ANNUAL MONITORING REPORT
2005

MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT

Underground Storage Facility Permit No. 71-563876 (PCFCD)
Water Storage Permit No. 73-563876.0100 (CMID)
Recovery Well Permit No. 74-568133 (CMID)

Pima County, Arizona
Board of Supervisors

Ann Day, District 1
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Raymond J. Carroll, District 4
Richard Elias, District 5

County Administrator
Chuck Huckelberry

Prepared by

David Scalero, Senior Hydrologist
Pima County Flood Control District
Water Resources Division
201 N. Stone Avenue
Tucson, Arizona 85701

for

Arizona Department of Water Resources
500 N. Third Street
Phoenix, Arizona 85004

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1.0 INTRODUCTION

The Marana High Plains Effluent Recharge Project (MHPERP) is a demonstration recharge project developed by the Pima County Flood Control District (PCFCD) in cooperation with the Bureau of Reclamation (BOR), Arizona Water Protection Fund (AWPF), Cortaro-Marana Irrigation District (CMID), and the Town of Marana. The project is located in Section 33 of Township 11 South, Range 11 East in the Avra Valley sub-basin of the Tucson Active Management Area (**Figure 1**). It is one component of a regional water resource, flood control, environmental protection and enhancement, and recreation program (the Northwest TAMA Replenishment Program) that is sponsored by more than a dozen local, state, and federal entities.

MHPERP is designed to investigate the feasibility of recharging treated effluent into the local groundwater aquifer, while simultaneously investigating wildlife habitat opportunities associated with recharge facilities. The overall objectives for the project, as identified in the final Environmental Assessment (BOR, 1998), include the following:

- To recharge approximately 600 acre-feet of water per year for two years while determining what infiltration rates can be maintained in basins having side slopes vegetated with emergent plants and riparian trees, and in basins fully vegetated with native grasses tolerant of periodic inundation;

- To provide trails, descriptive literature, and interpretive signs describing the pilot project operation. Trails at the effluent pilot project site may eventually be linked to a longer river trail network that is scheduled to be built along the Santa Cruz River;

- To revegetate the area outside the recharge basins with plants that will improve wildlife habitat value and, once established, could survive if the recharge activities cease;

- To characterize wildlife, aquatic macroinvertebrates, and vegetative resources associated with an important effluent-dominated stream; and

- To identify and monitor any biological effects that may result from establishing other habitat types that are now rare to the area (e.g., marsh, grassland), and increase the aerial extent of riparian vegetation.

The MHPERP facility is comprised of one settling basin (equalization basin) and four spreading basins (recharge cells), totaling 3.88 acres of recharge area (**Figure 2**). A comprehensive description of the MHPERP and the related monitoring plan was provided to the Arizona Department of Water Resources (ADWR) in support of the Constructed Underground Storage Facility (USF) Permit Application for the project filed in October 1999. In addition to the USF Permit (No. 71-563876), the facility also has an Aquifer Protection Permit (No. P-103195) from the Arizona Department of Environmental Quality (ADEQ) authorizing the discharge of treated effluent into the aquifer.

Operations began in February 2003 and, in accordance with Sections 2 and 3 of the USF Permit, this is the third annual report for the MHPERP. This report includes all of the data that was collected during the 2005 Calendar Year.

2.0 PROJECT OPERATIONS

2.1 Water Delivery

Water is delivered to the MHPERP via the "oxbow" channel, a remnant channel of the Santa Cruz River from when the riverbed was less incised and the channel meandered back and forth across the floodplain. A berm consisting of streambed materials is used to divert some of the effluent flowing down the main channel of the Santa Cruz River into the oxbow channel. Sources of the effluent discharges are the Roger Road Wastewater Treatment Plant and the Ina Road Wastewater Treatment Plant, which are located approximately 15 miles and 10 miles upstream of the diversion structure respectively. The effluent flows down the oxbow channel for about one mile before reaching the MHPERP.

A constructed wet well collects the oxbow channel flows and two non-clogging, submersible pumps convey the effluent through an 8-inch line into an equalization basin. The equalization basin is used to provide a more constant source of available effluent for recharge, and to help serve as a settling basin for removing particulate materials that could clog the recharge cells. A level sensor is installed in this basin to automatically turn the pumps on and off based on levels within the oxbow channel and the equalization basin. From the equalization basin, the effluent passes through a 16-inch isolation valve into the main distribution line, which feeds into each of the four recharge cells through motorized butterfly valves. A level sensor is installed at each cell to automatically open and close the valves based on pre-set water levels. The valves are closed manually, using an electronic switch, by the daily operator when the cells are scheduled for a drying cycle.

Deliveries to MHPERP are based on the daily cycle of discharges from the treatment plants to the Santa Cruz River. Peaks in water levels at this site normally occur in the late morning and early evening hours. Deliveries to the facility are impacted by storm water events in the Santa Cruz River that demolish the earthen diversion structure used to divert flows into the oxbow channel. There were a number of interruptions to the recharge facility delivery system during the 2005 Calendar Year. Details of these interruptions are provided in Section 6.0 (Facility Inspections and Maintenance) of this report.

2.2 Inflow Volumes

Water deliveries into the MHPERP facility are measured using an American Sigma 950 Flow Meter equipped with a depth/velocity sensor installed within the main line that runs from the pumps to the equalization basin. Deliveries into each of the recharge cells are measured using an American Sigma 950 Flow Meter equipped with a depth/velocity sensor installed within the outlet pipe feeding into the cell. The meters measure flows on a continuing basis, record the data every minute, and compile the data into daily totals. The daily totals are read on-site by the facility operator, who compiles the data onto a daily log sheet. The daily log sheets are transmitted to PCFCD staff on a weekly basis.

Appendix A contains the daily inflow volumes recharged at the project for Calendar Year 2005. The total water volume delivered to the MHPERP for the year is 178.32 acre-feet. Water volumes stored by month are as follows: January - 0.00 AF, February - 0.00 AF, March - 0.00 AF, April - 31.53 AF, May - 28.61 AF, June 28.82 AF, July - 12.38 AF, August - 0.00 AF, September - 0.00 AF, October - 33.16 AF, November 20.36 AF, and December - 14.64 AF. Water recharged during this Calendar Year was stored for and recovered by CMID, who has both a Water Storage Permit (No. 73-563876.0100) and a Recovery Well Permit (No. 74-568133) for this facility.

Column 2 of the Monthly Accounting Report (**Appendix A**) indicates the daily delivered volume to the equalization basin, which is used for temporary storage of the water before it is directed into the recharge cells.[1] Columns 3-6 show daily volumes delivered to each of the recharge cells. Column 7 shows the total daily volume delivered to the project, which is simply the sum of the inflows into each of the recharge cells. The difference between Column 2 and Column 7 indicates an approximate amount of effluent lost through infiltration and evaporation within the equalization basin.

2.3 Evaporation/Evapotranspiration

Column 8 of the Monthly Accounting Report displays the calculated evaporation volumes for Recharge Cells 1-3. These calculations are based on the Cooley Method (1970) using the "Maximum Curve", as approved by ADWR (**Appendix B**).

Column 9 shows the daily evapotranspiration volumes for Recharge Cell 4. These volumes are calculated using the daily reference evapotranspiration values determined by the Arizona Meteorological Network (AZMET) at their Marana weather station (**Figure 3**). AZMET determines reference evapotranspiration (ETo) using a modification to the Penman Equation developed for the California Irrigation Management Information System (CIMIS). An explanation of the procedures used in this computation is provided in **Appendix C**. No multiplication factor was used in the calculation of reference evapotranspiration (ETo) for the MHPERP because there are no available crop coefficients for the native vegetation in this region.[2]

2.4 Recharge Volumes

Column 10 in the Monthly Accounting Report displays the adjusted net recharge volume for the facility, which is the sum of the daily volumes delivered to the recharge cells less the evaporation/evapotranspiration losses. Net recharge for the facility during the 2005 Calendar Year

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[1] The totals for this quarter have been corrected due to errors in the flow calculations by the flow meter, Fmeq. See Section 6.0, Facility Inspections, for details.

[2] The reference evapotranspiration values are determined for tall (8-15 inches), cool season grasses. Much of the vegetation within Recharge Cell 4 consists mostly of grasses that are approximately 8-15 inches in height. Since no information is available for the species established at MHPERP, it is assumed that the evapotranspiration losses at this facility are the same as those calculated at the AZMET station.

is 148.93 AF. Monthly and cumulative recharge for each recharge cell and for the total project are displayed in **Figures 5** though **9**.

3.0 HYDROLOGIC MONITORING

Hydrologic monitoring of the facility includes measurement of on-site and off-site groundwater levels and direct observation of basin water levels. The on-site monitoring network consists of one monitor well and one piezometer, both measured bi-weekly using a depth sounder (**Figure 4**). Off-site monitoring consists of monthly water level measurements for three monitor wells: SC-09, SC-10 and AVMW-1 (**Figure 4**).

3.1 Basin Water Levels

Water levels within the equalization basin are expected to fluctuate from one to four feet above the bottom elevation of 1,984 feet above mean sea level. Water depths in each of the recharge cells are expected to fluctuate from three to nine inches during the wet cycles. Water levels sensors within the basins are programmed to automatically maintain these ranges. Basin water levels are observed visually on a daily basis to insure that the sensors are working properly.

3.2 Regional Groundwater Levels

Groundwater levels are measured for four monitoring wells, one on-site (HP-1) and three off-site (SC-09, SC-10 and AVMW-1). HP-1 is measured monthly by PCFCD personnel using an electric sounder. Wells SC-09 and SC-10 are also monitored on a monthly basis by PCFCD staff using an electric sounder. Well AVMW-1 is measured monthly by the Central Arizona Water Conservation District (CAWCD) using both an automatic datalogger and a manually operated electric sounder. PCFCD has an agreement with CAWCD to obtain the data collected from the AVMW-1 well.

Table 1 contains the water level data collected for the on-site and off-site monitor wells. All of the monitor wells have alert levels of 20 feet below land surface. Alert levels for the monitoring wells were not exceeded during the 2005 Calendar Year.

3.3 Perched Groundwater Occurrence

Table 2 contains the monitoring data for the one piezometer (HP-2) used to assess perched water conditions. This well was dry during the entire 2005 Calendar Year. The alert levels for this well are set at 20 feet below land surface.

4.0 INFILTRATION RATE ASSESSMENT

Table 3 displays the average daily and monthly infiltration rates for each of the recharge cells during the 2005 Calendar Year. Infiltration rates were estimated using the "volumetric" method, which is simply the total daily inflow divided by the wetted acreage. The total wetted acreage used to calculate the infiltration rate is determined using the level sensor on the area/velocity flow meter. Data downloaded from the flow meter is used to determine average daily water levels in the recharge

cells. Rating curves calculated using topography of the site are then used to determine wetted area of each recharge cell. Daily visual estimates are also provided by the facility operator as a check.

The average monthly infiltration rates for the annual reporting period ranged from 0.15 feet/day to 0.85 feet/day. A graph of the average monthly rates is displayed in **Figure 10**. As expected, infiltration in Cells 1 through 3 started out high at the beginning of operations in April and decreased over the next few months due to the clooging from an increase of organic materials generated by the treated effluent. The rates went back up in October, after the basins were dried and the clogging layers were mechanically broken up. The rates then dropped back down again after a couple more months of operation.[3] The vegetated cell, Cell 4, acted in much the same way even though there was no maintenance performed. This could suggest that the buildup of vegetation debris in the basin bottom is acting much in the same was as the clogging sediment layers in the other cells.

5.0 WATER QUALITY MONITORING

5.1 Water Quality Sampling Activities

The Aquifer Protection Permit requires water quality samples to be collected and analyzed on a monthly basis for nutrients (Nitrogen constituents), and on a quarterly basin for total metals and Volatile Organic Compounds (VOCs). Samples are collected from the source water inflow and from monitor well HP-1. Nitrogen forms are monitored more frequently because of the high nitrogen content in effluent water, and the potential for recharge to increase the nitrogen content in the local aquifer through leaching of nearby agricultural soils. Water quality sampling at the MHPERP also serves as a tool for studying nitrogen transformations in riparian and aquatic ecosystems, to determine if nitrogen levels can be reduced through the wetland recharge process.

5.2 Chemical Analyses Results

Table 4 summarizes the results from sampling taken during the 2005 Calendar Year. Samples were taken at the oxbow channel, when flowing, and at monitoring well HP-1. Sampling for nitrogen constituents was performed on a monthly basis, while sampling for Total Metals and VOCs was performed quarterly. There were no analytes reported above the alert levels set by the Aquifer Protection Permit for this facility. The laboratory reports and chain of custody forms are provided for reference in **Appendix D**.

6.0 FACILITY INSPECTIONS

Inspections of the facility equipment and functions are required by the Aquifer Protection Permit on a weekly basis. The facility operator at MHPERP performs inspections on a daily basis while collecting data for PCFCD, transmitting any problems or required maintenance through daily logs that are delivered on a weekly basis to PCFCD. PCFCD staff is contacted immediately for any alarms or serious problems concerning the facility equipment. PCFCD staff perform weekly

[3] Note that Cell 2 dropped all the way down to zero (0) in November because the cell was inoperable due to a malfunctioning flow meter.

investigations of the facility to insure quality of the data collected and note any general maintenance needs.

Table 5 lists the problems that occurred throughout the 2005 Calendar Year and the solutions performed to resolve them. A major hindrance to recharge at the facility was the occurrence of periodic storm water flows within the Santa Cruz River. The earthen diversion berm was washed out in the winter months (January through March) and in the summer months (mid-July through September). Since the berm cannot be repaired for up to two weeks after a storm water event, at least five months of operations were lost due to these events alone. An additional two months of recharge in Cell 2 were lost at the end of the year due to a malfunctioning flow meter. As was the case last year, the facility only operated for about one-half the year, which accounts for the low recharge total.

7.0 CONCLUSIONS

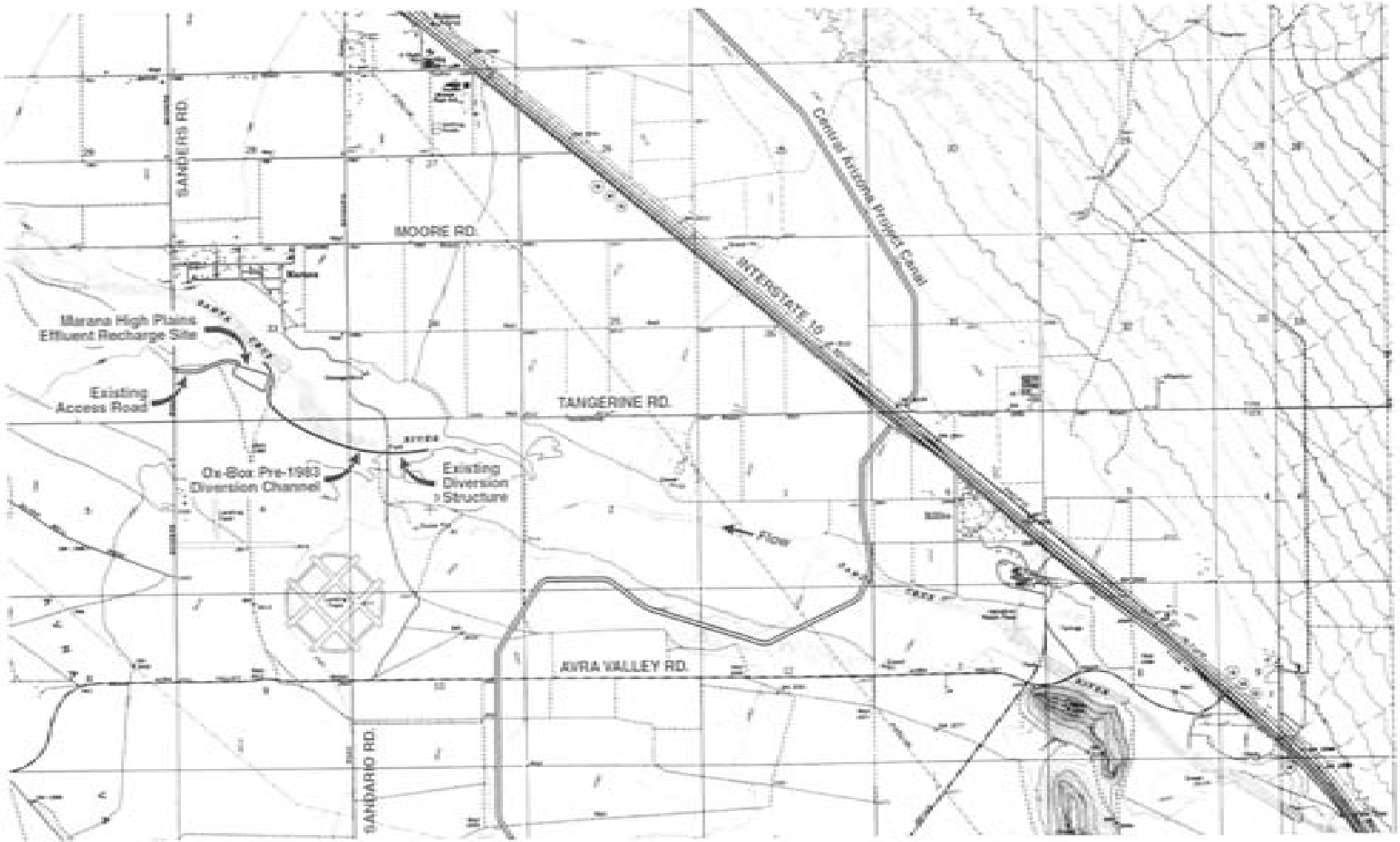
The volume of water stored at the MHPERP for Calendar Year 2005 is 148.93 AF. This total is almost 20 AF lower than last year's total, and about 450 AF lower than yearly permitted total for the recharge facility. Monitoring of operations has shown no exceedences of water quality standards nor water alert levels at the project site. Off-site monitoring showed no negative impacts to surrounding operation from a water level perspective. Recharge operations were suspended in some of the basins periodically throughout the year due to periodic wash outs of the diversion berm and some monitoring equipment malfunctions.

Infiltration rates for the 2005 Calendar Year were well below those observed in 2004. This would suggest that the soils in the recharge cells are becoming clogged with fine sediment layers and organic material due to the addition of a water source that is high in dissolved solids and nutrient content. Periodic discing of Cells 1 through 3 provided some initial increase to the infiltration rates, but they slowly declined after a few months of operation. Infiltration rates in Cell 4 indicate a similar trend, even though there has been no maintenance on this cell over the course of the year. This could suggest that the vegetative debris along the bottom is acting much in the same was as the sediment clogging layers in the other cells and may need to be removed to increase infiltration. So far, the limited amount of data collected at this time has made it difficult to compare the project's overall effectiveness for recharging effluent through both the vegetated and non-vegetated basins.

Total recharge volume at the MHPERP has been much lower than expected so far. However, this is mostly due to the facility having been operating for about one-half of its three-year life-span because of numerous wash outs of the diversion berm and periodic equipment failures. PCFCD Staff is investigating other means to increase the recharge capacity of the facility.

Based on the information provided above, the District considers the results of its study on different recharge treatments as preliminary and believes that more data is needed to make an accurate assessment and comparison of infiltration rates for the different basin treatments. The District's Underground Storage Facility Permit for MHPERP currently runs through September 2007. The District will use the additional twenty-one (21) months to gain more knowledge on the different basin treatments used and to evaluate if it is feasible to continue operating the facility as a multi-year, full-scale project.

FIGURE 1
Location Map



SCALE IN FEET:

FIGURE 1
Location Map

N

FIGURE 2
Facility Map

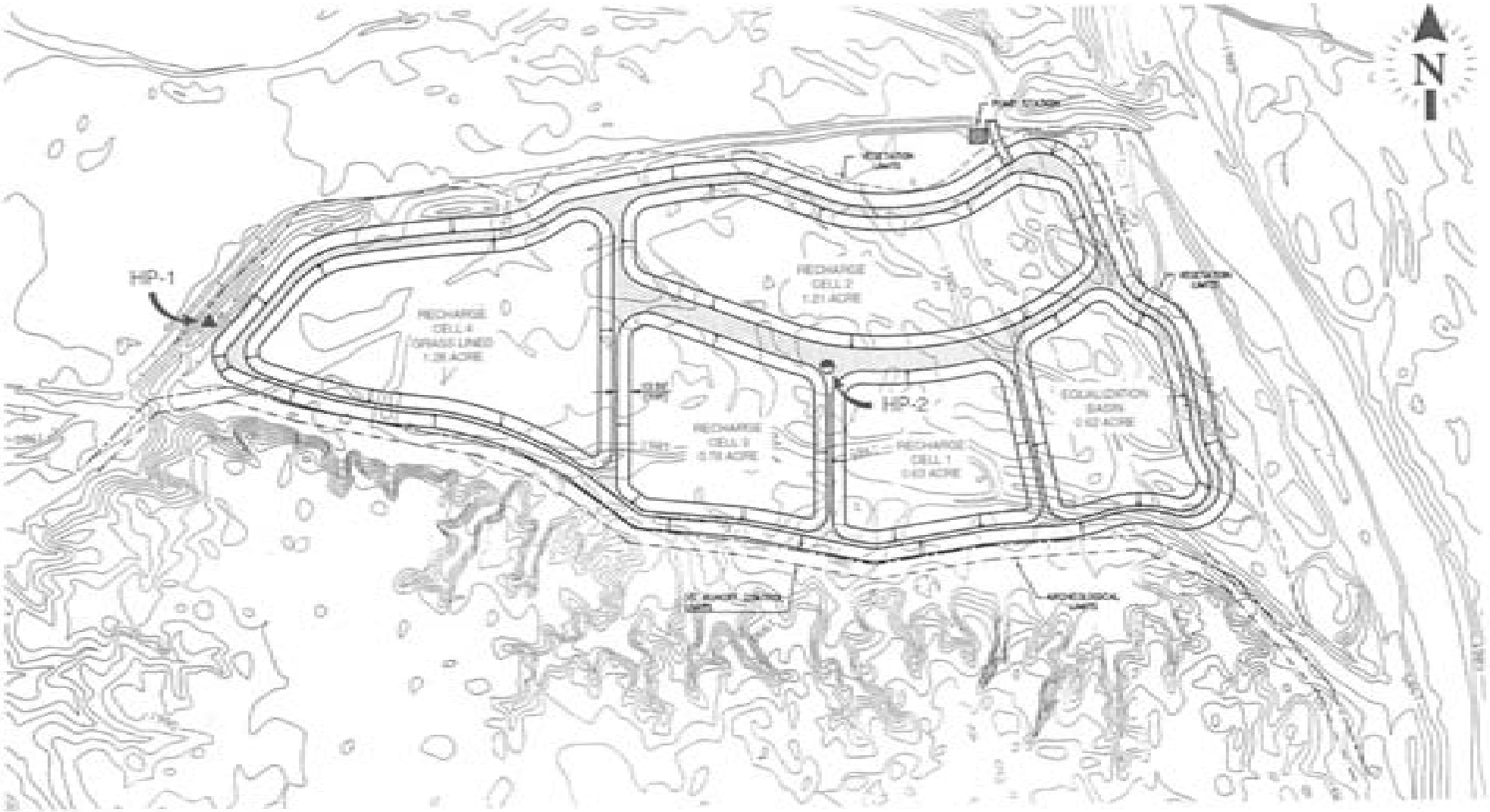


FIGURE 2
Facility Map

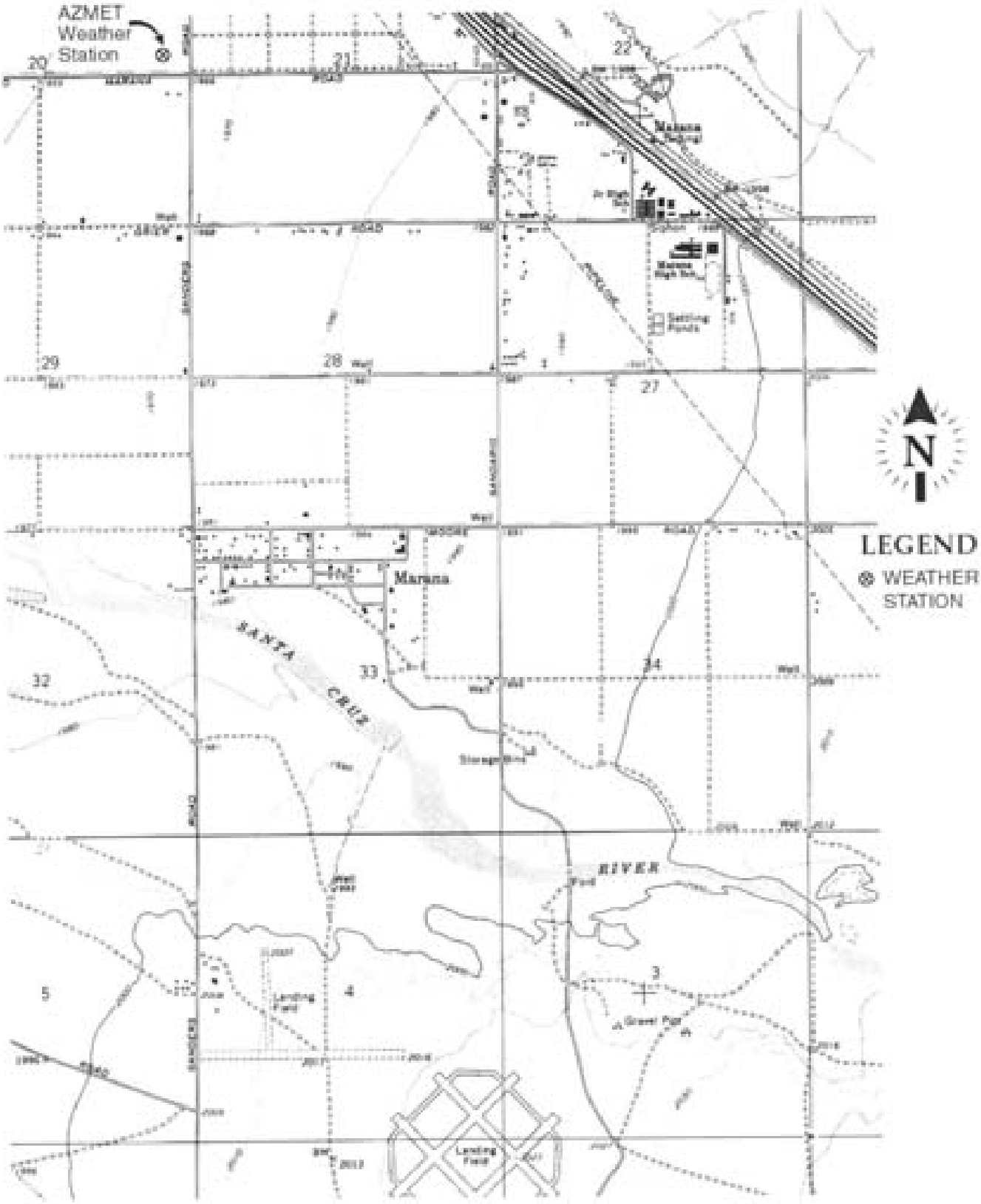
TOTAL RECHARGE AREA = 3.88 ACRES
ESTIMATED RECHARGE VOLUME = 290 ACRE-FT/YR

SCALE IN FEET:

LEGEND

▲ MONITOR WELL

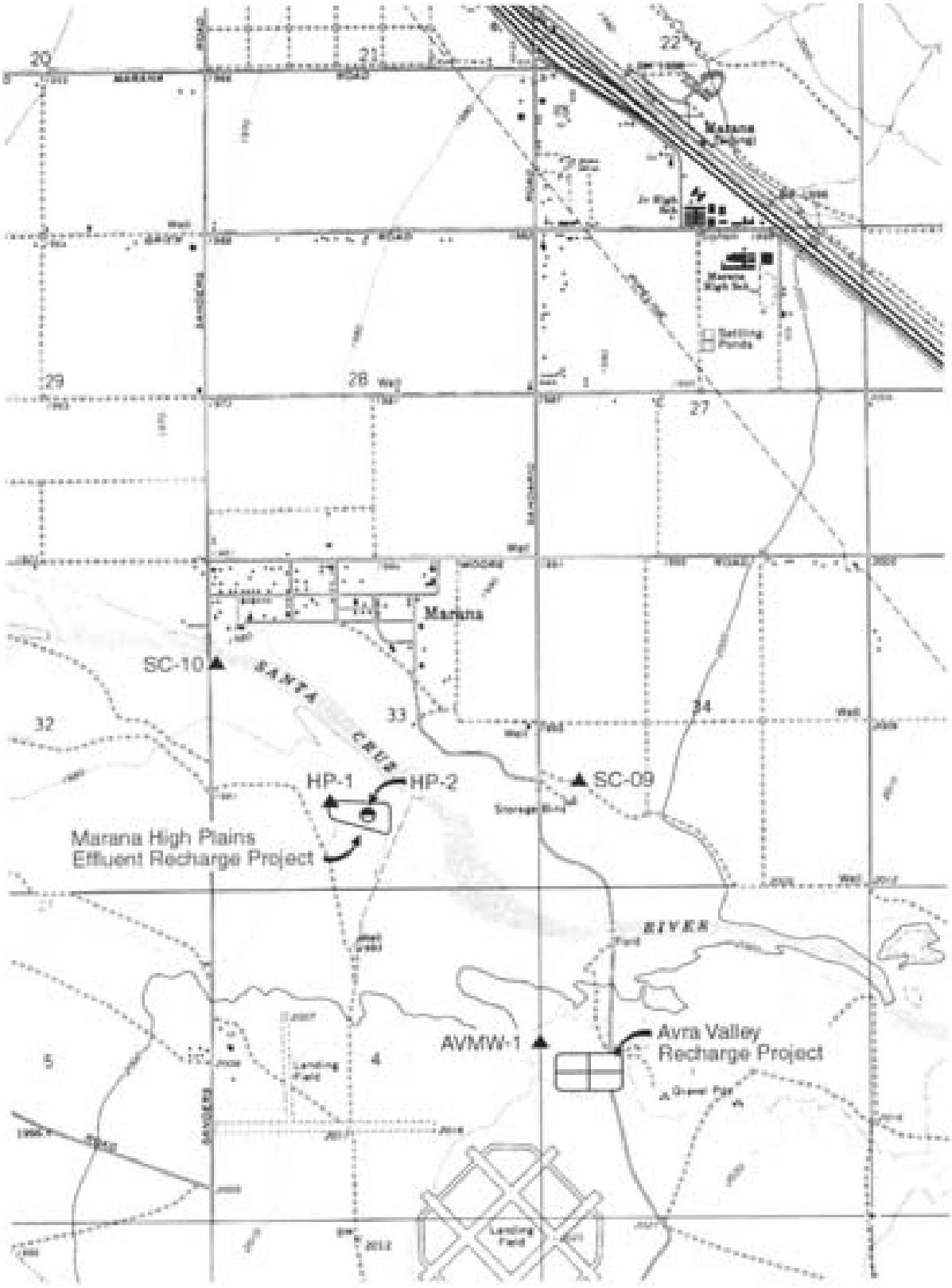
PIEZOMETER



Date on line: Sep 1 1987 (Julian Day 244)
Location: 1.6 km (1 mile) west of I-10 on Trico-Marana Rd.
Elevation: 601 meters (1972 ft)
Coordinates: Latitude = 32° 27' 40" N; Longitude = 111° 14' 00" W
Cooperator: Marana Agricultural Center College of Agri., Univ. of Arizona

FIGURE 3
Marana High Plains Effluent Recharge Project : AZMET Weather Station Location Map

Miles .5 1 2
SCALE:



LEGEND

▲ MONITOR WELL

PIEZOMETER

N

Miles .5 1 2

SCALE:

FIGURE 4
Marana High Plains
Effluent Recharge Project :
Offsite Monitor Well Location Map

FIGURE 5
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
Cell 1 - 2005 Monthly and Cumulative Recharge

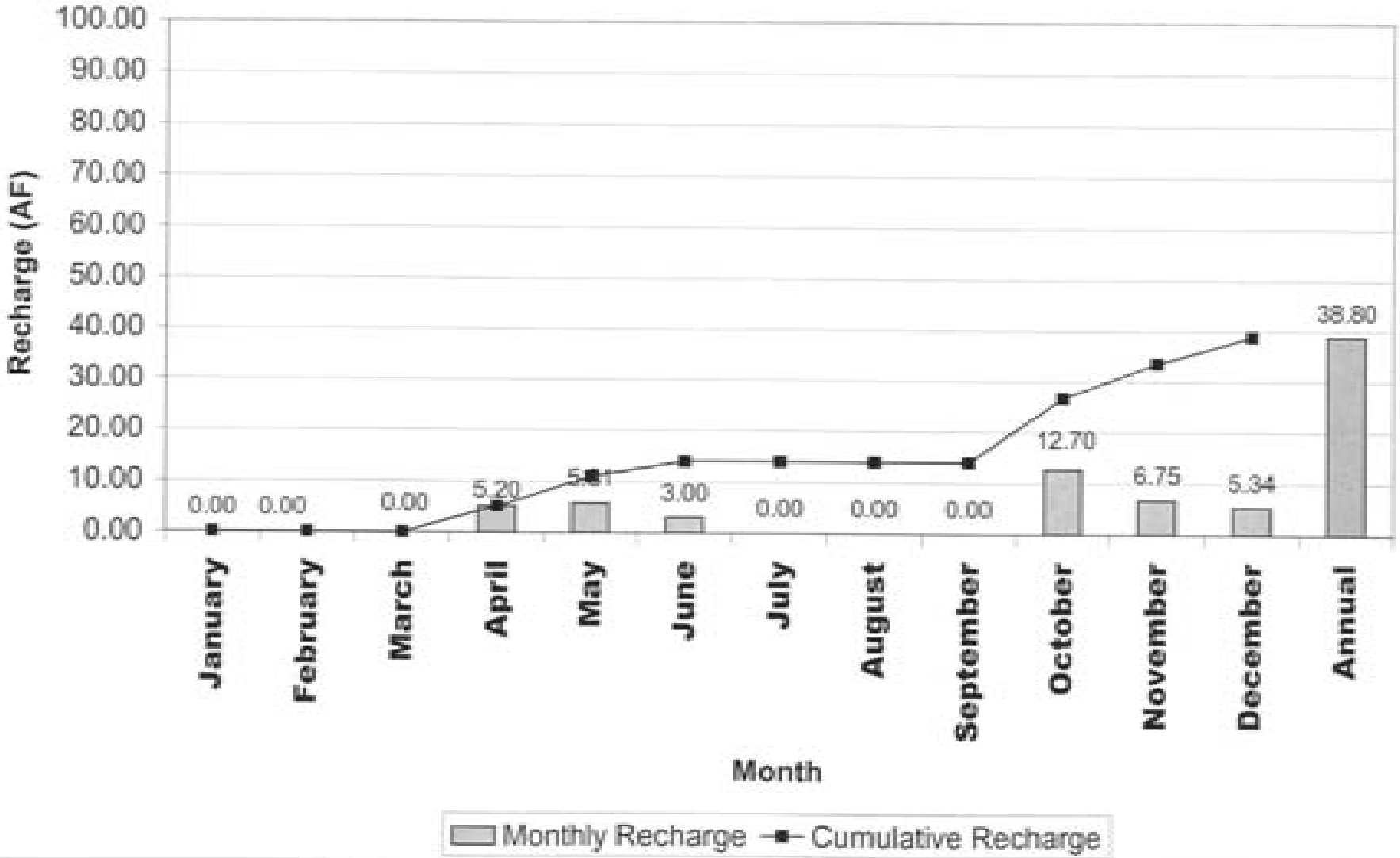


FIGURE 6
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
Cell 2 - 2005 Monthly and Cumulative Recharge

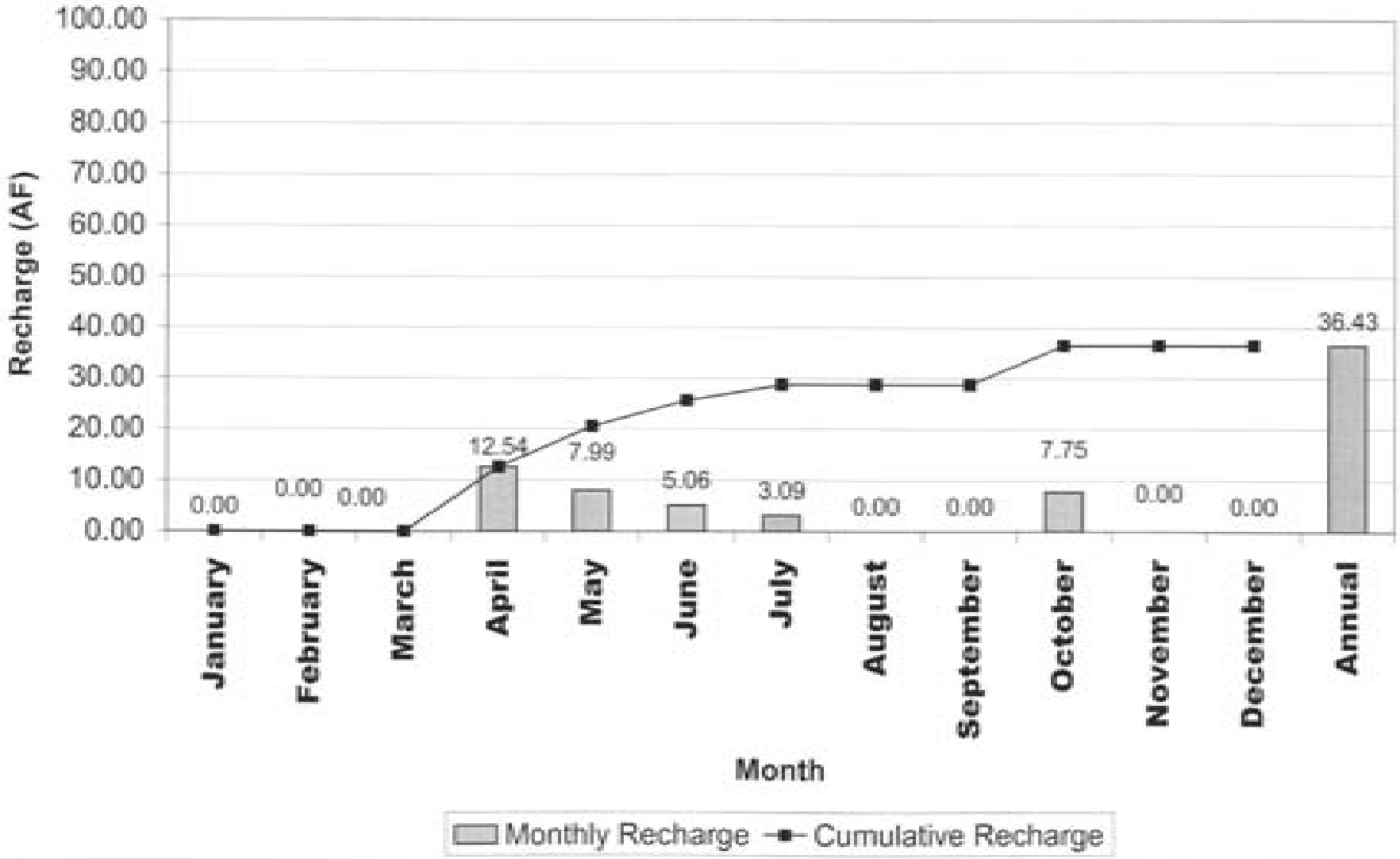


FIGURE 7
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
Cell 3 - 2005 Monthly and Cumulative Recharge

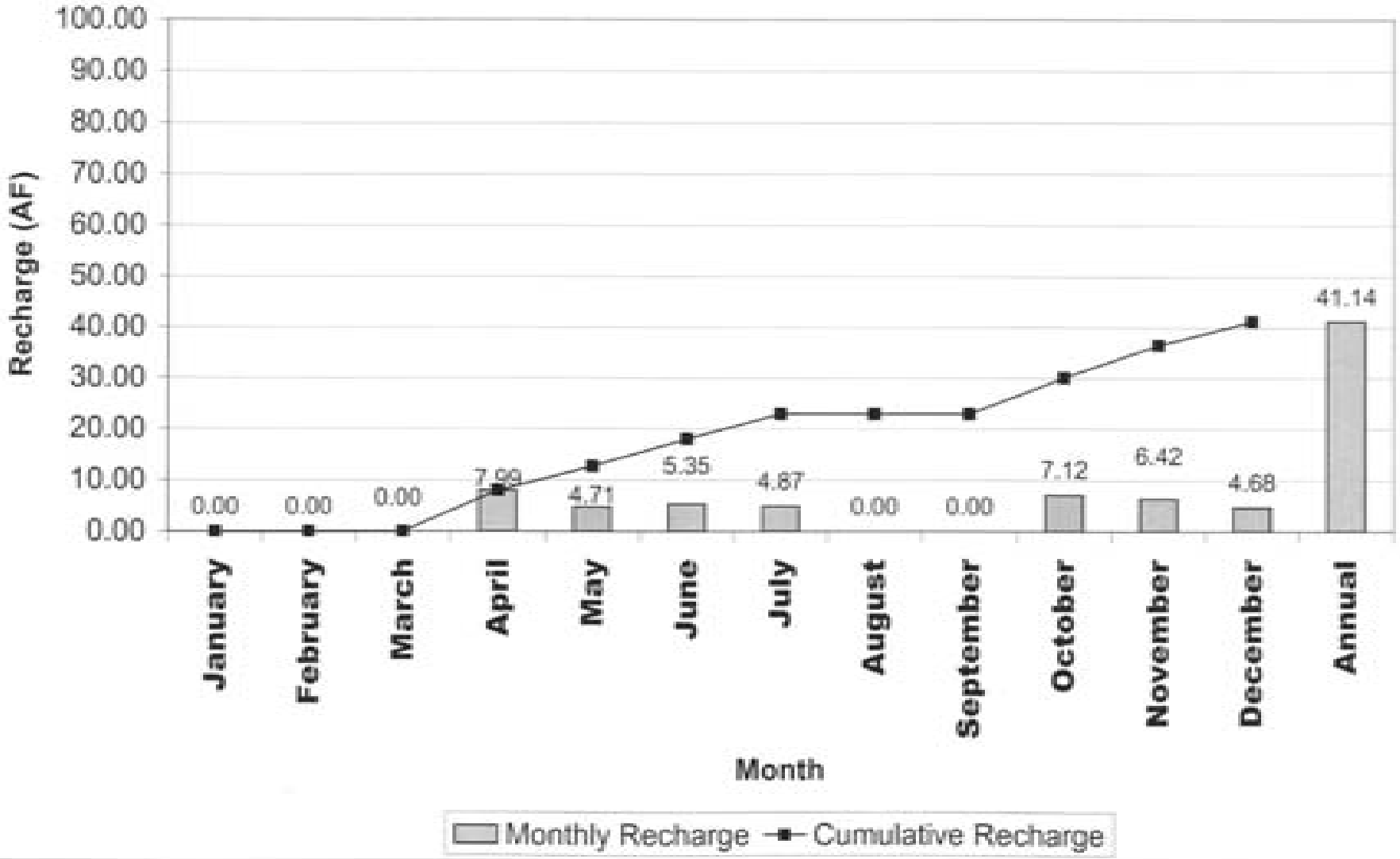


FIGURE 8
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
Cell 4 - 2005 Monthly and Cumulative Recharge

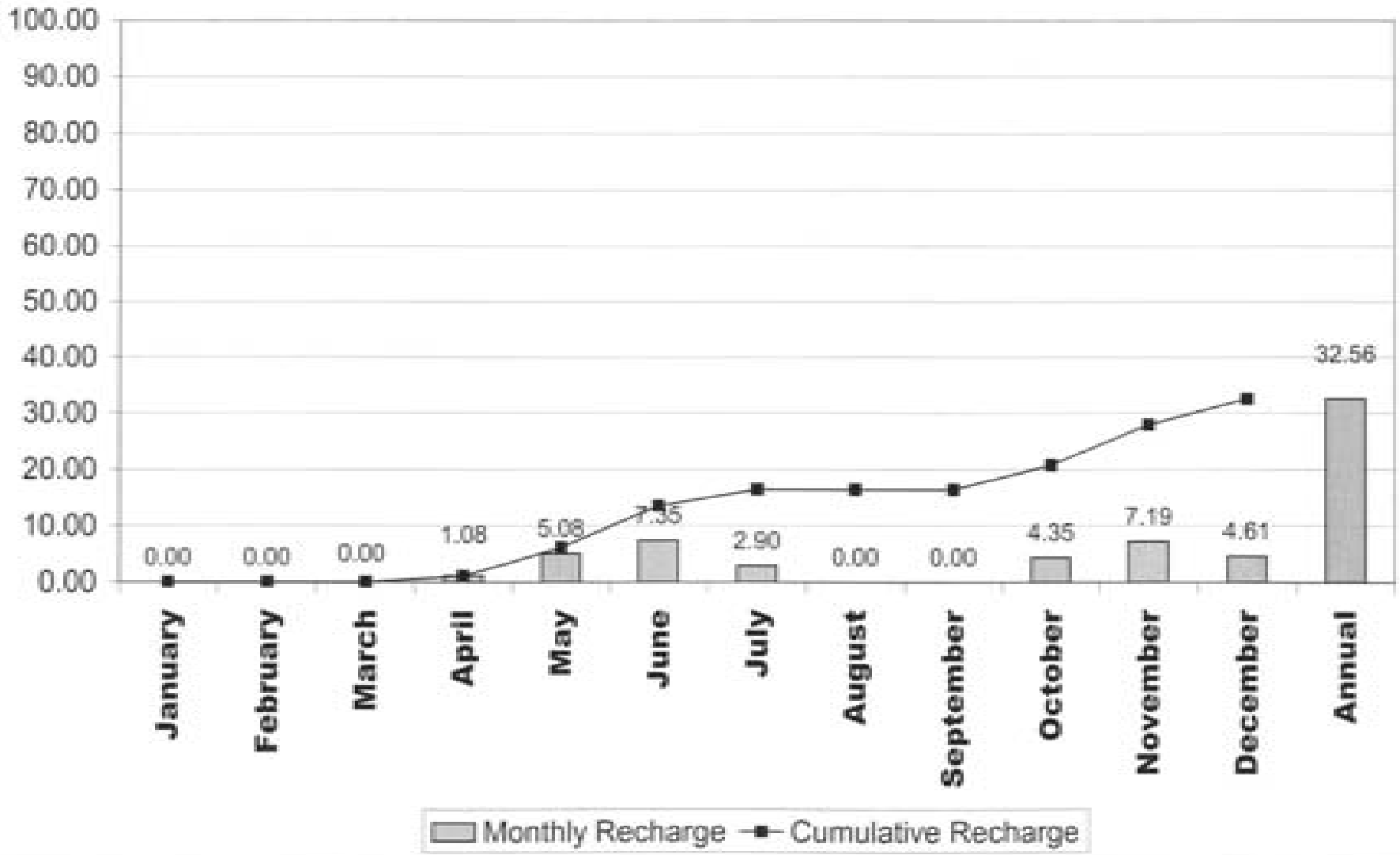


FIGURE 9
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
Total Project - 2005 Monthly and Cumulative Recharge

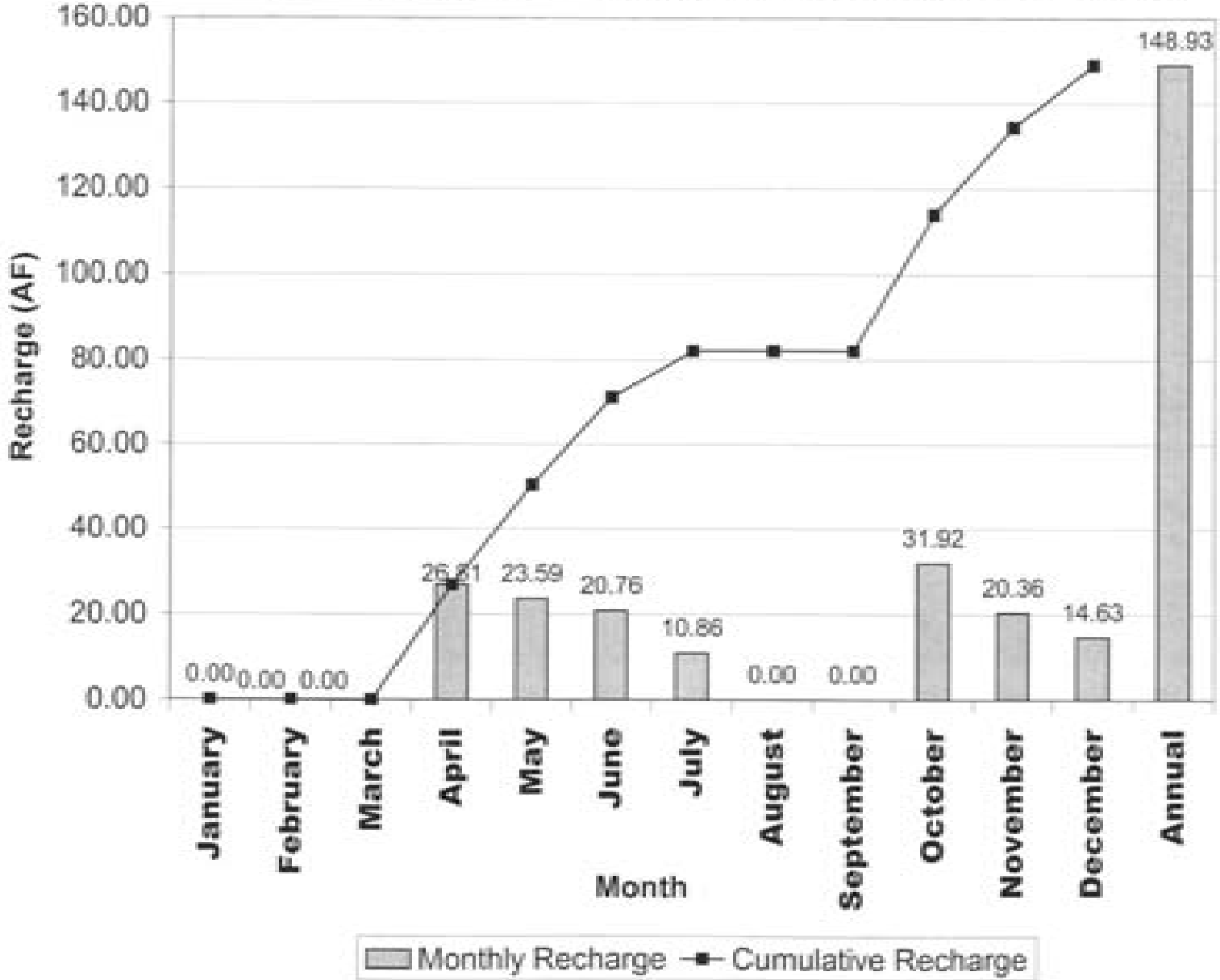


Figure 10
Marana High Plains Effluent Recharge Project
Average Monthly Infiltration Rates: CY 2005

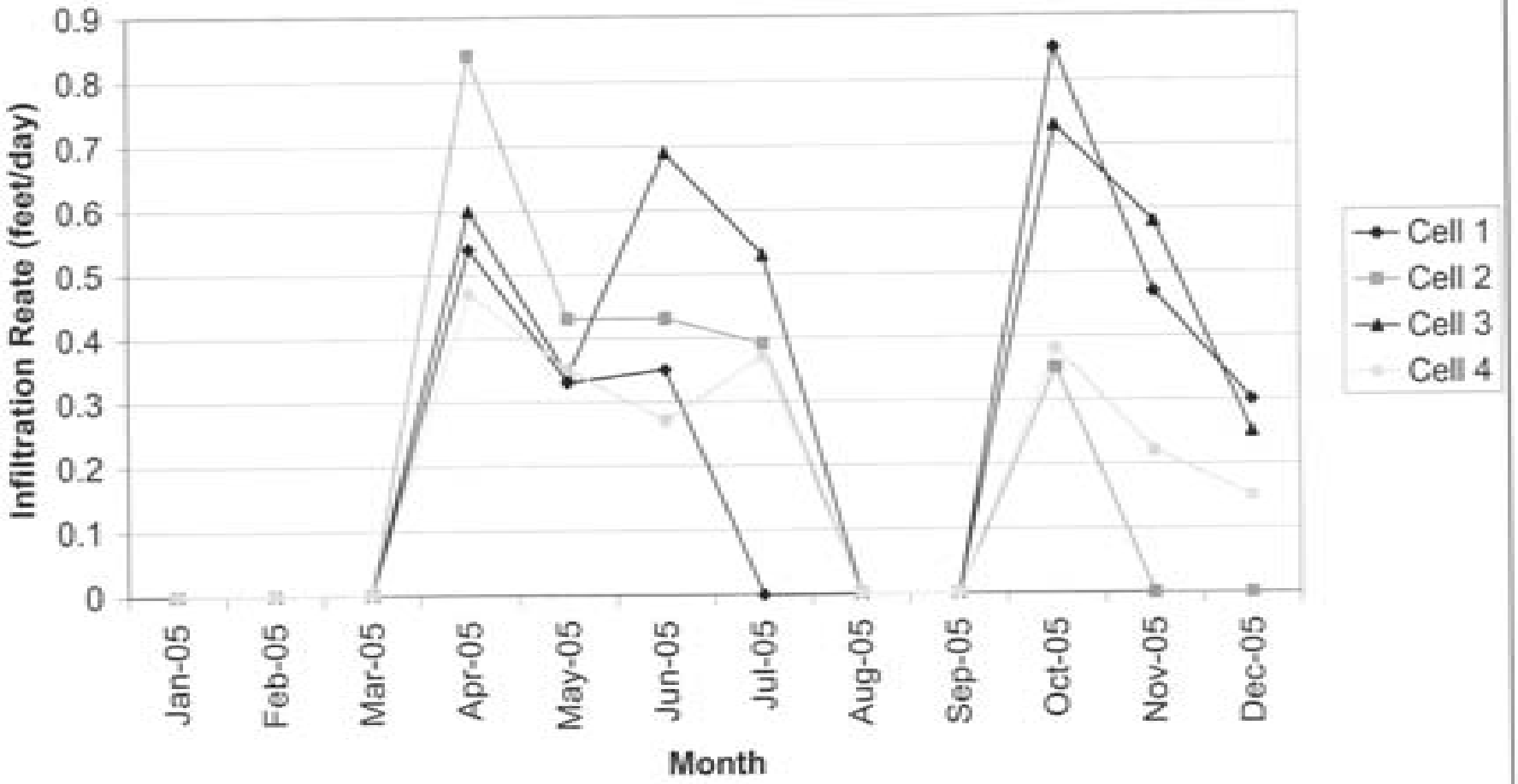


TABLE 1
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
ON-SITE AND OFF-SITE MONITOR WELL LEVELS
CALENDAR YEAR 2005

Offsite Wells

Monitoring Well ID:	SC-09		Monitoring Well ID:	SC-10		Monitoring Well ID:	AVMW-1	
Cadastral Location:	D(11-11) 34cbc		Cadastral Location:	D(11-11) 33bcb		Cadastral Location:	D(12-11) 3cbb	
Reference Point Elev.:	1991.54		Reference Point Elev.:	1978.07		Reference Point Elev.:	2014.7	
Date	Depth to water	Water Level Elevation	Date	Depth to water	Water Level Elevation	Date	Depth to water	Water Level Elevation
1/13/2005	197.50	1794.04	1/13/2005	190.35	1787.72	1/18/2005	184.50	1830.20
2/8/2005	197.61	1793.93	2/8/2005	190.99	1787.08	2/15/2005	183.00	1831.70
3/8/2005	195.58	1795.96	3/8/2005	188.54	1789.53	3/16/2005	182.30	1832.40
4/11/2005	197.71	1793.83	4/11/2005	191.85	1786.22	4/19/2005	181.70	1833.00
5/12/2005	197.90	1793.64	5/12/2005	191.20	1786.87	5/19/2005	184.40	1830.30
6/9/2005	197.40	1794.14	6/9/2005	191.00	1787.07	6/23/2005	180.30	1834.40
9/29/2005	193.33	1798.21	9/29/2005	186.71	1791.36	7/1/2005*	181.50	1833.20
11/22/2005	191.85	1799.69	11/22/2005	185.00	1793.07	8/1/2005*	178.00	1836.70
			12/19/2005	184.61	1793.46	9/1/2005*	177.50	1837.20
						10/1/2005*	176.00	1838.70
						11/1/2005*	180.00	1834.70
						12/1/2005*	181.50	1833.20

NA = Not available

Onsite Well

Monitoring Well ID:	HP-1	
Cadastral Location:	D(11-11) 33cac	
Reference Point Elev.:	1985.17	
Date	Depth to water	Water Level Elevation
1/13/2005	189.75	1795.42
1/25/2005	190.42	1794.75
2/8/2005	190.18	1794.99
2/25/2005	188.12	1797.05
3/8/2005	187.90	1797.27
3/30/2005	189.04	1796.13
4/11/2005	190.00	1795.17
4/27/2005	190.17	1795.00
5/12/2005	190.11	1795.06
5/26/2005	189.71	1795.46
6/9/2005	189.96	1795.21
6/21/2005	189.68	1795.49
7/27/2005	189.86	1795.31
8/26/2005	187.67	1797.50
9/29/2005	185.96	1799.21
10/27/2005	184.54	1800.63
11/22/2005	184.92	1800.25
12/14/2005	184.52	1800.65

Note: All depths to water are measured in feet; all water level elevations are measured in feet above sea level.

*** Approximate value taken from graph in the Lower Santa Cruz and Avra Valley and Avra Valley Recharge Projects Monitoring Report (CAWCD, 2006)**

TABLE 2
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
ON-SITE PIEZOMETER WATER LEVELS
CALENDAR YEAR 2005

Date Measured	Depth to Water (feet)	Mound Height	Elevation* (feet)
1/13/2005	DRY	None	N/A
1/25/2005	DRY	None	N/A
2/8/2005	DRY	None	N/A
2/25/2005	DRY	None	N/A
3/8/2005	DRY	None	N/A
3/30/2005	DRY	None	N/A
4/11/2005	DRY	None	N/A
4/27/2005	DRY	None	N/A
5/12/2005	DRY	None	N/A
5/26/2005	DRY	None	N/A
6/9/2005	DRY	None	N/A
6/21/2005	DRY	None	N/A
7/27/2005	DRY	None	N/A
8/26/2005	DRY	None	N/A
9/29/2005	DRY	None	N/A
10/27/2005	DRY	None	N/A
11/22/2005	DRY	None	N/A
12/14/2005	DRY	None	N/A

* Reference elevation for well port is 1986.75 feet (above sea level).
N/A = Not applicable

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
JANUARY 2005

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Average =		NA	Average =		NA	Average =		NA	Average =		NA

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
FEBRUARY 2005

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Average =		NA	Average =		NA	Average =		NA	Average =		NA

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
MARCH 2005

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Average =		NA	Average =		NA	Average =		NA	Average =		NA

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
APRIL 2005

Day	Cell 1			Cell 2			Cell 3			Cell 4*		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
2	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
3	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
4	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
5	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
6	0.00	0.00	NA	0.51	0.12	4.25	0.91	0.59	1.54	1.07	1.16	0.92
7	0.00	0.00	NA	1.11	0.30	3.70	0.54	0.73	0.74	0.01	1.26	0.01
8	0.00	0.00	NA	0.91	1.09	0.83	0.59	0.74	0.80	0.00	0.00	NA
9	0.00	0.00	NA	0.79	1.15	0.69	0.73	0.78	0.94	0.00	0.00	NA
10	0.00	0.00	NA	0.79	1.14	0.69	0.26	0.78	0.33	0.00	0.00	NA
11	0.40	0.32	1.25	0.39	1.11	0.35	0.00	0.00	NA	0.00	0.00	NA
12	0.05	0.16	0.31	0.21	1.11	0.19	0.00	0.00	NA	0.00	0.00	NA
13	0.36	0.16	2.25	0.21	1.11	0.19	0.00	0.00	NA	0.00	0.00	NA
14	0.62	0.59	1.05	0.21	1.11	0.19	0.00	0.00	NA	0.00	0.00	NA
15	0.38	0.63	0.60	0.54	1.14	0.47	0.79	0.72	1.10	0.00	0.00	NA
16	0.22	0.63	0.35	0.77	1.15	0.67	0.64	0.78	0.82	0.00	0.00	NA
17	0.21	0.63	0.33	1.38	1.17	1.18	0.21	0.78	0.27	0.00	0.00	NA
18	0.23	0.63	0.37	0.68	1.21	0.56	0.04	0.73	0.05	0.00	0.00	NA
19	0.18	0.63	0.29	0.29	1.21	0.24	0.00	0.59	0.00	0.00	0.00	NA
20	0.34	0.63	0.54	0.28	1.21	0.23	0.78	0.59	1.32	0.00	0.00	NA
21	0.26	0.63	0.41	0.22	1.11	0.20	0.43	0.78	0.55	0.00	0.00	NA
22	0.16	0.63	0.25	0.11	1.06	0.10	0.04	0.73	0.05	0.00	0.00	NA
23	0.18	0.63	0.29	0.03	0.24	0.13	0.05	0.59	0.08	0.00	0.00	NA
24	0.25	0.61	0.41	0.45	0.12	3.75	0.53	0.59	0.90	0.00	0.00	NA
25	0.34	0.59	0.58	0.86	1.06	0.81	0.45	0.73	0.62	0.00	0.00	NA
26	0.28	0.63	0.44	0.74	1.17	0.63	0.61	0.78	0.78	0.00	0.00	NA
27	0.22	0.63	0.35	0.48	1.21	0.40	0.22	0.78	0.28	0.00	0.00	NA
28	0.12	0.63	0.19	0.26	1.17	0.22	0.20	0.73	0.27	0.00	0.00	NA
29	0.22	0.63	0.35	0.19	1.09	0.17	0.00	0.00	NA	0.00	0.00	NA
30	0.18	0.63	0.29	0.11	1.03	0.11	0.00	0.00	NA	0.00	0.00	NA
	Average =		0.54	Average =		0.84	Average =		0.60	Average =		0.47

* Flow meter stopped working on 4/7/05.

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
MAY 2005

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.11	0.63	0.17	0.43	0.61	0.70	0.57	0.59	0.97	0.00	0.00	NA
2	0.29	0.61	0.48	0.70	1.11	0.63	0.57	0.76	0.75	0.00	0.00	NA
3	0.23	0.63	0.37	0.46	1.15	0.40	0.22	0.78	0.28	0.00	0.00	NA
4	0.10	0.63	0.16	0.22	1.11	0.20	0.02	0.73	0.03	0.00	0.00	NA
5	0.00	0.00	NA	0.55	1.14	0.48	0.36	0.78	0.46	0.00	0.00	NA
6	0.00	0.00	NA	0.22	1.11	0.20	0.11	0.76	0.14	0.00	0.00	NA
7	0.00	0.00	NA	0.16	1.06	0.15	0.01	0.72	0.01	0.00	0.00	NA
8	0.22	0.63	0.35	0.25	1.03	0.24	0.40	0.59	0.68	0.00	0.00	NA
9	0.12	0.63	0.19	0.80	1.11	0.72	0.57	0.76	0.75	0.00	0.00	NA
10	0.21	0.63	0.33	1.17	1.17	1.00	0.44	0.78	0.56	0.00	0.00	NA
11	0.13	0.63	0.21	0.67	1.21	0.55	0.01	0.72	0.01	0.00	0.00	NA
12	0.10	0.63	0.16	0.28	1.21	0.23	0.03	0.59	0.05	0.00	0.00	NA
13	0.11	0.63	0.17	0.29	1.17	0.25	0.02	0.00	NA	0.00	0.00	NA
14	0.08	0.63	0.13	0.27	1.15	0.23	0.22	0.78	0.28	0.00	0.00	NA
15	0.14	0.63	0.22	0.74	1.14	0.65	0.27	0.76	0.36	0.00	0.00	NA
16	0.21	0.63	0.33	0.47	1.15	0.41	0.01	0.72	0.01	0.00	0.00	NA
17	0.15	0.63	0.24	0.30	1.14	0.26	0.05	0.39	0.13	0.00	0.00	NA
18	0.26	0.63	0.41	0.00	0.00	NA	0.01	0.00	NA	0.00	0.00	NA
19	0.35	0.63	0.56	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
20	0.32	0.59	0.54	0.00	0.00	NA	0.00	0.00	NA	0.44	1.11	0.40
21	0.30	0.61	0.49	0.00	0.00	NA	0.00	0.00	NA	1.35	1.23	1.10
22	0.29	0.63	0.46	0.00	0.00	NA	0.00	0.00	NA	0.46	1.26	0.37
23	0.25	0.63	0.40	0.00	0.00	NA	0.00	0.00	NA	0.50	1.22	0.41
24	0.32	0.63	0.51	0.00	0.00	NA	0.00	0.00	NA	0.06	1.23	0.05
25	0.23	0.63	0.37	0.00	0.00	NA	0.00	0.00	NA	0.44	1.23	0.36
26	0.27	0.63	0.43	0.00	0.00	NA	0.00	0.00	NA	0.08	1.22	0.07
27	0.21	0.63	0.33	0.00	0.00	NA	0.00	0.00	NA	0.76	1.26	0.60
28	0.20	0.63	0.32	0.00	0.00	NA	0.00	0.00	NA	0.07	1.23	0.06
29	0.13	0.63	0.21	0.00	0.00	NA	0.00	0.00	NA	0.43	1.22	0.35
30	0.34	0.61	0.56	0.00	0.00	NA	0.00	0.00	NA	0.44	1.25	0.35
31	0.18	0.63	0.29	0.00	0.00	NA	0.00	0.00	NA	0.12	1.23	0.10
	Average =		0.33	Average =		0.43	Average =		0.34	Average =		0.35

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
JUNE 2005

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.11	0.63	0.17	0.00	0.00	NA	0.00	0.00	NA	0.77	1.23	0.63
2	0.08	0.63	0.13	0.00	0.00	NA	0.00	0.00	NA	0.05	1.23	0.04
3	0.14	0.63	0.22	0.00	0.00	NA	0.00	0.00	NA	0.14	1.16	0.12
4	0.28	0.61	0.46	0.00	0.00	NA	0.00	0.00	NA	0.48	1.17	0.41
5	0.36	0.59	0.61	0.00	0.00	NA	0.00	0.00	NA	0.49	1.16	0.42
6	0.25	0.63	0.40	0.00	0.00	NA	0.00	0.00	NA	0.18	1.17	0.15
7	0.10	0.63	0.16	0.00	0.00	NA	0.00	0.00	NA	0.87	1.22	0.71
8	0.21	0.63	0.33	0.00	0.00	NA	0.00	0.00	NA	0.01	1.26	0.01
9	0.14	0.63	0.22	0.00	0.00	NA	0.00	0.00	NA	0.08	1.16	0.07
10	0.12	0.63	0.19	0.00	0.00	NA	0.00	0.00	NA	0.10	1.16	0.09
11	0.26	0.63	0.41	0.00	0.00	NA	0.00	0.00	NA	0.13	1.15	0.11
12	0.28	0.61	0.46	0.00	0.00	NA	0.00	0.00	NA	0.34	1.16	0.29
13	0.35	0.59	0.59	0.00	0.00	NA	0.00	0.00	NA	0.43	1.16	0.37
14	0.34	0.63	0.54	0.00	0.00	NA	0.00	0.00	NA	0.23	1.18	0.19
15	0.00	0.00	NA	0.54	0.97	0.56	0.83	0.70	1.19	0.05	0.95	0.05
16	0.00	0.00	NA	0.73	1.06	0.69	0.66	0.76	0.87	0.00	0.00	NA
17	0.00	0.00	NA	0.45	1.14	0.39	0.52	0.78	0.67	0.00	0.00	NA
18	0.00	0.00	NA	0.11	1.06	0.10	0.28	0.76	0.37	0.00	0.00	NA
19	0.00	0.00	NA	0.08	0.61	0.13	0.13	0.59	0.22	0.00	0.00	NA
20	0.00	0.00	NA	0.14	0.30	0.47	0.91	0.59	1.54	0.00	0.00	NA
21	0.00	0.00	NA	0.70	1.03	0.68	0.63	0.76	0.83	0.00	0.00	NA
22	0.00	0.00	NA	0.29	1.11	0.26	0.29	0.76	0.38	0.80	0.95	0.84
23	0.00	0.00	NA	0.13	1.03	0.13	0.06	0.70	0.09	1.01	1.23	0.82
24	0.00	0.00	NA	0.09	0.61	0.15	0.00	0.00	NA	0.11	1.22	0.09
25	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.18	1.15	0.16
26	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.13	1.16	0.11
27	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.52	1.16	0.45
28	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.11	1.22	0.09
29	0.00	0.00	NA	0.69	1.03	0.67	0.81	0.73	1.11	0.12	1.15	0.10
30	0.00	0.00	NA	1.15	1.21	0.95	0.23	0.78	0.29	0.02	0.32	0.06
	Average =		0.35	Average =		0.43	Average =		0.69	Average =		0.27

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
JULY 2005

Day	Cell 1			Cell 2			Cell 3			Cell 4*		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	N/A	0.86	1.17	0.74	0.77	0.78	0.99	0.00	0.00	N/A
2	0.00	0.00	N/A	0.11	1.14	0.10	0.04	0.78	0.05	0.00	0.00	N/A
3	0.00	0.00	N/A	0.07	1.06	0.07	0.40	0.76	0.53	0.00	0.00	N/A
4	0.00	0.00	N/A	0.06	0.61	0.10	0.20	0.72	0.28	0.00	0.00	N/A
5	0.00	0.00	N/A	0.09	0.30	0.30	0.85	0.59	1.44	0.00	0.00	N/A
6	0.00	0.00	N/A	0.12	0.12	1.00	0.41	0.73	0.56	1.03	0.95	1.08
7	0.00	0.00	N/A	0.00	0.00	N/A	0.06	0.59	0.10	0.87	1.26	0.69
8	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
9	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.16	1.16	0.14
10	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.22	1.23	0.18
11	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.48	1.22	0.39
12	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.07	1.23	0.06
13	0.00	0.00	N/A	0.54	0.61	0.89	0.83	0.72	1.15	0.08	1.16	0.07
14	0.00	0.00	N/A	0.69	1.14	0.61	0.26	0.78	0.33	0.00	0.00	N/A
15	0.00	0.00	N/A	0.33	1.15	0.29	0.29	0.72	0.40	0.00	0.00	N/A
16	0.00	0.00	N/A	0.13	1.10	0.12	0.02	0.59	0.03	0.00	0.00	N/A
17	0.00	0.00	N/A	0.09	1.03	0.09	0.00	0.00	N/A	0.00	0.00	N/A
18	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
19	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
20	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
21	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
22	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
23	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
24	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
25	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
26	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
27	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
28	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
29	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
30	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
31	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
	Average =		N/A	Average =		0.39	Average =		0.53	Average =		0.37

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
AUGUST 2005

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
2	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
3	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
4	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
5	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
6	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
7	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
8	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
9	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
10	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
11	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
12	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
13	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
14	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
15	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
16	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
17	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
18	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
19	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
20	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
21	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
22	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
23	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
24	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
25	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
26	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
27	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
28	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
29	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
30	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
31	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
	Average =		N/A	Average =		N/A	Average =		N/A	Average =		N/A

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
SEPTEMBER 2005

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
2	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
3	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
4	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
5	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
6	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
7	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
8	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
9	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
10	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
11	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
12	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
13	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
14	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
15	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
16	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
17	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
18	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
19	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
20	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
21	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
22	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
23	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
24	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
25	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
26	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
27	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
28	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
29	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
30	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
	Average =		N/A	Average =		N/A	Average =		N/A	Average =		N/A

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
OCTOBER 2005

	Cell 1			Cell 2			Cell 3			Cell 4		
Day	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
2	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
3	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
4	1.39	0.47	2.96	0.02	0.30	0.07	0.00	0.00	NA	0.00	0.00	NA
5	1.67	0.61	2.74	0.66	1.15	0.57	0.00	0.00	NA	0.00	0.00	NA
6	0.50	0.63	0.79	1.18	1.11	1.06	0.00	0.00	NA	0.00	0.00	NA
7	0.51	0.63	0.81	0.68	1.11	0.61	0.00	0.00	NA	0.00	0.00	NA
8	0.32	0.61	0.52	0.25	1.11	0.23	0.00	0.00	NA	0.00	0.00	NA
9	0.02	0.58	0.03	0.08	0.61	0.13	0.00	0.00	NA	0.00	0.00	NA
10	0.80	0.47	1.70	0.23	0.61	0.38	0.00	0.00	NA	0.00	0.00	NA
11	0.51	0.58	0.88	0.48	0.61	0.79	0.35	0.20	1.75	0.00	0.00	NA
12	0.42	0.59	0.71	0.59	1.03	0.57	0.43	0.72	0.60	0.00	0.00	NA
13	0.42	0.61	0.69	0.80	1.11	0.72	0.37	0.73	0.51	0.00	0.00	NA
14	0.29	0.61	0.48	0.45	1.14	0.39	0.23	0.76	0.30	0.00	0.00	NA
15	0.05	0.58	0.09	0.14	1.03	0.14	0.04	0.72	0.06	0.00	0.00	NA
16	0.01	0.47	0.02	0.05	1.21	0.04	0.00	0.00	NA	0.00	0.00	NA
17	0.46	0.32	1.44	0.14	0.36	0.39	0.39	0.20	1.95	0.00	0.00	NA
18	1.04	0.58	1.79	0.36	0.97	0.37	0.45	0.72	0.63	0.00	0.00	NA
19	0.36	0.61	0.59	0.73	1.03	0.71	0.32	0.73	0.44	0.00	0.00	NA
20	0.38	0.63	0.60	0.75	1.14	0.66	0.50	0.76	0.66	0.00	0.00	NA
21	0.48	0.63	0.76	0.15	1.21	0.12	0.54	0.76	0.71	0.48	0.95	0.51
22	0.08	0.58	0.14	0.00	1.21	0.00	0.05	0.39	0.13	0.08	0.95	0.08
23	0.00	0.32	0.00	0.01	1.03	0.01	0.00	0.00	NA	0.00	0.00	NA
24	0.48	0.32	1.50	0.01	0.61	0.02	0.40	0.20	2.00	0.24	0.95	0.25
25	0.95	0.58	1.64	0.00	0.00	NA	0.32	0.72	0.44	0.72	1.22	0.59
26	0.32	0.59	0.54	0.00	0.00	NA	0.26	0.72	0.36	1.05	1.23	0.85
27	0.35	0.61	0.57	0.00	0.00	NA	0.35	0.73	0.48	0.93	1.23	0.76
28	0.19	0.63	0.30	0.00	0.00	NA	0.19	0.76	0.25	0.34	1.23	0.28
29	0.15	0.59	0.25	0.00	0.00	NA	0.12	0.72	0.17	0.26	1.22	0.21
30	0.05	0.47	0.11	0.00	0.00	NA	0.02	0.39	0.05	0.02	0.95	0.02
31	0.50	0.47	1.06	0.00	0.00	NA	1.81	0.76	2.38	0.22	0.95	0.23
		Average =	0.85		Average =	0.35		Average =	0.73		Average =	0.38

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
NOVEMBER 2005

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.73	0.58	1.26	0.00	0.00	NA	0.30	0.76	0.39	0.77	1.22	0.63
2	0.41	0.61	0.67	0.00	0.00	NA	0.29	0.72	0.40	0.82	1.23	0.67
3	0.44	0.63	0.70	0.00	0.00	NA	0.57	0.78	0.73	0.16	1.23	0.13
4	0.00	0.63	0.00	0.00	0.00	NA	0.02	0.76	0.03	0.24	1.22	0.20
5	0.23	0.63	0.37	0.00	0.00	NA	0.04	0.72	0.06	0.29	1.22	0.24
6	0.09	0.59	0.15	0.00	0.00	NA	0.04	0.59	0.07	0.06	1.22	0.05
7	0.31	0.58	0.53	0.00	0.00	NA	0.12	0.59	0.20	0.13	0.95	0.14
8	0.46	0.61	0.75	0.00	0.00	NA	0.25	0.72	0.35	0.55	1.22	0.45
9	0.55	0.63	0.87	0.00	0.00	NA	0.20	0.73	0.27	0.31	1.23	0.25
10	0.07	0.63	0.11	0.00	0.00	NA	0.05	0.72	0.07	0.18	1.16	0.16
11	0.14	0.63	0.22	0.00	0.00	NA	0.04	0.59	0.07	0.01	1.23	0.01
12	0.25	0.63	0.40	0.00	0.00	NA	0.01	0.20	0.05	0.11	0.95	0.12
13	0.21	0.58	0.36	0.00	0.00	NA	0.02	0.04	0.50	0.16	1.16	0.14
14	0.24	0.58	0.41	0.00	0.00	NA	0.12	0.04	3.00	0.12	0.95	0.13
15	0.46	0.61	0.75	0.00	0.00	NA	0.26	0.72	0.36	0.52	1.22	0.43
16	0.42	0.63	0.67	0.00	0.00	NA	1.21	0.76	1.59	0.32	1.23	0.26
17	0.00	0.63	0.00	0.00	0.00	NA	0.00	0.59	0	0.11	1.16	0.09
18	0.09	0.63	0.14	0.00	0.00	NA	0.00	0.20	0	0.01	1.23	0.01
19	0.18	0.63	0.29	0.00	0.00	NA	0.00	0.00	NA	0.18	1.16	0.16
20	0.14	0.59	0.24	0.00	0.00	NA	0.00	0.00	NA	0.15	1.16	0.13
21	0.42	0.58	0.72	0.00	0.00	NA	0.00	0.00	NA	0.39	1.16	0.34
22	0.42	0.63	0.67	0.00	0.00	NA	0.73	0.59	1.24	0.26	1.23	0.21
23	0.09	0.63	0.14	0.00	0.00	NA	0.53	0.78	0.68	0.01	1.16	0.01
24	0.30	0.61	0.49	0.00	0.00	NA	0.00	0.59	0.00	0.16	0.95	0.17
25	0.09	0.58	0.16	0.00	0.00	NA	0.00	0.00	NA	0.05	0.32	0.16
26	0.03	0.47	0.06	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
27	0.01	0.32	0.03	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
28	0.00	0.16	0.00	0.00	0.00	NA	0.35	0.72	0.49	0.47	0.95	0.49
29	0.00	0.16	0.00	0.00	0.00	NA	1.10	0.59	1.86	0.49	1.23	0.40
30	0.00	0.16	0.00	0.00	0.00	NA	0.20	0.59	0.34	0.15	1.22	0.12
	Average =		0.47	Average =		NA	Average =		0.58	Average =		0.22

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
DECEMBER 2005

	Cell 1			Cell 2			Cell 3			Cell 4		
Day	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.01	0.16	0.06	0.00	0.00	NA	0.00	0.20	0.00	0.07	0.95	0.07
2	0.00	0.00	NA	0.00	0.00	NA	0.00	0.20	0.00	0.01	0.32	0.03
3	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
4	0.29	0.58	0.50	0.00	0.00	NA	0.15	0.20	0.75	0.16	0.32	0.50
5	0.42	0.58	0.72	0.00	0.00	NA	0.33	0.72	0.46	0.35	0.95	0.37
6	0.32	0.63	0.51	0.00	0.00	NA	0.30	0.78	0.38	0.58	1.22	0.48
7	0.11	0.63	0.17	0.00	0.00	NA	0.14	0.78	0.18	0.01	1.23	0.01
8	0.09	0.63	0.14	0.00	0.00	NA	0.07	0.72	0.10	0.21	1.22	0.17
9	0.12	0.63	0.19	0.00	0.00	NA	0.03	0.72	0.04	0.00	1.23	0.00
10	0.11	0.61	0.18	0.00	0.00	NA	0.01	0.59	0.02	0.08	1.16	0.07
11	0.08	0.58	0.14	0.00	0.00	NA	0.01	0.20	0.05	0.06	0.95	0.06
12	0.51	0.58	0.88	0.00	0.00	NA	0.26	0.59	0.44	0.35	0.95	0.37
13	0.32	0.63	0.51	0.00	0.00	NA	0.40	0.78	0.51	0.43	1.23	0.35
14	0.09	0.63	0.14	0.00	0.00	NA	0.20	0.72	0.28	0.01	1.22	0.01
15	0.11	0.63	0.17	0.00	0.00	NA	0.10	0.59	0.17	0.20	1.23	0.16
16	0.10	0.63	0.16	0.00	0.00	NA	0.05	0.20	0.25	0.00	1.23	0.00
17	0.00	0.61	0.00	0.00	0.00	NA	0.02	0.20	0.10	0.00	1.16	0.00
18	0.14	0.58	0.24	0.00	0.00	NA	0.01	0.08	0.13	0.05	0.95	0.05
19	0.27	0.58	0.47	0.00	0.00	NA	0.65	0.73	0.89	0.12	0.95	0.13
20	0.44	0.59	0.75	0.00	0.00	NA	0.41	0.72	0.57	0.50	1.22	0.41
21	0.16	0.63	0.25	0.00	0.00	NA	0.32	0.78	0.41	0.08	1.23	0.07
22	0.11	0.63	0.17	0.00	0.00	NA	0.00	0.76	0.00	0.05	1.16	0.04
23	0.11	0.63	0.17	0.00	0.00	NA	0.00	0.72	0.00	0.00	1.23	0.00
24	0.13	0.63	0.21	0.00	0.00	NA	0.00	0.72	0.00	0.00	1.22	0.00
25	0.19	0.61	0.31	0.00	0.00	NA	0.00	0.59	0.00	0.34	1.16	0.29
26	0.04	0.58	0.07	0.00	0.00	NA	0.00	0.39	0.00	0.10	1.16	0.09
27	0.31	0.58	0.53	0.00	0.00	NA	0.25	0.59	0.42	0.21	0.95	0.22
28	0.39	0.61	0.64	0.00	0.00	NA	0.49	0.78	0.63	0.58	1.23	0.47
29	0.12	0.63	0.19	0.00	0.00	NA	0.53	0.78	0.68	0.00	1.23	0.00
30	0.09	0.63	0.14	0.00	0.00	NA	0.00	0.78	0.00	0.00	1.16	0.00
31	0.11	0.63	0.17	0.00	0.00	NA	0.00	0.78	0.00	0.00	1.23	0.00
	Average =		0.30	Average =		NA	Average =		0.25	Average =		0.15

TABLE 4
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
WATER QUALITY SUMMARY: CALENDAR YEAR 2005

Constituent	Unit	Sample Date and Location											
		Source Water											
		Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05
Nutrients													
Total Nitrogen[1]	mg/l	No Event	No Event	28.54	32	35	21.2	No Event	No Event	No Event	26	34	37.5
Nitrate-Nitrite as N	mg/l	No Event	No Event	0.54	<1.0	1	1.2	No Event	No Event	No Event	2.1	1.8	2.5
Total Kjeldahl Nitrogen (TKN)	mg/l	No Event	No Event	28	32	34	20	No Event	No Event	No Event	24	32	35
Metals (Total)													
Arsenic	mg/l	No Event	No Event	<0.10	No Event	<0.10	No Event	No Event	No Event	No Event	No Event	0.0046	No Event
Barium	mg/l	No Event	No Event	<1.0	No Event	<1.0	No Event	No Event	No Event	No Event	No Event	0.056	No Event
Cadmium	mg/l	No Event	No Event	<0.05	No Event	<0.05	No Event	No Event	No Event	No Event	No Event	<0.001	No Event
Chromium	mg/l	No Event	No Event	<0.10	No Event	<0.10	No Event	No Event	No Event	No Event	No Event	0.0013	No Event
Lead	mg/l	No Event	No Event	<0.15	No Event	<0.15	No Event	No Event	No Event	No Event	No Event	<0.001	No Event
Antimony	mg/l	No Event	No Event	<0.20	No Event	<0.20	No Event	No Event	No Event	No Event	No Event	<0.003	No Event
Beryllium	mg/l	No Event	No Event	<1.0	No Event	<1.0	No Event	No Event	No Event	No Event	No Event	<0.001	No Event
Nickel	mg/l	No Event	No Event	<0.08	No Event	<0.08	No Event	No Event	No Event	No Event	No Event	0.0037	No Event
Mercury	mg/l	No Event	No Event	<0.0010	No Event	<0.0010	No Event	No Event	No Event	No Event	No Event	<0.0002	No Event
Selenium	mg/l	No Event	No Event	<0.10	No Event	<0.10	No Event	No Event	No Event	No Event	No Event	<0.002	No Event
Thallium	mg/l	No Event	No Event	No Event	No Event	No Event	No Event	No Event	No Event	No Event	No Event	No Event	No Event
Volatile Organic Compounds (VOCs)													
Benzene	mg/l	No Event	No Event	<0.0005	No Event	<0.0005	No Event	No Event	No Event	No Event	No Event	<0.001	No Event
Carbon tetrachloride	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
o-Dichlorobenzene	mg/l	No Event	No Event	<0.0005	No Event	<0.0005	No Event	No Event	No Event	No Event	No Event	<0.001	No Event
para-Dichlorobenzene	mg/l	No Event	No Event	<0.0005	No Event	<0.0005	No Event	No Event	No Event	No Event	No Event	<0.001	No Event
1,2-Dichloroethane	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
1,1-Dichloroethylene	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
cis-1,2-Dichloroethylene	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
trans-1,2-Dichloroethylene	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
1,2-Dichloropropane	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
Ethylbenzene	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
Monochlorobenzene	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
Styrene	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
Tetrachloroethylene	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
Toluene	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
1,1,1-Trichloroethane	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
1,1,2-Trichloroethane	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
Trichloroethylene	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
Trihalomethanes (total THMs)	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
Vinyl Chloride	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<1.0	No Event
Xylenes (Total)	ug/l	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	No Event	No Event	No Event	<2.0	No Event

No Event = No sample was taken; No Flow = No flow in the effluent channel

[1] Total Nitrogen is equal to Nitrate-Nitrite-N plus TKN (Aquifer Protection Permit No. P-103195)

TABLE 4
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
WATER QUALITY SUMMARY: CALENDAR YEAR 2005

Constituent	Sample Date and Location											
	Monitor Well HP-1											
	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05
Nutrients												
Total Nitrogen[1]	3.62	2.90	2.60	3.0	3.6	3.74	2.9	4.6	2.6	3.1	5.0	4.0
Nitrate-Nitrite as N	3.1	2.9	2.6	3.0	3.1	3.2	2.9	3.1	2.6	3.1	3.2	2.5
Total Kjeldahl Nitrogen (TKN)	0.52	<0.50	<0.50	<0.50	0.53	0.54	<0.05	1.5	<1.3	<1.3	1.8	1.5
Metals (Total)												
Arsenic	No Event	No Event	<0.005	No Event	<0.005	No Event	No Event	<0.005	No Event	No Event	0.0017	No Event
Barium	No Event	No Event	<1.0	No Event	<1.0	No Event	No Event	<1.0	No Event	No Event	0.15	No Event
Cadmium	No Event	No Event	<0.003	No Event	<0.003	No Event	No Event	<0.003	No Event	No Event	<0.001	No Event
Chromium	No Event	No Event	<0.03	No Event	<0.03	No Event	No Event	<0.03	No Event	No Event	<0.001	No Event
Lead	No Event	No Event	0.0057	No Event	0.0055	No Event	No Event	0.01	No Event	No Event	0.0064	No Event
Antimony	No Event	No Event	<0.0048	No Event	<0.0048	No Event	No Event	<0.0048	No Event	No Event	<0.003	No Event
Beryllium	No Event	No Event	<0.002	No Event	<0.002	No Event	No Event	<0.002	No Event	No Event	<0.001	No Event
Nickel	No Event	No Event	<0.08	No Event	<0.08	No Event	No Event	<0.08	No Event	No Event	0.003	No Event
Mercury	No Event	No Event	<0.001	No Event	<0.001	No Event	No Event	<0.001	No Event	No Event	<0.0002	No Event
Selenium	No Event	No Event	<0.005	No Event	<0.005	No Event	No Event	<0.005	No Event	No Event	<0.002	No Event
Thallium	No Event	No Event	<0.0016	No Event	<0.0016	No Event	No Event	0.0019	No Event	No Event	<0.001	No Event
Volatile Organic Compounds (VOCs)												
Benzene	No Event	No Event	<0.0005	No Event	<0.0005	No Event	No Event	<0.0005	No Event	No Event	<0.001	No Event
Carbon tetrachloride	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
o-Dichlorobenzene	No Event	No Event	<0.0005	No Event	<0.0005	No Event	No Event	<0.0005	No Event	No Event	<0.001	No Event
para-Dichlorobenzene	No Event	No Event	<0.0005	No Event	<0.0005	No Event	No Event	<0.0005	No Event	No Event	<0.001	No Event
1,2-Dichloroethane	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
1,1-Dichloroethylene	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
cis--1,2-Dichloroethylene	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
trans-1,2-Dichloroethylene	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
1,2-Dichloropropane	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
Ethylbenzene	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
Monochlorobenzene	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
Styrene	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
Tetrachloroethylene	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
Toluene	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
1,1,1-Trichloroethane	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
1,1,2-Trichloroethane	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
Trichloroethylene	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
Trihalomethanes (total THMs)	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
Vinyl Chloride	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<1.0	No Event
Xylenes (Total)	No Event	No Event	<0.50	No Event	<0.50	No Event	No Event	<0.50	No Event	No Event	<2.0	No Event

No Event = No sample was taken; No Flow = N

[1] Total Nitrogen is equal to Nitrate-Nitrite-N pls

TABLE 5
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
FACILITY INSPECTIONS: PROBLEMS AND RELATED SOLUTIONS
CALENDAR YEAR 2005

Date	Problem	Solution
January 2005	Earthen berm washed out as of December 2004	Berm will be repaired as soon as possible
January 2005 - March 2005	Frequent flow events have continued to hinder repair on earthen diversion berm.	Berm was repaired on March 29, 2005; water deliveries to the recharge facility began on April 1, 2005.
March 2005	Recharge cells are very weedy.	Weeds were removed from Cells 1 and 2. Weeds were cleared around the edge of Cell 3.
March 30, 2005	Valve control switch in Cell 1 is malfunctioning.	Control switch was replaced on April 11, 2005.
May 12, 2005	Valve control switch in Cell 4 is malfunctioning.	Control switch was replaced on May 17, 2005.
June 2005	Flow meter is malfunctioning - will not display data nor will it communicate with the field computer.	The valve in Cell 1 was closed and the flow meter was removed and placed into Cell 2. The valve for Cell 2, which has more recharge capacity, was then opened. The flow meter from Cell 2 was sent in to the manufacturer for repair.
July 16, 2005	Earthen berm washed out due to storm water flow.	Earthen berm was repaired on October 1, 2005 after monsoon season had ceased and earthen materials were sufficiently dried. Flow meter for Cell 1 was installed and calibrated.
August 2005	Recharge cells are being clogged with weeds.	Landscape maintenance crews cleared the weeds from within and around Recharge Cells 1 through 3 in September 2005. Recharge bottoms were disced.
November 11, 2005	Flow meter in Cell 2 is malfunctioning.	Flow meter was sent in for repair. An additional flow meter package was ordered as a back-up to allow for more consistent operation of the facility. Cell 2 was not in operation for the rest of the year, since the old flow meter could not be timely repaired. The new flow meter will be delivered sometime in January 2006.

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
JANUARY 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
FEBRUARY 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
MARCH 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.00

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
APRIL 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	1.86	0.00	0.52	0.92	0.00	1.44	0.02	0.00	1.42
7	1.86	0.00	1.12	0.56	0.00	1.68	0.02	0.00	1.65
8	1.86	0.00	0.94	0.61	0.00	1.55	0.04	0.00	1.50
9	1.86	0.00	0.81	0.75	0.00	1.56	0.04	0.00	1.51
10	1.86	0.00	0.82	0.28	1.10	2.20	0.04	0.03	2.13
11	0.85	0.41	0.41	0.00	0.03	0.86	0.05	0.03	0.78
12	0.00	0.06	0.24	0.00	0.00	0.30	0.04	0.00	0.26
13	0.97	0.36	0.24	0.00	0.00	0.60	0.03	0.00	0.57
14	1.86	0.64	0.24	0.00	0.00	0.88	0.04	0.00	0.84
15	1.86	0.39	0.57	0.80	0.00	1.76	0.06	0.00	1.71
16	1.86	0.24	0.80	0.66	0.00	1.69	0.06	0.00	1.63
17	1.86	0.22	1.41	0.23	0.00	1.87	0.06	0.00	1.81
18	1.16	0.24	0.71	0.06	0.00	1.02	0.06	0.00	0.96
19	0.00	0.19	0.31	0.00	0.00	0.51	0.06	0.00	0.45
20	1.24	0.35	0.31	0.79	0.00	1.45	0.06	0.00	1.40
21	1.35	0.28	0.24	0.45	0.00	0.97	0.06	0.00	0.91
22	0.00	0.17	0.13	0.06	0.00	0.36	0.06	0.00	0.31
23	0.00	0.19	0.04	0.06	0.00	0.29	0.03	0.00	0.26
24	1.16	0.27	0.46	0.54	0.00	1.27	0.03	0.00	1.24
25	1.86	0.36	0.89	0.47	0.00	1.71	0.06	0.00	1.66
26	1.86	0.30	0.77	0.63	0.00	1.70	0.06	0.00	1.64
27	1.86	0.23	0.50	0.24	0.00	0.97	0.06	0.00	0.91
28	1.37	0.14	0.28	0.21	0.00	0.64	0.06	0.00	0.58
29	0.00	0.23	0.22	0.01	0.00	0.46	0.05	0.00	0.41
30	0.00	0.20	0.14	0.00	0.00	0.33	0.04	0.00	0.29
Total	31.53	5.46	13.11	8.34	1.13	28.05	1.18	0.05	26.82

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
MAY 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	1.13	0.12	0.45	0.59	0.00	1.16	0.05	0.00	1.11
2	1.86	0.31	0.73	0.59	0.00	1.63	0.07	0.00	1.56
3	1.86	0.24	0.50	0.24	0.00	0.98	0.07	0.00	0.91
4	1.86	0.12	0.26	0.04	0.00	0.41	0.07	0.00	0.34
5	0.58	0.00	0.58	0.38	0.00	0.96	0.07	0.00	0.89
6	0.00	0.00	0.25	0.13	0.00	0.38	0.07	0.00	0.31
7	0.00	0.01	0.19	0.03	0.00	0.23	0.07	0.00	0.16
8	0.85	0.24	0.28	0.42	0.00	0.93	0.06	0.00	0.87
9	1.86	0.14	0.83	0.59	0.00	1.56	0.07	0.00	1.49
10	1.86	0.23	1.21	0.46	0.00	1.89	0.07	0.00	1.82
11	1.86	0.15	0.71	0.03	0.00	0.88	0.07	0.00	0.81
12	0.54	0.11	0.31	0.05	0.00	0.48	0.07	0.00	0.41
13	0.00	0.13	0.32	0.03	0.00	0.48	0.07	0.00	0.41
14	0.00	0.10	0.30	0.00	0.00	0.40	0.05	0.00	0.35
15	1.24	0.16	0.77	0.84	0.00	1.77	0.07	0.00	1.70
16	1.86	0.22	0.49	0.22	0.00	0.93	0.06	0.00	0.88
17	0.77	0.17	0.30	0.29	0.00	0.76	0.04	0.00	0.72
18	0.00	0.27	0.00	0.03	0.00	0.30	0.03	0.03	0.25
19	0.00	0.37	0.00	0.07	0.00	0.44	0.02	0.03	0.39
20	0.79	0.34	0.00	0.02	0.47	0.83	0.03	0.03	0.77
21	1.86	0.32	0.00	0.00	1.38	1.70	0.02	0.03	1.65
22	1.86	0.30	0.00	0.00	0.50	0.81	0.02	0.04	0.75
23	0.58	0.27	0.00	0.00	0.53	0.80	0.02	0.04	0.74
24	1.30	0.34	0.00	0.00	0.10	0.43	0.02	0.03	0.38
25	0.48	0.25	0.00	0.00	0.48	0.73	0.02	0.03	0.68
26	0.00	0.28	0.00	0.00	0.11	0.39	0.02	0.03	0.35
27	1.30	0.23	0.00	0.00	0.79	1.01	0.02	0.03	0.96
28	0.53	0.22	0.00	0.00	0.10	0.32	0.02	0.02	0.27
29	0.00	0.15	0.00	0.00	0.46	0.61	0.02	0.03	0.56
30	1.30	0.36	0.00	0.00	0.48	0.84	0.02	0.04	0.79
31	0.52	0.20	0.00	0.00	0.15	0.35	0.02	0.03	0.30
Total	28.61	6.38	8.47	5.05	5.54	25.42	1.37	0.46	23.59

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970)

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
JUNE 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated EV Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	1.35	0.13	0.00	0.00	0.81	0.94	0.02	0.04	0.88
2	0.53	0.10	0.00	0.00	0.09	0.19	0.02	0.03	0.14
3	0.00	0.16	0.00	0.00	0.18	0.34	0.02	0.03	0.28
4	0.00	0.30	0.00	0.00	0.51	0.81	0.02	0.03	0.76
5	1.28	0.37	0.00	0.00	0.52	0.90	0.02	0.04	0.84
6	1.86	0.27	0.00	0.00	0.21	0.48	0.02	0.04	0.43
7	0.49	0.12	0.00	0.00	0.91	1.03	0.02	0.04	0.97
8	0.00	0.23	0.00	0.00	0.05	0.28	0.02	0.04	0.22
9	1.43	0.16	0.00	0.00	0.12	0.27	0.02	0.04	0.22
10	0.50	0.13	0.00	0.00	0.14	0.27	0.02	0.03	0.22
11	0.00	0.28	0.00	0.00	0.17	0.45	0.02	0.04	0.39
12	0.00	0.30	0.00	0.00	0.37	0.66	0.02	0.03	0.61
13	1.35	0.37	0.00	0.00	0.46	0.83	0.02	0.03	0.78
14	1.86	0.36	0.00	0.00	0.26	0.62	0.02	0.04	0.57
15	0.59	0.00	0.54	0.85	0.08	1.46	0.07	0.03	1.36
16	1.86	0.00	0.77	0.68	0.00	1.44	0.05	0.00	1.39
17	1.07	0.00	0.48	0.54	0.00	1.02	0.06	0.00	0.97
18	0.00	0.00	0.14	0.30	0.00	0.44	0.05	0.00	0.39
19	0.00	0.00	0.10	0.15	0.00	0.24	0.04	0.00	0.21
20	1.28	0.00	0.15	0.93	0.00	1.08	0.03	0.00	1.06
21	1.86	0.00	0.73	0.66	0.00	1.39	0.05	0.00	1.33
22	1.86	0.00	0.33	0.32	0.84	1.48	0.06	0.03	1.39
23	1.86	0.00	0.16	0.08	1.04	1.29	0.05	0.03	1.20
24	0.97	0.00	0.10	0.00	0.14	0.25	0.02	0.03	0.19
25	0.00	0.00	0.00	0.00	0.22	0.22	0.00	0.03	0.18
26	0.00	0.00	0.00	0.00	0.17	0.17	0.00	0.04	0.13
27	1.28	0.00	0.00	0.00	0.55	0.55	0.00	0.03	0.52
28	1.86	0.00	0.00	0.00	0.16	0.16	0.00	0.04	0.11
29	1.86	0.00	0.72	0.83	0.15	1.70	0.05	0.03	1.62
30	1.86	0.00	1.19	0.25	0.03	1.47	0.06	0.01	1.40
Total	28.82	3.28	5.40	5.59	8.16	22.43	0.87	0.81	20.75

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET (Marana Station) data

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
JULY 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.36	0.00	0.89	0.77	0.00	1.66	0.05	0.00	1.60
2	0.00	0.00	0.14	0.04	0.00	0.18	0.05	0.00	0.12
3	0.00	0.00	0.10	0.40	0.00	0.50	0.05	0.00	0.45
4	0.00	0.00	0.08	0.20	0.00	0.28	0.04	0.00	0.24
5	1.08	0.00	0.10	0.85	0.00	0.95	0.02	0.00	0.92
6	1.86	0.00	0.12	0.41	1.06	1.60	0.02	0.03	1.54
7	1.86	0.00	0.00	0.06	0.91	0.97	0.02	0.04	0.91
8	0.88	0.00	0.00	0.00	0.04	0.04	0.00	0.04	0.00
9	0.00	0.00	0.00	0.00	0.19	0.19	0.00	0.04	0.16
10	0.00	0.00	0.00	0.00	0.26	0.26	0.00	0.04	0.22
11	1.28	0.00	0.00	0.00	0.51	0.51	0.00	0.03	0.48
12	1.37	0.00	0.00	0.00	0.11	0.11	0.00	0.04	0.07
13	1.30	0.00	0.56	0.83	0.11	1.50	0.04	0.03	1.43
14	1.86	0.00	0.73	0.71	0.01	1.45	0.05	0.03	1.37
15	0.54	0.00	0.36	0.26	0.00	0.62	0.05	0.00	0.57
16	0.00	0.00	0.13	0.26	0.00	0.39	0.02	0.00	0.37
17	0.00	0.00	0.09	0.29	0.00	0.38	0.00	0.00	0.38
18	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.02
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	12.38	0.00	3.29	5.08	3.21	11.58	0.42	0.30	10.85

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970)

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
AUGUST 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET (Marana Station) data

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
SEPTEMBER 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow (AF)	Calculated Evaporation Volume (AF)	Calculated ET Volume (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET (Marana Station) data

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
OCTOBER 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated EV Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	2.32	1.40	0.02	0.00	0.00	1.42	0.01	0.00	1.41
5	3.71	1.68	0.68	0.00	0.00	2.36	0.03	0.00	2.33
6	2.47	0.51	1.19	0.00	0.00	1.70	0.03	0.00	1.68
7	1.01	0.52	0.69	0.00	0.00	1.21	0.03	0.00	1.18
8	0.00	0.33	0.27	0.00	0.00	0.60	0.03	0.00	0.57
9	0.00	0.03	0.09	0.00	0.00	0.12	0.02	0.00	0.10
10	1.28	0.81	0.24	0.00	0.00	1.05	0.02	0.00	1.04
11	1.86	0.52	0.49	0.35	0.00	1.37	0.02	0.00	1.35
12	1.86	0.43	0.61	0.44	0.00	1.48	0.04	0.00	1.44
13	1.86	0.43	0.81	0.38	0.00	1.62	0.04	0.00	1.58
14	0.63	0.30	0.47	0.24	0.00	1.01	0.04	0.00	0.97
15	0.00	0.06	0.16	0.05	0.00	0.26	0.04	0.00	0.23
16	0.00	0.01	0.07	0.00	0.00	0.08	0.03	0.00	0.06
17	1.24	0.46	0.15	0.39	0.00	1.00	0.01	0.00	0.99
18	1.86	1.05	0.37	0.46	0.00	1.88	0.04	0.00	1.84
19	1.86	0.37	0.75	0.33	0.00	1.45	0.04	0.00	1.41
20	1.86	0.39	0.77	0.52	0.00	1.68	0.04	0.00	1.64
21	0.52	0.49	0.17	0.55	0.49	1.70	0.04	0.01	1.64
22	0.00	0.09	0.01	0.06	0.10	0.25	0.04	0.01	0.20
23	0.00	0.01	0.02	0.00	0.00	0.03	0.02	0.00	0.01
24	1.35	0.49	0.02	0.40	0.26	1.17	0.02	0.02	1.14
25	1.86	0.96	0.00	0.33	0.75	2.04	0.02	0.03	1.99
26	1.86	0.33	0.00	0.27	1.07	1.68	0.02	0.02	1.64
27	1.86	0.36	0.00	0.36	0.96	1.67	0.02	0.02	1.63
28	0.63	0.20	0.00	0.21	0.36	0.77	0.02	0.02	0.73
29	0.00	0.16	0.00	0.13	0.28	0.56	0.02	0.02	0.52
30	0.00	0.05	0.00	0.02	0.03	0.11	0.01	0.01	0.08
31	1.30	0.50	0.00	1.82	0.24	2.56	0.02	0.02	2.53
Total	33.16	12.95	8.07	7.31	4.52	32.86	0.76	0.18	31.92

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET data from the Tucson Station, modified for the Marana area.

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
NOVEMBER 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated EV Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	1.86	0.73	0.00	0.31	0.79	1.83	0.01	0.02	1.80
2	1.86	0.42	0.00	0.30	0.84	1.56	0.01	0.02	1.53
3	1.86	0.45	0.00	0.58	0.17	1.20	0.02	0.01	1.17
4	0.58	0.00	0.00	0.02	0.26	0.28	0.02	0.02	0.25
5	0.00	0.23	0.00	0.05	0.31	0.59	0.01	0.02	0.56
6	0.00	0.10	0.00	0.05	0.08	0.22	0.01	0.02	0.19
7	1.01	0.31	0.00	0.12	0.15	0.58	0.01	0.01	0.56
8	1.86	0.46	0.00	0.26	0.57	1.29	0.01	0.02	1.26
9	1.86	0.56	0.00	0.21	0.33	1.09	0.02	0.02	1.05
10	0.87	0.07	0.00	0.06	0.19	0.32	0.01	0.01	0.29
11	0.00	0.15	0.00	0.05	0.02	0.21	0.01	0.01	0.19
12	0.00	0.26	0.00	0.02	0.12	0.40	0.01	0.01	0.38
13	0.00	0.21	0.00	0.02	0.17	0.40	0.01	0.01	0.38
14	1.22	0.25	0.00	0.12	0.13	0.50	0.01	0.01	0.48
15	1.86	0.47	0.00	0.27	0.54	1.28	0.01	0.02	1.25
16	1.86	0.43	0.00	1.22	0.33	1.98	0.02	0.01	1.95
17	0.58	0.00	0.00	0.00	0.13	0.13	0.01	0.01	0.10
18	0.00	0.10	0.00	0.00	0.03	0.12	0.01	0.01	0.10
19	0.00	0.19	0.00	0.00	0.20	0.39	0.01	0.01	0.37
20	0.00	0.15	0.00	0.00	0.16	0.31	0.01	0.01	0.29
21	1.24	0.42	0.00	0.00	0.41	0.83	0.01	0.01	0.81
22	1.86	0.42	0.00	0.74	0.27	1.43	0.01	0.01	1.41
23	0.58	0.10	0.00	0.54	0.02	0.66	0.02	0.01	0.63
24	0.00	0.30	0.00	0.00	0.17	0.47	0.01	0.01	0.45
25	0.00	0.09	0.00	0.00	0.06	0.15	0.01	0.00	0.14
26	0.00	0.03	0.00	0.00	0.00	0.03	0.01	0.00	0.03
27	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.01
28	1.22	0.00	0.00	0.35	0.48	0.83	0.01	0.01	0.81
29	1.86	0.00	0.00	1.11	0.50	1.61	0.01	0.01	1.59
30	0.64	0.00	0.00	0.20	0.16	0.37	0.01	0.01	0.34
Total	24.63	6.93	0.00	6.58	7.56	21.08	0.34	0.37	20.36

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET (Marana Station) data

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
DECEMBER 2005

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.72	0.01	0.00	0.01	0.08	0.10	0.00	0.01	0.08
2	0.00	0.00	0.00	0.01	0.01	0.02	0.00	0.00	0.01
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.30	0.00	0.15	0.16	0.61	0.01	0.00	0.60
5	1.20	0.43	0.00	0.33	0.36	1.12	0.01	0.01	1.10
6	1.86	0.33	0.00	0.30	0.59	1.22	0.01	0.01	1.20
7	0.62	0.12	0.00	0.15	0.02	0.29	0.01	0.01	0.26
8	0.00	0.10	0.00	0.08	0.22	0.39	0.01	0.01	0.37
9	0.00	0.13	0.00	0.04	0.01	0.18	0.01	0.01	0.15
10	0.00	0.12	0.00	0.02	0.09	0.23	0.01	0.01	0.21
11	0.00	0.09	0.00	0.01	0.07	0.16	0.01	0.01	0.15
12	1.20	0.52	0.00	0.26	0.35	1.13	0.01	0.00	1.12
13	1.86	0.33	0.00	0.40	0.43	1.16	0.01	0.01	1.15
14	0.62	0.10	0.00	0.20	0.02	0.32	0.01	0.01	0.30
15	0.00	0.12	0.00	0.10	0.21	0.43	0.01	0.01	0.41
16	0.00	0.11	0.00	0.05	0.01	0.17	0.01	0.01	0.15
17	0.00	0.00	0.00	0.03	0.01	0.04	0.01	0.01	0.02
18	0.00	0.15	0.00	0.01	0.06	0.22	0.01	0.01	0.20
19	1.21	0.28	0.00	0.65	0.12	1.05	0.01	0.01	1.03
20	1.86	0.44	0.00	0.41	0.52	1.37	0.01	0.01	1.35
21	1.86	0.17	0.00	0.33	0.09	0.59	0.01	0.01	0.57
22	0.64	0.12	0.00	0.00	0.06	0.18	0.01	0.01	0.16
23	0.00	0.11	0.00	0.00	0.00	0.11	0.01	0.01	0.09
24	0.00	0.13	0.00	0.00	0.00	0.13	0.01	0.01	0.11
25	0.00	0.19	0.00	0.00	0.36	0.55	0.01	0.01	0.52
26	0.00	0.05	0.00	0.00	0.11	0.16	0.01	0.01	0.14
27	1.29	0.32	0.00	0.26	0.22	0.79	0.01	0.01	0.77
28	1.86	0.39	0.00	0.50	0.59	1.48	0.01	0.01	1.46
29	1.86	0.13	0.00	0.54	0.00	0.67	0.01	0.01	0.65
30	0.55	0.10	0.00	0.00	0.00	0.10	0.01	0.01	0.08
31	0.00	0.12	0.00	0.00	0.11	0.23	0.01	0.01	0.21
Total	19.19	5.48	0.00	4.83	4.89	15.20	0.28	0.28	14.64

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET (Marana Station) data

ARIZONA DEPARTMENT OF WATER RESOURCES
HYDROLOGY DIVISION

TECHNICAL BULLETIN

Justification for using the Cooley Method Maximum Curve as the standard method for calculating evaporation losses at open-air underground storage facilities.

The Hydrology Division recommends using the Cooley Method with the Maximum Curve when calculating evaporative losses for spreading basins. This recommendation was derived for the following reasons:

- The Cooley Method is very consistent, in that, the daily evaporation rates and adjustment factors are fixed and do not change over time. This allows for a very simplified calculation method that is identical from year to year.

- The Cooley method is easy to use and can be adopted by a wide range of permittees and facilities. Especially as it relates to the collecting, reporting, and reviewing of the data and calculations. This has proven to be a benefit for new facility operators and changes in personnel at the Department. This is an important factor to consider when taking into account a duration of twenty years or longer for some facilities.

- The consistency of the Cooley Method makes it easy for the Department to review and verify calculation parameters when reviewing a new application and/or determining long term storage credits.

- The Cooley Method can be used without the Department demanding extraneous monitoring cost. The information required such as, wet/dry status of the basin(s) and the volume of water discharged are currently required in the USF permit for credit calculations and infiltration calculations.

- The Cooley Method unlike other empirical methods was designed specifically for Arizona.

- Other methods of determining evaporation can be very accurate, however, they are relatively expensive, requiring intensive measurements and calculation efforts to obtain evaporation values. In Hydrology's experience the difference between these methods and Cooley is negligible. This is especially true given the relatively small ratio of evaporation to the total amount of water recharged.

- The daily evaporation rates and adjustment factors, determined by Cooley, are used by the Arizona Department of Environmental Quality (ADEQ Engineering Bulletin No. 12). Thus having consistency between state agencies.

Justification for Using the Maximum Curve of the Cooley Method

- Using the maximum evaporation rate calculates evaporative loss less than the Class A pan evaporation data and greater than the normal evaporation curve. This produces a value that assures that all losses have been accounted for when calculating annual storage credits but is not over conservative.

- Class A pan data was one of the three sources used in preparing the Cooley Method. The corrections used in Class A pan calculations were calibrated to open water surfaces, considerably deeper than the average spreading basin. These deep open water bodies contain cooler water upwelling toward the surface causing a decrease in the evaporation rate. The spreading basins used in current recharge operations typically contain very shallow water (2 to 3 feet) that heats up fairly rapidly, thus increasing evaporative losses. Therefore, using the evaporation values calibrated for open water conditions would underestimate the evaporative losses in a spreading basin. The maximum evaporation rate more accurately estimates the evaporative losses for the conditions present at shallow recharge basins.

- Evaporation caused by the "wicking effect" may continue during dry cycles even when the basin does not contain standing water. The "wicking effect" process consists of water moving upward toward the surface due to the drying and heating of the ground above. This factor is not taken into account when using the normal values of evaporation, but is compensated for when using the maximum evaporation rate in calculations.

Attachments:

Evaporation from Open Water Surfaces in Arizona, K.R. Cooley, 1970

EVAPORATION FROM OPEN WATER SURFACES IN ARIZONA

Keith R. Cooley
Research Hydrologist
U. S. Water Conservation Laboratory, Soil and Water Conservation Research Division, Agricultural Research Service, U. S. Department of Agriculture.

Most people know that a considerable amount of water is lost by evaporation from open water surfaces in Arizona. However, they are amazed that, from a stock tank containing water 7 feet deep, the loss to evaporation in a year's time could be as much as 6 feet, leaving only one foot for livestock. On the other hand, declines in water level of 3 or 4 inches per day from fish ponds and swimming pools cannot be due entirely to evaporation.

Using the method outlined in this folder, the home owner, farmer, rancher, contractor, or consultant can estimate the amount of evaporation expected from an open, unbroken water surface during any part of the year and for any location in Arizona. Results will generally be within 10 percent of actual evaporation on an annual basis.

How to Estimate Evaporation

Estimation of evaporation consists of three steps.

1. Select the average daily or average monthly evaporation for the period in question from Figure 1. For daily evaporation, choose one of the three curves, depending on whether you want maximum, normal, or minimum expected evaporation.

Values of average normal evaporation are shown in the bar graph as inches per month.

Use the curve representing normal evaporation for an estimate of expected evaporation under average conditions. However, for extremely hot windy periods, or cool cloudy periods, the curves representing maximum and minimum evaporation, respectively, will give a better estimate. The curves of maximum and minimum evaporation may also be of value when considering the possible range of seepage losses from water storage facilities.

2. Determine an adjustment factor from Figure 2 for the location in question. Read from the map the factor nearest the location in which you are interested.

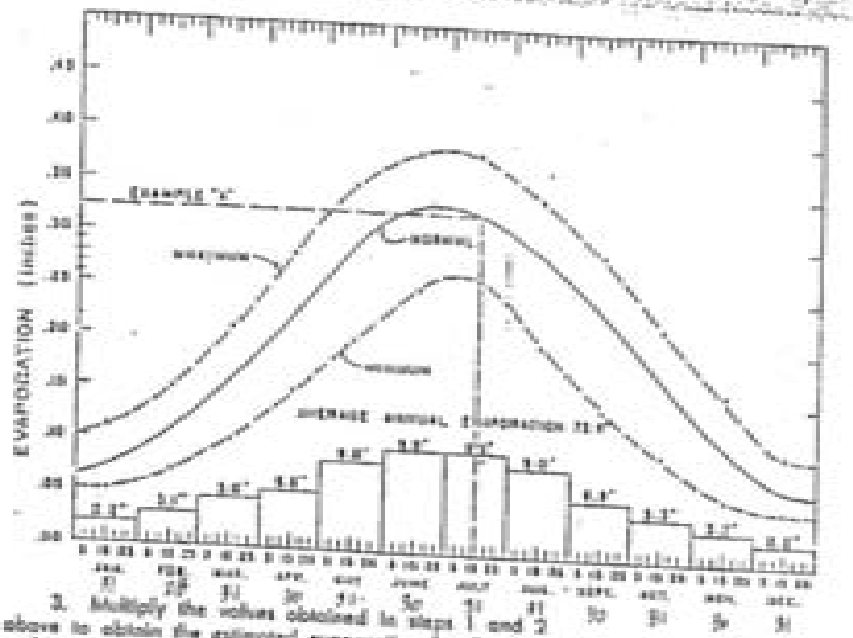


FIGURE 1. Maximum, Normal, and Minimum Daily Evaporation and Average Monthly Evaporation From Open Water Surfaces (Adjustment Factor = 1.00).

3. Multiply the values obtained in steps 1 and 2 above to obtain the estimated evaporation for the time and location in question.

For facilities with exposed walls, such as above-ground stock tanks and exposed-wall swimming pools, multiply the value obtained in step 3 above by 1.25, which is an average coefficient for the entire state for all types of exposed-wall structures.

Examples:

A. Wanted: Average daily normal evaporation from a swimming pool in Tucson during July.
   Step 1. From Figure 1, average evaporation for July = 0.22 inches/day.
   Step 2. From Figure 2, adjustment factor = 0.95.
   Step 3. Multiply values obtained in steps 1 and 2 above: 0.22 x 0.95 = 0.2 inches/day = average daily evaporation during July in Tucson.

B. Wanted: Average normal evaporation from a fish pond in Phoenix during May and June.
   Step 1. From Figure 1, average evaporation for May and June = 9.0 and 9.9 inches, respectively.
   Step 2. Adjustment factor from Figure 2 for Phoenix = 1.0.

(See back)

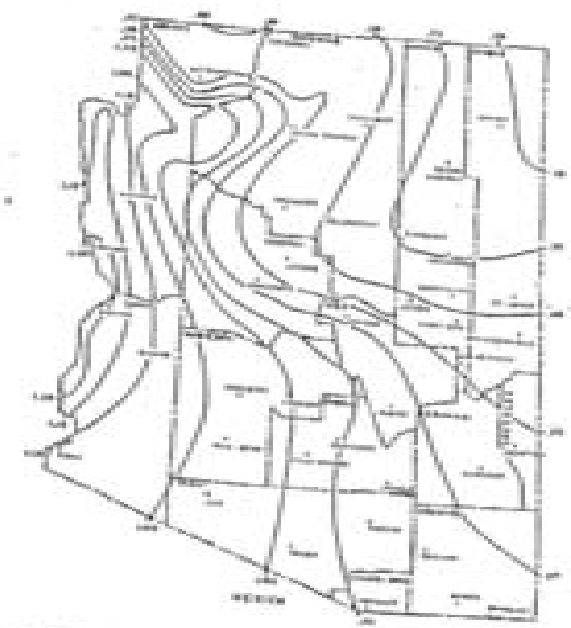


FIGURE 2. Evaporation Adjustment Factors for Arizona

Step 3. Multiply values obtained in steps 1 and 2 above: (9.0 x 1.0) + (9.9 x 1.0) = 18.9 or approximately 19 inches = total average evaporation for May and June.

C. Wanted: Maximum evaporation to be expected from a stock pond near Snowflake during May, June, and July.

Step 1. From the curve of maximum values in Figure 1, values for May, June, and July are: 0.35, 0.38, and 0.38 inches/day, respectively.

Step 2. From Figure 2, adjustment factor for Snowflake = 0.80.

Step 3. Multiply values obtained in steps 1 and 2 above times the number of days in each month.

May: 0.35 x 31 x 0.8 = 8.7
June: 0.38 x 30 x 0.8 = 9.1
July: 0.38 x 31 x 0.8 = 9.4
Totals 27.2 inches

Maximum evaporation expected from a stock pond near Snowflake during May, June, and July is approximately 27 inches.

D. Wanted: Average normal evaporation from an exposed-wall swimming pool near Yuma during June.

Step 1. From Figure 1, average evaporation for June is 9.9 inches.

Step 2. From Figure 2, adjustment factor for Yuma = 1.10.

Step 3. Multiply values obtained in steps 1 and 2 above.
9.9 x 1.10 = 10.9 inches.

Step 4. Multiply by the coefficient for exposed-wall storage facilities, 1.25.
10.9 x 1.25 = 13.6 inches = average evaporation from an exposed-wall swimming pool at Yuma during June.

Acknowledgement

Data used in preparing this paper were obtained from three sources: (1) records of evaporation from sunken insulated evaporation pans at the U. S. Water Conservation Laboratory near Phoenix, Arizona, for the years 1966-1968, (2) records of evaporation from a Class A evaporation pan at the University of Arizona Mesa Experiment Farm for the years 1957-1967, and (3) evaporation maps of the United States based on 1946-1955 data.

Special acknowledgement is made to Mr. Paul C. Kangieser, U. S. Weather Bureau Climatologist, for supplying records of evaporation recorded at the Mesa Experiment Farm.

This publication is issued by the Cooperative Extension Service and the Agricultural Experiment Station of The University of Arizona. See your local County Extension Agent for additional information.

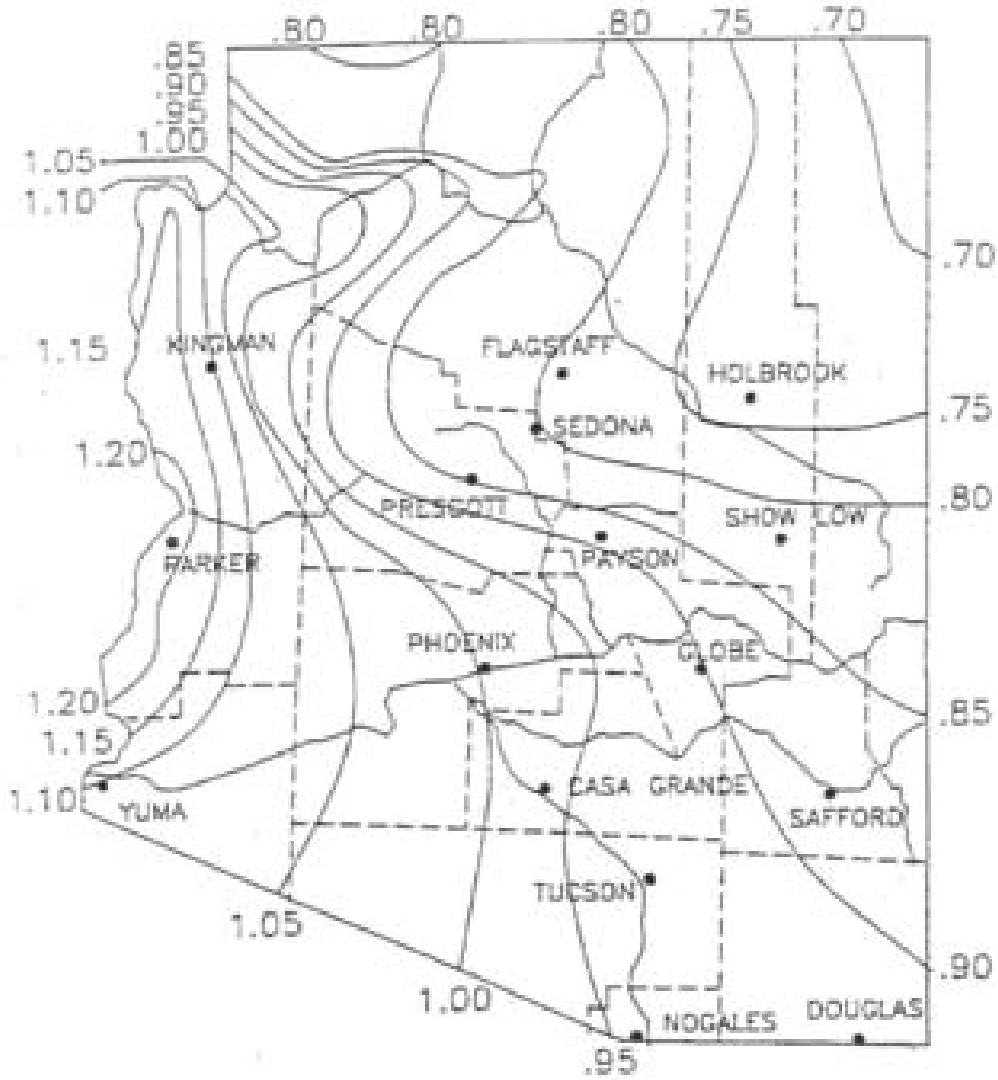
EVAPORATION FROM OPEN WATER SURFACES IN ARIZONA

BULLETIN 153

Agricultural Experiment Station
And
Cooperative Extension Service
The University of Arizona

Issued in furtherance of cooperative extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, in cooperation with the U. S. Department of Agriculture. George E. Hull, Director of Extension Service, The University of Arizona College of Agriculture, Tucson,

FIGURE 10. EVAPORATION ADJUSTMENT FACTORS FOR ARIZONA



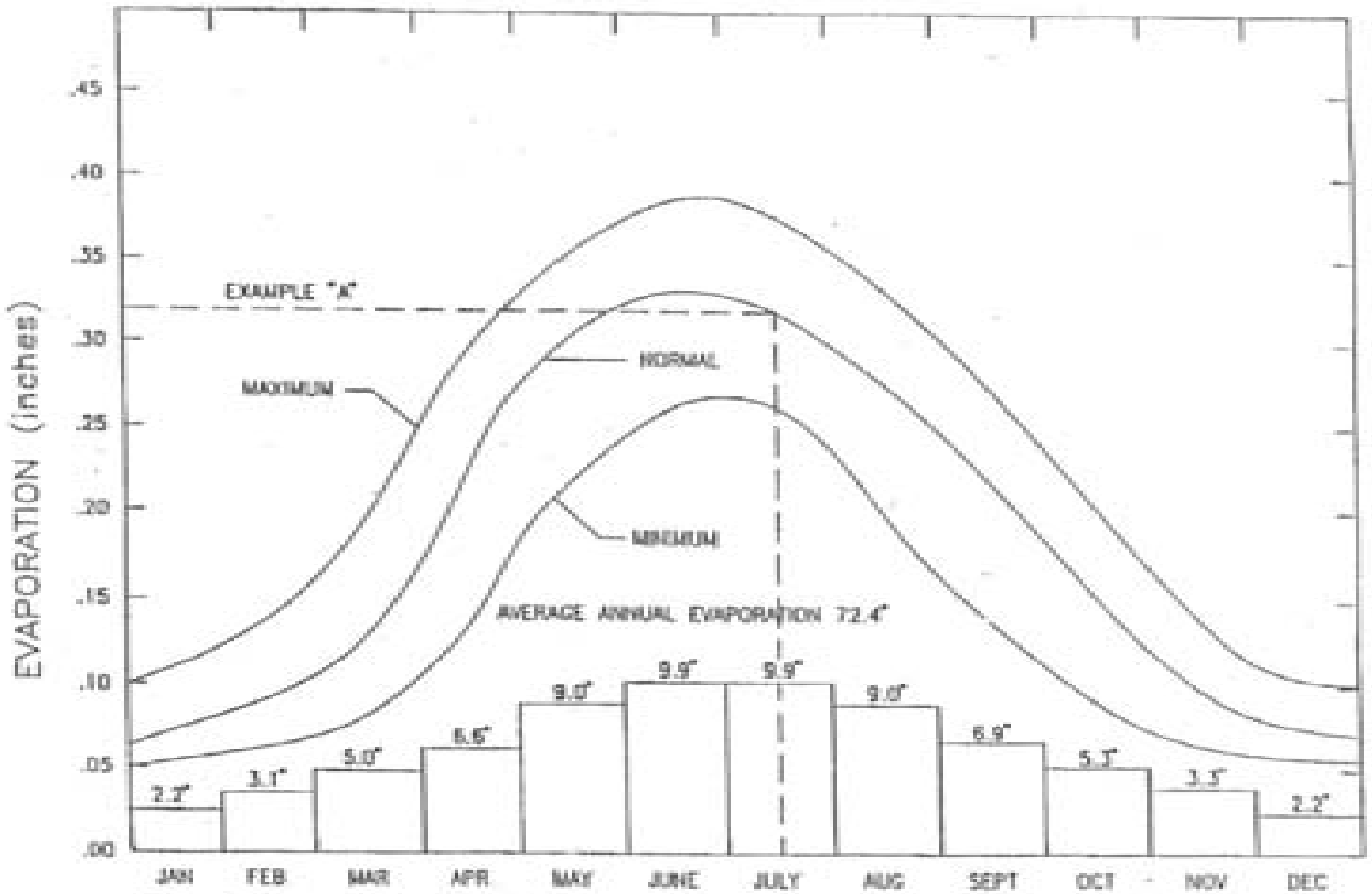


FIGURE 9. MAXIMUM, NORMAL AND MINIMUM DAILY EVAPORATION AND AVERAGE MONTHLY EVAPORATION FROM OPEN WATER SURFACES (Adjustment Factor = 1.00)

TABLE 3.2 MONTHLY MAXIMUM, NORMAL, AND MINIMUM OPEN WATER EVAPORATION AMOUNTS FOR ARIZONA (UNADJUSTED).

	EVAPORATION (IN)		
MONTH	MAXIMUM	NORMAL	MINIMUM
Jan (31 days)	3.6	2.2	1.6
Feb (28)	4.5	3.1	2.3
Mar (31)	6.5	5.0	3.1
April (30)	8.4	6.6	4.5
May (31)	10.9	9.0	6.2
June (30)	11.4	9.9	7.5
July (31)	11.8	9.9	8.1
August (31)	10.5	9.0	6.0
Sept (30)	8.7	6.9	4.1
Oct (31)	7.0	5.3	2.8
Nov (30)	4.8	3.3	1.8
Dec (31)	3.1	2.2	1.6
TOTAL	91.2 (7.6 ft.)	72.4 (6.0 ft.)	49.6 (4.1 ft.)

From: Cooley, 1970

AZMET COMPUTATION OF REFERENCE CROP EVAPOTRANSPIRATION

Paul W. Brown
Extension Specialist, Biometeorology
University of Arizona

INTRODUCTION

The Arizona Meteorological Network (AZMET) calculates reference crop evapotranspiration (ETo) using a modification of the Penman Equation developed for the California Irrigation Management Information System (CIMIS) by Snyder and Pruitt (1985). Reference crop evapotranspiration computed using this procedure provides an estimate of ET by a cool season grass, 8-15 cm in height, that completely covers the soil surface and is well watered. A detailed discussion of computational procedures employed by AZMET are provided in the paragraphs below.

ETo COMPUTATIONAL PROCEDURE

The CIMIS Penman Equation was developed for use with hourly weather data. Required input data for the ETo computation include hourly means of air temperature (Ta; units of degrees C), vapor pressure deficit (VPD; units of kilopascals: kPa), wind speed (U2; units of m/s), and net radiation (Rn: units of mm/hr of equivalent evaporation). Hourly values of ETo (ETob) in mm/hr are computed using the following:

$$ETob = W*Rn + (1-W)*VPD*FU2 \qquad (1)$$

where W is a dimensionless partitioning factor, and FU2 is an empirical wind function (units: mm/hr/kPa). Daily values of ETo are computed by simply summing the twenty-four hourly ETob values computed from Eq. 1 for the period ending at midnight (end of AZMET day). Specific computational procedures used to obtain the required parameters for Eq. 1 are provided below.

Net Radiation (Rn)

CIMIS originally measured Rn using instruments known as net radiometers. CIMIS abandoned the use of net radiometers in the early 1990s for a variety of reasons. AZMET chose not use net radiometers and has computed hourly net radiation since network inception (1986) using a simple, clear sky estimation procedure that uses solar radiation (SR) expressed in units of MJ/m*m/hr and mean hourly vapor pressure (ea; units: kPa). The procedure is provided below:

For Daytime Conditions (SR>=0.21 MJ/m*m/hr):

$$Rno = 277.8*(-0.3 + 0.767*SR) \qquad (2)$$

For Nighttime Conditions (SR<0.21 MJ/m*m/hr):

$$Rno = 277.8*(-0.17 + 0.767*SR + 0.056*ea) \qquad (3)$$

where the constant 277.8 converts the units of Rno from MJ/m*m/hr to W/m*m.

Vapor pressure (ea) is computed by subtracting VPD from the saturation vapor pressure (es):

$$ea = es - VPD \qquad (4)$$

where es is computed using the following:

$$es = 0.6108*exp((17.27*Ta)/(Ta+237.2)) \qquad (5)$$

It is important to note that this simple computational procedure for Rn works well in Arizona because: 1) the vast majority of the days are clear and 2) vapor pressure is reasonably constant throughout much of the year. Use of this Rn estimation procedure in regions with abundant cloudiness and high humidity is not recommended.

The Rno computed from Equations 2 and 3 is in units of W/m*m. Equation 1 requires net radiation in units of mm of equivalent water evaporation (Rn). This conversion of units is accomplished by dividing Rno in W/m*m by the latent heat of vaporization as follows:

$$Rn = Rno/(694.5*(1-0.000946*Ta)) \qquad (6)$$

where Ta is the mean hourly air temperature.

Partitioning Factor (W)

The partitioning factor, W, is computed using Equation 7:

$$W = S/(S+G) \qquad (7)$$

where S is the slope of the saturation vapor pressure curve at Ta and G is the psychrometer constant.

The value of S in units of kPa/C is computed using the following:

$$S = es*(597.4-0.571*Ta)/(0.1103*(Ta+273.16)^2) \qquad (8)$$

where es is the saturation vapor pressure at Ta.

The psychometer constant, G, is computed using the following:

$$G = 0.000646*P*(1+0.000949*Ta) \qquad (9)$$

where P is atmospheric station pressure in units of kPa.

For computation of ETo, P is considered a constant and computed from elevation above sea level.

Vapor Pressure Deficit (VPD)

Vapor pressure deficit is computed by AZMET dataloggers and therefore no computation is required to obtain VPD. The AZMET datalogger computes VPD by 1) computing the saturation vapor pressure (es) from air temperature, 2) multiplying es by the relative humidity fraction to obtain actual vapor pressure (ea), and 3) subtracting ea from es to obtain VPD. The hourly VPD value used in the ETo computation is the mean of 360 individual VPD computations (dataloggers scan sensors and make computations every 10 seconds).

Wind Function (FU2)

Two wind functions (FU2; units mm/hr/kPa) are used to compute ETo -- one for daytime conditions (Rn>0) and one for nighttime conditions (Rn<=0). These wind functions are as follows:

Daytime: Rn>0

$$FU2 = 0.03 + 0.0576*U2 \qquad (10)$$

Nighttime: Rn<=0

$$FU2 = 0.125 + 0.0439*U2 \qquad (11)$$

where U2 is the mean hourly wind speed obtained at a height of 2 m in units of m/s. AZMET measures wind speed at a height of 3m (U3); thus AZMET wind speeds are adjusted using:

$$U2 = 0.93*U3 \qquad (12)$$

where the constant 0.93 is derived from the standard power law equations that predict the variation of wind speed with height.

AZMET vs. CIMIS ETo

Both AZMET and CIMIS provide ETo data for locations along the Colorado River for use in on-farm water management and to aid in overall management of the Colorado River. It is therefore important that AZMET and CIMIS compute ETo in a similar manner. Both CIMIS and AZMET use the same basic procedure for estimating ETo from hourly weather data. The only significant difference between AZMET and CIMIS ETo procedures rests with the computation of Rn -- an important parameter in the ETo computation. AZMET uses a relatively simple clear sky procedure for estimating Rn. This procedure compares well with Rn measured with net radiometers. CIMIS originally used net radiometers to measure Rn; however, CIMIS abandoned measurement of Rn in the early 1990s and now uses an hourly Rn estimation procedure based on the work of Dong et al. (1992). A direct comparison of AZMET and the current CIMIS Rn procedures is nearing completion and should be available in written form by June 1998. Completion of this work will determine how much difference (if any) we can expect between AZMET ETo and CIMIS ETo.

REFERENCES

A. Dong, S.R. Grattan, J.J. Carroll and C.R.K. Prashar. 1992. Estimation of daytime net radiation over well-watered grass. J. Irr. & Drain. Eng. 118(3): 466-479. ASCE.

Snyder, R. and W. Pruitt. 1985. Estimating reference evapotranspiration with hourly data. In R. Snyder et al. (ed.) California Irrigation Management Information System Final Report. June 1985, Vol. 1. Land, Air and Water Resources Paper #10013-A. Univ. of California-Davis. Chpt. VII.

TURNER
LABORATORIES INC.

February 03, 2005

Suzanne Shields, P.E.
Pima County Flood Control District
201 N. Stone, 4th Floor
Tucson, AZ 85701
TEL: (520) 740-6350
FAX (520) 740-6749

RE: MHPERP

Order No.: 0501360

Dear Suzanne Shields, P.E.,

Turner Laboratories, Inc. received 1 sample on 1/25/2005 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Shari Bauman

Shari Bauman
Laboratory Director

Turner Laboratories, Inc. **Date:** *03-Feb-05*

CLIENT: Pima County Flood Control District
Project: MHPERP
Lab Order: 0501360

CASE NARRATIVE

Analytical Comments for METHOD 300_DW, SAMPLE 0501360-01AMS/MSD:The recovery of nitrite is outside of acceptance limits due to matrix interferences. The recovery is acceptable in the LCS/LCSD.

Some of the analyses used for the chemical determinations in this report are not licensed by the Arizona Department of Health Services for use in a groundwater matrix.

Turner Laboratories, Inc.

Date: *03-Feb-05*

CLIENT:	Pima County Flood Control District	**Client Sample ID:**	HP-1
Lab Order:	0501360	**Collection Date:**	1/25/2005 12:15:00 PM
Project:	MHPERP		
Lab ID:	0501360-01A	**Matrix:**	GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **JM**
Nitrogen, Nitrate (As N)	3.1	1.0		mg/L	1	1/25/2005 6:16:00 PM
Nitrogen, Nitrite	ND	0.10		mg/L	1	1/25/2005 6:16:00 PM
TOTAL KJELDAHL NITROGEN		**E351.1**				Analyst: **JM**
Nitrogen, Kjeldahl, Total	0.52	0.50		mg/L	1	1/28/2005 2:30:00 PM

Qualifiers:

ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

TURNER LABORATORIES, INC.

SAMPLE CONTROL RECEIPT CHECKLIST

Turner Laboratories W.O. #: 0501360

Received By: Chris

Received Date/Time: 1/25/05 2:30PM

Delivered by: David

1. Shipping container/cooler in good condition?	☑ Yes	☐ No	☐ Not Present
2. Custody seals intact on sample bottles?	☐ Yes	☐ No	☑ Not Present
3. Chain of custody present?	☑ Yes	☐ No	
4. COC signed when relinquished and received?	☑ Yes	☐ No	
5. COC agrees with sample labels?	☑ Yes	☐ No	
6. Samples in proper container/bottle?	☑ Yes	☐ No	
7. Sample container intact?	☑ Yes	☐ No	
8. Sufficient sample volume for requested tests?	☑ Yes	☐ No	
9. Samples received within holding times?	☑ Yes	☐ No	
10. VOA vials received with no headspace?	☐ Yes	☐ No	☑ No Vials
11. Bacti bottles received with appropriate headspace?	☐ Yes	☐ Above 100ml ☐ Below 100ml	N/A

12. Temperature upon receipt? 19°C

13. Number of sample containers received? 2

Additional Comments:

2445 N. Coyote Drive, Suite 104
Tucson, Arizona 85745
(520) 882-5680
Fax: (520) 882-9788
1-800-882-5804

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 0501360 DATE 1/25/05 PAGE 1 OF 1

PROJECT NAME: MHPERP
PROJECT MNGR: Suzanne Shields, P.E.
COMPANY NAME: Pima County Flood Control
ADDRESS: 201 N. Stone Ave., 4th Floor
Tucson, Az 85701 PHONE: 740-6350
SAMPLERS SIGNATURE: David Scalera

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	Base Neutrals 625/8270	Acids	Volatile Organics 624/8240/8260	Halogenated or Aromatic Volatiles 601/8021	Pesticides 608/1	PCBs 608/2	Total Petroleum Hydrocarbons 418.1/8015	Herbicides	Oil and Grease 413.1/1664	Oil, Diesel	TCLP Analysis Semivol.	Pesticides	TCLP Metals	Metals Total	Dissolved	Cyanide Total	Dissolved	Chromium VI/Total Chromium	Dissolved	Calcium Total	Hardness (as CaCO3)	pH/EC	$NO_3 + NO_2$	TKN				
HP-1	1-25-05	1215		GW	2																							1	1				

1. RELINQUISHED BY:	2. RECEIVED BY:	TURNAROUND REQUIREMENTS:	REPORT REQUIREMENTS:	INVOICE INFORMATION:	SAMPLE RECEIPT:
Signature	Signature	X Standard (approx. 30 days)*	X I. Routine Report	Account: X Y ___ N	
Printed Name	Printed Name	___ Next Day ___ 2 Day ___ 3 Day*	___ II. Report (includes DUP, MS, MSD, as required, may be charged as samples)	P.O. # 47772	
Firm	Firm	___ Provide Verbal Preliminary Results	___ III. Data Validation Report (Includes All Raw Data) Add 10% to invoice	Bill to: Pima County Flood Control (address above)	Total Containers: 2
Date/Time	Date/Time	Requested Report Date:			Ambient/Cold: 19°C
		* Working Days			

3. RELINQUISHED BY:	4. RECEIVED BY:	* LEGEND	SPECIAL INSTRUCTIONS/COMMENTS:
David Scalera	C Gutierrez	SL = SOIL	Compliance Analysis: X Yes ___ No
David Scalera	TURNER LABORATORIES, INC.	SD = SOLID	ADEQ Forms: ___ Yes ___ No
Pima Co. Flood Control	1/25/05 2:10PM	SG = SLUDGE	Send report and invoice to David Scalera at above address.
1-25-05 / 2:10pm		WW = WASTEWATER	
		GW = GROUNDWATER	
		DW = DRINKING WATER	

TURNER
LABORATORIES INC.

March 07, 2005

Suzanne Shields, P.E.
Pima County Flood Control District
201 N. Stone, 4th Floor
Tucson, AZ 85701
TEL: (520) 740-6350
FAX (520) 740-6749

RE: MHPERP Order No.: 0502382

Dear Suzanne Shields, P.E.,

Turner Laboratories, Inc. received 1 sample on 2/25/2005 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Shari Bauman

Shari Bauman
Laboratory Director

Turner Laboratories, Inc.

Date: *07-Mar-05*

CLIENT:	Pima County Flood Control District	**Client Sample ID:**	HP-1
Lab Order:	0502382	**Collection Date:**	2/25/2005 10:45:00 AM
Project:	MHPERP		
Lab ID:	0502382-01A	**Matrix:**	GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **JM**
Nitrogen, Nitrate (As N)	2.9	1.0		mg/L	1	2/25/2005 2:39:00 PM
Nitrogen, Nitrite	ND	0.10		mg/L	1	2/25/2005 2:39:00 PM
TOTAL KJELDAHL NITROGEN		**E351.1**				Analyst: **JM**
Nitrogen, Kjeldahl, Total	ND	0.50		mg/L	1	3/3/2005 3:00:00 PM

Qualifiers:

ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

0502382

TURNER LABORATORIES, INC.

SAMPLE CONTROL RECEIPT CHECKLIST

Received By: CMCC

Received Date/Time: 2/25/05 11:27

Delivered by: David

1. Shipping container/cooler in good condition?	☑ Yes	☐ No	☐ Not Present
2. Custody seals intact on sample bottles?	☐ Yes	☐ No	☑ Not Present
3. Chain of custody present?	☑ Yes	☐ No	
4. COC signed when relinquished and received?	☑ Yes	☐ No	
5. COC agrees with sample labels?	☑ Yes	☐ No	
6. Samples in proper container/bottle?	☑ Yes	☐ No	
7. Sample container intact?	☑ Yes	☐ No	
8. Sufficient sample volume for requested tests?	☑ Yes	☐ No	
9. Samples received within holding times?	☑ Yes	☐ No	
10. VOA vials received with no headspace?	☐ Yes	☐ No	☑ No Vials
11. Bacti bottles received with appropriate headspace?	☐ Yes	☐ Above 100ml ☐ Below 100ml	N/A

12. Temperature upon receipt? 16°C

13. Number of sample containers received? 2

Additional Comments:

2445 N. Coyote Drive, Suite 104
Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
1-800-882-5864

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 050388 DATE 2/25/05 PAGE ____ OF ____

PROJECT NAME: MHPERP
PROJECT MNGR: Suzanne Shields, P.E.
COMPANY NAME: Pima County Flood Control
ADDRESS: 201 N. Stone Ave, 4th Floor
Tucson, Az 85701 PHONE: 740-6350
SAMPLERS SIGNATURE: David Scalero

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	Raw Metals (CD,CR,CU,PB,ZN)	Total Metals (CD,CR,CU,PB,ZN)	Fecal Coliform (Colifecal, MF/EC/TC/Lactose)	Fecal Coliform (MF/EC/TC/Lactose)	Total Coliform (MF/EC/TC)	Total Coliform (MF/EC/TC)	Cl and Cl2 (Cl2, Total)	TCLP Metals (TCLP Metals, Total Metals)	Metals (Total, Total Metals)	Cyanide (Total, Total Metals)	Cadmium (Total, Total Metals)	Chromium (Total, Total Metals)	Copper (Total, Total Metals)	Cadmium (Total, HAZARDOUS WASTE PROBE)	Zinc (Total, HAZARDOUS WASTE PROBE)	$NO_3 + NO_2$	TKN				
HP-1	2-25-05	1045		GW	2																1	1				

1. RELINQUISHED BY:	2. RECEIVED BY:	TURNAROUND REQUIREMENTS:	REPORT REQUIREMENTS:	INVOICE INFORMATION:	SAMPLE RECEIPT:
Signature / Printed Name / Firm / Date/Time	Signature / Printed Name / Firm / Date/Time	X Standard (approx. 10 days)* ____ Next Day ____ 2 Day ____ 3 Day* ____ Provide Verbal Preliminary Results Requested Report Date ____ * Working Days	X I. Routine Report ____ II. Report (includes DUP, MS, MSD, as required, may be charged as samples) ____ III. Data Validation Report (includes All Raw Data) Add 10% to invoice	Account: X Y ____ N PO # 47772 Bill to: Pima County Flood Control (address above)	Total Containers: 2 Ambient/Cold: 16°C
3. RELINQUISHED BY: David Scalero (Signature) David Scalero (Printed Name) P.C. Flood Control (Firm) 2-25-05/1127 (Date/Time)	4. RECEIVED BY: C. Mobella (Signature) C. Mobella (Printed Name) TURNER LABORATORIES, INC. (Firm) 2/25/05 1127 (Date/Time)	* LEGEND: SL = SOIL; SD = SOLID; SG = SLUDGE; WW = WASTEWATER; GW = GROUNDWATER; DW = DRINKING WATER	SPECIAL INSTRUCTIONS/COMMENTS: Compliance Analysis: X Yes ____ No; NDEQ Forms: ____ Yes ____ No	Send invoice and report to David Scalero, Pima County Flood Control (address above)	

____ DN ____ RON ____ TE - ____ a one ____ Y ____ Y - lid ____ NK - ____ d lin ____ ior ____ ; bot ____ & co ____ jenes ____ s and ____ "some" ____ d lub ____

TURNER
LABORATORIES INC.

April 14, 2005

Suzanne Shields, P.E.
Pima County Flood Control District
201 N. Stone, 4th Floor
Tucson, AZ 85701
TEL: (520) 740-6350
FAX (520) 740-6749

RE: MHPERP

Order No.: 0503461

Dear Suzanne Shields, P.E.,

Turner Laboratories, Inc. received 2 samples on 3/30/2005 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Shari Bauman

Shari Bauman
Laboratory Director

Turner Laboratories, Inc.

Date: *14-Apr-05*

CLIENT: Pima County Flood Control District
Lab Order: 0503461
Project: MHPERP
Lab ID: 0503461-01A

Client Sample ID: Source Water
Collection Date: 3/30/2005 10:50:00 AM
Matrix: WASTE WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS IN WATER & WASTE WATER		**E200.7**				Analyst: **RAD**
Antimony	ND	0.20		mg/L	1	3/31/2005 7:57:48 PM
Arsenic	ND	0.10		mg/L	1	3/31/2005 7:57:48 PM
Barium	ND	1.0		mg/L	1	3/31/2005 7:57:48 PM
Beryllium	ND	1.0		mg/L	1	3/31/2005 7:57:48 PM
Cadmium	ND	0.050		mg/L	1	3/31/2005 7:57:48 PM
Chromium	ND	0.10		mg/L	1	3/31/2005 7:57:48 PM
Lead	ND	0.15		mg/L	1	3/31/2005 7:57:48 PM
Nickel	ND	0.080		mg/L	1	3/31/2005 7:57:48 PM
Selenium	ND	0.10		mg/L	1	3/31/2005 7:57:48 PM
Thallium	ND	0.10		mg/L	1	3/31/2005 7:57:48 PM
MERCURY IN WATER & WASTE WATER		**E245.1**				Analyst: **RAD**
Mercury	ND	0.0010		mg/L	1	3/31/2005 1:54:00 PM
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **JM**
Nitrogen, Nitrate (As N)	ND	1.0		mg/L	1	3/30/2005 5:53:00 PM
Nitrogen, Nitrite	0.54	0.10		mg/L	1	3/30/2005 5:53:00 PM
PURGEABLE ORGANIC COMPOUNDS		**E524.2**				Analyst: **KP**
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,1-Dichloroethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,1-Dichloroethene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,1-Dichloropropene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,2,3-Trichloropropane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,2-Dichloroethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,2-Dichloropropane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,3-Dichloropropane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
2,2-Dichloropropane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
2-Chlorotoluene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
4-Chlorotoluene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
4-Isopropyltoluene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Benzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Turner Laboratories, Inc.

Date: *14-Apr-05*

CLIENT: Pima County Flood Control District
Lab Order: 0503461
Project: MHPERP
Lab ID: 0503461-01A

Client Sample ID: Source Water
Collection Date: 3/30/2005 10:50:00 AM
Matrix: WASTE WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bromobenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Bromochloromethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Bromodichloromethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Bromoform	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Bromomethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Carbon tetrachloride	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Chlorobenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Chloroethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Chloroform	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Chloromethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
cis-1,2-Dichloroethene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Dibromochloromethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Dibromomethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Dichlorodifluoromethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Ethylbenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Hexachlorobutadiene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Isopropylbenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Methylene chloride	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
n-Butylbenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
n-Propylbenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Naphthalene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
sec-Butylbenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Styrene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
tert-Butylbenzene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Tetrachloroethene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Toluene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
trans-1,2-Dichloroethene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Trichloroethene	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Trichlorofluoromethane	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Vinyl chloride	ND	0.50		µg/L	1	4/7/2005 12:41:00 PM
Xylenes, Total	ND	1.5		µg/L	1	4/7/2005 12:41:00 PM
Surr: 1,2-Dichlorobenzene-d4	99.0	70-130		%REC	1	4/7/2005 12:41:00 PM
Surr: 4-Bromofluorobenzene	97.0	70-130		%REC	1	4/7/2005 12:41:00 PM
TOTAL KJELDAHL NITROGEN		**E351.1**				Analyst: **JM**
Nitrogen, Kjeldahl, Total	26	10		mg/L	20	4/4/2005 3:30:00 PM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Turner Laboratories, Inc.

Date: *14-Apr-05*

CLIENT: Pima County Flood Control District
Lab Order: 0503461
Project: MHPERP
Lab ID: 0503461-02A

Client Sample ID: HP-1
Collection Date: 3/30/2005 12:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP (TOTAL) METALS		**E200.7**				Analyst: **RAD**
Barium	ND	1.0		mg/L	1	3/31/2005 10:08:51 PM
Beryllium	ND	0.0020		mg/L	1	3/31/2005 10:08:51 PM
Cadmium	ND	0.0030		mg/L	1	3/31/2005 10:08:51 PM
Chromium	ND	0.030		mg/L	1	3/31/2005 10:08:51 PM
Nickel	ND	0.080		mg/L	1	3/31/2005 10:08:51 PM
GFAA METALS IN WATER		**E200.9**				Analyst: **RAD**
Antimony	ND	0.0048		mg/L	1	4/12/2005 4:00:00 PM
Arsenic	ND	0.0050		mg/L	1	4/1/2005 1:06:00 PM
Lead	0.0057	0.0050		mg/L	1	3/30/2005 9:12:00 PM
Selenium	ND	0.0050		mg/L	1	4/5/2005 3:20:00 PM
Thallium	ND	0.0016		mg/L	1	4/13/2005 11:12:00 AM
MERCURY (TOTAL) IN DRINKING WATER		**E245.1**				Analyst: **RAD**
Mercury	ND	0.0010		mg/L	1	3/31/2005 2:01:00 PM
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **JM**
Nitrogen, Nitrate (As N)	2.6	1.0		mg/L	1	3/30/2005 6:12:00 PM
Nitrogen, Nitrite	ND	0.10		mg/L	1	3/30/2005 6:12:00 PM
PURGEABLE ORGANIC COMPOUNDS		**E524.2**				Analyst: **KP**
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,1-Dichloroethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,1-Dichloroethene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,1-Dichloropropene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,2,3-Trichloropropane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,2-Dichloroethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,2-Dichloropropane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,3-Dichloropropane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
2,2-Dichloropropane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
2-Chlorotoluene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
4-Chlorotoluene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Turner Laboratories, Inc.

Date: *14-Apr-05*

CLIENT: Pima County Flood Control District
Lab Order: 0503461
Project: MHPERP
Lab ID: 0503461-02A

Client Sample ID: HP-1
Collection Date: 3/30/2005 12:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
4-isopropyltoluene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Benzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Bromobenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Bromochloromethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Bromodichloromethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Bromoform	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Bromomethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Carbon tetrachloride	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Chlorobenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Chloroethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Chloroform	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Chloromethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
cis-1,2-Dichloroethene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Dibromochloromethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Dibromomethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Dichlorodifluoromethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Ethylbenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Hexachlorobutadiene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Isopropylbenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Methylene chloride	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
n-Butylbenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
n-Propylbenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Naphthalene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
sec-Butylbenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Styrene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
tert-Butylbenzene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Tetrachloroethene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Toluene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
trans-1,2-Dichloroethene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Trichloroethene	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Trichlorofluoromethane	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Vinyl chloride	ND	0.50		µg/L	1	4/7/2005 1:14:00 PM
Xylenes, Total	ND	1.5		µg/L	1	4/7/2005 1:14:00 PM
Surr: 1,2-Dichlorobenzene-d4	94.0	70-130		%REC	1	4/7/2005 1:14:00 PM
Surr: 4-Bromofluorobenzene	94.0	70-130		%REC	1	4/7/2005 1:14:00 PM
TOTAL KJELDAHL NITROGEN		**E351.1**				Analyst: **JM**
Nitrogen, Kjeldahl, Total	ND	0.50		mg/L	1	4/4/2005 3:30:00 PM

Qualifiers:
ND - Not Detected at or above the PQL
PQL - Practical Quantitation Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
R - RPD outside accepted recovery limits
* - Value exceeds Maximum Contaminant Level
E - Value above quantitation range

0503461

TURNER LABORATORIES, INC.

SAMPLE CONTROL RECEIPT CHECKLIST

Received By: CMcd

Received Date/Time: 3/30/05 13:40

Delivered by: David

1. Shipping container/cooler in good condition?	☑ Yes	☐ No	☐ Not Present
2. Custody seals intact on sample bottles?	☐ Yes	☐ No	☑ Not Present
3. Chain of custody present?	☑ Yes	☐ No	
4. COC signed when relinquished and received?	☑ Yes	☐ No	
5. COC agrees with sample labels?	☑ Yes	☐ No	
6. Samples in proper container/bottle?	☑ Yes	☐ No	
7. Sample container intact?	☑ Yes	☐ No	
8. Sufficient sample volume for requested tests?	☑ Yes	☐ No	
9. Samples received within holding times?	☑ Yes	☐ No	
10. VOA vials received with no headspace?	☑ Yes	☐ No	☐ No Vials
11. Bacti bottles received with appropriate headspace?	☐ Yes	☐ Above 100ml	
		☐ Below 100ml	N/A

12. Temperature upon receipt? 14°C

13. Number of sample containers received? 12

Additional Comments:

2445 N. Coyote Drive, Suite 104
Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
1-800-882-5894

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 0503461 DATE 3/30/05 PAGE ____ OF ____

PROJECT NAME MHPERP
PROJECT MNGR Suzanne Shields, P.E.
COMPANY NAME Pima County Flood Control
ADDRESS 201 N. Stone Ave, 4th Floor
Tucson, Az 85701 PHONE 740-6350
SAMPLERS SIGNATURE David Scalero

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	Cat. Pesticides 8081A/608	Arsenic	Total Coliform (Colilert)	Total Coliform (Membrane Filter)	Fecal Coliform (Membrane Filter)	Fecal Coliform (MPN)	Total Phosphorus (Hydrolysis)	Total Phosphorus (Persulfate)	Total Chlorine	Cat. Metals	TCLP Analysis	Metals	Metals	Metals	Metals	Metals	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	$NO_3 + NO_2$	TKN				
Source Water	3-30-05	1050		WW	6			3																				1	1				
HP-1	3-30-05	1255		GW	6			3																				1	1				

1. RELINQUISHED BY: Signature / Printed Name / Firm / Date/Time

2. RECEIVED BY: Signature / Printed Name / Firm / Date/Time

TURNAROUND REQUIREMENTS: X Standard (approx. 10 days)* ____ Next Day ____ 2 Day ____ 3 Day* ____ Provide Verbal Preliminary Results Requested Report Date * Working Days

REPORT REQUIREMENTS: X I. Routine Report ____ II. Report (includes QC/P, MS, MSD, as required, may be charged to samples) ____ III. Data Validation Report (includes All Raw Data) Add 10% to invoice

INVOICE INFORMATION: Account X Y ____ N PO # 47772 Bill to Pima County Flood Control (address above)

SAMPLE RECEIPT: Total Containers 12 Received Cold 14°C

3. RELINQUISHED BY: David Scalero / David Scalero / Pima Co. Flood Control / 3-30-05 / 1340

4. RECEIVED BY: C. McClellan / C. McClellan / TURNER LABORATORIES, INC. / 3/30/05 13:40

*LEGEND
SL = SOIL
SD = SOLID
SG = SLUDGE
WW = WASTEWATER
GW = GROUNDWATER
DW = DRINKING WATER

SPECIAL INSTRUCTIONS/COMMENTS:
Compliance Analysis: X Yes ☐ No
ADEQ Forms: ☐ Yes ☐ No

Send report and invoice to David Scalero at above address
phone: 205-8353

TURNER
LABORATORIES INC.

May 10, 2005

David Scalero
Pima County Flood Control District
201 N. Stone, 4th Floor
Tucson, AZ 85701
TEL: (520) 205-8353
FAX (520) 740-6749

RE: MHPFRP Order No.: 0504281

Dear David Scalero,

Turner Laboratories, Inc. received 2 samples on 4/27/2005 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Shari Bauman

Shari Bauman
Laboratory Director

Turner Laboratories, Inc.

Date: *10-May-05*

CLIENT:	Pima County Flood Control District	**Client Sample ID:**	Source Water
Lab Order:	0504381	**Collection Date:**	4/27/2005 9:10:00 AM
Project:	MHPERP		
Lab ID:	0504381-01A	**Matrix:**	WASTE WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **JM**
Nitrogen, Nitrate (As N)	ND	1.0		mg/L	1	4/27/2005 11:15:00 PM
Nitrogen, Nitrite	ND	0.10		mg/L	1	4/27/2005 11:15:00 PM
TOTAL KJELDAHL NITROGEN		**E351.1**				Analyst: **JM**
Nitrogen, Kjeldahl, Total	32	10		mg/L	20	5/5/2005 2:30:00 PM

Qualifiers:

ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Turner Laboratories, Inc.

Date: *10-May-05*

CLIENT: Pima County Flood Control District
Lab Order: 0504381
Project: MHPERP
Lab ID: 0504381-02A

Client Sample ID: HP-1
Collection Date: 4/27/2005 11:10:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: JM
Nitrogen, Nitrate (As N)	3.0	1.0		mg/L	1	4/28/2005 11:33:00 PM
Nitrogen, Nitrite	ND	0.10		mg/L	1	4/28/2005 11:33:00 PM
TOTAL KJELDAHL NITROGEN		E351.1				Analyst: JM
Nitrogen, Kjeldahl, Total	ND	0.50		mg/L	1	5/5/2005 2:30:00 PM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

TURNER LABORATORIES, INC.

SAMPLE CONTROL RECEIPT CHECKLIST

TURNER LABORATORIES INC.

Turner Laboratories W.O. #: 0504381

Received By: OMCC

Received Date/Time: 4/27/05 11:50

Delivered by: David

1. Shipping container/cooler in good condition?	☑ Yes	☐ No	☐ Not Present
2. Custody seals intact on sample bottles?	☐ Yes	☐ No	☑ Not Present
3. Chain of custody present?	☑ Yes	☐ No	
4. COC signed when relinquished and received?	☑ Yes	☐ No	
5. COC agrees with sample labels?	☑ Yes	☐ No	
6. Samples in proper container/bottle?	☑ Yes	☐ No	
7. Sample container intact?	☑ Yes	☐ No	
8. Sufficient sample volume for requested tests?	☑ Yes	☐ No	
9. Samples received within holding times?	☑ Yes	☐ No	
10. VOA vials received with no headspace?	☐ Yes	☐ No	☑ No Vials
11. Bacti bottles received with appropriate headspace?	☐ Yes	☐ Above 100ml ☐ Below 100ml	N/A

12. Temperature upon receipt? 14°C

13. Number of sample containers received? 4

Additional Comments:

2445 NORTH COYOTE DRIVE ▪ SUITE #104 ▪ TUCSON, ARIZONA 85745 ▪ 520 882-5880 ▪ FAX # 520 882-9788

2445 N. Coyote Drive, Suite 104
Tucson, Arizona 85745
(520) 882-5680
Fax: (520) 882-9788
1-800-882-5604

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 0504381 DATE 4/27/05 PAGE ____ OF ____

PROJECT NAME: MHPERP #: ____
PROJECT MNGR: Suzanne Shields, P.E.
COMPANY NAME: Pima County Flood Control
ADDRESS: 201 N. Stone Ave., 4th Floor
Tucson, AZ 85701 PHONE: 740-6350
SAMPLERS SIGNATURE: David Scalero

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	$NO_2 + NO_3$	TKN
Source Water	4-27-05	910		WW	2	1	1
HP-1	4-27-05	1110		GW	2	1	1

1. RELINQUISHED BY: Signature / Printed Name / Firm / Date/Time

2. RECEIVED BY: Signature / Printed Name / Firm / Date/Time

TURNAROUND REQUIREMENTS:
X Standard (approx. 10 days)*
____ Next Day ____ 2 Day ____ 3 Day*
____ Provide Verbal Preliminary Results
Requested Report Date
* Working Days

REPORT REQUIREMENTS:
X I. Routine Report
____ II. Report (includes DUP, MS, MSD, as required, may be charged as samples)
____ III. Data Validation Report (Includes All Raw Data) Add 10% to invoice

INVOICE INFORMATION:
Account: X Y ____ N
P.O. # 47772
Bill to: Pima County Flood Control (above address)

SAMPLE RECEIPT:
Total Containers: 4
Ambient/Cold: 14°C

3. RELINQUISHED BY: David Scalero
Signature / David Scalero / Printed Name / P.C. Flood Control / Date/Time: 4-27-05 / 1150

4. RECEIVED BY: C. McClella
Signature / C. McClella / Printed Name / TURNER LABORATORIES, INC. / Date/Time: 4/27/05 11:50

*LEGEND
SL = SOIL
SD = SOLID
SG = SLUDGE
WW = WASTEWATER
GW = GROUNDWATER
DW = DRINKING WATER

SPECIAL INSTRUCTIONS/COMMENTS:
Compliance Analysis: X Yes ☐ No
ADEQ Forms: ☐ Yes ☐ No

Please send invoice and report to David Scalero at above address; call David @ 205-8353 if there are any questions.

TURNER
LABORATORIES INC.

June 17, 2005

Suzanne Shields, P.E.
Pima County Flood Control District
201 N. Stone, 4th Floor
Tucson, AZ 85701
TEL: (520) 740-6350
FAX (520) 740-6749

RE: MHPERP

Order No.: 0505390

Dear Suzanne Shields, P.E.,

Turner Laboratories, Inc. received 2 samples on 5/26/2005 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Shari Bauman

Shari Bauman
Laboratory Director

Turner Laboratories, Inc. **Date:** *17-Jun-05*

CLIENT: Pima County Flood Control District
Project: MHPERP
Lab Order: 0505390

CASE NARRATIVE

Some of the analyses used for the chemical determinations in this report are not licensed by the Arizona Department of Health Services for use in a groundwater matrix.

Turner Laboratories, Inc.

Date: *17-Jun-05*

CLIENT: Pima County Flood Control District
Lab Order: 0505390
Project: MHPERP
Lab ID: 0505390-01A

Client Sample ID: Source Water
Collection Date: 5/26/2005 8:10:00 AM
Matrix: WASTE WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS IN WATER & WASTE WATER		**E200.7**				Analyst: **RAD**
Antimony	ND	0.20		mg/L	1	6/1/2005 3:30:18 PM
Arsenic	ND	0.10		mg/L	1	5/31/2005 6:14:09 PM
Barium	ND	1.0		mg/L	1	5/31/2005 6:14:09 PM
Beryllium	ND	1.0		mg/L	1	5/31/2005 6:14:09 PM
Cadmium	ND	0.050		mg/L	1	5/31/2005 6:14:09 PM
Chromium	ND	0.10		mg/L	1	5/31/2005 6:14:09 PM
Lead	ND	0.15		mg/L	1	5/31/2005 6:14:09 PM
Nickel	ND	0.080		mg/L	1	5/31/2005 6:14:09 PM
Selenium	ND	0.10		mg/L	1	5/31/2005 6:14:09 PM
Thallium	ND	0.10		mg/L	1	5/31/2005 6:14:09 PM
MERCURY IN WATER & WASTE WATER		**E245.1**				Analyst: **RAD**
Mercury	ND	0.0010		mg/L	1	6/2/2005 9:52:00 AM
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **JM**
Nitrogen, Nitrate (As N)	ND	1.0		mg/L	1	5/27/2005 10:18:00 AM
Nitrogen, Nitrite	1.0	0.10		mg/L	1	5/27/2005 10:18:00 AM
PURGEABLE ORGANIC COMPOUNDS		**E524.2**				Analyst: **KP**
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,1-Dichloroethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,1-Dichloroethene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,1-Dichloropropene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,2,3-Trichloropropane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,2-Dichloroethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,2-Dichloropropane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,3-Dichloropropane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
2,2-Dichloropropane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
2-Chlorotoluene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
4-Chlorotoluene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
4-Isopropyltoluene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Benzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Turner Laboratories, Inc.

Date: *17-Jun-05*

CLIENT: Pima County Flood Control District
Lab Order: 0505390
Project: MHPERP
Lab ID: 0505390-01A

Client Sample ID: Source Water
Collection Date: 5/25/2005 8:10:00 AM
Matrix: WASTE WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bromobenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Bromochloromethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Bromodichloromethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Bromoform	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Bromomethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Carbon tetrachloride	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Chlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Chloroethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Chloroform	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Chloromethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
cis-1,2-Dichloroethene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Dibromochloromethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Dibromomethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Dichlorodifluoromethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Ethylbenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Hexachlorobutadiene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Isopropylbenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Methylene chloride	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
n-Butylbenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
n-Propylbenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Naphthalene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
sec-Butylbenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Styrene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
tert-Butylbenzene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Tetrachloroethene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Toluene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
trans-1,2-Dichloroethene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Trichloroethene	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Trichlorofluoromethane	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Vinyl chloride	ND	0.50		µg/L	1	5/31/2005 5:21:00 PM
Xylenes, Total	ND	1.5		µg/L	1	5/31/2005 5:21:00 PM
Surr: 1,2-Dichlorobenzene-d4	108	70-130		%REC	1	5/31/2005 5:21:00 PM
Surr: 4-Bromofluorobenzene	99.0	70-130		%REC	1	5/31/2005 5:21:00 PM
TOTAL KJELDAHL NITROGEN		**E351.1**				**Analyst: JM**
Nitrogen, Kjeldahl, Total	34	10		mg/L	20	6/1/2005 11:30:00 AM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Turner Laboratories, Inc.

Date: 17-Jun-05

CLIENT: Pima County Flood Control District
Lab Order: 0505390
Project: MHPERP
Lab ID: 0505390-02A

Client Sample ID: HP-1
Collection Date: 5/26/2005 10:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP (TOTAL) METALS		**E200.7**				Analyst: **RAD**
Barium	ND	1.0		mg/L	1	6/1/2005 4:32:03 PM
Beryllium	ND	0.0020		mg/L	1	6/1/2005 4:32:03 PM
Cadmium	ND	0.0030		mg/L	1	6/1/2005 4:32:03 PM
Chromium	ND	0.030		mg/L	1	6/1/2005 4:32:03 PM
Nickel	ND	0.000		mg/L	1	6/1/2005 4:32:03 PM
GFAA METALS IN WATER		**E200.9**				Analyst: **RAD**
Antimony	ND	0.0048		mg/L	1	5/31/2005 1:21:00 PM
Arsenic	ND	0.0050		mg/L	1	6/2/2005 1:42:00 PM
Lead	0.0055	0.0050		mg/L	1	6/10/2005 11:59:00 AM
Selenium	ND	0.0050		mg/L	1	6/16/2005 1:59:00 PM
Thallium	ND	0.0016		mg/L	1	6/15/2005 11:56:00 AM
MERCURY (TOTAL) IN DRINKING WATER		**E245.1**				Analyst: **RAD**
Mercury	ND	0.0010		mg/L	1	6/2/2005 9:34:00 AM
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **JM**
Nitrogen, Nitrate (As N)	3.1	1.0		mg/L	1	5/27/2005 10:36:00 AM
Nitrogen, Nitrite	ND	0.10		mg/L	1	5/27/2005 10:36:00 AM
PURGEABLE ORGANIC COMPOUNDS		**E524.2**				Analyst: **KP**
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,1-Dichloroethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,1-Dichloroethene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,1-Dichloropropene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,2,3-Trichloropropane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,2-Dichloroethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,2-Dichloropropane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,3-Dichloropropane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
2,2-Dichloropropane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
2-Chlorotoluene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
4-Chlorotoluene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Turner Laboratories, Inc.

Date: 17-Jun-05

CLIENT: Pima County Flood Control District
Lab Order: 0505390
Project: MHPERP
Lab ID: 0505390-02A

Client Sample ID: HP-1
Collection Date: 5/26/2005 10:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
4-Isopropyltoluene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Benzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Bromobenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Bromochloromethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Bromodichloromethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Bromoform	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Bromomethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Carbon tetrachloride	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Chlorobenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Chloroethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Chloroform	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Chloromethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
cis-1,2-Dichloroethene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Dibromochloromethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Dibromomethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Dichlorodifluoromethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Ethylbenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Hexachlorobutadiene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Isopropylbenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Methylene chloride	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
n-Butylbenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
n-Propylbenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Naphthalene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
sec-Butylbenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Styrene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
tert-Butylbenzene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Tetrachloroethene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Toluene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
trans-1,2-Dichloroethene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Trichloroethene	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Trichlorofluoromethane	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Vinyl chloride	ND	0.50		µg/L	1	5/31/2005 5:54:00 PM
Xylenes, Total	ND	1.5		µg/L	1	5/31/2005 5:54:00 PM
Surr: 1,2-Dichlorobenzene-d4	99.0	70-130		%REC	1	5/31/2005 5:54:00 PM
Surr: 4-Bromofluorobenzene	99.0	70-130		%REC	1	5/31/2005 5:54:00 PM
TOTAL KJELDAHL NITROGEN		**E351.1**				Analyst: **JM**
Nitrogen, Kjeldahl, Total	0.53	0.50		mg/L	1	6/1/2005 11:30:00 AM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

TURNER LABORATORIES, INC.

SAMPLE CONTROL RECEIPT CHECKLIST

TURNER LABORATORIES INC.

Turner Laboratories W.O. #: 0505390

Received By: CMCC

Received Date/Time: 5/26/05 11:00

Delivered by: David

1. Shipping container/cooler in good condition?	☑ Yes	☐ No	☐ Not Present
2. Custody seals intact on sample bottles?	☐ Yes	☐ No	☑ Not Present
3. Chain of custody present?	☑ Yes	☐ No	
4. COC signed when relinquished and received?	☑ Yes	☐ No	
5. COC agrees with sample labels?	☑ Yes	☐ No	
6. Samples in proper container/bottle?	☑ Yes	☐ No	
7. Sample container intact?	☑ Yes	☐ No	
8. Sufficient sample volume for requested tests?	☑ Yes	☐ No	
9. Samples received within holding times?	☑ Yes	☐ No	
10. VOA vials received with no headspace?	☑ Yes	☐ No	☐ No Vials
11. Bacti bottles received with appropriate headspace?	☐ Yes	☐ Above 100ml	
		☐ Below 100ml	N/A

12. Temperature upon receipt? 15°C

13. Number of sample containers received? 12

Additional Comments:

2445 NORTH COYOTE DRIVE ■ SUITE #104 ■ TUCSON, ARIZONA 85745 ■ 520 882-5880 ■ FAX # 520 882-9788

2445 N. Coyote Drive, Suite 104
Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
1-800-882-5864

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 0505390 DATE 5/26/05 PAGE ____ OF ____

PROJECT NAME: MHPERP
PROJECT MNGR: Suzanne Shields, P.E.
COMPANY NAME: Pima County Flood Control
ADDRESS: 201 N. Stone Ave., 4th Floor
Tucson, Az 85701 PHONE: 740-6350
SAMPLER'S SIGNATURE: David Scalera

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	Metals	NO_2 + NO_3	TKN
Source Water	5-26-05	810		WW	6	3	1	1
HP-1	5-26-05	1000		GW	6	3	1	1

1. RELINQUISHED BY: Signature / Printed Name / Firm / Date/Time

2. RECEIVED BY: Signature / Printed Name / Firm / Date/Time

TURNAROUND REQUIREMENTS: X Standard (approx. 10 days)*; ____ Next Day; ____ 2 Day; ____ 3 Day*; ____ Provide Verbal Preliminary Results; Requested Report Date; * Working Days

REPORT REQUIREMENTS: X I. Routine Report; ____ II. Report (includes DLOP, MDL, MRL, as required, may be charged as complied); ____ III. Data Validation Report (Includes All Raw Data) Add 10% to invoice

INVOICE INFORMATION: Account X Y ____ N; P.O.# 47772; Bill to: Pima County Flood Control (address above)

SAMPLE RECEIPT: Total Containers 12; Ambient/Cooler 15°C

3. RELINQUISHED BY: David Scalera / David Scalera / P.C. Flood Control / 5-26-05 1100

4. RECEIVED BY: Q. McClellan / Q. McClellan / TURNER LABORATORIES, INC. / 5/26/05 11:00

* LEGEND
SL = SOIL
SD = SOLID
SG = SLUDGE
WW = WASTEWATER
GW = GROUNDWATER
DW = DRINKING WATER

SPECIAL INSTRUCTIONS/COMMENTS:
Compliance Analysis: X Yes ____ No
NORQ Forms: ____ Yes ____ No

Send invoice and report to David Scalera @ above address

DISTRIBUTION: WHITE - return to originator YELLOW - lab PINK - retained by originator See back of pink copy for general terms and conditions/limits of liability.

TURNER
LABORATORIES INC.

July 06, 2005

Suzanne Shields, P.E.
Pima County Flood Control District
201 N. Stone, 4th Floor
Tucson, AZ 85701
TEL: (520) 740-6350
FAX (520) 740-6749

RE: MHPERP

Order No.: 0506329

Dear Suzanne Shields, P.E.,

Turner Laboratories, Inc. received 2 samples on 6/21/2005 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Shari Bauman

Shari Bauman
Laboratory Director

2445 NORTH COYOTE DRIVE ■ SUITE #104 ■ TUCSON, ARIZONA 85745 ■ 520 882-5880 ■ FAX # 520 882-9788

Turner Laboratories, Inc. **Date:** *06-Jul-05*

CLIENT: Pima County Flood Control District
Project: MBIPERP
Lab Order: 0506329

CASE NARRATIVE

Some of the analyses used for the chemical determinations in this report are not licensed by the Arizona Department of Health Services for use in a groundwater matrix.

Turner Laboratories, Inc.

Date: 06-Jul-05

CLIENT: Pima County Flood Control District
Lab Order: 0506329
Project: MHPERP
Lab ID: 0506329-01A

Client Sample ID: Source Water
Collection Date: 6/21/2005 8:15:00 AM
Matrix: WASTE WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **JM**
Nitrogen, Nitrate (As N)	ND	1.0		mg/L	1	6/21/2005 3:28:00 PM
Nitrogen, Nitrite	1.2	0.10	*	mg/L	1	6/21/2005 3:28:00 PM
TOTAL KJELDAHL NITROGEN		**E351.1**				Analyst: **JM**
Nitrogen, Kjeldahl, Total	20	10		mg/L	20	6/30/2005 2:00:00 PM

Qualifiers:

ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Turner Laboratories, Inc.

Date: 06-Jul-05

CLIENT:	Pima County Flood Control District	Client Sample ID:	HP-1
Lab Order:	0506329	Collection Date:	6/21/2005 10:05:00 AM
Project:	MHPERP		
Lab ID:	0506329-02A	Matrix:	GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: JM
Nitrogen, Nitrate (As N)	3.2	1.0		mg/L	1	6/21/2005 1:56:00 PM
Nitrogen, Nitrite	ND	0.10		mg/L	1	6/21/2005 1:56:00 PM
TOTAL KJELDAHL NITROGEN		E351.1				Analyst: JM
Nitrogen, Kjeldahl, Total	0.54	0.50		mg/L	1	6/30/2005 2:00:00 PM

Qualifiers:

ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

TURNER LABORATORIES, INC.

SAMPLE CONTROL RECEIPT CHECKLIST

TURNER LABORATORIES INC.

Turner Laboratories W.O. #: 0506329

Received By: Chris

Received Date/Time: 6/2/15 11Am

Delivered by: David

1. Shipping container/cooler in good condition?	☑ Yes	☐ No	☐ Not Present
2. Custody seals intact on sample bottles?	☐ Yes	☐ No	☑ Not Present
3. Chain of custody present?	☑ Yes	☐ No	
4. COC signed when relinquished and received?	☑ Yes	☐ No	
5. COC agrees with sample labels?	☑ Yes	☐ No	
6. Samples in proper container/bottle?	☑ Yes	☐ No	
7. Sample container intact?	☑ Yes	☐ No	
8. Sufficient sample volume for requested tests?	☑ Yes	☐ No	
9. Samples received within holding times?	☑ Yes	☐ No	
10. VOA vials received with no headspace?	☐ Yes	☐ No	☑ No Vials
11. Bacti bottles received with appropriate headspace?	☐ Yes	☐ Above 100ml	
		☐ Below 100ml	N/A

12. Temperature upon receipt? 18°C

13. Number of sample containers received? 4

Additional Comments:

2445 NORTH COYOTE DRIVE ■ SUITE #104 ■ TUCSON, ARIZONA 85745 ■ 520 882-5880 ■ FAX # 520 882-9788

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Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
1-800-882-5864

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 0506329 DATE 6/21/05 PAGE 1 OF 1

PROJECT NAME: MHPERP
PROJECT MNGR: Suzanne Shields, P.E.
COMPANY NAME: Pima County Flood Control
ADDRESS: 201 N. Stone Ave., 4th Floor
Tucson, Az 85701 PHONE: 740-6350
SAMPLER'S SIGNATURE: David Scalera

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	$NO_3 + NO_2$	TKN
Source Water	6-21-05	815		WW	2	1	1
HP-1	6-21-05	1005		GW	2	1	1

1. RELINQUISHED BY: Signature / Printed Name / Firm / Date/Time

2. RECEIVED BY: Signature / Printed Name / Firm / Date/Time

TURNAROUND REQUIREMENTS:
X "Standard (approx. 10 days)"
___ "Next Day" ___ 2 Day ___ 3 Day"
___ Provide Verbal Preliminary Results
Requested Report Date
* Working Days

REPORT REQUIREMENTS:
X I. Routine Report
___ II. Report (Includes DUP, MS, MSD, as required, items for charges as sampled)
___ III. Data Validation Report (Includes All Raw Data) Add 10% to invoice

INVOICE INFORMATION:
Account X Y ___ N
P.O. # 47772
Bill to: Pima County Flood Control (address above)

SAMPLE RECEIPT:
Total Containers: 4
Ambient/Cold: 18°C

3. RELINQUISHED BY: David Scalera / David Scalera / Pima Co. Flood Control / 6-21-05 / 1100

4. RECEIVED BY: C. Gutierrez / TURNER LABORATORIES, INC. / 6/21/05 11AM

* LEGEND
SL = SOIL
SD = SOLID
SG = SLUDGE
WW = WASTEWATER
GW = GROUNDWATER
DW = DRINKING WATER

SPECIAL INSTRUCTIONS/COMMENTS:
Compliance Analysis: X Yes ☐ No
ADEQ Forms: ☐ Yes ☐ No

Please send invoice and report to David Scalera at above address
phone: 205-8353

DIST ___ ION: ___ E-re ___ orig ___ 'ff ___ - lab ___ JK-re ___ by o ___ or ___ back ___ cop ___ mend ___ and - ___ 'ons/S ___ 'label' ___

TURNER
LABORATORIES INC.

August 04, 2005

Suzanne Shields, P.E.
Pima County Flood Control District
201 N. Stone, 4th Floor
Tucson, AZ 85701
TEL: (520) 740-6350
FAX (520) 740-6749

RE: MHPERP

Order No.: 0507452

Dear Suzanne Shields, P.E.,

Turner Laboratories, Inc. received 1 sample on 7/27/2005 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Shari Bauman

Shari Bauman
Laboratory Director

Turner Laboratories, Inc. **Date:** *04-Aug-05*

CLIENT: Pima County Flood Control District
Project: MHPERP
Lab Order: 0507452

CASE NARRATIVE

Analytical Comments for METHOD 300_DW, SAMPLE 0507452-01AMS/MSD:The recovery of nitrite is outside of acceptance limits due to matrix interferences. The recovery is acceptable in the LCS/LCSD.

Turner Laboratories, Inc.

Date: *04-Aug-05*

CLIENT: Pima County Flood Control District
Lab Order: 0507452
Project: MHPERP
Lab ID: 0507452-01A

Client Sample ID: HP-1
Collection Date: 7/27/2005 9:40:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: **JM**
Nitrogen, Nitrate (As N)	2.9	1.0		mg/L	1	7/28/2005 9:59:00 AM
Nitrogen, Nitrite	ND	0.10		mg/L	1	7/28/2005 9:59:00 AM
TOTAL KJELDAHL NITROGEN		E351.1				Analyst: **JM**
Nitrogen, Kjeldahl, Total	ND	0.50		mg/L	1	8/3/2005 12:00:00 PM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

TURNER LABORATORIES, INC.

SAMPLE CONTROL RECEIPT CHECKLIST

TURNER LABORATORIES INC.

Turner Laboratories W.O. #: 0507452

Received By: CMCC

Received Date/Time: 7-27-05 10:40

Delivered by: David

1. Shipping container/cooler in good condition?	☒ Yes	☐ No	☐ Not Present
2. Custody seals intact on sample bottles?	☐ Yes	☐ No	☒ Not Present
3. Chain of custody present?	☒ Yes	☐ No	
4. COC signed when relinquished and received?	☒ Yes	☐ No	
5. COC agrees with sample labels?	☒ Yes	☐ No	
6. Samples in proper container/bottle?	☒ Yes	☐ No	
7. Sample container intact?	☒ Yes	☐ No	
8. Sufficient sample volume for requested tests?	☒ Yes	☐ No	
9. Samples received within holding times?	☒ Yes	☐ No	
10. VOA vials received with no headspace?	☐ Yes	☐ No	☒ No Vials
11. Bacti bottles received with appropriate headspace?	☐ Yes	☐ Above 100ml ☐ Below 100ml	N/A

12. Temperature upon receipt? 20°C

13. Number of sample containers received? 2

Additional Comments:

TURNER
Tucson, Arizona 85745
(520) 882-5880
Fax (520) 882-9788
1-800-882-5804

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 0507452 DATE 7-27-05 PAGE ___ OF ___

PROJECT NAME: MHPERP
PROJECT MNGR: Suzanne Shields, P.E.
COMPANY NAME: Pima County Flood Control
ADDRESS: 201 N. Stone Ave., 4th Floor
Tucson, AZ 85701 PHONE 740-6350
SAMPLER'S SIGNATURE: David Scalero

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	Base Neutrals 8270(SIM)	Acids 8270	Volatile Organics 8260B 624/524.2/8240	Halogenated Volatile Organics 8021 8010	Pesticides 8081	Total Petroleum Hydrocarbons 418.1	Metals 6010 7000	Total Petroleum Hydrocarbons 8015	Oil and Grease 413.1 1664	Cyanide 9010 9012	TCLP Metals 1311 1312	Metals 6010 7000	Cyanide 9010 9012	Sulfide 9030	Coliform 9221	Fecal Coliform 9222	$NO_2 + NO_3$	TKN			
HP-1	7-27-05	940		GW	2																	1	1			

1. RELINQUISHED BY:	2. RECEIVED BY:	TURNAROUND REQUIREMENTS:	REPORT REQUIREMENTS:	INVOICE INFORMATION:	SAMPLE RECEIPT:
Signature:	Signature:	X Standard (approx. 10 days)*	X I. Routine Report	Account: X Y ___ N	
Printed Name:	Printed Name:	___ Next Day ___ 2 Day ___ 3 Day*	___ II. Report (includes DUP, MS, MSD, as required, may be charged if as samples)	P.O.# 47772	
Firm:	Firm:	___ Provide Verbal Preliminary Results	___ III. Data Validation Report (includes 10 Raw Data) Add 10% to invoice	Bill to: Pima County Flood Control (above address)	Total Containers: #2
Date/Time:	Date/Time:	Requested Report Date:			Ambient Cool: 20°C
		* Working Days			

3. RELINQUISHED BY:	4. RECEIVED BY:	* LEGEND	SPECIAL INSTRUCTIONS/COMMENTS:
Signature: David Scalero	Signature: Carla McClellan	SL = SOIL	Compliance Analysis: X Yes ___ No
Printed Name: David Scalero	Printed Name: C McClellan	SD = SOLID	ADEQ Forms: ___ Yes ___ No
Firm: P.C. Flood Control	Firm: TURNER LABORATORIES, INC.	SG = SLUDGE	Send invoice and report to David Scalero at above address (phone: 205-8353)
Date: 7-27-05 / 1040	Date: 7-27-05 10:40	WW = WASTEWATER	
Date/Time	Date/Time	GW = GROUNDWATER	
		DW = DRINKING WATER	

DISTRIBUTION: WHITE - return to originator YELLOW - lab PINK - retained by originator

See back of pink copy for general terms and conditions/limits of liability

TURNER
LABORATORIES INC.

September 19, 2005

Suzanne Shields, P.E.
Pima County Flood Control District
201 N. Stone, 4th Floor
Tucson, AZ 85701
TEL: (520) 740-6350
FAX (520) 740-6749

RE: MHPERP

Order No.: 0508448

Dear Suzanne Shields, P.E.,

Turner Laboratories, Inc. received 1 sample on 8/26/2005 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Shari Bauman

Shari Bauman
Laboratory Director

Turner Laboratories, Inc.

Date: *19-Sep-05*

CLIENT: Pima County Flood Control District
Lab Order: 0508448
Project: MHPERP
Lab ID: 0508448-01A

Client Sample ID: HP-1
Collection Date: 8/26/2005 9:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP (TOTAL) METALS		**E200.7**				Analyst: **RAD**
Barium	ND	1.0		mg/L	1	8/29/2005 7:20:28 PM
Beryllium	ND	0.0020		mg/L	1	8/29/2005 7:20:28 PM
Cadmium	ND	0.0030		mg/L	1	8/29/2005 7:20:28 PM
Chromium	ND	0.030		mg/L	1	8/29/2005 7:20:28 PM
Nickel	ND	0.080		mg/L	1	8/29/2005 7:20:28 PM
GFAA METALS IN WATER		**E200.9**				Analyst: **RAD**
Antimony	ND	0.0048		mg/L	1	9/9/2005 12:29:00 PM
Arsenic	ND	0.0050		mg/L	1	8/30/2005 1:31:00 PM
Lead	0.010	0.0050		mg/L	1	8/31/2005 12:49:00 PM
Selenium	ND	0.0050		mg/L	1	9/8/2005 11:46:00 AM
Thallium	0.0019	0.0018		mg/L	1	9/9/2005 5:02:00 PM
MERCURY (TOTAL) IN DRINKING WATER		**E245.1**				Analyst: **RAD**
Mercury	ND	0.0010		mg/L	1	9/6/2005 3:20:00 PM
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **JM**
Nitrogen, Nitrate (As N)	3.1	1.0		mg/L	1	8/26/2005 5:27:00 PM
Nitrogen, Nitrite	ND	0.10		mg/L	1	8/26/2005 5:27:00 PM
PURGEABLE ORGANIC COMPOUNDS		**E524.2**				Analyst: **KP**
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,1-Dichloroethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,1-Dichloroethene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,1-Dichloropropene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,2,3-Trichloropropane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,2-Dichloroethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,2-Dichloropropane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,3-Dichloropropane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
2,2-Dichloropropane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
2-Chlorotoluene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
4-Chlorotoluene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Turner Laboratories, Inc.

Date: *19-Sep-05*

CLIENT: Pima County Flood Control District
Lab Order: 0508448
Project: MHPERP
Lab ID: 0508448-01A

Client Sample ID: HP-1
Collection Date: 8/26/2005 9:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
4-Isopropyltoluene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Benzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Bromobenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Bromochloromethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Bromodichloromethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Bromoform	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Bromomethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Carbon tetrachloride	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Chlorobenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Chloroethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Chloroform	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Chloromethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
cis-1,2-Dichloroethene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Dibromochloromethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Dibromomethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Dichlorodifluoromethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Ethylbenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Hexachlorobutadiene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Isopropylbenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Methylene chloride	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
n-Butylbenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
n-Propylbenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Naphthalene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
sec-Butylbenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Styrene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
tert-Butylbenzene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Tetrachloroethene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Toluene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
trans-1,2-Dichloroethene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Trichloroethene	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Trichlorofluoromethane	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Vinyl chloride	ND	0.50		µg/L	1	9/9/2005 1:25:00 PM
Xylenes, Total	ND	1.5		µg/L	1	9/9/2005 1:25:00 PM
Surr: 1,2-Dichlorobenzene-d4	99.0	70-130		%REC	1	9/9/2005 1:25:00 PM
Surr: 4-Bromofluorobenzene	96.0	70-130		%REC	1	9/9/2005 1:25:00 PM
TOTAL KJELDAHL NITROGEN		**E351.1**				**Analyst: JM**
Nitrogen, Kjeldahl, Total	1.5	0.50		mg/L	1	8/30/2005 11:30:00 AM

Qualifiers:
ND - Not Detected at or above the PQL
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
PQL - Practical Quantitation Limit
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

TURNER LABORATORIES, INC.

SAMPLE CONTROL RECEIPT CHECKLIST

TURNER LABORATORIES INC.

Turner Laboratories W.O. #: 0508448

Received By: [illegible]

Received Date/Time: 8/26/05 16:25

Delivered by: David

1. Shipping container/cooler in good condition?	☒ Yes	☐ No	☐ Not Present
2. Custody seals intact on sample bottles?	☐ Yes	☐ No	☒ Not Present
3. Chain of custody present?	☒ Yes	☐ No	
4. COC signed when relinquished and received?	☒ Yes	☐ No	
5. COC agrees with sample labels?	☒ Yes	☐ No	
6. Samples in proper container/bottle?	☒ Yes	☐ No	
7. Sample container intact?	☒ Yes	☐ No	
8. Sufficient sample volume for requested tests?	☒ Yes	☐ No	
9. Samples received within holding times?	☒ Yes	☐ No	
10. VOA vials received with no headspace?	☒ Yes	☐ No	☐ No Vials
11. Bacti bottles received with appropriate headspace?	☐ Yes	☐ Above 100ml ☐ Below 100ml	N/A

12. Temperature upon receipt? 20° C

13. Number of sample containers received? 6

Additional Comments:

2445 NORTH COYOTE DRIVE ■ SUITE #104 ■ TUCSON, ARIZONA 85745 ■ 520 882-5880 ■ FAX # 520 882-9788

TURNER
Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
1-800-882-5804

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 0508448 DATE 8/26/05 PAGE ____ OF ____

PROJECT NAME: MHPERD
PROJECT MNGR: Suzanne Shields, P.E.
COMPANY NAME: Pima County Flood Control
ADDRESS: 201 N. Stone Ave., 4th Floor
Tucson, AZ 85701 PHONE: 740-6330
SAMPLER'S SIGNATURE: ____

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	Raw Sewage / Effluent / Sludge / Solids	Total Coliform / Fecal Coliform / Fecal Streptococci / Enterococci	Total Phosphorus / Ortho Phosphate	Total Nitrogen / Nitrate / Nitrite	Total Phosphorus / Ortho Phosphate	Total Nitrogen / Nitrate / Nitrite	Total Phosphorus / Ortho Phosphate	Total Nitrogen / Nitrate / Nitrite	TOC / Alkalinity / Chloride / Sulfate	Metals	Cadmium / Lead / Copper / Zinc	Cadmium / Lead / Copper / Zinc	Cadmium / Lead / Copper / Zinc	Cadmium / Lead / Copper / Zinc	NO_2+NO_3	TKN			
HP-1	8.26.05	930		GW	6		3							1						1	1			

1. RELINQUISHED BY:	2. RECEIVED BY:	TURNAROUND REQUIREMENTS:	REPORT REQUIREMENTS:	INVOICE INFORMATION:	SAMPLE RECEIPT:
Signature: ____ Printed Name: ____ Date: ____ Date/Time: ____	Signature: ____ Printed Name: ____ Date: ____ Date/Time: ____	X Standard (approx. 10 days)* ____ Next Day ____ 2 Day ____ 3 Day* ____ Provide Verbal Preliminary Results Requested Report Date ____ * Working Days	X I. Routine Report ____ II. Report (includes DUP, MS, MSD, as required, may be charged as complex) ____ III. Data Validation Report (includes All Raw Data) Add 10% to invoice	Account: X Y ____ N ____ P.O.# 47772 Bill to: Pima County Flood Control (address above)	Total Containers: 6 Ambient Cold: 20°C
3. RELINQUISHED BY: David Scalero, Printed Name: David Scalero, Company: P.C. Flood Control, Date/Time: 8.26.05 1025	4. RECEIVED BY: Carla McClellan, Printed Name: C. McClellan, Company: TURNER LABORATORIES, INC., Date/Time: 8/26/05 10:25	* LEGEND: SL = SOIL; SD = SOLID; SG = SLUDGE; WW = WASTEWATER; GW = GROUNDWATER; DW = DRINKING WATER	SPECIAL INSTRUCTIONS/COMMENTS: Compliance Analysis: X Yes ____ No; ADEQ Forms: ____ Yes ____ No	Send invoice and report to David Scalero (phone: 205-8353)	

DISTRIBUTION: WHITE - return to originator YELLOW - lab PINK - retained by originator See back of pink copy for general terms and conditions/limits of liability.

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Thursday, October 13, 2005

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX (520) 205-8360

RE: MHP-ERP/Monthly

Order No.: 05090237

Dear David Scalero:

Aerotech Environmental received 1 sample(s) on 9/29/2005 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental

Date: *13-Oct-05*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly
Lab Order: 05090237

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
05090237-01C	HP-1		9/29/2005 11:35:00 AM	9/29/2005

ion Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5327 Fax: 623.445.6192 www.aerotechlabs.com
ucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.6850 Toll Free: 800.661.6859 Fax: 623.780.7996 www.aerotechlabs.com

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental **Date:** *13-Oct-05*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly
Lab Order: 05090237

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.
J Analyte detected below quantitation limits.

Data Qualifiers:
Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

N1 See case narrative.

ain Laboratory: 4445 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5327 Fax: 623.445.6192 www.aerotechlabs.com
ucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.851.4803 Fax: 623.780.7695 www.aerotechlabs.com

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CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly
Lab Order: 05090237

CASE NARRATIVE

N1 - Method 300.0

The sample selected as the duplicate and matrix spike contained high concentrations of chloride and/or sulfate. The analyte concentration in the sample is disproportionate to the spike level and it was not practical to analyze the sample at a dilution, as the spike would be diluted out. The LCS/LCSD were recovered acceptably demonstrating that the analytical process was in control.

Main Laboratory: 4646 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com
Tucson Facility: 4455 E. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
Corporate Address: 1501 W. Knudsen Drive Phoenix, Arizona 85027 Phone: 623.780.4400 Toll Free: 800.851.4803 Fax: 623.780.7695 www.aerotechlabs.com

Aerotech Environmental Laboratories

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Aerotech Environmental **Analytical Report** **Date:** *13-Oct-05*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	05090237	**Tag Number:**	
Project:	MHP-ERP/Monthly	**Collection Date:**	9/29/2005 11:35:00 AM
Lab ID:	05090237-01C	**Matrix:**	GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: LB
Nitrogen, Nitrate/Nitrite Total	2.6	0.40		mg/L	1	10/7/2005 3:56:00 AM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: T A
Nitrogen, Total Kjeldahl	< 1.3	1.3		mg/L	1	10/4/2005
NITROGEN, TOTAL		CALC				Analyst: D N
Nitrogen, Total	2.6	1.7		mg/L	1	10/10/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Main Laboratory: 4640 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.851.4802 Fax: 623.780.7095 www.aerotechlabs.com

Aerotech Environmental 13-Oct-05

Lab Order: 05090237
Client: Pima County Flood Control
Project: MHP-ERP/Monthly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
05090237-01C	EP-1	9/29/2005 11:55:00 AM	Groundwater	ANIONS by ION CHROMATOGRAPHY			10/7/2005 3:56:00 AM
				TOTAL KJELDAHL NITROGEN			10/4/2005
				Total Nitrogen (Calculated)			10/10/2005

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

Aerotech Environmental Laboratories

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Aerotech Environmental

Date: *13-Oct-05*

CLIENT: Pima County Flood Control
Work Order: 05090237
Project: MHP-ERP/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **MB-R65432** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **65432**
Client ID: Batch ID: **R65432** TestNo: **E300** Analysis Date: **10/7/2005** SeqNo: **780859**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	< 0.40	0.40									

Sample ID: **LCS-R65432** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **65432**
Client ID: Batch ID: **R65432** TestNo: **E300** Analysis Date: **10/7/2005** SeqNo: **780860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	8.201	0.40	8	0	103	90	110				N1

Sample ID: **LCSD-R65432** SampType: **LCSD** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **65432**
Client ID: Batch ID: **R65432** TestNo: **E300** Analysis Date: **10/7/2005** SeqNo: **780870**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	8.100	0.40	8	0	101	90	110	8.201	1.24	20	N1

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

- Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
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- Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 05090237
Project: MHP-ERP/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R65013 | SampType: MBLK | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 65013
Client ID: | Batch ID: R65013 | TestNo: E351.4 | Analysis Date: 10/4/2005 | SeqNo: 775433

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	< 1.3	1.3									

Sample ID: LCS-R65013 | SampType: LCS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 65013
Client ID: | Batch ID: R65013 | TestNo: E351.4 | Analysis Date: 10/4/2005 | SeqNo: 775455

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.55	1.3	25	0	106	85	115				

Sample ID: LCSD-R65013 | SampType: LCSD | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 65013
Client ID: | Batch ID: R65013 | TestNo: E351.4 | Analysis Date: 10/4/2005 | SeqNo: 775456

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.05	1.3	25	0	104	85	115	26.55	1.90	20	

Sample ID: 05090204-01CMS | SampType: MS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 65013
Client ID: | Batch ID: R65013 | TestNo: E351.4 | Analysis Date: 10/4/2005 | SeqNo: 775435

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	58.75	1.3	25	33.50	101	70	130				

Sample ID: 05091534-01CMS | SampType: MS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 65013
Client ID: | Batch ID: R65013 | TestNo: E351.4 | Analysis Date: 10/4/2005 | SeqNo: 775447

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	67.75	1.3	25	40.50	101	70	130				

Qualifiers:
E: Value above quantitation range
ND: Not Detected at the Reporting Limit
H: Holding times for preparation or analysis exceeded
R: RPD outside accepted recovery limits
J: Analyte detected below quantitation limits
S: Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com
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■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 05090237
Project: MSIP-ERP/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 05090204-01CMSD | SampType: MSD | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | Runfile: 65813
Client ID: | Batch ID: R65813 | TestNo: E351.4 | Analysis Date: 10/4/2005 | Seqfile: 775436

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	57.25	1.3	25	33.50	95.0	70	130	58.75	2.59	20	

Sample ID: 05091534-01CMSD | SampType: MSD | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | Runfile: 65813
Client ID: | Batch ID: R65813 | TestNo: E351.4 | Analysis Date: 10/4/2005 | Seqfile: 775448

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	66.25	1.3	25	42.50	95.0	70	130	67.75	2.24	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4845 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.9192 www.aeroenvirolabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.851.4802 Fax: 623.780.7695 www.aerotechlabs.com

Aerotech Environmental Laboratories Sample Receipt Checklist

Project Checked By: JK

Laboratory Number: 05090237	Checklist completed by: Felicia Rao
Client Name: Pima County Flood	Signature/Date 9/20/05
Matrix: GW Carrier Name: Pick	Date/Time Rec'd: 9/20/05 1311 By: K

Temperature of Samples? 7.1 °C Circle one: Blue Ice Wet Ice Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?			✓
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?			

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samplers____

**See Comment about Chlorine and pH

Total number of bottles received: 1	IH sample media:
If applicable, how many sample bottles were shipped from AEL-Tucson? 1	N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3															
C-H2SO4	1														
D-HCl															
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes No N/A

Preservative & pH	pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals <2		
Nutrients <2		
Total Phenols <2	<2	
413 (O&G) <2		
418 (TPH) <2		
Cyanide >12		
Sulfide >9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

PHX-SM-002A-11/04

Aerotech Environmental Laboratories

an affiliate of Severn Trent Laboratories, Inc.

[ ] Phoenix Lab - 11 E. 17th Street, Tempe, AZ 85281 (480) 967-1310 FAX (480) 967-1519
[ ] North Phoenix - 1501 W. Knudsen, Phoenix, AZ 85027 (623) 780-4706 FAX (623) 780-2934
[ ] Tucson - 4455 S. Park Ave, Suite 110, Tucson, AZ 85714 (520) 807-3601 FAX (520) 807-3603
www.paiabs.com or call toll-free 1-888-7PALABS (1-888-772-5227)

Quotaf K2311

Lab Number: 05090237

Customer Number: 1378913		Page 1 of 1	
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT	Sampler: David Scalero	
Address:	201 N. STONE AVE. 4TH FLOOR	Project Name:	MHP-ERP / Monthly
City, State, Zip:	Tucson AZ 85701	Project Number:	
Contact:	David Scalero	P.O. Number:	
Phone: (520) 740-4358	Fax: (520) 740-6740	Fax Results:	Y N
E-Mail Address:	david.scalero@dot.pima.gov	E-Mail Results:	(Y) N

Sample Type Codes: DW - Drinking Water; A - Air; WW - Waste Water; S - Soil; HW - Hazardous Waste; Other GW - groundwater

Sample Receipt

Temperature 7.1 °C
Custody Seals: Yes ____ No X
Custody Seals Intact: Yes ____ No X
Total # of Containers: (1)

Turn Around Request

____ 24 Hours ____ 48 Hours
____ 72 Hours
____ 5 Working Days
X Standard 10 Working Days
Subject to scheduling & availability (surcharges apply)

Analyses Requested

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	# of Sample Containers
01	MP-1	9-29-05	1135	GW	1	1	1	

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
9/29/05	1311	[signature]	[signature]
9/29/05	1431	[signature]	[signature]
9/30/05	0900	[signature] FedEx	[signature]

Analysis performed is subject to the Terms & Conditions available at www.aerotechlabs.com or call 888.772.5227 to request a copy.

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Monday, October 17, 2005

RECE OCT 20'05PM 4:30

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX: (520) 205-8360

RE: MHP-ERP/Monthly-Qtrly

Order No.: 05100018

Dear David Scalero:

Aerotech Environmental received 2 sample(s) on 10/4/2005 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report

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Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental **Date:** *17-Oct-05*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly-Qtrly
Lab Order: 05100018

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Data Qualifiers:
Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

M6 Matrix spike recovery was high. Data reported per ADEQ policy 0154.000.
R9 Sample RPD exceeded the laboratory control limit.

Main Laboratory: 4646 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6182 www.aerotechlabs.com
Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
[illegible] Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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Aerotech Environmental

Date: 17-Oct-05

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly-Qtrly
Lab Order: 05100018

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
05100018-01B	Source Water		10/4/2005 8:25:00 AM	10/4/2005
05100018-01C	Source Water		10/4/2005 8:25:00 AM	10/4/2005
05100018-01D	Source Water		10/4/2005 8:25:00 AM	10/4/2005
05100018-02D	Trip Blank		10/4/2005	10/4/2005

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Aerotech Environmental **Analytical Report** **Date:** *17-Oct-05*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	05100018	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qtrly	**Collection Date:**	10/4/2005 8:25:00 AM
Lab ID:	05100018-01B	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP/MS METALS, TOTAL RECOVERABLE		E200.8				Analyst: RF
Antimony	< 0.0030	0.0030		mg/L	1	10/7/2005
Arsenic	0.0059	0.0010		mg/L	1	10/7/2005
Barium	0.068	0.0010		mg/L	1	10/7/2005
Beryllium	< 0.0010	0.0010		mg/L	1	10/11/2005
Cadmium	< 0.0010	0.0010		mg/L	1	10/7/2005
Chromium	0.0012	0.0010		mg/L	1	10/7/2005
Lead	< 0.0010	0.0010		mg/L	1	10/7/2005
Nickel	0.012	0.0010		mg/L	1	10/7/2005
Selenium	< 0.0020	0.0020		mg/L	1	10/7/2005
Thallium	< 0.0010	0.0010		mg/L	1	10/7/2005
MERCURY, TOTAL		E245.1				Analyst: PC
Mercury	< 0.00020	0.00020		mg/L	1	10/14/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Phoenix Airport: 1601 W. Knudsen Drive Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

Aerotech Environmental Laboratories

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Aerotech Environmental **Analytical Report** **Date:** *17-Oct-05*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	05100018	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qtrly	**Collection Date:**	10/4/2005 8:25:00 AM
Lab ID:	05100018-01C	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: LB
Nitrogen, Nitrate/Nitrite Total	2.1	0.40		mg/L	1	10/11/2005 7:58:00 PM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: T A
Nitrogen, Total Kjeldahl	24	1.3		mg/L	1	10/13/2005
NITROGEN, TOTAL		CALC				Analyst: D N
Nitrogen, Total	26	1.7		mg/L	1	10/14/2005

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Aerotech Environmental **Analytical Report** **Date:** *17-Oct-05*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	05100018	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qtrly	**Collection Date:**	10/4/2005 8:25:00 AM
Lab ID:	05100018-01D	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		SW8260B				Analyst: JR
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	10/11/2005
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	10/11/2005
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	10/11/2005
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	10/11/2005
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	10/11/2005
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	10/11/2005
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	10/11/2005
Benzene	< 1.0	1.0		µg/L	1	10/11/2005
Carbon tetrachloride	< 1.0	1.0		µg/L	1	10/11/2005
Chlorobenzene	< 1.0	1.0		µg/L	1	10/11/2005
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	10/11/2005
Ethylbenzene	< 1.0	1.0		µg/L	1	10/11/2005
Styrene	< 1.0	1.0		µg/L	1	10/11/2005
Tetrachloroethene	< 1.0	1.0		µg/L	1	10/11/2005
Toluene	< 1.0	1.0		µg/L	1	10/11/2005
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	10/11/2005
Trichloroethene	< 1.0	1.0		µg/L	1	10/11/2005
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	10/11/2005
Vinyl chloride	< 1.0	1.0		µg/L	1	10/11/2005
Xylenes, Total	< 3.0	3.0		µg/L	1	10/11/2005
Surr: 4-Bromofluorobenzene	82.5	73.3-106		%REC	1	10/11/2005
Surr: Dibromofluoromethane	96.2	70.9-112		%REC	1	10/11/2005
Surr: Toluene-d8	88.7	76.2-109		%REC	1	10/11/2005

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Aerotech Environmental **Analytical Report** **Date:** *17-Oct-05*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Trip Blank
Lab Order:	05100018	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qtrly	**Collection Date:**	10/4/2005
Lab ID:	05100018-02D	**Matrix:**	TRIP BLANK

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		SW8260B				Analyst: JR
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	10/11/2005
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	10/11/2005
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	10/11/2005
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	10/11/2005
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	10/11/2005
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	10/11/2005
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	10/11/2005
Benzene	< 1.0	1.0		µg/L	1	10/11/2005
Carbon tetrachloride	< 1.0	1.0		µg/L	1	10/11/2005
Chlorobenzene	< 1.0	1.0		µg/L	1	10/11/2005
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	10/11/2005
Ethylbenzene	< 1.0	1.0		µg/L	1	10/11/2005
Styrene	< 1.0	1.0		µg/L	1	10/11/2005
Tetrachloroethene	< 1.0	1.0		µg/L	1	10/11/2005
Toluene	< 1.0	1.0		µg/L	1	10/11/2005
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	10/11/2005
Trichloroethene	< 1.0	1.0		µg/L	1	10/11/2005
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	10/11/2005
Vinyl chloride	< 1.0	1.0		µg/L	1	10/11/2005
Xylenes, Total	< 3.0	3.0		µg/L	1	10/11/2005
Surr: 4-Bromofluorobenzene	84.0	73.3-106		%REC	1	10/11/2005
Surr: Dibromofluoromethane	93.5	70.9-112		%REC	1	10/11/2005
Surr: Toluene-d8	90.7	76.2-109		%REC	1	10/11/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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[illegible] Phone: [illegible] Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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Aerotech Environmental

17-Oct-05

Lab Order: 05100018
Client: Pima County Flood Control
Project: MHP-ERP/Monthly-Qtrly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
05100018-01B	Source Water	10/4/2005 8:25:00 AM	Waste Water	ICP/MS METALS, TOTAL RECOVERABLE		10/6/2005 4:34:13 AM	10/7/2005
				ICP/MS METALS, TOTAL RECOVERABLE		10/6/2005 4:34:13 AM	10/11/2005
				MERCURY IN WATERS		10/13/2005 3:00:00 PM	10/14/2005
05100018-01C				ANIONS by ION CHROMATOGRAPHY			10/11/2005 7:58:00 PM
				TOTAL KJELDAHL NITROGEN			10/13/2005
				Total Nitrogen (Calculated)			10/14/2005
05100018-01D				VOLATILES by GC/MS			10/11/2005
05100018-02D	Trip Blank	10/4/2005	Trip Blank	VOLATILES by GC/MS			10/11/2005

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Aerotech Environmental

Date: 17-Oct-05

CLIENT: Pima County Flood Control
Work Order: 05100018
Project: MHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: MB-23204 | SampType: MBLK | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/7/2005 | SeqNo: 778226

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	< 0.0030	0.0030									
Arsenic	< 0.0010	0.0010									
Barium	< 0.0010	0.0010									
Cadmium	< 0.0010	0.0010									
Chromium	< 0.0010	0.0010									
Lead	< 0.0010	0.0010									
Nickel	< 0.0010	0.0010									
Selenium	< 0.0020	0.0020									
Thallium	< 0.0010	0.0010									

Sample ID: MB-23204 | SampType: MBLK | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/11/2005 | SeqNo: 779799

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	< 0.0010	0.0010									

Sample ID: LCS-23204 | SampType: LCS | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/7/2005 | SeqNo: 778227

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1005	0.0030	0.1	0	101	85	115				
Arsenic	0.09490	0.0010	0.1	0	94.9	85	115				
Barium	0.1081	0.0010	0.1	0	108	85	115				
Cadmium	0.09969	0.0010	0.1	0	99.7	85	115				
Chromium	0.1037	0.0010	0.1	0	104	85	115				
Lead	0.09397	0.0010	0.1	0	94.0	85	115				
Nickel	0.1037	0.0010	0.1	0	104	85	115				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05100018
Project: MHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: LCS-23204 | SampType: LCS | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/7/2005 | SeqNo: 778227

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.1034	0.0020	0.1	0	102	85	115				
Thallium	0.09455	0.0010	0.1	0	94.6	85	115				

Sample ID: LCS-23204 | SampType: LCS | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/11/2005 | SeqNo: 779800

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.1110	0.0010	0.1	0	111	85	115				

Sample ID: LCSD-23204 | SampType: LCSD | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/7/2005 | SeqNo: 778251

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1025	0.0030	0.1	0	103	85	115	0.1005	1.96	20	
Arsenic	0.09536	0.0010	0.1	0	95.4	85	115	0.09490	0.476	20	
Barium	0.1092	0.0010	0.1	0	109	85	115	0.1081	0.986	20	
Cadmium	0.1001	0.0010	0.1	0	100	85	115	0.09969	0.458	20	
Chromium	0.1054	0.0010	0.1	0	105	85	115	0.1037	1.66	20	
Lead	0.09419	0.0010	0.1	0	94.2	85	115	0.09397	0.233	20	
Nickel	0.1032	0.0010	0.1	0	103	85	115	0.1037	0.473	20	
Selenium	0.1016	0.0020	0.1	0	102	85	115	0.1024	0.821	20	
Thallium	0.09511	0.0010	0.1	0	95.1	85	115	0.09455	0.593	20	

Sample ID: LCSD-23204 | SampType: LCSD | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/11/2005 | SeqNo: 779801

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.1095	0.0010	0.1	0	109	85	115	0.1110	1.40	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05100018
Project: MHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: 05100031-01A MS | SampType: MS | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/7/2005 | SeqNo: 778231

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1044	0.0030	0.1	0	104	70	130				
Arsenic	0.1143	0.0010	0.1	0.01129	103	70	130				
Barium	0.1292	0.0010	0.1	0.01620	112	70	130				
Cadmium	0.09758	0.0010	0.1	0	97.6	70	130				
Chromium	0.1063	0.0010	0.1	0	106	70	130				
Lead	0.09319	0.0010	0.1	0	93.2	70	130				
Nickel	0.1032	0.0010	0.1	0	103	70	130				
Selenium	0.1013	0.0020	0.1	0	101	70	130				
Thallium	0.09275	0.0010	0.1	0	92.8	70	130				

Sample ID: 05100556-01B MS | SampType: MS | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/7/2005 | SeqNo: 778236

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1089	0.0030	0.1	0	109	70	130				
Arsenic	0.1125	0.0010	0.1	0.008428	104	70	130				
Barium	0.2266	0.0010	0.1	0.1069	120	70	130				
Cadmium	0.1006	0.0010	0.1	0	101	70	130				
Chromium	0.1069	0.0010	0.1	0.004579	104	70	130				
Lead	0.08961	0.0010	0.1	0	89.6	70	130				
Nickel	0.1024	0.0010	0.1	0.001476	101	70	130				
Selenium	0.1019	0.0020	0.1	0.002907	99.3	70	130				
Thallium	0.09091	0.0010	0.1	0	90.9	70	130				

Sample ID: 05100031-01A MS | SampType: MS | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/11/2005 | SeqNo: 779604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.1406	0.0010	0.1	0	141	70	130				M6

Qual Defs:
E: Value above quantitation range
ND: Not Detected at the Reporting Limit
H: Holding times for preparation or analysis exceeded
R: RPD outside accepted recovery limits
J: Analyte detected below quantitation limits
S: Spike Recovery outside accepted recovery limits

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[illegible] Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4602 Fax: 623.780.7695 www.aerotechlabs.com

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CLIENT: Pima County Flood Control
Work Order: 05100018
Project: MHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: 05100031-01A MSD | SampType: MSD | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/7/2005 | SeqNo: 778232

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1054	0.0030	0.1	0	105	70	130	0.1044	0.929	15	
Arsenic	0.1135	0.0010	0.1	0.01129	102	70	130	0.1143	0.717	15	
Barium	0.1280	0.0010	0.1	0.01520	112	70	130	0.1282	0.0880	15	
Cadmium	0.09887	0.0010	0.1	0	98.9	70	130	0.09758	1.31	15	
Chromium	0.1054	0.0010	0.1	0	105	70	130	0.1063	0.832	15	
Lead	0.09295	0.0010	0.1	0	93.0	70	130	0.09319	0.255	15	
Nickel	0.1041	0.0010	0.1	0	104	70	130	0.1032	0.923	15	
Selenium	0.09997	0.0030	0.1	0	100	70	130	0.1013	1.36	15	
Thallium	0.09210	0.0010	0.1	0	92.1	70	130	0.09275	0.706	15	

Sample ID: 05100556-01B MSD | SampType: MSD | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/7/2005 | SeqNo: 778237

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1074	0.0030	0.1	0	107	70	130	0.1089	1.33	15	
Arsenic	0.1119	0.0010	0.1	0.008428	103	70	130	0.1125	0.512	15	
Barium	0.2227	0.0010	0.1	0.1059	116	70	130	0.2266	1.75	15	
Cadmium	0.09857	0.0010	0.1	0	98.6	70	130	0.1006	2.00	15	
Chromium	0.1093	0.0010	0.1	0.004873	104	70	130	0.1089	0.434	15	
Lead	0.08949	0.0010	0.1	0	89.5	70	130	0.08961	0.134	15	
Nickel	0.1021	0.0010	0.1	0.001476	101	70	130	0.1024	0.340	15	
Selenium	0.1017	0.0020	0.1	0.002907	99.1	70	130	0.1019	0.181	15	
Thallium	0.09010	0.0010	0.1	0	90.1	70	130	0.09091	0.895	15	

Sample ID: 05100031-01A MSD | SampType: MSD | TestCode: 200.8 | Units: mg/L | Prep Date: 10/6/2005 | RunNo: 65211
Client ID: | Batch ID: 23204 | TestNo: E200.8 | Analysis Date: 10/11/2005 | SeqNo: 779805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.1430	0.0010	0.1	0	143	70	130	0.1405	1.68	15	M6

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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■ Corporate Address: 1201 W. Knudsen Drive Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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CLIENT: Pima County Flood Control
Work Order: 0510001B
Project: MHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: MB-23286 | SampType: MBLK | TestCode: 245.1_W | Units: mg/L | Prep Date: 10/13/2005 | RunNo: 65530
Client ID: | Batch ID: 23286 | TestNo: E245.1 | Analysis Date: 10/14/2005 | SeqNo: 781973

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	< 0.00020	0.00020									

Sample ID: LCS-23286 | SampType: LCS | TestCode: 245.1_W | Units: mg/L | Prep Date: 10/13/2005 | RunNo: 65530
Client ID: | Batch ID: 23286 | TestNo: E245.1 | Analysis Date: 10/14/2005 | SeqNo: 781974

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009910	0.00020	0.01	0	99.1	85	115				

Sample ID: LCSD-23286 | SampType: LCSD | TestCode: 245.1_W | Units: mg/L | Prep Date: 10/13/2005 | RunNo: 65530
Client ID: | Batch ID: 23286 | TestNo: E245.1 | Analysis Date: 10/14/2005 | SeqNo: 781975

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009970	0.00020	0.01	0	99.7	85	115	0.009910	0.604	20	

Sample ID: 0510001B-01BMS | SampType: MS | TestCode: 245.1_W | Units: mg/L | Prep Date: 10/13/2005 | RunNo: 65530
Client ID: Source Water | Batch ID: 23286 | TestNo: E245.1 | Analysis Date: 10/14/2005 | SeqNo: 781977

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009590	0.00020	0.01	0	96.9	88.4	122				

Sample ID: 0510050G-01BMS | SampType: MS | TestCode: 245.1_W | Units: mg/L | Prep Date: 10/13/2005 | RunNo: 65530
Client ID: | Batch ID: 23286 | TestNo: E245.1 | Analysis Date: 10/14/2005 | SeqNo: 781989

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.01000	0.00020	0.01	0	101	88.4	122				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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■ Corporate Address: 1621 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 05100018
Project: MEP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: 05100018-01BMSD SampType: MSD TestCode: 245.1_W Units: mg/L Prep Date: 10/13/2005 RunNo: 65530
Client ID: Source Water Batch ID: 23286 TestNo: E245.1 Analysis Date: 10/14/2005 SeqNo: 781978

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009790	0.00020	0.01	0	97.9	88.4	122	0.009690	1.03	20	

Sample ID: 05100666-01BMSD SampType: MSD TestCode: 245.1_W Units: mg/L Prep Date: 10/13/2005 RunNo: 65530
Client ID: Batch ID: 23286 TestNo: E245.1 Analysis Date: 10/14/2005 SeqNo: 781980

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.01010	0.00020	0.01	0	101	88.4	122	0.01010	0	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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CLIENT: Pima County Flood Control
Work Order: 05100018
Project: MHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R65466 | SampType: MBLK | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 65466
Client ID: | Batch ID: R65466 | TestNo: E300 | Analysis Date: 10/11/2005 | SeqNo: 781202

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	< 0.40	0.40									

Sample ID: LCS-R65466 | SampType: LCS | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 65466
Client ID: | Batch ID: R65466 | TestNo: E300 | Analysis Date: 10/11/2005 | SeqNo: 781203

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.848	0.40	8	0	98.1	90	110				

Sample ID: LCSD-R65466 | SampType: LCSD | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 65466
Client ID: | Batch ID: R65466 | TestNo: E300 | Analysis Date: 10/11/2005 | SeqNo: 781216

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.848	0.40	8	0	98.1	90	110	7.848	0	20	

Sample ID: 05100500-05AMS | SampType: MS | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 65466
Client ID: | Batch ID: R65466 | TestNo: E300 | Analysis Date: 10/11/2005 | SeqNo: 781214

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.933	0.40	8	0	99.2	80	120				

Sample ID: 05100500-05AMSD | SampType: MSD | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 65466
Client ID: | Batch ID: R65466 | TestNo: E300 | Analysis Date: 10/11/2005 | SeqNo: 781215

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.707	0.40	8	0	96.3	80	120	7.933	2.89	20	

Qualifiers:
E Value above quantitation range
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S Spike Recovery outside accepted recovery limits

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■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1401 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 0510001B
Project: MBP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: MB-R65385 | SampType: MBLK | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 65385
Client ID: | Batch ID: R65385 | TestNo: SW8260B | Analysis Date: 10/11/2005 | SeqNo: 780254

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 1.0	1.0									
1,1,2-Trichloroethane	< 1.0	1.0									
1,1-Dichloroethene	< 1.0	1.0									
1,2-Dichlorobenzene	< 1.0	1.0									
1,2-Dichloroethane	< 1.0	1.0									
1,2-Dichloropropane	< 1.0	1.0									
1,4-Dichlorobenzene	< 1.0	1.0									
Benzene	< 1.0	1.0									
Carbon tetrachloride	< 1.0	1.0									
Chlorobenzene	< 1.0	1.0									
cis-1,2-Dichloroethene	< 1.0	1.0									
Ethylbenzene	< 1.0	1.0									
Styrene	< 1.0	1.0									
Tetrachloroethene	< 1.0	1.0									
Toluene	< 1.0	1.0									
trans-1,2-Dichloroethene	< 1.0	1.0									
Trichloroethene	< 1.0	1.0									
Trihalomethanes, Total	< 1.0	1.0									
Vinyl chloride	< 1.0	1.0									
Xylenes, Total	< 3.0	3.0									
Surr: 4-Bromofluorobenzene	42.06	0	50	0	84.1	73.9	109				
Surr: Dibromofluoromethane	45.96	0	50	0	91.9	72.1	110				
Surr: Toluene-d8	43.34	0	50	0	86.7	77.5	108				

Sample ID: LCS-R65385 | SampType: LCS | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 65385
Client ID: | Batch ID: R65385 | TestNo: SW8260B | Analysis Date: 10/11/2005 | SeqNo: 780255

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	55.11	1.0	50	0	110	86	124				

Qualifiers:
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J: Analyte detected below quantitation limits
S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05100018
Project: MSHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCS-R65385 | SampType: LCS | TestCode: 8260_W | Units: pg/L | Prep Date: | Runfile: 65385
Client ID: | Batch ID: R65385 | TestNo: SW8260B | Analysis Date: 10/11/2005 | SeqNo: 780255

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	48.48	1.0	50	0	97.0	85	115				
1,1-Dichloroethene	54.84	1.0	50	0	110	81.2	122				
1,2-Dichlorobenzene	48.80	1.0	50	0	97.6	85	115				
1,2-Dichloroethane	56.17	1.0	50	0	112	72.3	131				
1,2-Dichloropropane	51.46	1.0	50	0	103	85	115				
1,4-Dichlorobenzene	48.21	1.0	50	0	96.4	85	115				
Benzene	53.22	1.0	50	0	106	82.7	116				
Carbon tetrachloride	53.51	1.0	50	0	107	79.7	128				
Chlorobenzene	53.70	1.0	50	0	107	85	115				
cis-1,2-Dichloroethene	54.90	1.0	50	0	110	83	117				
Ethylbenzene	52.60	1.0	50	0	105	85	115				
Styrene	53.39	1.0	50	0	107	87	116				
Tetrachloroethene	50.43	1.0	50	0	101	81.7	117				
Toluene	51.07	1.0	50	0	102	85	115				
trans-1,2-Dichloroethene	54.14	1.0	50	0	108	82.3	118				
Trichloroethene	49.76	1.0	50	0	99.5	85	115				
Vinyl chloride	57.91	1.0	50	0	116	78.6	124				
Surr: 4-Bromofluorobenzene	42.72	0	50	0	85.4	73.9	109				
Surr: Dibromofluoromethane	46.37	0	50	0	92.7	72.1	110				
Surr: Toluene-d8	44.30	0	50	0	88.6	77.5	108				

Sample ID: LCSD-R65385 | SampType: LCSD | TestCode: 8260_W | Units: pg/L | Prep Date: | Runfile: 65385
Client ID: | Batch ID: R65385 | TestNo: SW8260B | Analysis Date: 10/11/2005 | SeqNo: 780256

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	53.16	1.0	50	0	106	81	124	55.11	3.60	25	
1,1,2-Trichloroethane	47.40	1.0	50	0	94.8	85	115	48.48	2.25	25	
1,1-Dichloroethene	53.44	1.0	50	0	107	81.2	122	54.84	2.59	25	
1,2-Dichlorobenzene	49.45	1.0	50	0	98.9	85	115	48.80	1.32	25	

Qual/Errs:
E: Value above quantitation range
ND: Not Detected at the Reporting Limit
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■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6132 www.aerotechlabs.com
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■ Corporate Address: 4621 W. Keystone Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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CLIENT: Pima County Flood Control
Work Order: 05100018
Project: MHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCSD-R65385 | SampType: LCSD | TestCode: 8260_W | Units: µg/L | Prep Date: | Runlo: 65385
Client ID: | Batch ID: R65385 | TestNo: SW8260B | Analysis Date: 10/11/2005 | Seqlo: 789256

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	54.94	1.0	50	0	110	72.3	131	56.17	2.21	25	
1,2-Dichloropropane	52.04	1.0	50	0	104	85	115	51.46	1.12	25	
1,4-Dichlorobenzene	49.21	1.0	50	0	98.4	85	115	48.21	2.05	25	
Benzene	52.41	1.0	50	0	105	82.7	116	53.22	1.53	25	
Carbon tetrachloride	51.44	1.0	50	0	103	79.7	128	53.51	3.94	25	
Chlorobenzene	50.52	1.0	50	0	101	85	115	53.70	6.10	25	
cis-1,2-Dichloroethene	53.28	1.0	50	0	107	83	117	54.90	3.00	25	
Ethylbenzene	49.27	1.0	50	0	98.5	85	115	52.60	6.54	25	
Styrene	50.16	1.0	50	0	100	87	116	53.39	6.24	25	
Tetrachloroethene	48.98	1.0	50	0	98.0	81.7	117	55.43	2.92	25	
Toluene	50.01	1.0	50	0	100	85	115	51.07	2.10	25	
trans-1,2-Dichloroethene	53.25	1.0	50	0	107	82.3	118	54.14	1.64	25	
Trichloroethene	48.59	1.0	50	0	97.2	85	115	49.76	2.38	25	
Vinyl chloride	56.00	1.0	50	0	112	78.6	124	57.91	3.35	25	
Surr: 4-Bromofluorobenzene	41.37	0	50	0	82.7	73.9	109	42.72	0	0	
Surr: Dibromofluoromethane	46.72	0	50	0	93.4	72.1	110	46.37	0	0	
Surr: Toluene-d8	44.41	0	50	0	88.8	77.5	108	44.30	0	0	

Sample ID: 05100700-01D MS | SampType: MS | TestCode: 8260_W | Units: µg/L | Prep Date: | Runlo: 65385
Client ID: | Batch ID: R65385 | TestNo: SW8260B | Analysis Date: 10/11/2005 | Seqlo: 789257

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	54.44	1.0	50	0	109	79.4	128				
1,1,2-Trichloroethane	50.29	1.0	50	0	101	78	156				
1,1-Dichloroethene	56.69	1.0	50	0	113	79.6	127				
1,2-Dichlorobenzene	45.55	1.0	50	0	91.1	82.3	111				
1,2-Dichloroethane	52.24	1.0	50	0	104	66.4	132				
1,2-Dichloropropane	57.74	1.0	50	0	115	80.8	115				
1,4-Dichlorobenzene	48.15	1.0	50	0	96.3	80.5	109				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05100018
Project: MHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 05100700-01D MS | SampType: MS | TestCode: 8260_W | Units: pg/L | Prep Date: | RunNo: 65385
Client ID: | Batch ID: R65385 | TestNo: SW8260B | Analysis Date: 10/11/2005 | SeqNo: 788257

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	52.54	1.0	50	0	105	79.4	118				
Carbon tetrachloride	53.22	1.0	50	0	106	79	132				
Chlorobenzene	49.93	1.0	50	0	99.9	82.4	111				
cis-1,2-Dichloroethene	53.50	1.0	50	0	107	79.5	119				
Ethylbenzene	50.02	1.0	50	0	100	81.6	115				
Styrene	49.58	1.0	50	0	99.2	68.8	125				
Tetrachloroethene	56.03	1.0	50	0	112	79.3	121				
Toluene	55.61	1.0	50	0	111	80.3	119				
trans-1,2-Dichloroethene	54.39	1.0	50	0	109	81.3	120				
Trichloroethene	54.21	1.0	50	0	108	80.1	118				
Vinyl chloride	59.67	1.0	50	0	119	76.6	130				
Surr: 4-Bromofluorobenzene	41.59	0	50	0	83.2	73.3	108				
Surr: Dibromofluoromethane	46.37	0	50	0	92.7	70.9	112				
Surr: Toluene-d8	48.94	0	50	0	97.9	76.2	109				

Sample ID: 05100700-01D MSD | SampType: MSD | TestCode: 8260_W | Units: pg/L | Prep Date: | RunNo: 65385
Client ID: | Batch ID: R65385 | TestNo: SW8260B | Analysis Date: 10/11/2005 | SeqNo: 788258

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	53.16	1.0	50	0	106	79.4	128	54.44	2.38	25	
1,1,2-Trichloroethane	44.63	1.0	50	0	89.3	78	116	50.29	11.9	25	
1,1-Dichloroethene	54.75	1.0	50	0	110	79.6	127	56.69	3.46	25	
1,2-Dichlorobenzene	48.24	1.0	50	0	96.5	82.3	111	45.55	5.74	25	
1,2-Dichloroethane	50.60	1.0	50	0	101	66.4	130	52.24	3.19	25	
1,2-Dichloropropane	51.14	1.0	50	0	102	80.8	115	57.74	12.1	25	
1,4-Dichlorobenzene	48.92	1.0	50	0	97.8	80.5	109	46.15	1.59	25	
Benzene	51.97	1.0	50	0	104	79.4	118	52.54	1.09	25	
Carbon tetrachloride	52.26	1.0	50	0	105	79	132	53.22	1.82	25	
Chlorobenzene	49.80	1.0	50	0	99.6	82.4	111	49.93	0.291	25	

Qualifiers:
E: Value above quantitation range
ND: Not Detected at the Reporting Limit
H: Holding times for preparation or analysis exceeded
R: RPD outside accepted recovery limits
J: Analyte detected below quantitation limits
S: Spike Recovery outside accepted recovery limits

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[illegible] Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 0510001R
Project: MHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 05100709-01D MSD | SampType: MSD | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 65385
Client ID: | Batch ID: R65385 | TestNo: SW8260B | Analysis Date: 10/11/2005 | SeqNo: 780258

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	51.65	1.0	50	0	103	79.5	119	53.50	3.52	25	
Ethylbenzene	49.65	1.0	50	0	99.3	81.6	118	50.02	0.742	25	
Styrene	48.86	1.0	50	0	97.7	68.6	125	49.58	1.46	25	
Tetrachloroethene	50.69	1.0	50	0	101	79.3	121	56.03	10.0	25	
Toluene	50.41	1.0	50	0	101	80.3	119	55.61	9.81	25	
trans-1,2-Dichloroethene	52.54	1.0	50	0	105	81.3	120	54.39	3.46	25	
Trichloroethene	50.88	1.0	50	0	102	80.1	118	54.21	6.34	25	
Vinyl chloride	58.63	1.0	50	0	117	76.6	130	59.67	1.76	25	
Surr: 4-Bromofluorobenzene	41.73	0	50	0	83.5	73.3	106	41.59	0	0	
Surr: Dibromofluoromethane	45.89	0	50	0	91.8	70.9	112	46.37	0	0	
Surr: Toluene-d8	45.22	0	50	0	90.4	76.2	109	48.94	0	0	

Qualifiers:
E: Value above quantitation range
ND: Not Detected at the Reporting Limit
H: Holding times for preparation or analysis exceeded
R: RPD outside accepted recovery limits
J: Analyte detected below quantitation limits
S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05100018
Project: MSIP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R65470 | SampType: MBLK | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 65470
Client ID: | Batch ID: R65470 | TestNo: E351.4 | Analysis Date: 10/13/2005 | SeqNo: 781304

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	< 1.3	1.3									

Sample ID: LCS-R65470 | SampType: LCS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 65470
Client ID: | Batch ID: R65470 | TestNo: E351.4 | Analysis Date: 10/13/2005 | SeqNo: 781329

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	27.12	1.3	25	0	108	85	115				

Sample ID: LCSD-R65470 | SampType: LCSD | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 65470
Client ID: | Batch ID: R65470 | TestNo: E351.4 | Analysis Date: 10/13/2005 | SeqNo: 781330

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.18	1.3	25	0	105	85	115	27.12	3.56	20	

Sample ID: 05100018-01CMS | SampType: MS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 65470
Client ID: Source Water | Batch ID: R65470 | TestNo: E351.4 | Analysis Date: 10/13/2005 | SeqNo: 781306

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	49.05	1.3	25	24.40	96.6	70	130				

Sample ID: 05100643-01CMS | SampType: MS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 65470
Client ID: | Batch ID: R65470 | TestNo: E351.4 | Analysis Date: 10/13/2005 | SeqNo: 781318

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	22.72	1.3	25	5.075	70.6	70	130				

Qualifiers:
E: Value above quantitation range
ND: Not Detected at the Reporting Limit
H: Holding times for preparation or analysis exceeded
R: RPD outside accepted recovery limits
J: Analyte detected below quantitation limits
S: Spike Recovery outside accepted recovery limits

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■ Chandler Address: [illegible] Phone: 623.780.6800 Toll Free: 800.651.4662 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 0510001B
Project: MSIP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 0510001B-01CMSD SampType: MSD TestCode: N_TKN_WW Units: mg/L Prep Date: RunNo: 65470
Client ID: Source Water Batch ID: R65470 TestNo: E351.4 Analysis Date: 10/13/2005 SeqNo: 781387

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	49.65	1.3	25	24.40	101	70	130	49.05	1.22	20	

Sample ID: 0510064J-01CMSD SampType: MSD TestCode: N_TKN_WW Units: mg/L Prep Date: RunNo: 65470
Client ID: Batch ID: R65470 TestNo: E351.4 Analysis Date: 10/13/2005 SeqNo: 781319

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	29.25	1.3	25	5.675	96.7	70	130	22.72	25.1	20	R9

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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Quote# K2311

Lab Number: 05100018

Customer Number:	1370913
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT
Address:	201 N. STONE AVE. 4TH FLOOR
City, State, Zip:	Tucson AZ 85701
Contact:	David Scalero
Phone:	(520) 740-6350 Fax: (520) 740-6749
E-Mail Address:	david.scalero@dot.pima.gov

Page	1 of 1
Sampler:	David Scalero
Project Name:	MHP-ERP / Monthly-Qrtly
Project Number:	
P.O. Number:	
Fax Results:	Y N
E-Mail Results:	(Y) N

Sample Type Codes

DW - Drinking Water A - Air
WW - Waste Water S - Soil
HW - Hazardous Waste
Other: ______

Sample Receipt

Temperature: 12.1 °C
Custody Seals: Yes____ No X
Custody Seals Intact: Yes____ No____
Total # of Containers: 7 5+1TB

Turn Around Request

____ 24 Hours ____ 48 Hours
____ 72 Hours
____ 5 Working Days
X Standard 10 Working Days
Subject to scheduling & availability (surcharges apply)

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	Metals (200.8) - As, Ba, Cd, Cr, Pb	- Sb, Be, Ni, Tl, Se	Mercury	8260B VOCs										# of sample Containers
01	Source Water	10-4-05	8:25	WW	/	/	/	/	/	/	3VW										5
02	Trip Blank										X										

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
10-4-05	947	David Scalero	[signature]
10/4/05	1030	[signature]	FedEx
10/5/05	1209	FedEX	[signature] .6

Analysis performed is subject to the Terms & Conditions available at www.aerotechlabs.com or call 866.772.5227 to request a copy.

Aerotech Environmental Laboratories Sample Receipt Checklist

Project Checked By: KRW

Laboratory Number: 0510008	Checklist completed by: [illegible] Signature/Date 10/4
Client Name: Pima County Flood Control District	
Matrix: WW Carrier Name: Client	Date/Time Rec'd: 10/4/05 0947 By: [illegible]

Temperature of Samples? 12.1 °C Circle one: Blue Ice Wet Ice Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?			✓
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?	✓		

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samplers____

**See Comment about Chlorine and pH

Total number of bottles received:	6	IH sample media:	
If applicable, how many sample bottles were shipped from AEL-Tucson?	6		N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3	1														
C-H2SO4	1														
D-HCl	3	1 (TB)													
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes ✓ No N/A

Preservative & pH		pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals	<2	<2	
Nutrients	<2	<2	
Total Phenols	<2		
413 (O&G)	<2		
418 (TPH)	<2		
Cyanide	>12		
Sulfide	>9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

Aerotech Environmental Laboratories

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Thursday, November 10, 2005

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX (520) 205-8360

RE: MHP-ERP Monthly

Order No.: 05100193

Dear David Scalero:

Aerotech Environmental received 1 sample(s) on 10/27/2005 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental

Date: *10-Nov-05*

CLIENT: Pima County Flood Control
Project: MHP-ERP Monthly
Lab Order: 05100193

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
05100193-01C	HP-1		10/27/2005 10:58:00 AM	10/27/2005

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Aerotech Environmental **Date:** *10-Nov-05*

CLIENT: Pima County Flood Control
Project: MHP-ERP Monthly
Lab Order: 05100193

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Method 300.0
The sample selected as the duplicate and matrix spike contained high concentrations of chloride and/or sulfate. The analyte concentration in the sample is disproportionate to the spike level and it was not practical to analyze the sample at a dilution, as the spike would be diluted out. The LCS/LCSD were recovered acceptably demonstrating that the analytical process was in control.

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Phoenix Laboratory: 4811 W. Carolina Drive, Phoenix, Arizona 85037 Phone: 623.780.4400 Toll Free: 800.651.4802 Fax: 623.780.7698 www.aerotechlabs.com

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Aerotech Environmental **Analytical Report** **Date:** *10-Nov-05*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	05100193	**Tag Number:**	
Project:	MHP-ERP Monthly	**Collection Date:**	10/27/2005 10:58:00 AM
Lab ID:	05100193-01C	**Matrix:**	GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: LB
Nitrogen, Nitrate/Nitrite Total	3.1	0.40		mg/L	1	11/8/2005 5:56:00 PM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: T A
Nitrogen, Total Kjeldahl	< 1.3	1.3		mg/L	1	11/1/2005
NITROGEN, TOTAL		CALC				Analyst: AC
Nitrogen, Total	3.1	1.7		mg/L	1	11/10/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental

10-Nov-05

Lab Order: 05100193
Client: Pima County Flood Control
Project: MHP-ERP Monthly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
05100193-01C	IIP-1	10/27/2005 10:58:00 AM	Groundwater	ANIONS by ION CHROMATOGRAPHY			11/8/2005 5:56:00 PM
				TOTAL KJELDAHL NITROGEN			11/3/2005
				Total Nitrogen (Calculated)			11/10/2005

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Aerotech Environmental

Date: 10-Nov-05

CLIENT: Pima County Flood Control
Work Order: 05100193
Project: MHP-ERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R66565 | SampType: MBLK | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 66565
Client ID: | Batch ID: R66565 | TestNo: E300 | Analysis Date: 11/8/2005 | SeqNo: 794372

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	< 0.40	0.40									

Sample ID: LCS-R66565 | SampType: LCS | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 66565
Client ID: | Batch ID: R66565 | TestNo: E300 | Analysis Date: 11/8/2005 | SeqNo: 794373

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.971	0.40	8	0	99.6	90	110				

Sample ID: LCSD-R66565 | SampType: LCSD | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 66565
Client ID: | Batch ID: R66565 | TestNo: E300 | Analysis Date: 11/8/2005 | SeqNo: 794385

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.941	0.40	8	0	99.3	90	110	7.971	0.377	20	

Sample ID: 05101592-01AMS | SampType: MS | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 66565
Client ID: | Batch ID: R66565 | TestNo: E300 | Analysis Date: 11/8/2005 | SeqNo: 794382

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	9.040	0.40	8	0.5850	104	80	120				

Sample ID: 05101592-01AMSD | SampType: MSD | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 66565
Client ID: | Batch ID: R66565 | TestNo: E300 | Analysis Date: 11/8/2005 | SeqNo: 794383

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	8.644	0.40	8	0.5850	99.5	80	120	9.040	4.48	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05100193
Project: MHP-ERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R66268 | SampType: MBLK | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 66268
Client ID: | Batch ID: R66268 | TestNo: E351.4 | Analysis Date: 11/1/2005 | SeqNo: 790566

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R66268 | SampType: LCS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 66268
Client ID: | Batch ID: R66268 | TestNo: E351.4 | Analysis Date: 11/1/2005 | SeqNo: 790583

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.90	1.3	25	0	104	85	115				

Sample ID: LCSD-R66268 | SampType: LCSD | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 66268
Client ID: | Batch ID: R66268 | TestNo: E351.4 | Analysis Date: 11/1/2005 | SeqNo: 790584

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	24.88	1.3	25	0	99.5	85	115	25.90	4.04	20	

Sample ID: 05100193-01CMS | SampType: MS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 66268
Client ID: HP-1 | Batch ID: R66268 | TestNo: E351.4 | Analysis Date: 11/1/2005 | SeqNo: 790548

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	23.62	1.3	25	0	94.5	70	130				

Sample ID: 05101732-04CMS | SampType: MS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 66268
Client ID: | Batch ID: R66268 | TestNo: E351.4 | Analysis Date: 11/1/2005 | SeqNo: 790579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.18	1.3	25	0	101	70	130				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05100193
Project: MHP-ERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: **05100193-01CMSD** SampType: **MSD** TestCode: **N_TKN_WW** Units: **mg/L** Prep Date: Runno: **66258**
Client ID: **HP-1** Batch ID: **R66258** TestNo: **E351.4** Analysis Date: **11/1/2005** SeqNo: **790585**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	24.20	1.3	25	0	96.8	70	130	23.62	2.40	20	

Sample ID: **05101732-04CMSD** SampType: **MSD** TestCode: **N_TKN_WW** Units: **mg/L** Prep Date: Runno: **66258**
Client ID: Batch ID: **R66258** TestNo: **E351.4** Analysis Date: **11/1/2005** SeqNo: **790589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	24.88	1.3	25	0	99.5	70	130	25.18	1.20	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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[ ] North Phoenix - 1501 W. Knudsen, Phoenix, AZ 85027 (623) 780-4700 FAX (623) 780-2934
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www.palabs.com or call toll-free 1-888-7PALABS (1-888-772-5227)

Quotell K2311

Lab Number: 05100193

Customer Number: 1370953	Page 1 of 1
Customer: PIMA COUNTY FLOOD CONTROL DISTRICT	Sampler: David Scalero
Address: 201 N. STONE AVE. 4TH FLOOR	Project Name: MHP-ERP / Monthly
City, State, Zip: Tucson AZ 85701	Project Number:
Contact: David Scalero	P.O. Number:
Phone: (520) 740-4388 Fax: (520) 740-6749	Fax Results: Y N
E-Mail Address: david.scalero@dot.pima.gov	E-Mail Results: (Y) N

Sample Type Codes: DW - Drinking Water; A - Air; WW - Waste Water; S - Soil; HW - Hazardous Waste; Other GW (groundwater)

Sample Receipt

Temperature: 7-9 °C
Custody Seals: Yes ____ No X
Custody Seals Intact: Yes ____ No X
Total # of Containers: 1

Turn Around Requested

____ 24 Hours ____ 48 Hours
____ 72 Hours
____ 5 Working Days
X Standard 10 Working Days
Subject to scheduling & availability (overtime rate).

Analysis Requested

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	# of Containers
01	HP-1	10-27-05	1058	GW	1	1	1	1

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
10-27-05	12:15	David Scalero	[illegible]
10/27/05	1030	[illegible]	[illegible]
10/28/05	11:00	[illegible]	[illegible]

Analysis performed is subject to the Terms & Conditions available at www.aerotechlabs.com or call 888.772.5227 to request a copy.

Aerotech Environmental Laboratories Sample Receipt Checklist

Project Checked By: [illegible]

Laboratory Number: 15100193	Checklist completed by: [illegible]
Client Name: Pima County Flood Control	Signature/Date 10/27
Matrix: GW / Carrier Name: Client	Date/Time Rec'd: 10/27/05 1215 By: [illegible]

Temperature of Samples? 7.4 °C Circle one: Blue Ice (Wet Ice) Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?			✓
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?			

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samplers____

**See Comment about Chlorine and pH

DIH

Total number of bottles received: /	IH sample media:
If applicable, how many sample bottles were shipped from AEL-Tucson? /	N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3															
C-H2SO4	/														
D-HCl															
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes ✓ No N/A

Preservative & pH		pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals	<2		
Nutrients	<2	22 ✓	
Total Phenols	<2		
413 (O&G)	<2		
418 (TPH)	<2		
Cyanide	>12		
Sulfide	>9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

Aerotech Environmental Laboratories

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Tuesday, December 06, 2005

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX: (520) 205-8360

RE: MHP-ERP/Monthly-Qrtly

Order No.: 05110162

Dear David Scalero:

Aerotech Environmental received 3 sample(s) on 11/22/2005 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

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Aerotech Environmental

Date: *06-Dec-05*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly-Qrtly
Lab Order: 05110162

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
05110162-01B	Source Water		11/22/2005 10:00:00 AM	11/22/2005
05110162-01C	Source Water		11/22/2005 10:00:00 AM	11/22/2005
05110162-01D	Source Water		11/22/2005 10:00:00 AM	11/22/2005
05110162-02B	HP-1		11/22/2005 12:05:00 PM	11/22/2005
05110162-02C	HP-1		11/22/2005 12:05:00 PM	11/22/2005
05110162-02D	HP-1		11/22/2005 12:05:00 PM	11/22/2005
05110162-03D	Trip Blank		11/22/2005	11/22/2005

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Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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Aerotech Environmental

Date: *06-Dec-05*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly-Qrtly
Lab Order: 05110162

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Data Qualifiers:
Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

M7 Matrix spike recovery was low. Data reported per ADEQ policy 0154.000.
R5 MS/MSD RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
R9 Sample RPD exceeded the laboratory control limit.

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Aerotech Environmental **Analytical Report** **Date:** *06-Dec-05*

CLIENT: Pima County Flood Control
Lab Order: 05110162
Project: MHP-ERP/Monthly-Qrtly
Lab ID: 05110162-01B

Client Sample ID: Source Water
Tag Number:
Collection Date: 11/22/2005 10:00:00 AM
Matrix: WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP/MS METALS, TOTAL RECOVERABLE		**E200.8**				Analyst: **HK**
Antimony	< 0.0030	0.0030		mg/L	1	11/28/2005 10:47:26 AM
Arsenic	0.0046	0.0010		mg/L	1	11/28/2005 10:47:26 AM
Barium	0.056	0.0010		mg/L	1	11/28/2005 10:47:26 AM
Beryllium	< 0.0010	0.0010		mg/L	1	11/28/2005 10:47:26 AM
Cadmium	< 0.0010	0.0010		mg/L	1	11/28/2005 10:47:26 AM
Chromium	0.0013	0.0010		mg/L	1	11/28/2005 10:47:26 AM
Lead	< 0.0010	0.0010		mg/L	1	11/28/2005 10:47:26 AM
Nickel	0.0037	0.0010		mg/L	1	11/28/2005 10:47:26 AM
Selenium	< 0.0020	0.0020		mg/L	1	11/28/2005 10:47:26 AM
Thallium	< 0.0010	0.0010		mg/L	1	11/28/2005 10:47:26 AM
MERCURY, TOTAL		**E245.1**				Analyst: **PC**
Mercury	< 0.00020	0.00020		mg/L	1	12/1/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental **Analytical Report** **Date:** 06-Dec-05

CLIENT: Pima County Flood Control
Lab Order: 05110162
Project: MHP-ERP/Monthly-Qrtly
Lab ID: 05110162-01C

Client Sample ID: Source Water
Tag Number:
Collection Date: 11/22/2005 10:00:00 AM
Matrix: WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: LB
Nitrogen, Nitrate/Nitrite Total	1.8	0.40		mg/L	1	12/2/2005 10:32:00 PM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: T A
Nitrogen, Total Kjeldahl	32	1.3		mg/L	1	11/28/2005
NITROGEN, TOTAL		CALC				Analyst: D N
Nitrogen, Total	34	1.7		mg/L	1	12/6/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Aerotech Environmental **Analytical Report** **Date:** *06-Dec-05*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	05110162	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	11/22/2005 10:00:00 AM
Lab ID:	05110162-01D	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		SW8260B				Analyst: SP
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	11/29/2005
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	11/29/2005
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	11/29/2005
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	11/29/2005
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	11/29/2005
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	11/29/2005
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	11/29/2005
Benzene	< 1.0	1.0		µg/L	1	11/29/2005
Carbon tetrachloride	< 1.0	1.0		µg/L	1	11/29/2005
Chlorobenzene	< 1.0	1.0		µg/L	1	11/29/2005
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	11/29/2005
Ethylbenzene	< 1.0	1.0		µg/L	1	11/29/2005
Styrene	< 1.0	1.0		µg/L	1	11/29/2005
Tetrachloroethene	< 1.0	1.0		µg/L	1	11/29/2005
Toluene	< 1.0	1.0		µg/L	1	11/29/2005
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	11/29/2005
Trichloroethene	< 1.0	1.0		µg/L	1	11/29/2005
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	11/29/2005
Vinyl chloride	< 1.0	1.0		µg/L	1	11/29/2005
Xylenes, Total	< 2.0	2.0		µg/L	1	11/29/2005
Surr: 4-Bromofluorobenzene	97.1	73.3-108		%REC	1	11/29/2005
Surr: Dibromofluoromethane	99.2	70.9-112		%REC	1	11/29/2005
Surr: Toluene-d8	84.2	76.2-109		%REC	1	11/29/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Aerotech Environmental **Analytical Report** **Date:** 06-Dec-05

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	05110162	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	11/22/2005 12:05:00 PM
Lab ID:	05110162-02B	**Matrix:**	GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP/MS METALS, TOTAL RECOVERABLE		**E200.8**				Analyst: **HK**
Antimony	< 0.0030	0.0030		mg/L	1	11/28/2005 10:51:27 AM
Arsenic	0.0017	0.0010		mg/L	1	11/28/2005 10:51:27 AM
Barium	0.15	0.0010		mg/L	1	11/28/2005 10:51:27 AM
Beryllium	< 0.0010	0.0010		mg/L	1	11/28/2005 10:51:27 AM
Cadmium	< 0.0010	0.0010		mg/L	1	11/28/2005 10:51:27 AM
Chromium	< 0.0010	0.0010		mg/L	1	11/28/2005 10:51:27 AM
Lead	0.0064	0.0010		mg/L	1	11/28/2005 10:51:27 AM
Nickel	0.0030	0.0010		mg/L	1	11/28/2005 10:51:27 AM
Selenium	< 0.0020	0.0020		mg/L	1	11/28/2005 10:51:27 AM
Thallium	< 0.0010	0.0010		mg/L	1	11/28/2005 10:51:27 AM
MERCURY, TOTAL		**E245.1**				Analyst: **PC**
Mercury	< 0.00020	0.00020		mg/L	1	12/1/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Main Laboratory: 4845 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.8192 www.aerotechlabs.com
Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3805
[illegible] Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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Aerotech Environmental **Analytical Report** **Date:** *06-Dec-05*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	05110162	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	11/22/2005 12:05:00 PM
Lab ID:	05110162-02C	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: LB
Nitrogen, Nitrate/Nitrite Total	3.2	0.40		mg/L	1	12/2/2005 10:50:00 PM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: T A
Nitrogen, Total Kjeldahl	1.8	1.3		mg/L	1	11/28/2005
NITROGEN, TOTAL		CALC				Analyst: D N
Nitrogen, Total	5.0	1.7		mg/L	1	12/6/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
[illegible] Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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Aerotech Environmental **Analytical Report** **Date:** 06-Dec-05

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	05110162	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	11/22/2005 12:05:00 PM
Lab ID:	05110162-02D	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		SW8260B				Analyst: SP
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	11/29/2005
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	11/29/2005
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	11/29/2005
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	11/29/2005
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	11/29/2005
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	11/29/2005
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	11/29/2005
Benzene	< 1.0	1.0		µg/L	1	11/29/2005
Carbon tetrachloride	< 1.0	1.0		µg/L	1	11/29/2005
Chlorobenzene	< 1.0	1.0		µg/L	1	11/29/2005
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	11/29/2005
Ethylbenzene	< 1.0	1.0		µg/L	1	11/29/2005
Styrene	< 1.0	1.0		µg/L	1	11/29/2005
Tetrachloroethene	< 1.0	1.0		µg/L	1	11/29/2005
Toluene	< 1.0	1.0		µg/L	1	11/29/2005
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	11/29/2005
Trichloroethene	< 1.0	1.0		µg/L	1	11/29/2005
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	11/29/2005
Vinyl chloride	< 1.0	1.0		µg/L	1	11/29/2005
Xylenes, Total	< 2.0	2.0		µg/L	1	11/29/2005
Surr: 4-Bromofluorobenzene	94.0	73.3-106		%REC	1	11/29/2005
Surr: Dibromofluoromethane	101	70.9-112		%REC	1	11/29/2005
Surr: Toluene-d8	83.2	76.2-109		%REC	1	11/29/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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dain Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com
Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4803 Fax: 623.780.7695 www.aerotechlabs.com

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Aerotech Environmental **Analytical Report** **Date:** *06-Dec-05*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Trip Blank
Lab Order:	05110162	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	11/22/2005
Lab ID:	05110162-03D	**Matrix:**	TRIP BLANK

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		SW8260B				Analyst: SP
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	11/28/2005
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	11/28/2005
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	11/28/2005
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	11/28/2005
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	11/28/2005
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	11/28/2005
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	11/28/2005
Benzene	< 1.0	1.0		µg/L	1	11/28/2005
Carbon tetrachloride	< 1.0	1.0		µg/L	1	11/28/2005
Chlorobenzene	< 1.0	1.0		µg/L	1	11/28/2005
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	11/28/2005
Ethylbenzene	< 1.0	1.0		µg/L	1	11/28/2005
Styrene	< 1.0	1.0		µg/L	1	11/28/2005
Tetrachloroethene	< 1.0	1.0		µg/L	1	11/28/2005
Toluene	< 1.0	1.0		µg/L	1	11/28/2005
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	11/28/2005
Trichloroethene	< 1.0	1.0		µg/L	1	11/28/2005
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	11/28/2005
Vinyl chloride	< 1.0	1.0		µg/L	1	11/28/2005
Xylenes, Total	< 2.0	2.0		µg/L	1	11/28/2005
Surr: 4-Bromofluorobenzene	95.4	73.3-106		%REC	1	11/28/2005
Surr: Dibromofluoromethane	99.2	70.9-112		%REC	1	11/28/2005
Surr: Toluene-d8	83.8	76.2-109		%REC	1	11/28/2005

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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*Main Laboratory: 4845 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com
Division Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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Aerotech Environmental

06-Dec-05

Lab Order: 05110162
Client: Pima County Flood Control
Project: MSHP-ERP/Monthly-Qrtly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
05110162-01B	Source Water	11/22/2005 10:00:00 AM	Waste Water	ICP/MS METALS, TOTAL RECOVERABLE		11/27/2005 10:51:32 AM	11/28/2005 10:47:26 AM
				MERCURY IN WATERS		12/1/2005 3:00:00 PM	12/1/2005
05110162-01C				ANIONS by ION CHROMATOGRAPHY			12/2/2005 10:32:00 PM
				TOTAL KJELDAHL NITROGEN			11/28/2005
				Total Nitrogen (Calculated)			12/6/2005
05110162-01D				VOLATILES by GC/MS			11/29/2005
05110162-02B	HP-1	11/22/2005 12:05:00 PM	Groundwater	ICP/MS METALS, TOTAL RECOVERABLE		11/27/2005 10:51:32 AM	11/28/2005 10:51:27 AM
				MERCURY IN WATERS		12/1/2005 3:00:00 PM	12/1/2005
05110162-02C			Waste Water	ANIONS by ION CHROMATOGRAPHY			12/2/2005 10:50:00 PM
				TOTAL KJELDAHL NITROGEN			11/28/2005
				Total Nitrogen (Calculated)			12/6/2005
05110162-02D				VOLATILES by GC/MS			11/29/2005
05110162-03D	Trip Blank	11/22/2005	Trip Blank	VOLATILES by GC/MS			11/28/2005

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■ Tucson Facility: 4455 E. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.451.8807 Fax: 623.780.7695 www.aerotechlabs.com

Aerotech Environmental

Date: 06-Dec-05

CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: MB-23798 | SampType: MBLK | TestCode: 200.8 | Units: mg/L | Prep Date: 11/27/2005 | RunNo: 67219
Client ID: | Batch ID: 23798 | TestNo: E200.8 | Analysis Date: 11/28/2005 | SeqNo: 891680

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	< 0.0030	0.0030									
Arsenic	< 0.0010	0.0010									
Barium	< 0.0010	0.0010									
Beryllium	< 0.0010	0.0010									
Cadmium	< 0.0010	0.0010									
Chromium	< 0.0010	0.0010									
Lead	< 0.0010	0.0010									
Nickel	< 0.0010	0.0010									
Selenium	< 0.0020	0.0020									
Thallium	< 0.0010	0.0010									

Sample ID: LCS-23798 | SampType: LCS | TestCode: 200.8 | Units: mg/L | Prep Date: 11/27/2005 | RunNo: 67219
Client ID: | Batch ID: 23798 | TestNo: E200.8 | Analysis Date: 11/28/2005 | SeqNo: 891678

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.09578	0.0030	0.1	0	95.8	85	115				
Arsenic	0.09624	0.0010	0.1	0	96.2	85	115				
Barium	0.09742	0.0010	0.1	0	97.4	85	115				
Beryllium	0.08837	0.0010	0.1	0	88.4	85	115				
Cadmium	0.09623	0.0010	0.1	0	96.2	85	115				
Chromium	0.09317	0.0010	0.1	0	93.2	85	115				
Lead	0.09498	0.0010	0.1	0	95.0	85	115				
Nickel	0.09554	0.0010	0.1	0	95.5	85	115				
Selenium	0.09720	0.0020	0.1	0	97.2	85	115				
Thallium	0.09481	0.0010	0.1	0	94.8	85	115				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: **LCSD-23798** SampType: **LCSD** TestCode: **200.8** Units: **mg/L** Prep Date: **11/27/2005** RunNo: **67219**
Client ID: Batch ID: **23798** TestNo: **E200.8** Analysis Date: **11/28/2005** SeqNo: **801679**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.09781	0.0030	0.1	0	97.8	85	115	0.09578	2.09	20	
Arsenic	0.09605	0.0010	0.1	0	96.0	85	115	0.09624	0.197	20	
Barium	0.09593	0.0010	0.1	0	95.9	85	115	0.09742	0.508	20	
Beryllium	0.08785	0.0010	0.1	0	87.9	85	115	0.08837	0.589	20	
Cadmium	0.09824	0.0010	0.1	0	98.2	85	115	0.09823	0.0143	20	
Chromium	0.09248	0.0010	0.1	0	92.5	85	115	0.09317	0.743	20	
Lead	0.09468	0.0010	0.1	0	94.7	85	115	0.09498	0.303	20	
Nickel	0.09528	0.0010	0.1	0	95.3	85	115	0.09554	0.271	20	
Selenium	0.09712	0.0020	0.1	0	97.1	85	115	0.09720	0.0813	20	
Thallium	0.09463	0.0010	0.1	0	94.6	85	115	0.09481	0.196	20	

Sample ID: **05111355-05A MS** SampType: **MS** TestCode: **200.8** Units: **mg/L** Prep Date: **11/27/2005** RunNo: **67219**
Client ID: Batch ID: **23798** TestNo: **E200.8** Analysis Date: **11/28/2005** SeqNo: **801735**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1065	0.0030	0.1	0	107	70	130				
Arsenic	0.1080	0.0010	0.1	0.009217	98.8	70	130				
Barium	0.2060	0.0010	0.1	0.1054	101	70	130				
Beryllium	0.09692	0.0010	0.1	0	96.9	70	130				
Cadmium	0.1020	0.0010	0.1	0	102	70	130				
Chromium	0.09414	0.0010	0.1	0	94.1	70	130				
Lead	0.09271	0.0010	0.1	0	92.7	70	130				
Nickel	0.09241	0.0010	0.1	0.001622	90.8	70	130				
Selenium	0.09655	0.0020	0.1	0.003532	93.0	70	130				
Thallium	0.09249	0.0010	0.1	0	92.5	70	130				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1501 W. Knudsen Drive Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: 05111355-07A MS | SampType: MS | TestCode: 200.8 | Units: mg/L | Prep Date: 11/27/2005 | RunNo: 67219
Client ID: | Batch ID: 23798 | TestNo: E200.8 | Analysis Date: 11/28/2005 | SeqNo: 901737

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1062	0.0030	0.1	0	106	70	130				
Arsenic	0.1041	0.0010	0.1	0.008587	95.5	70	130				
Barium	0.2151	0.0010	0.1	0.1139	102	70	130				
Beryllium	0.1093	0.0010	0.1	0	109	70	130				
Cadmium	0.09938	0.0010	0.1	0	99.4	70	130				
Chromium	0.09260	0.0010	0.1	0	92.6	70	130				
Lead	0.09598	0.0010	0.1	0	96.0	70	130				
Nickel	0.08920	0.0010	0.1	0.002772	86.4	70	130				
Selenium	0.09039	0.0020	0.1	0.002910	89.5	70	130				
Thallium	0.09523	0.0010	0.1	0	95.2	70	130				

Sample ID: 05111355-05A MSD | SampType: MSD | TestCode: 200.8 | Units: mg/L | Prep Date: 11/27/2005 | RunNo: 67219
Client ID: | Batch ID: 23798 | TestNo: E200.8 | Analysis Date: 11/28/2005 | SeqNo: 901736

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1065	0.0030	0.1	0	106	70	130	0.1065	0.0498	15	
Arsenic	0.1055	0.0010	0.1	0.009217	97.3	70	130	0.1060	1.40	15	
Barium	0.2107	0.0010	0.1	0.1054	105	70	130	0.2060	2.24	15	
Beryllium	0.09697	0.0010	0.1	0	96.9	70	130	0.09592	0.0465	15	
Cadmium	0.1010	0.0010	0.1	0	101	70	130	0.1020	0.894	15	
Chromium	0.09323	0.0010	0.1	0	93.2	70	130	0.09414	0.969	15	
Lead	0.09259	0.0010	0.1	0	92.6	70	130	0.09271	0.134	15	
Nickel	0.09100	0.0010	0.1	0.001522	89.4	70	130	0.09241	1.53	15	
Selenium	0.09542	0.0020	0.1	0.003532	91.9	70	130	0.09555	1.18	15	
Thallium	0.09251	0.0010	0.1	0	92.6	70	130	0.09249	0.122	15	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Chandler Laboratory: 1201 W. Knudsen Drive Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MHP-ERP/Monthly-Qtrly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: 05111265-07A MSD | SampType: MSD | TestCode: 200.8 | Units: mg/L | Prep Date: 11/27/2005 | RunNo: 67219
Client ID: | Batch ID: 33798 | TestNo: E200.8 | Analysis Date: 11/28/2005 | SeqNo: 891738

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1065	0.0030	0.1	0	106	70	130	0.1062	0.214	15	
Arsenic	0.1036	0.0010	0.1	0.008567	95.0	70	130	0.1041	0.464	15	
Barium	0.2160	0.0010	0.1	0.1139	102	70	130	0.2161	0.0579	15	
Beryllium	0.1095	0.0010	0.1	0	109	70	130	0.1093	0.194	15	
Cadmium	0.09890	0.0010	0.1	0	98.9	70	130	0.09938	0.482	15	
Chromium	0.09326	0.0010	0.1	0	93.3	70	130	0.09280	0.498	15	
Lead	0.09474	0.0010	0.1	0	94.7	70	130	0.09598	1.30	15	
Nickel	0.08865	0.0010	0.1	0.002772	86.0	70	130	0.08920	0.384	15	
Selenium	0.09184	0.0020	0.1	0.002910	88.9	70	130	0.09239	0.598	15	
Thallium	0.09444	0.0010	0.1	0	94.4	70	130	0.09523	0.829	15	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: MB-23844 | SampType: MBLK | TestCode: 245.1_W | Units: mg/L | Prep Date: 12/1/2005 | RunNo: 67346
Client ID: | Batch ID: 23844 | TestNo: E245.1 | Analysis Date: 12/1/2005 | SeqNo: 803242

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	< 0.00020	0.00020									

Sample ID: LCS-23844 | SampType: LCS | TestCode: 245.1_W | Units: mg/L | Prep Date: 12/1/2005 | RunNo: 67346
Client ID: | Batch ID: 23844 | TestNo: E245.1 | Analysis Date: 12/1/2005 | SeqNo: 803243

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009520	0.00020	0.01	0	95.2	85	115				

Sample ID: LCSD-23844 | SampType: LCSD | TestCode: 245.1_W | Units: mg/L | Prep Date: 12/1/2005 | RunNo: 67346
Client ID: | Batch ID: 23844 | TestNo: E245.1 | Analysis Date: 12/1/2005 | SeqNo: 803244

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009700	0.00020	0.01	0	97.0	85	115	0.009520	1.87	20	

Sample ID: 05111272-01BMS | SampType: MS | TestCode: 245.1_W | Units: mg/L | Prep Date: 12/1/2005 | RunNo: 67346
Client ID: | Batch ID: 23844 | TestNo: E245.1 | Analysis Date: 12/1/2005 | SeqNo: 803246

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009720	0.00020	0.01	0	97.2	88.4	122				

Sample ID: 05111273-02BMS | SampType: MS | TestCode: 245.1_W | Units: mg/L | Prep Date: 12/1/2005 | RunNo: 67346
Client ID: | Batch ID: 23844 | TestNo: E245.1 | Analysis Date: 12/1/2005 | SeqNo: 803595

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009330	0.00020	0.01	0	93.3	88.4	122				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4845 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
■ Tucson Facility: 4455 S. Park Ave, Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1401 W. Knudsen Drive Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: 05111272-01BMSD	SampType: MSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 12/1/2005	RunNo: 67346
Client ID:	Batch ID: 23844	TestNo: E245.1		Analysis Date: 12/1/2005	SeqNo: 803347

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009690	0.00020	0.01	0	96.9	88.4	122	0.009720	0.309	20	

Sample ID: 05111273-02BMSD	SampType: MSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 12/1/2005	RunNo: 67346
Client ID:	Batch ID: 23844	TestNo: E245.1		Analysis Date: 12/1/2005	SeqNo: 803596

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009400	0.00020	0.01	0	94.3	88.4	122	0.009330	1.67	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1501 W. Knudsen Drive Phoenix, Arizona 85027 Phone: 623.780.4806 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R67545 | SampType: MBLK | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 67545
Client ID: | Batch ID: R67545 | TestNo: E300 | Analysis Date: 12/2/2005 | SeqNo: 805362

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	< 0.40	0.40									

Sample ID: LCS-R67545 | SampType: LCS | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 67545
Client ID: | Batch ID: R67545 | TestNo: E300 | Analysis Date: 12/2/2005 | SeqNo: 805363

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.519	0.40	8	0	94.0	90	110				

Sample ID: LCSD-R67545 | SampType: LCSD | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 67545
Client ID: | Batch ID: R67545 | TestNo: E300 | Analysis Date: 12/2/2005 | SeqNo: 805376

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.711	0.40	8	0	96.4	90	110	7.519	2.52	20	

Sample ID: 05111410-01AMS | SampType: MS | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 67545
Client ID: | Batch ID: R67545 | TestNo: E300 | Analysis Date: 12/2/2005 | SeqNo: 805369

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	33.04	0.80	16	17.05	99.7	80	120				

Sample ID: 05111410-01AMSD | SampType: MSD | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 67545
Client ID: | Batch ID: R67545 | TestNo: E300 | Analysis Date: 12/2/2005 | SeqNo: 805378

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	33.05	0.80	16	17.05	99.8	80	120	33.04	0.0484	20	

Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

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■ Corporate Address: 1501 W. Knudsen Drive Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4807 Fax: 623.780.3696 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MBP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: MB-R67271 | SampType: MBLK | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 67271
Client ID: | Batch ID: R67271 | TestNo: SW8260B | Analysis Date: 11/28/2005 | SeqNo: 802376

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 1.0	1.0									
1,1,2-Trichloroethane	< 1.0	1.0									
1,1-Dichloroethene	< 1.0	1.0									
1,2-Dichlorobenzene	< 1.0	1.0									
1,2-Dichloroethane	< 1.0	1.0									
1,2-Dichloropropane	< 1.0	1.0									
1,4-Dichlorobenzene	< 1.0	1.0									
Benzene	< 1.0	1.0									
Carbon tetrachloride	< 1.0	1.0									
Chlorobenzene	< 1.0	1.0									
cis-1,2-Dichloroethene	< 1.0	1.0									
Ethylbenzene	< 1.0	1.0									
Styrene	< 1.0	1.0									
Tetrachloroethene	< 1.0	1.0									
Toluene	< 1.0	1.0									
trans-1,2-Dichloroethene	< 1.0	1.0									
Trichloroethene	< 1.0	1.0									
Vinyl chloride	< 1.0	1.0									
Surr: 4-Bromofluorobenzene	24.25	0	25	0	97.0	73.9	109				
Surr: Dibromofluoromethane	24.60	0	25	0	98.4	72.1	110				
Surr: Toluene-d8	20.75	0	25	0	83.0	77.5	108				

Sample ID: LCS-R67271 | SampType: LCS | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 67271
Client ID: | Batch ID: R67271 | TestNo: SW8260B | Analysis Date: 11/28/2005 | SeqNo: 802377

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	28.11	1.0	25	0	112	81	124				
1,1,2-Trichloroethane	24.67	1.0	25	0	98.7	85	115				
1,1-Dichloroethene	25.15	1.0	25	0	101	81.2	122				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 866.651.4800 Fax: 623.780.7496 www.aerotechlabs.com

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CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCS-R67271 | SampType: LCS | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 67271
Client ID: | Batch ID: R67271 | TestNo: SW8260B | Analysis Date: 11/28/2005 | SeqNo: 802377

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	23.26	1.0	25	0	93.0	85	115				
1,2-Dichloroethane	30.54	1.0	25	0	122	72.3	131				
1,2-Dichloropropane	24.66	1.0	25	0	98.6	85	115				
1,4-Dichlorobenzene	22.31	1.0	25	0	89.2	85	115				
Benzene	25.39	1.0	25	0	102	82.7	116				
Carbon tetrachloride	27.67	1.0	25	0	111	79.7	128				
Chlorobenzene	22.89	1.0	25	0	91.6	85	115				
cis-1,2-Dichloroethene	25.49	1.0	25	0	102	83	117				
Ethylbenzene	23.84	1.0	25	0	95.4	85	115				
Styrene	24.08	1.0	25	0	96.3	87	116				
Tetrachloroethene	25.14	1.0	25	0	101	81.7	117				
Toluene	23.60	1.0	25	0	94.4	85	115				
trans-1,2-Dichloroethene	25.29	1.0	25	0	101	82.3	118				
Trichloroethene	25.00	1.0	25	0	100	85	115				
Vinyl chloride	25.31	1.0	25	0	101	78.6	124				
Surr: 4-Bromofluorobenzene	24.03	0	25	0	96.1	73.9	109				
Surr: Dibromofluoromethane	24.84	0	25	0	99.4	72.1	110				
Surr: Toluene-d8	21.17	0	25	0	84.7	77.5	108				

Sample ID: LCSD-R67271 | SampType: LCSD | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 67271
Client ID: | Batch ID: R67271 | TestNo: SW8260B | Analysis Date: 11/28/2005 | SeqNo: 802378

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	27.22	1.0	25	0	109	81	124	28.11	3.22	25	
1,1,2-Trichloroethane	23.64	1.0	25	0	94.6	85	115	24.67	4.26	25	
1,1-Dichloroethene	23.81	1.0	25	0	95.2	81.2	122	25.15	5.47	25	
1,2-Dichlorobenzene	23.61	1.0	25	0	94.4	85	115	23.26	1.49	25	
1,2-Dichloroethane	30.01	1.0	25	0	120	72.3	131	30.54	1.75	25	
1,2-Dichloropropane	24.52	1.0	25	0	98.1	85	115	24.66	0.569	25	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MBIP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCSD-R67271 | SampType: LCSD | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 67271
Client ID: | Batch ID: R67271 | TestNo: SW8260B | Analysis Date: 11/28/2005 | SeqNo: 802378

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	22.65	1.0	25	0	90.6	85	115	22.31	1.51	25	
Benzene	25.45	1.0	25	0	102	82.7	119	25.39	0.236	25	
Carbon tetrachloride	25.60	1.0	25	0	102	79.7	128	27.67	7.77	25	
Chlorobenzene	23.46	1.0	25	0	93.8	85	115	22.89	2.46	25	
cis-1,2-Dichloroethene	25.39	1.0	25	0	102	83	117	25.49	0.393	25	
Ethylbenzene	23.55	1.0	25	0	94.2	85	115	23.84	1.22	25	
Styrene	24.17	1.0	25	0	96.7	87	115	24.06	0.373	25	
Tetrachloroethene	23.99	1.0	25	0	96.0	81.7	117	25.14	4.68	25	
Toluene	23.19	1.0	25	0	92.8	85	115	23.60	1.75	25	
trans-1,2-Dichloroethene	24.75	1.0	25	0	99.0	82.3	118	25.29	2.16	25	
Trichloroethene	25.02	1.0	25	0	100	85	115	25.00	0.0800	25	
Vinyl chloride	23.45	1.0	25	0	93.8	78.6	124	25.31	7.63	25	
Surr: 4-Bromofluorobenzene	24.27	0	25	0	97.1	73.9	109	24.03	0	0	
Surr: Dibromofluoromethane	24.83	0	25	0	99.3	72.1	110	24.84	0	0	
Surr: Toluene-d8	20.95	0	25	0	83.8	77.5	108	21.17	0	0	

Sample ID: 05111235-01D MS | SampType: MS | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 67271
Client ID: | Batch ID: R67271 | TestNo: SW8260B | Analysis Date: 11/28/2005 | SeqNo: 802379

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	27.75	1.0	25	0	111	79.4	128				
1,1,2-Trichloroethane	23.12	1.0	25	0	92.5	78	115				
1,1-Dichloroethene	25.11	1.0	25	0	100	79.6	127				
1,2-Dichlorobenzene	22.32	1.0	25	0	89.3	82.3	111				
1,2-Dichloroethane	28.78	1.0	25	0	115	66.4	132				
1,2-Dichloropropane	23.59	1.0	25	0	94.4	80.8	115				
1,4-Dichlorobenzene	21.64	1.0	25	0	86.6	80.5	109				
Benzene	24.21	1.0	25	0	96.8	79.4	118				
Carbon tetrachloride	26.92	1.0	25	0	108	79	132				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MBIP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 05111235-01D MS | SampType: MS | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 67271
Client ID: | Batch ID: R67271 | TestNo: SW8260B | Analysis Date: 11/28/2005 | SeqNo: 802379

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	22.21	1.0	25	0	88.8	82.4	111				
cis-1,2-Dichloroethene	24.60	1.0	25	0	98.4	79.5	119				
Ethylbenzene	22.90	1.0	25	0	91.6	81.6	118				
Styrene	17.78	1.0	25	0	71.1	68.8	125				
Tetrachloroethene	24.45	1.0	25	0	97.8	79.3	121				
Toluene	22.99	1.0	25	0	92.0	80.3	119				
trans-1,2-Dichloroethene	24.50	1.0	25	0	98.0	81.3	120				
Trichloroethene	24.12	1.0	25	0	96.5	80.1	118				
Vinyl chloride	25.04	1.0	25	0	100	76.6	130				
Surr: 4-Bromofluorobenzene	24.02	0	25	0	96.1	73.3	106				
Surr: Dibromofluoromethane	24.37	0	25	0	97.5	70.9	112				
Surr: Toluene-d8	21.13	0	25	0	84.5	76.2	109				

Sample ID: 05111235-01D MSD | SampType: MSD | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 67271
Client ID: | Batch ID: R67271 | TestNo: SW8260B | Analysis Date: 11/28/2005 | SeqNo: 802380

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	19.91	1.0	25	0	79.6	79.4	128	27.75	32.9	25	R5
1,1,2-Trichloroethane	19.54	1.0	25	0	78.2	78	116	23.12	16.8	25	
1,1-Dichloroethene	17.63	1.0	25	0	70.5	79.6	127	25.11	35.0	25	M7R9
1,2-Dichlorobenzene	17.37	1.0	25	0	69.5	82.3	111	22.32	24.9	25	M7
1,2-Dichloroethane	23.86	1.0	25	0	95.4	66.4	132	28.78	18.7	25	
1,2-Dichloropropane	18.65	1.0	25	0	74.6	80.8	115	23.59	23.4	25	M7
1,4-Dichlorobenzene	16.77	1.0	25	0	67.1	80.5	109	21.64	25.4	25	M7
Benzene	18.34	1.0	25	0	73.4	79.4	118	24.21	27.6	25	M7R9
Carbon tetrachloride	19.77	1.0	25	0	79.1	79	132	26.92	30.6	25	
Chlorobenzene	17.16	1.0	25	0	68.6	82.4	111	22.21	25.7	25	M7R9
cis-1,2-Dichloroethene	18.59	1.0	25	0	74.4	79.5	119	24.60	27.8	25	M7R9
Ethylbenzene	17.07	1.0	25	0	68.3	81.6	118	22.90	29.2	25	M7R9

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 05111235-01D MSD | SampType: MSD | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 67271
Client ID: | Batch ID: R67271 | TestNo: SW8260B | Analysis Date: 11/28/2005 | SeqNo: 892389

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	11.28	1.0	25	0	45.1	68.8	125	17.78	44.7	25	M7R9
Tetrachloroethene	18.09	1.0	25	0	72.4	79.3	121	24.45	29.9	25	M7R9
Toluene	17.45	1.0	25	0	69.8	80.3	119	22.99	27.4	25	M7R9
trans-1,2-Dichloroethene	17.75	1.0	25	0	71.0	81.3	120	24.50	32.0	25	M7R9
Trichloroethene	18.08	1.0	25	0	72.3	80.1	118	24.12	28.6	25	M7R9
Vinyl chloride	17.46	1.0	25	0	69.8	76.6	130	25.04	35.9	25	M7R9
Surr: 4-Bromofluorobenzene	24.04	0	25	0	96.2	73.3	105	24.02	0	0	
Surr: Dibromofluoromethane	23.99	0	25	0	96.0	70.9	112	24.37	0	0	
Surr: Toluene-d8	21.13	0	25	0	84.5	76.2	109	21.13	0	0	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4806 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MBIP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R67206 | SampType: MBLK | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 67206
Client ID: | Batch ID: R67206 | TestNo: E351.4 | Analysis Date: 11/28/2005 | SeqNo: 891465

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	< 1.3	1.3									

Sample ID: LCS-R67206 | SampType: LCS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 67206
Client ID: | Batch ID: R67206 | TestNo: E351.4 | Analysis Date: 11/28/2005 | SeqNo: 891489

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	27.75	1.3	25	0	111	85	115				

Sample ID: LCSD-R67206 | SampType: LCSD | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 67206
Client ID: | Batch ID: R67206 | TestNo: E351.4 | Analysis Date: 11/28/2005 | SeqNo: 891490

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.12	1.3	25	0	101	85	115	27.75	9.93	20	

Sample ID: 05110142-01CMS | SampType: MS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 67206
Client ID: | Batch ID: R67206 | TestNo: E351.4 | Analysis Date: 11/28/2005 | SeqNo: 891467

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	< 1.3	1.3	25	0	0	70	130				M7

Sample ID: 05111184-05CMS | SampType: MS | TestCode: N_TKN_WW | Units: mg/L | Prep Date: | RunNo: 67206
Client ID: | Batch ID: R67206 | TestNo: E351.4 | Analysis Date: 11/28/2005 | SeqNo: 891479

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.65	1.3	25	1.450	96.8	70	130				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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■ Corporate Address: 1501 W. Knudsen Drive Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

CLIENT: Pima County Flood Control
Work Order: 05110162
Project: MBP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 05110142-01CMSD SampType: MSD TestCode: N_TKN_WW Units: mg/L Prep Date: RunNo: 67206
Client ID: Batch ID: R67206 TestNo: E351.4 Analysis Date: 11/28/2005 SeqNo: 801458

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	< 1.3	1.3	25	0	0	70	130	0	0	20	MT

Sample ID: 05111184-05CMSD SampType: MSD TestCode: N_TKN_WW Units: mg/L Prep Date: RunNo: 67206
Client ID: Batch ID: R67206 TestNo: E351.4 Analysis Date: 11/28/2005 SeqNo: 801480

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.38	1.3	25	1.450	99.7	70	130	25.65	2.79	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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Air Quality Environmental Laboratories Sample Receipt Checklist

Project Checked By: JK

Laboratory Number: 05-11-0162	Checklist completed by: [signature]
Client Name: Pima County Flood Control	Signature/Date 11-22-05
Matrix: W w/fmd Carrier Name: client	Date/Time Rec'd: 11-22-05/12:40 By: CB

Temperature of Samples? 6.4 °C Circle one: Blue Ice Wet Ice Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?			✓
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?	✓		

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samplers____

**See Comment about Chlorine and pH

Total number of bottles received: 11	IH sample media:
If applicable, how many sample bottles were shipped from AEL-Tucson? 11	N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3	1	1													
C-H2SO4	1	1													
D-HCl	3	3	1 TB												
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes ✓ No N/A

Preservative & pH	pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals <2	<2	
Nutrients <2	<2	
Total Phenols <2		
413 (O&G) <2		
418 (TPH) <2		
Cyanide >12		
Sulfide >9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

PHX-SM-002A-11/04

Aerotech Environmental Laboratories

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[ ] Tempe Lab - 5125 S. 17th Street, Tempe, AZ 85281 (480) 967-1310 FAX (480) 967-1019
[ ] North Phoenix - 1501 W. Knudsen, Phoenix, AZ 85027 (623) 780-4700 FAX (623) 780-2934
[ ] Tucson - 4455 S. Park Ave, Suite 110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
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Quoteff K2311

Lab Number: 05-11-0162

Customer Number: 1372013
Page 1 of 1

Customer: PIMA COUNTY FLOOD CONTROL DISTRICT
Address: 201 N. STONE AVE. 4TH FLOOR
City, State, Zip: Tucson AZ 85701
Contact: David Scalero
Phone: (520) 740-6350 Fax: (520) 740-6749
E-Mail Address: david.scalero@dot.pima.gov

Sampler: David Scalero
Project Name: MHP-ERP / Monthly-Qrtly
Project Number:
P.O. Number:
Fax Results: Y N
E-Mail Results: (Y) N

Sample Type Codes
DW - Drinking Water A - Air
WW - Waste Water S - Soil
HW - Hazardous Waste
Other: GW - Groundwater

Sample Receipt
Temperature: 6.4 °C
Custody Seals: Yes ___ No ✓
Custody Seals Intact: Yes N/A
Total # of Containers: 11

Turn Around Request
___ 24 Hours ___ 48 Hours
___ 72 Hours
___ 5 Working Days
X Standard 10 Working Days
Subject to scheduling & availability (surcharges apply)

Sample Information

Analyses Requested

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	Metals (200.8) - As, Ba, Cd, Cr, Pb - Sb, Be, Ni, Tl, Se	Mercury	82/602 VOCs	# of Sample Containers
01	Source Water	11-22-05	1000	WW	X	X	X	X	X	X	5
02	HP-1	11-22-05	1205	GW	X	X	X	X	X	X	5
03	TRIP BLANK	11-22-05		TB						X	1

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
11-22-05	1540	David Scalero	[illegible]
11-22-05	1630	[illegible]	FED EX
11-22-05	09:26	FED EX	CMH

Analysis performed is subject to the Terms & Conditions available at www.aerotechlabs.com or call 866.722.5227 to request a copy.