater	Date Received: Date Reported:	09/15/10 10:30 09/23/10 16:47
	01150	018-02	MW1			
Sampled: 09/10/10 10:20		Sampled By:	lear, J			Matrix: Water
Sample Note: 66872						
	HA	As by EPA 5	52.2			
Method: EPA 552.2	Batch: W0I0645	Prepared: 09/	17/10 07:41	Analyzed:	09/21/10 19:23	Analyst: aal
Analyte	Result	MDL	MRL	Units	Dilution	Qualifier
Dibromoacetic acid (dbaa)	ND	0.13	1.0	ug/l	1x1	
Dichloroacetic acid (dcaa)	1.9	0.41	1.0	ug/l	1x1	
HAA5, Total	9.1		1.0	ug/l	1x1	
Monobromoacetic acid (mbaa)	ND	0.21	1.0	ug/l	1x1	
Monochloroacetic acid (mcaa)	ND	0.32	2.0	ug/l	1x1	
Trichloroacetic acid (tcaa)	7.2	0.22	1.0	ug/l	1x1	

Volatile Organic Compounds by EPA Method 524.2

70-130

101 %

Method: EPA 524.2	Batch: W0I0660	Prepared: 09/	16/10 00:00	Analyzed: 0	Analyst: dav	
Analyte	Result	MDL	MRL	Units	Dilution	Qualifier
Bromodichloromethane	2.5	0.13	0.50	ug/l	1x1	
Bromoform	ND	0.17	0.50	ug/l	1x1	
Chloroform	6.0	0.17	0.50	ug/l	1x1	
Dibromochloromethane	1.1	0.19	0.50	ug/l	1x1	
THMs, Total	9.6		0.50	ug/l	1x1	
Surrogate: 1,2-Dichlorobenzene-d4	106 %		70-130			
Surrogate: 4-Bromofluorobenzene	100 %		70-130			



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net

ELAP Certification Number: 2385

Page 1 of 1

MPWMD

Joe Oliver

P.O. Box 85

Lab Number: AA70142

Collection Date/Time:10/8/2010Submittal Date/Time:10/8/2010

Monterey, CA 93442-0085

10 13:15 10 13:50

Sample Collector: LEAR J Sample ID

Sample Description: ASR-1											
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed				
Arsenic, Total	EPA200.8	ug/L	Not Detected		1	10	10/18/2010				
Barium, Total	EPA200.8	ug/L	55		10	1000	10/18/2010				
Chloramines	SM4500-CI G	mg/L	Not Detected		0.05		10/8/2010				
Chloride	EPA300.0	mg/L	34		1	250	10/8/2010				
Gross Alpha	EPA900.0	pCi/L	1.09 ± 1.58	E		15	10/18/2010				
Haloacetic Acids	EPA552	ug/L	7.9	E		60	10/16/2010				
Lithium	EPA200.8	ug/L	6		1		10/18/2010				
Methane	EPA174/175	ug/L	Not Detected	E	5		10/14/2010				
Molybdenum, Total	EPA200.8	ug/L	5		1	1000	10/18/2010				
Selenium, Total	EPA200.8	ug/L	2		2	50	10/18/2010				
Strontium, Total	EPA200.8	ug/L	226		5		10/18/2010				
Total Radium 226	EPA903.0	pCi/L	0.096 ± 0.165	E		3	10/22/2010				
Trihalomethanes	EPA524.2	ug/L	65	E		80	10/15/2010				
Uranium by ICP/MS	EPA200.8	ug/L	Not Detected		1		10/18/2010				
Vanadium, Total	EPA200.8	ug/L	Not Detected		1	1000	10/18/2010				
Zinc, Total	EPA200.8	ug/L	182		10	5000	10/18/2010				

Sample Comments:

Lab Number: AA70143

Collection Date/Time:	10/8/2010
Submittal Date/Time:	10/8/2010

/8/2010 12:50 /8/2010 13:50 Sample Collector: LEAR J Sample ID

Sample Description: MW-1

Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed
Chloramines	SM4500-CI G	mg/L	Not Detected	0.05		10/8/2010
Chloride	EPA300.0	mg/L	30	1	250	10/8/2010
Haloacetic Acids	EPA552	ug/L	Not Detected E		60	10/17/2010
Trihalomethanes	EPA524.2	ug/L	49 E		80	10/15/2010

Sample Comments:

Report Approved by:

David Holland, Laboratory Director

Wednesday, November 03, 2010

	IcCampbell Analyti "When Ouality Counts"	cal, Inc.	1534 Willow I Web: www.mccamp Telephone: {	sburg, CA nail: main Fax: 925	94565-1701 @mccampbel 5-252-9269	l.com	
Monterey Ba	y Analytical	Client Project ID:	Date Sampled: 10/08/10				
4 Justin Court Suite D			Date Rec	eived:	10/13/10		
		Client Contact: I	David Holland	Date Extr	acted:	10/14/10	
Monterey, CA	A 93940	Client P.O.:		Date Ana	lyzed	10/14/10	
Extraction method	DSF 174/175	Light Gas H	lydrocarbons*			Work Order:	1010354
Lab ID	Client ID	Analytical methods RSK174/175 Work Order: 1010354 Matrix Methane DF % SS Comme				Comments	
1010354-001A	ASR 1	W	ND		1	N/A	
					<u> </u>	<u> </u>	<u> </u>
Rep	orting Limit for DF =1;	W	0.4			µg/L	,
ND 1 ab	means not detected at or ove the reporting limit	S	NA			NA	

* water samples are reported in $\mu g/L$.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager





Analytical Chemists October 25, 2010

Monterey Bay Analytical Services

4 Justin Court Monterey, CA 93940

Lab ID : SP 1010582-001 Customer ID : 2-19144

Sampled On: October 8, 2010-13:15Sampled By: J. LearReceived On: October 14, 2010-14:15Matrix: Drinking Water

Description : ASR-1 Project : MPWMD

Sample Result - Radio

Constituent	Posult + Error	MDA	Unite	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result ± Entor	MDA	Units	WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry ^{P:1}								
Gross Alpha	1.09 ± 1.58	2.01	pCi/L	15/5	900.0	10/15/10:210778	900.0	10/18/10:213438
Total Alpha Radium (226)	0.096 ± 0.165	0.471	pCi/L	3	903.0	10/18/10:210864	903.0	10/22/10:213432

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = (Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following

If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: 805/392-2000 FAX: 805/525-4172 CA NELAP Certification No. 01110CA Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: 209/942-0182 FAX: 209/942-0423 CA ELAP Certification No. 1563 Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: 530/343-5818 FAX: 530/343-3807 CA ELAP Certification No. 2670 Page 2 of 3

Field Office Visalia, California TEL: 559/734-9473 Mobile: 559/737-2399 FAX: 559/734-8435



Certificate of Analysis

Client Project: MPWMD

Matrix: Drinking Water

Sampled by: J Lear

 Report Issue Date:
 10/25/2010
 14:30

 Received Date:
 10/13/2010

 Received Time:
 08:00

Lab Sample ID: A0J0916-01 Sample Date: 10/08/2010 13:15 Sample Type: Grab

Sample Description: ASR-1 // 70142

Organics

• • •		_			RL				
Analyte	Method	Resu	lit RL	Units	Mult	Batch	Prepared	Analyzed	Qualifiers
Total Trihalomethanes by EPA 5	<u>524.2</u>								
Bromodichloromethane	EPA 524.2	15	0.50	ug/L	1	A010029	10/14/10	10/15/10	
Bromoform	EPA 524.2	0.60	0.50	ug/L	1	A010029	10/14/10	10/15/10	
Chloroform	EPA 524.2	44	0.50	ug/L	1	A010029	10/14/10	10/15/10	
Dibromochloromethane	EPA 524.2	5.8	0.50	ug/L	1	A010029	10/14/10	10/15/10	
Total Trihalomethanes by EPA 5	<u>524.2</u>								
Total Trihalomethanes	EPA 524.2	65		ug/L					
Haloacetic Acids									
Dibromoacetic Acid (DBAA)	EPA 552.2	ND	1.0	ug/L	1	A010058	10/14/10	10/16/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	2.3	1.0	ug/L	1	A010058	10/14/10	10/16/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A010058	10/14/10	10/16/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	ND	2.0	ug/L	1	A010058	10/14/10	10/16/10	
Trichloroacetic Acid (TCAA)	EPA 552.2	5.6	1.0	ug/L	1	A010058	10/14/10	10/16/10	
Haloacetic Acids									
Total Haloacetic Acids (HAA)	EPA 552.2	7.9		ug/L					
			Method	Result					
Surrogate: Bromofluorobenzene			EPA 524.2	105 %	Acceptable ra	ange: 70-1	30 %		
Surrogate: 2,3-Dibromopropionic Act	id		EPA 552.2	86 %	Acceptable ra	ange: 70-1.	30 %		

1414 Stanislaus Street

Fresno, CA 93706(559) 497-2888FAX (559) 485-6935An Employee-Owned Company | Analytical Testing | Construction Observation
Environmental Engineering | Geotechnical Engineering | Materials Testing

A0J0916 FINAL 10252010 1430

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Certificate of Analysis

Client Project: MPWMD

Matrix: Drinking Water

Sampled by: J Lear

 Report Issue Date:
 10/25/2010
 14:30

 Received Date:
 10/13/2010

 Received Time:
 08:00

Lab Sample ID: A0J0916-02 Sample Date: 10/08/2010 12:50 Sample Type: Grab

Sample Description: MW-1 // 70143

Organics

Apolito	Mathad	Deci		l Init-	RL	Datab	Dranarad	Applyrod	Qualifiara
Analyte	weimod	Resi	un KL	Units	Mult	Batch	Frepared	Analyzed	Quaimers
Total Trihalomethanes by EPA	<u>524.2</u>								
Bromodichloromethane	EPA 524.2	12	0.50	ug/L	1	A010029	10/14/10	10/15/10	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A010029	10/14/10	10/15/10	
Chloroform	EPA 524.2	34	0.50	ug/L	1	A010029	10/14/10	10/15/10	
Dibromochloromethane	EPA 524.2	4.0	0.50	ug/L	1	A010029	10/14/10	10/15/10	
Total Trihalomethanes by EPA	<u>524.2</u>								
Total Trihalomethanes	EPA 524.2	49		ug/L					
Haloacetic Acids									
Dibromoacetic Acid (DBAA)	EPA 552.2	ND	1.0	ug/L	1	A010058	10/14/10	10/17/10	
Dichloroacetic Acid (DCAA)	EPA 552.2	ND	1.0	ug/L	1	A010058	10/14/10	10/17/10	
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A010058	10/14/10	10/17/10	
Monochloroacetic Acid (MCAA)	EPA 552.2	ND	2.0	ug/L	1	A010058	10/14/10	10/17/10	
Trichloroacetic Acid (TCAA)	EPA 552.2	ND	1.0	ug/L	1	A010058	10/14/10	10/17/10	
Haloacetic Acids									
Total Haloacetic Acids (HAA)	EPA 552.2	ND		ug/L					
			Method	Result					
Surrogate: Bromofluorobenzene			EPA 524.2	93 %	Acceptable ra	ange: 70-1.	30 %		
Surrogate: 2,3-Dibromopropionic A	cid		EPA 552.2	91 %	Acceptable ra	ange: 70-1.	30 %		

A0J0916 FINAL 10252010 1430

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Page 4 of 12



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net

ELAP Certification Number: 2385

Tuesday, October 26, 2010

Joe Oliver P.O. Box 85 Monterey, CA 93442-0085

Page 1 of 2

MPWMD

Lab Number: AA69616

Collection Date/Time: 9/24/2010 Submittal Date/Time: 9/24/2010

0 12:30 0 13:45

. Sample ID

Sample Collector: LINDBERG T

	Sample	Descriptio	n: SSMS TW	-1			
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Alkalinity, Total (as CaCO3)	2320B	mg/L	232		2		9/27/2010
Ammonia-N	4500NH3 D	mg/L	0.18		0.05		10/1/2010
Arsenic, Total	EPA200.8	ug/L	6		1	10	10/5/2010
Barium, Total	EPA200.8	ug/L	44		10	1000	10/5/2010
Bicarbonate (as HCO3-)	2320B	mg/L	283		10		9/27/2010
Boron	EPA200.7	mg/L	0.06		0.05		9/28/2010
Calcium	EPA200.7	mg/L	72		0.5		9/28/2010
Carbonate as CaCO3	2320B	mg/L	Not Detected		10		9/27/2010
Chloramines	SM4500-CI G	mg/L	Not Detected		0.05		9/24/2010
Chloride	EPA300.0	mg/L	107		1	250	9/24/2010
Dissolved Organic Carbon	SM5310-C	mg/L	0.58	Е	0.2		10/21/2010
Fluoride	EPA300.0	mg/L	0.20		0.10	2.0	9/24/2010
Gross Alpha	EPA900.0	pCi/L	1.09+/-1.58	Е		15	10/18/2010
Haloacetic Acids	EPA552	ug/L	Not Detected	Е		60	10/2/2010
Hardness (as CaCO3)	2340B	mg/L	242		10		9/29/2010
Iron	EPA 200.7	ug/L	50		10		9/28/2010
Iron, Dissolved	EPA 200.7	ug/L	34		10	300	9/28/2010
Kjehldahl Nitrogen	4500-NH3 B,C.E	mg/L	0.5		0.2		10/2/2010
Langlier Index (15 deg. C)	2330B		0.39				10/4/2010
Langlier Index (60 deg. C)	2330B		0.98				10/4/2010
Lithium	EPA200.8	ug/L	28		1		10/5/2010
Magnesium	EPA200.7	mg/L	15		0.5		9/28/2010
Manganese, Dissolved	EPA 200.7	ug/L	28		10	50	9/28/2010
Manganese, Total	EPA 200.7	ug/L	29		10	50	9/28/2010
Methane	EPA174/175	ug/L	Not Detected	Е	5		9/30/2010
Molybdenum, Total	EPA200.8	ug/L	8		1	1000	10/5/2010
Nickel, Total	EPA200.8	ug/L	Not Detected		10	100	10/5/2010
Nitrate as NO3	EPA300.0	mg/L	1		1	45	9/24/2010
Nitrate as NO3-N	EPA300.0	mg/L	0.13		0.05	10	9/24/2010
Nitrite as Nitrogen	EPA300.0	mg/L	Not Detected		0.05	1.00	9/24/2010
Nitrite as NO2-N	EPA300.0	mg/L	Not Detected		0.05	1.00	9/24/2010
o-Phosphate-P	EPA300.0	mg/L	Not Detected		0.05		9/24/2010
pH (Laboratory)	4500-H+B	STD. Units	7.7				9/24/2010
Phosphorus, Total	HACH 8190	mg/L	0.05		0.03		9/28/2010

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Lab Number: AA69616

Collection Date/Time:	9/24/2010
Submittal Date/Time:	9/24/2010

10 12:30 10 13:45 Sample Collector: LINDBERG T Sample ID

Sample Description: SSMS TW-1							
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Potassium	EPA200.7	mg/L	4.4		0.1		9/28/2010
QC Anion Sum x 100	Calculation	%	100%				9/29/2010
QC Anion-Cation Balance	Calculation	%	2				9/29/2010
QC Cation Sum x 100	Calculation	%	105%				9/29/2010
QC Ratio TDS/SEC	Calculation		0.58				10/4/2010
Radium 226	EPA903.1	pCi/L	0.096+/-0.115	Е		3	10/22/2010
Selenium, Total	EPA200.8	ug/L	3		2	50	10/5/2010
Sodium	EPA200.7	mg/L	97		0.5		9/28/2010
Specific Conductance (E.C)	2510B	umhos/cm	873		1	900	9/24/2010
Strontium, Total	EPA200.8	ug/L	367		5		10/5/2010
Sulfate	EPA300.0	mg/L	52		1	250	9/24/2010
Total Diss. Solids	2540C	mg/L	505		10	500	9/30/2010
Total Nitrogen	Calculation	mg/L	0.6		0.5		10/26/2010
Total Organic Carbon	SM5310C	mg/L	0.62	Е	0.20		10/7/2010
Trihalomethanes	EPA524.2	ug/L	Not Detected	Е		80	10/2/2010
Uranium by ICP/MS	EPA200.8	ug/L	3		1		10/5/2010
Vanadium, Total	EPA200.8	ug/L	Not Detected		1	1000	10/5/2010
Zinc, Total	EPA200.8	ug/L	Not Detected		10	5000	10/5/2010

Sample Comments:

Report Approved by:

David Holland, Laboratory Director

Amended



David Holland Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940 **Certificate of Analysis**

 Report Issue Date:
 10/22/2010
 16:28

 Received Date:
 09/29/2010

 Received Time:
 08:00

Lab Sample ID:	A0I2205-01	
Sample Date:	09/24/2010	12:30
Sample Type:	Grab	

Client Project: Monterey Peninsula Water Mgmt. District Sampled by: Lindberg, T Matrix: Drinking Water

Sample Description: SSMS-TW-1 // 69616

General Chemistry

Analyte	Method	Result	RL	Units	RL _{Mult} Batch	Prepared	Analyzed	Qualifiers
Dissolved Organic Carbon Total Organic Carbon	SM 5310 C SM 5310 C	0.58 0.62	0.20 0.20	mg/L mg/L	1 A010400 1 A009749	10/21/10 10/07/10	10/21/10 10/07/10	

Organics

		_			RL					
Analyte	Method	Rest	ult RL	Units	Mult	Batch	Prepared	Analyzed	Qualifiers	
Total Trihalomethanes by EPA	524.2									
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A009350	10/01/10	10/02/10		
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A009350	10/01/10	10/02/10		
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A009350	10/01/10	10/02/10		
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A009350	10/01/10	10/02/10		
Total Trihalomethanes by EPA	524.2									
Total Trihalomethanes	EPA 524.2	ND		ug/L						
Haloacetic Acids										
Dibromoacetic Acid (DBAA)	EPA 552.2	ND	1.0	ug/L	1	A009342	09/30/10	10/02/10		
Dichloroacetic Acid (DCAA)	EPA 552.2	ND	1.0	ug/L	1	A009342	09/30/10	10/02/10		
Monobromoacetic Acid (MBAA)	EPA 552.2	ND	1.0	ug/L	1	A009342	09/30/10	10/02/10		
Monochloroacetic Acid (MCAA)	EPA 552.2	ND	2.0	ug/L	1	A009342	09/30/10	10/02/10		
Trichloroacetic Acid (TCAA)	EPA 552.2	ND	1.0	ug/L	1	A009342	09/30/10	10/02/10		
Haloacetic Acids										
Total Haloacetic Acids (HAA)	EPA 552.2	ND		ug/L						
			Method	<u>Result</u>						
Surrogate: Bromofluorobenzene			EPA 524.2	96 %	Acceptable ra	ange: 70-1	30 %			
Surrogate: 2,3-Dibromopropionic A	cid		EPA 552.2	100 %	Acceptable ra	ange: 70-1	30 %			

A0I2205 FINAL 10222010 1628

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Analytical Chemists October 25, 2010

Monterey Bay Analytical Services

4 Justin Court Monterey, CA 93940

Lab ID : SP 1010582-001 Customer ID : 2-19144

Sampled On: October 8, 2010-13:15Sampled By: J. LearReceived On: October 14, 2010-14:15Matrix: Drinking Water

Description : ASR-1 Project : MPWMD

Sample Result - Radio

Constituent	Result + Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Error					Date/ID	Method	Date/ID	
Radio Chemistry ^{P:1}									
Gross Alpha	1.09 ± 1.58	2.01	pCi/L	15/5	900.0	10/15/10:210778	900.0	10/18/10:213438	
Total Alpha Radium (226)	0.096 ± 0.165	0.471	pCi/L	3	903.0	10/18/10:210864	903.0	10/22/10:213432	

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).

AV = (Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following

If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: 805/392-2000 FAX: 805/525-4172 CA NELAP Certification No. 01110CA Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: 209/942-0182 FAX: 209/942-0423 CA ELAP Certification No. 1563 Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: 530/343-5818 FAX: 530/343-3807 CA ELAP Certification No. 2670 Page 2 of 3

Field Office Visalia, California TEL: 559/734-9473 Mobile: 559/737-2399 FAX: 559/734-8435

	McCampbell Analyti	ical, Inc.	1534 Willow F Web: www.mccamp Telephone: 8	Pass Road, Pittsbur bell.com E-mail: 377-252-9262 Fa	g, CA 94: main@m x: 925-25	565-1701 ccampbell.c 2-9269	com	
Monterey	Bay Analytical	Client Project ID:	MPWMD Date Sampled: 09/24/10					
4 Justin Co	ourt. Suite D			Date Receiv	ed: 09	/29/10		
i tustili et		Client Contact: Da	avid Holland	Date Extract	ed: 09	/30/10		
Monterey,	CA 93940	Client P.O.:		Date Analyz	ed 09	/30/10		
		Light Gas Hy	vdrocarbons*					
Extraction meth	od RSK 174/175	Analytical m	nethods RSK174/175		Wo	rk Order:	1009780	
Lab ID	Client ID	Matrix	Methane		DF	% SS	Comments	
001A	SSMS-TW-1	w	ND		1	N/A		
	Reporting Limit for DF =1;	W	0.4			μg/J.		
]	ND means not detected at or above the reporting limit	S	NA			NA		
* water samp	les are reported in µg/L.	I			I <u></u>			
%SS = Percer DF = Dilution	nt Recovery of Surrogate Standard 1 Factor							

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

DO (MBHS) 6.00 PPM H2S. 19 Jug (L 870 Jun 2010 \$2008CAASR Analysis Codes Speede 112 0.04 ppm Initials 46.2 Field FOR LAB USE ONLY COMMENTS (549 2 (DOGIN/ ENd SARSON) Time HQ ORP FIELD PRESERVATION 00 618-235-3600 Date As, Ba, Fe, Mn, Mo, Se, Sr, V, Zn) Received Time Received Date Received by Appine N ab Comments: Preservation Description Belleville, IL 62220-3102 CHAIN OF CUSTODY # 10040543 None on-line Military (24 hr) Format American Water Central Laboratory 1115 South Illinois Street SiteID: 2710004-024 PRIOR TO SHIPPING - COMPLETE ALL FIELDS Pre-Preservation Am Nitric Acid 23.1 ND 5.0 3 3 873 mpump Det por " dr = 2D conduct = EPA 200.8 1 Time Sampled S. JACOBSON RAW 100 PWSID: CA2710004 SUSAN JACOBSON Sampler's First Initial and Last Name Sample Type (RAW, EFF, DIST, etc.) Date Sampled 07/08/10 QN 9 Location: ORD GROVE WELL 02 Contact Phone # 831-646-3259 METALS Analysis Facility ID: State Reporting Required? For compliance purposes: MONTEREY DISTRICT OC Sample ID # Type Date/Time Reling Contact Person Relinquished by CCR Report?: CP30348 703 SCHE CA

IL 62220-3102 618-235-3600 Oct 2010) 9 8 9	FOR LAB USE ONLY Temperature, °C Tracking #	Received Time A B B B B B B B B B B B B B B B B B B	(2 Closent/Endlet Sooslar) Special Mi-annual NSK.	FIELD PRESERVATION Mutalysis tton Description Date Time Initials \$2008CAASR	PH (693) Poc 22.9	de c.oz Hos quelle conductivity(EC) 165 purlos DO (MBAS) 5.90	
SCHE American Water Central Laboratory 115 South Illinois Street Belleville, CA 703 PWSID: CA2710004 CHAIN OF CUSTODY # 10080 CA 703 Facility ID: CHAIN OF CUSTODY # 10080 MONTEREY DISTRICT CHAIN OF CUSTODY # 10080	PRIOR TO SHIPPING - COMPLETE ALL FIELDS Location: ORD GROVE WELL 02 Sample Type (RAW, EFF, DIST, etc.) RAW Sampler's First Initial and Last Name S. JACOBSON	Date Sampled I OQ // O Time Sampled ZOO Military (24 hr) Format Contact Phone # 831-646-3259 Sold Sold Sold Sold Sold Sold Sold Sold	For compliance purposes?) NO State Reporting by Lab? NO CCR Report?: NO	QC Analysis Method Pre-Preservation Sample ID # Type Pre-Preservation Pre-Preservation CP71785 METALS EPA 200.8 Nitric Acid	(As, Ba, Fe, Mn, Mo, Se, Sr, V, Zn)	JAM JAS	

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lle, lL 62220-3102 618-235-3600 Oct 2010 8 0 9 9 0	FOR LAB USE ONLY Temperature. "C Tracking # Sipping Method Received Date Received by Received by Lab Comments:	D-Sporter Di-O.Dutol HS R Pronitoring Di-O.Dutol HS R FIELD PRESERVATION Analysis Analysis vation Description Date Time Initials \$2008CAASR \$2008CAASR	Field Fi
SCHE American Water Central Laboratory 115 South Illinois Street Bellevill CA 703 Facility ID: CHAIN OF CUSTODY # 1 0 0 8 MONTEREY DISTRICT MONTEREY DISTRICT	PRIOR TO SHIPPING - COMPLETE ALL FIELDS Location: PARALTA WELL Location: PARALTA WELL SitelD: 2710004-048 Sample Type (RAW, EFF, DIST, etc.) RAW Sampler's First Initial and Last Name S. JACOBSON Date Sampled 11/00/1/D Time Sampled 33 Contact Phone # 831-646-3259 Pate/Time Reling 1	State Reporting by Lab? NO CCR Report?: NO CCR Report?: NO Sample ID # Type Sample ID # Type CP71786 METALS EPA 200.8 Nitric Acid	(As, Ba, Fe, Mn, Mo, Se, Sr, U, Zn, mound should det



AMERICAN WATER WORKS SERVICE COMPANY, INC.

Central Laboratory - 1115 South Illinois Street Belleville, IL 62220-3102 Phone: (618)235-3600 - Fax: (618)235-6349



DBP Analysis Report

CALIFORNIA-AMERICAN WATER CO MONTEREY DISTRICT LESLIE JORDAN PO BOX 951 MONTEREY CA 93942-0951

PWS ID: CA2710004 County: MONTEREY Facility ID: Site ID: 2710004-024 Date of Report: 07/15/10 Drinking Water Certification No.: 01161CA Federal Lab ID No.: IL00028

Report Summary

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Location	ORD GROVE WELL 02	Collection Date: 07/08/10	Received Date: 07/09/10
Sample Type	RAW	CollectionTime: 10:35	Received Time: 09:00
		SDG: 791029	Received Temp: 3 °C

Case Narrative:

TOTAL HAA (5) Result: 0 TOTAL THM Result: 0

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Technical Director or Designee



CA	703
1007	0042
COC and Rep	ort Number

Starting Sample: CP62003 Page 1 of 2

Report Details

Sample Number:	CP62003										
Regulated Haloacet	tic Acids	Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Dati	e / Time
DIBROMOACETIC A	ACID		SM6251BMOD	82721		1.0	ND	ug/L	BC	07/14/10	21:13
DICHLOROACETIC	ACID		SM6251BMOD	77288		1.0	ND	ug/L	BC	07/14/10	21:13
MONOBROMOACE	TIC ACID		SM6251BMOD	A-041		1.0	ND	ug/L	BC	07/14/10	21:13
MONOCHLOROACE	ETIC ACID		SM6251BMOD			1.0	ND	ug/L	BC	07/14/10	21:13
TRICHLOROACETIC	CACID		SM6251BMOD			1.0	ND	ug/L	BC	07/14/10	21:13
HAA5 TOTAL			SM6251BMOD	A-049	60	1.0	ND	ug/L	BC	07/14/10	21:13

Sample Number: CP	62003									
Unregulated Haloacet Acids	Qualifi Ic Code	er Analysis 9 Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Dati	a / Time
BROMOCHLOROACE	ric	SM6251BMOD	A-038		1.0	ND	ug/L	BC	07/14/10	21:13

Samola	Number:	CP62006
QUINDIQ	TACHING .	01 02000

	Qualifier	Analysis	State		Reporting					
Trihalomethanes	Code	Method	Code	MCL	Limit	Result	Unit	Analyst	Analysis Date	/ Time
BROMOFORM		502.2R2.1	32104		0.5	ND	ug/L	CRK	07/09/10	22:06
BROMODICHLOROMETHANE	Ē	502.2R2.1	32101		0.5	ND	ug/L	CRK	07/09/10	22:06
CHLORODIBROMOMETHANS	5	502.2R2.1	32105		0.5	ND	ug/L	CRK	07/09/10	22:06
CHLOROFORM		502.2R2.1	32106		0.5	ND	ug/L	CRK	07/09/10	22:06
TOTAL TRIHALOMETHANES		502.2R2.1	82080	80	0.5	ND	ug/L	CRK	07/09/10	22:06

Contraction of the second second				
10070042 COC and Report Number				

Starting Sample: CP62003 Page 2 of 2



AMERICAN WATER WORKS SERVICE COMPANY, INC.

Central Laboratory - 1115 South Illinois Street Belleville, IL 62220-3102 Phone: (618)235-3600 - Fax: (618)235-6349



Inorganic Chemical (IOC)Analysis Report

CALIFORNIA-AMERICAN WATER CO MONTEREY DISTRICT LESLIE JORDAN PO BOX 951 MONTEREY CA 93942-0951 PWS ID: CA2710004 County: MONTEREY Facility: Site ID: 2710004-024 Date of Report: 07/15/10 Drinking Water Certification No.: 01161CA Federal Lab ID No.: IL00028

Report Summary

Location	ORD GROVE WELL 02	Collection Date: 07/08/10	Received Date:	07/09/10
Sample Type	RAW	CollectionTime: 10:35	Received Time:	09:00
		SDG: 791029	Received Temp:	3 °C
	· · · · · · · · · · · ·	ويعتقده والمرجوعة المتحصف والمراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع الم		

Case Narrative:

Results are at or above the reporting limit for the following analytes:

ARSENIC	MOLYBDENUM
SELENIUM	MANGANESE
BARIUM	STRONTIUM

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Technical Director or Designee





Starting Sample: CP30348 Page 1 of 2
<u>Sampie Number:</u>	CP30348										
ICP Metals		Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
IRON			200.7R4.4	01045	0.3(s)	0.06	ND	mg/L	LG	07/12/10	13:07
STRONTIUM			200.7R4.4			0.050	0.362	mg/L	LG	07/12/10	13:07
Sample Number:	CP30348										
ICP/MS Metals		Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
ARSENIC			200.8R5.4	01002	0.010	0.001	0.002	mg/L	ĹĠ	07/13/10	13:24
SELENIUM			200.8R5.4		0.05	0.002	0.006	mg/L	LG	07/13/10	13:24
BARIUM			200.8R5.4	01007	1	0.001	0.053	mg/L	LG	07/12/10	12:32
MANGANESE			200.8R5.4	01055	0.05(s)	0.010	0.018	mg/L	LG	07/12/10	12:32
ZINC			200.8R5.4	01092	5.0(s)	0.050	ND	mg/L	LG	07/12/10	12:32
MOLYBDENUM			200.8R5.4	01062		0.001	0.006	mg/L	LG	07/12/10	12:32
VANADIUM			200.8R5.4	01087		0.050	ND	mg/L	LG	07/12/10	12:32



Starting Sample: CP30348 Page 2 of 2



Central Laboratory - 1115 South Illinois Street Belleville, IL 62220-3102 Phone: (618)235-3600 - Fax: (618)235-6349



DBP Analysis Report

CALIFORNIA-AMERICAN WATER CO MONTEREY DISTRICT LESLIE JORDAN **PO BOX 951** MONTEREY CA 93942-0951

PWS ID: CA2710004 County: MONTEREY Facility ID: Site ID: 2710004-024

Date of Report: 12/03/10 · Lab Certification No.: 01161CA Federal Lab ID No.: IL00028

ORD GROVE WELL 02 Location

Sample Type RAW Collection Date: 11/09/10 CollectionTime: 13:00 SDG: 11121015

Report Summary

Rece Rece Recei

AL # 11	
ived Date:	11/12/10
ived Time:	09:00
ved Temp:	6 °C

Case Narrative:

Results are at or above the reporting limit for the following analytes:

MONOCHLOROACETIC ACID

TOTAL HAA (5) Result: 1.8

TOTAL THM Result: 0

Revised report to correct DV Code per utility request

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Technical Director or Designee





REVISED 12/3/2010 Starting Sample: CP69594 Page 1 of 2

Sample Number: CP6959	4									
Regulated Haloacetic Acid	Qualifie s Code	r Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Dat	e / Time
DIBROMOACETIC ACID		SM6251BMOD	82721		1.0	ND	ug/L	KAY	11/18/10	02:41
DICHLOROACETIC ACID		SM6251BMOD	77288		1.0	ND	ug/L	KAY	11/18/10	02:41
MONOBROMOACETIC ACI	D	SM6251BMOD	A-041		1.0	ND	ug/L	KAY	11/18/10	02:41
MONOCHLOROACETIC AC	D	SM6251BMOD			1.0	1.8	ug/L	KAY	11/18/10	02:41
TRICHLOROACETIC ACID		SM6251BMOD			1.0	ND	ug/L	KAY	11/18/10	02:41
HAA5 TOTAL		SM6251BMOD	A-049	60	1.0	1.8	ug/L	KAY	11/18/10	02:41、
Sample Number: CP6959	4		_							
	വാപ്പ്പെറ	e Analucio	Stata		Ponorfina					

Unregulated Haloacetic	Code	Method	Code	MCL	Limit	Result	Unit	Analyst	Analysis Dat	e / Time
BROMOCHLOROACETIC ACID	;	SM6251BMOD	A-038		1.0	ND	ug/L	KAY	11/18/10	02:41

Sample Number:	CP69598										
Trihalomethanes	Qu	latifler Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
BROMOFORM		:	502.2R2.1	32104		0.5	ND	ug/L	TD	11/12/10	23:35
BROMODICHLOR	DMETHANE		502.2R2.1	32101		0.5	ND	ug/L	TD	11/12/10	23:35
CHLORODIBROM	DMETHANE	į	502.2R2.1	32105		0.5	ND	ug/L	TD	11/12/10	23:35
CHLOROFORM			502.2R2.1	32106		0.5	ND	ug/L	TD	11/12/10	23:35
TOTAL TRIHALOM	ETHANES		502.2R2.1	82080	80	0.5	ND	ug/L	TD	11/12/10	23:35

 CA
 703

 10080195
 COC and Report Number

REVISED 12/3/2010 Starting Sample: CP69594 Page 2 of 2



Leslie Jordan/CAWC/AWWSC 12/03/2010 12:52 PM To Alyssa A Webb/SERVCO/AWWSC@AWW

сс

bcc

Subject November monitoring

Alyssa

Can you please change the DVCode on a couple of samples?

Chain of Custody	Sample Location	Sample Date	Starting Sample	DVCode in
Powerflow /	Actual DVCode			744
10080195	Ord Grove Well 02	11/09/2010	CP69594	/14
703		4410010040	000071	714
10080215	Paralta Well	11/09/2010	C503011	7 14

Thank you

Leslie

Leslie Q. Jordan, Water Quality Superintendent California American Water Central Division leslie.jordan@amwater.com 1-831-646-3258 (desk) 1-831-236-7533 (cell) 1-831-375-4367 (fax)



Central Laboratory - 1115 South Illinois Street Belleville, IL 62220-3102 Phone: (618)235-3600 - Fax: (618)235-6349



Inorganic Chemical (IOC)Analysis Report

CALIFORNIA-AMERICAN WATER CO MONTEREY DISTRICT LESLIE JORDAN PO BOX 951 MONTEREY CA 93942-0951

PWS ID: CA2710004 County: MONTEREY Facility: Site ID: 2710004-024 Date of Report: 11/19/10 Drinking Water Certification No.: 01161CA Federal Lab ID No.: IL00028

Report Summary

Location	ORD GROVE WELL 02	Collection Date:	11/09/10	Received Date:	11/12/10
Sample Type	RAW	CollectionTime:	13:00	Received Time:	09:00
		SDG:	11121014	Received Temp:	13 °C

Case Narrative:

Results are at or above the reporting limit for the following analytes:

ARSENIC	MOLYBDENUM
SELENIUM	MANGANESE
BARIUM	STRONTIUM

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Technical Director or Designee





Starting Sample: CP71785 Page 1 of 2

Sample Number: CP71785

ICP Metals		Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
IRON			200.7R4.4	01045	0.3(s)	0.06	ND	mg/L	JLG	11/15/10	12:46
STRONTIUM			200.7R4.4			0.050	0.370	mg/L	JLG	11/15/10	12:46
Sample Number:	CP71785										
ICP/MS Metals		Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
ARSENIC			200.8R5.4	01002	0.010	0.001	0.002	mg/L	LKR	11/18/10	13:50
BARIUM			200.8R5.4	01007	1	0.001	0.052	mg/L	LKR	11/18/10	13:50
MANGANESE			200.8R5.4	01055	0.05(8)	0.010	0.018	mg/L	LKR	11/18/10	13:50
SELENIUM			200.8R5.4	01147	0.05	0.002	0.007	mg/L	LKR	11/18/10	13:50
ZINC			200.8R5.4	01092	5.0(s)	0.050	ND	mg/L	LKR	11/18/10	13:50
MOLYBDENUM			200.8R5.4	01062		0.001	0.006	mg/L	LKR	11/18/10	13:50
VANADIUM			200.8R5.4	01087		0.050	ND	mg/L	LKR	11/18/10	13:50



CA 703 10080989 COC and Report Number Starting Sample: CP71785 Page 2 of 2



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net

ELAP Certification Number: 2385

Cal Am Water Company Susy Jacobson / Leslie Jordan 511 Pacific Lodge Road, Suite 100 Pacific Grove, CA 93950

Page 1 of 1

Thursday, August 12, 2010

Lab Number:	AA67417								
Collection Date/Time:	7/8/2010	10:35	Sample	Collector:	JACOBSON S				
Submittal Date/Time:	7/8/2010	14:11	Sample	ID					
			Sample De	escription	: Ord Grove W	ell 02		<u></u>	
Analyte			Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Chloreminet			SM4500-CI G	ma/L	Not detected		0,05		7/8/2010
Chloring Residual (Field	d Test)		4500-CI G	mg/L	0.04		0.05	2.00	7/8/2010
Discolved Oxygan	a 100.j		4500-O G	ma/L	8.00		0.5		7/8/2010
Lithium			EPA200.8	ug/L	17		1		8/3/2010
Mathana			PPA174/175	ug/L	1.0	E	5		7/22/2010
Sample Comments:									
Lab Number:	AA67418								
Collection Date/Time:	7/8/2010	13:35	Sample	Collector:	JACOBSON S				
Submittal Date/Time:	7/8/2010	14:11	Sample	a ID					
			Sample	e Descript	ion: Paralta W	/ell			
Analyte			Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Chloramines	****		SM4500-CI G	mg/L	Not detected	;	0.05		7/8/2010
Chlorine Residual (Fle	ld Test)		4500-CI G	mg/L	0.05		0.05	2.00	7/8/2010
Dissolved Oxvgen			4500-O G	mg/L	6.70		0.5		7/8/2010
Lithium			EPA200.8	ug/L	21		1		8/3/2010
Methane			EPA174/175	ug/L	0.89	E	5		7/22/2010
Sample Comments:	······		Poport Appr	wed by:		. 1			

Report Approved by:

20-41 0/

David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MOL: Maximum Contamination Level H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net **ELAP Certification Number: 2385**

Thursday, November 18, 2010

Cal Am Water Company Susy Jacobson / Leslie Jordan 511 Pacific Lodge Road, Suite 100 Pacific Grove, CA 93950 Lab Number: AA70945

Collection Date/Time: 11/9/2010 13:00 Submittal Date/Time: 11/9/2010 14:15

Sample ID

Sample Collector: JACOBSON, S

Sample Description: Ord Grove Well 02

Analyte	Method	Unit	Result Qual	PQL	MCL Date Analyzed
Chloramines	SM4500-CI G	mg/L	Not Detected	0.05	11/9/2010
Dissolved Oxygen	4500-O G	mg/L	7.95	0.5	11/9/2010
Lithium	EPA200.8	ug/L	24	1	11/12/2010
Methane	EPA174/175	ug/L	1.1 E	5	11/15/2010

Sample Comments:

Report Approved by:

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

H = Analyzed ouside of hold time

D = Method deviates from standard method due to insufficient sample for MS/MSD



Leslie Jordan California American Water PO Box 951 Monterey, CA 93942-0951 **Certificate of Analysis**

 Report Issue Date:
 8/13/2010
 14:46

 Received Date:
 07/15/2010

 Received Time:
 09:00

 Lab Sample ID:
 A0G1095-01

 Sample Date:
 07/08/2010 10:35

 Sample Type:
 Grab

Sampled by: Susy Jacobson Matrix: Ground Water

Sample Description: Ord Grove Well 02

Metals									
Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
*Uranium *Uranium, Radiological	EPA 200.8	1.1 0.73	1.0	ug/L pCi/L	1	A006346	07/26/10	07/26/10	
Radiological									
Analyte	Method	Result		Units	MDA	Batch	Prepared	Analyzed	Qualifiers
*Gross Alpha	EPA 00-02	5.30		pCi/L	2.41	A006333	07/26/10	07/26/10	
*1.65 Sigma Uncertainty		0.360		±					

A0G1095 FINAL 08132010 1446

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Pace Analytical www.pacelabs.com

Pace Analytical Services, Inc. 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

ANALYTICAL RESULTS

Project:		A0G1095									
Pace Pro	ject No.:	3031484									
Sample:	A0G1095 Well 02	-01/Ord Grove	Lab ID;	3031484001	Collect	ted: 07/08/10) 10:35	Received:	07/26/10 10:00	Matrix: Drinking	Water
PWS:			Site ID:		Sampl	e Type:					
	Parame	eters	Metho	d	Act ±	Unc (MDC)		Units	Analyzed	CAS No.	Qual
Radium-2	26		EPA 903.1	1.91 ±	0.718	(0.484)	1	oCi/L	08/05/10 10:5	9 13982-63-3	
Radium-2	28		EPA 904.0	1.35 ±	0.486	(0.853)	ŗ	oCi/L	08/11/10 12:17	7 15262-20-1	
Sample:	A0G1095	-02 <mark>/Paralta Well</mark>	Lab ID:	3031484002	Collect	ted: 07/08/10) 13:35	Received:	07/26/10 10:00	Matrix: Drinking	Water
PWS:			Site ID:		Sampl	e Type:					
	Parame	lers	Metho	d	Act ±	Unc (MDC)		Units	Analyzed	CAS No.	Qual
Radium-2	26		EPA 903.1	2.03 ±	0.733	(0.677)	F	oCi/L	08/05/10 10:5	9 13982-63-3	
Radium-2	28		EPA 904.0	2.01 ±	0.513	(0.811)	F	oCi/L	08/11/10 12:18	8 15262-20-1	

Date: 08/13/2010 10:42 AM

REPORT OF LABORATORY ANALYSIS

Page 5 of 8

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ANALYTICAL RESULTS

Sec. 40 (000) 200

Project: Pace Pro	A0K0907 ject No.: 3037757									
Sample:	A0K0907-01/Ord Gr Well 02	ove	Lab ID: 303775	7001	Collecte	d: 11/09/10 13:	00 Received:	11/23/10 10:00	Matrix: Drinking	Water
PWS:			Site ID:		Sample	Type:				
	Parameters		Method		Act ± U	nc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-2	26		EPA 903.1	3.14 ±	0.938 (0.198)	pCi/L	12/09/10 13:2	13982-63-3	
Sample: PWS:	A0K0907-02/Paralta	Well	Lab ID: 303775 Site ID:	7002	Collecte Sample	d: 11/09/10 13: Type:	30 Received:	11/23/10 10:00	Matrix: Drinking	Water
	Parameters		Method		Act ± U	nc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-2	26		EPA 903.1	1.12 ±	0.639 (0.694)	pCi/L	12/09/10 13:2	2 13982-63-3	

Date: 12/15/2010 03:01 PM

REPORT OF LABORATORY ANALYSIS

Page 5 of 7

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Date of Report: 10/12/15 Sample ID No.3037757001/K0907-01	•					
Laboratory Signature Lab O						
Name: PACE ANALYTICAL SERVICES, INC-GREENSBURG Director: Child Comparent 12/15/10						
Name of Sampler: Susy Jacobson Employed By: CA American Water						
Date/Time Sample Date/Time Sample Date Analyses						
Collected:10/11/09/1300 Received @ Lab:10/11/23/1000 Completed:10/12/	09					
	===					
System System						
Name:CAL AM WATER COMPANY - MONTEREY Number: 2710004						
Name:CAL AM WATER COMPANY - MONTEREY Number: 2710004 Name or Number of Sample Source:ORD GROVE WELL 02 - RAW						
Name:CAL AM WATER COMPANY - MONTEREY Number: 2710004 Name or Number of Sample Source:ORD GROVE WELL 02 - RAW ************************************	**					
Name:CAL AM WATER COMPANY - MONTEREY Number: 2710004 Name or Number of Sample Source:ORD GROVE WELL 02 - RAW ************************************	**					
Name:CAL AM WATER COMPANY - MONTEREY Number: 2710004 Name or Number of Sample Source:ORD GROVE WELL 02 - RAW ************************************	** *					
Name:CAL AM WATER COMPANY - MONTEREY Number: 2710004 Name or Number of Sample Source:ORD GROVE WELL 02 - RAW ************************************	** *					
Name:CAL AM WATER COMPANY - MONTEREY Number: 2710004 Name or Number of Sample Source:ORD GROVE WELL 02 - RAW RAW * User ID: HEN Station Number: 2710004-024 * Date/Time of Sample: 10 11 09 1300 Laboratory Code: 0010 * YY MM DD TTTT YY MM DD * Date Analysis completed: 10 12 09	** * * *					
Name:CAL AM WATER COMPANY - MONTEREY Number: 2710004 Name or Number of Sample Source:ORD GROVE WELL 02 - RAW RAW * User ID: HEN Station Number: 2710004-024 * Date/Time of Sample: 10 11 09 1300 Laboratory Code: 0010 * YY MM DD TTTT YY MM DD * Submitted by: Date Analysis completed: 10 12 09	* * * * * *					

MCL REPO UNII	RT CHEMICAL 'S	I STORET	ANALYSES RESULTS	DLR
pCi pCi	/L TITLE 22 CALIFORNIA CODE OF REGULATIONS /L SECTION 64442 (22 CCR 64442)			
15 pCi pCi pCi	/L Gross Alpha /L Gross Alpha Counting Error /L Gross Alpha MDA95 *	01501 01502 A-072	1	3.0
20 pCi pCi pCi	/L Uranium /L Uranium Counting Error /L Uranium MDA95	28012 A-028 A-073		1.0
pCi pCi pCi	/L Radium 226 /L Radium 226 Counting Error /L Radium 226 MDA95	09501 09502 A-074	3.14 0.938 	1.0
pCi pCi pCi	/L Radium 228 /L Radium 228 Counting Error /L Radium 228 MDA95	11501 11502 A-075		1.0
5 pCi pCi pCi	/L Ra 226 + Ra 228, Combined /L Ra 226 + Ra 228 Counting Error, Combined /L Ra 226 + Ra 229 MDA95, Combined	11503 11504 A-076		
pCi	/L RADIUM, TOTAL, (FOR NTNC ONLY, BY 903.0)		Ĩ	I
pCi pCi pCi	/L Radium, Total /L Radium, Total, Counting Error /L Radium, Total, MDA95	A-080 A-081 A-082		
pCi pCi	/L TITLE 22 CALIFORNIA CODE OF REGULATIONS /L SECTION 64443 (22 CCR 64443)			1
50 pCi	/L Gross Beta	03501	I	4.0

Page 22 of 27

EDT

	pCi/L pCi/L	Gross Beta Counting Error Gross Beta MDA95	03502 A-077	1	1
4	pCi/L	Gross Beta, Calculated Dose Equivalent *	A-071	1	(
8	pCi/L pCi/L pCi/L	Strontium 90 Strontium 90 Counting Error Strontium 90 MDA95	13501 13502 A-078		2.0
20000	pCi/L pCi/L pCi/L	Tritium Tritium Counting Error Tritium MDA95	07000 07001 A-079		1000
	pCi/L	RADON		{	1
	pCi/L pCi/L	Radon 222 Radon 222 Counting Error	82303 82302	1	100.0
	pCi/L pCi/L pCi/L pCi/L pCi/L pCi/L pCi/L	*MDA95 is Minimum Detectable Activity at the 95% confidence level, per 22 CCR 64442 and 64443. **Gross Beta, Calculated Total Body or Organ Dose Equivalent, Per 22 CCR 64443		787 977 110 110 110 110 110 110	

BSK Analytical Laboratories

Date of Re	Date of Report: <u>10 12 17 1229</u> Sample ID No.: <u>A0K0907-01</u>									
Laboratory	Name: BSK	Analytical Labo	<u>oratories</u>	Signature Lab Di	irector:	all	1 200	111.		
Name of Sa	ampler: <u>Sus</u>	y Jacobson				899	y rance	in		
Date/Time SampleDate/Time SampleCollected:10 11 09 1300Received @ Lab :				<u>10 11 12 0745</u>		Date An Comple	alyses ted: <u>10</u>) 11 22		
System Na	System Name: CAL AM WATER COMPANY - MONTEREY System Number: 2710004									
Name or N	Name or Number of Sample Source: ORD GROVE WELL 02 - RAW									
User ID: Date/Time Submitted	User ID: HEN Station Number: 2710004-024 Date/Time of Sample: 10 11 09 1300 Laboratory Code: 5810 Submitted by: BSK Analytical Laboratories Date Analyses Completed: 10 11 22 Submitted by: BSK Analytical Laboratories Phone #: 559-497-2888									
MCL	MCL REPORTING CHEMICAL UNITS			AL		ENTRY #	ANALYS RESUL	SES TS	DLR]
		Title 22 (California Code of Reg	ulations, Section 64442	(22 CCR	t 64442)				
15	pCi/L	Gross Alpha				01501		5.96	3.0	
	pCi/L	Gross Alpha C	Counting Error			01502	±	0.350		
20	pCi/L	Uranium				28012		ND	1.0	

A0K0907 FINAL 12172010 1229

www.bsklabs.com Page 1 of 2

EDT



Leslie Jordan California American Water PO Box 951 Monterey, CA 93942-0951

Certificate of Analysis

Report Issue Date: 12/17/2010 12:30 Received Date: 11/12/2010 Received Time: 07:45

A0K0907-01 Lab Sample ID: Sample Date: Sample Type: Grab

11/09/2010 13:00

Client Project: ASR Bi-Annual Monitoring/Radiologicals Sampled by: Susy Jacobson Matrix: Ground Water

Sample Description: Ord Grove Well 02

Metals									
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
*Uranium	EPA 200.8	1.0	1.0	ug/L	1	A011635	11/22/10	11/22/10	
*Uranium, Radiological		0.70		pCi/L					
Radiological									
Analyte	Method	Result		Units	MDA	Batch	Prepared	Analyzed	Qual
*Gross Alpha	EPA 00-02	5.96		pCi/L	1.39	A011424	11/17/10	11/18/10	
*1.65 Sigma Uncertainty		0.350		±					

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Central Laboratory - 1115 South Illinois Street Belleville, IL 62220-3102 Phone: (618)235-3600 - Fax: (618)235-6349



DBP Analysis Report

CALIFORNIA-AMERICAN WATER CO MONTEREY DISTRICT LESLIE JORDAN PO BOX 951 MONTEREY CA 93942-0951 PWS ID: CA2710004 County: MONTEREY Facility ID: Site ID: 2710004-048 Date of Report: 07/15/10 Drinking Water Certification No.: 01161CA Federal Lab ID No.: IL00028

Report Summary

	second second second second second second second second second second second second second second second second		AND BOTH PATER			
Location	PARALTA WELL	Collection Date:	07/08/10	Received Date:	07/09/10	
Sample Type	RAW	CollectionTime:	13:35	Received Time:	09:00	
		SDG:	791029	Received Temp:	3 °C	
•						

Case Narrative:

Results are at or above the reporting limit for the following analytes:

BROMODICHLOROMETHANE CHLORODIBROMOMETHANE CHLOROFORM TOTAL HAA (5) Result: 0

TOTAL THM Result: 8.1

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703

CA

10070041 COC and Report Number

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Technical Director or Designee



Starting Sample: CP61997 Page 1 of 2

Semple Number: CP61997										
Regulated Haloacetic Acids	Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
DIBROMOACETIC ACID	1	SM6251BMOD	82721		1.0	ND	ug/L	BC	07/14/10	20:34
DICHLOROACETIC ACID		SM6251BMOD	77288		1.0	ND	ug/L	BC	07/14/10	20:34
MONOBROMOACETIC ACID		SM6251BMOD	A-041		1.0	ND	ug/L	BC	07/14/10	20:34
MONOCHLOROACETIC ACIE	>	SM6251BMOD			1.0	ND	ug/L	BC	07/14/10	20:34
TRICHLOROACETIC ACID		SM6251BMOD			1.0	ND	ug/L	BC	07/14/10	20:34
HAA5 TOTAL		SM6251BMOD	A-049	60	1.0	ND	ug/L	BC	07/14/10	20:34
Sample Number: CP61997										
Unregulated Haloacetic Acids	Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
BROMOCHLOROACETIC		SM6251BMOD	A-038		1.0	ND	ug/L	BC	07/14/10	20:34
Sample Number: CP62000										
Tribalomethanes	Qualifier Code	Analysis Method	State Code	MCI	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
BROMOFORM		502.2R2.1	32104		0.5	ŅD	ug/L	CRK	07/10/10	00:02
BROMODICHLOROMETHAN	Ē	502.2R2.1	321 01		0.5	2.5	ug/L	CRK	07/10/10	00:02

BROMODICHLOROMETHANE 502.2R2.1 **321**01 0.5 2.5 ug/L CRK ug/L CHLORODIBROMOMETHANE 502.2R2.1 32105 0.5 0.7 CRK ug/L 32106 0.5 4.9 CHLOROFORM 502.2R2.1 ug/L CRK 0.5 8.1 TOTAL TRIHALOMETHANES 502.2R2.1 82080 80



CA	703
1007	0041
COC and Re	port Number

07/10/10

07/10/10

07/10/10

00:02

00:02

00:02



Central Laboratory - 1115 South Illinois Street Belleville, IL 62220-3102 Phone: (618)235-3600 - Fax: (618)235-6349



Inorganic Chemical (IOC)Analysis Report

CALIFORNIA-AMERICAN WATER CO MONTEREY DISTRICT LESLIE JORDAN PO BOX 951 MONTEREY CA 93942-0951

PWS ID: CA2710004 County: MONTEREY Facility: Site ID: 2710004-048 Date of Report: 07/15/10 Drinking Water Certification No.: 01161CA Federal Lab ID No.: IL00028

Report Summary

Location	PARALTA WELL	Collection Date:	07/08/10	Received Date: 07/09/10	
Sample Type	RAW	CollectionTime:	13:35	Received Time: 09:00	
		SDG:	791029	Received Temp: 3 °C	

Case Narrative:

Results are at or above the reporting limit for the following analytes:

ARSENIC	SELENIUM
MOLYBDENUM	MANGANESE
BARIUM	STRONTIUM

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Technical Director or Designee



CA 703 10040544 COC and Report Number Starting Sample: CP30349 Page 1 of 2

Sample Number: CP30349

ICP Metals		Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
IRON			200.7R4.4	01045	0.3(s)	0.06	ND	mg/L	LG	07/12/10	13:12
STRONTIUM			200.7R4.4			0.050	0.296	mg/L	LG	07/12/10	13:12
Sample Number:	CP30349										
ICP/MS Metals		Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
ARSENIC			200.8R5.4	01002	0.010	0.001	0.002	mg/L	LG	07/13/10	13:28
SELENIUM			200.8R5.4		0.05	0.002	0.003	mg/L	LG	07/13/10	13:28
BARIUM			200.8R5.4	01007	1	0.001	0.051	mg/L	LG	07/12/10	12:35
MANGANESE			200.8R5.4	01055	0.05(s)	0.010	0.023	mg/L	LG	07/12/10	12:35
ZINC			200.8R5.4	01092	5.0(s)	0.050	ND	mg/L	LG	07/12/10	12:35
MOLYBDENUM			200.8R5.4	01062		0.001	0.009	mg/L	LG	07/12/10	12:35
VANADIUM			200.8R5.4	01087		0.050	ND	mg/L	LG	07/12/10	12:35

703



Starting Sample: CP30349 Page 2 of 2



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DBP Analysis Report

CALIFORNIA-AMERICAN WATER CO MONTEREY DISTRICT LESLIE JORDAN PO BOX 951 MONTEREY CA 93942-0951

PWS ID: CA2710004 County: MONTEREY Facility ID: Site ID: 2710004-048 Date of Report: 12/03/10 Lab Certification No.: 01161CA Federal Lab ID No.: IL00028

Location	PARATTA WELL
Sample Type	RAW

Collection Date: 11/09/10 CollectionTime: 13:30 SDG: 11121015

Report Summary

Received Date:11/12/10Received Time:09:00Received Temp:6 °C

Case Narrative:

 Results are at or above the reporting limit for the following analytes:
 MONOCHLOROACETIC ACID
 BROMODICHLOROMETHANE

 CHLOROFORM
 TOTAL HAA (5) Result:
 1.2

 TOTAL THM Result:
 5.2

Revised report to correct DV Code per utility request

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Technical Director or Designee



CA 703 10080215 COC and Report Number

REVISED 12/3/2010 Starting Sample: CP69671 Page 1 of 2

Sample Number: CP69671										
Regulated Haloacetic Acids	Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	e / Time
DIBROMOACETIC ACID		SM6251BMOD	82721		1.0	ND	ug/L	KAY	11/18/10	03:21
DICHLOROACETIC ACID		SM6251BMOD	77288		1.0	ND	ug/L	KAY	11/18/10	03:21
MONOBROMOACETIC ACID		SM6251BMOD	A-041		1.0	ND	ug/L	KAY	11/18/10	03:21
MONOCHLOROACETIC ACIE)	SM6251BMOD			1.0	1,2	ug/L	KAY	11/18/10	03:21
TRICHLOROACETIC ACID		SM6251BMOD			1.0	ND	ug/L	KAY	11/18/10	03:21
HAA5 TOTAL		SM6251BMOD	A-049	60	1.0	1.2	ug/L	KAY	11/18/10	03:21

<u>Sample Number:</u> CP69671 Qualifier Analysis

Unregulated Haloacetic Acids BROMOCHLOROACETIC ACID	Qualifier Code	Analysis Method	State Code	MCL	Reporting L Limit	Result	Result Unit Analyst Ar			Analysis Date / Time		
	S	M6251BMOD	A-038		1.0	ND	ug/L	KAY	11/18/10	03:21		

Sample Number: CP69674

Tribalomathanog	Qualifier Code	Analysis Method	State Code	MC	Reporting Limit	Result	Unit	Analyst	Analysis Date	a / Time
BROMOFORM		502.2R2.1	32104	MOC	0.5	ND	ug/L	TD	11/13/10	02:43
BROMODICHLOROMETHANE		502.2R2.1	32101		0.5	1.1	ug/L	TD	11/13/10	02:43
CHLORODIBROMOMETHANE	1	502.2R2.1	32105		0.5	ND	ug/L	TD	11/13/10	02:43
CHLOROFORM		502.2R2.1	32106		0,5	4.1	ug/L	TD	11/13/10	02:43
TOTAL TRIHALOMETHANES	•	502.2R2.1	82080	80	0.5	5.2	ug/L	DT	11/13/10	02:43

Starting Sample: CP69671 Page 2 of 2

REVISED 12/3/2010

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CA 703 10080215 COC and Report Number





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Inorganic Chemical (IOC)Analysis Report

CALIFORNIA-AMERICAN WATER CO MONTEREY DISTRICT LESLIE JORDAN PO BOX 951 MONTEREY CA 93942-0951

PWS ID: CA2710004 County: MONTEREY Facility: Site ID: 2710004-048 Date of Report: 11/19/10 Drinking Water Certification No.: 01161CA Federal Lab ID No.: IL00028

Report Summary

	Location	PARALTA WELL	Collection Date:	11/09/10	Received Date:	11/12/10
;	Sample Type	RAW	CollectionTime:	13:30	Received Time:	09:00
			SDG:	11121014	Received Temp:	13 °C

Case Narrative:

Results are at or above the reporting limit for the following analytes:

· •	
ARSENIC	SELENIUM
MOLYBDENUM	MANGANESE
BARIUM	STRONTIUM

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Starting Sample: CP71786 Page 1 of 2

Sample Number: CP71786

ICP Metals		Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
IRÓN			200.7R4.4	01045	0.3(8)	0.06	ND	mg/L	JLG	11/15/10	12:50
STRONTIUM			200.7R4.4			0.050	0.313	mg/L	JLG	11/15/10	12:50
Sample Number:	CP71786										
ICP/MS Metals		Qualifier Code	Analysis Method	State Code	MCL	Reporting Limit	Result	Unit	Analyst	Analysis Date	/ Time
ARSENIC			200.8R5.4	01002	0.010	0.001	0.002	mg/L	LKR	11/18/10	13:54
BARIUM			200.8R5.4	01007	1	0.001	0.053	mg/L	LKR	11/18/10	13:54
MANGANESE			200.8R5.4	01055	0.05(s)	0.010	0.026	mg/L	LKR	11/18/10	13:54
SELENIUM			200.8R5.4	01147	0.05	0.002	0.003	mg/L	LKR	11/18/10	13:54
ZINC			200.8R5.4	01092	5.0(s)	0.050	ND	mg/L	LKR	11/18/10	13:54
MOLYBDENUM			200.8R5.4	01062		0.001	0.006	mg/L	LKR	11/18/10	13:54
VANADIUM			200.8R5.4	01087		0.050	ND	mg/L	LKR	11/18/10	13:54





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Starting Sample: CP71786 Page 2 of 2



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net ELAP Certification Number: 2385

Cal Am Water Company Susy Jacobson / Leslie Jordan 511 Pacific Lodge Road, Suite 100 Pacific Grove, CA 93950

Page 1 of 1

Thursday, August 12, 2010

Lab Number:	AA67417								
Collection Date/Time:	7/8/2010	10:35	Sample	Collector:	JACOBSON S				
Submittal Date/Time:	7/8/2010	14:11	Sample	ID					
			Sample De	escription	: Ord Grove W	ell 02			
Analyte			Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Chloramines			SM4500-CI G	mg/L	Not detected	1	0.05		7/8/2010
Chlorine Residual (Fiel	ld Test)		4500-C1 G	mg/L	0.04		0.05	2.00	7/8/2010
Dissolved Oxygen			4500-O G	mg/L	6.00		0.5		7/8/2010
Lithium			EPA200.8	ug/L	17		1		8/3/2010
Methane			EPA174/175	ug/L	1.0	E	5		7/22/2010
Sample Comments:									
Lab Number:	AA67418								
Collection Date/Time:	7/8/2010	13:35	Sample	Collector:	JACOBSON S				
Submittal Date/Time:	7/8/2010	14:11	Sample	ə ID					
- 1 - 1 - 1			Sample	e Descript	tion: Paralta W	'ell			
Analyte			Method	Unit	Result	Qual	PQL	MCL	Date Analyzed
Chloramines			SM4500-CI G	mg/L	Not detected	1	0.05		7/8/2010
Chlorine Residual (Fie	ld Test)		4500-CI G	mg/L	0.05		0.05	2.00	7/8/2010
Dissolved Oxygen			4500-O G	mg/L	6.70		0.5		7/8/2010
Lithium			EPA200.8	ug/L	21		1		8/3/2010
Methane			EPA174/175	ug/L	0.69	E	5		7/22/2010
Sample Comments:									
			Denest Annes	ببط لممتد		E			

Report Approved by:

20 tobel <

David Holland, Laboratory Director



Leslie Jordan California American Water PO Box 951 Monterey, CA 93942-0951 **Certificate of Analysis**

 Report Issue Date:
 8/13/2010
 14:46

 Received Date:
 07/15/2010

 Received Time:
 09:00

 Lab Sample ID:
 A0G1095-02

 Sample Date:
 07/08/2010 13:35

 Sample Type:
 Grab

Sampled by: Susy Jacobson Matrix: Ground Water

Sample Description: Paralta Well

Metals									
Analyte	Method	Result	RL	Units	Dil.	Batch	Prepared	Analyzed	Qualifiers
*Uranium *Uranium, Radiological	EPA 200.8	ND < 0.67	1.0	ug/L pCi/L	1	A006346	07/26/10	07/26/10	
Radiological									
Analyte	Method	Result		Units	MDA	Batch	Prepared	Analyzed	Qualifiers
*Gross Alpha	EPA 00-02	2.65		pCi/L	2.41	A006333	07/26/10	07/26/10	
*1.65 Sigma Uncertainty		0.290		±					

A0G1095 FINAL 08132010 1446

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ANALYTICAL RESULTS

Project:		A0G1095									
Pace Pro	oject No.:	3031484									
Sample:	A0G1095 Well 02	-01/Ord Grove	Lab D;	3031484001	Collect	ed: 07/08/10) 10:35	Received:	07/26/10 10:00	Matrix: Drinking	Water
PWS:			Site ID:		Sampl	e Type:					
	Parame	eters	Metho	bd	Act ±	Unc (MDC)		Units	Analyzed	CAS No.	Qual
Radium-2	226		EPA 903.1	1.91 :	£ 0.718	(0.484)	p	Ci/L	08/05/10 10:5	9 13982-63-3	
Radium-2	228		EPA 904.0	1.35 :	£ 0.486	(0.853)	p	oCi/L	08/11/10 12:1	7 15262-20-1	
Sample:	A0G1095	-0 <mark>2/Paralta Well</mark>	Lab ID:	3031484002	Collect	ed: 07/08/10) 13:35	Received:	07/26/10 10:00	Matrix: Drinking	Water
PWS:			Site ID:		Sampl	e Type:					
	Parame	eters	Metho	od	Act ±	Unc (MDC)		Units	Analyzed	CAS No.	Qual
Radium-2	226		EPA 903.1	2.03 :	0.733	(0.677)	p	Ci/L	08/05/10 10:5	9 13982-63-3	
Radium-2	228		EPA 904.0	2.01 :	£ 0.513	(0.811)	p	Ci/L	08/11/10 12:18	8 15262-20-1	

Date: 08/13/2010 10:42 AM

REPORT OF LABORATORY ANALYSIS

Page 5 of 8

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ANALYTICAL RESULTS

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Project: Pace Pro	A0K0907 ject No.: 3037757						
Sample: PWS:	A0K0907-01/ <mark>Ord Grove</mark> Well 02	Lab ID: 3037757001 Site ID:	Collected: 11/09/10 13:00 Sample Type:	Received:	11/23/10 10:00 M	latrix: Drinking V	Vater
	Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-2	26	EPA 903.1 3.1	14±0.938 (0.198)	pCi/L	12/09/10 13:22	13982-63-3	
Sample: PWS:	A0K0907-02/ <mark>Paraita Well</mark>	Lab ID: 3037757002 Site ID:	Collected: 11/09/10 13:30 Sample Type:	Received:	11/23/10 10:00 M	latrix: Drinking V	Vater
	Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-2	26	EPA 903.1 1.1	12 ± 0.639 (0.694)	pCi/L	12/09/10 13:22	13982-63-3	

Date: 12/15/2010 03:01 PM

REPORT OF LABORATORY ANALYSIS

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RADIOACTIVITY ANALYSIS (9/99)

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Date of Report: 10/12/15 Sample ID No.3037757002/K0907-02 Laboratory Signature Lab Name: PACE ANALYTICAL SERVICES, INC-GREENSBURG Director: Cuelman for end patrice Name of Sampler:Susy Jacobson Employed By: CA American Water Date/Time Sample Date/Time Sample Date Analyses Collected:10/11/09/1300 Received @ Lab:10/11/23/1000 Completed:10/12/09 System System Name: CAL AM WATER COMPANY - MONTEREY Number: 2710004 Name or Number of Sample Source: PARALTA WELL - RAW User ID: HEN Station Number: 2710004-048 * Date/Time of Sample: [10]11[09]1300] Laboratory Code: 0010 * * YY MM DD TTTT YY MM DD * Date Analysis completed: |10|12|09| * * Submitted by: Phone #:

MCL REPORT UNITS	CHEMICAL	STORET CODE		ANALYSES RESULTS		DLR
 pCi/L pCi/L	TITLE 22 CALIFORNIA CODE OF REGULATIONS SECTION 64442 (22 CCR 64442)					
15 pCi/L pCi/L pCi/L	Gross Alpha Gross Alpha Counting Error Gross Alpha MDA95 *	01501 01502 A-072				3.0
20 pCi/L pCi/L pCi/L	Uranium Uranium Counting Error Uranium MDA95	28012 A-028 A-073	 			1.0
pCi/L pCi/L pCi/L	Radium 226 Radium 226 Counting Error Radium 226 MDA95	09501 09502 A-074	 	1.12 0.639		1.0
pCi/L pCi/L pCi/L	Radium 228 Radium 228 Counting Error Radium 228 MDA95	11501 11502 A-075	 		1	1.0
5 pCi/L pCi/L pCi/L	Ra 226 + Ra 228, Combined Ra 226 + Ra 228 Counting Error, Combined Ra 226 + Ra 229 MDA95, Combined	11503 11504 A-076	 		 	
pCi/L	RADIUM, TOTAL, (FOR NTNC ONLY, BY 903.0)		l		1	
pCi/L pCi/L pCi/L	Radium, Total Radium, Total, Counting Error Radium, Total, MDA95	A-080 A-081 A-082	 		 	
pCi/L pCi/L	TITLE 22 CALIFORNIA CODE OF REGULATIONS SECTION 64443 (22 CCR 64443)		 1		 	
50 pCi/L	Gross Beta	03501	l		١	4.0
					_	

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pC	Ci/L G	Gross Beta Counting Error	03502	[
pC	Ci/L G	Gross Beta MDA95	A-077		
4 pC	Ci/L G	Gross Beta, Calculated Dose Equivalent *	A-071	1	i
90 8	Ci/L S	Strontium 90	13501		2.0
90	Ci/L S	Strontium 90 Counting Error	13502		
90	Ci/L S	Strontium 90 MDA95	A-078		
0000 pC	Ci/L T	Prilium	07000		1000
مو	Ci/L T	Pritium Counting Error	07001		
مو	Ci/L T	Pritium MDA95	A-079		
pC	Ci/L	RADON		۱.	1
Dq	Ci/L R	adon 222	82303		100.0
Dq	Ci/L R	adon 222 Counting Error	82302		
00 00 00 00 00 00 00	Ci/L * Ci/L * Ci/L 2 Ci/L 2 Ci/L * Ci/L * Ci/L 0 Ci/L 0	MDA95 is Minimum Detectable Activity at the 95% confidence level, per 22 CCR 64442 and 64443. *Gross Beta, Calculated Total Body or Organ Dose Equivalent, Per 22 CCR 64443			

BSK Analytical Laboratories

Date of Rep Laboratory	oort: <u>10 12 1</u> Name: <u>BSK</u>	7 <u> 1229</u> Analytical Labor	atories	Sample ID No.: Signature Lab Di	A0K090 rector:	<u>07-02</u>	1 Tral		
Name of Sa	mpler: <u>Susy</u>	/ Jacobson				879	y / and	yn	
Date/Time S Collected:	Sample <u>10 11 09 1</u>	330	Date/Time Sample Received @ Lab :	10 11 12 0745		Date An Complet	alyses ted: <u>10</u>	11 22	
System Na Name or Nu	me: CAL AM umber of Samp	WATER COMPA le Source:	NY - MONTEREY <mark>PARALTA WELL - RA</mark> I	N		System N	umber:	27100	04
User ID: Date/Time o Submitted I	HEN of Sample:	<mark>10 11 09 1330</mark> ytical Laboratorie	S	Da	ate Anal	Station N Laborator yses Com	Number: ry Code: pleted: Phone #:	271000 5810 <u>10 11 2</u> 559-497	4-048 <u>2</u> 7-2888
MCL	REPORTING UNITS		CHEMICA	۸L		ENTRY #	ANALYS RESUL	ES TS	DLR
		Title 22 Ca	alifornia Code of Regu	lations, Section 64442	(22 CCR	64442)			
15	pCi/L pCi/L	Gross Alpha Gross Alpha Co	unting Error			01501 01502	±	5.96 0.350	3.0
20	pCi/L	Uranium				28012		ND	1.0

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EDT



Leslie Jordan California American Water PO Box 951 Monterey, CA 93942-0951 **Certificate of Analysis**

Report Issue Date: 12/17/2010 12:30 Received Date: 11/12/2010 Received Time: 07:45

 Lab Sample ID:
 A0K0907-02

 Sample Date:
 11/09/2010
 13:30

 Sample Type:
 Grab

Client Project: ASR Bi-Annual Monitoring/Radiologicals Sampled by: Susy Jacobson Matrix: Ground Water

Sample Description: Paralta Well

Metals			0						
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
*Uranium *Uranium, Radiological	EPA 200.8	ND < 0.67	1.0	ug/L pCi/L	Ť	A011635	11/22/10	11/22/10	
Radiological							v		
Analyte	Method	Result		Units	MDA	Batch	Prepared	Analyzed	Qual
*Gross Alpha	EPA 00-02	5.96		pCi/L	1.39	A011424	11/17/10	11/18/10	
*1.65 Sigma Uncertainty		0.350		±					

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4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS montereybayanalytical@usa.net ELAP Certification Number: 2385

Thursday, November 18, 2010

Cal Am Water Company Susy Jacobson / Leslie Jordan 511 Pacific Lodge Road, Suite 100 Pacific Grove, CA 93950 Lab Number: AA70946

Collection Date/Time: 11/9/2010 13:30 Submittal Date/Time: 11/9/2010

14:15

JACOBSON, S Sample Collector: Sample ID

Sample Description: Paralta Well									
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed		
Chloramines	SM4500-CI G	mg/L	Not Detected	ł	0.05		11/9/2010		
Dissolved Oxygen	4500-O G	mg/L	5.90		0.5		11/9/2010		
Lithium	EPA200.8	ug/L	30		1		11/12/2010		
Methane	EPA174/175	ug/L	1.4	E	5		11/15/2010		
Sample Comments:									

Report Approved by:

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David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm) ug/L : Micrograms per liter (⇒ppb) PQL : Practical Quantitation Limit E = Analysis performed by External Laboratory; See External Laboratory Report attachments. H = Analyzed ouside of hold time D = Method deviates from standard method due to insufficient sample for MS/MSD