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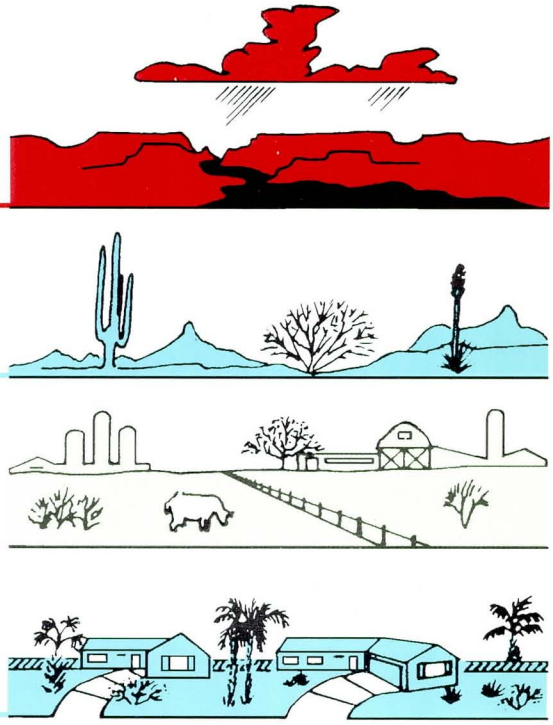

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Stormwater Quality Report
City of Phoenix, Arizona

Second Quarter 2003

March 14, 2003

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Stormwater Quality Report

Second Quarter, Sampling Year 2003

October 1, 2002 through December 31, 2002

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For

City of Phoenix, Arizona

March 14, 2003

Prepared by: Kenneth D. Fossum, USGS Hydrologist

Reviewed by: Matthew A. Oller, FCDMC Hydrologist

Stormwater Quality Report
City of Phoenix, Arizona

Second Quarter 2003

March 14, 2003

Introduction

This report details the NPDES stormwater sampling activities during the winter of 2002, which includes the period from October 1, 2002 through December 31, 2002.

The Flood Control District of Maricopa County, in cooperation with the U.S. Geological Survey, operates and maintains seven land based stormwater quality-monitoring stations. The USGS is responsible for all maintenance and sample collection at the seven monitoring sites.

During storm events, only representative storm events are sampled. A representative storm event has occurred when the following criteria has been met

PHOENIX	RAINFALL	DURATION
SUMMER	0.15 – 0.64 INCH	1.2 – 3.7 HOURS
WINTER	0.15 – 0.64 INCH	2.6 – 7.9 HOURS

and there has been **no rainfall greater than 0.10 inches within the previous 72 hours.** Storm duration is defined as the time period from start to end of a sustained rainfall. Sustained rainfall is defined as rainfall that continues without a gap of greater than 60 consecutive minutes for summer storms and 150 consecutive minutes for winter storms. If a gap greater than these criteria occurs, then the rainfall is considered to be from a separate storm event. Summer months are April through September and winter months are October through March.

Summary of Storm Events

Table 1, on Page 4 - 5 of this report, summarizes non-sampled storm events that occurred during the second quarter of fiscal year 2003 (October 1 – December 31, 2002). Table 2, on Pages 5 - 6 of this report, summarizes data retrievals from the sites. Any troubleshooting of the equipment is detailed in the Maintenance Summary section of this report.

Storm of November 29 - 30, 2002

A storm event occurred on November 29 - 30. There was sufficient rainfall at all sites to produce runoff. The sites ACDC43 and IB08 did sample. There was too much rain at SR03 and SR30. The storm duration was too long at SR49. The sampler malfunctioned at SR45 and no samples were pulled. The flow amount at CAVE was insufficient for the sampler to pull samples.

Storm of November 29 - 30, 2002

SITE	RAINFALL	SAMPLED	REMARKS
SR49	0.53	NO	Duration Too Long
SR03	0.75	NO	Too Much Rain
SR30	1.46	NO	Too Much Rain
SR45	0.34	NO	Sampler Malfunction
ACDC43	0.65	YES	Composite and Grabs
IB08	0.50	YES	Composite and Grabs
CAVE	0.80	NO	Little Flow

Storm of December 23, 2002

A storm event occurred on December 23. There was sufficient rainfall at 1 site to produce runoff. The site IB08 did sample. The sites SR49, SR30, and CAVE received enough rainfall to qualify as a representative storm, but had no runoff.

Storm of December 23, 2002

SITE	RAINFALL	SAMPLED	REMARKS
SR49	0.19	NO	No Flow
SR30	0.17	NO	No Flow
IB08	0.18	YES	Composite and Grabs
CAVE	0.49	NO	No Flow

SR49 – Salt River at 67th Avenue
SR03 – Salt River at 35th Avenue
SR30 – Salt River at 27th Avenue
SR45 – Salt River at 40th Street
ACDC43 – ACDC near Peoria Avenue and 43rd Avenue
IB08 – 40th Street and Indian Bend Wash
CAVE – Cave Creek Road at Tatum Boulevard

TABLE 1
SUMMARY OF NON-SAMPLED STORM EVENTS
OCTOBER 1, 2002 – DECEMBER 31, 2002

SITE	DATE	RAIN (inches)	REASONS NOT SAMPLED
SR49	10/26/02	0.72	RAIN > 0.64 INCH
SR49	11/29/02	0.11	RAIN < 0.15 INCH, DURATION TOO SHORT
SR49	11/29 - 30/02	0.53	72 HOUR RULE, DURATION TOO LONG
SR49	12/17/02	0.02	RAIN < 0.15 INCH, DURATION TOO SHORT
SR49	12/20/02	0.06	RAIN < 0.15 INCH, DURATION TOO SHORT
SR49	12/23/02	0.19	NO FLOW
SR03	10/23/02	0.06	RAIN < 0.15 INCH, DURATION TOO SHORT
SR03	10/26/02	1.80	RAIN > 0.64 INCH
SR03	11/29/02	0.11	RAIN < 0.15 INCH, DURATION TOO SHORT
SR03	11/29 - 30/02	0.75	72 HOUR RULE, RAIN > 0.64 INCH, DURATION TOO LONG
SR03	12/17/02	0.03	RAIN < 0.15 INCH, DURATION TOO SHORT
SR03	12/20/02	0.05	RAIN < 0.15 INCH, DURATION TOO SHORT
SR03	12/23/02	0.10	72 HOUR RULE, RAIN < 0.15 INCH
SR30	10/23/02	0.04	RAIN < 0.15 INCH, DURATION TOO SHORT
SR30	10/26/02	1.56	RAIN > 0.64 INCH
SR30	11/29/02	0.19	DURATION TOO SHORT
SR30	11/29 - 30/02	1.46	72 HOUR RULE, RAIN > 0.64 INCH, DURATION TOO LONG
SR30	12/17/02	0.06	RAIN < 0.15 INCH, DURATION TOO SHORT
SR30	12/20/02	0.06	RAIN < 0.15 INCH, DURATION TOO SHORT
SR30	12/23/02	0.17	NO FLOW
SR45	10/02/02	0.05	RAIN < 0.15 INCH, DURATION TOO SHORT
SR45	10/23/02	0.03	RAIN < 0.15 INCH, DURATION TOO SHORT
SR45	10/26/02	0.12	RAIN < 0.15 INCH, DURATION TOO SHORT
SR45	11/29 - 30/02	0.34	SAMPLER MALFUNCTION
SR45	12/17/02	0.02	RAIN < 0.15 INCH, DURATION TOO SHORT
SR45	12/23/02	0.10	RAIN < 0.15 INCH
ACDC43	10/17/02	0.10	RAIN < 0.15 INCH, DURATION TOO SHORT
ACDC43	10/17/02	0.02	72 HOUR RULE, RAIN < 0.15 INCH, DURATION TOO SHORT
ACDC43	10/23/02	0.06	RAIN < 0.15 INCH, DURATION TOO SHORT
ACDC43	10/26/02	0.16	DURATION TOO SHORT
ACDC43	11/29/02	0.05	RAIN < 0.15 INCH, DURATION TOO SHORT
ACDC43	12/17/02	0.12	RAIN < 0.15 INCH, DURATION TOO SHORT
ACDC43	12/20/02	0.07	RAIN < 0.15 INCH, DURATION TOO SHORT
ACDC43	12/23/02	0.10	72 HOUR RULE, RAIN < 0.15 INCH
IB08	10/26/02	0.71	RAIN > 0.64 INCH
IB08	12/17/02	0.12	RAIN < 0.15 INCH, DURATION TOO SHORT
CAVE	10/23/02	0.06	RAIN < 0.15 INCH, DURATION TOO SHORT
CAVE	10/26/02	0.56	VERY LITTLE FLOW
CAVE	11/29 - 30/02	0.80	RAIN > 0.64 INCH, VERY LITTLE FLOW
CAVE	11/30/02	0.05	72 HOUR RULE, RAIN < 0.15 INCH, DURATION TOO SHORT

CAVE	12/17/02	0.16	DURATION TOO SHORT, NO FLOW
CAVE	12/20/02	0.14	RAIN < 0.15 INCH, DURATION TOO SHORT, NO FLOW
CAVE	12/23/02	0.21	72 HOUR RULE, DURATION TOO LONG, NO FLOW

TABLE 2
SUMMARY OF DATA RETRIEVALS
OCTOBER 1, 2002 – DECEMBER 31, 2002

SITE	DATE	RETRIEVAL TYPE
SR49	10/04/02	Phone - Weekly
SR49	10/11/02	Phone - Weekly
SR49	10/16/02	Onsite
SR49	10/25/02	Phone - Weekly
SR49	10/26/02	Phone - Storm
SR49	11/01/02	Phone - Weekly
SR49	11/08/02	Phone - Weekly
SR49	11/15/02	Phone - Weekly
SR49	11/22/02	Phone - Weekly
SR49	11/30/02	Phone - Storm
SR49	12/06/02	Phone - Weekly
SR49	12/13/02	Phone - Weekly
SR49	12/17/02	Phone - Storm
SR49	12/20/02	Phone - Storm
SR49	12/23/02	Phone - Storm
SR49	12/27/02	Phone - Weekly
SR03	10/04/02	Phone - Weekly
SR03	10/11/02	Phone - Weekly
SR03	10/16/02	Onsite
SR03	10/23/02	Phone - Storm
SR03	10/25/02	Phone - Weekly
SR03	10/26/02	Phone - Storm
SR03	11/01/02	Phone - Weekly
SR03	11/08/02	Phone - Weekly
SR03	11/15/02	Phone - Weekly
SR03	11/22/02	Phone - Weekly
SR03	11/30/02	Phone - Storm
SR03	12/06/02	Phone - Weekly
SR03	12/13/02	Phone - Weekly
SR03	12/17/02	Phone - Storm
SR03	12/20/02	Phone - Storm
SR03	12/23/02	Onsite
SR03	12/27/02	Phone - Weekly
SR30	10/04/02	Phone - Weekly
SR30	10/11/02	Phone - Weekly
SR30	10/16/02	Onsite
SR30	10/23/02	Phone - Storm
SR30	10/25/02	Phone - Weekly
SR30	10/26/02	Phone - Storm
SR30	11/01/02	Phone - Weekly
SR30	11/08/02	Phone - Weekly
SR30	11/15/02	Phone - Weekly
SR30	11/22/02	Phone - Weekly
SR30	11/30/02	Phone - Storm
SR30	12/06/02	Phone - Weekly
SR30	12/13/02	Phone - Weekly

SR30	12/17/02	Phone - Storm
SR30	12/20/02	Phone - Storm
SR30	12/23/02	Phone - Storm
SR30	12/27/02	Phone - Weekly

SR45	10/01/02	Onsite
SR45	10/04/02	Phone - Weekly
SR45	10/11/02	Phone - Weekly
SR45	10/18/02	Phone - Weekly
SR45	10/23/02	Phone - Storm
SR45	10/25/02	Phone - Weekly
SR45	10/26/02	Phone - Storm
SR45	11/01/02	Phone - Weekly
SR45	11/08/02	Phone - Weekly
SR45	11/15/02	Phone - Weekly
SR45	11/22/02	Phone - Weekly
SR45	11/30/02	Phone - Storm
SR45	12/06/02	Phone - Weekly
SR45	12/13/02	Phone - Weekly
SR45	12/17/02	Phone - Storm
SR45	12/23/02	Phone - Storm
SR45	12/27/02	Phone - Weekly

ACDC43	10/04/02	Phone - Weekly
ACDC43	10/11/02	Phone - Weekly
ACDC43	10/17/02	Phone - Storm
ACDC43	10/23/02	Phone - Storm
ACDC43	10/25/02	Phone - Weekly
ACDC43	10/26/02	Phone - Storm
ACDC43	11/01/02	Phone - Weekly
ACDC43	11/08/02	Phone - Weekly
ACDC43	11/15/02	Phone - Weekly
ACDC43	11/22/02	Phone - Weekly
ACDC43	11/30/02	Phone - Storm
ACDC43	12/06/02	Phone - Weekly
ACDC43	12/13/02	Phone - Weekly
ACDC43	12/17/02	Phone - Storm
ACDC43	12/20/02	Phone - Storm
ACDC43	12/23/02	Phone - Storm
ACDC43	12/27/02	Phone - Weekly

IB-08	10/01/02	Onsite
IB-08	10/16/02	Onsite
IB-08	10/24/02	Onsite
IB-08	10/28/02	Onsite - Storm
IB-08	11/22/02	Phone - Weekly
IB-08	12/03/02	Onsite - Storm
IB-08	12/13/02	Phone - Weekly
IB-08	12/17/02	Phone - Storm
IB-08	12/27/02	Onsite - Storm

CAVE	10/01/02	Onsite
CAVE	10/16/02	Onsite - Storm
CAVE	10/25/02	Onsite - Storm
CAVE	10/26/02	Onsite - Storm
CAVE	12/03/02	Onsite - Storm
CAVE	12/17/02	Onsite - Storm
CAVE	12/27/02	Onsite - Storm

Maintenance Summary

This section details maintenance activities and problems that occurred during the second quarter of fiscal year 2003. All water quality samplers are ISCO Model 3700 with the exception of Station IB08. Station IB08 utilizes a SIGMA Model 900 sampler. The current ISCO sample collection bottle setup is one 5-gallon glass bottle. The current SIGMA sample collection bottle setup is eight 2-liter glass bottles.

SR49 – Salt River at 67th Avenue

The phone battery was replaced on October 16, 28, November 8, 25, and December 3, 13, 23. All sampler tubing and collection bottle were cleaned on October 28 and December 23, 27. The data logger battery was replaced on October 16. Pulled data onsite with the computer on October 16. The Isco sampler battery was replaced on December 27.

SR03 – Salt River at 35th Avenue

The phone battery was replaced on October 16, 28, November 8, 25, and December 3, 13, 23. The data logger battery was replaced on October 16, 28 and December 3, 13, 23. All sampler tubing and collection bottle were cleaned on October 28. Pulled data onsite with the computer on October 16 and December 23. Data can was pulled on October 28 and December 3. Repaired battery terminals on October 28. Reset sampler on December 23.

SR30 – Salt River at 27th Avenue

The phone battery was replaced on October 16, November 1, 8, 25 and December 3, 13. The data logger battery was replaced on October 16 and December 13. All sampler tubing and collection bottle were cleaned on November 1. Pulled data onsite with the computer on October 16. Reset sampler on December 3.

SR45 – Salt River at 40th Street

All sampler tubing and collection bottle were cleaned on October 28 and December 17. The data logger battery was replaced on October 16. Pulled data onsite with the computer on October 1. Data can was pulled on October 16. The Isco sampler battery was replaced on December 27. Pressure transducer was cleaned on December 27.

ACDC43 – ACDC near Peoria Avenue and 43rd Avenue

All sampler tubing and collection bottle were cleaned on October 28 and December 3, 17. The datalogger battery was replaced on October 16. Reset Isco sampler on December 17.

IB08 – 40th Street at Indian Bend Wash

Reset sampler on October 1, 16, 24 and December 3, 17, 27. All sampler tubing and collection bottles were cleaned on October 28 and December 3, 17, 27. The SIGMA 900 sampler battery was replaced on October 16 and December 3, 27. Pulled data with the DTU on October 1, 16, 24, 28 and December 3, 27. Reprogrammed the sampler for winter sampling criteria on October 1.

CAVE - Cave Creek Road and Tatum Boulevard

Pulled data onsite on October 1, 16, 25, 28 and December 3, 17, 27. Reset sampler on October 16, 25, 28 and December 3, 17, 27.

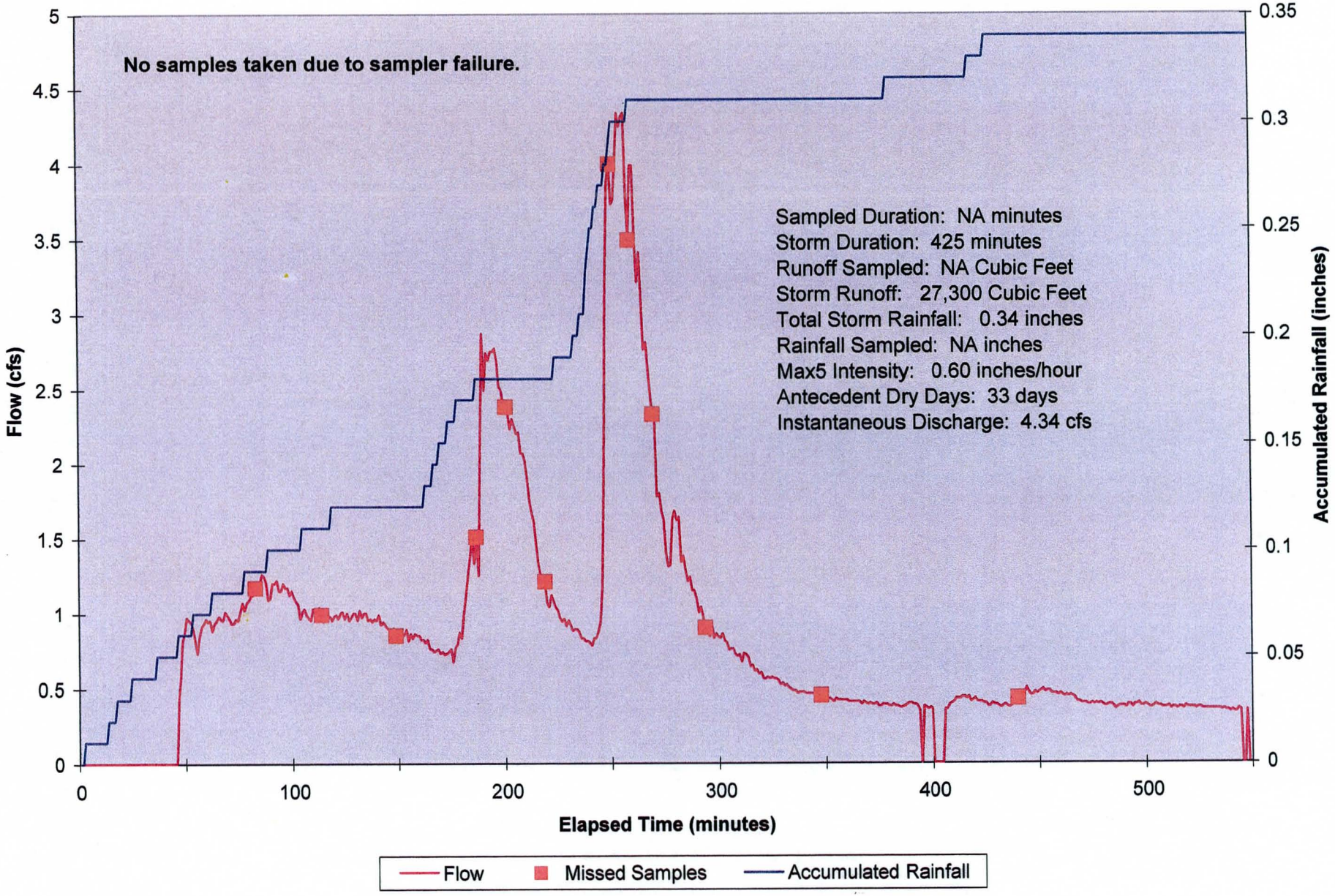
Data from 2ND Quarter 2003

The remainder of this report contains data. The following data are included:

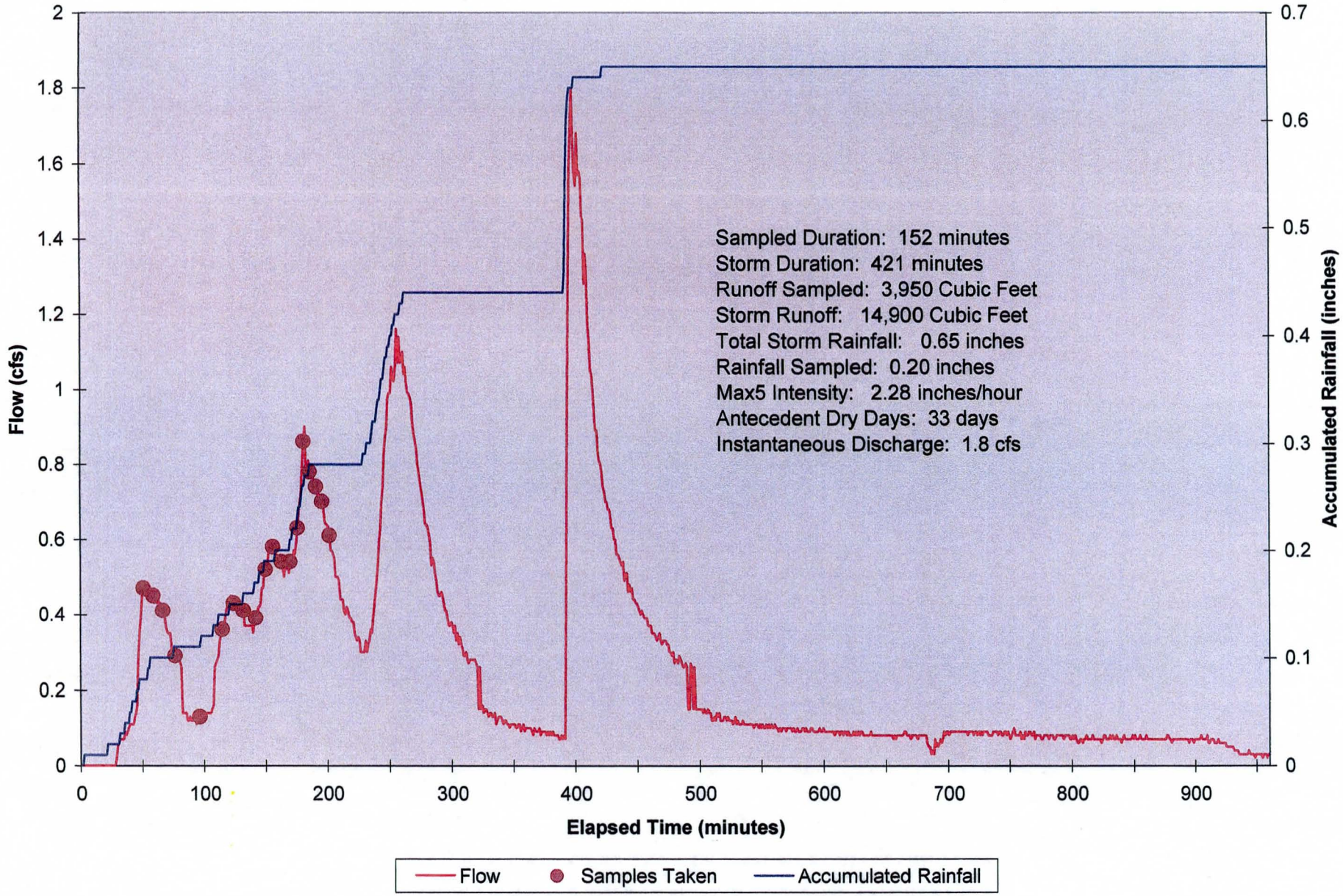
- Storm Hydrographs for representative storm events.
- Rainfall data for seven Phoenix NPDES raingages.
- Rainfall data for twenty-eight Phoenix ALERT raingages.
- Printed tables of data for representative storm events.
- Data Validation Tables.
- Hard copies of lab results.
- Hard copies of quality control data.
- Copies of operation and maintenance and storm event log sheets.

Storm Hydrographs

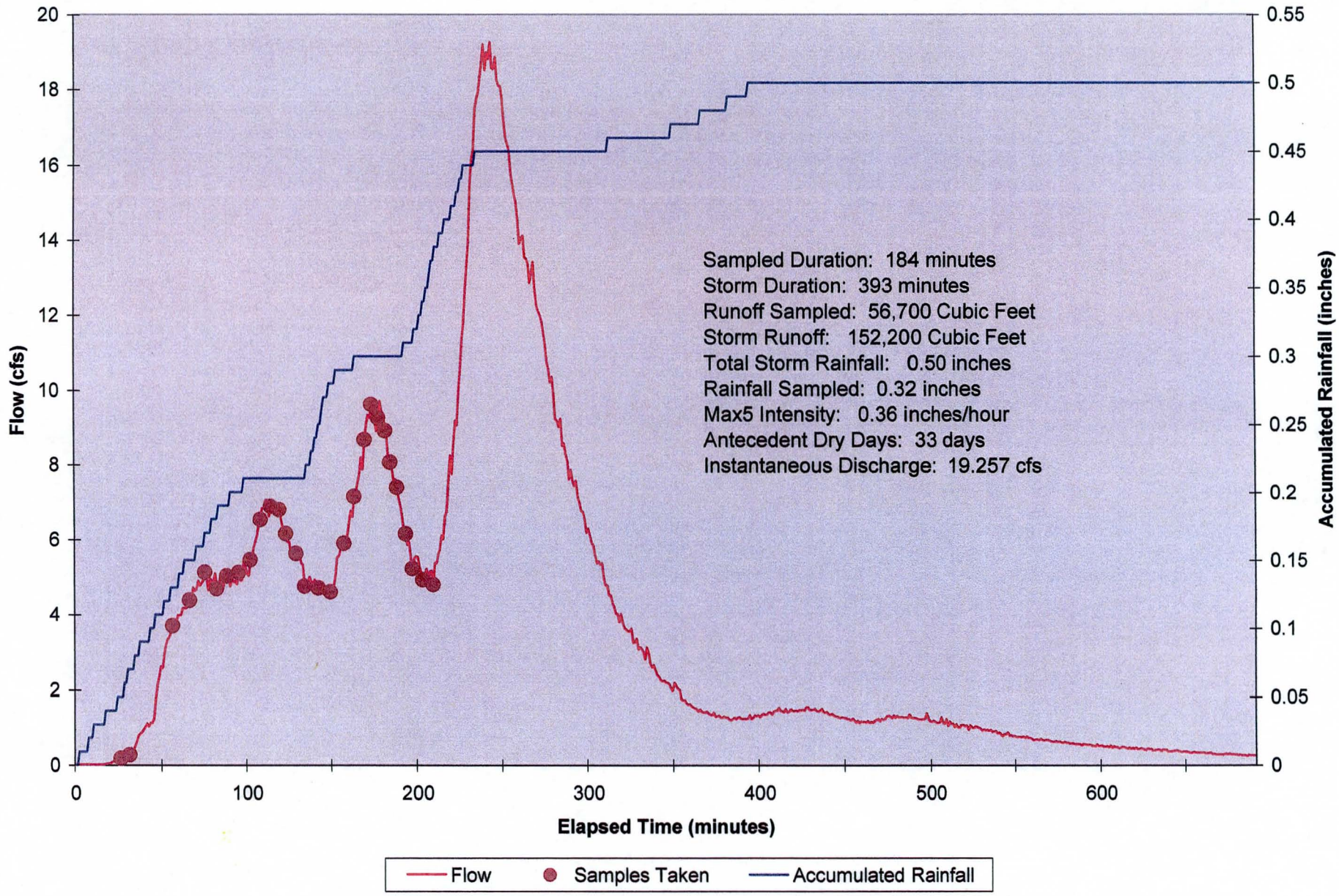
SR45 - 40th Street and the Salt River
Storm of November 29-30, 2002



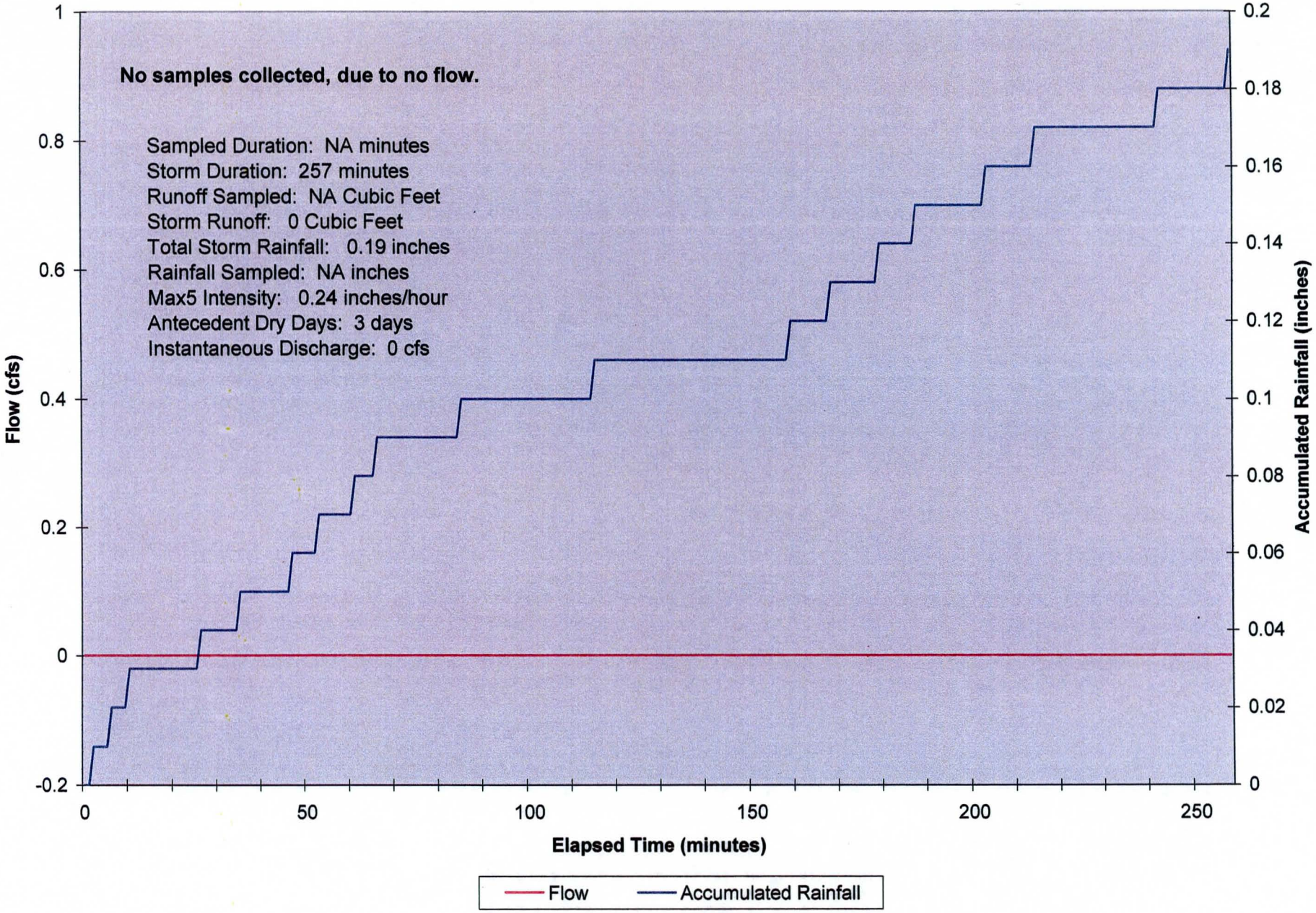
ACDC43 - 43rd Avenue and Peoria Avenue
Storm of November 29-30, 2002



IB08 - IBW at 40th Street
Storm of November 29-30, 2002



SR49 - 67th Avenue and the Salt River
Storm of December 23, 2002



STORM WATER QUALITY RAINFALL GAGES

Gauge Rainfall (inches)

Gage Number	SR49
Location	Salt River at 67th Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.07									
7			0.51									
8												
9			0.10									
10			0.18									
11												
12												
13												
14	0.99											
15	0.02											
16												
17						0.02						
18												
19												
20						0.06						
21												
22												
23	0.53					0.19						
24												
25												
26				0.72								
27												
28			0.07									
29					0.61							
30					0.03							
31												
Month Total	1.54	0.00	0.93	0.72	0.64	0.27	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	SR03
Location	Salt River at 35th Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.06									
7			0.82									
8												
9			0.11									
10			0.22									
11												
12												
13												
14	1.05											
15	0.02											
16												
17						0.03						
18												
19												
20						0.05						
21												
22												
23	0.36			0.06		0.10						
24												
25												
26				1.80								
27												
28												
29					0.60							
30					0.26							
31												
Month Total	1.43	0.00	1.21	1.86	0.86	0.18	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	SR30
Location	Salt River at 27th Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6												
7			1.61									
8												
9	0.04		0.18									
10			0.21									
11												
12												
13												
14	1.92											
15	0.03											
16												
17						0.06						
18												
19												
20						0.06						
21												
22												
23	1.06			0.04		0.17						
24												
25												
26				1.56								
27												
28												
29					1.08							
30					0.57							
31												
Month Total	3.05	0.00	2.00	1.60	1.65	0.29	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	SR45
Location	Salt River at 40th Street

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2				0.05								
3												
4												
5												
6			0.38									
7			0.13									
8												
9	0.02		0.16									
10												
11												
12												
13												
14	0.53											
15												
16												
17						0.02						
18												
19												
20												
21												
22												
23	0.44			0.03		0.10						
24												
25												
26				0.12								
27												
28												
29					0.31							
30					0.03							
31												
Month Total	0.99	0.00	0.67	0.20	0.34	0.12	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	ACDC43
Location	ACDC near Peoria Avenue and 43rd Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.80									
7			0.43									
8			0.02									
9	0.02											
10			0.26									
11												
12												
13												
14	1.31											
15	0.01											
16												
17				0.12		0.12						
18												
19												
20						0.07						
21												
22												
23	0.39			0.06		0.10						
24												
25												
26				0.16								
27												
28			0.10									
29					0.49							
30					0.21							
31												
Month Total	1.73	0.00	1.61	0.34	0.70	0.29	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	IB08
Location	40th Street at Indian Bend Wash

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.26									
7			0.17									
8												
9			0.16									
10												
11												
12	0.16											
13												
14	1.06											
15												
16												
17						0.12						
18												
19												
20												
21												
22												
23	0.98					0.18						
24												
25												
26				0.71								
27												
28												
29					0.45							
30					0.05							
31												
Month Total	2.20	0.00	0.59	0.71	0.50	0.30	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	CAVE
Location	Cave Creek Road and Tatum Boulevard

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5		0.24										
6			0.61									
7			0.21									
8			0.02									
9	0.24		0.12									
10												
11												
12	0.21											
13												
14	1.81											
15	0.03											
16												
17						0.16						
18												
19												
20						0.14						
21												
22												
23	0.45			0.06		0.49						
24												
25												
26				0.56								
27												
28												
29					0.72							
30					0.13							
31												
Month Total	2.74	0.24	0.96	0.62	0.85	0.79	0.00	0.00	0.00	0.00	0.00	0.00

FLOOD CONTROL DISTRICT
A.L.E.R.T GAGES

Gauge Rainfall (inches)

Gage Number	4500
Location	Cesar Chavez Park

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.04									
7			0.55									
8												
9			0.04									
10			0.20									
11												
12												
13												
14	0.55											
15	0.04											
16												
17						0.04						
18												
19												
20												
21												
22												
23	0.04					0.04						
24												
25												
26				0.67								
27												
28												
29					0.35							
30					0.08							
31												
Month Total	0.63	0.00	0.83	0.67	0.43	0.08	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4510
Location	Roeser at Second Street

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6												
7			0.31									
8												
9			0.12									
10												
11												
12												
13												
14	0.59											
15												
16												
17												
18												
19												
20												
21						0.04						
22												
23	0.59					0.04						
24												
25												
26				0.28								
27												
28												
29					0.35							
30					0.04							
31												
Month Total	1.18	0.00	0.43	0.28	0.39	0.08	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number 4600

Location IBW at McKellips Road

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5			0.04									
6			0.12									
7			0.04									
8												
9			0.12									
10												
11												
12												
13												
14	0.71											
15												
16												
17				0.20								
18												
19												
20												
21												
22												
23	0.59					0.28						
24						---						
25						---						
26				0.24								
27												
28												
29					0.24							
30					0.08							
31												
Month Total	1.30	0.00	0.32	0.44	0.32	0.28	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4610
Location	IBW at Indian Bend Road

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2				0.04								
3												
4												
5												
6			0.20									
7			0.08									
8			0.04									
9			0.16									
10			0.04									
11												
12	0.04											
13												
14	0.55											
15												
16												
17				0.08		0.08						
18												
19												
20												
21												
22												
23	0.71			0.08		0.28						
24												
25												
26				0.16								
27												
28												
29					0.20	0.04						
30					0.04							
31												
Month Total	1.30	0.00	0.52	0.36	0.24	0.40	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4630
Location	Thunderbird Academy - near Thunderbird and Scottsdale Roads

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2				0.04								
3												
4												
5			0.04									
6			0.20									
7			0.04									
8												
9			0.20									
10												
11												
12												
13												
14	0.08											
15												
16												
17						0.08						
18	0.04											
19												
20						0.04						
21												
22												
23	0.39					0.24						
24												
25												
26				0.12								
27												
28												
29					0.24							
30												
31												
Month Total	0.51	0.00	0.48	0.16	0.24	0.36	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4640
Location	IBW and Sweetwater Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.39									
7			0.04									
8												
9			0.12									
10												
11												
12	0.16											
13												
14	1.06											
15												
16												
17				0.04		0.12						
18												
19												
20												
21						0.04						
22												
23	0.63					0.12						
24												
25												
26				0.47								
27												
28												
29					0.39							
30					0.04							
31												
Month Total	1.85	0.00	0.55	0.51	0.43	0.28	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4650
Location	Paradise Valley Park - near Union Hills Drive at 32nd Street

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2				0.08								
3												
4												
5		0.12										
6			0.55									
7												
8												
9			0.12									
10												
11												
12												
13	0.04											
14	0.83											
15	0.08											
16												
17						0.08						
18												
19												
20						0.04						
21						0.04						
22												
23	0.31			0.04		0.12						
24												
25												
26				0.59								
27												
28												
29					0.35							
30					0.04							
31												
Month Total	1.26	0.12	0.67	0.71	0.39	0.28	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4700
Location	FCD - Durango Street at 27th Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6												
7			0.59									
8												
9	0.04		0.04									
10			0.08									
11												
12												
13												
14	1.02											
15												
16												
17												
18												
19												
20						0.04						
21												
22												
23	0.39					0.04						
24												
25												
26				0.98								
27												
28												
29					0.35							
30					0.28							
31												
Month Total	1.45	0.00	0.71	0.98	0.63	0.08	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4710
Location	Jefferson at 4th Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3	0.08											
4												
5												
6												
7			0.47									
8												
9			0.08									
10												
11												
12												
13	0.16											
14	2.2											
15												
16												
17												
18												
19												
20						0.04						
21												
22												
23	0.39					0.12						
24												
25												
26				0.47								
27												
28												
29					0.43							
30					0.12							
31												
Month Total	2.83	0.00	0.55	0.47	0.55	0.16	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4730
Location	near Thomas Road and 32nd Street

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4		—										
5												
6												
7			0.28									
8												
9			0.16									
10												
11												
12												
13												
14	1.54											
15	0.04											
16												
17				0.43								
18												
19												
20						0.04						
21												
22												
23	0.16			0.16		0.12						
24	0.04											
25												
26				0.28								
27												
28												
29					0.31							
30					0.04							
31												
Month Total	1.78	0.00	0.44	0.87	0.35	0.16	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number: 4740

Location: Papago Park - near McDowell Road and 52nd Street

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2		—		0.08								
3												
4												
5												
6			0.31									
7			0.12									
8												
9	0.04		0.20									
10												
11												
12												
13												
14	0.51											
15												
16												
17				0.04								
18												
19												
20												
21						0.04						
22												
23	0.16			0.08		0.16						
24												
25												
26				0.16								
27												
28												
29					0.31							
30					0.04							
31												
Month Total	0.71	0.00	0.63	0.36	0.35	0.20	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4750
Location	Thomas Road at 48th Street

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.12									
7			0.12									
8												
9	0.04		0.20									
10												
11												
12												
13	0.04											
14	0.67											
15												
16												
17				0.04		0.04						
18												
19												
20												
21												
22						0.04						
23	0.28			0.04		0.12						
24												
25												
26				0.12								
27												
28												
29					0.31							
30					0.08							
31												
Month Total	1.03	0.00	0.44	0.20	0.39	0.20	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4760
Location	Maryvale Municipal Golf Course - near Indian School Road and 59th Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.35									
7			0.16									
8												
9			0.04									
10			0.08									
11												
12												
13												
14	1.69											
15	0.04											
16												
17												
18												
19												
20						0.04						
21												
22						0.04						
23	0.16			0.04		0.08						
24												
25												
26				0.39								
27												
28												
29					0.35							
30					0.04							
31												
Month Total	1.89	0.00	0.63	0.43	0.39	0.16	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4780
Location	Missouri Avenue at 16th Street

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6												
7			0.24									
8			0.04									
9			0.08									
10												
11												
12												
13												
14	1.22											
15	0.04											
16												
17				0.16		0.04						
18												
19												
20						0.04						
21												
22												
23	0.31			0.04		0.08						
24												
25												
26				0.71								
27												
28												
29					0.51							
30					0.04							
31												
Month Total	1.57	0.00	0.36	0.91	0.55	0.16	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number 4800

Location Dreamy Draw Dam

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.55									
7			0.08									
8												
9			0.08									
10												
11												
12												
13												
14	1.54											
15												
16												
17				0.08		0.04						
18												
19												
20												
21												
22												
23	0.71					0.08						
24												
25												
26				0.75								
27												
28												
29					0.39							
30					0.08							
31												
Month Total	2.25	0.00	0.71	0.83	0.47	0.12	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number 4820

Location ACDC at 43rd Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2		0.04										
3												
4												
5												
6			0.71									
7			0.39									
8												
9												
10			0.20									
11												
12												
13												
14	1.22											
15	0.04											
16												
17				0.04		0.08						
18												
19												
20						0.08						
21												
22												
23	0.31			0.04		0.08						
24												
25												
26		—		0.12								
27												
28			0.12									
29					0.39							
30					0.16							
31												
Month Total	1.57	0.04	1.42	0.20	0.55	0.24	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4830
Location	Cave Creek Wash at Cactus Road

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.43									
7			0.16									
8			0.08									
9												
10			0.16									
11												
12												
13												
14	1.22											
15												
16												
17						0.04						
18												
19												
20						0.04						
21												
22												
23	0.35			0.12		0.08						
24												
25												
26				0.39								
27												
28												
29					0.28							
30					0.16							
31												
Month Total	1.57	0.00	0.83	0.51	0.44	0.16	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4840
Location	Greenway Road at 32nd Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.51									
7			0.31									
8			0.04									
9												
10			0.08									
11												
12												
13												
14	0.79											
15	0.04											
16												
17				0.16		0.04						
18												
19												
20						0.04						
21						—						
22						—						
23	0.75			0.04		0.12						
24												
25												
26				0.16								
27												
28			0.12									
29					0.31							
30					0.16							
31												
Month Total	1.58	0.00	1.06	0.36	0.47	0.20	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	4900
Location	Cave Buttes Dam

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.28									
7			0.12									
8			0.04									
9												
10												
11												
12												
13												
14	0.35											
15	0.04		---									
16												
17						0.08						
18												
19												
20												
21												
22												
23	0.43			0.04		0.20						
24						0.04						
25												
26				0.08								
27												
28												
29					0.24							
30					0.08							
31												
Month Total	0.82	0.00	0.44	0.12	0.32	0.32	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	5400
Location	Agua Fria at Buckeye Road

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.71									
7			0.55									
8			0.08									
9												
10												
11												
12												
13												
14	1.22											
15	0.04											
16												
17				0.08								
18												
19												
20												
21												
22												
23	0.24					0.08						
24												
25												
26				0.08								
27												
28												
29					0.43							
30												
31												
Month Total	1.50	0.00	1.34	0.16	0.43	0.08	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number: 5505

Location: New River at Glendale Avenue

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.59									
7			0.51									
8			0.04									
9												
10												
11												
12												
13												
14	0.04											
15												
16												
17												
18												
19												
20						0.04						
21												
22												
23	0.08					0.04						
24												
25												
26				0.08								
27												
28												
29					0.47							
30		—										
31												
Month Total	0.12	0.00	1.14	0.08	0.47	0.08	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	5535
Location	Adobe Dam

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.24									
7			0.91									
8												
9												
10			0.04									
11												
12												
13												
14	0.39											
15	0.04											
16												
17				0.39		0.04						
18												
19												
20												
21												
22												
23	0.35					0.12						
24												
25												
26				0.04								
27												
28												
29					0.28							
30					0.08							
31												
Month Total	0.78	0.00	1.19	0.43	0.36	0.16	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	5550
Location	Deer Valley Airport

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1		0.16										
2		0.04										
3												
4												
5												
6			0.47									
7			0.28									
8			0.04									
9												
10			0.20									
11												
12												
13												
14	1.22											
15	0.04											
16		---										
17		---		0.04		0.08						
18												
19												
20						0.08						
21												
22												
23	0.28			0.16		0.12						
24												
25												
26				0.16								
27												
28			0.04									
29					0.35							
30					0.08							
31												
Month Total	1.54	0.20	1.03	0.36	0.43	0.28	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	5565
Location	Skunk Creek at I-17

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2				0.04								
3		0.20										
4												
5												
6			0.24									
7			0.87									
8												
9	0.04											
10			0.04									
11												
12	0.04											
13												
14	0.24											
15	0.08											
16												
17						0.04						
18												
19												
20						0.04						
21												
22												
23	0.24					0.16						
24												
25												
26				0.12								
27												
28												
29					0.31							
30					0.04							
31												
Month Total	0.64	0.20	1.15	0.16	0.35	0.24	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	5595
Location	New River and Bell Road

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1		0.04										
2		0.04										
3												
4												
5												
6			0.59									
7			1.30									
8												
9												
10												
11												
12												
13												
14	0.16											
15	0.04											
16												
17						0.04						
18												
19												
20						0.04						
21												
22												
23	0.39					0.12						
24												
25												
26				0.08								
27				0.04								
28												
29					0.24							
30					0.04							
31												
Month Total	0.59	0.08	1.89	0.12	0.28	0.20	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number	6500
Location	Guadalupe FRS

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.24									
7			0.08									
8												
9	0.04		0.12									
10												
11												
12												
13												
14	0.28											
15												
16												
17												
18												
19												
20												
21												
22						0.04						
23	0.35					0.12						
24												
25												
26				0.31								
27				0.43								
28												
29					0.35							
30					0.04							
31												
Month Total	0.67	0.00	0.44	0.74	0.39	0.16	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number 6510
Location South Mountain Park

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.47									
7			0.12									
8												
9			0.28									
10												
11												
12												
13												
14	0.20											
15												
16												
17												
18												
19												
20												
21												
22												
23	0.55					0.12						
24												
25												
26				0.24								
27												
28												
29					0.35							
30					0.04							
31												
Month Total	0.75	0.00	0.87	0.24	0.39	0.12	0.00	0.00	0.00	0.00	0.00	0.00

Gauge Rainfall (inches)

Gage Number 6560

Location South Mountain Fan

	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002	January 2003	February 2003	March 2003	April 2003	May 2003	June 2003
1												
2												
3												
4												
5												
6			0.16									
7			0.28									
8												
9			---									
10			0.28									
11		---										
12												
13												
14	1.22											
15												
16												
17												
18												
19												
20												
21												
22												
23	0.47					0.08						
24												
25												
26				0.28								
27												
28												
29					0.39							
30					0.20							
31												
Month Total	1.69	0.00	0.72	0.28	0.59	0.08	0.00	0.00	0.00	0.00	0.00	0.00

Data Tables

Phoenix ACDC43

ACDC near Peoria Avenue and 43rd Avenue

Date of Sampling	11/30/02
Time	0137
Representative Storm Event	Y
Agency Collecting Sample	USGS
Agency Analyzing Sample	DELMAR
Drainage Area (acres) (DA)	3.4
Impervious Area (acres) (IA)	3.2
Land Use - Residential	0
Land Use - Commercial	3.2
Land Use - Industrial	0
Land Use - Undeveloped	0.2
Sampling Duration (minutes) (DRN)	152
Storm Duration (minutes)	421
Runoff Sampled (cubic feet) (RUN)	3950
Total Storm Runoff (cubic feet)	14900
Instantaneous Discharge (cfs)	1.8
Preceeding Dry Period (days) (ANT)	33
Total Storm Rainfall (inch) (TRN)	0.65
Rainfall Sampled (inch)	0.2
Maximum 5-minute rain intensity (MAX5)	2.28
Sample Temperature (deg. C)	3.0
Effluent Temperature (deg. C)	15.0
Ambient Temperature (deg. C)	15.0
Barometric Pressure (mm Hg)	732
pH, Effluent (standard units)	7.66
pH, Lab (standard units)	6.4
Specific Conductance, FIELD (us/cm)	413
Specific Conductance, LAB (umhos/cm)	85
Oxygen Dissolved (% saturation)	NM
Oxygen Dissolved (mg/l)	8.12
BOD5 (mg/l)	24
COD High Level (mg/l)	100
Chloride Total (mg/l as Cl)	3.9
Flouride Total (mg/l as F)	0.26
Sulfate, Total (mg/l)	8
Sulfide Total (mg/l)	<0.1
Cyanide Total (mg/l as Cn)	<0.02
Fecal Coliform (MPN/100mL)	3000
Fecal Streptococci (MPN/100mL)	900000
E. Coli (MPN/100mL)	1100
Total Dissolved Solids (mg/l)	78
Total Suspended Solids (mg/l)	20
Nitrogen NO_2 + NO_3, Total (mg/l as N)	0.41
TKN Nitrogen (mg/l as N)	2.8
Nitrogen, Ammonia + Organic, Total (mg/l as N)	3.6
Nitrogen Nitrate Total (mg/l as N)	0.4
Nitrogen Nitrite Total (mg/l as N)	<0.1
Nitrogen Ammonia Total (mg/l as N)	1.5
Phosphorous Total (mg/l as P)	0.38
Phosphorous Dissolved (mg/l as P)	0.31
Phosphorous Ortho (mg/l as P)	<0.5
Phenols Total Recoverable (ug/l)	<0.1
Oil and Grease Total Recoverable (mg/l)	9.6

Phoenix ACDC43 ACDC near Peoria Avenue and 43rd Avenue	
Date of Sampling	11/30/02
Time	0137
Total Recoverable Petroleum Hydrocarbons (mg/l)	5.7
Bicarbonate Whole Field (mg/l as HCO_3)	9.8
Bicarbonate Dissolved, Field (mg/l as HCO_3)	7.3
Carbonate Water Field (mg/l as CO_3)	0
Carbonate Water Dissolved, Field, (mg/l as CO_3)	0
Alkalinity Water Field Total (mg/l as $CaCO_3$)	8
Alkalinity Dissolved Water Field Total (mg/l as $CaCO_3$)	6
Alkalinity LAB (mg/l as $CaCO_3$)	9.6
Hardness (mg/l)	20
Arsenic Total (ug/l as As)	1.1
Arsenic Dissolved (ug/l as As)	NA
Beryllium Total Recoverable (ug/l as Be)	<0.5
Beryllium Dissolved (ug/l as Be)	NA
Cadmium Total Recoverable (ug/l as Cd)	<1
Cadmium Dissolved (ug/l as Cd)	NA
Calcium, Total Recoverable (mg/l as Ca)	6.1
Chromium Total Recoverable (ug/l as Cr)	2.3
Chromium Dissolved (ug/l as Cr)	NA
Copper, Total Recoverable, (ug/l as Cu)	16
Copper, Dissolved, (ug/l as Cu)	NA
Lead, Total Recoverable, (ug/l as Pb)	2.9
Lead, Dissolved, (ug/l as Pb)	NA
Magnesium, Total Recoverable (mg/l as Mg)	1.2
Nickel, Total Recoverable, (ug/l as Ni)	6
Nickel, Dissolved, (ug/l as Ni)	NA
Potassium, Total Recoverable (mg/l as K)	3
Silver, Total Recoverable, (ug/l as Ag)	<1
Silver, Dissolved, (ug/l as Ag)	NA
Sodium, Total Recoverable (mg/l as Na)	<5
Zinc, Total Recoverable, (ug/l as Zn)	120
Zinc, Dissolved, (ug/l as Zn)	120
P,P' DDE, Total, (ug/l)	<0.1
Acetone, Total, (ug/l)	20
Benzene, Total, (ug/l)	<2
Bromodichloromethane, Total, (ug/l)	<2
Bromoform, Total, (ug/l)	<5
Bromomethane, Total (ug/l)	<5
Carbon Tetrachloride, Total, (ug/l)	<2.5
Chlorobenzene, Total, (ug/l)	<2
Dibromochloromethane, Total (ug/l)	<2
Chloroethane, (ug/l)	<5
Chloroform, Total, (ug/l)	<2
Chloromethane, Total (ug/l)	<5
1,2- Dichlorobenzene, Total, (ug/l)	<2
1,3- Dichlorobenzene, Total, (ug/l)	<2
1,4- Dichlorobenzene, Total, (ug/l)	<2
1,1- Dichloroethane, Total, (ug/l)	<2
1,2- Dichloroethane, Total, (ug/l)	<2
1,1- Dichloroethene, Total, (ug/l)	<5
trans-1,2- Dichloroethene, (ug/l)	<2

Phoenix ACDC43 ACDC near Peoria Avenue and 43rd Avenue	
Date of Sampling	11/30/02
Time	0137
1,2- Dichloropropane, Total, (ug/l)	<2
cis-1,3-Dichloropropene, (ug/l)	<2
trans-1,3- Dichloropropene, (ug/l)	<2
Ethylbenzene, Total, (ug/l)	<2
Methylene Chloride, Total, (ug/l)	<5
1,1,2,2-Tetrachloroethane, Total, (ug/l)	<2
Tetrachloroethene, PCE, Total, (ug/l)	<2
Toluene, Total, (ug/l)	<2
1,1,1- Trichloroethane, Total, (ug/l)	<2
1,1,2- Trichloroethane, Total, (ug/l)	<2
Trichloroethene, Total, (ug/l)	<2
Trichlorofluoromethane, Total, (ug/l)	<5
Vinyl Chloride, Total, (ug/l)	<2
Chrysene, Total, (ug/l)	<20
Phenol, Total, (ug/l)	<20
Benzoic Acid, Total, (ug/l)	<100

Phoenix IB08 40th Street at Indian Bend Wash	
Date of Sampling	11/29/02
Time	2333
Representative Storm Event	Y
Agency Collecting Sample	USGS
Agency Analyzing Sample	DEL MAR
Drainage Area (acres) (DA)	801
Impervious Area (acres) (IA)	UA
Land Use - Residential	659
Land Use - Commercial	62
Land Use - Industrial	0
Land Use - Undeveloped	81
Sampling Duration (minutes) (DRN)	184
Storm Duration (minutes)	393
Runoff Sampled (cubic feet) (RUN)	56700
Total Storm Runoff (cubic feet)	152200
Instantaneous Discharge (cfs)	19.257
Preceeding Dry Period (days) (ANT)	33
Total Storm Rainfall (inch)	0.50
Rainfall Sampled (inch) (TRN)	0.32
Maximum 5-minute rain intensity (MAX5)	0.36
Sample Temperature (deg. C)	3.0
Effluent Temperature (deg. C)	18.5
Ambient Temperature (deg. C)	15.0
Barometric Pressure (mm Hg)	732
pH, Effluent (standard units)	7.67
pH, Lab (standard units)	6.8
Specific Conductance, FIELD (us/cm)	108
Specific Conductance, LAB (us/cm)	210
Oxygen Dissolved (% saturation)	NM
Oxygen Dissolved (mg/l)	8.11
BOD5 (mg/l)	26
COD High Level (mg/l)	82
Chloride Total (mg/l as Cl)	17
Flouride Total (mg/l as F)	0.53
Sulfate Total (mg/l)	2.6
Sulfide Total (mg/l)	<0.1
Fecal Coliform (MPN/100mL)	1600
Fecal Streptococci (MPN/100mL)	16000
E. Coli (MPN/100ml)	1600
Total Dissolved Solids (mg/l)	150
Total Suspended Solids (mg/l)	41
Nitrogen No2 + No3, Total (mg/l as N)	0.99
TKN Nitrogen (mg/l as N)	2.8
Nitrogen, Ammonia + Organic, Total (mg/l as N)	3.9
Nitrogen Nitrate Total (mg/l as N)	0.95
Nitrogen Nitrite Total (mg/l as N)	<0.1
Nitrogen Ammonia Total (mg/l as N)	1.6
Phosphorous Total (mg/l as P)	0.5
Phosphorous Dissolved (mg/l as P)	0.29
Phosphorous Ortho (mg/l as P)	<0.5
Phenols Total Recoverable (ug/l)	<10
Oil and Grease Total Recoverable (mg/l)	1.6
Total Recoverable Petroleum Hydrocarbons (mg/l)	<1

Phoenix IB08

40th Street at Indian Bend Wash

Date of Sampling	11/29/02
Time	2333
Bicarbonate Whole Field (mg/l as HCo3)	44
Bicarbonate Dissolved, Field (mg/l as HCo3)	39
Carbonate Water Field (mg/l as Co3)	0
Carbonate Water Dissolved, Field, (mg/l as Co3)	0
Alkalinity Water Field Total (mg/l as CaCo3)	36
Alkalinity Dissolved Water Field Total (mg/l as CaCo3)	32
Alkalinity LAB (mg/l as CaCo3)	36
Hardness (mg/l)	69
Arsenic Total (ug/l as As)	NA
Arsenic Dissolved (ug/l as As)	1.1
Beryllium Total Recoverable (ug/l as Be)	NA
Beryllium Dissolved (ug/l as Be)	<0.5
Cadmium Total Recoverable (ug/l as Cd)	<0.5
Cadmium Dissolved (ug/l as Cd)	<1
Calcium Total Recoverable (mg/l as Ca)	19
Chromium Total Recoverable (ug/l as Cr)	NA
Chromium Dissolved (ug/l as Cr)	<1
Copper, Total Recoverable, (ug/l as Cu)	30
Copper, Dissolved, (ug/l as Cu)	13
Lead, Total Recoverable, (ug/l as Pb)	9.9
Lead, Dissolved, (ug/l as Pb)	<1
Magnesium, Total Recoverable (mg/l as Mg)	4.9
Nickel, Total Recoverable, (ug/l as Ni)	NA
Nickel, Dissolved, (ug/l as Ni)	5.0
Potassium, Total Recoverable (mg/l as K)	5.0
Silver, Total Recoverable, (ug/l as Ag)	NA
Silver, Dissolved, (ug/l as Ag)	<1
Sodium, Total Recoverable (mg/l as Na)	14
Zinc, Total Recoverable, (ug/l as Zn)	100
Zinc, Dissolved, (ug/l as Zn)	<50
P,P' DDE, Total, (ug/l)	<0.1
Acetone, Total, (ug/l)	<20
Benzene, Total, (ug/l)	<2
Bromodichloromethane, Total, (ug/l)	<2
Bromoform, Total, (ug/l)	<5
Bromomethane (ug/l)	<5
Carbon Tetrachloride, Total, (ug/l)	<2.5
Chlorobenzene, Total, (ug/l)	<2
Dibromochloromethane (ug/l)	<2
Chloroethane, (ug/l)	<5
Chloroform, Total, (ug/l)	<2
Chloromethane, Total (ug/l)	<5
1,2- Dichlorobenzene, Total, (ug/l)	<2
1,3- Dichlorobenzene, Total, (ug/l)	<2
1,4- Dichlorobenzene, Total, (ug/l)	<2
1,1- Dichloroethane, Total, (ug/l)	<2
1,2- Dichloroethane, Total, (ug/l)	<2
1,1- Dichloroethene, Total, (ug/l)	<5
trans-1,2- Dichloroethene, (ug/l)	<2
1,2- Dichloropropane, Total, (ug/l)	<2
cis-1,3-Dichloropropene, (ug/l)	<2

Phoenix IB08 40th Street at Indian Bend Wash	
Date of Sampling	11/29/02
Time	2333
trans-1,3- Dichloropropene, (ug/l)	<2
Ethyl-Benzene, Total, (ug/l)	<2
Methylene Chloride, Total, (ug/l)	<5
1,1,2,2-Tetrachloroethane, Total, (ug/l)	<2
Tetrachloroethene, PCE, Total, (ug/l)	<2
Toluene, Total, (ug/l)	<2
1,1,1- Trichloroethane, Total, (ug/l)	<2
1,1,2- Trichloroethane, Total, (ug/l)	<2
Trichloroethene, Total, (ug/l)	<2
Trichlorofluoromethane, Total, (ug/l)	<5
Vinyl Chloride, Total, (ug/l)	<2
Chrysene, Total, (ug/l)	<10
Phenol, Total, (ug/l)	<10
Benzoic Acid, Total, (ug/l)	<50

Phoenix IB08

40th Street at Indian Bend Wash

Date of Sampling	12/23/02
Time	1459
Representative Storm Event	Y
Agency Collecting Sample	USGS
Agency Analyzing Sample	DEL MAR
Drainage Area (acres) (DA)	801
Impervious Area (acres) (IA)	UA
Land Use - Residential	659
Land Use - Commercial	62
Land Use - Industrial	0
Land Use - Undeveloped	81
Sampling Duration (minutes) (DRN)	236
Storm Duration (minutes)	409
Runoff Sampled (cubic feet) (RUN)	18100
Total Storm Runoff (cubic feet)	45700
Instantaneous Discharge (cfs)	1.834
Preceeding Dry Period (days) (ANT)	6
Total Storm Rainfall (inch)	0.18
Rainfall Sampled (inch) (TRN)	0.08
Maximum 5-minute rain intensity (MAX5)	0.12
Sample Temperature (deg. C)	2.0
Effluent Temperature (deg. C)	15.0
Ambient Temperature (deg. C)	8.0
Barometric Pressure (mm Hg)	722
pH, Effluent (standard units)	7.7
pH, Lab (standard units)	NM
Specific Conductance, FIELD (us/cm)	163
Specific Conductance, LAB (us/cm)	170
Oxygen Dissolved (% saturation)	NM
Oxygen Dissolved (mg/l)	8.23
BOD5 (mg/l)	20
COD High Level (mg/l)	110
Chloride Total (mg/l as Cl)	9.5
Flouride Total (mg/l as F)	0.32
Sulfate Total (mg/l)	15
Sulfide Total (mg/l)	<0.1
Cyanide Total (mg/l as Cn)	<0.02
Fecal Coliform (MPN/100mL)	23000
Fecal Streptococci (MPN/100mL)	1700
E. Coli (MPN/100ml)	23000
Total Dissolved Solids (mg/l)	120
Total Suspended Solids (mg/l)	22
Nitrogen No2 + No3, Total (mg/l as N)	1.3
TKN Nitrogen (mg/l as N)	1.1
Nitrogen Nitrate Total (mg/l as N)	1.2
Nitrogen Nitrite Total (mg/l as N)	<0.1
Nitrogen Ammonia Total (mg/l as N)	0.66
Phosphorous Total (mg/l as P)	<0.05
Phosphorous Ortho (mg/l as P)	<0.5
Phenols Total Recoverable (ug/l)	<10
Oil and Grease Total Recoverable (mg/l)	6.5
Total Recoverable Petroleum Hydrocarbons (mg/l)	3.3

Phoenix IB08

40th Street at Indian Bend Wash

Date of Sampling	12/23/02
Time	1459
Bicarbonate Whole Field (mg/l as HCo3)	NM
Bicarbonate Dissolved, Field (mg/l as HCo3)	NM
Carbonate Water Field (mg/l as Co3)	NM
Carbonate Water Dissolved, Field, (mg/l as Co3)	NM
Alkalinity Water Field Total (mg/l as CaCo3)	NM
Alkalinity Dissolved Water Field Total (mg/l as CaCo3)	NM
Alkalinity LAB (mg/l as CaCo3)	40
Hardness (mg/l)	57
Arsenic Total (ug/l as As)	1.2
Arsenic Dissolved (ug/l as As)	<1
Beryllium Total Recoverable (ug/l as Be)	<0.5
Beryllium Dissolved (ug/l as Be)	<0.5
Cadmium Total Recoverable (ug/l as Cd)	<1
Cadmium Dissolved (ug/l as Cd)	<1
Calcium Total Recoverable (mg/l as Ca)	17
Chromium Total Recoverable (ug/l as Cr)	3.6
Chromium Dissolved (ug/l as Cr)	1.8
Copper, Total Recoverable, (ug/l as Cu)	19
Copper, Dissolved, (ug/l as Cu)	11
Lead, Total Recoverable, (ug/l as Pb)	6.8
Lead, Dissolved, (ug/l as Pb)	<1
Magnesium, Total Recoverable (mg/l as Mg)	3.8
Nickel, Total Recoverable, (ug/l as Ni)	4.3
Nickel, Dissolved, (ug/l as Ni)	2.8
Potassium, Total Recoverable (mg/l as K)	5
Silver, Total Recoverable, (ug/l as Ag)	<1
Silver, Dissolved, (ug/l as Ag)	<1
Sodium, Total Recoverable (mg/l as Na)	11
Zinc, Total Recoverable, (ug/l as Zn)	86
Zinc, Dissolved, (ug/l as Zn)	<50
P,P' DDE, Total, (ug/l)	<0.1
Acetone, Total, (ug/l)	<20
Benzene, Total, (ug/l)	<2
Bromodichloromethane, Total, (ug/l)	<2
Bromoform, Total, (ug/l)	<5
Bromomethane (ug/l)	<5
Carbon Tetrachloride, Total, (ug/l)	<2.5
Chlorobenzene, Total, (ug/l)	<2
Dibromochloromethane (ug/l)	<2
Chloroethane, (ug/l)	<5
Chloroform, Total, (ug/l)	<2
Chloromethane, Total (ug/l)	<5
1,2- Dichlorobenzene, Total, (ug/l)	<2
1,3- Dichlorobenzene, Total, (ug/l)	<2
1,4- Dichlorobenzene, Total, (ug/l)	<2
1,1- Dichloroethane, Total, (ug/l)	<2
1,2- Dichloroethane, Total, (ug/l)	<2
1,1- Dichloroethene, Total, (ug/l)	<5
trans-1,2- Dichloroethene, (ug/l)	<2
1,2- Dichloropropane, Total, (ug/l)	<2

Phoenix IB08

40th Street at Indian Bend Wash

Date of Sampling	12/23/02
Time	1459
cis-1,3-Dichloropropene, (ug/l)	<2
trans-1,3- Dichloropropene, (ug/l)	<2
Ethyl-Benzene, Total, (ug/l)	<2
Methylene Chloride, Total, (ug/l)	<5
1,1,2,2-Tetrachloroethane, Total, (ug/l)	<2
Tetrachloroethene, PCE, Total, (ug/l)	<2
Toluene, Total, (ug/l)	<2
1,1,1- Trichloroethane, Total, (ug/l)	<2
1,1,2- Trichloroethane, Total, (ug/l)	<2
Trichloroethene, Total, (ug/l)	<2
Trichlorofluoromethane, Total, (ug/l)	<5
Vinyl Chloride, Total, (ug/l)	<2
Chrysene, Total, (ug/l)	<10
Phenol, Total, (ug/l)	<10
Benzoic Acid, Total, (ug/l)	<50

Phoenix ACDC43

ACDC near Peoria Avenue and 43rd Avenue
Storm of November 29 - 30, 2002

	Method	Result	Units	Method Reporting Limit	Data Qualifiers	Date Analyzed	Allowable Holding Time	Required MS/MSD Precision (% RPD)	Actual MS/MSD Precision (%RPD)	Required Sample Duplication Precision (% RPD)	Actual Sample Duplication Precision (% RPD)	Other QA/QC Comments (out of spec)	Field Blank Detects	Comments
Sample Temperature (deg. C)	Lab	3.0	deg. C	0.5		11/30/02	Immediate							
Effluent Temperature (deg. C)	Field	15.0	deg. C	0.5		11/30/02	Immediate							
Ambient Temperature (deg. C)	Field	15.0	deg. C	0.5		11/30/02	Immediate							
Barometric Pressure (mm Hg)	Field	732	mm Hg	1		11/30/02	Immediate							
pH, Effluent, FIELD (standard units)	Field	7.66	std units	0.1		11/30/02	Immediate							
pH, Lab (standard units)	USGS	6.4	std units	0.1		12/12/02	6 months							
Specific Conductance, FIELD (us/cm)	Field	413	umhos/cm	2		11/30/02	Immediate							
Specific Conductance, LAB (umhos/cm)	SM2510B	85	umhos/cm	1		12/6/02	6 months							
Oxygen Dissolved (mg/l)	Field	8.12	mg/l	0.1		11/30/02	Immediate							
BOD5 (mg/l)	405.1	24	mg/l	2		12/1/02	48 hours			<20	3			
COD High Level (mg/l)	410.4	100	mg/l	20		12/9/02	28 days	<15	0.4					
Chloride Total (mg/l as Cl)	300	3.9	mg/l	50		12/2/02	28 days	<15	0.7	<15	0.2			
Flouride Total (mg/l as F)	300	0.26	mg/l	0.1		12/2/02	28 days	<20	0	<20	0			
Sulfate, Total (mg/l)	300	8	mg/l	5		12/2/02	28 days	<15	0.3	<15	0.4			
Sulfide Total (mg/l)	SM4500	<0.1	mg/l	0.2		12/6/02	28 days	<20	5	<15	9			
Cyanide Total (mg/l as Cn)	SM4500	<0.02	mg/l	0.02		12/4/02	14 days	<15	2					
Fecal Coliform (MPN/100ml)	9221E	3000	MPN/100ml	2		11/30/02	6 hours							
Fecal Streptococci (MPN/100ml)	9230B	900000	MPN/100ml	2		11/30/02	6 hours							
E. Coli (MPN/100ml)	9221F	1100	MPN/100ml	2		11/30/02	6 hours							
Total Dissolved Solids (mg/l)	SM2540C	78	mg/l	20		12/6/02	6 months			<20	8			
Total Suspended Solids (mg/l)	160.2	20	mg/l	10		12/2/02	6 months			<20	0			
Nitrogen NO_2 + NO_3, Total (mg/l as N)	300	0.41	mg/l	0.1	H1	12/2/02	28 days	<15		<15				Beyond holding times
TKN Nitrogen (mg/l as N)	SM4500	2.8	mg/l	0.5		12/10/02	28 days	<15	2					
Nitrogen, Ammonia + Organic, Total (mg/l as N)	I4552-85	3.6	mg/l	0.5		12/9/02	28 days							
Nitrogen Nitrate Total (mg/l as N)	300	0.4	mg/l	0.1	H1	12/2/02	48 hours	<15	0.4	<15	0.4			Beyond holding times
Nitrogen Nitrite Total (mg/l as N)	300	<0.1	mg/l	0.1	H1	12/2/02	48 hours	<15	0.8	<15	0.4			Beyond holding times
Nitrogen Ammonia Total (mg/l as N)	350.3	1.5	mg/l	1.2	Q5	12/11/02	28 days	<20	3	<200	9			Inadequate chemical preservation
Phosphorous Total (mg/l as P)	365.3	0.38	mg/l	0.05		12/6/02	28 days	<15	3					
Phosphorous Dissolved (mg/l as P)	I2600-85	0.31	mg/l	0.1		12/5/02	28 days							
Phosphorous Ortho (mg/l as P)	365.3	<0.5	mg/l	0.5	H1	12/2/02	48 hours	<20	0.2	<15	0.2			Beyond holding times
Phenols Total Recoverable (ug/l)	420.1	<0.1	mg/l	0.1		12/10/02	28 days	<20	0.7					
Oil and Grease Total Recoverable (mg/l)	413.2	9.6	mg/l	1		12/9/02	28 days			<15	3			
Total Recoverable Petroleum Hydrocarbons (mg/l)	418.1	5.7	mg/l	1		12/9/02	28 days			<15	2			
Bicarbonate Whole Field (mg/l as HCO_3)	USGS	9.8	mg/l	1		12/4/02	14 days							
Bicarbonate Dissolved, Field (mg/l as HCO_3)	USGS	7.3	mg/l	1		12/4/02	14 days							
Carbonate Water Field (mg/l as CO_3)	USGS	0	mg/l	1		12/4/02	14 days							
Carbonate Water Dissolved, Field, (mg/l as CO_3)	USGS	0	mg/l	1		12/4/02	14 days							
Alkalinity Water Field Total (mg/l as $CaCO_3$)	USGS	8	mg/l	1		12/4/02	14 days							
Alkalinity Dissolved Water Field Total (mg/l as $CaCO_3$)	USGS	6	mg/l	1		12/4/02	14 days							
Alkalinity LAB (mg/l as $CaCO_3$)	SM2320B	9.6	mg/l	5		12/6/02	6 months							
Hardness (mg/l)	SM2340B	20	mg/l	1		12/9/02	6 months							
Arsenic Total (ug/l as As)	200.8	1.1	ug/l	1		12/9/02	6 months	<20	0.4					
Beryllium Total Recoverable (ug/l as Be)	200.9	<0.5	ug/l	0.5		12/9/02	6 months	<20	1					
Cadmium Total Recoverable (ug/l as Cd)	200.8	<1	ug/l	1		12/9/02	6 months	<20	2					
Calcium, Total Recoverable (mg/l as Ca)	200.7	6.1	mg/l	2		12/9/02	6 months	<20	0.5	<20	2			
Chromium Total Recoverable (ug/l as Cr)	200.8	2.3	ug/l	1		12/9/02	6 months	<20	0.9					
Copper, Total Recoverable, (ug/l as Cu)	200.8	16	ug/l	2		12/9/02	6 months	<20	2					
Lead, Total Recoverable, (ug/l as Pb)	200.8	2.9	ug/l	1		12/9/02	6 months	<20	1					
Magnesium, Total Recoverable (mg/l as Mg)	200.7	1.2	mg/l	0.5		12/9/02	6 months	<20	0	<20	0.9			
Nickel, Total Recoverable, (ug/l as Ni)	200.8	6	ug/l	1		12/9/02	6 months	<20	1					
Potassium, Total Recoverable (mg/l as K)	258.1	3	mg/l	1		12/23/02	6 months	<15	0	<15	0			
Silver, Total Recoverable, (ug/l as Ag)	200.8	<1	ug/l	1		12/9/02	6 months	<20	2					
Sodium, Total Recoverable (mg/l as Na)	273.1	<5	mg/l	5		12/18/02	6 months	<15	0	<15	0			
Zinc, Total Recoverable, (ug/l as Zn)	200.7	120	ug/l	50		12/9/02	6 months	<20	0.9	<20	2			
Zinc, Dissolved, (ug/l as Zn)	200.7	120	ug/l	50		12/11/02	6 months	<20	0	<20	1			
EPA Method 608 Extraction	608					12/6/02	7 days							

Phoenix ACDC43

ACDC near Peoria Avenue and 43rd Avenue
Storm of November 29 - 30, 2002

	Method	Result	Units	Method Reporting Limit	Data Qualifiers	Date Analyzed	Allowable Holding Time	Required MS/MSD Precision (% RPD)	Actual MS/MSD Precision (%RPD)	Required Sample Duplication Precision (% RPD)	Actual Sample Duplication Precision (% RPD)	Other QA/QC Comments (out of spec)	Field Blank Detects	Comments
P,P' DDE, Total, (ug/l)	608	<0.1	ug/l	0.1	N1	12/15/02	40 days	<20	7					CV recovery below limits - Matrix effect
EPA Method 624 Extraction	624					12/10/02	14 days							
Acetone, Total, (ug/l)	624	20	ug/l	20	T2	12/11/02	14 days	<20	7	<20	0			Analyte not part of method
Benzene, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	2	<20	6			
Bromodichloromethane, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	0.5	<20	3			
Bromoform, Total, (ug/l)	624	<5	ug/l	5		12/11/02	14 days	<20	3	<20	3			
Bromomethane (ug/l)	624	<5	ug/l	5		12/11/02	14 days	<20	2	<20	12			
Carbon Tetrachloride, Total, (ug/l)	624	<2.5	ug/l	2.5		12/11/02	14 days	<20	5	<20	6			
Chlorobenzene, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	0.8	<20	2			
Dibromochloromethane (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	0.9	<20	1			
Chloroethane, (ug/l)	624	<5	ug/l	5		12/11/02	14 days	<20	5	<20	12			
Chloroform, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	0	<20	6			
Chloromethane, Total (ug/l)	624	<5	ug/l	5		12/11/02	14 days	<20	2	<20	12			
1,2- Dichlorobenzene, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	0.8	<20	6			
1,3- Dichlorobenzene, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	3	<20	3			
1,4- Dichlorobenzene, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	3	<20	3			
1,1- Dichloroethane, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	1	<20	7			
1,2- Dichloroethane, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	2	<20	6			
1,1- Dichloroethene, Total, (ug/l)	624	<5	ug/l	5		12/11/02	14 days	<20	4	<20	8			
trans-1,2- Dichloroethene, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	2	<20	5			
1,2- Dichloropropane, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	1	<20	6			
cis-1,3-Dichloropropene, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	0.4	<20	4			
trans-1,3- Dichloropropene, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	3	<20	2			
Ethylbenzene, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	2	<20	3			
Methylene Chloride, Total, (ug/l)	624	<5	ug/l	5		12/11/02	14 days	<20	3	<20	10			
1,1,2,2-Tetrachloroethane, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	0.9	<20	7			
Tetrachloroethene, PCE, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	5	<20	6			
Toluene, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	2	<20	5			
1,1,1- Trichloroethane, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	4	<20	7			
1,1,2- Trichloroethane, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	4	<20	1			
Trichloroethene, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	2	<20	6			
Trichlorofluoromethane, Total, (ug/l)	624	<5	ug/l	5		12/11/02	14 days	<20	6	<20	12			
Vinyl Chloride, Total, (ug/l)	624	<2	ug/l	2		12/11/02	14 days	<20	8	<20	7			
EPA Method 625 Extraction	625					12/5/02	7 days							
Chrysene, Total, (ug/l)	625	<20	ug/l	20	D1	12/10/02	40 days	<10	10					Dilution due to matrix effect
Phenol, Total, (ug/l)	625	<20	ug/l	20	D1	12/10/02	40 days	<25	5					Dilution due to matrix effect
Benzoic Acid, Total, (ug/l)	625	<100	ug/l	100	D1	12/10/02	40 days	<40	9					Dilution due to matrix effect

Phoenix IB08

Indian Bend Wash at 40th Street
Storm of November 29 - 30, 2002

	Method	Result	Units	Method Reporting Limit	Data Qualifiers	Date Analyzed	Allowable Holding Time	Required MS/MSD Precision (% RPD)	Actual MS/MSD Precision (%RPD)	Required Sample Duplication Precision (% RPD)	Actual Sample Duplication Precision (% RPD)	Other QA/QC Comments (out of spec)	Field Blank Detects	Comments
Sample Temperature (deg. C)	Lab	3.0	deg. C	0.5		11/30/02	Immediate							
Effluent Temperature (deg. C)	Field	18.5	deg. C	0.5		11/30/02	Immediate							
Ambient Temperature (deg. C)	Field	15.0	deg. C	0.5		11/30/02	Immediate							
Barometric Pressure (mm Hg)	Field	732	mm Hg	1		11/30/02	Immediate							
pH, Effluent, FIELD (standard units)	Field	7.67	std units	0.1		11/30/02	Immediate							
pH, Lab (standard units)	I1586-85	6.8	std units	0.1		12/5/02	6 months							
Specific Conductance, FIELD (us/cm)	Field	108	umhos/cm	2		11/30/02	Immediate							
Specific Conductance, LAB (umhos/cm)	SM2510B	210	umhos/cm	1		12/6/02	6 months							
Oxygen Dissolved (mg/l)	Field	8.11	mg/l	0.1		11/30/02	Immediate							
BOD5 (mg/l)	405.1	26	mg/l	2		12/1/02	48 hours			<20	3			
COD High Level (mg/l)	410.4	82	mg/l	20		12/10/02	28 days							
Chloride Total (mg/l as Cl)	300	17	mg/l	50		12/2/02	28 days	<15	0.7	<15	0.2			
Flouride Total (mg/l as F)	300	0.53	mg/l	0.1		12/2/02	28 days	<20	0	<20	0			
Sulfate, Total (mg/l)	300	2.6	mg/l	5		12/2/02	28 days	<15	0.3	<15	0.4			
Sulfide Total (mg/l)	SM4500	<0.1	mg/l	0.1		12/6/02	28 days	<20	5	<15	9			
Fecal Coliform (MPN/100ml)	9221E	1600	MPN/100ml	2	N1	11/30/02	6 hours							Result is greater than or equal to the value
Fecal Streptococci (MPN/100ml)	9230B	16000	MPN/100ml	2	N1	11/30/02	6 hours							Result is greater than or equal to the value
E. Coli (MPN/100ml)	9221F	1600	MPN/100ml	2		11/30/02	6 hours							
Total Dissolved Solids (mg/l)	SM2540C	150	mg/l	20		12/6/02	6 months			<20	8			
Total Suspended Solids (mg/l)	160.2	41	mg/l	20		12/2/02	6 months			<20	0			
Nitrogen NO_2 + NO_3, Total (mg/l as N)	300	0.99	mg/l	0.1		12/2/02	28 days							
TKN Nitrogen (mg/l as N)	SM4500	2.8	mg/l	0.5		12/9/02	28 days	<15	2					
Nitrogen, Ammonia + Organic, Total (mg/l as N)	I4552-85	3.9	mg/l	0.2		12/9/02	28 days							
Nitrogen Nitrate Total (mg/l as N)	300	0.95	mg/l	0.1		12/2/02	48 hours	<15	0.4	<15	0.4			
Nitrogen Nitrite Total (mg/l as N)	300	<0.1	mg/l	0.1		12/2/02	48 hours	<15	0.8	<15	0.4			
Nitrogen Ammonia Total (mg/l as N)	I4522-85	1.6	mg/l	1.2		12/6/02	28 days							
Phosphorous Total (mg/l as P)	I4600-85	0.5	mg/l	0.5		12/5/02	28 days							
Phosphorous Dissolved (mg/l as P)	I2600-85	0.29	mg/l	0.1		12/5/02	28 days							
Phosphorous Ortho (mg/l as P)	365.3	<0.5	mg/l	0.5		12/2/02	48 hours	<20	0.2	<15	0.2			
Phenols Total Recoverable (ug/l)	420.1	<10	mg/l	10		12/12/02	28 days							
Oil and Grease Total Recoverable (mg/l)	413.2	1.6	mg/l	1		12/9/02	28 days			<15	3			
Total Recoverable Petroleum Hydrocarbons (mg/l)	418.1	<1	mg/l	1		12/9/02	28 days			<15	2			
Bicarbonate Whole Field (mg/l as HCO_3)	USGS	44	mg/l	1		12/4/02	14 days							
Bicarbonate Dissolved, Field (mg/l as HCO_3)	USGS	39	mg/l	1		12/4/02	14 days							
Carbonate Water Field (mg/l as CO_3)	USGS	0	mg/l	1		12/4/02	14 days							
Carbonate Water Dissolved, Field, (mg/l as CO_3)	USGS	0	mg/l	1		12/4/02	14 days							
Alkalinity Water Field Total (mg/l as $CaCO_3$)	USGS	36	mg/l	1		12/4/02	14 days							
Alkalinity Dissolved Water Field Total (mg/l as $CaCO_3$)	USGS	32	mg/l	1		12/4/02	14 days							
Alkalinity LAB (mg/l as $CaCO_3$)	SM2320B	36	mg/l	5		12/6/02	6 months							
Hardness (mg/l)	SM2340B	69	mg/l	1		12/9/02	6 months							
Arsenic Dissolved (ug/l as As)	200.8	1.1	ug/l	1		12/6/02	6 months	<20	0.2					
Beryllium Dissolved (ug/l as Be)	200.9	<0.5	ug/l	0.5		12/6/02	6 months	<20	0.5					
Cadmium Total Recoverable (ug/l as Cd)	200.7	<0.5	ug/l	0.5		12/10/02	6 months							
Cadmium Dissolved (ug/l as Cd)	200.8	<1	ug/l	1		12/6/02	6 months	<20	1					
Calcium, Total Recoverable (mg/l as Ca)	200.7	19	mg/l	2		12/9/02	6 months	<20	0.5	<20	2			
Chromium Dissolved (ug/l as Cr)	200.9	<1	ug/l	1		12/6/02	6 months	<20	0.8					
Copper, Total Recoverable, (ug/l as Cu)	200.7	30	ug/l	2		12/10/02	6 months							
Copper, Dissolved, (ug/l as Cu)	200.8	13	ug/l	2		12/6/02	6 months	<20	0.8					
Lead, Total Recoverable, (ug/l as Pb)	200.7	9.9	ug/l	1		12/10/02	6 months							
Lead, Dissolved, (ug/l as Pb)	200.8	<1	ug/l	1		12/6/02	6 months	<20	0.5					
Magnesium, Total Recoverable (mg/l as Mg)	200.7	4.9	mg/l	0.5		12/9/02	6 months	<20	0	<20	0.9			
Nickel, Dissolved, (ug/l as Ni)	200.8	5.0	ug/l	1		12/6/02	6 months	<20	0.4					
Potassium, Total Recoverable (mg/l as K)	258.1	5.0	mg/l	1		12/23/02	6 months	<15	0	<15	0			
Silver, Dissolved, (ug/l as Ag)	200.8	<1	ug/l	1		12/6/02	6 months	<20	0.6					
Sodium, Total Recoverable (mg/l as Na)	273.1	14	mg/l	5		12/18/02	6 months	<15	0	<15	0			
Zinc, Total Recoverable, (ug/l as Zn)	200.7	100	ug/l	50		12/9/02	6 months	<20	0.9	<20	2			

Phoenix IB08

Indian Bend Wash at 40th Street
Storm of November 29 - 30, 2002

	Method	Result	Units	Method Reporting Limit	Data Qualifiers	Date Analyzed	Allowable Holding Time	Required MS/MSD Precision (% RPD)	Actual MS/MSD Precision (%RPD)	Required Sample Duplication Precision (% RPD)	Actual Sample Duplication Precision (% RPD)	Other QA/QC Comments (out of spec)	Field Blank Detects	Comments
Zinc, Dissolved, (ug/l as Zn)	200.7	<50	ug/l	50		12/11/02	6 months	<20	0	<20	1			
EPA Method 608 Extraction	608					12/6/02	7 days							
P,P' DDE, Total, (ug/l)	608	<0.1	ug/l	0.1		12/19/02	40 days	<20	7					
EPA Method 624 Extraction	624					12/10/02	14 days							
Acetone, Total, (ug/l)	624	<20	ug/l	20	T2	12/10/02	14 days	<20	7	<20	0			Analyte not part of method
Benzene, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	2	<20	6			
Bromodichloromethane, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	0.5	<20	3			
Bromoform, Total, (ug/l)	624	<5	ug/l	5		12/10/02	14 days	<20	3	<20	3			
Bromomethane (ug/l)	624	<5	ug/l	5		12/10/02	14 days	<20	2	<20	12			
Carbon Tetrachloride, Total, (ug/l)	624	<2.5	ug/l	2.5		12/10/02	14 days	<20	5	<20	6			
Chlorobenzene, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	0.8	<20	2			
Dibromochloromethane (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	0.9	<20	1			
Chloroethane, (ug/l)	624	<5	ug/l	5		12/10/02	14 days	<20	5	<20	12			
Chloroform, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	0	<20	6			
Chloromethane, Total (ug/l)	624	<5	ug/l	5		12/10/02	14 days	<20	2	<20	12			
1,2- Dichlorobenzene, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	0.8	<20	6			
1,3- Dichlorobenzene, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	3	<20	3			
1,4- Dichlorobenzene, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	3	<20	3			
1,1- Dichloroethane, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	1	<20	7			
1,2- Dichloroethane, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	2	<20	6			
1,1- Dichloroethene, Total, (ug/l)	624	<5	ug/l	5		12/10/02	14 days	<20	4	<20	8			
trans-1,2- Dichloroethene, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	2	<20	5			
1,2- Dichloropropane, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	1	<20	6			
cis-1,3-Dichloropropene, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	0.4	<20	4			
trans-1,3- Dichloropropene, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	3	<20	2			
Ethylbenzene, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	2	<20	3			
Methylene Chloride, Total, (ug/l)	624	<5	ug/l	5		12/10/02	14 days	<20	3	<20	10			
1,1,2,2-Tetrachloroethane, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	0.9	<20	7			
Tetrachloroethene, PCE, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	5	<20	6			
Toluene, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	2	<20	5			
1,1,1- Trichloroethane, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	4	<20	7			
1,1,2- Trichloroethane, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	4	<20	1			
Trichloroethene, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	2	<20	6			
Trichlorofluoromethane, Total, (ug/l)	624	<5	ug/l	5		12/10/02	14 days	<20	6	<20	12			
Vinyl Chloride, Total, (ug/l)	624	<2	ug/l	2		12/10/02	14 days	<20	8	<20	7			
EPA Method 625 Extraction	625					12/5/02	7 days							
Chrysene, Total, (ug/l)	625	<10	ug/l	10		12/12/02	40 days	<10	10					
Phenol, Total, (ug/l)	625	<10	ug/l	10		12/12/02	40 days	<25	5					
Benzoic Acid, Total, (ug/l)	625	<50	ug/l	50		12/12/02	40 days	<40	9					

Phoenix IB08

Indian Bend Wash at 40th Street
Storm of December 23, 2002

	Method	Result	Units	Method Reporting Limit	Data Qualifiers	Date Analyzed	Allowable Holding Time	Required MS/MSD Precision (% RPD)	Actual MS/MSD Precision (%RPD)	Required Sample Duplication Precision (% RPD)	Actual Sample Duplication Precision (% RPD)	Other QA/QC Comments (out of spec)	Field Blank Detects	Comments
Sample Temperature (deg. C)	Lab	2.0	deg. C	0.5		12/23/02	Immediate							
Effluent Temperature (deg. C)	Field	15.0	deg. C	0.5		12/23/02	Immediate							
Ambient Temperature (deg. C)	Field	8.0	deg. C	0.5		12/23/02	Immediate							
Barometric Pressure (mm Hg)	Field	722	mm Hg	1		12/23/02	Immediate							
pH, Effluent, FIELD (standard units)	Field	7.7	std units	0.1		12/23/02	Immediate							
Specific Conductance, FIELD (us/cm)	Field	163	umhos/cm	2		12/23/02	Immediate							
Specific Conductance, LAB (umhos/cm)	SM2510B	170	umhos/cm	1		12/26/02	6 months							
Oxygen Dissolved (mg/l)	Field	8.23	mg/l	0.1		12/23/02	Immediate							
BOD5 (mg/l)	405.1	20	mg/l	2	N2	12/24/02	48 hours			<20	8			QC exceeded limits
COD High Level (mg/l)	410.4	110	mg/l	20		12/27/02	28 days	<15	3					
Chloride Total (mg/l as Cl)	300	9.5	mg/l	50		12/24/02	28 days	<15	2	<15	0.4			
Flouride Total (mg/l as F)	300	0.32	mg/l	0.1		12/24/02	28 days	<20	0.4	<20	0.8			
Sulfate, Total (mg/l)	300	15	mg/l	5		12/24/02	28 days	<15	2	<15	0.4			
Sulfide Total (mg/l)	SM4500	<0.1	mg/l	0.1		12/27/02	28 days	<20	5	<15	7			
Cyanide Total (mg/l as Cn)	SM4500	<0.02	mg/l	0.02		12/30/02	14 days	<15	0					
Fecal Coliform (MPN/100ml)	9221E	23000	MPN/100ml	2		12/23/02	6 hours							
Fecal Streptococci (MPN/100ml)	9230B	1700	MPN/100ml	2		12/23/02	6 hours							
E. Coli (MPN/100ml)	9221F	23000	MPN/100ml	2		12/23/02	6 hours							
Total Dissolved Solids (mg/l)	SM2540C	120	mg/l	20		12/26/02	6 months			<5	4			
Total Suspended Solids (mg/l)	160.2	22	mg/l	20		12/27/02	6 months							
Nitrogen $NO_2 + NO_3$, Total (mg/l as N)	300	1.3	mg/l	0.1		12/24/02	28 days							
TKN Nitrogen (mg/l as N)	SM4500	1.1	mg/l	0.5		1/8/03	28 days	<15	5					
Nitrogen Nitrate Total (mg/l as N)	300	1.2	mg/l	0.1		12/24/02	48 hours	<15	1	<15	0.4			
Nitrogen Nitrite Total (mg/l as N)	300	<0.1	mg/l	0.1		12/24/02	48 hours	<15	0.9	<15	0.4			
Nitrogen Ammonia Total (mg/l as N)	350.3	0.66	mg/l	1.2		12/31/02	28 days	<20	7	<200	7			
Phosphorous Total (mg/l as P)	365.3	<0.05	mg/l	0.5	R4	12/27/02	28 days	<15	23					MS/MSD exceeded limits
Phosphorous Ortho (mg/l as P)	365.3	<0.5	mg/l	0.25		12/24/02	48 hours	<20	0.4	<15	2			
Phenols Total Recoverable (ug/l)	420.1	<10	mg/l	5		1/3/03	28 days							
Oil and Grease Total Recoverable (mg/l)	413.2	6.5	mg/l	1		12/31/02	28 days			<15	0			
Total Recoverable Petroleum Hydrocarbons (mg/l)	418.1	3.3	mg/l	1		12/31/02	28 days			<15	2			
Alkalinity LAB (mg/l as $CaCO_3$)	SM2320B	40	mg/l	5		12/26/02	6 months							
Hardness (mg/l)	SM2340B	57	mg/l	1		12/31/02	6 months							
Arsenic Total (ug/l as As)	200.8	1.2	ug/l	1		1/2/03	6 months	<20	1					
Arsenic Dissolved (ug/l as As)	200.8	<1	ug/l	1		1/2/03	6 months	<20	0.2					
Beryllium Total Recoverable (ug/l as Be)	200.9	<0.5	ug/l	0.5		1/2/03	6 months	<20	0.7					
Beryllium Dissolved (ug/l as Be)	200.9	<0.5	ug/l	0.5		1/2/03	6 months	<20	0.2					
Cadmium Total Recoverable (ug/l as Cd)	200.8	<1	ug/l	1		1/2/03	6 months	<20	1					
Cadmium Dissolved (ug/l as Cd)	200.8	<1	ug/l	1		1/2/03	6 months	<20	0.9					
Calcium, Total Recoverable (mg/l as Ca)	200.7	17	mg/l	2	M3	12/31/02	6 months	<20	0.3	<20	0.9			Spike recovery accuracy low
Chromium Total Recoverable (ug/l as Cr)	200.8	3.6	ug/l	1		1/2/03	6 months	<20	1					
Chromium Dissolved (ug/l as Cr)	200.9	1.8	ug/l	4		1/2/03	6 months	<20	0.4					
Copper, Total Recoverable, (ug/l as Cu)	200.8	19	ug/l	2		1/2/03	6 months	<20	0.2					
Copper, Dissolved, (ug/l as Cu)	200.8	11	ug/l	2		1/2/03	6 months	<20	0.2					
Lead, Total Recoverable, (ug/l as Pb)	200.8	6.8	ug/l	1		1/2/03	6 months	<20	0.4					
Lead, Dissolved, (ug/l as Pb)	200.8	<1	ug/l	1		1/2/03	6 months	<20	0.5					
Magnesium, Total Recoverable (mg/l as Mg)	200.7	3.8	mg/l	0.5	M3	12/31/02	6 months	<20	1	<20	0.9			Spike recovery accuracy low
Nickel, Total Recoverable, (ug/l as Ni)	200.8	4.3	ug/l	1		1/2/03	6 months	<20	0.8					
Nickel, Dissolved, (ug/l as Ni)	200.8	2.8	ug/l	1		1/2/03	6 months	<20	0.5					
Potassium, Total Recoverable (mg/l as K)	258.1	5	mg/l	1		1/3/03	6 months	<15	0.8	<15	2			
Silver, Total Recoverable, (ug/l as Ag)	200.8	<1	ug/l	1		1/2/03	6 months	<20	2					
Silver, Dissolved, (ug/l as Ag)	200.8	<1	ug/l	1		1/2/03	6 months	<20	1					
Sodium, Total Recoverable (mg/l as Na)	273.1	11	mg/l	5		1/3/03	6 months	<15	2	<15	0.9			
Zinc, Total Recoverable, (ug/l as Zn)	200.7	86	ug/l	50	M3	1/2/03	6 months	<20	2	<20	0.9			Spike recovery accuracy low
Zinc, Dissolved, (ug/l as Zn)	200.7	<50	ug/l	50		1/3/03	6 months	<20	0.9	<20	0.9			
EPA Method 608 Extraction	608					12/29/02	7 days							
P,P' DDE, Total, (ug/l)	608	<0.1	ug/l	0.1		12/31/02	40 days	<20	2					
EPA Method 624 Extraction	624					1/2/03	7 days							

Phoenix IB08

Indian Bend Wash at 40th Street
Storm of December 23, 2002

	Method	Result	Units	Method Reporting Limit	Data Qualifiers	Date Analyzed	Allowable Holding Time	Required MS/MSD Precision (% RPD)	Actual MS/MSD Precision (%RPD)	Required Sample Duplication Precision (% RPD)	Actual Sample Duplication Precision (% RPD)	Other QA/QC Comments (out of spec)	Field Blank Detects	Comments
Acetone, Total, (ug/l)	624	<20	ug/l	20	T2	1/2/03	14 days	<20	4	<20	6			Analyte not part of this schedule
Benzene, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	0.8	<20	0.8			
Bromodichloromethane, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	2	<20	1			
Bromoform, Total, (ug/l)	624	<5	ug/l	5		1/2/03	14 days	<20	1	<20	2			
Bromomethane (ug/l)	624	<5	ug/l	5		1/2/03	14 days	<20	9	<20	12			
Carbon Tetrachloride, Total, (ug/l)	624	<2.5	ug/l	2.5		1/2/03	14 days	<20	1	<20	0.4			
Chlorobenzene, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	1	<20	1			
Dibromochloromethane (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	0.4	<20	1			
Chloroethane, (ug/l)	624	<5	ug/l	5		1/2/03	14 days	<20	8	<20	9			
Chloroform, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	3	<20	0.8			
Chloromethane, Total (ug/l)	624	<5	ug/l	5		1/2/03	14 days	<20	5	<20	7			
1,2- Dichlorobenzene, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	0.7	<20	0.4			
1,3- Dichlorobenzene, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	0.7	<20	0.4			
1,4- Dichlorobenzene, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	0.4	<20	0			
1,1- Dichloroethane, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	2	<20	0.9			
1,2- Dichloroethane, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	2	<20	2			
1,1- Dichloroethene, Total, (ug/l)	624	<5	ug/l	5		1/2/03	14 days	<20	4	<20	5			
trans-1,2- Dichloroethene, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	2	<20	0.8			
1,2- Dichloropropane, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	0.4	<20	0			
cis-1,3-Dichloropropene, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	2	<20	0.4			
trans-1,3- Dichloropropene, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	1	<20	0.8			
Ethylbenzene, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	0.4	<20	2			
Methylene Chloride, Total, (ug/l)	624	<5	ug/l	5		1/2/03	14 days	<20	4	<20	4			
1,1,2,2-Tetrachloroethane, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	2	<20	4			
Tetrachloroethene, PCE, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	0.7	<20	0.4			
Toluene, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	2	<20	1			
1,1,1- Trichloroethane, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	3	<20	2			
1,1,2- Trichloroethane, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	2	<20	1			
Trichloroethene, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	0.8	<20	1			
Trichlorofluoromethane, Total, (ug/l)	624	<5	ug/l	5		1/2/03	14 days	<20	4	<20	9			
Vinyl Chloride, Total, (ug/l)	624	<2	ug/l	2		1/2/03	14 days	<20	15	<20	12			
EPA Method 625 Extraction	625					12/27/02	7 days							
Chrysene, Total, (ug/l)	625	<10	ug/l	10		1/3/03	40 days			<20	6			
Phenol, Total, (ug/l)	625	<10	ug/l	10		1/3/03	40 days			<20	3			
Benzoic Acid, Total, (ug/l)	625	<50	ug/l	50		1/3/03	40 days			<40	13			

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02
Issued: 1/10/03

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX
PLK0843-01	43rd & Peoria - Grab	Water
PLK0843-02	Trip Blank	Water

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: The Acid and Base Neutrals (EPA 625) and Pesticides (EPA 608) analyses were subcontracted to Del Mar Analytical - 2852 Alton Avenue - Irvine, CA 92606 (AZ0428). Results are attached.

QA/QC CRITERIA: All analyses met method criteria.

EXPLANATION OF DATA QUALIFIERS: The D1 flag on the 625 indicates that the reporting limit was raised due to sample matrix effects.
The N1 flag on the 608 indicates that the Calibration Verification recovery was below the method control limit for this analyte due to matrix interference that could not be removed.

Del Mar Analytical, Phoenix (AZ0426)

Linda Eshelman
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0843-01 (43rd & Peoria - Grab - Water)								
Total Recoverable Hydrocarbons	EPA 418.1	P2L0623	1.0	5.7	1	12/6/02	12/9/02	

The reporting limit for this sample was adjusted by a factor of 1.02 to account for the applicable preparation factor.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0843-01 (43rd & Peoria - Grab - Water)								
Oil & Grease	EPA 413.2	P2L0622	1.0	**9.6**	1	12/6/02	12/9/02	

The reporting limit for this sample was adjusted by a factor of 1.02 to account for the applicable preparation factor.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0843-01 (43rd & Peoria - Grab - Water)								
Acetone	EPA 624	P2L1004	20	**20**	1	12/10/02	12/11/02	T2
Benzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Bromodichloromethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Bromoform	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Bromomethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Carbon tetrachloride	EPA 624	P2L1004	2.5	ND	1	12/10/02	12/11/02	
Chlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Dibromochloromethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Chloroethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Chloroform	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Chloromethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
1,2-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,3-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,4-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1-Dichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,2-Dichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1-Dichloroethene	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
trans-1,2-Dichloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,2-Dichloropropane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
cis-1,3-Dichloropropene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
trans-1,3-Dichloropropene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Ethylbenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Methylene chloride	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
1,1,2,2-Tetrachloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Tetrachloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Toluene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1,1-Trichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1,2-Trichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Trichloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Trichlorofluoromethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Vinyl chloride	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Surrogate: Dibromofluoromethane (80-120%)				*104 %*				
Surrogate: Toluene-d8 (80-120%)				*102 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*101 %*				

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0843-02 (Trip Blank - Water)								
Acetone	EPA 624	P2L1004	20	ND	1	12/10/02	12/11/02	T2
Benzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Bromodichloromethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Bromoform	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Bromomethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Carbon tetrachloride	EPA 624	P2L1004	2.5	ND	1	12/10/02	12/11/02	
Chlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Dibromochloromethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Chloroethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Chloroform	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Chloromethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
1,2-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,3-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,4-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1-Dichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,2-Dichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1-Dichloroethene	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
trans-1,2-Dichloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,2-Dichloropropane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
cis-1,3-Dichloropropene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
trans-1,3-Dichloropropene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Ethylbenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Methylene chloride	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
1,1,2,2-Tetrachloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Tetrachloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Toluene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1,1-Trichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1,2-Trichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Trichloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Trichlorofluoromethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Vinyl chloride	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Surrogate: Dibromofluoromethane (80-120%)				*112 %*				
Surrogate: Toluene-d8 (80-120%)				*103 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*102 %*				

DEL MAR ANALYTICAL, PHOENIX (AZ0426

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

MICROBIOLOGICALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			MPN/100 ml	MPN/100 m				
Sample ID: PLK0843-01 (43rd & Peoria - Grab - Water)								
E. Coli	SM9221F	P2L0103	2.0	**1100**	1	11/30/02	12/3/02	
Fecal Coliform	SM 9221E	P2L0103	2.0	**3000**	1	11/30/02	12/3/02	
Fecal Streptococcus	SM9230B	P2L0104	2.0	**900000**	1	11/30/02	12/3/02	

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Sampled: 11/30/02
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ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0843-01 (43rd & Peoria - Grab - Water)								
Benzoic acid	EPA 625	2L05081	100	ND	2	12/5/02	12/10/02	D1
Chrysene	EPA 625	2L05081	20	ND	2	12/5/02	12/10/02	D1
Phenol	EPA 625	2L05081	20	ND	2	12/5/02	12/10/02	D1
Surrogate: 2-Fluorophenol (30-110%)				*62 %*				D1
Surrogate: Phenol-d6 (40-115%)				*56 %*				D1
Surrogate: 2,4,6-Tribromophenol (55-130%)				*98 %*				D1
Surrogate: Nitrobenzene-d5 (40-115%)				*72 %*				D1
Surrogate: 2-Fluorobiphenyl (40-115%)				*74 %*				D1
Surrogate: Terphenyl-d14 (40-130%)				*93 %*				D1

DEL MAR ANALYTICAL, IRVINE (AZ0428

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Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0843-01 (43rd & Peoria - Grab - Water)								
4,4'-DDE	EPA 608	2L06031	0.10	ND	1	12/6/02	12/15/02	N1
Surrogate: Tetrachloro-m-xylene (35-120%)				*69 %*				
Surrogate: Decachlorobiphenyl (45-120%)				*64 %*				

DEL MAR ANALYTICAL, IRVINE (AZ0428

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Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0623 Extracted: 12/06/02										
Blank Analyzed: 12/09/02 (P2L0623-BLK1)										
Total Recoverable Hydrocarbons	ND	1.0	mg/l							
LCS Analyzed: 12/09/02 (P2L0623-BS1)										
Total Recoverable Hydrocarbons	**11.9**	1.0	mg/l	10.0		119	80-135			
LCS Dup Analyzed: 12/09/02 (P2L0623-BSD1)										
Total Recoverable Hydrocarbons	**12.2**	1.0	mg/l	10.0		122	80-135	2	15	

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Sampled: 11/30/02
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METHOD BLANK/QC DATA

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0622 Extracted: 12/06/02										
Blank Analyzed: 12/09/02 (P2L0622-BLK1)										
Oil & Grease	ND	1.0	mg/l							
LCS Analyzed: 12/09/02 (P2L0622-BS1)										
Oil & Grease	**11.6**	1.0	mg/l	10.0		116	85-135			
LCS Dup Analyzed: 12/09/02 (P2L0622-BSD1)										
Oil & Grease	**11.9**	1.0	mg/l	10.0		119	85-135	3	15	

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1004 Extracted: 12/10/02										
Blank Analyzed: 12/10/02 (P2L1004-BLK1)										
Acetone	ND	20	ug/l							T2
Benzene	ND	2.0	ug/l							
Bromodichloromethane	ND	2.0	ug/l							
Bromoform	ND	5.0	ug/l							
Bromomethane	ND	5.0	ug/l							
Carbon tetrachloride	ND	2.5	ug/l							
Chlorobenzene	ND	2.0	ug/l							
Dibromochloromethane	ND	2.0	ug/l							
Chloroethane	ND	5.0	ug/l							
Chloroform	ND	2.0	ug/l							
Chloromethane	ND	5.0	ug/l							
1,2-Dichlorobenzene	ND	2.0	ug/l							
1,3-Dichlorobenzene	ND	2.0	ug/l							
1,4-Dichlorobenzene	ND	2.0	ug/l							
1,1-Dichloroethane	ND	2.0	ug/l							
1,2-Dichloroethane	ND	2.0	ug/l							
1,1-Dichloroethene	ND	5.0	ug/l							
trans-1,2-Dichloroethene	ND	2.0	ug/l							
1,2-Dichloropropane	ND	2.0	ug/l							
cis-1,3-Dichloropropene	ND	2.0	ug/l							
trans-1,3-Dichloropropene	ND	2.0	ug/l							
Ethylbenzene	ND	2.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/l							
Tetrachloroethene	ND	2.0	ug/l							
Toluene	ND	2.0	ug/l							
1,1,1-Trichloroethane	ND	2.0	ug/l							
1,1,2-Trichloroethane	ND	2.0	ug/l							
Trichloroethene	ND	2.0	ug/l							
Trichlorofluoromethane	ND	5.0	ug/l							
Vinyl chloride	ND	2.0	ug/l							
Surrogate: Dibromofluoromethane	*25.4*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: Toluene-d8	*25.4*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			

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Sampled: 11/30/02
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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1004 Extracted: 12/10/02										
LCS Analyzed: 12/10/02 (P2L1004-BS1)										
Acetone	ND	20	ug/l	25.0		78	40-150			T2
Benzene	**23.5**	2.0	ug/l	25.0		94	37-151			
Bromodichloromethane	**23.0**	2.0	ug/l	25.0		92	35-155			
Bromoform	**25.6**	5.0	ug/l	25.0		102	45-169			
Bromomethane	**23.6**	5.0	ug/l	25.0		94	5-242			
Carbon tetrachloride	**25.7**	2.5	ug/l	25.0		103	70-140			
Chlorobenzene	**25.8**	2.0	ug/l	25.0		103	37-160			
Dibromochloromethane	**25.6**	2.0	ug/l	25.0		102	53-149			
Chloroethane	**21.6**	5.0	ug/l	25.0		86	14-230			
Chloroform	**22.7**	2.0	ug/l	25.0		91	51-138			
Chloromethane	**19.7**	5.0	ug/l	25.0		79	5-273			
1,2-Dichlorobenzene	**28.0**	2.0	ug/l	25.0		112	18-190			
1,3-Dichlorobenzene	**27.2**	2.0	ug/l	25.0		109	59-156			
1,4-Dichlorobenzene	**27.2**	2.0	ug/l	25.0		109	18-190			
1,1-Dichloroethane	**21.6**	2.0	ug/l	25.0		86	59-155			
1,2-Dichloroethane	**21.8**	2.0	ug/l	25.0		87	49-155			
1,1-Dichloroethene	**23.0**	5.0	ug/l	25.0		92	5-234			
trans-1,2-Dichloroethene	**23.0**	2.0	ug/l	25.0		92	54-156			
1,2-Dichloropropane	**22.6**	2.0	ug/l	25.0		90	5-210			
cis-1,3-Dichloropropene	**24.2**	2.0	ug/l	25.0		97	5-227			
trans-1,3-Dichloropropene	**25.5**	2.0	ug/l	25.0		102	17-183			
Ethylbenzene	**25.0**	2.0	ug/l	25.0		100	37-162			
Methylene chloride	**20.3**	5.0	ug/l	25.0		81	5-221			
1,1,2,2-Tetrachloroethane	**25.0**	2.0	ug/l	25.0		100	46-157			
Tetrachloroethene	**26.2**	2.0	ug/l	25.0		105	64-148			
Toluene	**23.9**	2.0	ug/l	25.0		96	47-150			
1,1,1-Trichloroethane	**23.1**	2.0	ug/l	25.0		92	52-162			
1,1,2-Trichloroethane	**25.8**	2.0	ug/l	25.0		103	52-150			
Trichloroethene	**24.4**	2.0	ug/l	25.0		98	71-157			
Trichlorofluoromethane	**22.9**	5.0	ug/l	25.0		92	17-181			
Vinyl chloride	**22.2**	2.0	ug/l	25.0		89	5-251			
Surrogate: Dibromofluoromethane	*25.1*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*25.8*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.8*		*ug/l*	*25.0*		*95*	*80-120*			

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Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1004 Extracted: 12/10/02										
LCS Dup Analyzed: 12/10/02 (P2L1004-BSD1)										
Acetone	ND	20	ug/l	25.0		78	40-150	0	20	T2
Benzene	24.9	2.0	ug/l	25.0		100	37-151	6	20	
Bromodichloromethane	23.6	2.0	ug/l	25.0		94	35-155	3	20	
Bromoform	24.9	5.0	ug/l	25.0		100	45-169	3	20	
Bromomethane	26.5	5.0	ug/l	25.0		106	5-242	12	20	
Carbon tetrachloride	27.4	2.5	ug/l	25.0		110	70-140	6	20	
Chlorobenzene	26.2	2.0	ug/l	25.0		105	37-160	2	20	
Dibromochloromethane	25.3	2.0	ug/l	25.0		101	53-149	1	20	
Chloroethane	24.3	5.0	ug/l	25.0		97	14-230	12	20	
Chloroform	24.2	2.0	ug/l	25.0		97	51-138	6	20	
Chloromethane	22.3	5.0	ug/l	25.0		89	5-273	12	20	
1,2-Dichlorobenzene	26.3	2.0	ug/l	25.0		105	18-190	6	20	
1,3-Dichlorobenzene	26.3	2.0	ug/l	25.0		105	59-156	3	20	
1,4-Dichlorobenzene	26.3	2.0	ug/l	25.0		105	18-190	3	20	
1,1-Dichloroethane	23.1	2.0	ug/l	25.0		92	59-155	7	20	
1,2-Dichloroethane	23.1	2.0	ug/l	25.0		92	49-155	6	20	
1,1-Dichloroethene	25.0	5.0	ug/l	25.0		100	5-234	8	20	
trans-1,2-Dichloroethene	24.2	2.0	ug/l	25.0		97	54-156	5	20	
1,2-Dichloropropane	24.1	2.0	ug/l	25.0		96	5-210	6	20	
cis-1,3-Dichloropropene	25.2	2.0	ug/l	25.0		101	5-227	4	20	
trans-1,3-Dichloropropene	25.9	2.0	ug/l	25.0		104	17-183	2	20	
Ethylbenzene	25.7	2.0	ug/l	25.0		103	37-162	3	20	
Methylene chloride	22.4	5.0	ug/l	25.0		90	5-221	10	20	
1,1,2,2-Tetrachloroethane	23.3	2.0	ug/l	25.0		93	46-157	7	20	
Tetrachloroethene	27.7	2.0	ug/l	25.0		111	64-148	6	20	
Toluene	25.2	2.0	ug/l	25.0		101	47-150	5	20	
1,1,1-Trichloroethane	24.8	2.0	ug/l	25.0		99	52-162	7	20	
1,1,2-Trichloroethane	26.1	2.0	ug/l	25.0		104	52-150	1	20	
Trichloroethene	25.8	2.0	ug/l	25.0		103	71-157	6	20	
Trichlorofluoromethane	25.8	5.0	ug/l	25.0		103	17-181	12	20	
Vinyl chloride	23.7	2.0	ug/l	25.0		95	5-251	7	20	
Surrogate: Dibromofluoromethane	*25.5*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: Toluene-d8	*25.7*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.1*		*ug/l*	*25.0*		*96*	*80-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1004 Extracted: 12/10/02										
Matrix Spike Analyzed: 12/10/02 (P2L1004-MS1)					**Source: PLK0838-01**					
Acetone	**28.2**	20	ug/l	25.0	ND	113	25-150			T2
Benzene	**24.9**	2.0	ug/l	25.0	ND	100	37-151			
Bromodichloromethane	**21.5**	2.0	ug/l	25.0	ND	86	35-155			
Bromoform	**24.0**	5.0	ug/l	25.0	ND	96	45-169			
Bromomethane	**27.0**	5.0	ug/l	25.0	ND	108	5-242			
Carbon tetrachloride	**28.8**	2.5	ug/l	25.0	ND	115	70-140			
Chlorobenzene	**26.0**	2.0	ug/l	25.0	ND	104	37-160			
Dibromochloromethane	**22.5**	2.0	ug/l	25.0	ND	90	53-149			
Chloroethane	**24.9**	5.0	ug/l	25.0	ND	100	14-230			
Chloroform	**23.1**	2.0	ug/l	25.0	ND	92	51-138			
Chloromethane	**22.2**	5.0	ug/l	25.0	ND	89	5-273			
1,2-Dichlorobenzene	**24.7**	2.0	ug/l	25.0	ND	99	18-190			
1,3-Dichlorobenzene	**26.2**	2.0	ug/l	25.0	ND	105	59-156			
1,4-Dichlorobenzene	**26.4**	2.0	ug/l	25.0	ND	106	18-190			
1,1-Dichloroethane	**22.7**	2.0	ug/l	25.0	ND	91	59-155			
1,2-Dichloroethane	**20.4**	2.0	ug/l	25.0	ND	82	49-155			
1,1-Dichloroethene	**25.8**	5.0	ug/l	25.0	ND	103	5-234			
trans-1,2-Dichloroethene	**25.4**	2.0	ug/l	25.0	ND	102	54-156			
1,2-Dichloropropane	**22.2**	2.0	ug/l	25.0	ND	89	5-210			
cis-1,3-Dichloropropene	**22.7**	2.0	ug/l	25.0	ND	91	5-227			
trans-1,3-Dichloropropene	**22.4**	2.0	ug/l	25.0	ND	90	17-183			
Ethylbenzene	**26.4**	2.0	ug/l	25.0	ND	106	37-162			
Methylene chloride	**21.0**	5.0	ug/l	25.0	ND	84	5-221			
1,1,2,2-Tetrachloroethane	**22.6**	2.0	ug/l	25.0	ND	90	46-157			
Tetrachloroethene	**30.0**	2.0	ug/l	25.0	ND	120	64-148			
Toluene	**25.0**	2.0	ug/l	25.0	ND	100	47-150			
1,1,1-Trichloroethane	**25.7**	2.0	ug/l	25.0	ND	103	52-162			
1,1,2-Trichloroethane	**22.3**	2.0	ug/l	25.0	ND	89	52-150			
Trichloroethene	**25.8**	2.0	ug/l	25.0	ND	103	71-157			
Trichlorofluoromethane	**26.7**	5.0	ug/l	25.0	ND	107	17-181			
Vinyl chloride	**28.0**	2.0	ug/l	25.0	ND	112	5-251			
Surrogate: Dibromofluoromethane	*23.6*		*ug/l*	*25.0*		*94*	*80-120*			
Surrogate: Toluene-d8	*25.4*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*25.5*		*ug/l*	*25.0*		*102*	*80-120*			

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1004 Extracted: 12/10/02										
Matrix Spike Dup Analyzed: 12/10/02 (P2L1004-MSD1)					**Source: PLK0838-01**					
Acetone	26.4	20	ug/l	25.0	ND	106	25-150	7	20	T2
Benzene	24.5	2.0	ug/l	25.0	ND	98	37-151	2	20	
Bromodichloromethane	21.6	2.0	ug/l	25.0	ND	86	35-155	0.5	20	
Bromoform	23.3	5.0	ug/l	25.0	ND	93	45-169	3	20	
Bromomethane	26.5	5.0	ug/l	25.0	ND	106	5-242	2	20	
Carbon tetrachloride	27.5	2.5	ug/l	25.0	ND	110	70-140	5	20	
Chlorobenzene	25.8	2.0	ug/l	25.0	ND	103	37-160	0.8	20	
Dibromochloromethane	22.7	2.0	ug/l	25.0	ND	91	53-149	0.9	20	
Chloroethane	23.7	5.0	ug/l	25.0	ND	95	14-230	5	20	
Chloroform	23.1	2.0	ug/l	25.0	ND	92	51-138	0	20	
Chloromethane	21.8	5.0	ug/l	25.0	ND	87	5-273	2	20	
1,2-Dichlorobenzene	24.9	2.0	ug/l	25.0	ND	100	18-190	0.8	20	
1,3-Dichlorobenzene	25.5	2.0	ug/l	25.0	ND	102	59-156	3	20	
1,4-Dichlorobenzene	25.7	2.0	ug/l	25.0	ND	103	18-190	3	20	
1,1-Dichloroethane	22.4	2.0	ug/l	25.0	ND	90	59-155	1	20	
1,2-Dichloroethane	20.9	2.0	ug/l	25.0	ND	84	49-155	2	20	
1,1-Dichloroethene	24.7	5.0	ug/l	25.0	ND	99	5-234	4	20	
trans-1,2-Dichloroethene	24.9	2.0	ug/l	25.0	ND	100	54-156	2	20	
1,2-Dichloropropane	21.9	2.0	ug/l	25.0	ND	88	5-210	1	20	
cis-1,3-Dichloropropene	22.8	2.0	ug/l	25.0	ND	91	5-227	0.4	20	
trans-1,3-Dichloropropene	23.0	2.0	ug/l	25.0	ND	92	17-183	3	20	
Ethylbenzene	25.8	2.0	ug/l	25.0	ND	103	37-162	2	20	
Methylene chloride	20.3	5.0	ug/l	25.0	ND	81	5-221	3	20	
1,1,2,2-Tetrachloroethane	22.4	2.0	ug/l	25.0	ND	90	46-157	0.9	20	
Tetrachloroethene	28.4	2.0	ug/l	25.0	ND	114	64-148	5	20	
Toluene	24.6	2.0	ug/l	25.0	ND	98	47-150	2	20	
1,1,1-Trichloroethane	24.6	2.0	ug/l	25.0	ND	98	52-162	4	20	
1,1,2-Trichloroethane	23.1	2.0	ug/l	25.0	ND	92	52-150	4	20	
Trichloroethene	25.2	2.0	ug/l	25.0	ND	101	71-157	2	20	
Trichlorofluoromethane	25.1	5.0	ug/l	25.0	ND	100	17-181	6	20	
Vinyl chloride	25.8	2.0	ug/l	25.0	ND	103	5-251	8	20	
Surrogate: Dibromofluoromethane	*23.6*		*ug/l*	*25.0*		*94*	*80-120*			
Surrogate: Toluene-d8	*25.5*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.4*		*ug/l*	*25.0*		*98*	*80-120*			

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L05081 Extracted: 12/05/02										
Blank Analyzed: 12/09/02 (2L05081-BLK1)										
Benzoic acid	ND	50	ug/l							
Chrysene	ND	10	ug/l							
Phenol	ND	10	ug/l							
Surrogate: 2-Fluorophenol	*126*		*ug/l*	*200*		*63*	*30-110*			
Surrogate: Phenol-d6	*132*		*ug/l*	*200*		*66*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*168*		*ug/l*	*200*		*84*	*55-130*			
Surrogate: Nitrobenzene-d5	*64.7*		*ug/l*	*100*		*65*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*70.0*		*ug/l*	*100*		*70*	*40-115*			
Surrogate: Terphenyl-d14	*68.5*		*ug/l*	*100*		*68*	*40-130*			
LCS Analyzed: 12/09/02 (2L05081-BS1)										
Benzoic acid	**74.9**	50	ug/l	100		75	25-120			
Chrysene	**79.2**	10	ug/l	100		79	70-125			
Phenol	**59.1**	10	ug/l	100		59	40-120			
Surrogate: 2-Fluorophenol	*114*		*ug/l*	*200*		*57*	*30-110*			
Surrogate: Phenol-d6	*116*		*ug/l*	*200*		*58*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*161*		*ug/l*	*200*		*80*	*55-130*			
Surrogate: Nitrobenzene-d5	*59.7*		*ug/l*	*100*		*60*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*66.1*		*ug/l*	*100*		*66*	*40-115*			
Surrogate: Terphenyl-d14	*62.1*		*ug/l*	*100*		*62*	*40-130*			
Matrix Spike Analyzed: 12/09/02 (2L05081-MS1)					**Source: ILL0148-02**					
Benzoic acid	**166**	100	ug/l	200	ND	83	25-120			
Chrysene	**179**	20	ug/l	200	ND	90	75-120			
Phenol	**119**	20	ug/l	200	ND	60	35-120			
Surrogate: 2-Fluorophenol	*213*		*ug/l*	*400*		*53*	*30-110*			
Surrogate: Phenol-d6	*238*		*ug/l*	*400*		*60*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*343*		*ug/l*	*400*		*86*	*55-130*			
Surrogate: Nitrobenzene-d5	*121*		*ug/l*	*200*		*60*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*130*		*ug/l*	*200*		*65*	*40-115*			
Surrogate: Terphenyl-d14	*142*		*ug/l*	*200*		*71*	*40-130*			

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L05081 Extracted: 12/05/02										
Matrix Spike Dup Analyzed: 12/09/02 (2L05081-MSD1)					**Source: ILL0148-02**					
Benzoic acid	**151**	100	ug/l	200	ND	76	25-120	9	40	
Chrysene	**162**	20	ug/l	200	ND	81	75-120	10	10	
Phenol	**113**	20	ug/l	200	ND	56	35-120	5	25	
Surrogate: 2-Fluorophenol	*200*		*ug/l*	*400*		*50*	*30-110*			
Surrogate: Phenol-d6	*220*		*ug/l*	*400*		*55*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*296*		*ug/l*	*400*		*74*	*55-130*			
Surrogate: Nitrobenzene-d5	*115*		*ug/l*	*200*		*58*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*120*		*ug/l*	*200*		*60*	*40-115*			
Surrogate: Terphenyl-d14	*116*		*ug/l*	*200*		*58*	*40-130*			

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Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L06031 Extracted: 12/06/02										
Blank Analyzed: 12/07/02 (2L06031-BLK1)										
Aldrin	ND	0.10	ug/l							
alpha-BHC	ND	0.10	ug/l							
beta-BHC	ND	0.10	ug/l							
delta-BHC	ND	0.20	ug/l							
gamma-BHC (Lindane)	ND	0.10	ug/l							
Chlordane	ND	1.0	ug/l							
4,4'-DDD	ND	0.10	ug/l							
4,4'-DDE	ND	0.10	ug/l							
4,4'-DDT	ND	0.10	ug/l							
Dieldrin	ND	0.10	ug/l							
Endosulfan I	ND	0.10	ug/l							
Endosulfan II	ND	0.10	ug/l							
Endosulfan sulfate	ND	0.20	ug/l							
Endrin	ND	0.10	ug/l							
Endrin aldehyde	ND	0.10	ug/l							
Endrin ketone	ND	0.10	ug/l							
Heptachlor	ND	0.10	ug/l							
Heptachlor epoxide	ND	0.10	ug/l							
Methoxychlor	ND	0.10	ug/l							
Toxaphene	ND	5.0	ug/l							
Surrogate: Tetrachloro-m-xylene	*0.327*		*ug/l*	*0.500*		*65*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.427*		*ug/l*	*0.500*		*85*	*45-120*			
LCS Analyzed: 12/07/02 (2L06031-BS1)										
Aldrin	**0.439**	0.10	ug/l	0.500		88	45-115			
alpha-BHC	**0.432**	0.10	ug/l	0.500		86	50-115			
beta-BHC	**0.491**	0.10	ug/l	0.500		98	65-115			
delta-BHC	**0.466**	0.20	ug/l	0.500		93	70-115			
gamma-BHC (Lindane)	**0.429**	0.10	ug/l	0.500		86	55-115			
4,4'-DDD	**0.441**	0.10	ug/l	0.500		88	65-120			
4,4'-DDE	**0.436**	0.10	ug/l	0.500		87	65-115			
4,4'-DDT	**0.522**	0.10	ug/l	0.500		104	70-120			
Dieldrin	**0.421**	0.10	ug/l	0.500		84	60-115			
Endosulfan I	**0.459**	0.10	ug/l	0.500		92	60-115			
Endosulfan II	**0.488**	0.10	ug/l	0.500		98	55-115			

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Report Number: PLK0843

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L06031 Extracted: 12/06/02										
LCS Analyzed: 12/07/02 (2L06031-BS1)										
Endosulfan sulfate	0.483	0.20	ug/l	0.500		97	65-120			
Endrin	0.472	0.10	ug/l	0.500		94	65-115			
Endrin aldehyde	0.458	0.10	ug/l	0.500		92	65-115			
Endrin ketone	0.444	0.10	ug/l	0.500		89	65-115			
Heptachlor	0.497	0.10	ug/l	0.500		99	55-120			
Heptachlor epoxide	0.446	0.10	ug/l	0.500		89	60-115			
Methoxychlor	0.563	0.10	ug/l	0.500		113	70-115			
Surrogate: Tetrachloro-m-xylene	*0.407*		*ug/l*	*0.500*		*81*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.481*		*ug/l*	*0.500*		*96*	*45-120*			
Matrix Spike Analyzed: 12/07/02 (2L06031-MS1)					**Source: ILL0148-01**					
Aldrin	0.509	0.12	ug/l	0.625	ND	81	35-115			
gamma-BHC (Lindane)	0.484	0.12	ug/l	0.625	ND	77	35-125			
4,4'-DDD	0.516	0.12	ug/l	0.625	ND	83	55-120			
4,4'-DDE	0.501	0.12	ug/l	0.625	ND	80	55-115			
4,4'-DDT	0.609	0.12	ug/l	0.625	ND	97	55-145			
Dieldrin	0.492	0.12	ug/l	0.625	ND	79	50-115			
Endosulfan I	0.531	0.12	ug/l	0.625	ND	85	45-115			
Endrin	0.549	0.12	ug/l	0.625	ND	88	60-115			
Heptachlor	0.528	0.12	ug/l	0.625	ND	84	35-125			
Methoxychlor	0.659	0.12	ug/l	0.625	ND	105	35-135			
Surrogate: Tetrachloro-m-xylene	*0.455*		*ug/l*	*0.625*		*73*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.568*		*ug/l*	*0.625*		*91*	*45-120*			
Matrix Spike Dup Analyzed: 12/07/02 (2L06031-MSD1)					**Source: ILL0148-01**					
Aldrin	0.526	0.12	ug/l	0.625	ND	84	35-115	3	20	
gamma-BHC (Lindane)	0.522	0.12	ug/l	0.625	ND	84	35-125	8	20	
4,4'-DDD	0.548	0.12	ug/l	0.625	ND	88	55-120	6	20	
4,4'-DDE	0.537	0.12	ug/l	0.625	ND	86	55-115	7	20	
4,4'-DDT	0.646	0.12	ug/l	0.625	ND	103	55-145	6	20	
Dieldrin	0.521	0.12	ug/l	0.625	ND	83	50-115	6	20	
Endosulfan I	0.566	0.12	ug/l	0.625	ND	91	45-115	6	20	
Endrin	0.584	0.12	ug/l	0.625	ND	93	60-115	6	20	
Heptachlor	0.569	0.12	ug/l	0.625	ND	91	35-125	7	20	
Methoxychlor	0.685	0.12	ug/l	0.625	ND	110	35-135	4	25	
Surrogate: Tetrachloro-m-xylene	*0.495*		*ug/l*	*0.625*		*79*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.600*		*ug/l*	*0.625*		*96*	*45-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Phoenix NPDES Stormwater Report Number: PLK0843	Sampled: 11/30/02 Received: 11/30/02

METHOD BLANK/QC DATA

DATA QUALIFIERS AND DEFINITIONS

D1	Sample required dilution due to matrix interference. See case narrative.
N1	See case narrative.
T2	Cited ADHS licensed method does not contain this analyte as part of method compound list.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported.
RPD	Relative Percent Difference

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0841

Sampled: 11/30/02
Received: 11/30/02
Issued: 12/31/02

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX
PLK0841-01	43rd & Peoria - Comp	Water
PLK0841-01RE1	43rd & Peoria - Comp	Water
PLK0841-02	43rd & Peoria - Comp	Water

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: H1 - Sample analysis was received and performed past method-specified holding time per the client's request.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

OBSERVATIONS: Cyanide samples are tested for the presence of sulfide in the lab within 24 hours of sampling. The sample requiring cyanide was received and tested after the 24 hour period.

SUBCONTRACTED: The ICPMS analyses were subcontracted to Del Mar Analytical - 2852 Alton Avenue - Irvine, CA 92606 (AZ0428). The Nitrate-N/Nitrite-N (EPA 353.2) analysis was subcontracted to Transwest Geochem - 3725 E. Atlanta Ave., Suite 1 - Phoenix, AZ 85040-2961 (AZ0133). Results are attached.

QA/QC CRITERIA: All analyses met method criteria.

EXPLANATION OF DATA QUALIFIERS: No further explanation of data qualifiers needed.

Del Mar Analytical, Phoenix (AZ0426)

Linda Eshelman
Project Manager

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LABORATORY REPORT

Prepared For: Maricopa County -Flood Control District
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Project: Phoenix NPDES Stormwater

Sampled: 11/30/02
Received: 11/30/02
Revised: 03/06/03

CA ELAP Certificate #2446 NELAP Certification #01109CA NV Certification #AZ0907 AZ DHS License #AZ0426

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CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: H1 - Sample analysis were received and performed past method-specified holding time per the client's request.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria.

COMMENTS: The ICPMS dissolved metals were not run due to a laboratory error.
Cyanide samples are tested for the presence of sulfide in the lab within 24 hours of sampling. The sample requiring cyanide was received and tested after the 24 hour period.

SUBCONTRACTED: The ICPMS analyses were subcontracted to Del Mar Analytical - 2852 Alton Avenue - Irvine, CA 92606 (AZ0428). The Nitrate-N/Nitrite-N (EPA 353.2) analysis was subcontracted to Transwest Geochem - 3725 E. Atlanta Ave., Suite 1 - Phoenix, AZ 85040-2961 (AZ0133). Results are attached.

Additional Case Narrative Details:

No further explanation of data qualifiers needed.

LABORATORY ID	CLIENT ID	MATRIX
PLK0841-01	43rd & Peoria - Comp	Water
PLK0841-02	43rd & Peoria - Comp	Water

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0841

Sampled: 11/30/02
Received: 11/30/02

TOTAL RECOVERABLE METALS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0841-01 (43rd & Peoria - Comp - Water)								
Calcium	EPA 200.7	P2L0607	2.0	**6.1**	1	12/6/02	12/9/02	
Magnesium	EPA 200.7	P2L0607	0.50	**1.2**	1	12/6/02	12/9/02	
Sodium	EPA 273.1	P2L0607	5.0	ND	1	12/6/02	12/18/02	
Zinc	EPA 200.7	P2L0607	0.050	**0.12**	1	12/6/02	12/9/02	
Sample ID: PLK0841-01RE1 (43rd & Peoria - Comp - Water)								
Potassium	EPA 258.1	P2L2315	1.0	**3.0**	1	12/6/02	12/23/02	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0841

Sampled: 11/30/02
Received: 11/30/02

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0841-02 (43rd & Peoria - Comp - Water)								
Zinc, Dissolved	EPA 200.7	P2L1105	0.050	**0.12**	1	12/11/02	12/11/02	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0841

Sampled: 11/30/02
Received: 11/30/02

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/l	mg/l				
Sample ID: PLK0841-01 (43rd & Peoria - Comp - Water)								
Alkalinity as CaCO3	SM2320B	P2L0906	5.0	**9.6**	1	12/6/02	12/6/02	
Ammonia-N	EPA 350.3	P2L1113	0.050	**1.5**	1	12/11/02	12/11/02	Q5
Biochemical Oxygen Demand	EPA 405.1	P2L0204	2.0	**24**	1	12/1/02	12/6/02	
			%	%				
Sample ID: PLK0841-01 (43rd & Peoria - Comp - Water)								
Cation/Anion Balance	Calculation	P2L2422	NA	**14.5**	1	12/24/02	12/24/02	
			mg/l	mg/l				
Sample ID: PLK0841-01 (43rd & Peoria - Comp - Water)								
Hardness (CaCO3)	SM2340B	P2L0607	1.0	**20**	1	12/6/02	12/9/02	
			umhos/cm	umhos/cm				
Sample ID: PLK0841-01 (43rd & Peoria - Comp - Water)								
Specific Conductance	SM2510B	P2L0603	2.0	**85**	1	12/6/02	12/6/02	
			mg/l	mg/l				
Sample ID: PLK0841-01 (43rd & Peoria - Comp - Water)								
Sulfide	SM4500-S-C,D	P2L0616	0.10	ND	1	12/6/02	12/6/02	
Total Dissolved Solids	SM2540C	P2L0617	20	**78**	1	12/6/02	12/6/02	
Total Suspended Solids	EPA 160.2	P2L0213	10	**20**	1	12/2/02	12/2/02	
Sample ID: PLK0841-01RE1 (43rd & Peoria - Comp - Water)								
Chloride	EPA 300.0	P2L0203	0.50	**3.9**	1	12/2/02	12/2/02	
Fluoride	EPA 300.0	P2L0203	0.10	**0.26**	1	12/2/02	12/2/02	
Nitrate/Nitrite-N	EPA 300.0	P2L0203	0.10	**0.41**	1	12/2/02	12/2/02	H1
Nitrate-N	EPA 300.0	P2L0203	0.10	**0.40**	1	12/2/02	12/2/02	H1
Nitrite-N	EPA 300.0	P2L0203	0.10	ND	1	12/2/02	12/2/02	H1
Orthophosphate	EPA 300.0	P2L0203	0.50	ND	1	12/2/02	12/2/02	H1
Sulfate	EPA 300.0	P2L0203	0.50	**8.0**	1	12/2/02	12/2/02	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0841

Sampled: 11/30/02
Received: 11/30/02

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0841-01 (43rd & Peoria - Comp - Water)								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C2L0908	0.50	**2.8**	1	12/9/02	12/10/02	

DEL MAR ANALYTICAL, COLTON (AZ0062)

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0841

Sampled: 11/30/02
Received: 11/30/02

METALS

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0841-01 (43rd & Peoria - Comp - Water)								
Arsenic	EPA 200.8	2L06040	1.0	**1.1**	1	12/6/02	12/9/02	
Beryllium	EPA 200.8	2L06040	0.50	ND	1	12/6/02	12/9/02	
Cadmium	EPA 200.8	2L06040	1.0	ND	1	12/6/02	12/9/02	
Chromium	EPA 200.8	2L06040	1.0	**2.3**	1	12/6/02	12/9/02	
Copper	EPA 200.8	2L06040	2.0	**16**	1	12/6/02	12/9/02	
Lead	EPA 200.8	2L06040	1.0	**2.9**	1	12/6/02	12/9/02	
Nickel	EPA 200.8	2L06040	1.0	**6.0**	1	12/6/02	12/9/02	
Silver	EPA 200.8	2L06040	1.0	ND	1	12/6/02	12/9/02	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0841

Sampled: 11/30/02
Received: 11/30/02

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0841-01 (43rd & Peoria - Comp - Water)								
Chemical Oxygen Demand	EPA 410.4	2L09040	20	**100**	1	12/9/02	12/9/02	
Total Cyanide	SM4500-CN-C,E	2L04062	0.020	ND	1	12/4/02	12/4/02	
Phenols	EPA 420.1	2L07032	0.10	ND	1	12/7/02	12/10/02	
Phosphorus	EPA 365.3	2L06028	0.050	**0.38**	1	12/6/02	12/6/02	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

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Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0841

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0607 Extracted: 12/06/02										
Blank Analyzed: 12/09/02 (P2L0607-BLK1)										
Calcium	ND	2.0	mg/l							
Magnesium	ND	0.50	mg/l							
Sodium	ND	5.0	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 12/09/02 (P2L0607-BS1)										
Calcium	10.5	2.0	mg/l	10.0		105	85-115			
Magnesium	10.5	0.50	mg/l	10.0		105	85-115			
Sodium	56.0	50	mg/l	50.0		112	85-115			
Zinc	1.07	0.050	mg/l	1.00		107	85-115			
LCS Dup Analyzed: 12/09/02 (P2L0607-BSD1)										
Calcium	10.7	2.0	mg/l	10.0		107	85-115	2	20	
Magnesium	10.6	0.50	mg/l	10.0		106	85-115	0.9	20	
Sodium	56.0	50	mg/l	50.0		112	85-115	0	15	
Zinc	1.09	0.050	mg/l	1.00		109	85-115	2	20	
Matrix Spike Analyzed: 12/09/02 (P2L0607-MS1)					**Source: PLL0037-02**					
Calcium	19.4	2.0	mg/l	10.0	9.1	103	70-130			
Magnesium	15.7	0.50	mg/l	10.0	5.3	104	70-130			
Sodium	72.0	50	mg/l	50.0	16	112	85-115			
Zinc	1.09	0.050	mg/l	1.00	0.031	106	70-130			
Matrix Spike Dup Analyzed: 12/09/02 (P2L0607-MSD1)					**Source: PLL0037-02**					
Calcium	19.3	2.0	mg/l	10.0	9.1	102	70-130	0.5	20	
Magnesium	15.7	0.50	mg/l	10.0	5.3	104	70-130	0	20	
Sodium	72.0	50	mg/l	50.0	16	112	85-115	0	15	
Zinc	1.10	0.050	mg/l	1.00	0.031	107	70-130	0.9	20	

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Phoenix NPDES Stormwater Report Number: PLK0841	Sampled: 11/30/02 Received: 11/30/02

METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L2315 Extracted: 12/23/02										
Blank Analyzed: 12/23/02 (P2L2315-BLK1)										
Potassium	ND	1.0	mg/l							
LCS Analyzed: 12/23/02 (P2L2315-BS2)										
Potassium	**11.1**	1.0	mg/l	10.0		111	85-115			
LCS Dup Analyzed: 12/23/02 (P2L2315-BSD2)										
Potassium	**11.1**	1.0	mg/l	10.0		111	85-115	0	15	
Matrix Spike Analyzed: 12/23/02 (P2L2315-MS1)					**Source: PLL0424-03**					
Potassium	**18.0**	2.0	mg/l	10.0	7.0	110	85-115			
Matrix Spike Dup Analyzed: 12/23/02 (P2L2315-MSD1)					**Source: PLL0424-03**					
Potassium	**18.0**	2.0	mg/l	10.0	7.0	110	85-115	0	15	

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1105 Extracted: 12/11/02										
Blank Analyzed: 12/11/02 (P2L1105-BLK1)										
Zinc, Dissolved	ND	0.050	mg/l							
Blank Analyzed: 12/11/02 (P2L1105-BLK2)										
Zinc, Dissolved	ND	0.050	mg/l							
LCS Analyzed: 12/11/02 (P2L1105-BS1)										
Zinc, Dissolved	**1.04**	0.050	mg/l	1.00		104	85-115			
LCS Dup Analyzed: 12/11/02 (P2L1105-BSD1)										
Zinc, Dissolved	**1.03**	0.050	mg/l	1.00		103	85-115	1	20	
Matrix Spike Analyzed: 12/11/02 (P2L1105-MS1)					**Source: PLL0020-01**					
Zinc, Dissolved	**1.22**	0.050	mg/l	1.00	0.23	99	70-130			
Matrix Spike Dup Analyzed: 12/11/02 (P2L1105-MSD1)					**Source: PLL0020-01**					
Zinc, Dissolved	**1.22**	0.050	mg/l	1.00	0.23	99	70-130	0	20	

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0203 Extracted: 12/02/02										
Blank Analyzed: 12/02/02 (P2L0203-BLK1)										
Chloride	ND	0.50	mg/l							
Fluoride	ND	0.10	mg/l							
Nitrate/Nitrite-N	ND	0.10	mg/l							
Nitrate-N	ND	0.10	mg/l							
Nitrite-N	ND	0.10	mg/l							
Orthophosphate	ND	0.50	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 12/02/02 (P2L0203-BS1)										
Chloride	**4.85**	0.50	mg/l	5.00		97	90-110			
Fluoride	**2.76**	0.10	mg/l	2.50		110	90-110			
Nitrate-N	**2.45**	0.10	mg/l	2.50		98	90-110			
Nitrite-N	**2.42**	0.10	mg/l	2.50		97	90-110			
Orthophosphate	**4.83**	0.50	mg/l	5.00		97	90-110			
Sulfate	**5.02**	0.50	mg/l	5.00		100	90-110			
LCS Dup Analyzed: 12/02/02 (P2L0203-BSD1)										
Chloride	**4.84**	0.50	mg/l	5.00		97	90-110	0.2	15	
Fluoride	**2.76**	0.10	mg/l	2.50		110	90-110	0	20	
Nitrate-N	**2.44**	0.10	mg/l	2.50		98	90-110	0.4	15	
Nitrite-N	**2.41**	0.10	mg/l	2.50		96	90-110	0.4	15	
Orthophosphate	**4.84**	0.50	mg/l	5.00		97	90-110	0.2	15	
Sulfate	**5.00**	0.50	mg/l	5.00		100	90-110	0.4	15	
Matrix Spike Analyzed: 12/02/02 (P2L0203-MS1)					**Source: PLK0839-01RE3**					
Chloride	**55.7**	5.0	mg/l	50.0	7.4	97	80-120			
Fluoride	**27.7**	1.0	mg/l	25.0	0.75	108	80-120			
Nitrate-N	**25.0**	1.0	mg/l	25.0	0.61	98	80-120			
Nitrite-N	**24.2**	1.0	mg/l	25.0	ND	97	80-120			
Orthophosphate	**48.5**	5.0	mg/l	50.0	ND	97	80-120			
Sulfate	**65.7**	5.0	mg/l	50.0	16	99	80-120			

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INORGANICS

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Batch: P2L0203 Extracted: 12/02/02										
Matrix Spike Dup Analyzed: 12/02/02 (P2L0203-MSD1)					**Source: PLK0839-01RE3**					
Chloride	55.3	5.0	mg/l	50.0	7.4	96	80-120	0.7	15	
Fluoride	27.7	1.0	mg/l	25.0	0.75	108	80-120	0	20	
Nitrate-N	25.1	1.0	mg/l	25.0	0.61	98	80-120	0.4	15	
Nitrite-N	24.0	1.0	mg/l	25.0	ND	96	80-120	0.8	15	
Orthophosphate	48.4	5.0	mg/l	50.0	ND	97	80-120	0.2	20	
Sulfate	65.5	5.0	mg/l	50.0	16	99	80-120	0.3	15	
Batch: P2L0204 Extracted: 12/01/02										
Blank Analyzed: 12/06/02 (P2L0204-BLK1)										
Biochemical Oxygen Demand	ND	2.0	mg/l							
LCS Analyzed: 12/06/02 (P2L0204-BS1)										
Biochemical Oxygen Demand	197	2.0	mg/l	198		99	85-115			
Duplicate Analyzed: 12/06/02 (P2L0204-DUP1)					**Source: PLK0832-01**					
Biochemical Oxygen Demand	15.4	2.0	mg/l		15			3	20	
Batch: P2L0213 Extracted: 12/02/02										
Blank Analyzed: 12/02/02 (P2L0213-BLK1)										
Total Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 12/02/02 (P2L0213-DUP1)					**Source: PLK0766-01**					
Total Suspended Solids	38.0	10	mg/l		34			11	20	

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Batch: P2L0213 Extracted: 12/02/02										
Duplicate Analyzed: 12/02/02 (P2L0213-DUP2)					**Source: PLK0841-01**					
Total Suspended Solids	**20.0**	10	mg/l		20			0	20	
Reference Analyzed: 12/02/02 (P2L0213-SRM1)										
Total Suspended Solids	**47.0**	10	mg/l	47.7		99	75-107			
Batch: P2L0603 Extracted: 12/06/02										
Duplicate Analyzed: 12/06/02 (P2L0603-DUP1)					**Source: PLK0783-01**					
Specific Conductance	**1830**	2.0	umhos/cm		1800			2	10	
Reference Analyzed: 12/06/02 (P2L0603-SRM1)										
Specific Conductance	**1430**	2.0	umhos/cm	1410		101	90-110			
Batch: P2L0616 Extracted: 12/06/02										
Blank Analyzed: 12/06/02 (P2L0616-BLK1)										
Sulfide	ND	0.10	mg/l							
LCS Analyzed: 12/06/02 (P2L0616-BS1)										
Sulfide	**1.02**	0.20	mg/l	1.00		102	85-125			
LCS Dup Analyzed: 12/06/02 (P2L0616-BSD1)										
Sulfide	**1.12**	0.20	mg/l	1.00		112	85-125	9	15	
Matrix Spike Analyzed: 12/06/02 (P2L0616-MS1)					**Source: PLL0037-01**					
Sulfide	**0.542**	0.10	mg/l	0.500	0.021	104	60-135			

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Batch: P2L0616 Extracted: 12/06/02										
Matrix Spike Dup Analyzed: 12/06/02 (P2L0616-MSD1)					**Source: PLL0037-01**					
Sulfide	**0.570**	0.10	mg/l	0.500	0.021	110	60-135	5	20	
Batch: P2L0617 Extracted: 12/06/02										
Blank Analyzed: 12/06/02 (P2L0617-BLK1)										
Total Dissolved Solids	ND	20	mg/l							
LCS Analyzed: 12/06/02 (P2L0617-BS1)										
Total Dissolved Solids	**384**	20	mg/l	400		96	80-115			
Duplicate Analyzed: 12/06/02 (P2L0617-DUP1)					**Source: PLK0839-01**					
Total Dissolved Solids	**102**	20	mg/l		110			8	20	
Batch: P2L0906 Extracted: 12/06/02										
Duplicate Analyzed: 12/06/02 (P2L0906-DUP1)					**Source: PLL0205-01**					
Alkalinity as CaCO3	**135**	5.0	mg/l		140			4	20	
Reference Analyzed: 12/06/02 (P2L0906-SRM1)										
Alkalinity as CaCO3	**55.0**	5.0	mg/l	51.8		106	88.6-112			
Batch: P2L1113 Extracted: 12/11/02										
Blank Analyzed: 12/11/02 (P2L1113-BLK1)										
Ammonia-N	ND	0.050	mg/l							

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Batch: P2L1113 Extracted: 12/11/02										
LCS Analyzed: 12/11/02 (P2L1113-BS1)										
Ammonia-N	0.990	0.050	mg/l	1.00		99	85-115			
LCS Dup Analyzed: 12/11/02 (P2L1113-BSD1)										
Ammonia-N	1.08	0.050	mg/l	1.00		108	85-115	9	200	
Matrix Spike Analyzed: 12/11/02 (P2L1113-MS1)					Source: PLL0004-01					
Ammonia-N	0.902	0.050	mg/l	0.500	0.38	104	70-130			
Matrix Spike Dup Analyzed: 12/11/02 (P2L1113-MSD1)					Source: PLL0004-01					
Ammonia-N	0.927	0.050	mg/l	0.500	0.38	109	70-130	3	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: C2L0908 Extracted: 12/09/02										
Blank Analyzed: 12/10/02 (C2L0908-BLK1)										
Total Kjeldahl Nitrogen	ND	0.50	mg/l							
LCS Analyzed: 12/10/02 (C2L0908-BS1)										
Total Kjeldahl Nitrogen	10.6	0.50	mg/l	10.0		106	85-120			
Matrix Spike Analyzed: 12/10/02 (C2L0908-MS1)					Source: PLK0841-01					
Total Kjeldahl Nitrogen	13.4	0.50	mg/l	10.0	2.8	106	85-120			
Matrix Spike Dup Analyzed: 12/10/02 (C2L0908-MSD1)					Source: PLK0841-01					
Total Kjeldahl Nitrogen	13.7	0.50	mg/l	10.0	2.8	109	85-120	2	15	

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METALS

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Batch: 2L06040 Extracted: 12/06/02										
Blank Analyzed: 12/10/02 (2L06040-BLK1)										
Arsenic	ND	1.0	ug/l							
Beryllium	ND	0.50	ug/l							
Cadmium	ND	1.0	ug/l							
Chromium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Nickel	ND	1.0	ug/l							
Silver	ND	1.0	ug/l							
LCS Analyzed: 12/09/02 (2L06040-BS1)										
Arsenic	**83.8**	1.0	ug/l	80.0		105	85-115			
Beryllium	**83.3**	0.50	ug/l	80.0		104	85-115			
Cadmium	**85.5**	1.0	ug/l	80.0		107	85-115			
Chromium	**87.5**	1.0	ug/l	80.0		109	85-115			
Copper	**82.9**	2.0	ug/l	80.0		104	85-115			
Lead	**81.2**	1.0	ug/l	80.0		102	85-115			
Nickel	**83.6**	1.0	ug/l	80.0		104	85-115			
Silver	**85.6**	1.0	ug/l	80.0		107	85-115			
Matrix Spike Analyzed: 12/09/02 (2L06040-MS1)					**Source: ILL0080-01**					
Arsenic	**83.8**	1.0	ug/l	80.0	ND	105	70-130			
Beryllium	**88.2**	0.50	ug/l	80.0	ND	110	70-130			
Cadmium	**81.6**	1.0	ug/l	80.0	ND	102	70-130			
Chromium	**85.3**	1.0	ug/l	80.0	1.1	105	70-130			
Copper	**430**	2.0	ug/l	80.0	360	88	70-130			
Lead	**78.1**	1.0	ug/l	80.0	2.3	95	70-130			
Nickel	**84.5**	1.0	ug/l	80.0	6.1	98	70-130			
Silver	**79.2**	1.0	ug/l	80.0	ND	99	70-130			

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Batch: 2L06040 Extracted: 12/06/02										
Matrix Spike Dup Analyzed: 12/09/02 (2L06040-MSD1)					**Source: ILL0080-01**					
Arsenic	**84.1**	1.0	ug/l	80.0	ND	105	70-130	0.4	20	
Beryllium	**89.4**	0.50	ug/l	80.0	ND	112	70-130	1	20	
Cadmium	**82.9**	1.0	ug/l	80.0	ND	104	70-130	2	20	
Chromium	**86.1**	1.0	ug/l	80.0	1.1	106	70-130	0.9	20	
Copper	**437**	2.0	ug/l	80.0	360	96	70-130	2	20	
Lead	**77.3**	1.0	ug/l	80.0	2.3	94	70-130	1	20	
Nickel	**85.6**	1.0	ug/l	80.0	6.1	99	70-130	1	20	
Silver	**80.4**	1.0	ug/l	80.0	ND	100	70-130	2	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L04062 Extracted: 12/04/02										
Blank Analyzed: 12/04/02 (2L04062-BLK1)										
Total Cyanide	ND	0.020	mg/l							
LCS Analyzed: 12/04/02 (2L04062-BS1)										
Total Cyanide	**0.189**	0.020	mg/l	0.200		94	90-110			
Matrix Spike Analyzed: 12/04/02 (2L04062-MS1)					**Source: ILL0076-01**					
Total Cyanide	**0.170**	0.020	mg/l	0.200	ND	85	70-115			
Matrix Spike Dup Analyzed: 12/04/02 (2L04062-MSD1)					**Source: ILL0076-01**					
Total Cyanide	**0.167**	0.020	mg/l	0.200	ND	84	70-115	2	15	
Batch: 2L06028 Extracted: 12/06/02										
Blank Analyzed: 12/06/02 (2L06028-BLK1)										
Phosphorus	ND	0.050	mg/l							
LCS Analyzed: 12/06/02 (2L06028-BS1)										
Phosphorus	**0.920**	0.050	mg/l	1.00		92	80-120			
Matrix Spike Analyzed: 12/06/02 (2L06028-MS1)					**Source: ILL0176-01**					
Phosphorus	**0.947**	0.050	mg/l	1.00	ND	92	65-130			
Matrix Spike Dup Analyzed: 12/06/02 (2L06028-MSD1)					**Source: ILL0176-01**					
Phosphorus	**0.974**	0.050	mg/l	1.00	ND	95	65-130	3	15	
Batch: 2L07032 Extracted: 12/07/02										
Blank Analyzed: 12/10/02 (2L07032-BLK1)										
Phenols	ND	0.10	mg/l							

Linda Eshelman
Project Manager

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9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0841

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L07032 Extracted: 12/07/02										
LCS Analyzed: 12/10/02 (2L07032-BS1)										
Phenols	0.470	0.10	mg/l	0.500		94	90-110			
Matrix Spike Analyzed: 12/10/02 (2L07032-MS1)					Source: ILL0179-02					
Phenols	0.422	0.10	mg/l	0.500	ND	84	65-155			
Matrix Spike Dup Analyzed: 12/10/02 (2L07032-MSD1)					Source: ILL0179-02					
Phenols	0.419	0.10	mg/l	0.500	ND	84	65-155	0.7	20	
Batch: 2L09040 Extracted: 12/09/02										
Blank Analyzed: 12/09/02 (2L09040-BLK1)										
Chemical Oxygen Demand	ND	20	mg/l							
LCS Analyzed: 12/09/02 (2L09040-BS1)										
Chemical Oxygen Demand	504	20	mg/l	500		101	90-110			
Matrix Spike Analyzed: 12/09/02 (2L09040-MS1)					Source: ILL0042-01					
Chemical Oxygen Demand	969	40	mg/l	1000	ND	97	90-110			
Matrix Spike Dup Analyzed: 12/09/02 (2L09040-MSD1)					Source: ILL0042-01					
Chemical Oxygen Demand	973	40	mg/l	1000	ND	97	90-110	0.4	15	

Linda Eshelman
Project Manager

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9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-085
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-362

Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Phoenix NPDES Stormwater Report Number: PLK0841	Sampled: 11/30/02 Received: 11/30/02

METHOD BLANK/QC DATA

DATA QUALIFIERS AND DEFINITIONS

H1	Sample analysis performed past holding time. See case narrative.
Q5	Sample received with inadequate chemical preservation, but preserved by the laboratory.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported.
RPD	Relative Percent Difference

Linda Eshelman
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

TRANSWEST
GEOCHEM

December 13, 2002

Linda Eshelman
Del Mar Analytical
9830 S. 51st Street
Suite B-120
Phoenix, AZ 85044

RE: PLK0841-MCFC
Work Order No.: 0212010

Dear Linda,
Transwest Geochem, Inc. received 1 sample on 12/2/2002 2:15:00 PM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Vic Nielsen
Project Manager

ADHS License No. AZM133/AZ0133

3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

Client: Del Mar Analytical
Work Order: 0212010
Project Name:
Project Number: PLK0841-MCFC

Date Printed: 13-Dec-02

CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

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

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

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

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order except as detailed below or on the Data Qualifier page of this report. Data Qualifiers used in this report are in accordance with ADEQ Arizona Data Qualifiers, Revision 1.0 05/13/2002.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

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TRANSWEST GEOCHEM

Date Printed 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical

Project Name:

Project Number: PLK0841

Work Order: 0212010

Date Received: 02-Dec-02

Work Order Sample Summary

Client Sample ID	Lab Sample ID	Test Code	Collection Date
PLK0841-01	0212010-01A	EPA353.2	11/30/2002 8:00:00 AM

TRANSWEST GEOCHEM

Date Printed 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Project Name:
Project Number: PLK0841
Work Order: 0212010
Date Received: 02-Dec-02

Definitions

Analytical Spike (AS)	The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix.
Continuing Curve Verification (CCV)	The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method.
Dilution Factor (DF)	The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases.
Internal Standard (IS)	The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods.
Laboratory Control Sample (LCS)	The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples.
Matrix Spike (MS)	The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples.
Method Blank (MB)	The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab.
Method Detection Limit (MDL)	The MDL is the lowest level of detection of which a method is capable.
Practical Quantitation Limit (PQL)	The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL.
Relative Percent Difference (RPD)	The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result.
Secondary Source QC Sample (LCSV)	The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance.
Surrogate	A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success.
Trip Blank (TB)	The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation.

TRANSWEST GEOCHEM

Date Printed 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212010
Lab ID: 0212010-01
Project Name:
Project Number: PLK0841

Client Sample ID: PLK0841-01
Collection Date: 11/30/2002 8:00:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	0.79	0.50		mg/L	1.0	EPA353.2	N/A	12/12/02	TL	NO3_W-12/11/2002

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TRANSWEST GEOCHEM

Date: 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212010
Project: PLK0841

QC SUMMARY REPORT

Method Blank

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	12/12/02	TL	NO3_W-12/11/2002
Nitrate-Nitrite (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	12/12/02	TL	NO3_W-12/11/2002

TRANSWEST GEOCHEM

Date: 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212010
Project: PLK0841

QC SUMMARY REPORT

Sample Duplicate

Analyte	Result	PQL	Units	RPD Ref Val	% RPD	RPD Limit	Test Code	Date Prepared	Date Analyzed	Analyst	Qual
Sample ID: **0212040-01AD** Batch ID: NO3_W-12/11/2002											
Client ID:											
Nitrate-Nitrite (As N)	1.2	0.50	mg/L	1.238	0%	20	EPA353.2	N/A	12/12/02	TL	
Sample ID: **0212011-04AD** Batch ID: NO3_W-12/11/2002											
Client ID:											
Nitrate-Nitrite (As N)	1.3	0.50	mg/L	1.270	2%	20	EPA353.2	N/A	12/12/02	TL	

TRANSWEST GEOCHEM

Date: 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212010
Project: PLK0841

QC SUMMARY REPORT

Sample Matrix Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **0212040-01AS**	Batch ID: NO3_W-12/11/2002			Test Code: EPA353.2				Date Analyzed: 12/12/02 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.929	0.50	5.000	0.6146	106%	90	110				
Sample ID: **0212011-04AS**	Batch ID: NO3_W-12/11/2002			Test Code: EPA353.2				Date Analyzed: 12/12/02 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.171	0.50	5.000	0.6341	91%	90	110				

TRANSWEST GEOCHEM

Date: 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212010
Project: PLK0841

QC SUMMARY REPORT

Blank Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: LCS	Batch ID: NO3_W-12/11/2002			Test Code: EPA353.2				Date Analyzed: 12/12/02 00:00			
				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.237	0.50	5.000	<0.50	105%	90	110				

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Ocala Water Quality & Research Laboratory

OWQRL Data Retrieval System

U.S. Geological Survey, WRD - Ocala Water Quality & Research Laboratory
4500 SW 40th Avenue - Ocala, Florida
Telephone (352)237-5514 FLDEP CompQAP # 910161G
Processing Date: 12/26/2002

Lab ID Number: 200301505	**Field ID Number:** 09513885	**Station ID Number:** 09513885	**Date:** 11/30/2002	**Time:** 01:37	
Station Name: 43RD AVENUE AND PEORIA	**Site Type:** N/A	**State Code:** 4	**County Code:** 13	**NWIS Record #:** N/A	**SMS Control #:** N/A
Sample Medium: 9	**Geologic Unit:** N/A	**Analysis Status:** H	**Analysis Source:** 9	**Hydrologic Condition:** 9	**Sample Type:** 9
Hydrologic Event: J	**Project Account:** 967116800	**Analysis Cost:** $182.30	**District/User Code:** 04		

Lab Code	Watstore #	Parameter Name	Analysis Method	Reporting Units	Reported Value	Lab Remark	Analysis Date/Time
0027	70300(A)	RESIDUE DISSOLVED AT 180 C	I-1750-85	mg/L	79	V	12/4/2002 9:10:00 AM
0068	00403(A)	PH (LABORATORY)	I-1586-85	pH Units	6.4	V	12/12/2002 9:03:00 AM
0070	90410(A)	ALKALINITY TOT AS CACO3 (LAB)	I-2030-85	mg/L	16		12/5/2002 3:37:00 PM
0169	00530(B)	RESIDUE TOT NON-FILT AT 105C	I-3765-85	mg/L	54		12/4/2002 9:01:00 AM
1983	00666(D)	PHOSPHORUS AS P DISSOLVED	I-2600-85	mg/L	0.31		12/5/2002 10:40:00 AM
1984	00665(D)	PHOSPHORUS AS P TOTAL	I-4600-85	mg/L	0.4		12/5/2002 10:38:00 AM
1986	00625(D)	NITROGEN NH3+ORG-N TOTAL	I-4552-85	mg/L	3.6		12/9/2002 9:19:00 AM
3000	99898(0)	QWSU LAB ID NUMBER	- -	Number	200301505		12/20/2002 3:02:21 AM

3001	99899(0)	JULIAN LOGIN DATE	- -	Number	2002338		12/20/2002 3:02:21 AM
3014	01027(4)	CADMIUM TOTAL (ICP/T)	EPA-200.7	ug/L	< 0.5		12/10/2002 8:03:00 PM
3025	01042(1)	COPPER TOTAL (ICP/T)	EPA-200.7	ug/L	16		12/10/2002 8:06:00 PM
3029	01051(4)	LEAD TOTAL (ICP/T)	EPA-200.7	ug/L	2.5		12/10/2002 8:12:00 PM
3056	01092(1)	ZINC TOTAL (ICP/T)	EPA-200.7	ug/L	140	D	12/10/2002 8:16:00 PM
3063	00340(0)	CHEMICAL OXYGEN DEMAND (EPA)	EPA-410.4	mg/L	128		12/10/2002 9:06:00 AM
3071	00610(F)	NITROGEN NH3-N TOTAL	I-4522-85	mg/L	1.9		12/6/2002 10:44:00 AM
3073	00630(E)	NITROGEN NO2+NO3-N TOTAL	I-4545-85	mg/L	0.44		12/6/2002 9:37:00 AM
3157	99870(8)	DIGESTION IN BOTTLE	EPA-1638	Number	1		12/4/2002 9:11:00 AM

Definitions of remark codes.

Remark Code V for lab code 27 indicates Analysis verified by lab Re-Run
Remark Code V for lab code 68 indicates Analysis verified by lab Re-Run
Remark Code D for lab code 3056 indicates Analysis performed in duplicate

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QA REPLICATE

Ocala Water Quality & Research Laboratory

OWQRL Data Retrieval System

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4500 SW 40th Avenue - Ocala, Florida
Telephone (352)237-5514 FLDEP CompQAP # 910161G
Processing Date: 12/26/2002

Lab ID Number: 200301504	**Field ID Number:** 09513885	**Station ID Number:** 09513885	**Date:** 11/30/2002	**Time:** 01:42	
Station Name: 43RD AVE AND PEORIA	**Site Type:** N/A	**State Code:** 4	**County Code:** 13	**NWIS Record #:** N/A	**SMS Control #:** N/A
Sample Medium: R	**Geologic Unit:** N/A	**Analysis Status:** H	**Analysis Source:** 9	**Hydrologic Condition:** 9	**Sample Type:** 7
Hydrologic Event: J	**Project Account:** 967116800	**Analysis Cost:** $182.30	**District/User Code:** 04		

Lab Code	Watstore #	Parameter Name	Analysis Method	Reporting Units	Reported Value	Lab Remark	Analysis Date/Time
0027	70300(A)	RESIDUE DISSOLVED AT 180 C	I-1750-85	mg/L	80	V	12/4/2002 9:09:00 AM
0068	00403(A)	PH (LABORATORY)	I-1586-85	pH Units	6.2	V	12/5/2002 3:34:00 PM
0070	90410(A)	ALKALINITY TOT AS CACO3 (LAB)	I-2030-85	mg/L	16		12/5/2002 3:34:00 PM
0169	00530(B)	RESIDUE TOT NON-FILT AT 105C	I-3765-85	mg/L	50		12/4/2002 9:00:00 AM
1983	00666(D)	PHOSPHORUS AS P DISSOLVED	I-2600-85	mg/L	0.31		12/5/2002 10:38:00 AM
1984	00665(D)	PHOSPHORUS AS P TOTAL	I-4600-85	mg/L	0.41		12/5/2002 10:38:00 AM
1986	00625(D)	NITROGEN NH3+ORG-N TOTAL	I-4552-85	mg/L	3.7		12/9/2002 9:18:00 AM
3000	99898(0)	QWSU LAB ID NUMBER	- -	Number	200301504		12/20/2002 3:02:21 AM

3001	99899(0)	JULIAN LOGIN DATE	- -	Number	2002338		12/20/2002 3:02:21 AM
3014	01027(4)	CADMIUM TOTAL (ICP/T)	EPA-200.7	ug/L	< 0.5		12/10/2002 7:41:00 PM
3025	01042(1)	COPPER TOTAL (ICP/T)	EPA-200.7	ug/L	16		12/10/2002 7:44:00 PM
3029	01051(4)	LEAD TOTAL (ICP/T)	EPA-200.7	ug/L	2.5		12/10/2002 7:50:00 PM
3056	01092(1)	ZINC TOTAL (ICP/T)	EPA-200.7	ug/L	141	D	12/10/2002 7:54:00 PM
3063	00340(0)	CHEMICAL OXYGEN DEMAND (EPA)	EPA-410.4	mg/L	95		12/10/2002 9:05:00 AM
3071	00610(F)	NITROGEN NH3-N TOTAL	I-4522-85	mg/L	1.9		12/6/2002 10:42:00 AM
3073	00630(E)	NITROGEN NO2+NO3-N TOTAL	I-4545-85	mg/L	0.46		12/6/2002 9:35:00 AM
3157	99870(8)	DIGESTION IN BOTTLE	EPA-1638	Number	1		12/4/2002 9:10:00 AM

Definitions of remark codes.

Remark Code V for lab code 27 indicates Analysis verified by lab Re-Run
Remark Code V for lab code 68 indicates Analysis verified by lab Re-Run
Remark Code D for lab code 3056 indicates Analysis performed in duplicate

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Last modified: December 14, 2001

Ocala Laboratory Reporting Limits

Parameter Name	Lab Code	Watstore Code	Method	Detection Level	Bottle Requirements
RESIDUE DISSOLVED AT 180 C	27	70300(A)	I-1750-85	1 mg/L	FU
PH (LABORATORY)	68	00403(A)	I-1586-85	0.1 pH Units	RU
ALKALINITY TOT AS CACO3 (LAB)	70	90410(A)	I-2030-85	1 mg/L	RU
RESIDUE TOT NON-FILT AT 105C	169	00530(B)	I-3765-85	1 mg/L	SUSO
PHOSPHORUS AS P DISSOLVED	1983	00666(D)	I-2600-85	0.02 mg/L	FCA
PHOSPHORUS AS P TOTAL	1984	00665(D)	I-4600-85	0.02 mg/L	WCA
NITROGEN NH3+ORG-N TOTAL	1986	00625(D)	I-4552-85	0.2 mg/L	WCA
CADMIUM TOTAL (ICP/T)	3014	01027(4)	EPA-200.7	0.5 ug/L	RA
COPPER TOTAL (ICP/T)	3025	01042(1)	EPA-200.7	2 ug/L	RA
LEAD TOTAL (ICP/T)	3029	01051(4)	EPA-200.7	2 ug/L	RA
ZINC TOTAL (ICP/T)	3056	01092(1)	EPA-200.7	2 ug/L	RA
CHEMICAL OXYGEN DEMAND (EPA)	3063	00340(0)	EPA-410.4	5 mg/L	COD
NITROGEN NH3-N TOTAL	3071	00610(F)	I-4522-85	0.01 mg/L	RCC
NITROGEN NO2-N TOTAL	3072	00615(B)	I-4540-85	0.01 mg/L	RCC
NITROGEN NO2+NO3-N TOTAL	3073	00630(E)	I-4545-85	0.02 mg/L	RCC
PHOSPHORUS PO4-P TOTAL	3074	70507(H)	I-4601-85	0.01 mg/L	RCC

Phoenix ACDC43 ACDC near Peoria Avenue and 43rd Avenue November 29 - 30, 2002

Watstore	Parameter	Type	Lab Runid	Reported Value	Most Prob. Value	Std. Deviation	Z-Value
403	pH	QA/QC Sample	PHS2-00234	8.069	7.95	0.203	0.59
403	pH	QA/QC Sample	PHS2-00234	6.692	6.6	0.22	0.42
608	NH3 Diss	Standard	NUT05-00136	1	1	0.05	-0.01
608	NH3 Diss	Standard	NUT05-00136	0.247	0.25	0.0125	-0.28
608	NH3 Diss	Standard	NUT05-00136	0.1	0.1	0.005	-0.1
608	NH3 Diss	Standard	NUT05-00136	0.503	0.5	0.025	0.1
608	NH3 Diss	Corr Coef	NUT05-00136	0.999937	1	0.005	-0.01
608	NH3 Diss	Immd. Standard	NUT05-00136	0.241	0.25	0.0125	-0.72
608	NH3 Diss	Immd. Standard	NUT05-00136	0.487	0.5	0.025	-0.52
608	NH3 Diss	Immd. Standard	NUT05-00136	1.071	1	0.05	1.42
608	NH3 Diss	Immd. Standard	NUT05-00136	1.039	1	0.05	0.78
608	NH3 Diss	Immd. Standard	NUT05-00136	0.246	0.25	0.0125	-0.32
608	NH3 Diss	Immd. Standard	NUT05-00136	0.091	0.01	0.0005	162
608	NH3 Diss	QA/QC Sample	NUT05-00136	0.422	0.433	0.03	-0.37
608	NH3 Diss	QA/QC Sample	NUT05-00136	0.036	0.047	0.0215	-0.53
608	NH3 Diss	QA/QC Sample	NUT05-00136	0.255	0.26	0.04	-0.14
608	NH3 Diss	QA/QC Sample	NUT05-00136	0.828	0.781	0.0766	0.6
608	NH3 Diss	Spike	NUT05-00136	108	100	7.5	1.07
608	NH3 Diss	Spike	NUT05-00136	112	100	7.5	1.6
608	NH3 Diss	Spike	NUT05-00136	109.8	100	7.5	1.31
610	NH3 Total	Standard	NUT05-00136	0.253	0.25	0.0125	0.2
610	NH3 Total	Standard	NUT05-00136	1.001	1	0.05	0.02
610	NH3 Total	Standard	NUT05-00136	0.105	0.1	0.005	1
610	NH3 Total	Standard	NUT05-00136	0.496	0.5	0.025	-0.16
610	NH3 Total	Corr Coef	NUT05-00136	0.99992	1	0.005	-0.02
610	NH3 Total	Immd. Standard	NUT05-00136	0.125	0.1	0.005	5
610	NH3 Total	Immd. Standard	NUT05-00136	1.045	1	0.05	0.9
610	NH3 Total	Immd. Standard	NUT05-00136	1.033	1	0.05	0.66
610	NH3 Total	Immd. Standard	NUT05-00136	0.5	0.5	0.025	0
610	NH3 Total	Immd. Standard	NUT05-00136	0.286	0.25	0.0125	2.88
610	NH3 Total	Immd. Standard	NUT05-00136	0.261	0.25	0.0125	0.88
610	NH3 Total	QA/QC Sample	NUT05-00136	0.245	0.26	0.04	-0.39
610	NH3 Total	QA/QC Sample	NUT05-00136	0.128	0.15	0.021	-1.07
610	NH3 Total	QA/QC Sample	NUT05-00136	0.045	0.047	0.0215	-0.11
610	NH3 Total	QA/QC Sample	NUT05-00136	0.783	0.781	0.0766	0.02
610	NH3 Total	QA/QC Sample	NUT05-00136	0.626	0.58	0.039	1.18
610	NH3 Total	QA/QC Sample	NUT05-00136	0.119	0.127	0.01	-0.85
610	NH3 Total	Spike	NUT05-00136	95.2	100	7.5	-0.64
610	NH3 Total	Spike	NUT05-00136	94.8	100	7.5	-0.69
610	NH3 Total	Spike	NUT05-00136	92.5	100	7.5	-1
625	TKN Total	Standard	NUT18-00017	1.982	2	0.1	-0.18
625	TKN Total	Standard	NUT18-00017	0.525	0.5	0.025	1
625	TKN Total	Standard	NUT18-00017	1.074	1	0.05	1.47
625	TKN Total	Standard	NUT18-00017	2.936	3	0.15	-0.43
625	TKN Total	Standard	NUT18-00017	4.033	4	0.2	0.16
625	TKN Total	Standard	NUT18-00017	0.245	0.2	0.01	4.5
625	TKN Total	Corr Coef	NUT18-00017	0.999492	1	0.005	-0.1
625	TKN Total	Immd. Standard	NUT18-00017	3.955	4	0.2	-0.23
625	TKN Total	Immd. Standard	NUT18-00017	1.98	2	0.1	-0.2
625	TKN Total	Immd. Standard	NUT18-00017	1.129	1	0.05	2.58
625	TKN Total	QA/QC Sample	NUT18-00017	0.955	0.838	0.113	1.04
625	TKN Total	QA/QC Sample	NUT18-00017	1.798	1.823	0.337	-0.07
625	TKN Total	Spike	NUT18-00017	104.8	100	7.5	0.64
630	NO2+NO3 Total	Standard	NUT07-00135	0.505	0.5	0.025	0.2
630	NO2+NO3 Total	Standard	NUT07-00135	0.255	0.25	0.0125	0.36
630	NO2+NO3 Total	Standard	NUT07-00135	0.997	1	0.05	-0.07
630	NO2+NO3 Total	Standard	NUT07-00135	0.102	0.1	0.005	0.3
630	NO2+NO3 Total	Corr Coef	NUT07-00135	0.999875	1	0.005	-0.03

Phoenix ACDC43 ACDC near Peoria Avenue and 43rd Avenue November 29 - 30, 2002

Watstore	Parameter	Type	Lab Runid	Reported Value	Most Prob. Value	Std. Deviation	Z-Value
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	0.256	0.25	0.0125	0.48
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	0.501	0.5	0.025	0.04
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	0.25	0.25	0.0125	0
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	0.105	0.1	0.005	1
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	1.022	1	0.05	0.44
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	1.013	1	0.05	0.26
630	NO2+NO3 Total	QA/QC Sample	NUT07-00135	0.305	0.3	0.06	0.07
630	NO2+NO3 Total	QA/QC Sample	NUT07-00135	0.049	0.055	0.0458	-0.12
630	NO2+NO3 Total	QA/QC Sample	NUT07-00135	0.887	0.866	0.0872	0.24
630	NO2+NO3 Total	Spike	NUT07-00135	90	100	7.5	-1.33
665	Total Phosphorus	Standard	NUT21-00016	1.503	1.5	0.075	0.03
665	Total Phosphorus	Standard	NUT21-00016	0.77	0.75	0.0375	0.53
665	Total Phosphorus	Standard	NUT21-00016	0.019	0	0.01	1.9
665	Total Phosphorus	Standard	NUT21-00016	0.499	0.5	0.025	-0.04
665	Total Phosphorus	Standard	NUT21-00016	0.052	0.05	0.0025	0.6
665	Total Phosphorus	Standard	NUT21-00016	0.098	0.1	0.005	-0.4
665	Total Phosphorus	Standard	NUT21-00016	0.983	1	0.05	-0.35
665	Total Phosphorus	Standard	NUT21-00016	0.245	0.25	0.0125	-0.44
665	Total Phosphorus	Corr Coef	NUT21-00016	0.999804	1	0.005	-0.04
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.049	0.05	0.0025	-0.4
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.771	0.75	0.0375	0.56
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.097	0.1	0.005	-0.6
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.051	0.05	0.0025	0.4
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.016	0.02	0.005	-0.8
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.998	1	0.05	-0.04
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.774	0.75	0.0375	0.64
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.499	0.5	0.025	-0.04
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.097	0.1	0.005	-0.6
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.016	0.02	0.005	-0.8
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.096	0.1	0.005	-0.8
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.248	0.25	0.0125	-0.16
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.503	0.5	0.025	0.12
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.778	0.75	0.0375	0.75
665	Total Phosphorus	Immd. Standard	NUT21-00016	1.524	1.5	0.075	0.32
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.244	0.25	0.0125	-0.48
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.246	0.25	0.0125	-0.32
665	Total Phosphorus	QA/QC Sample	NUT21-00016	0.787	0.755	0.031	1.03
665	Total Phosphorus	QA/QC Sample	NUT21-00016	1.194	1.138	0.0728	0.77
665	Total Phosphorus	QA/QC Sample	NUT21-00016	0.396	0.412	0.016	-1
665	Total Phosphorus	QA/QC Sample	NUT21-00016	0.226	0.23	0.03	-0.13
665	Total Phosphorus	QA/QC Sample	NUT21-00016	1.211	1.138	0.0728	1
665	Total Phosphorus	QA/QC Sample	NUT21-00016	0.128	0.132	0.009	-0.44
665	Total Phosphorus	QA/QC Sample	NUT21-00016	0.768	0.755	0.031	0.42
665	Total Phosphorus	Spike	NUT21-00016	103.8	100	7.5	0.51
665	Total Phosphorus	Spike	NUT21-00016	100.1	100	7.5	0.01
665	Total Phosphorus	Spike	NUT21-00016	103.3	100	7.5	0.44
665	Total Phosphorus	Spike	NUT21-00016	100.8	100	7.5	0.11
665	Total Phosphorus	Spike	NUT21-00016	103.8	100	7.5	0.51
665	Diss Phosphorus	Spike	NUT21-00016	102.1	100	7.5	0.28
666	Diss Phosphorus	Standard	NUT19-00017	1.503	1.5	0.075	0.03
666	Diss Phosphorus	Standard	NUT19-00017	0.019	0	0.01	1.9
666	Diss Phosphorus	Standard	NUT19-00017	0.052	0.05	0.0025	0.6
666	Diss Phosphorus	Standard	NUT19-00017	0.245	0.25	0.0125	-0.44
666	Diss Phosphorus	Standard	NUT19-00017	0.77	0.75	0.0375	0.53
666	Diss Phosphorus	Standard	NUT19-00017	0.098	0.1	0.005	-0.4
666	Diss Phosphorus	Standard	NUT19-00017	0.499	0.5	0.025	-0.04
666	Diss Phosphorus	Standard	NUT19-00017	0.983	1	0.05	-0.35
666	Diss Phosphorus	Corr Coef	NUT19-00017	0.999804	1	0.005	-0.04

Phoenix ACDC43 ACDC near Peoria Avenue and 43rd Avenue November 29 - 30, 2002

Watstore	Parameter	Type	Lab Runid	Reported Value	Most Prob. Value	Std. Deviation	Z-Value
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.246	0.25	0.0125	-0.32
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.771	0.75	0.0375	0.56
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.097	0.1	0.005	-0.6
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.051	0.05	0.0025	0.4
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.016	0.02	0.005	-0.8
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.998	1	0.05	-0.04
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.774	0.75	0.0375	0.64
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.499	0.5	0.025	-0.04
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.097	0.1	0.005	-0.6
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.049	0.05	0.0025	-0.4
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.016	0.02	0.005	-0.8
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.096	0.1	0.005	-0.8
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.248	0.25	0.0125	-0.16
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.244	0.25	0.0125	-0.48
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.503	0.5	0.025	0.12
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.778	0.75	0.0375	0.75
666	Diss Phosphorus	Immd. Standard	NUT19-00017	1.524	1.5	0.075	0.32
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	0.787	0.755	0.031	1.03
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	1.194	1.138	0.0728	0.77
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	0.396	0.412	0.016	-1
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	0.226	0.23	0.03	-0.13
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	1.211	1.138	0.0728	1
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	0.128	0.132	0.009	-0.44
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	0.768	0.755	0.031	0.42
671	PO4 Diss	Standard	NUT07-00135	0.05	0.05	0.0025	-0.04
671	PO4 Diss	Standard	NUT07-00135	0.1	0.1	0.005	0
671	PO4 Diss	Standard	NUT07-00135	0.025	0.025	0.0013	0.08
671	PO4 Diss	Standard	NUT07-00135	0.005	0.005	0.0005	0
671	PO4 Diss	Standard	NUT07-00135	0.002	0.002	0.0005	0.4
671	PO4 Diss	Standard	NUT07-00135	0.01	0.01	0.0005	0
671	PO4 Diss	Standard	NUT07-00135	0	0	0.001	-0.3
671	PO4 Diss	Corr Coef	NUT07-00135	0.99999	1	0.005	0
671	PO4 Diss	Immd. Standard	NUT07-00135	0.024	0.01	0.0005	27.6
671	PO4 Diss	Immd. Standard	NUT07-00135	0.009	0.005	0.0003	16.4
671	PO4 Diss	Immd. Standard	NUT07-00135	0.098	0.05	0.0025	19.08
671	PO4 Diss	Immd. Standard	NUT07-00135	0.05	0.025	0.0013	19.84
671	PO4 Diss	Immd. Standard	NUT07-00135	0.049	0.025	0.0013	19.44
671	PO4 Diss	QA/QC Sample	NUT07-00135	0.71	0.711	0.0208	-0.03
671	PO4 Diss	QA/QC Sample	NUT07-00135	0.124	0.128	0.004	-1
671	PO4 Diss	QA/QC Sample	NUT07-00135	0.737	0.741	0.035	-0.12
671	PO4 Diss	QA/QC Sample	NUT07-00135	0.04	0.041	0.0055	-0.2
671	PO4 Diss	QA/QC Sample	NUT07-00135	0.04	0.041	0.0055	-0.25
671	PO4 Diss	Spike	NUT07-00135	84.2	100	7.5	-2.11
1027	Cd Total ICP	Standard	CD11-00130	99.821	100	5	-0.04
1027	Cd Total ICP	Standard	CD11-00130	199.4	200	10	-0.06
1027	Cd Total ICP	Standard	CD11-00130	507.89	500	25	0.32
1027	Cd Total ICP	Standard	CD11-00130	1005.8	1000	50	0.12
1027	Cd Total ICP	Corr Coef	CD11-00130	0.9999	1	0.005	-0.02
1027	Cd Total ICP	Immd. Standard	CD11-00130	5.144	5	0.5	0.29
1027	Cd Total ICP	Immd. Standard	CD11-00130	2.214	2	0.2	1.07
1027	Cd Total ICP	Immd. Standard	CD11-00130	101.7	100	50	0.03
1027	Cd Total ICP	Immd. Standard	CD11-00130	1.134	1	0.2	0.67
1027	Cd Total ICP	Immd. Standard	CD11-00130	204.27	200	10	0.43
1027	Cd Total ICP	Immd. Standard	CD11-00130	1058.3	1000	50	1.17
1027	Cd Total ICP	Immd. Standard	CD11-00130	25.546	25	1.25	0.44
1027	Cd Total ICP	Immd. Standard	CD11-00130	49.688	50	2.5	-0.12
1027	Cd Total ICP	Immd. Standard	CD11-00130	10.316	10	1	0.32
1027	Cd Total ICP	QA/QC Sample	CD11-00130	3.364	3.4	0.21	-0.17

Phoenix ACDC43 ACDC near Peoria Avenue and 43rd Avenue November 29 - 30, 2002

Watstore	Parameter	Type	Lab Runid	Reported Value	Most Prob. Value	Std. Deviation	Z-Value
1027	Cd Total ICP	QA/QC Sample	CD11-00130	10.205	10.4	0.5	-0.39
1027	Cd Total ICP	Spike	CD11-00130	98	100	7.5	-0.27
1027	Cd Total ICP	Spike	CD11-00130	96	100	7.5	-0.53
1042	Cu Total ICP	Standard	CU11-00128	1010.1	1000	50	0.2
1042	Cu Total ICP	Standard	CU11-00128	198.7	200	10	-0.13
1042	Cu Total ICP	Standard	CU11-00128	508.3	500	25	0.33
1042	Cu Total ICP	Standard	CU11-00128	99.86	100	5	-0.03
1042	Cu Total ICP	Corr Coef	CU11-00128	0.9999	1	0.005	-0.02
1042	Cu Total ICP	Immd. Standard	CU11-00128	25.258	25	1.25	0.21
1042	Cu Total ICP	Immd. Standard	CU11-00128	1003.1	1000	50	0.06
1042	Cu Total ICP	Immd. Standard	CU11-00128	98.679	100	5	-0.26
1042	Cu Total ICP	Immd. Standard	CU11-00128	196.85	200	10	-0.32
1042	Cu Total ICP	Immd. Standard	CU11-00128	49.681	50	2.5	-0.13
1042	Cu Total ICP	QA/QC Sample	CU11-00128	14.397	14.3	0.8	0.12
1042	Cu Total ICP	QA/QC Sample	CU11-00128	21.156	20.6	1	0.56
1042	Cu Total ICP	Spike	CU11-00128	99	100	7.5	-0.13
1042	Cu Total ICP	Spike	CU11-00128	98	100	7.5	-0.27
1051	Pb Total ICP	Standard	PB11-00129	98.434	100	5	-0.31
1051	Pb Total ICP	Standard	PB11-00129	196.9	200	10	-0.31
1051	Pb Total ICP	Standard	PB11-00129	1000.25	1000	50	0.01
1051	Pb Total ICP	Standard	PB11-00129	504.11	500	25	0.16
1051	Pb Total ICP	Corr Coef	PB11-00129	0.9999	1	0.005	-0.02
1051	Pb Total ICP	Immd. Standard	PB11-00129	199.66	200	10	-0.03
1051	Pb Total ICP	Immd. Standard	PB11-00129	24.979	25	1.25	-0.02
1051	Pb Total ICP	Immd. Standard	PB11-00129	100.241	100	5	0.05
1051	Pb Total ICP	Immd. Standard	PB11-00129	48.644	50	2.5	-0.54
1051	Pb Total ICP	Immd. Standard	PB11-00129	9.709	10	1	-0.29
1051	Pb Total ICP	Immd. Standard	PB11-00129	4.803	5	0.5	-0.39
1051	Pb Total ICP	Immd. Standard	PB11-00129	1048.52	1000	50	0.97
1051	Pb Total ICP	QA/QC Sample	PB11-00129	20.458	21.5	1.33	-0.78
1051	Pb Total ICP	QA/QC Sample	PB11-00129	11.198	11.4	0.7	-0.29
1051	Pb Total ICP	Spike	PB11-00129	98	100	7.5	-0.27
1051	Pb Total ICP	Spike	PB11-00129	99	100	7.5	-0.13
1092	Zn Total ICP	Standard	ZN10-00131	101.18	100	5	0.24
1092	Zn Total ICP	Standard	ZN10-00131	513.75	500	25	0.55
1092	Zn Total ICP	Standard	ZN10-00131	1013.1	1000	50	0.26
1092	Zn Total ICP	Standard	ZN10-00131	202.08	200	10	0.21
1092	Zn Total ICP	Corr Coef	ZN10-00131	0.9999	1	0.005	-0.02
1092	Zn Total ICP	Immd. Standard	ZN10-00131	50.023	50	2.5	0.01
1092	Zn Total ICP	Immd. Standard	ZN10-00131	2.228	2	0.1	2.28
1092	Zn Total ICP	Immd. Standard	ZN10-00131	10.525	10	0.5	1.05
1092	Zn Total ICP	Immd. Standard	ZN10-00131	5.3	5	0.25	1.2
1092	Zn Total ICP	Immd. Standard	ZN10-00131	25.843	25	1.25	0.67
1092	Zn Total ICP	Spike	ZN10-00131	103	100	7.5	0.4
1092	Zn Total ICP	Spike	ZN10-00131	101	100	7.5	0.13
70300	Diss Solids	QA/QC Sample	ROE01-0013	236.8	242	12	-0.43
70300	Diss Solids	QA/QC Sample	ROE01-0013	368.4	370	19	-0.08
70300	Diss Solids	QA/QC Sample	ROE01-0014	251.2	242	12	0.77
70300	Diss Solids	QA/QC Sample	ROE01-0014	370	370	19	0
90410	Alkalinity Total	QA/QC Sample	ALK1-00251	5.422	6	1.49	-0.39
90410	Alkalinity Total	QA/QC Sample	ALK1-00251	61.535	61.8	2.52	-0.11

Del Mar Analytical

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Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID Phoenix NPDES Stormwater Report Number: PLK0842	Sampled: 11/30/02 Received: 11/30/02 Issued: 12/24/02

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX
PLK0842-01	40th St. & IBW Grab	Water
PLK0842-02	Trip Blank	Water

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: The Acid and Base Neutrals (EPA 625) and Pesticides (EPA 608) analyses were subcontracted to Del Mar Analytical - 2852 Alton Avenue - Irvine, CA 92606 (AZ0428). Results are attached.

QA/QC CRITERIA: All analyses met method criteria.

EXPLANATION OF DATA QUALIFIERS: N1 - Result is greater than or equal to the indicated value.

Del Mar Analytical, Phoenix (AZ0426)

for
Linda Eshelman
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0842-01 (40th St. & IBW Grab - Water)								
Total Recoverable Hydrocarbons	EPA 418.1	P2L0623	1.0	ND	1	12/6/02	12/9/02	

The reporting limit for this sample was adjusted by a factor of 1.04 to account for the applicable preparation factor.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0842-01 (40th St. & IBW Grab - Water)								
Oil & Grease	EPA 413.2	P2L0622	1.0	**1.6**	1	12/6/02	12/9/02	

The reporting limit for this sample was adjusted by a factor of 1.04 to account for the applicable preparation factor.

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Linda Eshelman
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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0842-01 (40th St. & IBW Grab - Water)								
Acetone	EPA 624	P2L1004	20	ND	1	12/10/02	12/10/02	T2
Benzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Bromodichloromethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Bromoform	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/10/02	
Bromomethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/10/02	
Carbon tetrachloride	EPA 624	P2L1004	2.5	ND	1	12/10/02	12/10/02	
Chlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Dibromochloromethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Chloroethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/10/02	
Chloroform	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Chloromethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/10/02	
1,2-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
1,3-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
1,4-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
1,1-Dichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
1,2-Dichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
1,1-Dichloroethene	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/10/02	
trans-1,2-Dichloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
1,2-Dichloropropane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
cis-1,3-Dichloropropene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
trans-1,3-Dichloropropene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Ethylbenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Methylene chloride	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/10/02	
1,1,2,2-Tetrachloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Tetrachloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Toluene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
1,1,1-Trichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
1,1,2-Trichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Trichloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Trichlorofluoromethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/10/02	
Vinyl chloride	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/10/02	
Surrogate: Dibromofluoromethane (80-120%)				*105 %*				
Surrogate: Toluene-d8 (80-120%)				*102 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*101 %*				

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0842-02 (Trip Blank - Water)								
Acetone	EPA 624	P2L1004	20	ND	1	12/10/02	12/11/02	T2
Benzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Bromodichloromethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Bromoform	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Bromomethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Carbon tetrachloride	EPA 624	P2L1004	2.5	ND	1	12/10/02	12/11/02	
Chlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Dibromochloromethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Chloroethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Chloroform	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Chloromethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
1,2-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,3-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,4-Dichlorobenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1-Dichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,2-Dichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1-Dichloroethene	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
trans-1,2-Dichloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,2-Dichloropropane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
cis-1,3-Dichloropropene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
trans-1,3-Dichloropropene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Ethylbenzene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Methylene chloride	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
1,1,2,2-Tetrachloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Tetrachloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Toluene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1,1-Trichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
1,1,2-Trichloroethane	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Trichloroethene	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Trichlorofluoromethane	EPA 624	P2L1004	5.0	ND	1	12/10/02	12/11/02	
Vinyl chloride	EPA 624	P2L1004	2.0	ND	1	12/10/02	12/11/02	
Surrogate: Dibromofluoromethane (80-120%)				*112 %*				
Surrogate: Toluene-d8 (80-120%)				*103 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*99 %*				

DEL MAR ANALYTICAL, PHOENIX (AZ0426

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

MICROBIOLOGICALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			MPN/100 ml	MPN/100 m				
Sample ID: PLK0842-01 (40th St. & IBW Grab - Water)								
E. Coli	SM9221F	P2L0103	2.0	**1600**	1	11/30/02	12/3/02	
Fecal Coliform	SM 9221E	P2L0103	2.0	**1600**	1	11/30/02	12/3/02	N1
Fecal Streptococcus	SM9230B	P2L0104	2.0	**16000**	1	11/30/02	12/2/02	N1

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Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0842-01 (40th St. & IBW Grab - Water)								
Benzoic acid	EPA 625	2L05081	50	ND	1.1	12/5/02	12/12/02	
Chrysene	EPA 625	2L05081	10	ND	1.1	12/5/02	12/12/02	
Phenol	EPA 625	2L05081	10	ND	1.1	12/5/02	12/12/02	
Surrogate: 2-Fluorophenol (30-110%)				*58 %*				
Surrogate: Phenol-d6 (40-115%)				*60 %*				
Surrogate: 2,4,6-Tribromophenol (55-130%)				*111 %*				
Surrogate: Nitrobenzene-d5 (40-115%)				*74 %*				
Surrogate: 2-Fluorobiphenyl (40-115%)				*82 %*				
Surrogate: Terphenyl-d14 (40-130%)				*96 %*				

DEL MAR ANALYTICAL, IRVINE (AZ0428

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Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0842-01 (40th St. & IBW Grab - Water)								
4,4'-DDE	EPA 608	2L06031	0.10	ND	1	12/6/02	12/19/02	
Surrogate: Tetrachloro-m-xylene (35-120%)				*74 %*				
Surrogate: Decachlorobiphenyl (45-120%)				*91 %*				

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Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0623 Extracted: 12/06/02										
Blank Analyzed: 12/09/02 (P2L0623-BLK1)										
Total Recoverable Hydrocarbons	ND	1.0	mg/l							
LCS Analyzed: 12/09/02 (P2L0623-BS1)										
Total Recoverable Hydrocarbons	**11.9**	1.0	mg/l	10.0		119	80-135			
LCS Dup Analyzed: 12/09/02 (P2L0623-BSD1)										
Total Recoverable Hydrocarbons	**12.2**	1.0	mg/l	10.0		122	80-135	2	15	

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Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0622 Extracted: 12/06/02										
Blank Analyzed: 12/09/02 (P2L0622-BLK1)										
Oil & Grease	ND	1.0	mg/l							
LCS Analyzed: 12/09/02 (P2L0622-BS1)										
Oil & Grease	**11.6**	1.0	mg/l	10.0		116	85-135			
LCS Dup Analyzed: 12/09/02 (P2L0622-BSD1)										
Oil & Grease	**11.9**	1.0	mg/l	10.0		119	85-135	3	15	

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Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1004 Extracted: 12/10/02										
Blank Analyzed: 12/10/02 (P2L1004-BLK1)										
Acetone	ND	20	ug/l							T2
Benzene	ND	2.0	ug/l							
Bromodichloromethane	ND	2.0	ug/l							
Bromoform	ND	5.0	ug/l							
Bromomethane	ND	5.0	ug/l							
Carbon tetrachloride	ND	2.5	ug/l							
Chlorobenzene	ND	2.0	ug/l							
Dibromochloromethane	ND	2.0	ug/l							
Chloroethane	ND	5.0	ug/l							
Chloroform	ND	2.0	ug/l							
Chloromethane	ND	5.0	ug/l							
1,2-Dichlorobenzene	ND	2.0	ug/l							
1,3-Dichlorobenzene	ND	2.0	ug/l							
1,4-Dichlorobenzene	ND	2.0	ug/l							
1,1-Dichloroethane	ND	2.0	ug/l							
1,2-Dichloroethane	ND	2.0	ug/l							
1,1-Dichloroethene	ND	5.0	ug/l							
trans-1,2-Dichloroethene	ND	2.0	ug/l							
1,2-Dichloropropane	ND	2.0	ug/l							
cis-1,3-Dichloropropene	ND	2.0	ug/l							
trans-1,3-Dichloropropene	ND	2.0	ug/l							
Ethylbenzene	ND	2.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/l							
Tetrachloroethene	ND	2.0	ug/l							
Toluene	ND	2.0	ug/l							
1,1,1-Trichloroethane	ND	2.0	ug/l							
1,1,2-Trichloroethane	ND	2.0	ug/l							
Trichloroethene	ND	2.0	ug/l							
Trichlorofluoromethane	ND	5.0	ug/l							
Vinyl chloride	ND	2.0	ug/l							
Surrogate: Dibromofluoromethane	*25.4*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: Toluene-d8	*25.4*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1004 Extracted: 12/10/02										
LCS Analyzed: 12/10/02 (P2L1004-BS1)										
Acetone	ND	20	ug/l	25.0		78	40-150			T2
Benzene	**23.5**	2.0	ug/l	25.0		94	37-151			
Bromodichloromethane	**23.0**	2.0	ug/l	25.0		92	35-155			
Bromoform	**25.6**	5.0	ug/l	25.0		102	45-169			
Bromomethane	**23.6**	5.0	ug/l	25.0		94	5-242			
Carbon tetrachloride	**25.7**	2.5	ug/l	25.0		103	70-140			
Chlorobenzene	**25.8**	2.0	ug/l	25.0		103	37-160			
Dibromochloromethane	**25.6**	2.0	ug/l	25.0		102	53-149			
Chloroethane	**21.6**	5.0	ug/l	25.0		86	14-230			
Chloroform	**22.7**	2.0	ug/l	25.0		91	51-138			
Chloromethane	**19.7**	5.0	ug/l	25.0		79	5-273			
1,2-Dichlorobenzene	**28.0**	2.0	ug/l	25.0		112	18-190			
1,3-Dichlorobenzene	**27.2**	2.0	ug/l	25.0		109	59-156			
1,4-Dichlorobenzene	**27.2**	2.0	ug/l	25.0		109	18-190			
1,1-Dichloroethane	**21.6**	2.0	ug/l	25.0		86	59-155			
1,2-Dichloroethane	**21.8**	2.0	ug/l	25.0		87	49-155			
1,1-Dichloroethene	**23.0**	5.0	ug/l	25.0		92	5-234			
trans-1,2-Dichloroethene	**23.0**	2.0	ug/l	25.0		92	54-156			
1,2-Dichloropropane	**22.6**	2.0	ug/l	25.0		90	5-210			
cis-1,3-Dichloropropene	**24.2**	2.0	ug/l	25.0		97	5-227			
trans-1,3-Dichloropropene	**25.5**	2.0	ug/l	25.0		102	17-183			
Ethylbenzene	**25.0**	2.0	ug/l	25.0		100	37-162			
Methylene chloride	**20.3**	5.0	ug/l	25.0		81	5-221			
1,1,2,2-Tetrachloroethane	**25.0**	2.0	ug/l	25.0		100	46-157			
Tetrachloroethene	**26.2**	2.0	ug/l	25.0		105	64-148			
Toluene	**23.9**	2.0	ug/l	25.0		96	47-150			
1,1,1-Trichloroethane	**23.1**	2.0	ug/l	25.0		92	52-162			
1,1,2-Trichloroethane	**25.8**	2.0	ug/l	25.0		103	52-150			
Trichloroethene	**24.4**	2.0	ug/l	25.0		98	71-157			
Trichlorofluoromethane	**22.9**	5.0	ug/l	25.0		92	17-181			
Vinyl chloride	**22.2**	2.0	ug/l	25.0		89	5-251			
Surrogate: Dibromofluoromethane	*25.1*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*25.8*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.8*		*ug/l*	*25.0*		*95*	*80-120*			

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Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1004 Extracted: 12/10/02										
LCS Dup Analyzed: 12/10/02 (P2L1004-BSD1)										
Acetone	ND	20	ug/l	25.0		78	40-150	0	20	T2
Benzene	24.9	2.0	ug/l	25.0		100	37-151	6	20	
Bromodichloromethane	23.6	2.0	ug/l	25.0		94	35-155	3	20	
Bromoform	24.9	5.0	ug/l	25.0		100	45-169	3	20	
Bromomethane	26.5	5.0	ug/l	25.0		106	5-242	12	20	
Carbon tetrachloride	27.4	2.5	ug/l	25.0		110	70-140	6	20	
Chlorobenzene	26.2	2.0	ug/l	25.0		105	37-160	2	20	
Dibromochloromethane	25.3	2.0	ug/l	25.0		101	53-149	1	20	
Chloroethane	24.3	5.0	ug/l	25.0		97	14-230	12	20	
Chloroform	24.2	2.0	ug/l	25.0		97	51-138	6	20	
Chloromethane	22.3	5.0	ug/l	25.0		89	5-273	12	20	
1,2-Dichlorobenzene	26.3	2.0	ug/l	25.0		105	18-190	6	20	
1,3-Dichlorobenzene	26.3	2.0	ug/l	25.0		105	59-156	3	20	
1,4-Dichlorobenzene	26.3	2.0	ug/l	25.0		105	18-190	3	20	
1,1-Dichloroethane	23.1	2.0	ug/l	25.0		92	59-155	7	20	
1,2-Dichloroethane	23.1	2.0	ug/l	25.0		92	49-155	6	20	
1,1-Dichloroethene	25.0	5.0	ug/l	25.0		100	5-234	8	20	
trans-1,2-Dichloroethene	24.2	2.0	ug/l	25.0		97	54-156	5	20	
1,2-Dichloropropane	24.1	2.0	ug/l	25.0		96	5-210	6	20	
cis-1,3-Dichloropropene	25.2	2.0	ug/l	25.0		101	5-227	4	20	
trans-1,3-Dichloropropene	25.9	2.0	ug/l	25.0		104	17-183	2	20	
Ethylbenzene	25.7	2.0	ug/l	25.0		103	37-162	3	20	
Methylene chloride	22.4	5.0	ug/l	25.0		90	5-221	10	20	
1,1,2,2-Tetrachloroethane	23.3	2.0	ug/l	25.0		93	46-157	7	20	
Tetrachloroethene	27.7	2.0	ug/l	25.0		111	64-148	6	20	
Toluene	25.2	2.0	ug/l	25.0		101	47-150	5	20	
1,1,1-Trichloroethane	24.8	2.0	ug/l	25.0		99	52-162	7	20	
1,1,2-Trichloroethane	26.1	2.0	ug/l	25.0		104	52-150	1	20	
Trichloroethene	25.8	2.0	ug/l	25.0		103	71-157	6	20	
Trichlorofluoromethane	25.8	5.0	ug/l	25.0		103	17-181	12	20	
Vinyl chloride	23.7	2.0	ug/l	25.0		95	5-251	7	20	
Surrogate: Dibromofluoromethane	*25.5*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: Toluene-d8	*25.7*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.1*		*ug/l*	*25.0*		*96*	*80-120*			

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1004 Extracted: 12/10/02										
Matrix Spike Analyzed: 12/10/02 (P2L1004-MS1)					**Source: PLK0838-01**					
Acetone	**28.2**	20	ug/l	25.0	ND	113	25-150			T2
Benzene	**24.9**	2.0	ug/l	25.0	ND	100	37-151			
Bromodichloromethane	**21.5**	2.0	ug/l	25.0	ND	86	35-155			
Bromoform	**24.0**	5.0	ug/l	25.0	ND	96	45-169			
Bromomethane	**27.0**	5.0	ug/l	25.0	ND	108	5-242			
Carbon tetrachloride	**28.8**	2.5	ug/l	25.0	ND	115	70-140			
Chlorobenzene	**26.0**	2.0	ug/l	25.0	ND	104	37-160			
Dibromochloromethane	**22.5**	2.0	ug/l	25.0	ND	90	53-149			
Chloroethane	**24.9**	5.0	ug/l	25.0	ND	100	14-230			
Chloroform	**23.1**	2.0	ug/l	25.0	ND	92	51-138			
Chloromethane	**22.2**	5.0	ug/l	25.0	ND	89	5-273			
1,2-Dichlorobenzene	**24.7**	2.0	ug/l	25.0	ND	99	18-190			
1,3-Dichlorobenzene	**26.2**	2.0	ug/l	25.0	ND	105	59-156			
1,4-Dichlorobenzene	**26.4**	2.0	ug/l	25.0	ND	106	18-190			
1,1-Dichloroethane	**22.7**	2.0	ug/l	25.0	ND	91	59-155			
1,2-Dichloroethane	**20.4**	2.0	ug/l	25.0	ND	82	49-155			
1,1-Dichloroethene	**25.8**	5.0	ug/l	25.0	ND	103	5-234			
trans-1,2-Dichloroethene	**25.4**	2.0	ug/l	25.0	ND	102	54-156			
1,2-Dichloropropane	**22.2**	2.0	ug/l	25.0	ND	89	5-210			
cis-1,3-Dichloropropene	**22.7**	2.0	ug/l	25.0	ND	91	5-227			
trans-1,3-Dichloropropene	**22.4**	2.0	ug/l	25.0	ND	90	17-183			
Ethylbenzene	**26.4**	2.0	ug/l	25.0	ND	106	37-162			
Methylene chloride	**21.0**	5.0	ug/l	25.0	ND	84	5-221			
1,1,2,2-Tetrachloroethane	**22.6**	2.0	ug/l	25.0	ND	90	46-157			
Tetrachloroethene	**30.0**	2.0	ug/l	25.0	ND	120	64-148			
Toluene	**25.0**	2.0	ug/l	25.0	ND	100	47-150			
1,1,1-Trichloroethane	**25.7**	2.0	ug/l	25.0	ND	103	52-162			
1,1,2-Trichloroethane	**22.3**	2.0	ug/l	25.0	ND	89	52-150			
Trichloroethene	**25.8**	2.0	ug/l	25.0	ND	103	71-157			
Trichlorofluoromethane	**26.7**	5.0	ug/l	25.0	ND	107	17-181			
Vinyl chloride	**28.0**	2.0	ug/l	25.0	ND	112	5-251			
Surrogate: Dibromofluoromethane	*23.6*		*ug/l*	*25.0*		*94*	*80-120*			
Surrogate: Toluene-d8	*25.4*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*25.5*		*ug/l*	*25.0*		*102*	*80-120*			

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Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1004 Extracted: 12/10/02										
Matrix Spike Dup Analyzed: 12/10/02 (P2L1004-MSD1)					**Source: PLK0838-01**					
Acetone	26.4	20	ug/l	25.0	ND	106	25-150	7	20	T2
Benzene	24.5	2.0	ug/l	25.0	ND	98	37-151	2	20	
Bromodichloromethane	21.6	2.0	ug/l	25.0	ND	86	35-155	0.5	20	
Bromoform	23.3	5.0	ug/l	25.0	ND	93	45-169	3	20	
Bromomethane	26.5	5.0	ug/l	25.0	ND	106	5-242	2	20	
Carbon tetrachloride	27.5	2.5	ug/l	25.0	ND	110	70-140	5	20	
Chlorobenzene	25.8	2.0	ug/l	25.0	ND	103	37-160	0.8	20	
Dibromochloromethane	22.7	2.0	ug/l	25.0	ND	91	53-149	0.9	20	
Chloroethane	23.7	5.0	ug/l	25.0	ND	95	14-230	5	20	
Chloroform	23.1	2.0	ug/l	25.0	ND	92	51-138	0	20	
Chloromethane	21.8	5.0	ug/l	25.0	ND	87	5-273	2	20	
1,2-Dichlorobenzene	24.9	2.0	ug/l	25.0	ND	100	18-190	0.8	20	
1,3-Dichlorobenzene	25.5	2.0	ug/l	25.0	ND	102	59-156	3	20	
1,4-Dichlorobenzene	25.7	2.0	ug/l	25.0	ND	103	18-190	3	20	
1,1-Dichloroethane	22.4	2.0	ug/l	25.0	ND	90	59-155	1	20	
1,2-Dichloroethane	20.9	2.0	ug/l	25.0	ND	84	49-155	2	20	
1,1-Dichloroethene	24.7	5.0	ug/l	25.0	ND	99	5-234	4	20	
trans-1,2-Dichloroethene	24.9	2.0	ug/l	25.0	ND	100	54-156	2	20	
1,2-Dichloropropane	21.9	2.0	ug/l	25.0	ND	88	5-210	1	20	
cis-1,3-Dichloropropene	22.8	2.0	ug/l	25.0	ND	91	5-227	0.4	20	
trans-1,3-Dichloropropene	23.0	2.0	ug/l	25.0	ND	92	17-183	3	20	
Ethylbenzene	25.8	2.0	ug/l	25.0	ND	103	37-162	2	20	
Methylene chloride	20.3	5.0	ug/l	25.0	ND	81	5-221	3	20	
1,1,2,2-Tetrachloroethane	22.4	2.0	ug/l	25.0	ND	90	46-157	0.9	20	
Tetrachloroethene	28.4	2.0	ug/l	25.0	ND	114	64-148	5	20	
Toluene	24.6	2.0	ug/l	25.0	ND	98	47-150	2	20	
1,1,1-Trichloroethane	24.6	2.0	ug/l	25.0	ND	98	52-162	4	20	
1,1,2-Trichloroethane	23.1	2.0	ug/l	25.0	ND	92	52-150	4	20	
Trichloroethene	25.2	2.0	ug/l	25.0	ND	101	71-157	2	20	
Trichlorofluoromethane	25.1	5.0	ug/l	25.0	ND	100	17-181	6	20	
Vinyl chloride	25.8	2.0	ug/l	25.0	ND	103	5-251	8	20	
Surrogate: Dibromofluoromethane	*23.6*		*ug/l*	*25.0*		*94*	*80-120*			
Surrogate: Toluene-d8	*25.5*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.4*		*ug/l*	*25.0*		*98*	*80-120*			

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Report Number: PLK0842

Sampled: 11/30/02
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METHOD BLANK/QC DATA

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L05081 Extracted: 12/05/02										
Blank Analyzed: 12/09/02 (2L05081-BLK1)										
Benzoic acid	ND	50	ug/l							
Chrysene	ND	10	ug/l							
Phenol	ND	10	ug/l							
Surrogate: 2-Fluorophenol	*126*		*ug/l*	*200*		*63*	*30-110*			
Surrogate: Phenol-d6	*132*		*ug/l*	*200*		*66*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*168*		*ug/l*	*200*		*84*	*55-130*			
Surrogate: Nitrobenzene-d5	*64.7*		*ug/l*	*100*		*65*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*70.0*		*ug/l*	*100*		*70*	*40-115*			
Surrogate: Terphenyl-d14	*68.5*		*ug/l*	*100*		*68*	*40-130*			
LCS Analyzed: 12/09/02 (2L05081-BS1)										
Benzoic acid	**74.9**	50	ug/l	100		75	25-120			
Chrysene	**79.2**	10	ug/l	100		79	70-125			
Phenol	**59.1**	10	ug/l	100		59	40-120			
Surrogate: 2-Fluorophenol	*114*		*ug/l*	*200*		*57*	*30-110*			
Surrogate: Phenol-d6	*116*		*ug/l*	*200*		*58*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*161*		*ug/l*	*200*		*80*	*55-130*			
Surrogate: Nitrobenzene-d5	*59.7*		*ug/l*	*100*		*60*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*66.1*		*ug/l*	*100*		*66*	*40-115*			
Surrogate: Terphenyl-d14	*62.1*		*ug/l*	*100*		*62*	*40-130*			
Matrix Spike Analyzed: 12/09/02 (2L05081-MS1)					**Source: ILL0148-02**					
Benzoic acid	**166**	100	ug/l	200	ND	83	25-120			
Chrysene	**179**	20	ug/l	200	ND	90	75-120			
Phenol	**119**	20	ug/l	200	ND	60	35-120			
Surrogate: 2-Fluorophenol	*213*		*ug/l*	*400*		*53*	*30-110*			
Surrogate: Phenol-d6	*238*		*ug/l*	*400*		*60*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*343*		*ug/l*	*400*		*86*	*55-130*			
Surrogate: Nitrobenzene-d5	*121*		*ug/l*	*200*		*60*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*130*		*ug/l*	*200*		*65*	*40-115*			
Surrogate: Terphenyl-d14	*142*		*ug/l*	*200*		*71*	*40-130*			

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L05081 Extracted: 12/05/02										
Matrix Spike Dup Analyzed: 12/09/02 (2L05081-MSD1)					**Source: ILL0148-02**					
Benzoic acid	**151**	100	ug/l	200	ND	76	25-120	9	40	
Chrysene	**162**	20	ug/l	200	ND	81	75-120	10	10	
Phenol	**113**	20	ug/l	200	ND	56	35-120	5	25	
Surrogate: 2-Fluorophenol	*200*		*ug/l*	*400*		*50*	*30-110*			
Surrogate: Phenol-d6	*220*		*ug/l*	*400*		*55*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*296*		*ug/l*	*400*		*74*	*55-130*			
Surrogate: Nitrobenzene-d5	*115*		*ug/l*	*200*		*58*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*120*		*ug/l*	*200*		*60*	*40-115*			
Surrogate: Terphenyl-d14	*116*		*ug/l*	*200*		*58*	*40-130*			

Linda Eshelman
Project Manager

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Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L06031 Extracted: 12/06/02										
Blank Analyzed: 12/07/02 (2L06031-BLK1)										
Aldrin	ND	0.10	ug/l							
alpha-BHC	ND	0.10	ug/l							
beta-BHC	ND	0.10	ug/l							
delta-BHC	ND	0.20	ug/l							
gamma-BHC (Lindane)	ND	0.10	ug/l							
Chlordane	ND	1.0	ug/l							
4,4'-DDD	ND	0.10	ug/l							
4,4'-DDE	ND	0.10	ug/l							
4,4'-DDT	ND	0.10	ug/l							
Dieldrin	ND	0.10	ug/l							
Endosulfan I	ND	0.10	ug/l							
Endosulfan II	ND	0.10	ug/l							
Endosulfan sulfate	ND	0.20	ug/l							
Endrin	ND	0.10	ug/l							
Endrin aldehyde	ND	0.10	ug/l							
Endrin ketone	ND	0.10	ug/l							
Heptachlor	ND	0.10	ug/l							
Heptachlor epoxide	ND	0.10	ug/l							
Methoxychlor	ND	0.10	ug/l							
Toxaphene	ND	5.0	ug/l							
Surrogate: Tetrachloro-m-xylene	*0.327*		*ug/l*	*0.500*		*65*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.427*		*ug/l*	*0.500*		*85*	*45-120*			
LCS Analyzed: 12/07/02 (2L06031-BS1)										
Aldrin	**0.439**	0.10	ug/l	0.500		88	45-115			
alpha-BHC	**0.432**	0.10	ug/l	0.500		86	50-115			
beta-BHC	**0.491**	0.10	ug/l	0.500		98	65-115			
delta-BHC	**0.466**	0.20	ug/l	0.500		93	70-115			
gamma-BHC (Lindane)	**0.429**	0.10	ug/l	0.500		86	55-115			
4,4'-DDD	**0.441**	0.10	ug/l	0.500		88	65-120			
4,4'-DDE	**0.436**	0.10	ug/l	0.500		87	65-115			
4,4'-DDT	**0.522**	0.10	ug/l	0.500		104	70-120			
Dieldrin	**0.421**	0.10	ug/l	0.500		84	60-115			
Endosulfan I	**0.459**	0.10	ug/l	0.500		92	60-115			
Endosulfan II	**0.488**	0.10	ug/l	0.500		98	55-115			

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0842

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L06031 Extracted: 12/06/02										
LCS Analyzed: 12/07/02 (2L06031-BS1)										
Endosulfan sulfate	0.483	0.20	ug/l	0.500		97	65-120			
Endrin	0.472	0.10	ug/l	0.500		94	65-115			
Endrin aldehyde	0.458	0.10	ug/l	0.500		92	65-115			
Endrin ketone	0.444	0.10	ug/l	0.500		89	65-115			
Heptachlor	0.497	0.10	ug/l	0.500		99	55-120			
Heptachlor epoxide	0.446	0.10	ug/l	0.500		89	60-115			
Methoxychlor	0.563	0.10	ug/l	0.500		113	70-115			
Surrogate: Tetrachloro-m-xylene	*0.407*		*ug/l*	*0.500*		*81*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.481*		*ug/l*	*0.500*		*96*	*45-120*			
Matrix Spike Analyzed: 12/07/02 (2L06031-MS1)					**Source: ILL0148-01**					
Aldrin	0.509	0.12	ug/l	0.625	ND	81	35-115			
gamma-BHC (Lindane)	0.484	0.12	ug/l	0.625	ND	77	35-125			
4,4'-DDD	0.516	0.12	ug/l	0.625	ND	83	55-120			
4,4'-DDE	0.501	0.12	ug/l	0.625	ND	80	55-115			
4,4'-DDT	0.609	0.12	ug/l	0.625	ND	97	55-145			
Dieldrin	0.492	0.12	ug/l	0.625	ND	79	50-115			
Endosulfan I	0.531	0.12	ug/l	0.625	ND	85	45-115			
Endrin	0.549	0.12	ug/l	0.625	ND	88	60-115			
Heptachlor	0.528	0.12	ug/l	0.625	ND	84	35-125			
Methoxychlor	0.659	0.12	ug/l	0.625	ND	105	35-135			
Surrogate: Tetrachloro-m-xylene	*0.455*		*ug/l*	*0.625*		*73*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.568*		*ug/l*	*0.625*		*91*	*45-120*			
Matrix Spike Dup Analyzed: 12/07/02 (2L06031-MSD1)					**Source: ILL0148-01**					
Aldrin	0.526	0.12	ug/l	0.625	ND	84	35-115	3	20	
gamma-BHC (Lindane)	0.522	0.12	ug/l	0.625	ND	84	35-125	8	20	
4,4'-DDD	0.548	0.12	ug/l	0.625	ND	88	55-120	6	20	
4,4'-DDE	0.537	0.12	ug/l	0.625	ND	86	55-115	7	20	
4,4'-DDT	0.646	0.12	ug/l	0.625	ND	103	55-145	6	20	
Dieldrin	0.521	0.12	ug/l	0.625	ND	83	50-115	6	20	
Endosulfan I	0.566	0.12	ug/l	0.625	ND	91	45-115	6	20	
Endrin	0.584	0.12	ug/l	0.625	ND	93	60-115	6	20	
Heptachlor	0.569	0.12	ug/l	0.625	ND	91	35-125	7	20	
Methoxychlor	0.685	0.12	ug/l	0.625	ND	110	35-135	4	25	
Surrogate: Tetrachloro-m-xylene	*0.495*		*ug/l*	*0.625*		*79*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.600*		*ug/l*	*0.625*		*96*	*45-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Phoenix NPDES Stormwater Report Number: PLK0842	Sampled: 11/30/02 Received: 11/30/02

METHOD BLANK/QC DATA

DATA QUALIFIERS AND DEFINITIONS

N1	Result is greater than or equal to the indicated value.
T2	Cited ADHS licensed method does not contain this analyte as part of method compound list.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported.
RPD	Relative Percent Difference

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0840

Sampled: 11/30/02
Received: 11/30/02
Issued: 12/31/02

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX
PLK0840-01	40th St. & IBW - Comp	Water
PLK0840-01RE1	40th St. & IBW - Comp	Water
PLK0840-02	40th St. & IBW - Comp	Water

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: The ICPMS analyses were subcontracted to Del Mar Analytical - 2852 Alton Avenue - Irvine, CA 92606 (AZ0428). The Nitrate-N/Nitrite-N (EPA 353.2) analysis was subcontracted to Transwest Geochem - 3725 E. Atlanta Ave., Suite 1 - Phoenix, AZ 85040-2961 (AZ0133). Results are attached.

QA/QC CRITERIA: All analyses met method criteria.

EXPLANATION OF DATA QUALIFIERS: No further explanation of data qualifiers needed.

Del Mar Analytical, Phoenix (AZ0426)

Linda Eshelman
Project Manager

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LABORATORY REPORT

Prepared For: Maricopa County -Flood Control District
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Project: Phoenix NPDES Stormwater

Sampled: 11/30/02
Received: 11/30/02
Revised: 03/06/03

CA ELAP Certificate #2446 NELAP Certification #01109CA NV Certification #AZ0907 AZ DHS License #AZ0426

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CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria.

COMMENTS: The ICPMS total metals analyses were not run due to a laboratory error.

SUBCONTRACTED: The ICPMS analyses were subcontracted to Del Mar Analytical - 2852 Alton Avenue - Irvine, CA 92606 (AZ0428). The Nitrate-N/Nitrite-N (EPA 353.2) analysis was subcontracted to Transwest Geochem - 3725 E. Atlanta Ave., Suite 1 - Phoenix, AZ 85040-2961 (AZ0133). Results are attached.

Additional Case Narrative Details:

No further explanation of data qualifiers needed.

LABORATORY ID	CLIENT ID	MATRIX
PLK0840-01	40th St. & IBW - Comp	Water
PLK0840-02	40th St. & IBW - Comp	Water

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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Report Number: PLK0840

Sampled: 11/30/02
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TOTAL RECOVERABLE METALS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0840-01 (40th St. & IBW - Comp - Water)								
Calcium	EPA 200.7	P2L0607	2.0	**19**	1	12/6/02	12/9/02	
Magnesium	EPA 200.7	P2L0607	0.50	**4.9**	1	12/6/02	12/9/02	
Sodium	EPA 273.1	P2L0607	5.0	**14**	1	12/6/02	12/18/02	
Zinc	EPA 200.7	P2L0607	0.050	**0.10**	1	12/6/02	12/9/02	
Sample ID: PLK0840-01RE1 (40th St. & IBW - Comp - Water)								
Potassium	EPA 258.1	P2L2315	1.0	**5.0**	1	12/6/02	12/23/02	

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Maricopa County -Flood Control Distr
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Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0840

Sampled: 11/30/02
Received: 11/30/02

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0840-02 (40th St. & IBW - Comp - Water)								
Zinc, Dissolved	EPA 200.7	P2L1105	0.050	ND	1	12/11/02	12/11/02	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

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Report Number: PLK0840

Sampled: 11/30/02
Received: 11/30/02

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/l	mg/l				
Sample ID: PLK0840-01 (40th St. & IBW - Comp - Water)								
Alkalinity as CaCO3	SM2320B	P2L0906	5.0	**36**	1	12/6/02	12/6/02	
Biochemical Oxygen Demand	EPA 405.1	P2L0204	2.0	**26**	1	12/1/02	12/6/02	
			%	%				
Sample ID: PLK0840-01 (40th St. & IBW - Comp - Water)								
Cation/Anion Balance	Calculation	P2L2422	NA	**22.2**	1	12/24/02	12/24/02	
			mg/l	mg/l				
Sample ID: PLK0840-01 (40th St. & IBW - Comp - Water)								
Hardness (CaCO3)	SM2340B	P2L0607	1.0	**69**	1	12/6/02	12/9/02	
			umhos/cm	umhos/cm				
Sample ID: PLK0840-01 (40th St. & IBW - Comp - Water)								
Specific Conductance	SM2510B	P2L0603	2.0	**210**	1	12/6/02	12/6/02	
			mg/l	mg/l				
Sample ID: PLK0840-01 (40th St. & IBW - Comp - Water)								
Sulfide	SM4500-S-C,D	P2L0616	0.10	ND	1	12/6/02	12/6/02	
Total Dissolved Solids	SM2540C	P2L0617	20	**150**	1	12/6/02	12/6/02	
Total Suspended Solids	EPA 160.2	P2L0213	10	**41**	1	12/2/02	12/2/02	
Sample ID: PLK0840-01RE1 (40th St. & IBW - Comp - Water)								
Chloride	EPA 300.0	P2L0203	0.50	**17**	1	12/2/02	12/2/02	
Fluoride	EPA 300.0	P2L0203	0.10	**0.53**	1	12/2/02	12/2/02	
Nitrate/Nitrite-N	EPA 300.0	P2L0203	0.10	**0.99**	1	12/2/02	12/2/02	
Nitrate-N	EPA 300.0	P2L0203	0.10	**0.95**	1	12/2/02	12/2/02	
Nitrite-N	EPA 300.0	P2L0203	0.10	ND	1	12/2/02	12/2/02	
Orthophosphate	EPA 300.0	P2L0203	0.50	ND	1	12/2/02	12/2/02	
Sulfate	EPA 300.0	P2L0203	0.50	**2.6**	1	12/2/02	12/2/02	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

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Project Manager

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2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0840

Sampled: 11/30/02
Received: 11/30/02

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0840-01 (40th St. & IBW - Comp - Water)								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C2L0907	0.50	**2.8**	1	12/9/02	12/9/02	

DEL MAR ANALYTICAL, COLTON (AZ0062)

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Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0840

Sampled: 11/30/02
Received: 11/30/02

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLK0840-02 (40th St. & IBW - Comp - Water)								
Arsenic	EPA 200.8-Diss	2L05089	1.0	**1.1**	1	12/5/02	12/6/02	
Beryllium	EPA 200.8-Diss	2L05089	0.50	ND	1	12/5/02	12/6/02	
Cadmium	EPA 200.8-Diss	2L05089	1.0	ND	1	12/5/02	12/6/02	
Chromium	EPA 200.8-Diss	2L05089	1.0	ND	1	12/5/02	12/6/02	
Copper	EPA 200.8-Diss	2L05089	2.0	**13**	1	12/5/02	12/6/02	
Lead	EPA 200.8-Diss	2L05089	1.0	ND	1	12/5/02	12/6/02	
Nickel	EPA 200.8-Diss	2L05089	1.0	**5.0**	1	12/5/02	12/6/02	
Silver	EPA 200.8-Diss	2L05089	1.0	ND	1	12/5/02	12/6/02	

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METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0607 Extracted: 12/06/02										
Blank Analyzed: 12/09/02 (P2L0607-BLK1)										
Calcium	ND	2.0	mg/l							
Magnesium	ND	0.50	mg/l							
Sodium	ND	5.0	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 12/09/02 (P2L0607-BS1)										
Calcium	**10.5**	2.0	mg/l	10.0		105	85-115			
Magnesium	**10.5**	0.50	mg/l	10.0		105	85-115			
Sodium	**56.0**	50	mg/l	50.0		112	85-115			
Zinc	**1.07**	0.050	mg/l	1.00		107	85-115			
LCS Dup Analyzed: 12/09/02 (P2L0607-BSD1)										
Calcium	**10.7**	2.0	mg/l	10.0		107	85-115	2	20	
Magnesium	**10.6**	0.50	mg/l	10.0		106	85-115	0.9	20	
Sodium	**56.0**	50	mg/l	50.0		112	85-115	0	15	
Zinc	**1.09**	0.050	mg/l	1.00		109	85-115	2	20	
Matrix Spike Analyzed: 12/09/02 (P2L0607-MS1)					**Source: PLL0037-02**					
Calcium	**19.4**	2.0	mg/l	10.0	9.1	103	70-130			
Magnesium	**15.7**	0.50	mg/l	10.0	5.3	104	70-130			
Sodium	**72.0**	50	mg/l	50.0	16	112	85-115			
Zinc	**1.09**	0.050	mg/l	1.00	0.031	106	70-130			
Matrix Spike Dup Analyzed: 12/09/02 (P2L0607-MSD1)					**Source: PLL0037-02**					
Calcium	**19.3**	2.0	mg/l	10.0	9.1	102	70-130	0.5	20	
Magnesium	**15.7**	0.50	mg/l	10.0	5.3	104	70-130	0	20	
Sodium	**72.0**	50	mg/l	50.0	16	112	85-115	0	15	
Zinc	**1.10**	0.050	mg/l	1.00	0.031	107	70-130	0.9	20	

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METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L2315 Extracted: 12/23/02										
Blank Analyzed: 12/23/02 (P2L2315-BLK1)										
Potassium	ND	1.0	mg/l							
LCS Analyzed: 12/23/02 (P2L2315-BS2)										
Potassium	11.1	1.0	mg/l	10.0		111	85-115			
LCS Dup Analyzed: 12/23/02 (P2L2315-BSD2)										
Potassium	11.1	1.0	mg/l	10.0		111	85-115	0	15	
Matrix Spike Analyzed: 12/23/02 (P2L2315-MS1)					**Source: PLL0424-03**					
Potassium	18.0	2.0	mg/l	10.0	7.0	110	85-115			
Matrix Spike Dup Analyzed: 12/23/02 (P2L2315-MSD1)					**Source: PLL0424-03**					
Potassium	18.0	2.0	mg/l	10.0	7.0	110	85-115	0	15	

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L1105 Extracted: 12/11/02										
Blank Analyzed: 12/11/02 (P2L1105-BLK1)										
Zinc, Dissolved	ND	0.050	mg/l							
Blank Analyzed: 12/11/02 (P2L1105-BLK2)										
Zinc, Dissolved	ND	0.050	mg/l							
LCS Analyzed: 12/11/02 (P2L1105-BS1)										
Zinc, Dissolved	**1.04**	0.050	mg/l	1.00		104	85-115			
LCS Dup Analyzed: 12/11/02 (P2L1105-BSD1)										
Zinc, Dissolved	**1.03**	0.050	mg/l	1.00		103	85-115	1	20	
Matrix Spike Analyzed: 12/11/02 (P2L1105-MS1)					**Source: PLL0020-01**					
Zinc, Dissolved	**1.22**	0.050	mg/l	1.00	0.23	99	70-130			
Matrix Spike Dup Analyzed: 12/11/02 (P2L1105-MSD1)					**Source: PLL0020-01**					
Zinc, Dissolved	**1.22**	0.050	mg/l	1.00	0.23	99	70-130	0	20	

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0203 Extracted: 12/02/02										
Blank Analyzed: 12/02/02 (P2L0203-BLK1)										
Chloride	ND	0.50	mg/l							
Fluoride	ND	0.10	mg/l							
Nitrate/Nitrite-N	ND	0.10	mg/l							
Nitrate-N	ND	0.10	mg/l							
Nitrite-N	ND	0.10	mg/l							
Orthophosphate	ND	0.50	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 12/02/02 (P2L0203-BS1)										
Chloride	**4.85**	0.50	mg/l	5.00		97	90-110			
Fluoride	**2.76**	0.10	mg/l	2.50		110	90-110			
Nitrate-N	**2.45**	0.10	mg/l	2.50		98	90-110			
Nitrite-N	**2.42**	0.10	mg/l	2.50		97	90-110			
Orthophosphate	**4.83**	0.50	mg/l	5.00		97	90-110			
Sulfate	**5.02**	0.50	mg/l	5.00		100	90-110			
LCS Dup Analyzed: 12/02/02 (P2L0203-BSD1)										
Chloride	**4.84**	0.50	mg/l	5.00		97	90-110	0.2	15	
Fluoride	**2.76**	0.10	mg/l	2.50		110	90-110	0	20	
Nitrate-N	**2.44**	0.10	mg/l	2.50		98	90-110	0.4	15	
Nitrite-N	**2.41**	0.10	mg/l	2.50		96	90-110	0.4	15	
Orthophosphate	**4.84**	0.50	mg/l	5.00		97	90-110	0.2	15	
Sulfate	**5.00**	0.50	mg/l	5.00		100	90-110	0.4	15	
Matrix Spike Analyzed: 12/02/02 (P2L0203-MS1)					**Source: PLK0839-01RE3**					
Chloride	**55.7**	5.0	mg/l	50.0	7.4	97	80-120			
Fluoride	**27.7**	1.0	mg/l	25.0	0.75	108	80-120			
Nitrate-N	**25.0**	1.0	mg/l	25.0	0.61	98	80-120			
Nitrite-N	**24.2**	1.0	mg/l	25.0	ND	97	80-120			
Orthophosphate	**48.5**	5.0	mg/l	50.0	ND	97	80-120			
Sulfate	**65.7**	5.0	mg/l	50.0	16	99	80-120			

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0203 Extracted: 12/02/02										
Matrix Spike Dup Analyzed: 12/02/02 (P2L0203-MSD1)					**Source: PLK0839-01RE3**					
Chloride	**55.3**	5.0	mg/l	50.0	7.4	96	80-120	0.7	15	
Fluoride	**27.7**	1.0	mg/l	25.0	0.75	108	80-120	0	20	
Nitrate-N	**25.1**	1.0	mg/l	25.0	0.61	98	80-120	0.4	15	
Nitrite-N	**24.0**	1.0	mg/l	25.0	ND	96	80-120	0.8	15	
Orthophosphate	**48.4**	5.0	mg/l	50.0	ND	97	80-120	0.2	20	
Sulfate	**65.5**	5.0	mg/l	50.0	16	99	80-120	0.3	15	
Batch: P2L0204 Extracted: 12/01/02										
Blank Analyzed: 12/06/02 (P2L0204-BLK1)										
Biochemical Oxygen Demand	ND	2.0	mg/l							
LCS Analyzed: 12/06/02 (P2L0204-BS1)										
Biochemical Oxygen Demand	**197**	2.0	mg/l	198		99	85-115			
Duplicate Analyzed: 12/06/02 (P2L0204-DUP1)					**Source: PLK0832-01**					
Biochemical Oxygen Demand	**15.4**	2.0	mg/l		15			3	20	
Batch: P2L0213 Extracted: 12/02/02										
Blank Analyzed: 12/02/02 (P2L0213-BLK1)										
Total Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 12/02/02 (P2L0213-DUP1)					**Source: PLK0766-01**					
Total Suspended Solids	**38.0**	10	mg/l		34			11	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0213 Extracted: 12/02/02										
Duplicate Analyzed: 12/02/02 (P2L0213-DUP2)					**Source: PLK0841-01**					
Total Suspended Solids	20.0	10	mg/l		20			0	20	
Reference Analyzed: 12/02/02 (P2L0213-SRM1)										
Total Suspended Solids	47.0	10	mg/l	47.7		99	75-107			
Batch: P2L0603 Extracted: 12/06/02										
Duplicate Analyzed: 12/06/02 (P2L0603-DUP1)					**Source: PLK0783-01**					
Specific Conductance	1830	2.0	umhos/cm		1800			2	10	
Reference Analyzed: 12/06/02 (P2L0603-SRM1)										
Specific Conductance	1430	2.0	umhos/cm	1410		101	90-110			
Batch: P2L0616 Extracted: 12/06/02										
Blank Analyzed: 12/06/02 (P2L0616-BLK1)										
Sulfide	ND	0.10	mg/l							
LCS Analyzed: 12/06/02 (P2L0616-BS1)										
Sulfide	1.02	0.20	mg/l	1.00		102	85-125			
LCS Dup Analyzed: 12/06/02 (P2L0616-BSD1)										
Sulfide	1.12	0.20	mg/l	1.00		112	85-125	9	15	
Matrix Spike Analyzed: 12/06/02 (P2L0616-MS1)					**Source: PLL0037-01**					
Sulfide	0.542	0.10	mg/l	0.500	0.021	104	60-135			

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L0616 Extracted: 12/06/02										
Matrix Spike Dup Analyzed: 12/06/02 (P2L0616-MSD1)					**Source: PLL0037-01**					
Sulfide	**0.570**	0.10	mg/l	0.500	0.021	110	60-135	5	20	
Batch: P2L0617 Extracted: 12/06/02										
Blank Analyzed: 12/06/02 (P2L0617-BLK1)										
Total Dissolved Solids	ND	20	mg/l							
LCS Analyzed: 12/06/02 (P2L0617-BS1)										
Total Dissolved Solids	**384**	20	mg/l	400		96	80-115			
Duplicate Analyzed: 12/06/02 (P2L0617-DUP1)					**Source: PLK0839-01**					
Total Dissolved Solids	**102**	20	mg/l		110			8	20	
Batch: P2L0906 Extracted: 12/06/02										
Duplicate Analyzed: 12/06/02 (P2L0906-DUP1)					**Source: PLL0205-01**					
Alkalinity as CaCO3	**135**	5.0	mg/l		140			4	20	
Reference Analyzed: 12/06/02 (P2L0906-SRM1)										
Alkalinity as CaCO3	**55.0**	5.0	mg/l	51.8		106	88.6-112			

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: C2L0907 Extracted: 12/09/02										
Blank Analyzed: 12/09/02 (C2L0907-BLK1)										
Total Kjeldahl Nitrogen	ND	0.50	mg/l							
LCS Analyzed: 12/09/02 (C2L0907-BS1)										
Total Kjeldahl Nitrogen	10.1	0.50	mg/l	10.0		101	85-120			
Matrix Spike Analyzed: 12/09/02 (C2L0907-MS1)					Source: CLK0236-02					
Total Kjeldahl Nitrogen	10.4	0.50	mg/l	10.0	1.1	93	85-120			
Matrix Spike Dup Analyzed: 12/09/02 (C2L0907-MSD1)					Source: CLK0236-02					
Total Kjeldahl Nitrogen	10.6	0.50	mg/l	10.0	1.1	95	85-120	2	15	

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L05089 Extracted: 12/05/02										
Blank Analyzed: 12/06/02 (2L05089-BLK1)										
Arsenic	ND	1.0	ug/l							
Beryllium	ND	0.50	ug/l							
Cadmium	ND	1.0	ug/l							
Chromium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Nickel	ND	1.0	ug/l							
Silver	ND	1.0	ug/l							
LCS Analyzed: 12/06/02 (2L05089-BS1)										
Arsenic	**82.2**	1.0	ug/l	80.0		103	85-115			
Beryllium	**80.1**	0.50	ug/l	80.0		100	85-115			
Cadmium	**83.3**	1.0	ug/l	80.0		104	85-115			
Chromium	**83.5**	1.0	ug/l	80.0		104	85-115			
Copper	**81.5**	2.0	ug/l	80.0		102	85-115			
Lead	**79.8**	1.0	ug/l	80.0		100	85-115			
Nickel	**81.7**	1.0	ug/l	80.0		102	85-115			
Silver	**84.3**	1.0	ug/l	80.0		105	85-115			
Matrix Spike Analyzed: 12/06/02 (2L05089-MS1)					**Source: ILL0034-02**					
Arsenic	**83.7**	1.0	ug/l	80.0	1.9	102	70-130			
Beryllium	**81.9**	0.50	ug/l	80.0	ND	102	70-130			
Cadmium	**84.0**	1.0	ug/l	80.0	ND	105	70-130			
Chromium	**84.0**	1.0	ug/l	80.0	1.3	103	70-130			
Copper	**91.4**	2.0	ug/l	80.0	11	100	70-130			
Lead	**79.7**	1.0	ug/l	80.0	ND	99	70-130			
Nickel	**84.2**	1.0	ug/l	80.0	2.9	102	70-130			
Silver	**84.4**	1.0	ug/l	80.0	ND	106	70-130			

Linda Eshelman
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLK0840

Sampled: 11/30/02
Received: 11/30/02

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L05089 Extracted: 12/05/02										
Matrix Spike Dup Analyzed: 12/06/02 (2L05089-MSD1)					**Source: ILL0034-02**					
Arsenic	83.5	1.0	ug/l	80.0	1.9	102	70-130	0.2	20	
Beryllium	82.3	0.50	ug/l	80.0	ND	103	70-130	0.5	20	
Cadmium	83.0	1.0	ug/l	80.0	ND	104	70-130	1	20	
Chromium	83.3	1.0	ug/l	80.0	1.3	102	70-130	0.8	20	
Copper	90.7	2.0	ug/l	80.0	11	100	70-130	0.8	20	
Lead	79.3	1.0	ug/l	80.0	ND	99	70-130	0.5	20	
Nickel	83.9	1.0	ug/l	80.0	2.9	101	70-130	0.4	20	
Silver	83.9	1.0	ug/l	80.0	ND	105	70-130	0.6	20	

Linda Eshelman
Project Manager

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-085
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-362

Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Phoenix NPDES Stormwater Report Number: PLK0840	Sampled: 11/30/02 Received: 11/30/02

METHOD BLANK/QC DATA

DATA QUALIFIERS AND DEFINITIONS

ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported.

RPD Relative Percent Difference

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

TRANSWEST GEOCHEM

December 13, 2002

Linda Eshelman
Del Mar Analytical
9830 S. 51st Street
Suite B-120
Phoenix, AZ 85044

RE: PLK0840-MCFC
Work Order No.: 0212009

Dear Linda,
Transwest Geochem, Inc. received 1 sample on 12/2/2002 2:15:00 PM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Vic Nielsen
Project Manager

ADHS License No. AZM133/AZ0133

3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

Client: Del Mar Analytical
Work Order: 0212009
Project Name:
Project Number: PLK0840-MCFC

Date Printed: 13-Dec-02

CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

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

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

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

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order except as detailed below or on the Data Qualifier page of this report. Data Qualifiers used in this report are in accordance with ADEQ Arizona Data Qualifiers, Revision 1.0 05/13/2002.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

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TRANSWEST GEOCHEM

Date Printed 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical

Project Name:

Project Number: PLK0840

Work Order: 0212009

Date Received: 02-Dec-02

Work Order Sample Summary

Client Sample ID	Lab Sample ID	Test Code	Collection Date
PLK0840-01	0212009-01A	EPA353.2	11/30/2002 8:00:00 AM

TRANSWEST GEOCHEM

Date Printed 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical

Project Name:

Project Number: PLK0840

Work Order: 0212009

Date Received: 02-Dec-02

Definitions

Analytical Spike (AS)	The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix.
Continuing Curve Verification (CCV)	The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method.
Dilution Factor (DF)	The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases.
Internal Standard (IS)	The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods.
Laboratory Control Sample (LCS)	The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples.
Matrix Spike (MS)	The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples.
Method Blank (MB)	The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab.
Method Detection Limit (MDL)	The MDL is the lowest level of detection of which a method is capable.
Practical Quantitation Limit (PQL)	The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL.
Relative Percent Difference (RPD)	The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result.
Secondary Source QC Sample (LCSV)	The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance.
Surrogate	A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success.
Trip Blank (TB)	The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation.

TRANSWEST GEOCHEM

Date Printed 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212009
Lab ID: 0212009-01
Project Name:
Project Number: PLK0840

Client Sample ID: PLK0840-01
Collection Date: 11/30/2002 8:00:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	1.2	0.50		mg/L	1.0	EPA353.2	N/A	12/12/02	TL	NO3_W-12/11/2002

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TRANSWEST GEOCHEM

Date: 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212009
Project: PLK0840

QC SUMMARY REPORT

Method Blank

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	12/12/02	TL	NO3_W-12/11/2002
Nitrate-Nitrite (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	12/12/02	TL	NO3_W-12/11/2002

TRANSWEST GEOCHEM

Date: 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212009
Project: PLK0840

QC SUMMARY REPORT

Sample Duplicate

Analyte	Result	PQL	Units	RPD Ref Val	% RPD	RPD Limit	Test Code	Date Prepared	Date Analyzed	Analyst	Qual
Sample ID: **0212040-01AD** Batch ID: NO3_W-12/11/2002											
Client ID:											
Nitrate-Nitrite (As N)	1.2	0.50	mg/L	1.238	0%	20	EPA353.2	N/A	12/12/02	TL	
Sample ID: **0212011-04AD** Batch ID: NO3_W-12/11/2002											
Client ID:											
Nitrate-Nitrite (As N)	1.3	0.50	mg/L	1.270	2%	20	EPA353.2	N/A	12/12/02	TL	

TRANSWEST GEOCHEM

Date: 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212009
Project: PLK0840

QC SUMMARY REPORT

Sample Matrix Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **0212040-01AS**	Batch ID: NO3_W-12/11/2002			Test Code: EPA353.2				Date Analyzed: 12/12/02 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.929	0.50	5.000	0.6146	106%	90	110				
Sample ID: **0212011-04AS**	Batch ID: NO3_W-12/11/2002			Test Code: EPA353.2				Date Analyzed: 12/12/02 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.171	0.50	5.000	0.6341	91%	90	110				

TRANSWEST GEOCHEM

Date: 12-Dec-02

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212009
Project: PLK0840

QC SUMMARY REPORT

Blank Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **LCS**	Batch ID: NO3_W-12/11/2002			Test Code: EPA353.2				Date Analyzed: 12/12/02 00:00			
				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.237	0.50	5.000	<0.50	105%	90	110				

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Ocala Water Quality & Research Laboratory

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Telephone (352)237-5514 FLDEP CompQAP # 910161G
Processing Date: 12/26/2002

Lab ID Number: 200301507	**Field ID Number:** 333557111594	**Station ID Number:** 333557111594201	**Date:** 11/29/2002	**Time:** 23:33	
Station Name: 40TH STREET AND IBW	**Site Type:** N/A	**State Code:** 4	**County Code:** 13	**NWIS Record #:** N/A	**SMS Control #:** N/A
Sample Medium: 9	**Geologic Unit:** N/A	**Analysis Status:** H	**Analysis Source:** 9	**Hydrologic Condition:** 9	**Sample Type:** 9
Hydrologic Event: J	**Project Account:** 967116800	**Analysis Cost:** $182.30	**District/User Code:** 04		

Lab Code	Watstore #	Parameter Name	Analysis Method	Reporting Units	Reported Value	Lab Remark	Analysis Date/Time
0027	70300(A)	RESIDUE DISSOLVED AT 180 C	I-1750-85	mg/L	139	V	12/16/2002 9:04:00 AM
0068	00403(A)	PH (LABORATORY)	I-1586-85	pH Units	6.8		12/5/2002 3:41:00 PM
0070	90410(A)	ALKALINITY TOT AS CACO3 (LAB)	I-2030-85	mg/L	40		12/5/2002 3:41:00 PM
0169	00530(B)	RESIDUE TOT NON-FILT AT 105C	I-3765-85	mg/L	112		12/4/2002 9:03:00 AM
1983	00666(D)	PHOSPHORUS AS P DISSOLVED	I-2600-85	mg/L	0.29		12/5/2002 10:44:00 AM
1984	00665(D)	PHOSPHORUS AS P TOTAL	I-4600-85	mg/L	0.5		12/5/2002 10:45:00 AM
1986	00625(D)	NITROGEN NH3+ORG-N TOTAL	I-4552-85	mg/L	3.9		12/9/2002 9:21:00 AM
3000	99898(0)	QWSU LAB ID NUMBER	- -	Number	200301507		12/20/2002 3:02:21 AM
		JULIAN LOGIN					12/20/2002

3001	99899(0)	DATE	- -	Number	2002338		3:02:21 AM
3014	01027(4)	CADMIUM TOTAL (ICP/T)	EPA-200.7	ug/L	< 0.5		12/10/2002 9:55:00 PM
3025	01042(1)	COPPER TOTAL (ICP/T)	EPA-200.7	ug/L	30		12/10/2002 9:58:00 PM
3029	01051(4)	LEAD TOTAL (ICP/T)	EPA-200.7	ug/L	9.9		12/10/2002 10:04:00 PM
3056	01092(1)	ZINC TOTAL (ICP/T)	EPA-200.7	ug/L	124	D	12/10/2002 10:08:00 PM
3063	00340(0)	CHEMICAL OXYGEN DEMAND (EPA)	EPA-410.4	mg/L	82		12/10/2002 9:08:00 AM
3071	00610(F)	NITROGEN NH3-N TOTAL	I-4522-85	mg/L	1.6		12/6/2002 10:58:00 AM
3073	00630(E)	NITROGEN NO2+NO3-N TOTAL	I-4545-85	mg/L	1		12/6/2002 10:40:00 AM
3157	99870(8)	DIGESTION IN BOTTLE	EPA-1638	Number	1		12/4/2002 9:13:00 AM

Definitions of remark codes.

Remark Code V for lab code 27 indicates Analysis verified by lab Re-Run
Remark Code D for lab code 3056 indicates Analysis performed in duplicate

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Last modified: December 14, 2001

Ocala Laboratory Reporting Limits

Parameter Name	Lab Code	Watstore Code	Method	Detection Level	Bottle Requirements
RESIDUE DISSOLVED AT 180 C	27	70300(A)	I-1750-85	1 mg/L	FU
PH (LABORATORY)	68	00403(A)	I-1586-85	0.1 pH Units	RU
ALKALINITY TOT AS CACO3 (LAB)	70	90410(A)	I-2030-85	1 mg/L	RU
RESIDUE TOT NON-FILT AT 105C	169	00530(B)	I-3765-85	1 mg/L	SUSO
PHOSPHORUS AS P DISSOLVED	1983	00666(D)	I-2600-85	0.02 mg/L	FCA
PHOSPHORUS AS P TOTAL	1984	00665(D)	I-4600-85	0.02 mg/L	WCA
NITROGEN NH3+ORG-N TOTAL	1986	00625(D)	I-4552-85	0.2 mg/L	WCA
CADMIUM TOTAL (ICP/T)	3014	01027(4)	EPA-200.7	0.5 ug/L	RA
COPPER TOTAL (ICP/T)	3025	01042(1)	EPA-200.7	2 ug/L	RA
LEAD TOTAL (ICP/T)	3029	01051(4)	EPA-200.7	2 ug/L	RA
ZINC TOTAL (ICP/T)	3056	01092(1)	EPA-200.7	2 ug/L	RA
CHEMICAL OXYGEN DEMAND (EPA)	3063	00340(0)	EPA-410.4	5 mg/L	COD
NITROGEN NH3-N TOTAL	3071	00610(F)	I-4522-85	0.01 mg/L	RCC
NITROGEN NO2-N TOTAL	3072	00615(B)	I-4540-85	0.01 mg/L	RCC
NITROGEN NO2+NO3-N TOTAL	3073	00630(E)	I-4545-85	0.02 mg/L	RCC
PHOSPHORUS PO4-P TOTAL	3074	70507(H)	I-4601-85	0.01 mg/L	RCC

Phoenix IB-08 Indian Bend Wash at 40th Street November 29 - 30, 2002

Watstore	Parameter	Type	Lab Runid	Reported Value	Most Prob. Value	Std. Deviation	Z-Value
403	pH	QA/QC Sample	PHS2-00234	8.069	7.95	0.203	0.59
403	pH	QA/QC Sample	PHS2-00234	6.692	6.6	0.22	0.42
608	NH3 Diss	Standard	NUT05-00136	1	1	0.05	-0.01
608	NH3 Diss	Standard	NUT05-00136	0.247	0.25	0.0125	-0.28
608	NH3 Diss	Standard	NUT05-00136	0.1	0.1	0.005	-0.1
608	NH3 Diss	Standard	NUT05-00136	0.503	0.5	0.025	0.1
608	NH3 Diss	Corr Coef	NUT05-00136	0.999937	1	0.005	-0.01
608	NH3 Diss	Immd. Standard	NUT05-00136	0.241	0.25	0.0125	-0.72
608	NH3 Diss	Immd. Standard	NUT05-00136	0.487	0.5	0.025	-0.52
608	NH3 Diss	Immd. Standard	NUT05-00136	1.071	1	0.05	1.42
608	NH3 Diss	Immd. Standard	NUT05-00136	1.039	1	0.05	0.78
608	NH3 Diss	Immd. Standard	NUT05-00136	0.246	0.25	0.0125	-0.32
608	NH3 Diss	Immd. Standard	NUT05-00136	0.091	0.01	0.0005	162
608	NH3 Diss	QA/QC Sample	NUT05-00136	0.422	0.433	0.03	-0.37
608	NH3 Diss	QA/QC Sample	NUT05-00136	0.036	0.047	0.0215	-0.53
608	NH3 Diss	QA/QC Sample	NUT05-00136	0.255	0.26	0.04	-0.14
608	NH3 Diss	QA/QC Sample	NUT05-00136	0.828	0.781	0.0766	0.6
608	NH3 Diss	Spike	NUT05-00136	108	100	7.5	1.07
608	NH3 Diss	Spike	NUT05-00136	112	100	7.5	1.6
608	NH3 Diss	Spike	NUT05-00136	109.8	100	7.5	1.31
610	NH3 Total	Standard	NUT05-00136	0.253	0.25	0.0125	0.2
610	NH3 Total	Standard	NUT05-00136	1.001	1	0.05	0.02
610	NH3 Total	Standard	NUT05-00136	0.105	0.1	0.005	1
610	NH3 Total	Standard	NUT05-00136	0.496	0.5	0.025	-0.16
610	NH3 Total	Corr Coef	NUT05-00136	0.99992	1	0.005	-0.02
610	NH3 Total	Immd. Standard	NUT05-00136	0.125	0.1	0.005	5
610	NH3 Total	Immd. Standard	NUT05-00136	1.045	1	0.05	0.9
610	NH3 Total	Immd. Standard	NUT05-00136	1.033	1	0.05	0.66
610	NH3 Total	Immd. Standard	NUT05-00136	0.5	0.5	0.025	0
610	NH3 Total	Immd. Standard	NUT05-00136	0.286	0.25	0.0125	2.88
610	NH3 Total	Immd. Standard	NUT05-00136	0.261	0.25	0.0125	0.88
610	NH3 Total	QA/QC Sample	NUT05-00136	0.245	0.26	0.04	-0.39
610	NH3 Total	QA/QC Sample	NUT05-00136	0.128	0.15	0.021	-1.07
610	NH3 Total	QA/QC Sample	NUT05-00136	0.045	0.047	0.0215	-0.11
610	NH3 Total	QA/QC Sample	NUT05-00136	0.783	0.781	0.0766	0.02
610	NH3 Total	QA/QC Sample	NUT05-00136	0.626	0.58	0.039	1.18
610	NH3 Total	QA/QC Sample	NUT05-00136	0.119	0.127	0.01	-0.85
610	NH3 Total	Spike	NUT05-00136	95.2	100	7.5	-0.64
610	NH3 Total	Spike	NUT05-00136	94.8	100	7.5	-0.69
610	NH3 Total	Spike	NUT05-00136	92.5	100	7.5	-1
625	TKN Total	Standard	NUT18-00017	1.982	2	0.1	-0.18
625	TKN Total	Standard	NUT18-00017	0.525	0.5	0.025	1
625	TKN Total	Standard	NUT18-00017	1.074	1	0.05	1.47
625	TKN Total	Standard	NUT18-00017	2.936	3	0.15	-0.43
625	TKN Total	Standard	NUT18-00017	4.033	4	0.2	0.16
625	TKN Total	Standard	NUT18-00017	0.245	0.2	0.01	4.5
625	TKN Total	Corr Coef	NUT18-00017	0.999492	1	0.005	-0.1
625	TKN Total	Immd. Standard	NUT18-00017	3.955	4	0.2	-0.23
625	TKN Total	Immd. Standard	NUT18-00017	1.98	2	0.1	-0.2
625	TKN Total	Immd. Standard	NUT18-00017	1.129	1	0.05	2.58
625	TKN Total	QA/QC Sample	NUT18-00017	0.955	0.838	0.113	1.04
625	TKN Total	QA/QC Sample	NUT18-00017	1.798	1.823	0.337	-0.07
625	TKN Total	Spike	NUT18-00017	104.8	100	7.5	0.64
630	NO2+NO3 Total	Standard	NUT07-00135	0.505	0.5	0.025	0.2
630	NO2+NO3 Total	Standard	NUT07-00135	0.255	0.25	0.0125	0.36
630	NO2+NO3 Total	Standard	NUT07-00135	0.997	1	0.05	-0.07
630	NO2+NO3 Total	Standard	NUT07-00135	0.102	0.1	0.005	0.3
630	NO2+NO3 Total	Corr Coef	NUT07-00135	0.999875	1	0.005	-0.03

Phoenix IB-08 Indian Bend Wash at 40th Street November 29 - 30, 2002

Watstore	Parameter	Type	Lab Runid	Reported Value	Most Prob. Value	Std. Deviation	Z-Value
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	0.256	0.25	0.0125	0.48
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	0.501	0.5	0.025	0.04
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	0.25	0.25	0.0125	0
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	0.105	0.1	0.005	1
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	1.022	1	0.05	0.44
630	NO2+NO3 Total	Immd. Standard	NUT07-00135	1.013	1	0.05	0.26
630	NO2+NO3 Total	QA/QC Sample	NUT07-00135	0.305	0.3	0.06	0.07
630	NO2+NO3 Total	QA/QC Sample	NUT07-00135	0.049	0.055	0.0458	-0.12
630	NO2+NO3 Total	QA/QC Sample	NUT07-00135	0.887	0.866	0.0872	0.24
630	NO2+NO3 Total	Spike	NUT07-00135	90	100	7.5	-1.33
665	Total Phosphorus	Standard	NUT21-00016	1.503	1.5	0.075	0.03
665	Total Phosphorus	Standard	NUT21-00016	0.77	0.75	0.0375	0.53
665	Total Phosphorus	Standard	NUT21-00016	0.019	0	0.01	1.9
665	Total Phosphorus	Standard	NUT21-00016	0.499	0.5	0.025	-0.04
665	Total Phosphorus	Standard	NUT21-00016	0.052	0.05	0.0025	0.6
665	Total Phosphorus	Standard	NUT21-00016	0.098	0.1	0.005	-0.4
665	Total Phosphorus	Standard	NUT21-00016	0.983	1	0.05	-0.35
665	Total Phosphorus	Standard	NUT21-00016	0.245	0.25	0.0125	-0.44
665	Total Phosphorus	Corr Coef	NUT21-00016	0.999804	1	0.005	-0.04
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.049	0.05	0.0025	-0.4
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.771	0.75	0.0375	0.56
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.097	0.1	0.005	-0.6
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.051	0.05	0.0025	0.4
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.016	0.02	0.005	-0.8
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.998	1	0.05	-0.04
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.774	0.75	0.0375	0.64
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.499	0.5	0.025	-0.04
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.097	0.1	0.005	-0.6
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.016	0.02	0.005	-0.8
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.096	0.1	0.005	-0.8
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.248	0.25	0.0125	-0.16
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.503	0.5	0.025	0.12
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.778	0.75	0.0375	0.75
665	Total Phosphorus	Immd. Standard	NUT21-00016	1.524	1.5	0.075	0.32
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.244	0.25	0.0125	-0.48
665	Total Phosphorus	Immd. Standard	NUT21-00016	0.246	0.25	0.0125	-0.32
665	Total Phosphorus	QA/QC Sample	NUT21-00016	0.787	0.755	0.031	1.03
665	Total Phosphorus	QA/QC Sample	NUT21-00016	1.194	1.138	0.0728	0.77
665	Total Phosphorus	QA/QC Sample	NUT21-00016	0.396	0.412	0.016	-1
665	Total Phosphorus	QA/QC Sample	NUT21-00016	0.226	0.23	0.03	-0.13
665	Total Phosphorus	QA/QC Sample	NUT21-00016	1.211	1.138	0.0728	1
665	Total Phosphorus	QA/QC Sample	NUT21-00016	0.128	0.132	0.009	-0.44
665	Total Phosphorus	QA/QC Sample	NUT21-00016	0.768	0.755	0.031	0.42
665	Total Phosphorus	Spike	NUT21-00016	103.8	100	7.5	0.51
665	Total Phosphorus	Spike	NUT21-00016	100.1	100	7.5	0.01
665	Total Phosphorus	Spike	NUT21-00016	103.3	100	7.5	0.44
665	Total Phosphorus	Spike	NUT21-00016	100.8	100	7.5	0.11
665	Total Phosphorus	Spike	NUT21-00016	103.8	100	7.5	0.51
665	Diss Phosphorus	Spike	NUT21-00016	102.1	100	7.5	0.28
666	Diss Phosphorus	Standard	NUT19-00017	1.503	1.5	0.075	0.03
666	Diss Phosphorus	Standard	NUT19-00017	0.019	0	0.01	1.9
666	Diss Phosphorus	Standard	NUT19-00017	0.052	0.05	0.0025	0.6
666	Diss Phosphorus	Standard	NUT19-00017	0.245	0.25	0.0125	-0.44
666	Diss Phosphorus	Standard	NUT19-00017	0.77	0.75	0.0375	0.53
666	Diss Phosphorus	Standard	NUT19-00017	0.098	0.1	0.005	-0.4
666	Diss Phosphorus	Standard	NUT19-00017	0.499	0.5	0.025	-0.04
666	Diss Phosphorus	Standard	NUT19-00017	0.983	1	0.05	-0.35
666	Diss Phosphorus	Corr Coef	NUT19-00017	0.999804	1	0.005	-0.04

Phoenix IB-08 Indian Bend Wash at 40th Street November 29 - 30, 2002

Watstore	Parameter	Type	Lab Runid	Reported Value	Most Prob. Value	Std. Deviation	Z-Value
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.246	0.25	0.0125	-0.32
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.771	0.75	0.0375	0.56
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.097	0.1	0.005	-0.6
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.051	0.05	0.0025	0.4
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.016	0.02	0.005	-0.8
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.998	1	0.05	-0.04
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.774	0.75	0.0375	0.64
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.499	0.5	0.025	-0.04
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.097	0.1	0.005	-0.6
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.049	0.05	0.0025	-0.4
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.016	0.02	0.005	-0.8
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.096	0.1	0.005	-0.8
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.248	0.25	0.0125	-0.16
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.244	0.25	0.0125	-0.48
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.503	0.5	0.025	0.12
666	Diss Phosphorus	Immd. Standard	NUT19-00017	0.778	0.75	0.0375	0.75
666	Diss Phosphorus	Immd. Standard	NUT19-00017	1.524	1.5	0.075	0.32
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	0.787	0.755	0.031	1.03
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	1.194	1.138	0.0728	0.77
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	0.396	0.412	0.016	-1
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	0.226	0.23	0.03	-0.13
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	1.211	1.138	0.0728	1
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	0.128	0.132	0.009	-0.44
666	Diss Phosphorus	QA/QC Sample	NUT19-00017	0.768	0.755	0.031	0.42
671	PO4 Diss	Standard	NUT07-00135	0.05	0.05	0.0025	-0.04
671	PO4 Diss	Standard	NUT07-00135	0.1	0.1	0.005	0
671	PO4 Diss	Standard	NUT07-00135	0.025	0.025	0.0013	0.08
671	PO4 Diss	Standard	NUT07-00135	0.005	0.005	0.0005	0
671	PO4 Diss	Standard	NUT07-00135	0.002	0.002	0.0005	0.4
671	PO4 Diss	Standard	NUT07-00135	0.01	0.01	0.0005	0
671	PO4 Diss	Standard	NUT07-00135	0	0	0.001	-0.3
671	PO4 Diss	Corr Coef	NUT07-00135	0.99999	1	0.005	0
671	PO4 Diss	Immd. Standard	NUT07-00135	0.024	0.01	0.0005	27.6
671	PO4 Diss	Immd. Standard	NUT07-00135	0.009	0.005	0.0003	16.4
671	PO4 Diss	Immd. Standard	NUT07-00135	0.098	0.05	0.0025	19.08
671	PO4 Diss	Immd. Standard	NUT07-00135	0.05	0.025	0.0013	19.84
671	PO4 Diss	Immd. Standard	NUT07-00135	0.049	0.025	0.0013	19.44
671	PO4 Diss	QA/QC Sample	NUT07-00135	0.71	0.711	0.0208	-0.03
671	PO4 Diss	QA/QC Sample	NUT07-00135	0.124	0.128	0.004	-1
671	PO4 Diss	QA/QC Sample	NUT07-00135	0.737	0.741	0.035	-0.12
671	PO4 Diss	QA/QC Sample	NUT07-00135	0.04	0.041	0.0055	-0.2
671	PO4 Diss	QA/QC Sample	NUT07-00135	0.04	0.041	0.0055	-0.25
671	PO4 Diss	Spike	NUT07-00135	84.2	100	7.5	-2.11
1027	Cd Total ICP	Standard	CD11-00130	99.821	100	5	-0.04
1027	Cd Total ICP	Standard	CD11-00130	199.4	200	10	-0.06
1027	Cd Total ICP	Standard	CD11-00130	507.89	500	25	0.32
1027	Cd Total ICP	Standard	CD11-00130	1005.8	1000	50	0.12
1027	Cd Total ICP	Corr Coef	CD11-00130	0.9999	1	0.005	-0.02
1027	Cd Total ICP	Immd. Standard	CD11-00130	5.144	5	0.5	0.29
1027	Cd Total ICP	Immd. Standard	CD11-00130	2.214	2	0.2	1.07
1027	Cd Total ICP	Immd. Standard	CD11-00130	101.7	100	50	0.03
1027	Cd Total ICP	Immd. Standard	CD11-00130	1.134	1	0.2	0.67
1027	Cd Total ICP	Immd. Standard	CD11-00130	204.27	200	10	0.43
1027	Cd Total ICP	Immd. Standard	CD11-00130	1058.3	1000	50	1.17
1027	Cd Total ICP	Immd. Standard	CD11-00130	25.546	25	1.25	0.44
1027	Cd Total ICP	Immd. Standard	CD11-00130	49.688	50	2.5	-0.12
1027	Cd Total ICP	Immd. Standard	CD11-00130	10.316	10	1	0.32
1027	Cd Total ICP	QA/QC Sample	CD11-00130	3.364	3.4	0.21	-0.17

Phoenix IB-08 Indian Bend Wash at 40th Street November 29 - 30, 2002

Watstore	Parameter	Type	Lab Runid	Reported Value	Most Prob. Value	Std. Deviation	Z-Value
1027	Cd Total ICP	QA/QC Sample	CD11-00130	10.205	10.4	0.5	-0.39
1027	Cd Total ICP	Spike	CD11-00130	98	100	7.5	-0.27
1027	Cd Total ICP	Spike	CD11-00130	96	100	7.5	-0.53
1042	Cu Total ICP	Standard	CU11-00128	1010.1	1000	50	0.2
1042	Cu Total ICP	Standard	CU11-00128	198.7	200	10	-0.13
1042	Cu Total ICP	Standard	CU11-00128	508.3	500	25	0.33
1042	Cu Total ICP	Standard	CU11-00128	99.86	100	5	-0.03
1042	Cu Total ICP	Corr Coef	CU11-00128	0.9999	1	0.005	-0.02
1042	Cu Total ICP	Immd. Standard	CU11-00128	25.258	25	1.25	0.21
1042	Cu Total ICP	Immd. Standard	CU11-00128	1003.1	1000	50	0.06
1042	Cu Total ICP	Immd. Standard	CU11-00128	98.679	100	5	-0.26
1042	Cu Total ICP	Immd. Standard	CU11-00128	196.85	200	10	-0.32
1042	Cu Total ICP	Immd. Standard	CU11-00128	49.681	50	2.5	-0.13
1042	Cu Total ICP	QA/QC Sample	CU11-00128	14.397	14.3	0.8	0.12
1042	Cu Total ICP	QA/QC Sample	CU11-00128	21.156	20.6	1	0.56
1042	Cu Total ICP	Spike	CU11-00128	99	100	7.5	-0.13
1042	Cu Total ICP	Spike	CU11-00128	98	100	7.5	-0.27
1051	Pb Total ICP	Standard	PB11-00129	98.434	100	5	-0.31
1051	Pb Total ICP	Standard	PB11-00129	196.9	200	10	-0.31
1051	Pb Total ICP	Standard	PB11-00129	1000.25	1000	50	0.01
1051	Pb Total ICP	Standard	PB11-00129	504.11	500	25	0.16
1051	Pb Total ICP	Corr Coef	PB11-00129	0.9999	1	0.005	-0.02
1051	Pb Total ICP	Immd. Standard	PB11-00129	199.66	200	10	-0.03
1051	Pb Total ICP	Immd. Standard	PB11-00129	24.979	25	1.25	-0.02
1051	Pb Total ICP	Immd. Standard	PB11-00129	100.241	100	5	0.05
1051	Pb Total ICP	Immd. Standard	PB11-00129	48.644	50	2.5	-0.54
1051	Pb Total ICP	Immd. Standard	PB11-00129	9.709	10	1	-0.29
1051	Pb Total ICP	Immd. Standard	PB11-00129	4.803	5	0.5	-0.39
1051	Pb Total ICP	Immd. Standard	PB11-00129	1048.52	1000	50	0.97
1051	Pb Total ICP	QA/QC Sample	PB11-00129	20.458	21.5	1.33	-0.78
1051	Pb Total ICP	QA/QC Sample	PB11-00129	11.198	11.4	0.7	-0.29
1051	Pb Total ICP	Spike	PB11-00129	98	100	7.5	-0.27
1051	Pb Total ICP	Spike	PB11-00129	99	100	7.5	-0.13
1092	Zn Total ICP	Standard	ZN10-00131	101.18	100	5	0.24
1092	Zn Total ICP	Standard	ZN10-00131	513.75	500	25	0.55
1092	Zn Total ICP	Standard	ZN10-00131	1013.1	1000	50	0.26
1092	Zn Total ICP	Standard	ZN10-00131	202.08	200	10	0.21
1092	Zn Total ICP	Corr Coef	ZN10-00131	0.9999	1	0.005	-0.02
1092	Zn Total ICP	Immd. Standard	ZN10-00131	50.023	50	2.5	0.01
1092	Zn Total ICP	Immd. Standard	ZN10-00131	2.228	2	0.1	2.28
1092	Zn Total ICP	Immd. Standard	ZN10-00131	10.525	10	0.5	1.05
1092	Zn Total ICP	Immd. Standard	ZN10-00131	5.3	5	0.25	1.2
1092	Zn Total ICP	Immd. Standard	ZN10-00131	25.843	25	1.25	0.67
1092	Zn Total ICP	Spike	ZN10-00131	103	100	7.5	0.4
1092	Zn Total ICP	Spike	ZN10-00131	101	100	7.5	0.13
70300	Diss Solids	QA/QC Sample	ROE01-0013	236.8	242	12	-0.43
70300	Diss Solids	QA/QC Sample	ROE01-0013	368.4	370	19	-0.08
70300	Diss Solids	QA/QC Sample	ROE01-0014	251.2	242	12	0.77
70300	Diss Solids	QA/QC Sample	ROE01-0014	370	370	19	0
90410	Alkalinity Total	QA/QC Sample	ALK1-00251	5.422	6	1.49	-0.39
90410	Alkalinity Total	QA/QC Sample	ALK1-00251	61.535	61.8	2.52	-0.11

Del Mar Analytical

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02
Issued: 1/10/03

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX
PLL0666-01	40th St. & IBW- Grab	Water
PLL0666-01RE1	40th St. & IBW- Grab	Water
PLL0666-02	Trip Blank	Water

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: The Acid and Base Neutrals (EPA 625) and Pesticides (EPA 608) analyses were subcontracted to Del Mar Analytical - 2852 Alton Avenue - Irvine, CA 92606 (AZ0428). Results are attached.

QA/QC CRITERIA: All analyses met method criteria.

EXPLANATION OF DATA QUALIFIERS: No further explanation of data qualifiers needed.

Del Mar Analytical, Phoenix (AZ0426)

Linda Eshelman
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0666-01RE1 (40th St. & IBW- Grab - Water)								
Total Recoverable Hydrocarbons	EPA 418.1	P2L3109	1.0	**3.3**	1	12/31/02	12/31/02	

The reporting limit for this sample was adjusted by a factor of 1.04 to account for the applicable preparation factor.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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Del Mar Analytical

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0666-01RE1 (40th St. & IBW- Grab - Water)								
Oil & Grease	EPA 413.2	P2L3108	1.0	**6.5**	1	12/31/02	12/31/02	

The reporting limit for this sample was adjusted by a factor of 1.05 to account for the applicable preparation factor.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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Del Mar Analytical

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0666-01 (40th St. & IBW- Grab - Water)								
Acetone	EPA 624	P3A0206	20	ND	1	1/2/03	1/2/03	
Benzene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Bromodichloromethane	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Bromoform	EPA 624	P3A0206	5.0	ND	1	1/2/03	1/2/03	
Bromomethane	EPA 624	P3A0206	5.0	ND	1	1/2/03	1/2/03	
Carbon tetrachloride	EPA 624	P3A0206	2.5	ND	1	1/2/03	1/2/03	
Chlorobenzene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Dibromochloromethane	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Chloroethane	EPA 624	P3A0206	5.0	ND	1	1/2/03	1/2/03	
Chloroform	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Chloromethane	EPA 624	P3A0206	5.0	ND	1	1/2/03	1/2/03	
1,2-Dichlorobenzene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
1,3-Dichlorobenzene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
1,4-Dichlorobenzene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
1,1-Dichloroethane	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
1,2-Dichloroethane	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
1,1-Dichloroethene	EPA 624	P3A0206	5.0	ND	1	1/2/03	1/2/03	
trans-1,2-Dichloroethene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
1,2-Dichloropropane	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
cis-1,3-Dichloropropene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
trans-1,3-Dichloropropene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Ethylbenzene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Methylene chloride	EPA 624	P3A0206	5.0	ND	1	1/2/03	1/2/03	
1,1,2,2-Tetrachloroethane	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Tetrachloroethene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Toluene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
1,1,1-Trichloroethane	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
1,1,2-Trichloroethane	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Trichloroethene	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Trichlorofluoromethane	EPA 624	P3A0206	5.0	ND	1	1/2/03	1/2/03	
Vinyl chloride	EPA 624	P3A0206	2.0	ND	1	1/2/03	1/2/03	
Surrogate: Dibromofluoromethane (80-120%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*104 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*100 %*				

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0666-02 (Trip Blank - Water)								
Acetone	EPA 624	P2L3102	20	ND	1	12/31/02	12/31/02	T2
Benzene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Bromodichloromethane	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Bromoform	EPA 624	P2L3102	5.0	ND	1	12/31/02	12/31/02	
Bromomethane	EPA 624	P2L3102	5.0	ND	1	12/31/02	12/31/02	
Carbon tetrachloride	EPA 624	P2L3102	2.5	ND	1	12/31/02	12/31/02	
Chlorobenzene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Dibromochloromethane	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Chloroethane	EPA 624	P2L3102	5.0	ND	1	12/31/02	12/31/02	
Chloroform	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Chloromethane	EPA 624	P2L3102	5.0	ND	1	12/31/02	12/31/02	
1,2-Dichlorobenzene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
1,3-Dichlorobenzene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
1,4-Dichlorobenzene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
1,1-Dichloroethane	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
1,2-Dichloroethane	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
1,1-Dichloroethene	EPA 624	P2L3102	5.0	ND	1	12/31/02	12/31/02	
trans-1,2-Dichloroethene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
1,2-Dichloropropane	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
cis-1,3-Dichloropropene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
trans-1,3-Dichloropropene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Ethylbenzene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Methylene chloride	EPA 624	P2L3102	5.0	ND	1	12/31/02	12/31/02	
1,1,2,2-Tetrachloroethane	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Tetrachloroethene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Toluene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
1,1,1-Trichloroethane	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
1,1,2-Trichloroethane	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Trichloroethene	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Trichlorofluoromethane	EPA 624	P2L3102	5.0	ND	1	12/31/02	12/31/02	
Vinyl chloride	EPA 624	P2L3102	2.0	ND	1	12/31/02	12/31/02	
Surrogate: Dibromofluoromethane (80-120%)				*114 %*				
Surrogate: Toluene-d8 (80-120%)				*103 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*98 %*				

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

MICROBIOLOGICALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			MPN/100 ml	MPN/100 m				
Sample ID: PLL0666-01 (40th St. & IBW- Grab - Water)								
E. Coli	SM9221F	P2L2410	2.0	**23000**	1	12/23/02	12/26/02	
Fecal Coliform	SM 9221E	P2L2410	2.0	**23000**	1	12/23/02	12/26/02	
Fecal Streptococcus	SM9230B	P2L2409	2.0	**1700**	1	12/23/02	12/26/02	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

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Sampled: 12/23/02
Received: 12/23/02

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0666-01 (40th St. & IBW- Grab - Water)								
Benzoic acid	EPA 625	2L27069	50	ND	1.1	12/27/02	1/3/03	
Chrysene	EPA 625	2L27069	10	ND	1.1	12/27/02	1/3/03	
Phenol	EPA 625	2L27069	10	ND	1.1	12/27/02	1/3/03	
Surrogate: 2-Fluorophenol (30-110%)				*76 %*				
Surrogate: Phenol-d6 (40-115%)				*85 %*				
Surrogate: 2,4,6-Tribromophenol (55-130%)				*101 %*				
Surrogate: Nitrobenzene-d5 (40-115%)				*88 %*				
Surrogate: 2-Fluorobiphenyl (40-115%)				*89 %*				
Surrogate: Terphenyl-d14 (40-130%)				*168 %*				S2

DEL MAR ANALYTICAL, IRVINE (AZ0428)

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Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0666-01 (40th St. & IBW- Grab - Water)								
4,4'-DDE	EPA 608	2L29019	0.10	ND	1	12/29/02	12/31/02	
Surrogate: Tetrachloro-m-xylene (35-120%)				*71 %*				
Surrogate: Decachlorobiphenyl (45-120%)				*78 %*				

DEL MAR ANALYTICAL, IRVINE (AZ0428)

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Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L3109 Extracted: 12/31/02										
Blank Analyzed: 12/31/02 (P2L3109-BLK1)										
Total Recoverable Hydrocarbons	ND	1.0	mg/l							
LCS Analyzed: 12/31/02 (P2L3109-BS1)										
Total Recoverable Hydrocarbons	**12.5**	1.0	mg/l	10.0		125	80-135			
LCS Dup Analyzed: 12/31/02 (P2L3109-BSD1)										
Total Recoverable Hydrocarbons	**12.2**	1.0	mg/l	10.0		122	80-135	2	15	

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Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L3108 Extracted: 12/31/02										
Blank Analyzed: 12/31/02 (P2L3108-BLK1)										
Oil & Grease	ND	1.0	mg/l							
LCS Analyzed: 12/31/02 (P2L3108-BS1)										
Oil & Grease	11.9	1.0	mg/l	10.0		119	85-135			
LCS Dup Analyzed: 12/31/02 (P2L3108-BSD1)										
Oil & Grease	11.9	1.0	mg/l	10.0		119	85-135	0	15	

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L3102 Extracted: 12/31/02										
Blank Analyzed: 12/31/02 (P2L3102-BLK1)										
Acetone	ND	20	ug/l							T2
Benzene	ND	2.0	ug/l							
Bromodichloromethane	ND	2.0	ug/l							
Bromoform	ND	5.0	ug/l							
Bromomethane	ND	5.0	ug/l							
Carbon tetrachloride	ND	2.5	ug/l							
Chlorobenzene	ND	2.0	ug/l							
Dibromochloromethane	ND	2.0	ug/l							
Chloroethane	ND	5.0	ug/l							
Chloroform	ND	2.0	ug/l							
Chloromethane	ND	5.0	ug/l							
1,2-Dichlorobenzene	ND	2.0	ug/l							
1,3-Dichlorobenzene	ND	2.0	ug/l							
1,4-Dichlorobenzene	ND	2.0	ug/l							
1,1-Dichloroethane	ND	2.0	ug/l							
1,2-Dichloroethane	ND	2.0	ug/l							
1,1-Dichloroethene	ND	5.0	ug/l							
trans-1,2-Dichloroethene	ND	2.0	ug/l							
1,2-Dichloropropane	ND	2.0	ug/l							
cis-1,3-Dichloropropene	ND	2.0	ug/l							
trans-1,3-Dichloropropene	ND	2.0	ug/l							
Ethylbenzene	ND	2.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/l							
Tetrachloroethene	ND	2.0	ug/l							
Toluene	ND	2.0	ug/l							
1,1,1-Trichloroethane	ND	2.0	ug/l							
1,1,2-Trichloroethane	ND	2.0	ug/l							
Trichloroethene	ND	2.0	ug/l							
Trichlorofluoromethane	ND	5.0	ug/l							
Vinyl chloride	ND	2.0	ug/l							
Surrogate: Dibromofluoromethane	*25.9*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*25.7*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.5*		*ug/l*	*25.0*		*98*	*80-120*			

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Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L3102 Extracted: 12/31/02										
LCS Analyzed: 12/31/02 (P2L3102-BS1)										
Acetone	20.0	20	ug/l	25.0		80	40-150			T2
Benzene	24.7	2.0	ug/l	25.0		99	37-151			
Bromodichloromethane	25.6	2.0	ug/l	25.0		102	35-155			
Bromoform	26.9	5.0	ug/l	25.0		108	45-169			
Bromomethane	23.2	5.0	ug/l	25.0		93	5-242			
Carbon tetrachloride	28.4	2.5	ug/l	25.0		114	70-140			
Chlorobenzene	27.2	2.0	ug/l	25.0		109	37-160			
Dibromochloromethane	27.2	2.0	ug/l	25.0		109	53-149			
Chloroethane	21.1	5.0	ug/l	25.0		84	14-230			
Chloroform	24.6	2.0	ug/l	25.0		98	51-138			
Chloromethane	18.6	5.0	ug/l	25.0		74	5-273			
1,2-Dichlorobenzene	27.6	2.0	ug/l	25.0		110	18-190			
1,3-Dichlorobenzene	27.0	2.0	ug/l	25.0		108	59-156			
1,4-Dichlorobenzene	27.2	2.0	ug/l	25.0		109	18-190			
1,1-Dichloroethane	22.6	2.0	ug/l	25.0		90	59-155			
1,2-Dichloroethane	24.8	2.0	ug/l	25.0		99	49-155			
1,1-Dichloroethene	22.9	5.0	ug/l	25.0		92	5-234			
trans-1,2-Dichloroethene	24.3	2.0	ug/l	25.0		97	54-156			
1,2-Dichloropropane	23.5	2.0	ug/l	25.0		94	5-210			
cis-1,3-Dichloropropene	23.8	2.0	ug/l	25.0		95	5-227			
trans-1,3-Dichloropropene	26.2	2.0	ug/l	25.0		105	17-183			
Ethylbenzene	25.9	2.0	ug/l	25.0		104	37-162			
Methylene chloride	22.4	5.0	ug/l	25.0		90	5-221			
1,1,2,2-Tetrachloroethane	23.5	2.0	ug/l	25.0		94	46-157			
Tetrachloroethene	27.5	2.0	ug/l	25.0		110	64-148			
Toluene	25.1	2.0	ug/l	25.0		100	47-150			
1,1,1-Trichloroethane	25.2	2.0	ug/l	25.0		101	52-162			
1,1,2-Trichloroethane	26.6	2.0	ug/l	25.0		106	52-150			
Trichloroethene	25.6	2.0	ug/l	25.0		102	71-157			
Trichlorofluoromethane	23.3	5.0	ug/l	25.0		93	17-181			
Vinyl chloride	26.8	2.0	ug/l	25.0		107	5-251			
Surrogate: Dibromofluoromethane	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*25.8*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.1*		*ug/l*	*25.0*		*96*	*80-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L3102 Extracted: 12/31/02										
LCS Dup Analyzed: 12/31/02 (P2L3102-BSD1)										
Acetone	21.3	20	ug/l	25.0		85	40-150	6	20	T2
Benzene	24.9	2.0	ug/l	25.0		100	37-151	0.8	20	
Bromodichloromethane	25.9	2.0	ug/l	25.0		104	35-155	1	20	
Bromoform	27.4	5.0	ug/l	25.0		110	45-169	2	20	
Bromomethane	26.1	5.0	ug/l	25.0		104	5-242	12	20	
Carbon tetrachloride	28.5	2.5	ug/l	25.0		114	70-140	0.4	20	
Chlorobenzene	27.6	2.0	ug/l	25.0		110	37-160	1	20	
Dibromochloromethane	27.6	2.0	ug/l	25.0		110	53-149	1	20	
Chloroethane	23.2	5.0	ug/l	25.0		93	14-230	9	20	
Chloroform	24.8	2.0	ug/l	25.0		99	51-138	0.8	20	
Chloromethane	20.0	5.0	ug/l	25.0		80	5-273	7	20	
1,2-Dichlorobenzene	27.5	2.0	ug/l	25.0		110	18-190	0.4	20	
1,3-Dichlorobenzene	27.1	2.0	ug/l	25.0		108	59-156	0.4	20	
1,4-Dichlorobenzene	27.2	2.0	ug/l	25.0		109	18-190	0	20	
1,1-Dichloroethane	22.8	2.0	ug/l	25.0		91	59-155	0.9	20	
1,2-Dichloroethane	25.3	2.0	ug/l	25.0		101	49-155	2	20	
1,1-Dichloroethene	24.1	5.0	ug/l	25.0		96	5-234	5	20	
trans-1,2-Dichloroethene	24.5	2.0	ug/l	25.0		98	54-156	0.8	20	
1,2-Dichloropropane	23.5	2.0	ug/l	25.0		94	5-210	0	20	
cis-1,3-Dichloropropene	23.9	2.0	ug/l	25.0		96	5-227	0.4	20	
trans-1,3-Dichloropropene	26.4	2.0	ug/l	25.0		106	17-183	0.8	20	
Ethylbenzene	26.3	2.0	ug/l	25.0		105	37-162	2	20	
Methylene chloride	23.2	5.0	ug/l	25.0		93	5-221	4	20	
1,1,2,2-Tetrachloroethane	24.5	2.0	ug/l	25.0		98	46-157	4	20	
Tetrachloroethene	27.6	2.0	ug/l	25.0		110	64-148	0.4	20	
Toluene	25.4	2.0	ug/l	25.0		102	47-150	1	20	
1,1,1-Trichloroethane	25.6	2.0	ug/l	25.0		102	52-162	2	20	
1,1,2-Trichloroethane	26.9	2.0	ug/l	25.0		108	52-150	1	20	
Trichloroethene	25.9	2.0	ug/l	25.0		104	71-157	1	20	
Trichlorofluoromethane	25.5	5.0	ug/l	25.0		102	17-181	9	20	
Vinyl chloride	23.8	2.0	ug/l	25.0		95	5-251	12	20	
Surrogate: Dibromofluoromethane	*26.1*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*25.9*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.4*		*ug/l*	*25.0*		*98*	*80-120*			

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Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L3102 Extracted: 12/31/02										
Matrix Spike Analyzed: 12/31/02 (P2L3102-MS1)					**Source: PLL0623-02**					
Acetone	20.0	20	ug/l	25.0	ND	80	25-150			T2
Benzene	25.0	2.0	ug/l	25.0	ND	100	37-151			
Bromodichloromethane	25.9	2.0	ug/l	25.0	ND	104	35-155			
Bromoform	27.2	5.0	ug/l	25.0	ND	109	45-169			
Bromomethane	24.4	5.0	ug/l	25.0	ND	98	5-242			
Carbon tetrachloride	29.3	2.5	ug/l	25.0	ND	117	70-140			
Chlorobenzene	27.3	2.0	ug/l	25.0	ND	109	37-160			
Dibromochloromethane	27.6	2.0	ug/l	25.0	ND	110	53-149			
Chloroethane	21.9	5.0	ug/l	25.0	ND	88	14-230			
Chloroform	25.0	2.0	ug/l	25.0	ND	100	51-138			
Chloromethane	18.7	5.0	ug/l	25.0	ND	75	5-273			
1,2-Dichlorobenzene	27.7	2.0	ug/l	25.0	ND	111	18-190			
1,3-Dichlorobenzene	27.2	2.0	ug/l	25.0	ND	109	59-156			
1,4-Dichlorobenzene	27.5	2.0	ug/l	25.0	ND	110	18-190			
1,1-Dichloroethane	23.1	2.0	ug/l	25.0	ND	92	59-155			
1,2-Dichloroethane	25.4	2.0	ug/l	25.0	ND	102	49-155			
1,1-Dichloroethene	23.5	5.0	ug/l	25.0	ND	94	5-234			
trans-1,2-Dichloroethene	24.6	2.0	ug/l	25.0	ND	98	54-156			
1,2-Dichloropropane	23.8	2.0	ug/l	25.0	ND	95	5-210			
cis-1,3-Dichloropropene	23.9	2.0	ug/l	25.0	ND	96	5-227			
trans-1,3-Dichloropropene	26.7	2.0	ug/l	25.0	ND	107	17-183			
Ethylbenzene	26.5	2.0	ug/l	25.0	ND	106	37-162			
Methylene chloride	22.3	5.0	ug/l	25.0	ND	89	5-221			
1,1,2,2-Tetrachloroethane	24.5	2.0	ug/l	25.0	ND	98	46-157			
Tetrachloroethene	27.9	2.0	ug/l	25.0	ND	112	64-148			
Toluene	25.4	2.0	ug/l	25.0	ND	102	47-150			
1,1,1-Trichloroethane	25.8	2.0	ug/l	25.0	ND	103	52-162			
1,1,2-Trichloroethane	27.1	2.0	ug/l	25.0	ND	108	52-150			
Trichloroethene	26.0	2.0	ug/l	25.0	ND	104	71-157			
Trichlorofluoromethane	24.8	5.0	ug/l	25.0	ND	99	17-181			
Vinyl chloride	28.1	2.0	ug/l	25.0	ND	112	5-251			
Surrogate: Dibromofluoromethane	*26.1*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*25.6*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.0*		*ug/l*	*25.0*		*96*	*80-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L3102 Extracted: 12/31/02										
Matrix Spike Dup Analyzed: 12/31/02 (P2L3102-MSD1)					**Source: PLL0623-02**					
Acetone	20.9	20	ug/l	25.0	ND	84	25-150	4	20	T2
Benzene	25.2	2.0	ug/l	25.0	ND	101	37-151	0.8	20	
Bromodichloromethane	26.4	2.0	ug/l	25.0	ND	106	35-155	2	20	
Bromoform	27.5	5.0	ug/l	25.0	ND	110	45-169	1	20	
Bromomethane	26.6	5.0	ug/l	25.0	ND	106	5-242	9	20	
Carbon tetrachloride	29.6	2.5	ug/l	25.0	ND	118	70-140	1	20	
Chlorobenzene	27.7	2.0	ug/l	25.0	ND	111	37-160	1	20	
Dibromochloromethane	27.7	2.0	ug/l	25.0	ND	111	53-149	0.4	20	
Chloroethane	23.7	5.0	ug/l	25.0	ND	95	14-230	8	20	
Chloroform	25.7	2.0	ug/l	25.0	ND	103	51-138	3	20	
Chloromethane	19.7	5.0	ug/l	25.0	ND	79	5-273	5	20	
1,2-Dichlorobenzene	27.9	2.0	ug/l	25.0	ND	112	18-190	0.7	20	
1,3-Dichlorobenzene	27.4	2.0	ug/l	25.0	ND	110	59-156	0.7	20	
1,4-Dichlorobenzene	27.6	2.0	ug/l	25.0	ND	110	18-190	0.4	20	
1,1-Dichloroethane	23.6	2.0	ug/l	25.0	ND	94	59-155	2	20	
1,2-Dichloroethane	25.9	2.0	ug/l	25.0	ND	104	49-155	2	20	
1,1-Dichloroethene	24.4	5.0	ug/l	25.0	ND	98	5-234	4	20	
trans-1,2-Dichloroethene	25.2	2.0	ug/l	25.0	ND	101	54-156	2	20	
1,2-Dichloropropane	23.9	2.0	ug/l	25.0	ND	96	5-210	0.4	20	
cis-1,3-Dichloropropene	24.3	2.0	ug/l	25.0	ND	97	5-227	2	20	
trans-1,3-Dichloropropene	27.0	2.0	ug/l	25.0	ND	108	17-183	1	20	
Ethylbenzene	26.4	2.0	ug/l	25.0	ND	106	37-162	0.4	20	
Methylene chloride	23.1	5.0	ug/l	25.0	ND	92	5-221	4	20	
1,1,2,2-Tetrachloroethane	24.9	2.0	ug/l	25.0	ND	100	46-157	2	20	
Tetrachloroethene	27.7	2.0	ug/l	25.0	ND	111	64-148	0.7	20	
Toluene	25.8	2.0	ug/l	25.0	ND	103	47-150	2	20	
1,1,1-Trichloroethane	26.5	2.0	ug/l	25.0	ND	106	52-162	3	20	
1,1,2-Trichloroethane	27.7	2.0	ug/l	25.0	ND	111	52-150	2	20	
Trichloroethene	26.2	2.0	ug/l	25.0	ND	105	71-157	0.8	20	
Trichlorofluoromethane	25.7	5.0	ug/l	25.0	ND	103	17-181	4	20	
Vinyl chloride	24.2	2.0	ug/l	25.0	ND	97	5-251	15	20	
Surrogate: Dibromofluoromethane	*26.6*		*ug/l*	*25.0*		*106*	*80-120*			
Surrogate: Toluene-d8	*25.9*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			

Linda Eshelman
Project Manager

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Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3A0206 Extracted: 01/02/03										
Blank Analyzed: 01/02/03 (P3A0206-BLK1)										
Acetone	ND	20	ug/l							
Benzene	ND	2.0	ug/l							
Bromodichloromethane	ND	2.0	ug/l							
Bromoform	ND	5.0	ug/l							
Bromomethane	ND	5.0	ug/l							
Carbon tetrachloride	ND	2.5	ug/l							
Chlorobenzene	ND	2.0	ug/l							
Dibromochloromethane	ND	2.0	ug/l							
Chloroethane	ND	5.0	ug/l							
Chloroform	ND	2.0	ug/l							
Chloromethane	ND	5.0	ug/l							
1,2-Dichlorobenzene	ND	2.0	ug/l							
1,3-Dichlorobenzene	ND	2.0	ug/l							
1,4-Dichlorobenzene	ND	2.0	ug/l							
1,1-Dichloroethane	ND	2.0	ug/l							
1,2-Dichloroethane	ND	2.0	ug/l							
1,1-Dichloroethene	ND	5.0	ug/l							
trans-1,2-Dichloroethene	ND	2.0	ug/l							
1,2-Dichloropropane	ND	2.0	ug/l							
cis-1,3-Dichloropropene	ND	2.0	ug/l							
trans-1,3-Dichloropropene	ND	2.0	ug/l							
Ethylbenzene	ND	2.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/l							
Tetrachloroethene	ND	2.0	ug/l							
Toluene	ND	2.0	ug/l							
1,1,1-Trichloroethane	ND	2.0	ug/l							
1,1,2-Trichloroethane	ND	2.0	ug/l							
Trichloroethene	ND	2.0	ug/l							
Trichlorofluoromethane	ND	5.0	ug/l							
Vinyl chloride	ND	2.0	ug/l							
Surrogate: Dibromofluoromethane	*25.8*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: Toluene-d8	*25.6*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.3*		*ug/l*	*25.0*		*97*	*80-120*			

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Project Manager

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Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3A0206 Extracted: 01/02/03										
LCS Analyzed: 01/02/03 (P3A0206-BS1)										
Acetone	28.6	20	ug/l	25.0		114	40-150			
Benzene	25.0	2.0	ug/l	25.0		100	37-151			
Bromodichloromethane	26.1	2.0	ug/l	25.0		104	35-155			
Bromoform	28.6	5.0	ug/l	25.0		114	45-169			
Bromomethane	23.0	5.0	ug/l	25.0		92	5-242			
Carbon tetrachloride	29.6	2.5	ug/l	25.0		118	70-140			
Chlorobenzene	27.4	2.0	ug/l	25.0		110	37-160			
Dibromochloromethane	28.3	2.0	ug/l	25.0		113	53-149			
Chloroethane	20.8	5.0	ug/l	25.0		83	14-230			
Chloroform	24.8	2.0	ug/l	25.0		99	51-138			
Chloromethane	18.5	5.0	ug/l	25.0		74	5-273			
1,2-Dichlorobenzene	27.4	2.0	ug/l	25.0		110	18-190			
1,3-Dichlorobenzene	27.1	2.0	ug/l	25.0		108	59-156			
1,4-Dichlorobenzene	27.2	2.0	ug/l	25.0		109	18-190			
1,1-Dichloroethane	23.0	2.0	ug/l	25.0		92	59-155			
1,2-Dichloroethane	25.1	2.0	ug/l	25.0		100	49-155			
1,1-Dichloroethene	23.3	5.0	ug/l	25.0		93	5-234			
trans-1,2-Dichloroethene	24.5	2.0	ug/l	25.0		98	54-156			
1,2-Dichloropropane	23.7	2.0	ug/l	25.0		95	5-210			
cis-1,3-Dichloropropene	24.0	2.0	ug/l	25.0		96	5-227			
trans-1,3-Dichloropropene	26.8	2.0	ug/l	25.0		107	17-183			
Ethylbenzene	26.4	2.0	ug/l	25.0		106	37-162			
Methylene chloride	21.9	5.0	ug/l	25.0		88	5-221			
1,1,2,2-Tetrachloroethane	24.1	2.0	ug/l	25.0		96	46-157			
Tetrachloroethene	28.2	2.0	ug/l	25.0		113	64-148			
Toluene	25.3	2.0	ug/l	25.0		101	47-150			
1,1,1-Trichloroethane	25.4	2.0	ug/l	25.0		102	52-162			
1,1,2-Trichloroethane	27.1	2.0	ug/l	25.0		108	52-150			
Trichloroethene	26.2	2.0	ug/l	25.0		105	71-157			
Trichlorofluoromethane	24.7	5.0	ug/l	25.0		99	17-181			
Vinyl chloride	27.3	2.0	ug/l	25.0		109	5-251			
Surrogate: Dibromofluoromethane	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*25.9*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3A0206 Extracted: 01/02/03										
LCS Dup Analyzed: 01/02/03 (P3A0206-BSD1)										
Acetone	29.8	20	ug/l	25.0		119	40-150	4	20	
Benzene	25.0	2.0	ug/l	25.0		100	37-151	0	20	
Bromodichloromethane	26.5	2.0	ug/l	25.0		106	35-155	2	20	
Bromoform	29.3	5.0	ug/l	25.0		117	45-169	2	20	
Bromomethane	23.8	5.0	ug/l	25.0		95	5-242	3	20	
Carbon tetrachloride	29.6	2.5	ug/l	25.0		118	70-140	0	20	
Chlorobenzene	27.6	2.0	ug/l	25.0		110	37-160	0.7	20	
Dibromochloromethane	28.5	2.0	ug/l	25.0		114	53-149	0.7	20	
Chloroethane	21.7	5.0	ug/l	25.0		87	14-230	4	20	
Chloroform	24.9	2.0	ug/l	25.0		100	51-138	0.4	20	
Chloromethane	19.2	5.0	ug/l	25.0		77	5-273	4	20	
1,2-Dichlorobenzene	27.4	2.0	ug/l	25.0		110	18-190	0	20	
1,3-Dichlorobenzene	27.2	2.0	ug/l	25.0		109	59-156	0.4	20	
1,4-Dichlorobenzene	27.4	2.0	ug/l	25.0		110	18-190	0.7	20	
1,1-Dichloroethane	23.3	2.0	ug/l	25.0		93	59-155	1	20	
1,2-Dichloroethane	25.7	2.0	ug/l	25.0		103	49-155	2	20	
1,1-Dichloroethene	23.5	5.0	ug/l	25.0		94	5-234	0.9	20	
trans-1,2-Dichloroethene	24.7	2.0	ug/l	25.0		99	54-156	0.8	20	
1,2-Dichloropropane	24.0	2.0	ug/l	25.0		96	5-210	1	20	
cis-1,3-Dichloropropene	24.2	2.0	ug/l	25.0		97	5-227	0.8	20	
trans-1,3-Dichloropropene	27.0	2.0	ug/l	25.0		108	17-183	0.7	20	
Ethylbenzene	26.6	2.0	ug/l	25.0		106	37-162	0.8	20	
Methylene chloride	22.4	5.0	ug/l	25.0		90	5-221	2	20	
1,1,2,2-Tetrachloroethane	24.9	2.0	ug/l	25.0		100	46-157	3	20	
Tetrachloroethene	28.0	2.0	ug/l	25.0		112	64-148	0.7	20	
Toluene	25.5	2.0	ug/l	25.0		102	47-150	0.8	20	
1,1,1-Trichloroethane	26.0	2.0	ug/l	25.0		104	52-162	2	20	
1,1,2-Trichloroethane	27.4	2.0	ug/l	25.0		110	52-150	1	20	
Trichloroethene	26.3	2.0	ug/l	25.0		105	71-157	0.4	20	
Trichlorofluoromethane	25.1	5.0	ug/l	25.0		100	17-181	2	20	
Vinyl chloride	28.3	2.0	ug/l	25.0		113	5-251	4	20	
Surrogate: Dibromofluoromethane	*26.1*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*26.1*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.5*		*ug/l*	*25.0*		*98*	*80-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3A0206 Extracted: 01/02/03										
Matrix Spike Analyzed: 01/02/03 (P3A0206-MS1)					**Source: PLL0731-01**					
Acetone	21.1	20	ug/l	25.0	ND	84	25-150			
Benzene	24.9	2.0	ug/l	25.0	ND	100	37-151			
Bromodichloromethane	26.6	2.0	ug/l	25.0	ND	106	35-155			
Bromoform	28.4	5.0	ug/l	25.0	ND	114	45-169			
Bromomethane	24.8	5.0	ug/l	25.0	ND	99	5-242			
Carbon tetrachloride	29.8	2.5	ug/l	25.0	ND	119	70-140			
Chlorobenzene	27.4	2.0	ug/l	25.0	ND	110	37-160			
Dibromochloromethane	28.3	2.0	ug/l	25.0	ND	113	53-149			
Chloroethane	22.6	5.0	ug/l	25.0	ND	90	14-230			
Chloroform	25.3	2.0	ug/l	25.0	ND	101	51-138			
Chloromethane	19.3	5.0	ug/l	25.0	ND	77	5-273			
1,2-Dichlorobenzene	27.3	2.0	ug/l	25.0	ND	109	18-190			
1,3-Dichlorobenzene	27.0	2.0	ug/l	25.0	ND	108	59-156			
1,4-Dichlorobenzene	27.2	2.0	ug/l	25.0	ND	109	18-190			
1,1-Dichloroethane	23.2	2.0	ug/l	25.0	ND	93	59-155			
1,2-Dichloroethane	25.9	2.0	ug/l	25.0	ND	104	49-155			
1,1-Dichloroethene	24.6	5.0	ug/l	25.0	ND	98	5-234			
trans-1,2-Dichloroethene	24.6	2.0	ug/l	25.0	ND	98	54-156			
1,2-Dichloropropane	23.6	2.0	ug/l	25.0	ND	94	5-210			
cis-1,3-Dichloropropene	24.1	2.0	ug/l	25.0	ND	96	5-227			
trans-1,3-Dichloropropene	27.0	2.0	ug/l	25.0	ND	108	17-183			
Ethylbenzene	26.3	2.0	ug/l	25.0	ND	105	37-162			
Methylene chloride	23.0	5.0	ug/l	25.0	ND	92	5-221			
1,1,2,2-Tetrachloroethane	24.7	2.0	ug/l	25.0	ND	99	46-157			
Tetrachloroethene	32.1	2.0	ug/l	25.0	4.4	111	64-148			
Toluene	25.5	2.0	ug/l	25.0	ND	102	47-150			
1,1,1-Trichloroethane	26.4	2.0	ug/l	25.0	ND	106	52-162			
1,1,2-Trichloroethane	27.5	2.0	ug/l	25.0	ND	110	52-150			
Trichloroethene	26.7	2.0	ug/l	25.0	ND	107	71-157			
Trichlorofluoromethane	26.2	5.0	ug/l	25.0	ND	105	17-181			
Vinyl chloride	23.4	2.0	ug/l	25.0	ND	94	5-251			
Surrogate: Dibromofluoromethane	*26.2*		*ug/l*	*25.0*		*105*	*80-120*			
Surrogate: Toluene-d8	*25.8*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.0*		*ug/l*	*25.0*		*96*	*80-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3A0206 Extracted: 01/02/03										
Matrix Spike Dup Analyzed: 01/02/03 (P3A0206-MSD1)					**Source: PLL0731-01**					
Acetone	ND	20	ug/l	25.0	ND	77	25-150	9	20	
Benzene	25.2	2.0	ug/l	25.0	ND	101	37-151	1	20	
Bromodichloromethane	26.5	2.0	ug/l	25.0	ND	106	35-155	0.4	20	
Bromoform	27.6	5.0	ug/l	25.0	ND	110	45-169	3	20	
Bromomethane	25.6	5.0	ug/l	25.0	ND	102	5-242	3	20	
Carbon tetrachloride	29.9	2.5	ug/l	25.0	ND	120	70-140	0.3	20	
Chlorobenzene	27.6	2.0	ug/l	25.0	ND	110	37-160	0.7	20	
Dibromochloromethane	28.1	2.0	ug/l	25.0	ND	112	53-149	0.7	20	
Chloroethane	23.2	5.0	ug/l	25.0	ND	93	14-230	3	20	
Chloroform	25.4	2.0	ug/l	25.0	ND	102	51-138	0.4	20	
Chloromethane	19.0	5.0	ug/l	25.0	ND	76	5-273	2	20	
1,2-Dichlorobenzene	28.0	2.0	ug/l	25.0	ND	112	18-190	3	20	
1,3-Dichlorobenzene	27.2	2.0	ug/l	25.0	ND	109	59-156	0.7	20	
1,4-Dichlorobenzene	27.5	2.0	ug/l	25.0	ND	110	18-190	1	20	
1,1-Dichloroethane	23.2	2.0	ug/l	25.0	ND	93	59-155	0	20	
1,2-Dichloroethane	25.4	2.0	ug/l	25.0	ND	102	49-155	2	20	
1,1-Dichloroethene	24.6	5.0	ug/l	25.0	ND	98	5-234	0	20	
trans-1,2-Dichloroethene	24.9	2.0	ug/l	25.0	ND	100	54-156	1	20	
1,2-Dichloropropane	23.7	2.0	ug/l	25.0	ND	95	5-210	0.4	20	
cis-1,3-Dichloropropene	24.1	2.0	ug/l	25.0	ND	96	5-227	0	20	
trans-1,3-Dichloropropene	26.5	2.0	ug/l	25.0	ND	106	17-183	2	20	
Ethylbenzene	26.6	2.0	ug/l	25.0	ND	106	37-162	1	20	
Methylene chloride	22.7	5.0	ug/l	25.0	ND	91	5-221	1	20	
1,1,2,2-Tetrachloroethane	23.9	2.0	ug/l	25.0	ND	96	46-157	3	20	
Tetrachloroethene	32.6	2.0	ug/l	25.0	4.4	113	64-148	2	20	
Toluene	25.8	2.0	ug/l	25.0	ND	103	47-150	1	20	
1,1,1-Trichloroethane	26.2	2.0	ug/l	25.0	ND	105	52-162	0.8	20	
1,1,2-Trichloroethane	26.8	2.0	ug/l	25.0	ND	107	52-150	3	20	
Trichloroethene	26.9	2.0	ug/l	25.0	ND	108	71-157	0.7	20	
Trichlorofluoromethane	26.0	5.0	ug/l	25.0	ND	104	17-181	0.8	20	
Vinyl chloride	25.1	2.0	ug/l	25.0	ND	100	5-251	7	20	
Surrogate: Dibromofluoromethane	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.0*		*ug/l*	*25.0*		*96*	*80-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L27069 Extracted: 12/27/02										
Blank Analyzed: 01/02/03 (2L27069-BLK1)										
Benzoic acid	ND	50	ug/l							
Chrysene	ND	10	ug/l							
Phenol	ND	10	ug/l							
Surrogate: 2-Fluorophenol	*134*		*ug/l*	*200*		*67*	*30-110*			
Surrogate: Phenol-d6	*148*		*ug/l*	*200*		*74*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*167*		*ug/l*	*200*		*84*	*55-130*			
Surrogate: Nitrobenzene-d5	*76.5*		*ug/l*	*100*		*76*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*82.8*		*ug/l*	*100*		*83*	*40-115*			
Surrogate: Terphenyl-d14	*96.6*		*ug/l*	*100*		*97*	*40-130*			
LCS Analyzed: 01/02/03 (2L27069-BS1)										
Benzoic acid	**60.2**	50	ug/l	100		60	25-120			
Chrysene	**87.7**	10	ug/l	100		88	70-125			
Phenol	**66.0**	10	ug/l	100		66	40-120			
Surrogate: 2-Fluorophenol	*120*		*ug/l*	*200*		*60*	*30-110*			
Surrogate: Phenol-d6	*133*		*ug/l*	*200*		*66*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*164*		*ug/l*	*200*		*82*	*55-130*			
Surrogate: Nitrobenzene-d5	*68.7*		*ug/l*	*100*		*69*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*72.3*		*ug/l*	*100*		*72*	*40-115*			
Surrogate: Terphenyl-d14	*94.1*		*ug/l*	*100*		*94*	*40-130*			
LCS Dup Analyzed: 01/02/03 (2L27069-BSD1)										
Benzoic acid	**68.5**	50	ug/l	100		68	25-120	13	40	
Chrysene	**93.3**	10	ug/l	100		93	70-125	6	20	
Phenol	**68.2**	10	ug/l	100		68	40-120	3	20	
Surrogate: 2-Fluorophenol	*114*		*ug/l*	*200*		*57*	*30-110*			
Surrogate: Phenol-d6	*134*		*ug/l*	*200*		*67*	*40-115*			
Surrogate: 2,4,6-Tribromophenol	*170*		*ug/l*	*200*		*85*	*55-130*			
Surrogate: Nitrobenzene-d5	*68.3*		*ug/l*	*100*		*68*	*40-115*			
Surrogate: 2-Fluorobiphenyl	*72.7*		*ug/l*	*100*		*73*	*40-115*			
Surrogate: Terphenyl-d14	*100*		*ug/l*	*100*		*100*	*40-130*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix NPDES Stormwater

Report Number: PLL0666

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L29019 Extracted: 12/29/02										
Blank Analyzed: 12/30/02 (2L29019-BLK1)										
4,4'-DDE	ND	0.10	ug/l							
Surrogate: Tetrachloro-m-xylene	*0.500*		*ug/l*	*0.500*		*100*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.466*		*ug/l*	*0.500*		*93*	*45-120*			
LCS Analyzed: 12/31/02 (2L29019-BS1)										
4,4'-DDE	**0.554**	0.10	ug/l	0.500		111	65-115			
Surrogate: Tetrachloro-m-xylene	*0.559*		*ug/l*	*0.500*		*112*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.499*		*ug/l*	*0.500*		*100*	*45-120*			
Matrix Spike Analyzed: 12/31/02 (2L29019-MS1)					**Source: PLL0666-01**					
4,4'-DDE	**0.968**	0.22	ug/l	1.09	ND	89	55-115			
Surrogate: Tetrachloro-m-xylene	*0.826*		*ug/l*	*1.09*		*76*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.856*		*ug/l*	*1.09*		*79*	*45-120*			
Matrix Spike Dup Analyzed: 12/31/02 (2L29019-MSD1)					**Source: PLL0666-01**					
4,4'-DDE	**0.984**	0.22	ug/l	1.09	ND	90	55-115	2	20	
Surrogate: Tetrachloro-m-xylene	*0.836*		*ug/l*	*1.09*		*77*	*35-120*			
Surrogate: Decachlorobiphenyl	*0.861*		*ug/l*	*1.09*		*79*	*45-120*			

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Phoenix NPDES Stormwater Report Number: PLL0666	Sampled: 12/23/02 Received: 12/23/02

METHOD BLANK/QC DATA

DATA QUALIFIERS AND DEFINITIONS

S2	Surrogate recovery was above the laboratory and method acceptance limits.
T2	Cited ADHS licensed method does not contain this analyte as part of method compound list.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported.
RPD	Relative Percent Difference

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Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix-NPDES - Composite

Report Number: PLL0667

Sampled: 12/23/02
Received: 12/23/02
Issued: 1/13/03

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX
PLL0667-01	40th St. & IBW - Comp	Water
PLL0667-02	40th St. & IBW - Comp	Water

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

OBSERVATIONS: Cyanide samples are tested for the presence of sulfide in the lab within 24 hours of sampling. The sample requiring cyanid was tested after the 24 hour period.

SUBCONTRACTED: The ICPMS analyses were subcontracted to Del Mar Analytical - 2852 Alton Avenue - Irvine, CA 92606 (AZ0428). Th Nitrate-N/Nitrite-N (EPA 353.2) and Phenols (EPA 420.1) analyses were subcontracted to Transwest Geochem - 3725 E Atlanta Ave., Suite 1 - Phoenix, AZ 85040-2961 (AZ0133). Results are attached.

QA/QC CRITERIA: All analyses met method criteria.

EXPLANATION OF DATA QUALIFIERS: The N2 flag on the BOD indicates that one or more QC parameters exceeded acceptance liimits. See Corrective Action Report.

Del Mar Analytical, Phoenix (AZ0426)

Linda Eshelman
Project Manager

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix-NPDES - Composite

Report Number: PLL0667

Sampled: 12/23/02
Received: 12/23/02

TOTAL RECOVERABLE METALS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0667-01 (40th St. & IBW - Comp - Water)								
Calcium	EPA 200.7	P2L3104	2.0	**17**	1	12/31/02	12/31/02	
Magnesium	EPA 200.7	P2L3104	0.50	**3.8**	1	12/31/02	12/31/02	
Potassium	EPA 258.1	P2L3104	1.0	**5.0**	1	12/31/02	1/3/03	
Sodium	EPA 273.1	P2L3104	5.0	**11**	1	12/31/02	1/3/03	
Zinc	EPA 200.7	P2L3104	0.050	**0.086**	1	12/31/02	1/2/03	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

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Report Number: PLL0667

Sampled: 12/23/02
Received: 12/23/02

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0667-02 (40th St. & IBW - Comp - Water)								
Zinc, Dissolved	EPA 200.7	P3A0302	0.050	ND	1	1/3/03	1/3/03	

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Received: 12/23/02

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/l	mg/l				
Sample ID: PLL0667-01 (40th St. & IBW - Comp - Water)								
Alkalinity as CaCO3	SM2320B	P2L2612	5.0	**40**	1	12/26/02	12/26/02	
Ammonia-N	EPA 350.3	P2L3111	0.50	**0.66**	1	12/31/02	12/31/02	
Biochemical Oxygen Demand	EPA 405.1	P2L2425	2.0	**20**	1	12/24/02	12/30/02	N2
			%	%				
Sample ID: PLL0667-01 (40th St. & IBW - Comp - Water)								
Cation/Anion Balance	Calculation	P2L3116	NA	**8.60**	1	12/31/02	12/31/02	
			mg/l	mg/l				
Sample ID: PLL0667-01 (40th St. & IBW - Comp - Water)								
Chloride	EPA 300.0	P2L2404	0.50	**9.5**	1	12/24/02	12/24/02	
Fluoride	EPA 300.0	P2L2404	0.10	**0.32**	1	12/24/02	12/24/02	
Hardness (CaCO3)	SM2340B	P2L3104	1.0	**57**	1	12/31/02	12/31/02	
Nitrate/Nitrite-N	EPA 300.0	P2L2404	0.10	**1.3**	1	12/24/02	12/24/02	
Nitrate-N	EPA 300.0	P2L2404	0.10	**1.2**	1	12/24/02	12/24/02	
Nitrite-N	EPA 300.0	P2L2404	0.10	ND	1	12/24/02	12/24/02	
Orthophosphate	EPA 300.0	P2L2404	0.50	ND	1	12/24/02	12/24/02	
			umhos/cm	umhos/cm				
Sample ID: PLL0667-01 (40th St. & IBW - Comp - Water)								
Specific Conductance	SM2510B	P2L2613	2.0	**170**	1	12/26/02	12/26/02	
			mg/l	mg/l				
Sample ID: PLL0667-01 (40th St. & IBW - Comp - Water)								
Sulfate	EPA 300.0	P2L2404	0.50	**15**	1	12/24/02	12/24/02	
Sulfide	SM4500-S-C,D	P2L2718	0.10	ND	1	12/27/02	12/27/02	
Total Dissolved Solids	SM2540C	P2L2611	20	**120**	1	12/26/02	12/26/02	
Total Suspended Solids	EPA 160.2	P2L2716	10	**22**	1	12/27/02	12/27/02	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

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Sampled: 12/23/02
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INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0667-01 (40th St. & IBW - Comp - Water)								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C3A0706	0.50	1.1	1	1/7/03	1/8/03	

DEL MAR ANALYTICAL, COLTON (AZ0062)

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Sampled: 12/23/02
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METALS

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0667-01 (40th St. & IBW - Comp - Water)								
Arsenic	EPA 200.8	2L27064	1.0	**1.2**	1	12/27/02	1/2/03	
Beryllium	EPA 200.8	2L27064	0.50	ND	1	12/27/02	1/2/03	
Cadmium	EPA 200.8	2L27064	1.0	ND	1	12/27/02	1/2/03	
Chromium	EPA 200.8	2L27064	1.0	**3.6**	1	12/27/02	1/2/03	
Copper	EPA 200.8	2L27064	2.0	**19**	1	12/27/02	1/2/03	
Lead	EPA 200.8	2L27064	1.0	**6.8**	1	12/27/02	1/2/03	
Nickel	EPA 200.8	2L27064	1.0	**4.3**	1	12/27/02	1/2/03	
Silver	EPA 200.8	2L27064	1.0	ND	1	12/27/02	1/2/03	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

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Report Number: PLL0667

Sampled: 12/23/02
Received: 12/23/02

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0667-02 (40th St. & IBW - Comp - Water)								
Arsenic	EPA 200.8-Diss	2L30031	1.0	ND	1	12/30/02	1/2/03	
Beryllium	EPA 200.8-Diss	2L30031	0.50	ND	1	12/30/02	1/2/03	
Cadmium	EPA 200.8-Diss	2L30031	1.0	ND	1	12/30/02	1/2/03	
Chromium	EPA 200.8-Diss	2L30031	1.0	**1.8**	1	12/30/02	1/2/03	
Copper	EPA 200.8-Diss	2L30031	2.0	**11**	1	12/30/02	1/2/03	
Lead	EPA 200.8-Diss	2L30031	1.0	ND	1	12/30/02	1/2/03	
Nickel	EPA 200.8-Diss	2L30031	1.0	**2.8**	1	12/30/02	1/2/03	
Silver	EPA 200.8-Diss	2L30031	1.0	ND	1	12/30/02	1/2/03	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

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Sampled: 12/23/02
Received: 12/23/02

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PLL0667-01 (40th St. & IBW - Comp - Water)								
Chemical Oxygen Demand	EPA 410.4	2L27058	20	**110**	1	12/27/02	12/27/02	
Total Cyanide	SM4500-CN-C,E	2L30047	0.020	ND	1	12/30/02	12/30/02	
Phosphorus	EPA 365.3	2L27034	0.050	ND	1	12/27/02	12/27/02	

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Report Number: PLL0667

Sampled: 12/23/02
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METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L3104 Extracted: 12/31/02										
Blank Analyzed: 12/31/02 (P2L3104-BLK1)										
Calcium	ND	2.0	mg/l							
Magnesium	ND	0.50	mg/l							
Potassium	ND	1.0	mg/l							
Sodium	ND	5.0	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 12/31/02 (P2L3104-BS1)										
Calcium	**10.7**	2.0	mg/l	10.0		107	85-115			
Magnesium	**10.7**	0.50	mg/l	10.0		107	85-115			
Potassium	**11.3**	1.0	mg/l	10.0		113	85-115			
Sodium	**55.0**	25	mg/l	50.0		110	85-115			
Zinc	**1.07**	0.050	mg/l	1.00		107	85-115			
LCS Dup Analyzed: 12/31/02 (P2L3104-BSD1)										
Calcium	**10.6**	2.0	mg/l	10.0		106	85-115	0.9	20	
Magnesium	**10.6**	0.50	mg/l	10.0		106	85-115	0.9	20	
Potassium	**11.5**	1.0	mg/l	10.0		115	85-115	2	15	
Sodium	**54.5**	25	mg/l	50.0		109	85-115	0.9	15	
Zinc	**1.06**	0.050	mg/l	1.00		106	85-115	0.9	20	
Matrix Spike Analyzed: 01/02/03 (P2L3104-MS1)					**Source: PLL0715-03**					
Calcium	**579**	10	mg/l	10.0	580	-10	70-130			M3
Magnesium	**1020**	2.5	mg/l	10.0	1000	200	70-130			M3
Potassium	**25.2**	2.0	mg/l	10.0	14	112	85-115			
Sodium	**264**	100	mg/l	50.0	220	88	85-115			
Zinc	**11.3**	0.050	mg/l	1.00	11	30	70-130			M3
Matrix Spike Dup Analyzed: 01/02/03 (P2L3104-MSD1)					**Source: PLL0715-03**					
Calcium	**581**	10	mg/l	10.0	580	10	70-130	0.3	20	M3
Magnesium	**1030**	2.5	mg/l	10.0	1000	300	70-130	1	20	M3
Potassium	**25.4**	2.0	mg/l	10.0	14	114	85-115	0.8	15	
Sodium	**268**	100	mg/l	50.0	220	96	85-115	2	15	
Zinc	**11.5**	0.050	mg/l	1.00	11	50	70-130	2	20	M3

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3A0302 Extracted: 01/03/03										
Blank Analyzed: 01/03/03 (P3A0302-BLK1)										
Zinc, Dissolved	ND	0.050	mg/l							
Blank Analyzed: 01/03/03 (P3A0302-BLK2)										
Zinc, Dissolved	ND	0.050	mg/l							
LCS Analyzed: 01/03/03 (P3A0302-BS1)										
Zinc, Dissolved	1.08	0.050	mg/l	1.00		108	85-115			
LCS Dup Analyzed: 01/03/03 (P3A0302-BSD1)										
Zinc, Dissolved	1.07	0.050	mg/l	1.00		107	85-115	0.9	20	
Matrix Spike Analyzed: 01/03/03 (P3A0302-MS1)					**Source: PLL0667-02**					
Zinc, Dissolved	1.10	0.050	mg/l	1.00	0.038	106	70-130			
Matrix Spike Dup Analyzed: 01/03/03 (P3A0302-MSD1)					**Source: PLL0667-02**					
Zinc, Dissolved	1.09	0.050	mg/l	1.00	0.038	105	70-130	0.9	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L2404 Extracted: 12/24/02										
Blank Analyzed: 12/24/02 (P2L2404-BLK1)										
Chloride	ND	0.50	mg/l							
Fluoride	ND	0.10	mg/l							
Nitrate/Nitrite-N	ND	0.10	mg/l							
Nitrate-N	ND	0.10	mg/l							
Nitrite-N	ND	0.10	mg/l							
Orthophosphate	ND	0.50	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 12/24/02 (P2L2404-BS1)										
Chloride	**4.81**	0.50	mg/l	5.00		96	90-110			
Fluoride	**2.43**	0.10	mg/l	2.50		97	90-110			
Nitrate-N	**2.43**	0.10	mg/l	2.50		97	90-110			
Nitrite-N	**2.46**	0.10	mg/l	2.50		98	90-110			
Orthophosphate	**4.79**	0.50	mg/l	5.00		96	90-110			
Sulfate	**4.83**	0.50	mg/l	5.00		97	90-110			
LCS Dup Analyzed: 12/24/02 (P2L2404-BSD1)										
Chloride	**4.83**	0.50	mg/l	5.00		97	90-110	0.4	15	
Fluoride	**2.45**	0.10	mg/l	2.50		98	90-110	0.8	20	
Nitrate-N	**2.42**	0.10	mg/l	2.50		97	90-110	0.4	15	
Nitrite-N	**2.45**	0.10	mg/l	2.50		98	90-110	0.4	15	
Orthophosphate	**4.69**	0.50	mg/l	5.00		94	90-110	2	15	
Sulfate	**4.85**	0.50	mg/l	5.00		97	90-110	0.4	15	
Matrix Spike Analyzed: 12/24/02 (P2L2404-MS1)					**Source: PLL0664-01RE1**					
Chloride	**51.0**	5.0	mg/l	50.0	5.3	91	80-120			
Fluoride	**22.7**	1.0	mg/l	25.0	ND	91	80-120			
Nitrate-N	**23.7**	1.0	mg/l	25.0	0.81	92	80-120			
Nitrite-N	**22.9**	1.0	mg/l	25.0	ND	92	80-120			
Orthophosphate	**44.6**	5.0	mg/l	50.0	ND	89	80-120			
Sulfate	**52.4**	5.0	mg/l	50.0	5.9	93	80-120			

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Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix-NPDES - Composite

Report Number: PLL0667

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L2404 Extracted: 12/24/02										
Matrix Spike Dup Analyzed: 12/24/02 (P2L2404-MSD1)					**Source: PLL0664-01RE1**					
Chloride	49.9	5.0	mg/l	50.0	5.3	89	80-120	2	15	
Fluoride	22.6	1.0	mg/l	25.0	ND	90	80-120	0.4	20	
Nitrate-N	23.4	1.0	mg/l	25.0	0.81	90	80-120	1	15	
Nitrite-N	22.7	1.0	mg/l	25.0	ND	91	80-120	0.9	15	
Orthophosphate	44.4	5.0	mg/l	50.0	ND	89	80-120	0.4	20	
Sulfate	51.4	5.0	mg/l	50.0	5.9	91	80-120	2	15	
Batch: P2L2425 Extracted: 12/24/02										
Blank Analyzed: 12/30/02 (P2L2425-BLK1)										
Biochemical Oxygen Demand	ND	2.0	mg/l							N2
LCS Analyzed: 12/30/02 (P2L2425-BS1)										
Biochemical Oxygen Demand	190	2.0	mg/l	198		96	85-115			N2
Duplicate Analyzed: 12/30/02 (P2L2425-DUP1)					**Source: PLL0667-01**					
Biochemical Oxygen Demand	18.5	2.0	mg/l		20			8	20	N2
Batch: P2L2611 Extracted: 12/26/02										
Blank Analyzed: 12/26/02 (P2L2611-BLK1)										
Total Dissolved Solids	ND	20	mg/l							
LCS Analyzed: 12/26/02 (P2L2611-BS1)										
Total Dissolved Solids	396	20	mg/l	400		99	80-115			

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L2611 Extracted: 12/26/02										
Duplicate Analyzed: 12/26/02 (P2L2611-DUP1)					**Source: PLL0595-01**					
Total Dissolved Solids	**1250**	20	mg/l		1300			4	5	
Batch: P2L2612 Extracted: 12/26/02										
Duplicate Analyzed: 12/26/02 (P2L2612-DUP1)					**Source: PLL0501-01**					
Alkalinity as CaCO3	**77.0**	5.0	mg/l		77			0	20	
Duplicate Analyzed: 12/26/02 (P2L2612-DUP2)					**Source: PLL0609-02**					
Alkalinity as CaCO3	**246**	5.0	mg/l		250			2	20	
Reference Analyzed: 12/26/02 (P2L2612-SRM1)										
Alkalinity as CaCO3	**55.0**	5.0	mg/l	51.8		106	88.6-112			
Batch: P2L2613 Extracted: 12/26/02										
Duplicate Analyzed: 12/26/02 (P2L2613-DUP1)					**Source: PLL0501-01**					
Specific Conductance	**33100**	2.0	umhos/cm		33000			0.3	10	
Reference Analyzed: 12/26/02 (P2L2613-SRM1)										
Specific Conductance	**1400**	2.0	umhos/cm	1410		99	90-110			
Batch: P2L2716 Extracted: 12/27/02										
Blank Analyzed: 12/27/02 (P2L2716-BLK1)										
Total Suspended Solids	ND	10	mg/l							

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L2716 Extracted: 12/27/02										
Duplicate Analyzed: 12/27/02 (P2L2716-DUP1)					**Source: PLL0685-02**					
Total Suspended Solids	ND	10	mg/l		ND				5	
Duplicate Analyzed: 12/27/02 (P2L2716-DUP2)					**Source: PLL0684-02**					
Total Suspended Solids	ND	10	mg/l		ND				5	
Reference Analyzed: 12/27/02 (P2L2716-SRM1)										
Total Suspended Solids	**44.0**	10	mg/l	47.7		92	75-107			
Batch: P2L2718 Extracted: 12/27/02										
Blank Analyzed: 12/27/02 (P2L2718-BLK1)										
Sulfide	ND	0.10	mg/l							
LCS Analyzed: 12/27/02 (P2L2718-BS1)										
Sulfide	**1.09**	0.20	mg/l	1.00		109	85-125			
LCS Dup Analyzed: 12/27/02 (P2L2718-BSD1)										
Sulfide	**1.17**	0.20	mg/l	1.00		117	85-125	7	15	
Matrix Spike Analyzed: 12/27/02 (P2L2718-MS1)					**Source: PLL0632-01**					
Sulfide	**0.536**	0.10	mg/l	0.500	0.017	104	60-135			
Matrix Spike Dup Analyzed: 12/27/02 (P2L2718-MSD1)					**Source: PLL0632-01**					
Sulfide	**0.564**	0.10	mg/l	0.500	0.017	109	60-135	5	20	
Batch: P2L3111 Extracted: 12/31/02										
Blank Analyzed: 12/31/02 (P2L3111-BLK1)										
Ammonia-N	ND	0.50	mg/l							

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P2L3111 Extracted: 12/31/02										
LCS Analyzed: 12/31/02 (P2L3111-BS1)										
Ammonia-N	2.04	0.50	mg/l	2.00		102	85-115			
LCS Dup Analyzed: 12/31/02 (P2L3111-BSD1)										
Ammonia-N	1.91	0.50	mg/l	2.00		96	85-115	7	200	
Matrix Spike Analyzed: 12/31/02 (P2L3111-MS1)					**Source: PLL0685-04**					
Ammonia-N	1.10	0.50	mg/l	1.00	0.20	90	70-130			
Matrix Spike Dup Analyzed: 12/31/02 (P2L3111-MSD1)					**Source: PLL0685-04**					
Ammonia-N	1.18	0.50	mg/l	1.00	0.20	98	70-130	7	20	

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: C3A0706 Extracted: 01/07/03										
Blank Analyzed: 01/08/03 (C3A0706-BLK1)										
Total Kjeldahl Nitrogen	ND	0.50	mg/l							
LCS Analyzed: 01/08/03 (C3A0706-BS1)										
Total Kjeldahl Nitrogen	**10.4**	0.50	mg/l	10.0		104	85-120			
Matrix Spike Analyzed: 01/08/03 (C3A0706-MS1)					**Source: CLL0264-01**					
Total Kjeldahl Nitrogen	**10.9**	0.50	mg/l	10.0	1.1	98	85-120			
Matrix Spike Dup Analyzed: 01/08/03 (C3A0706-MSD1)					**Source: CLL0264-01**					
Total Kjeldahl Nitrogen	**10.4**	0.50	mg/l	10.0	1.1	93	85-120	5	15	

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METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L27064 Extracted: 12/27/02										
Blank Analyzed: 01/02/03 (2L27064-BLK1)										
Arsenic	ND	1.0	ug/l							
Beryllium	ND	0.50	ug/l							
Cadmium	ND	1.0	ug/l							
Chromium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Nickel	ND	1.0	ug/l							
Silver	ND	1.0	ug/l							
LCS Analyzed: 01/02/03 (2L27064-BS1)										
Arsenic	**80.2**	1.0	ug/l	80.0		100	85-115			
Beryllium	**83.9**	0.50	ug/l	80.0		105	85-115			
Cadmium	**80.7**	1.0	ug/l	80.0		101	85-115			
Chromium	**82.1**	1.0	ug/l	80.0		103	85-115			
Copper	**80.2**	2.0	ug/l	80.0		100	85-115			
Lead	**83.9**	1.0	ug/l	80.0		105	85-115			
Nickel	**79.0**	1.0	ug/l	80.0		99	85-115			
Silver	**80.5**	1.0	ug/l	80.0		101	85-115			
Matrix Spike Analyzed: 01/02/03 (2L27064-MS1)					**Source: ILL1609-01**					
Arsenic	**83.8**	1.0	ug/l	80.0	2.0	102	70-130			
Beryllium	**80.9**	0.50	ug/l	80.0	ND	101	70-130			
Cadmium	**81.3**	1.0	ug/l	80.0	0.27	101	70-130			
Chromium	**82.2**	1.0	ug/l	80.0	3.3	99	70-130			
Copper	**98.0**	2.0	ug/l	80.0	19	99	70-130			
Lead	**92.2**	1.0	ug/l	80.0	8.1	105	70-130			
Nickel	**79.7**	1.0	ug/l	80.0	3.2	96	70-130			
Silver	**80.6**	1.0	ug/l	80.0	0.093	101	70-130			

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METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L27064 Extracted: 12/27/02										
Matrix Spike Dup Analyzed: 01/02/03 (2L27064-MSD1)					**Source: ILL1609-01**					
Arsenic	83.0	1.0	ug/l	80.0	2.0	101	70-130	1	20	
Beryllium	80.3	0.50	ug/l	80.0	ND	100	70-130	0.7	20	
Cadmium	80.4	1.0	ug/l	80.0	0.27	100	70-130	1	20	
Chromium	81.2	1.0	ug/l	80.0	3.3	97	70-130	1	20	
Copper	97.8	2.0	ug/l	80.0	19	98	70-130	0.2	20	
Lead	91.8	1.0	ug/l	80.0	8.1	105	70-130	0.4	20	
Nickel	79.1	1.0	ug/l	80.0	3.2	95	70-130	0.8	20	
Silver	79.3	1.0	ug/l	80.0	0.093	99	70-130	2	20	

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L30031 Extracted: 12/30/02										
Blank Analyzed: 01/02/03 (2L30031-BLK1)										
Arsenic	ND	1.0	ug/l							
Beryllium	ND	0.50	ug/l							
Cadmium	ND	1.0	ug/l							
Chromium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Nickel	ND	1.0	ug/l							
Silver	ND	1.0	ug/l							
LCS Analyzed: 01/02/03 (2L30031-BS1)										
Arsenic	**80.3**	1.0	ug/l	80.0		100	85-115			
Beryllium	**81.6**	0.50	ug/l	80.0		102	85-115			
Cadmium	**80.4**	1.0	ug/l	80.0		100	85-115			
Chromium	**81.1**	1.0	ug/l	80.0		101	85-115			
Copper	**80.1**	2.0	ug/l	80.0		100	85-115			
Lead	**84.8**	1.0	ug/l	80.0		106	85-115			
Nickel	**77.9**	1.0	ug/l	80.0		97	85-115			
Silver	**79.9**	1.0	ug/l	80.0		100	85-115			
Matrix Spike Analyzed: 01/02/03 (2L30031-MS1)					**Source: PLL0667-02**					
Arsenic	**83.5**	1.0	ug/l	80.0	0.91	103	70-130			
Beryllium	**81.3**	0.50	ug/l	80.0	ND	102	70-130			
Cadmium	**81.2**	1.0	ug/l	80.0	0.10	101	70-130			
Chromium	**80.5**	1.0	ug/l	80.0	1.8	98	70-130			
Copper	**90.5**	2.0	ug/l	80.0	11	99	70-130			
Lead	**85.0**	1.0	ug/l	80.0	0.56	106	70-130			
Nickel	**79.0**	1.0	ug/l	80.0	2.8	95	70-130			
Silver	**79.7**	1.0	ug/l	80.0	ND	100	70-130			

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L30031 Extracted: 12/30/02										
Matrix Spike Dup Analyzed: 01/02/03 (2L30031-MSD1)					**Source: PLL0667-02**					
Arsenic	83.7	1.0	ug/l	80.0	0.91	103	70-130	0.2	20	
Beryllium	81.1	0.50	ug/l	80.0	ND	101	70-130	0.2	20	
Cadmium	81.9	1.0	ug/l	80.0	0.10	102	70-130	0.9	20	
Chromium	80.8	1.0	ug/l	80.0	1.8	99	70-130	0.4	20	
Copper	90.3	2.0	ug/l	80.0	11	99	70-130	0.2	20	
Lead	85.4	1.0	ug/l	80.0	0.56	106	70-130	0.5	20	
Nickel	79.4	1.0	ug/l	80.0	2.8	96	70-130	0.5	20	
Silver	80.7	1.0	ug/l	80.0	ND	101	70-130	1	20	

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L27034 Extracted: 12/27/02										
Blank Analyzed: 12/27/02 (2L27034-BLK1)										
Phosphorus	ND	0.050	mg/l							
LCS Analyzed: 12/27/02 (2L27034-BS1)										
Phosphorus	**1.01**	0.050	mg/l	1.00		101	80-120			
Matrix Spike Analyzed: 12/27/02 (2L27034-MS1)					**Source: ILL1311-01**					
Phosphorus	**0.972**	0.050	mg/l	1.00	ND	97	65-130			
Matrix Spike Dup Analyzed: 12/27/02 (2L27034-MSD1)					**Source: ILL1311-01**					
Phosphorus	**0.773**	0.050	mg/l	1.00	ND	77	65-130	23	15	R4
Batch: 2L27058 Extracted: 12/27/02										
Blank Analyzed: 12/27/02 (2L27058-BLK1)										
Chemical Oxygen Demand	ND	20	mg/l							
LCS Analyzed: 12/27/02 (2L27058-BS1)										
Chemical Oxygen Demand	**521**	20	mg/l	500		104	90-110			
Matrix Spike Analyzed: 12/27/02 (2L27058-MS1)					**Source: ILL1605-01**					
Chemical Oxygen Demand	**1130**	40	mg/l	1000	130	100	90-110			
Matrix Spike Dup Analyzed: 12/27/02 (2L27058-MSD1)					**Source: ILL1605-01**					
Chemical Oxygen Demand	**1160**	40	mg/l	1000	130	103	90-110	3	15	
Batch: 2L30047 Extracted: 12/30/02										
Blank Analyzed: 12/30/02 (2L30047-BLK1)										
Total Cyanide	ND	0.020	mg/l							

Linda Eshelman
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

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9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr
2801 West Durango Street
Phoenix, AZ 85009
Attention: Matt Oller

Client Project ID: Phoenix-NPDES - Composite

Report Number: PLL0667

Sampled: 12/23/02
Received: 12/23/02

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 2L30047 Extracted: 12/30/02										
LCS Analyzed: 12/30/02 (2L30047-BS1)										
Total Cyanide	0.202	0.020	mg/l	0.200		101	90-110			
Matrix Spike Analyzed: 12/30/02 (2L30047-MS1)					**Source: PLL0667-01**					
Total Cyanide	0.186	0.020	mg/l	0.200	ND	93	70-115			
Matrix Spike Dup Analyzed: 12/30/02 (2L30047-MSD1)					**Source: PLL0667-01**					
Total Cyanide	0.186	0.020	mg/l	0.200	ND	93	70-115	0	15	

Linda Eshelman
Project Manager

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-085
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-362

Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Phoenix-NPDES - Composite Report Number: PLL0667	Sampled: 12/23/02 Received: 12/23/02

METHOD BLANK/QC DATA

DATA QUALIFIERS AND DEFINITIONS

M3	The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
N2	See corrective action report.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported.
RPD	Relative Percent Difference

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CORRECTIVE ACTION REPORT

Department: Wet Chemistry
Method: 405.1
QC Batch: P2L2425

Date: 12/30/02
Matrix: Water

Identification and Definition of Problem:

The BOD was analyzed after 6 days of incubation. The method states that the dissolved oxygen should be measured after 5 days of incubation.

Determination of the Cause of the Problem:

Due to an oversight the samples were analyzed one day later than required in the method.

Corrective Action Taken:

Steps have been taken to avoid such an oversight in the future. The samples and associated QC have been flagged "N2" to indicate the they were analyzed past the 5 day method recommended incubation period.

Quality Assurance Approval: Vicki Hunter 12-31-02

Ref: 3522

TRANSWEST
GEOCHEM

January 13, 2003

Linda Eshelman
Del Mar Analytical
9830 S. 51st Street
Suite B-120
Phoenix, AZ 85044

RE: PLL0667-MCFC
Work Order No.: 0212305

Dear Linda,
Transwest Geochem, Inc. received 1 sample on 12/24/2002 9:05:00 AM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Vic Nielsen
Project Manager

ADHS License No. AZM133/AZ0133

3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

Date Printed: 13-Jan-03

Client: Del Mar Analytical
Work Order: 0212305
Project Name: PLL0667-MCFC
Project Number:

CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

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

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

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

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order except as detailed below or on the Data Qualifier page of this report. Data Qualifiers used in this report are in accordance with ADEQ Arizona Data Qualifiers, Revision 1.0 05/13/2002.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

TRANSWEST GEOCHEM

Date Printed 13-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Project Name: PLL0667-MCFC
Project Number:
Work Order: 0212305
Date Received: 24-Dec-02

Work Order Sample Summary

Client Sample ID	Lab Sample ID	Test Code	Collection Date
PLL0667-01	0212305-01A	EPA353.2	12/23/2002 8:00:00 AM

TRANSWEST GEOCHEM

Date Printed 13-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Project Name: PLL0667-MCFC
Project Number:
Work Order: 0212305
Date Received: 24-Dec-02

Definitions

Analytical Spike (AS)	The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix.
Continuing Curve Verification (CCV)	The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method.
Dilution Factor (DF)	The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases.
Internal Standard (IS)	The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods.
Laboratory Control Sample (LCS)	The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples.
Matrix Spike (MS)	The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples.
Method Blank (MB)	The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab.
Method Detection Limit (MDL)	The MDL is the lowest level of detection of which a method is capable.
Practical Quantitation Limit (PQL)	The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL.
Relative Percent Difference (RPD)	The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result.
Secondary Source QC Sample (LCSV)	The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance.
Surrogate	A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success.
Trip Blank (TB)	The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation.

TRANSWEST GEOCHEM

Date Printed 13-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212305
Lab ID: 0212305-01
Project Name: PLL0667-MCFC
Project Number:

Client Sample ID: PLL0667-01
Collection Date: 12/23/2002 8:00:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	1.6	0.50		mg/L	1.0	EPA353.2	N/A	1/7/03	NMM	NO3_W-1/7/2003

Confidential and Privileged

TRANSWEST GEOCHEM

Date: 13-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212305
Project: PLL0667-MCFC

QC SUMMARY REPORT

Method Blank

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	1/7/03	NMM	NO3_W-1/7/2003

TRANSWEST GEOCHEM

Date: 13-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212305
Project: PLL0667-MCFC

QC SUMMARY REPORT

Sample Duplicate

Analyte	Result	PQL	Units	RPD Ref Val	% RPD	RPD Limit	Test Code	Date Prepared	Date Analyzed	Analyst	Qual
Sample ID: **0212305-01AD** Batch ID: NO3_W-1/7/2003											
Client ID: **PLL0667-01**											
Nitrate-Nitrite (As N)	1.6	0.50	mg/L	1.631	0%	20	EPA353.2	N/A	1/7/03	NMM	

TRANSWEST GEOCHEM

Date: 13-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212305
Project: PLL0667-MCFC

QC SUMMARY REPORT

Sample Matrix Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **0212305-01AS**	Batch ID: NO3_W-1/7/2003			Test Code: EPA353.2				Date Analyzed: 01/07/03 00:00			
Client ID: **PLL0667-01**				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	6.611	0.50	5.000	1.631	100%	90	110				

TRANSWEST GEOCHEM

Date: 13-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0212305
Project: PLL0667-MCFC

QC SUMMARY REPORT

Blank Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **LCSD**	Batch ID: NO3_W-1/7/2003			Test Code: EPA353.2				Date Analyzed: 01/07/03 00:00			
				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.253	0.50	5.000	<0.50	105%	90	110	5.331	1%	20	
Sample ID: **LCS**	Batch ID: NO3_W-1/7/2003			Test Code: EPA353.2				Date Analyzed: 01/07/03 00:00			
				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.331	0.50	5.000	<0.50	107%	90	110				

U.S. GEOLOGICAL SURVEY, WRD, SURFACE-WATER QUALITY FIELD NOTES

BQA-1 3/92 (3rd printing, 1st ed.)

Proj. Name, No. MARICOPA URBAN - 967116800 Date NOVEMBER 30, 2002

Station 43RD AVE & PEORIA AVE @ PHOENIX, AZ Sta.No. 09513885

Sampled By HEMAUER & FOSSUM Mean Time 0137 SMS Cntrl. No.

Record No. 00300062 Sample Purpose (71999) :

SAMPLES COLLECTED

Nutrients [X] TOC [ ]
Major Ions [ ] DOC [ ]
SOC [ ] Vol. Filt. ____ mL
BOD [ ] Turbidity [ ]
COD [X] [ ]
[ ]

ORGANICS / TR. ELEMENTS
Pesticide [ ] Unfiltered [X]
VOC [ ] Filtered [ ]
BNA [ ] Suspended [ ]
[ ] Bottom [ ]

Sediment Conc. [ ]
Sediment Size [ ]
Sed. Bot. Material [ ]
Sand Split/Break [ ]
Radiochemical [ ]
Isotope [ ]
[ ]

LABORATORY SCHEDULES
Lab Schedules Req. (or copy of lab request form attached [X])
3134

Lab Codes Add (A) Delete (D) :
3072(D), 3074(D)

FIELD MEASUREMENTS

				R	F	
Q. Inst. (00061)	1.80	cfs	meas.	Alkalinity (00419/39086)	8	6	mg/L
Gage Ht (00065)	0.40	ft.	rating est.	Bicarbonate (00450/00453)	9.8	7.3	mg/L
Temp. Water (00010)	15.0	°C		Carbonate (00447/00452)	0	0	mg/L
Temp. Air (00020)	15.0	°C		Hydroxide (—)	—	—	mg/L
pH (00400)	7.66	units		E. Coli (31633)	—		col./100 mL; Rmk
Sp. Cond. (00095)	413	µS/cm 25 °C		FC (31625)	—		col./100 mL; Rmk
Dis. Oxy. (00300)	8.12	mg/L		FS (31673)	—		col./100 mL; Rmk
DO Sat. (00301)	—	%		Other:			
Bar. Press. (00025)	732	mm Hg					

SAMPLING CONDITIONS

Location: Wading, cable, ice, boat, bridge, upstr., downstr., side bridge @ ft mile, above, below gage, and

Sampling site: Pool Riffle Open Channel Braided Backwater Sampler Type AUTO-ISCO

Sample Method: EWI EDI OTHER AUTO-SAMPLER Sampler ID

Nozzle size 3/8" Nozzle Made of TEFLON Bottle type, size 5 GAL-GLASS

Sample Split: Churn Cone Other Made of TEFLON

LB ____ RB ____ Stream Width ____ Sampling Pts. CENTROID OF FLOW

Bottom: Bedrock Rock Cobble Gravel Sand Mud Concrete Other ASPHALT

Stage Conditions:
A Not Determined
4 Stable, low
9 Stable, normal
5 Falling
6 Stable, high
7 Peak
8 Rising

Observations:
(Codes: 0-none 1-mild 2-moderate 3-serious 4-extreme)
(option: LEAVE BLANK IF NONE)

Floating debris	(01345) :	
Floating garbage	(01320) :	
Floating algae mats	(01325) :	
Fish kill	(01340) :	
Detergent suds	(01305) :	
Turbidity	(01350) :	
Atms. Odor	(01330) :	
Oil-grease	(01300) :	

Sampling		GHT
Start Time		
Mean Time =		
End Time		

Hydrologic Event: 9 Routine samp. A Spg. breakup B Ice Cover
1 Drought 2 Spill 3 Reg. Flow 4 Snowmelt 7 Flood
Other J-STORM Ice Thickness ____ Ice cover ____

Stream color(s): brown green blue gray other

Stream Mixing: Excellent Good Fair Poor Clarity/Turbidity:

Weather: Clear Partly Cloudy Cloudy Light Medium Heavy Snow Rain
Calm Light Breeze Very Gusty Windy Very Cold Warm Hot Other

Other Observations

81395 (MGD) = 0.111
82381 (PRECIP) = 0.65 inches
00129 (MAX 5) = 2.28 inches/hr
00135 (STM. LENGTH) = 7.02 hrs
00132 (DRY DAYS) = 33 days

(Cont. p. 3,4)

Checked by Date

TEMPERATURE Lab Tested Thermometer used? ☐ Yes ☒ No If NO, explain in remarks

Thermometer Checked w/ASTM within ± 0.5°C; Date

AMPULE LOT NUMBERS: nitric acid _____ mercuric chloride _____

nitric acid/potassium dichromate

pH

Mtr W-no. W-495252 METER Make/Model CORNING CHECKMATE 90

electrode no. electrode type

pH Buffer	pH Buffer Temp °C	Initial Reading	Adj. Reading	Remarks
7.00	18.5	7.00	7.00	OK
10.01	18.5	10.01	10.01	OK

☒ unfiltered sample ☐ filtered sample

Temp correction factors for buffers applied? ☒ YES ☐ NO

stirrer used? ☐ YES ☒ NO

if yes, ☐ magnetic stirrer ☐ manually stirred

pH subsample from or pH measurement location : Churn sample bottle (single point at) ____ sta ____ depth vertical avg of ____ points

x-sec average of ____ points

Sample Temp = 15.0 °C

FIELD pH = 7.66 USE: 7.66

SPECIFIC CONDUCTANCE

Mtr W-no. W-495252 METER Make/Model CORNING CHECKMATE 90

probe no.

standard value	Temp Std °C	Initial Reading	Adj. Reading	Remarks
0	18.5	0	0	OK
1413µS	18.5	1413µS	1413µS	OK

correction factor applied? ☐ YES ☒ NO

☒ auto temp compensated meter

☐ manual temp compensated meter

corr. factor = _____

SC subsample from or SC measurement location : Churn sample bottle (single point at) ____ sta ____ depth vertical avg of ____ points

x-sec avg of ____ points

FIELD CONDUCTANCE = 413µS USE: 413µS

DISSOLVED OXYGEN W-no. _____ METER Make/Model YSI-55

D.O. measurement location or D.O. subsample from : (single point at) ____ sta ____ depth vertical avg of ____ points x-sec avg of ____ points

BOD bottle

Calibration :

☒ Air Calibration in Water ☐ Air Calibration Chamber in Air

☐ Air-Saturation Deionized Water ☐ Calibration by Winkler Titration (attach Supplementary Winkler page)

D.O. Zero Check (using zero D.O. solution) ☐ YES ☒ NO

Thermister Check ☐ YES ☒ NO

BAR. PRESS. 732 mm Hg; (mm = in. X 25.4)

Salinity Corr. Factor —

H_2O Temp. 15.0 °C

Chart D.O. Sat. 9.69 mg/L

stirrer used? ☐ YES ☒ NO if yes, ☐ magnetic stirrer ☐ manually stirred

Meter D.O. Sat. 9.69 mg/L; Adjusted to — (if corr. factor applicable)

DISSOLVED OXYGEN IN STREAM = 8.12 mg/L

QUALITY ASSURANCE SAMPLES

Were quality assurance samples collected?

☒ YES ☐ NO If YES indicate type(s) :

	Organic-free	DI	water from sampling site
Replicate	☐	☐	☒
Spike	☐	☐	☐
Field Blank	☐	☐	Supplementary page w/additional
Trip Blank	☐	☐	QA sample info attached ☒

Other ☐ Indicate Type(s) :

Calibration Notes and Remarks

USED INTERNAL THERMISTOR IN CORNING METER.

ALKALINITY

pH	△ pH	Vol acid DC or mL	△Vol acid DC or mL	△ pH / △ Vol acid
RAW				
6.25		0		
6.06	0.19	10	10	0.019
5.78	0.28	20	10	0.028
5.44	0.34	30	10	0.034
4.82	0.62	40	10	0.062
4.50	0.32	50	10	0.032
4.31	0.19	60	10	0.019
4.13	0.18	70	10	0.018
4.04	0.09	80	10	0.009
FILTERED				
6.40		0		
6.13	0.27	10	10	0.027
5.80	0.33	20	10	0.033
5.42	0.38	30	10	0.038
5.07	0.35	40	10	0.035
4.74	0.33	50	10	0.033
4.48	0.26	60	10	0.026
4.31	0.17	70	10	0.017
4.17	0.14	80	10	0.014
4.03	0.14	90	10	0.014

Acid: 1.60 N (0.1600 N) 0.01639N OTHER _____

Acid Lot No. : A2154

Sample Volume : 50 mL

☒ Filtered ☒ Unfiltered

Sample stirred : ☒ magnetically ☐ manually

pH: Start _____ End _____

	R	F
DC (Digital Counts) or Vol. titrated at End Point near pH 8.3 :	0	0
Digital Counts or Vol. titrated at End Point near pH 4.5 :	40	30

☒ Incremental Equivalence ☐ Fixed End Point ☐ Gran Titration

Date 12/4/02 Time 0900

CALCULATIONS :

$$CO_3^{-2} = A \times \frac{F_1}{\text{mL sample}} \times CF \;*$$

$$HCO_3^{-1} = [\,B - 2(A)\,] \times \frac{F_2}{\text{mL sample}} \times CF; \;*$$

$$\text{ALKALINITY as } CaCO_3 = B \times \frac{F_3}{\text{mL sample}} \times CF \;*$$

	R	F
A = DC or mLs acid from initial pH to endpoint near 8.3 =	0	0
B = DC or mLs acid from initial pH to endpoint near 4.5 =	40	30

* APPLY CORRECTION FACTOR (CF) IF ACID USED FOR BURETTE TITRATION HAS NONSTANDARD NORMALITY– CF = corr. factor = H_2SO_4 normality/0.01639

FACTORS	DIGITAL COUNT TITRATION (DC) Using 0.1600 normal	Using 1.60 normal
F_1	12.0	120
F_2	12.2	122
F_3	10.0	100

FACTORS	BURETTE * TITRATION (mL) Using ml of 0.01639 normal H_2SO_4
F_1	983.5
F_2	1000
F_3	820.2

(IMPORTANT : CF NOT APPLICABLE FOR THE DIGITAL TITRATION FACTORS SHOWN; use only with nonstandard normality BURETTE titration)

	R	F	
ALKALINITY (00419/39086)	8	6	mg/L as $CaCO_3$
BICARBONATE (00450/00453)	9.8	7.3	mg/L as HCO_3^{-1}
CARBONATE (00447/00452)	0	0	mg/L as CO_3^{-2}

NOTE: ATTACH OUTPUT COPY IF ALKALINITY VALUES ARE CALCULATED USING A COMPUTER PROGRAM

OBSERVATIONS/CALCULATIONS :

U.S. GEOLOGICAL SURVEY – NATIONAL WATER QUALITY LABORATORY
ANALYTICAL SERVICES REQUEST

THIS SECTION MANDATORY FOR SAMPLE LOGIN

NWIS RECORD NUMBER / SAMPLE TRACKING ID	User Code	Project Account	LAB USE ONLY / NWQL LABORATORY ID
	0 0 4	9671 [redacted] 1 6 8 0 0	

STATION ID	Begin Date (YYYYMMDD)	Begin Time	Medium Code	Sample Type
0 9 5 1 3 8 8 5	2 0 0 2 1 1 3 0	0 1 3 7	9	9

District Contact Phone Number	End Date (YYYYMMDD)	End Time	District Contact Email
480-736-1093 Ext. 230			kdfossum@usgs.gov

SITE / SAMPLE / SPECIAL PROJECT INFORMATION (Optional)

State	County	Geologic Unit Code	Analysis Status*	Analysis Source*	Hydrologic Condition*	Hydrologic Event*	Chain of Custody	Sample Set
04	013		H	9	9	J		3

NWQL Proposal Number	NWQL Contact Name	NWQL Contact Email	Program/Project

Station Name: 43RD AVE + PEORIA **Field ID:** 09513885

Comments to NWQL: **Pared NPDES Sample. Send to Ocala Lab.**

NEEDS EPA HOLDING TIMES

Hazard (please explain):

ANALYTICAL WORK REQUESTS: SCHEDULES AND LAB CODES (CIRCLE A=add D=delete)

SCHED 1: 3134 SCHED 2: _____ SCHED 3: _____ SCHED 4: _____ SCHED 5: _____ SCHED 6: _____

Lab Code: 3072 A D	Lab Code: _____ A D	Lab Code: _____ A D	Lab Code: _____ A D	Lab Code: _____ A D
Lab Code: 3074 A D	Lab Code: _____ A D	Lab Code: _____ A D	Lab Code: _____ A D	Lab Code: _____ A D
Lab Code: _____ A D	Lab Code: _____ A D	Lab Code: _____ A D	Lab Code: _____ A D	Lab Code: _____ A D

SHIPPING INFORMATION (Please fill in number of containers sent)

	ALF	1	COD		FA		FCN		IQE		IRM	1	RA	1	RU		SUR		TPCN
	BGC		CRB		FAM	1	FU		IQL		MBAS		RAM		RUR	1	SUSO		UAS
	C18		CU		FAR		FUS		IQM		OAG		RAR		RURCT		TBI	1	WCA
	CC		CUR	1	FCA		GCC		IRE		PHE		RCB		RURCV		TBY		
	CHY		DOC		FCC		GCV		IRL		PIC		RCN		RUS		TOC	1	RCC

NWQL Login Comments:

Collected by: Kenneth D. Fossum Phone No. 480-736-1093 Ext. 230 Date Shipped: 12/2/02

FIELD VALUES

Lab/P Code	Value	Remark	Lab/P Code	Value	Remark	Lab/P Code	Value	Remark
21/00095 Specific Conductance uS/cm @ 25 deg C	413		51/00400 pH Standard Units	7.66		2/39086 Alkalinity – IT mg/L as CaCO3	—	—
/			/			/		

Field Comments:

*MANDATORY FOR NWIS

Revised 04/00

Chain of Custody Forms

FedEx Express USA Airbill

FedEx Tracking Number 8358 4750 1290

SLA22

Form I.D. No. 0215

Sender's Copy

1 From Please print and press hard.

Date 12/2/02 Sender's FedEx Account Number 1426-9217-1

Sender's Name KEN FOSSUM Phone (480) 736-1090

Company US GEOLOGICAL SURVEY

Address 1769 W UNIVERSITY DR

Dept./Floor/Suite/Room

City TEMPE State AZ ZIP 85281

2 Your Internal Billing Reference
First 24 characters will appear on invoice. 9671-16800

3 To

Recipient's Name OCALA LAB Phone 352 237-5514

Company U.S. GEOLOGICAL SURVEY

Address 4500 SW. 40TH AVE.

To "HOLD" at FedEx location, print FedEx address. We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Dept./Floor/Suite/Room

City OCALA State FL ZIP 34470-5731

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

Questions? Visit our Web site at fedex.com
or call 1.800.Go.FedEx® 800.463.3339.

0223873843

4a Express Package Service — Packages up to 150 lbs. Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day — Second business day
- [ ] FedEx Express Saver — Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — Packages over 150 lbs. Delivery commitment may be later in some areas.

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation:

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [x] Other

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] HOLD Weekday at FedEx Location — NOT Available for FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 _____ x _____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below.

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	30	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details.

FedEx Use Only

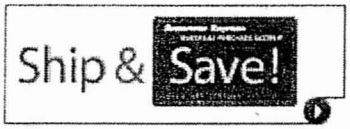
8 Release Signature — Sign to authorize delivery without obtaining signature.

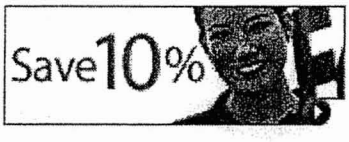
By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

447

SRF • Rev. Date 4/02 • Part #157610S • ©1994–2002 FedEx • PRINTED IN U.S.A.

PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE.





Track Shipments

Quick Help

Detailed Results

Tracking Number	835847501290
Reference Number	9671-16800
Ship Date	12/02/2002
Delivered To	Recept/Frnt desk
Delivery Location	OCALA FL
Delivery Date/Time	12/03/2002 10:37
Signed For By	A.HOMBLE
Service Type	Priority Overnight

Tracking Options
- Obtain a Signature Proof of Delivery
- Email these tracking results to one or more recipients
- Track More Shipments

Scan Activity	Date/Time	Comments
DeliveredOCALA FL	12/03/2002 10:37	
Arrived at Sort FacilityMEMPHIS TN	12/03/2002 10:01	
On FedEx vehicle for deliveryOCALA FL	12/03/2002 09:23	
Arrived at FedEx Destination LocationOCALA FL	12/03/2002 09:08	
Left FedEx RampORLANDO FL	12/03/2002 07:48	
Arrived at FedEx RampORLANDO FL	12/03/2002 06:54	
Left FedEx Sort FacilityMEMPHIS TN	12/03/2002 05:50	
Left FedEx RampPHOENIX AZ	12/02/2002 20:34	
Left FedEx Origin LocationTEMPE AZ	12/02/2002 19:37	
Arrived at FedEx RampPHOENIX AZ	12/02/2002 18:55	
Picked up by FedExTEMPE AZ	12/02/2002 14:12	

Email Your Detailed Tracking Results

Enter your email (optional), up to three email addresses as recipients, add your message, and click on **Send Email**.

From

To

To

To

Add a message to this email.

Send Email

fedex.com Terms of Use | Contact Us!
This site is protected by copyright and trademark laws under U.S. and International law. Review our privacy policy. All rights reserved.
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FedEx Express
Customer Support Trace
3875 Airways Boulevard
Module H, 4th Floor
Memphis, TN 38116

U.S. Mail: PO Box 727
Memphis, TN 38194-4643

Telephone: 901-369-3600

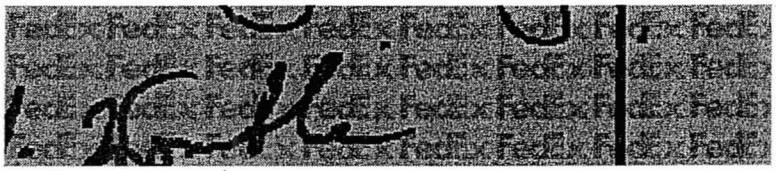
12/5/2002

Dear Customer:

Here is the proof of delivery for the shipment with tracking number **835847501290**. Our records reflect the following information.

Delivery Information:

Signed For By: A.HOMBLE



Delivery Location: 4500 SW 40TB AVE
Delivery Date: December 3, 2002
Delivery Time: 1037

Shipping Information:

Tracking No: 835847501290

Ship Date: December 2, 2002

Recipient:
OCALA LAB
U S GEOLOGICAL SURVEY
4500 S W 40TH AVE
OCALA, FL 34470
US

Shipper:
KEN FOSSUM
US GEOLOGICAL SURVEY
1769 W UNIVERSITY DR
TEMPE, AZ 85281
US

Shipment Reference Information: 9671-16800

Thank you for choosing FedEx Express. We look forward to working with you in the future.

FedEx Worldwide Customer Service
1-800-Go-FedEx®
Reference No.: R2002120500065585950

DATABASE #9 REC No: 00300012

Supplementary page for surface water quality field notes -- p. 1/2 *

BQA SWS1 3/92 (3rd printing, 1st ed.)

SURFACE WATER QUALITY ASSURANCE FIXED VALUE CODES

Station 43RD AVE + PEORIA

Sta.No. 09513885

PARAMETER CODES:

99109 START DATE FOR SAMPLES (YMMDD) _____

99110 END DATE FOR SAMPLES (YMMDD) _____

82073 START TIME (2400 HOURS) _____

82074 END TIME (2400 HOURS) _____

Valid sample-medium codes are:

- [ ] 0 -- Not determined
- [ ] A -- Artificial
- [ ] H -- Bottom material
- [ ] 9 -- Surface water
- [ ] Q -- QA samp. - Artificial
- [x] R -- QA samp. - Surface water
- [ ] V -- QA samp. - Suspended sediment
- [ ] W -- QA samp. - Bottom material

Valid sample-type codes are:

- [ ] A -- Not determined
- [ ] H -- Composite
- [ ] 1 -- Spike
- [ ] 2 -- Blank
- [ ] 3 -- Reference
- [ ] 4 -- Blind
- [ ] 6 -- Reference material
- [x] 7 -- Replicate
- [ ] 8 -- Spike solution
- [ ] 9 -- Regular
- [ ] B -- Other QA _____

PARAMETER CODES:

82398 SAMPLING METHOD CODES

- [ ] 10.00 EQUAL WIDTH INCREMENT (EWI)
- [ ] 20.00 EQUAL DISCHARGE INCREMENT (EDI)
- [ ] 25.00 TIMED SAMPLING INTERVAL
- [x] 30.00 SINGLE VERTICAL
- [ ] 40.00 MULTIPLE VERTICALS
- [ ] 50.00 POINT SAMPLE
- [ ] 60.00 WEIGHTED BOTTLE
- [ ] 70.00 GRAB SAMPLE (DIP)
- [ ] 8010.0 OTHER _____

84164 SAMPLER TYPE, CODE

- [ ] 3001.75 DH-48 TM w/teflon gasket, nozzle
- [ ] 3002.75 DH-59 TM w/teflon gasket, nozzle
- [ ] 3005.75 DH-76 TM w/teflon gasket, nozzle
- [ ] 3007.00 D-49
- [ ] 3008.00 D-49AL
- [ ] 3009.00 D-74
- [ ] 3010.00 D-74AL
- [ ] 3010.75 D-74 AL-TM w/teflon gasket, nozzle
- [ ] 3011.50 D-77 TM
- [ ] 3011.75 D-77 TM mod. teflon bag sampler
- [ ] 3014.00 P-61 AL
- [ ] 3014.50 P-61 AL-TM
- [ ] 3015.00 P-63
- [ ] 3035.00 DH-81
- [ ] 3035.50 DH-81 w/teflon cap, nozzle
- [ ] 3040.00 TEFLON BAG SAMPLER
- [ ] 3050.00 WEIGHTED-BOTTLE SAMPLER
- [ ] 8010.0 OTHER _____

99100 BLANK, TYPE OF SOLUTION, FIXED VALUE CODE

- [ ] 10.00 DISTILLED/DEIONIZED WATER
- [ ] 20.00 STD. REFERENCE WATER SAMPLE
- [ ] 30.00 MATCHED MATRIX
- [ ] 40.00 ORGANIC-FREE WATER
- [ ] 200.00 OTHER

PARAMETER CODES:

99102 BLANK, TYPE OF SAMPLE, FIXED VALUE CODE

- [ ] 10.00 SHELF (HOLD)
- [ ] 20.00 REFRIGERATOR
- [ ] 30.00 TRIP
- [ ] 40.00 SAMPLER
- [ ] 50.00 SPLITTER
- [ ] 60.00 FILTER
- [ ] 70.00 PRESERVATION
- [ ] 100.00 FIELD
- [ ] 150.00 LAB BLANK
- [ ] 200.00 OTHER _____

99105 REPLICATE, TYPE, FIXED VALUE CODE

- [x] 10.00 CONCURRENT
- [ ] 20.00 SEQUENTIAL
- [ ] 30.00 SPLIT
- [ ] 40.00 SPLIT-CONCURRENT
- [ ] 50.00 SPLIT-SEQUENTIAL
- [ ] 200.00 OTHER _____

99106 SPIKE, TYPE, FIXED VALUE CODE

- [ ] 10.00 FIELD
- [ ] 20.00 LABORATORY
- [ ] 30.00 SURROGATE
- [ ] 40.00 INTERNAL STDS.
- [ ] 200.00 OTHER _____

99111 QA DATA TYPE ASSOC. WITH SAMPLE

- [ ] 10.00 BLANK
- [ ] 20.00 BLIND SAMPLE
- [x] 30.00 REPLICATE SAMPLE
- [ ] 40.00 SPIKE SAMPLE
- [ ] 100.00 MORE THAN ONE TYPE OF QA SAMPLE
- [ ] 200.00 OTHER _____

PARAMETER CODES:

00115 SAMPLE TREATMENT CODES

- [ ] 1.00 RAW
- [ ] 2.00 TREATED

71999 SAMPLE PURPOSE CODES

- [ ] 10.00 ROUTINE
- [ ] 15.00 NAWQA
- [ ] 20.00 NASQAN
- [ ] 30.00 BENCHMARK
- [ ] 40.00 SW NETWORK
- [ ] 60.00 LOWFLOW NETWORK
- [ ] 70.00 HIGHFLOW NETWORK

99101 BLANK, SOURCE OF SOLUTION, FIXED VALUE CODE
99103 REFERENCE MATERIAL, SOURCE, FIXED VALUE CODE
99107 SPIKE, SOURCE, FIXED VALUE CODE
(99101, 99103, AND 99107 ALL USE THE FOLLOWING CODES:)

99101	99103	99107	
			10.00 NATL WATER QUALITY LAB (USGS)
			20.00 U.S. EPA
			30.00 SRWS (USGS)
			35.00 MIX OF SRWS SAMPLE
			40.00 NIST (FORMERLY NBS)
			50.00 CANADIAN INLAND WATERS
			60.00 DISTRICT LAB
			70.00 NATURAL SAMPLE
			80.00 OCALA LAB (USGS)
			99.99 UNKNOWN
			100 CHEM SUPPLIER
			200 OTHER

82075 AMOUNT OF RINSE (L) _____

99108 SPIKE VOLUME (mL) _____

99104 REF. MATERIAL OR SPIKE SOURCE CODE NO. _____

* A COMPLETE LIST OF QUALITY ASSURANCE FIXED VALUE CODES IS FOUND IN THE NWIS USERS'S MANUAL, VOL.2, CH. 2, APPENDIX B OR IN THE ON-LINE NWIS DOCUMENTATION

43RD AVE & PEORIA 11/30/02 0142 DUPLICATE

ALKALINITY

pH	△ pH	Vol acid DC or mL	△Vol acid DC or mL	△ pH / △ Vol acid
RAW				
5.75		0		
5.65	0.10	10	10	0.010
5.45	0.20	20	10	0.020
5.30	0.15	25	5	0.030
5.15	0.15	30	5	0.030
4.96	0.19	35	5	0.038
4.80	0.16	40	5	0.032
4.67	0.13	45	5	0.026
4.54	0.13	50	5	0.026
4.35	0.19	60	10	0.019
4.20	0.15	70	10	0.015
4.06	0.14	80	10	0.014
FILTERED				
6.48		0		
6.34	0.14	10	10	0.014
6.00	0.34	20	10	0.034
5.86	0.14	25	5	0.038
5.53	0.33	30	5	0.066
5.37	0.16	35	5	0.032
5.21	0.16	40	5	0.032
5.02	0.19	45	5	0.038
4.83	0.19	50	5	0.038
4.53	0.30	60	10	0.030
4.34	0.19	70	10	0.019
4.19	0.15	80	10	0.015
4.05	0.14	90	10	0.014

Acid: 1.60 N 0.1600 N 0.01639N OTHER _____

Acid Lot No. : A2154

Sample Volume : 50 mL

☒ Filtered ☒ Unfiltered

Sample stirred : ☒ magnetically ☐ manually

pH: Start _____ End _____

DC (Digital Counts) or Vol. titrated at End Point near pH 8.3 : R 0 | F 0

Digital Counts or Vol. titrated at End Point near pH 4.5 : 35 | 30

☒ Incremental Equivalence ☐ Fixed End Point ☐ Gran Titration

Date 12/4/02 Time 1015

CALCULATIONS :

$$CO_3^{-2} = A \times \frac{F_1}{\text{mL sample}} \times CF \ *$$

$$HCO_3^{-1} = [B - 2(A)] \times \frac{F_2}{\text{mL sample}} \times CF; \ *$$

$$\text{ALKALINITY as } CaCO_3 = B \times \frac{F_3}{\text{mL sample}} \times CF \ *$$

FACTORS	DIGITAL COUNT TITRATION (DC) Using 0.1600 normal	Using 1.60 normal
F_1	12.0	120
F_2	12.2	122
F_3	10.0	100

A = DC or mLs acid from initial pH to endpoint near 8.3 = R 0 | F 0

B = DC or mLs acid from initial pH to endpoint near 4.5 = 35 | 30

FACTORS	BURETTE * TITRATION (mL) Using ml of 0.01639 normal H_2SO_4
F_1	983.5
F_2	1000
F_3	820.2

* APPLY CORRECTION FACTOR (CF) IF ACID USED FOR BURETTE TITRATION HAS NONSTANDARD NORMALITY– CF = corr. factor = H_2SO_4 normality/0.01639

(IMPORTANT : CF NOT APPLICABLE FOR THE DIGITAL TITRATION FACTORS SHOWN; use only with nonstandard normality BURETTE titration)

	R	F	
ALKALINITY (00419/39086)	7	6	mg/L as $CaCO_3$
BICARBONATE (00450/00453)	8.5	7.3	mg/L as HCO_3^{-1}
CARBONATE (00447/00452)	0	0	mg/L as CO_3^{-2}

NOTE: ATTACH OUTPUT COPY IF ALKALINITY VALUES ARE CALCULATED USING A COMPUTER PROGRAM

OBSERVATIONS/CALCULATIONS :

U.S. GEOLOGICAL SURVEY – NATIONAL WATER QUALITY LABORATORY
ANALYTICAL SERVICES REQUEST

THIS SECTION MANDATORY FOR SAMPLE LOGIN

NWIS RECORD NUMBER / SAMPLE TRACKING ID	User Code	Project Account	LAB USE ONLY / NWQL LABORATORY ID
	004	9671 [redacted] 16800	

STATION ID	Begin Date (YYYYMMDD)	Begin Time	Medium Code	Sample Type
09513885	20021130	0142	R	7

District Contact Phone Number	End Date (YYYYMMDD)	End Time	District Contact Email
480-736-1093 Ext. 230			kdfossum@usgs.gov

SITE / SAMPLE / SPECIAL PROJECT INFORMATION (Optional)

State	County	Geologic Unit Code	Analysis Status*	Analysis Source*	Hydrologic Condition*	Hydrologic Event*	Chain of Custody	Sample Set
04	013		H	9	9	J		3A

NWQL Proposal Number	NWQL Contact Name	NWQL Contact Email	Program/Project

Station Name: 43RD AVE & PEORIA **Field ID:** 09513885

Comments to NWQL: **Pared NPDES Sample. Send to Ocala Lab.** DUPLICATE SAMPLE.

NEEDS EPA HOLDING TIMES

Hazard (please explain):

ANALYTICAL WORK REQUESTS: SCHEDULES AND LAB CODES (CIRCLE A=add D=delete)

SCHED 1: 3134 SCHED 2: SCHED 3: SCHED 4: SCHED 5: SCHED 6:

Lab Code: 3072 A (D)	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D
Lab Code: 3074 A (D)	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D
Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D

SHIPPING INFORMATION (Please fill in number of containers sent)

	ALF	1	COD		FA		FCN		IQE		IRM	1	RA	1	RU		SUR		TPCN
	BGC		CRB		FAM	1	FU		IQL		MBAS		RAM		RUR	1	SUSO		UAS
	C18		CU		FAR		FUS		IQM		OAG		RAR		RURCT		TBI	1	WCA
	CC		CUR	1	FCA		GCC		IRE		PHE		RCB		RURCV		TBY		
	CHY		DOC		FCC		GCV		IRL		PIC		RCN		RUS		TOC	1	RCC

NWQL Login Comments:

Collected by: Kenneth D. Fossum Phone No. 480-736-1093 Ext. 230 Date Shipped: 12/2/02

FIELD VALUES

Lab/P Code	Value	Remark	Lab/P Code	Value	Remark	Lab/P Code	Value	Remark
21/00095 Specific Conductance uS/cm @ 25 deg C	413		51/00400 pH Standard Units	7.66		2/39086 Alkalinity – IT mg/L as CaCO3	—	—
1 99105	10		1 99111	30		1		

Field Comments:

*MANDATORY FOR NWIS

Revised 04/00

FedEx Express USA Airbill

FedEx Tracking Number 8358 4750 1290

SLA22

Form I.D. No. 0215

Sender's Copy

1 From Please print and press hard.

Date 12/2/02 Sender's FedEx Account Number 1426-9217-1

Sender's Name KEN FOSSUM Phone (480) 736-1090

Company US GEOLOGICAL SURVEY

Address 1769 W UNIVERSITY DR

Dept./Floor/Suite/Room

City TEMPE State AZ ZIP 85281

2 Your Internal Billing Reference
First 24 characters will appear on invoice. 9671-16800

3 To

Recipient's Name OCALA LAB Phone 352 237-5514

Company U.S. GEOLOGICAL SURVEY

Address 4500 SW. 40TH AVE.

To "HOLD" at FedEx location, print FedEx address. We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Dept./Floor/Suite/Room

City OCALA State FL ZIP 34470-5731

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

Questions? Visit our Web site at fedex.com
or call 1.800.Go.FedEx® 800.463.3339.

0223873843

4a Express Package Service — Packages up to 150 lbs. Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day — Second business day
- [ ] FedEx Express Saver — Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

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- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

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- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [x] Other

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- [ ] SATURDAY Delivery Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below.

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	30	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details.

FedEx Use Only

8 Release Signature Sign to authorize delivery without obtaining signature.

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

447

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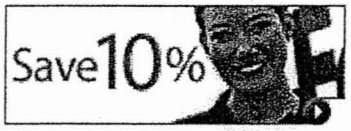
PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE.



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Reference Number	9671-16800
Ship Date	12/02/2002
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Service Type	Priority Overnight

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- Email these tracking results to one or more recipients
- Track More Shipments

Scan Activity	Date/Time	Comments
DeliveredOCALA FL	12/03/2002 10:37	
Arrived at Sort FacilityMEMPHIS TN	12/03/2002 10:01	
On FedEx vehicle for deliveryOCALA FL	12/03/2002 09:23	
Arrived at FedEx Destination LocationOCALA FL	12/03/2002 09:08	
Left FedEx RampORLANDO FL	12/03/2002 07:48	
Arrived at FedEx RampORLANDO FL	12/03/2002 06:54	
Left FedEx Sort FacilityMEMPHIS TN	12/03/2002 05:50	
Left FedEx RampPHOENIX AZ	12/02/2002 20:34	
Left FedEx Origin LocationTEMPE AZ	12/02/2002 19:37	
Arrived at FedEx RampPHOENIX AZ	12/02/2002 18:55	
Picked up by FedExTEMPE AZ	12/02/2002 14:12	

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Enter your email (optional), up to three email addresses as recipients, add your message, and click on **Send Email**.

From

To

To

To

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FedEx Express
Customer Support Trace
3875 Airways Boulevard
Module H, 4th Floor
Memphis, TN 38116

U.S. Mail: PO Box 727
Memphis, TN 38194-4643

Telephone: 901-369-3600

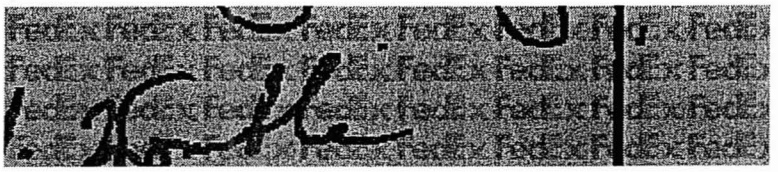
12/5/2002

Dear Customer:

Here is the proof of delivery for the shipment with tracking number **835847501290**. Our records reflect the following information.

Delivery Information:

Signed For By: A.HOMBLE



Delivery Location: 4500 SW 40TB AVE
Delivery Date: December 3, 2002
Delivery Time: 1037

Shipping Information:

Tracking No: 835847501290

Ship Date: December 2, 2002

Recipient:
OCALA LAB
U S GEOLOGICAL SURVEY
4500 S W 40TH AVE
OCALA, FL 34470
US

Shipper:
KEN FOSSUM
US GEOLOGICAL SURVEY
1769 W UNIVERSITY DR
TEMPE, AZ 85281
US

Shipment Reference Information: 9671-16800

Thank you for choosing FedEx Express. We look forward to working with you in the future.

FedEx Worldwide Customer Service
1-800-Go-FedEx®
Reference No.: R2002120500065585950

Del Mar Analytical
2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
16525 Sherman Way, Suite C-11, Van Nuys, CA 92406 (818) 779-1844 FAX (818) 779-1843
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

CHAIN OF CUSTODY FORM

Client Name/Address: MATT OLLER
FCDMC
2801 W. DURANGO
PHOENIX, AZ 85009

Project/PO Number: PHOENIX
NPDES STORMWATER

Project Manager: MATT OLLER

Phone Number: 602-506-4663

Sampler: HEMALLER/FOSSUM

Fax Number: 602-506-4601

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	TPH[2]	Oil+Grease[2]	Fecal Strep[1]	Fecal Coliform[1]	E. Coli[1]	608[1]	624[2]	625[3]		Special Instructions
43RD + PEORIA - GRAB	S	MISC.	13	11/30/02 0630	Y	X	X	X	X	X	X	X	X		SEE CONTRACT PLK0843-01

Relinquished By: [signature] Date /Time: 11/30/02 1020
Received by: Date /Time:

Relinquished By: Date /Time:
Received by: Date /Time:

Relinquished By: Date /Time:
Received in Lab by: [signature] Date /Time: 11/30/02 1020

Turnaround Time: (Check) SEE CONTRACT
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours ____ normal ✓

Sample Integrity: (Check)
intact ✓ on ice ✓ 3°C

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

PLEASE NOTE TEMP.

Del Mar Analytical
2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
7277 Hayvenhurst, Suite B-12, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-9596 FAX (858) 505-9689
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

Client Name/Address: MATT OLLER
FCDMC
2801 W. DURANGO
PHOENIX, AZ 85009

Project/PO Number: PHOENIX
NPDES STORMWATER

Project Manager: MATT OLLER

Phone Number: 602-506-4663

Sampler: HEMAUER/FOSSUM

Fax Number: 602-506-4601

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	As, Be, Cd, Cr, Cu Pb, Ni, Ag, Zn (TOTAL & DISS)	P (TOTAL, ORTHO)	NH_3, NO_3, NO_2 TKN, NO_2 + NO_3	BOD/COD	CN^-	TDS/TSS	ALKALINITY HARDNESS	PHENOLICS		Special Instructions
43RD + PEORIA - COMP	S	5 gal glass	1	[redacted]		N	X	X	X	X	X	X	X	X		SEE CONTRACT
				11/30/02	0137											PLK0841-01
				per client 12/2/02 LE												

Relinquished By:	Date/Time:	Received by:	Date/Time:	Turnaround Time: (Check) SEE CONTRACT
	11/30/02 1022			same day ____ 72 hours ____
Relinquished By:	Date/Time:	Received by:	Date/Time:	24 hours ____ 5 days ✓
				48 hours ____ normal ✓
Relinquished By:	Date/Time:	Received in Lab by:	Date/Time:	Sample Integrity: (Check)
			113002/1022	intact ✓ on ice ✓ 3°C

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

Del Mar Analytical

2852 Alton Ave., Irvine, CA 9262 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 9212 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 8504 Ph (480) 785-0043 Fax (480) 785-0851

CHAIN OF CUSTODY FORM
SUBCONTRACT ORDER

021210

SENDING LABORATORY:
Del Mar Analytical - Phoenix
9830 South 51st Street, Suite B-120
Phoenix, AZ 85044
Phone: (480) 785-0043
Fax: (480) 785-0851
Project Manager: Linda Eshelman
Project: PLK0841-MCFC

RECEIVING LABORATORY:
Transwest Geochem (out)
3725 E. Atlanta Ave Ste 1
Phoenix, AZ 85040-2961
Phone: 602-437-0330
Fax: 602-470-0660

SAMPLE INTEGRITY:
Please complete upon receipt
intact: ☑ Y ☐ N Initials
on ice: ☑ Y ☐ N Initials
Temp: °C ☑ Y ☐ N 1.8 Initials

Sample Description	Sample Matrix	Sampling Date/Time	Analysis Required	Date Due	Expires	# of Cont.	Sample Bottle Type
PLK0841-01	Water	11/30/02 08:00	NO3/NO2-N (353.2)	Standard TAT	12/28/02 08:00	1	☐ Voa ☐ Amber Voa ☑ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other

Special Instructions:
None

Relinquished By: 12-2-2 Date/Time:
Received By: 12/2/02 1415 Date/Time:

Relinquished By Date/Time:
Received By: Date/Time:

U.S. GEOLOGICAL SURVEY, WRD, SURFACE-WATER QUALITY FIELD NOTES

BQA-1 3/92 (3rd printing, 1st ed.)

Proj. Name, No. MARICOPA URBAN - 967116800 Date NOVEMBER 29, 2002

Station 40TH ST. & IBW Sta.No. 333557111594201

Sampled By HEMAUER & FOSSUM Mean Time 2333 SMS Cntrl. No.

Record No. 00300061 Sample Purpose (71999) :

SAMPLES COLLECTED

Nutrients [X] TOC [ ]
Major Ions [ ] DOC [ ]
SOC [ ] Vol. Filt. ____ mL
BOD [ ] Turbidity [ ]
COD [X] ____ [ ]
____ [ ]

ORGANICS / TR. ELEMENTS
Pesticide [ ] Unfiltered [X]
VOC [ ] Filtered [ ]
BNA [ ] Suspended [ ]
____ [ ] Bottom [ ]

Sediment Conc. [ ]
Sediment Size [ ]
Sed. Bot. Material [ ]
Sand Split/Break [ ]
Radiochemical [ ]
Isotope [ ]
[ ]

FIELD MEASUREMENTS

					R	F	
Q. Inst. (00061)	19.3	cfs	meas.	Alkalinity (00419/39086)	36	32	mg/L
Gage Ht (00065)	1.47	ft.	rating est.	Bicarbonate (00450/00453)	44	39	mg/L
Temp. Water (00010)	18.5	°C		Carbonate (00447/00452)	0	0	mg/L
Temp. Air (00020)	15.0	°C		Hydroxide (—)	—		mg/L
pH (00400)	7.67	units		E. Coli (31633)	—		col./100 mL; Rmk
Sp. Cond. (00095)	108	µS/cm 25 °C		FC (31625)	—		col./100 mL; Rmk
Dis. Oxy. (00300)	8.11	mg/L		FS (31673)	—		col./100 mL; Rmk
DO Sat. (00301)	—	%		Other:			
Bar. Press. (00025)	732	mm Hg					

SAMPLING CONDITIONS

Location: Wading, cable, ice, boat, bridge, upstr., downstr., side bridge @ ft mile, above, below gage, and

Sampling site: Pool Riffle Open Channel Braided Backwater Sampler Type AUTO-SIGMA

Sample Method: EWI EDI OTHER AUTO-SAMPLER Sampler ID

Nozzle size 3/8" Nozzle Made of TEFLON Bottle type, size 8 2L-glass

Sample Split Churn Cone Other ____ Made of TEFLON

LB ____ RB ____ Stream Width ____ Sampling Pts. ____

Bottom: Bedrock Rock Cobble Gravel Sand Mud Concrete Other

Stage Conditions:
A Not Determined; 4 Stable, low; 9 Stable, normal; 5 Falling; 6 Stable, high; 7 Peak; 8 Rising

LABORATORY SCHEDULES

Lab Schedules Req. (or copy of lab request form attached [X])

3134

Lab Codes Add (A) Delete (D) :

3072(D), 3074(D)

Observations:
(Codes: 0-none 1-mild 2-moderate 3-serious 4-extreme)
(option: LEAVE BLANK IF NONE)

Floating debris	(01345) :	
Floating garbage	(01320) :	
Floating algae mats	(01325) :	
Fish kill	(01340) :	
Detergent suds	(01305) :	
Turbidity	(01350) :	
Atms. Odor	(01330) :	
Oil-grease	(01300) :	

Sampling		GHT
Start Time		
Mean Time =		
End Time		

Hydrologic Event: 9 Routine samp. A Spg. breakup B Ice Cover 1 Drought 2 Spill 3 Reg. Flow 4 Snowmelt 7 Flood
Other J-STORM Ice Thickness ____ Ice cover ____

Stream color(s): brown green blue gray other ____

Stream Mixing: Excellent Good Fair Poor Clarity/Turbidity: ____

Weather: Clear Partly Cloudy Cloudy Light Medium Heavy Snow Rain Calm Light Breeze Very Gusty Windy Very Cold Warm Hot Other

Other Observations

81395 (MGD) = 1.14
82381 (PRECIP) = 0.50 inches
00129 (MAX5) = 0.36 in/hr.
00135 (STM. LENGTH) = 6.55 hours
00132 (DRY DAYS) = 33 days

(Cont. p. 3,4)

Checked by Date

TEMPERATURE Lab Tested Thermometer used? ☐ Yes ☒ No If NO, explain in remarks

Thermometer Checked w/ASTM within ± 0.5 °C; Date

AMPULE LOT NUMBERS: nitric acid _____ mercuric chloride _____ nitric acid/potassium dichromate

pH

Mtr W-no. W-495252 METER Make/Model CORNING CHECKMATE 90

electrode no. electrode type

pH Buffer	pH Buffer Temp °C	Initial Reading	Adj. Reading	Remarks
7.00	18.5	7.00	7.00	OK
10.01	18.5	10.01	10.01	OK

☒ unfiltered sample ☐ filtered sample

Temp correction factors for buffers applied? ☒ YES ☐ NO

stirrer used? ☐ YES ☒ NO

if yes, ☐ magnetic stirrer ☐ manually stirred

pH subsample from or pH measurement location : Churn sample bottle single point at ____ sta ____ depth vertical avg of ____ points x-sec average of ____ points

Sample Temp = 18.5 °C

FIELD pH = 7.67 USE: 7.67

SPECIFIC CONDUCTANCE

Mtr W-no. W-495252 METER Make/Model CORNING CHECKMATE 90

probe no.

standard value	Temp Std °C	Initial Reading	Adj. Reading	Remarks
0	18.5	0	0	OK
1413 µS	18.5	1413 µS	1413 µS	OK

correction factor applied? ☐ YES ☒ NO

☒ auto temp compensated meter

☐ manual temp compensated meter

corr. factor = _____

SC subsample from or SC measurement location : Churn sample bottle single point at ____ sta ____ depth vertical avg of ____ points x-sec avg of ____ points

FIELD CONDUCTANCE = 108 µS USE: 108 µS

DISSOLVED OXYGEN W-no. _____ METER Make/Model YSI-55

D.O. measurement location or D.O. subsample from : single point at ____ sta ____ depth vertical avg of ____ points x-sec avg of ____ points ~~BOD bottle~~

Calibration :

☒ Air Calibration in Water ☐ Air Calibration Chamber in Air

☐ Air-Saturation Deionized Water ☐ Calibration by Winkler Titration (attach Supplementary Winkler page)

D.O. Zero Check (using zero D.O. solution) ☐ YES ☒ NO

Thermister Check ☐ YES ☒ NO

BAR. PRESS 732 mm Hg; (mm = in. X 25.4)

Salinity Corr. Factor —

H_2O Temp. 18.5 °C

Chart D.O. Sat. 9.00 mg/L

stirrer used? ☐ YES ☒ NO if yes, ☐ magnetic stirrer ☐ manually stirred

Meter D.O. Sat. 8.84 mg/L; Adjusted to 9.00 (if corr. factor applicable)

DISSOLVED OXYGEN IN STREAM = 8.11 mg/L

QUALITY ASSURANCE SAMPLES

Were quality assurance samples collected? ☐ YES ☒ NO If YES indicate type(s) :

	Organic-free	DI	water from sampling site
Replicate	☐	☐	☐
Spike	☐	☐	☐
Field Blank	☐	☐	Supplementary page w/additional QA sample info attached ☐
Trip Blank	☐	☐	

Other ☐ Indicate Type(s) :

Calibration Notes and Remarks

USED INTERNAL THERMISTOR IN CORNING METER.

ALKALINITY

pH	△ pH	Vol acid DC or mL	△Vol acid DC or mL	△ pH / △ Vol acid
RAW				
7.19		0		
6.48	0.71	100	100	0.007
5.69	0.79	160	60	0.013
5.55	0.14	170	10	0.014
5.40	0.15	175	5	0.03
5.17	0.23	180	5	0.046
5.05	0.12	185	5	0.024
4.95	0.10	190	5	0.02
4.85	0.10	195	5	0.02
4.76	0.09	200	5	0.018
4.68	0.08	205	5	0.016
4.60	0.08	210	5	0.016
4.48	0.12	220	10	0.012
4.28	0.20	240	20	0.01
4.00	0.28	280	40	0.007
FILTERED				
7.35		0		
6.17	1.18	100	100	0.012
5.52	0.65	140	40	0.016
5.29	0.23	150	10	0.023
5.16	0.13	155	5	0.026
5.00	0.16	160	5	0.032
4.86	0.14	165	5	0.028
4.75	0.11	170	5	0.022
4.57	0.18	180	10	0.018
4.41	0.16	190	10	0.016
4.21	0.20	210	20	0.01
4.02	0.19	240	30	0.006

Acid: 1.60 N (0.1600 N) 0.01639N OTHER _____

Acid Lot No. : A2154

Sample Volume : 50 mL

☒ Filtered ☒ Unfiltered

Sample stirred : ☒ magnetically ☐ manually

pH: Start _____ End _____

	R	F
DC (Digital Counts) or Vol. titrated at End Point near pH 8.3 :	0	0
Digital Counts or Vol. titrated at End Point near pH 4.5 :	180	160

☒ Incremental Equivalence ☐ Fixed End Point ☐ Gran Titration

Date 12/4/02 Time 0730

CALCULATIONS :

$$CO_3^{-2} = A \times \frac{F_1}{\text{mL sample}} \times CF \;*$$

$$HCO_3^{-1} = [\,B - 2(A)\,] \times \frac{F_2}{\text{mL sample}} \times CF; \;*$$

$$\text{ALKALINITY as } CaCO_3 = B \times \frac{F_3}{\text{mL sample}} \times CF \;*$$

	R	F
A = DC or mLs acid from initial pH to endpoint near 8.3 =	0	0
B = DC or mLs acid from initial pH to endpoint near 4.5 =	180	160

* APPLY CORRECTION FACTOR (CF) IF ACID USED FOR BURETTE TITRATION HAS NONSTANDARD NORMALITY-- CF = corr. factor = H_2SO_4 normality/0.01639

FACTORS	DIGITAL COUNT TITRATION (DC) Using 0.1600 normal	Using 1.60 normal
F_1	12.0	120
F_2	12.2	122
F_3	10.0	100

FACTORS	BURETTE * TITRATION (mL) Using ml of 0.01639 normal H_2SO_4
F_1	983.5
F_2	1000
F_3	820.2

(IMPORTANT : CF NOT APPLICABLE FOR THE DIGITAL TITRATION FACTORS SHOWN; use only with nonstandard normality BURETTE titration)

	R	F	
ALKALINITY (60419/39086)	36	32	mg/L as $CaCO_3$
BICARBONATE (60450/00453)	44	39	mg/L as HCO_3^{-1}
CARBONATE (60447/00452)	0	0	mg/L as CO_3^{-2}

NOTE: ATTACH OUTPUT COPY IF ALKALINITY VALUES ARE CALCULATED USING A COMPUTER PROGRAM

OBSERVATIONS/CALCULATIONS :

U.S. GEOLOGICAL SURVEY – NATIONAL WATER QUALITY LABORATORY
ANALYTICAL SERVICES REQUEST

THIS SECTION MANDATORY FOR SAMPLE LOGIN

NWIS RECORD NUMBER / SAMPLE TRACKING ID	User Code	Project Account	LAB USE ONLY / NWQL LABORATORY ID
	0 0 4	9671 [redacted] 1 6 8 0 0	

STATION ID	Begin Date (YYYYMMDD)	Begin Time	Medium Code	Sample Type
3 3 3 5 5 7 1 1 1 5 9 4 2 0 1	2 0 0 2 1 1 2 9	2 3 3 3	9	9

District Contact Phone Number	End Date (YYYYMMDD)	End Time	District Contact Email
480-736-1093 Ext. 230			kdfossum@usgs.gov

SITE / SAMPLE / SPECIAL PROJECT INFORMATION (Optional)

State	County	Geologic Unit Code	Analysis Status*	Analysis Source*	Hydrologic Condition*	Hydrologic Event*	Chain of Custody	Sample Set
04	013		H	9	9	J		2

NWQL Proposal Number	NWQL Contact Name	NWQL Contact Email	Program/Project

Station Name: 40TH ST. + IBW Field ID: 333557111594201

Comments to NWQL: Pared NPDES Sample. Send to Ocala Lab.

NEEDS EPA HOLDING TIMES

Hazard (please explain):

ANALYTICAL WORK REQUESTS: SCHEDULES AND LAB CODES (CIRCLE A=add D=delete)

SCHED 1: 3134 SCHED 2: SCHED 3: SCHED 4: SCHED 5: SCHED 6:

Lab Code: 3072 A (D)	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D
Lab Code: 3074 A (D)	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D
Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D	Lab Code: A D

SHIPPING INFORMATION (Please fill in number of containers sent)

	ALF	1	COD		FA		FCN		IQE		IRM	1	RA	1	RU		SUR		TPCN
	BGC		CRB		FAM	1	FU		IQL		MBAS		RAM		RUR	1	SUSO		UAS
	C18		CU		FAR		FUS		IQM		OAG		RAR		RURCT		TBI	1	WCA
	CC		CUR	1	FCA		GCC		IRE		PHE		RCB		RURCV		TBY		
	CHY		DOC		FCC		GCV		IRL		PIC		RCN		RUS		TOC	1	RCC

NWQL Login Comments:

Collected by: Kenneth D. Fossum Phone No. 480-736-1093 Ext. 230 Date Shipped: 12/2/02

FIELD VALUES

Lab/P Code	Value	Remark	Lab/P Code	Value	Remark	Lab/P Code	Value	Remark
21/00095 Specific Conductance uS/cm @ 25 deg C	108		51/00400 pH Standard Units	7.67		2/39086 Alkalinity – IT mg/L as CaCO3	—	—
/			/			/		

Field Comments:

*MANDATORY FOR NWIS

Revised 04/00

FedEx Express USA Airbill

FedEx Tracking Number 8358 4750 1305

SLA22

Form I.D. No. 0215

Sender's Copy

1 From Please print and press hard.

Date 12/2/02 Sender's FedEx Account Number 1426-9217-1

Sender's Name KEN FOSSUM Phone (480) 736-1090

Company US GEOLOGICAL SURVEY

Address 1769 W UNIVERSITY DR

Dept./Floor/Suite/Room

City TEMPE State AZ ZIP 85281

2 Your Internal Billing Reference 9671-16800
First 24 characters will appear on invoice.

3 To

Recipient's Name OCALA LAB Phone (352) 237-5514

Company U.S. GEOLOGICAL SURVEY

Address 4500 S.W. 40TH AVE

To "HOLD" at FedEx location, print FedEx address. We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Dept./Floor/Suite/Room

City OCALA State FL ZIP 34470-5731

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

Questions? Visit our Web site at fedex.com
or call 1.800.Go.FedEx® 800.463.3339.

0223873843

4a Express Package Service — Packages up to 150 lbs. Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day — Second business day
- [ ] FedEx Express Saver — Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — Packages over 150 lbs. Delivery commitment may be later in some areas.

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation:

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [x] Other

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] HOLD Weekday at FedEx Location — NOT Available for FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below.

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	30	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details.

FedEx Use Only

8 Release Signature Sign to authorize delivery without obtaining signature.

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

447

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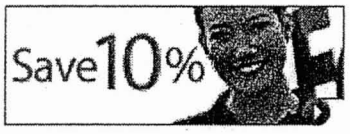
PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE.



Track Shipments

Quick Help

Detailed Results

Tracking Number	835847501305
Reference Number	9671-16800
Ship Date	12/02/2002
Delivered To	Recept/Frnt desk
Delivery Location	OCALA FL
Delivery Date/Time	12/03/2002 10:37
Signed For By	A.HOMBLE
Service Type	Priority Overnight

Tracking Options
- Obtain a Signature Proof of Delivery
- Email these tracking results to one or more recipients
- Track More Shipments

Scan Activity	Date/Time	Comments
DeliveredOCALA FL	12/03/2002 10:37	
Arrived at Sort FacilityMEMPHIS TN	12/03/2002 10:01	
On FedEx vehicle for deliveryOCALA FL	12/03/2002 09:24	
Arrived at FedEx Destination LocationOCALA FL	12/03/2002 09:12	
Left FedEx RampORLANDO FL	12/03/2002 07:47	
Arrived at FedEx RampORLANDO FL	12/03/2002 06:54	
Left FedEx Sort FacilityMEMPHIS TN	12/03/2002 05:50	
Left FedEx RampPHOENIX AZ	12/02/2002 20:34	
Left FedEx Origin LocationTEMPE AZ	12/02/2002 19:37	
Arrived at FedEx RampPHOENIX AZ	12/02/2002 18:55	
Picked up by FedExTEMPE AZ	12/02/2002 14:12	

Email Your Detailed Tracking Results

Enter your email (optional), up to three email addresses as recipients, add your message, and click on **Send Email**.

From

To

To

To

Add a message to this email.

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FedEx Express
Customer Support Trace
3875 Airways Boulevard
Module H, 4th Floor
Memphis, TN 38116

U.S. Mail: PO Box 727
Memphis, TN 38194-4643

Telephone: 901-369-3600

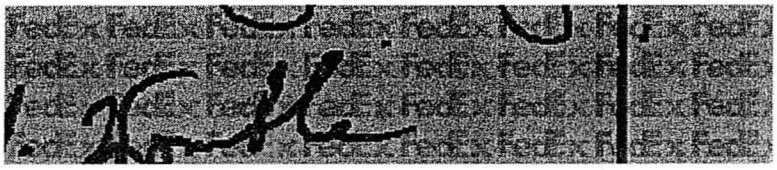
12/5/2002

Dear Customer:

Here is the proof of delivery for the shipment with tracking number **835847501305**. Our records reflect the following information.

Delivery Information:

Signed For By: A.HOMBLE



Delivery Location: 4500 SW 40TB AVE
Delivery Date: December 3, 2002
Delivery Time: 1037

Shipping Information:

Tracking No: 835847501305

Ship Date: December 2, 2002

Recipient:
OCALA LAB
U S GEOLOGICAL SURVEY
4500 S W 40TH AVE
OCALA, FL 34470
US

Shipper:
KEN FOSSUM
US GEOLOGICAL SURVEY
1769 W UNIVERSITY DR
TEMPE, AZ 85281
US

Shipment Reference Information: 9671-16800

Thank you for choosing FedEx Express. We look forward to working with you in the future.

FedEx Worldwide Customer Service
1-800-Go-FedEx®
Reference No.: R2002120500065022911

Del Mar Analytical
2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
7277 Hayvenhurst, Suite B-12, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-9596 FAX (858) 505-9689
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

Client Name/Address: MATT OLLER
FCDMC
2801 W. DURANGO ST.
PHOENIX, AZ 85009

Project/PO Number: PHOENIX
NPDES STORMWATER

Project Manager: MATT OLLER

Phone Number: 602-506-4663

Sampler: HEMAUER & FOSSUM

Fax Number: 602-506-4601

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	TPH N	Fecal Strep 1	Fecal Coliform 1	E. Coli 1	Oil + Grease N	608 1	624 N	625 3		Special Instructions
40TH ST. & IBW	S	MISC.	13	11/30/02	0545	4	X	X	X	X	X	X	X	X		SEE CONTRACT
- GRAB																PLK0842-01

Relinquished By: Kenneth [illegible] Date/Time: 11/30/02 1020
Received by: Date/Time:

Relinquished By: Date/Time:
Received by: Date/Time:

Relinquished By: Date/Time:
Received in Lab by: [illegible] Date/Time: 113002/1070

Turnaround Time: (Check) SEE CONTRACT
same day ____ 72 hours ____
24 hours ____ 5 days ✓
48 hours ____ normal ✓

Sample Integrity: (Check)
intact ✓ on ice ✓ JC
PLEASE NOTE TEMP

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

Client Name/Address: MATT OLLER
FCDMC
2801 W. DURANGO
PHOENIX, AZ 85009

Project/PO Number: PHOENIX
NPDES STORMWATER

Project Manager: MATT OLLER

Phone Number: 602-506-4663

Sampler: HEMAUER & FOSSUM

Fax Number: 602-506-4601

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	As, Be, Cd, Cr, Cu, Pb Ni, Ag, Zn (TOTAL & DISS.)	P (TOTAL + ORTHO)	NH_3, NO_2, NO_3, TKN NO_2 + NO_3	BOD, COD	CN^-	TDS, TSS	ALKALINITY HARDNESS	PHENOLICS		Special Instructions
40TH ST. + IBW - COMP	S	5 gal glass	1	11		N	X	X	X	X	X	X	X	X		SEE CONTRACT
																PLK0840.01

Relinquished By:	Date/Time:	Received by:	Date/Time:	Turnaround Time: (Check) SEE CONTRACT
	11/30/02 1022			same day ____ 72 hours ____
Relinquished By:	Date/Time:	Received by:	Date/Time:	24 hours ____ 5 days ____
				48 hours ____ normal ✓
Relinquished By:	Date/Time:	Received in Lab by:	Date/Time:	Sample Integrity: (Check)
			11/30/02 1022	intact ✓ on ice ✓ 3°C

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

PLEASE NOTE TEMP

Del Mar Analytical

2852 Alton Ave., Irvine, CA 9262 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 9212 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 8504 Ph (480) 785-0043 Fax (480) 785-0851

CHAIN OF CUSTODY FORM
SUBCONTRACT ORDER

0212009

SENDING LABORATORY:
Del Mar Analytical - Phoenix
9830 South 51st Street, Suite B-120
Phoenix, AZ 85044
Phone: (480) 785-0043
Fax: (480) 785-0851
Project Manager: Linda Eshelman
Project: PLK0840-MCFC

RECEIVING LABORATORY:
Transwest Geochem (out)
3725 E. Atlanta Ave Ste 1
Phoenix, AZ 85040-2961
Phone: 602-437-0330
Fax: 602-470-0660

SAMPLE INTEGRITY:
Please complete upon receipt
intact: ☑ Y ☐ N SH Initials
on ice: ☑ Y ☐ N SH Initials
Temp: °C ☑ Y ☐ N SH Initials
1.8

Sample Description	Sample Matrix	Sampling Date/Time	Analysis Required	Date Due	Expires	# of Cont.	Sample Bottle Type
PLK0840-01	Water	11/30/02 08:00	NO3/NO2-N (353.2)	Standard TAT	12/28/02 08:00	1	☐ Voa ☐ Amber Voa ☑ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other

Special Instructions:
None

Relinquished By: 12-2-2 1415 Date/Time:
Received By: 12/2/02 1415 Date/Time:

Relinquished By Date/Time:
Received By: Date/Time:

U.S. GEOLOGICAL SURVEY, WRD, SURFACE-WATER QUALITY FIELD NOTES

BQA-1 3/92 (3rd printing, 1st ed.)

Proj. Name, No. MARICOPA URBAN - 967116800 Date DECEMBER 23, 2002

Station 40TH ST. & IBW Sta.No. 333557111594201

Sampled By HEMAUER + FOSSUM Mean Time 1459 SMS Cntrl. No.

Record No. Sample Purpose (71999) :

SAMPLES COLLECTED

Nutrients ☐ TOC ☐
Major Ions ☐ DOC ☐
SOC ☐ Vol. Filt. ____ mL
BOD ☐ Turbidity ☐
COD ☐ ____ ☐
____ ☐

ORGANICS / TR. ELEMENTS
Pesticide ☐ Unfiltered ☐
VOC ☐ Filtered ☐
BNA ☐ Suspended ☐
☐ Bottom ☐

Sediment Conc. ☐
Sediment Size ☐
Sed. Bot. Material ☐
Sand Split/Break ☐
Radiochemical ☐
Isotope ☐
☐

FIELD MEASUREMENTS

					R	F	
Q. Inst. (00061)	1.834	cfs	meas.	Alkalinity (00419/39086)	—	—	mg/L
Gage Ht (00065)	0.47	ft.	rating est.	Bicarbonate (00450/00453)	—	—	mg/L
Temp. Water (00010)	15.0	°C		Carbonate (00447/00452)	—	—	mg/L
Temp. Air (00020)	8.0	°C		Hydroxide (—)	—	—	mg/L
pH (00400)	7.70	units		E. Coli (31633)	—		col./100 mL; Rmk —
Sp. Cond. (00095)	163	µS/cm 25 °C		FC (31625)	—		col./100 mL; Rmk —
Dis. Oxy. (00300)	8.23	mg/L		FS (31673)	—		col./100 mL; Rmk —
DO Sat. (00301)	—	%		Other:			
Bar. Press. (00025)	722	mm Hg					

SAMPLING CONDITIONS

Location: Wading, cable, ice, boat, bridge, upstr., downstr., side bridge @ ft mile, above, below gage, and

Sampling site: Pool Riffle Open Channel Braided Backwater Sampler Type AUTO - SIGMA

Sample Method: EWI EDI OTHER AUTO - SAMPLER Sampler ID

Nozzle size 3/8" Nozzle Made of TEFLON Bottle type, size 8 - 2L - GLASS

Sample Split: Churn Cone Other ____ Made of TEFLON

LB ____ RB ____ Stream Width ____ Sampling Pts. CENTROID OF FLOW

Bottom: Bedrock Rock Cobble Gravel Sand Mud Concrete Other

LABORATORY SCHEDULES

Lab Schedules Req. (or copy of lab request form attached ☐)

SAMPLES TO DELMAR ONLY

Lab Codes Add (A) Delete (D) :

Stage Conditions:

A Not Determined
4 Stable, low
9 Stable, normal
5 Falling
6 Stable, high
7 Peak
8 Rising

Observations:

(Codes: 0-none 1-mild 2-moderate 3-serious 4-extreme)

(option: LEAVE BLANK IF NONE)

Floating debris	(01345) :	
Floating garbage	(01320) :	
Floating algae mats	(01325) :	
Fish kill	(01340) :	
Detergent suds	(01305) :	
Turbidity	(01350) :	
Atms. Odor	(01330) :	
Oil-grease	(01300) :	

Hydrologic Event: 9 Routine samp. A Spg. breakup B Ice Cover
1 Drought 2 Spill 3 Reg. Flow 4 Snowmelt 7 Flood
Other J - STORM Ice Thickness ____ Ice cover ____

Stream color(s): brown green blue gray other

Stream Mixing: Excellent Good Fair Poor Clarity/Turbidity:

Weather: Clear Partly Cloudy Cloudy Light Medium Heavy Snow Rain
Calm Light Breeze Very Gusty Windy Very Cold Warm Hot Other

Other Observations

81395 (MGD) = 0.342 PARTIAL
82381 (PRECIP) = 0.18 inches SAMPLE
00129 (MAX5) = 0.12 in/hr. 5L
00135 (STM. LENGTH) = 6.82 hrs.
00132 (DRY DAYS) = 6 days

Sampling Start Time		GHT
Mean Time =		
End Time		

(Cont. p. 3,4)

Checked by Date

TEMPERATURE Lab Tested Thermometer used? ☐ Yes ☒ No If NO, explain in remarks

Thermometer Checked w/ASTM within ± 0.5 °C; Date

AMPULE LOT NUMBERS: nitric acid _____ mercuric chloride _____ nitric acid/potassium dichromate

pH

Mtr W-no. W-495251 METER Make/Model CORNING CHECKMATE 90

electrode no. electrode type

pH Buffer	pH Buffer Temp °C	Initial Reading	Adj. Reading	Remarks
7.00	15.0	7.00	7.00	OK
10.01	15.0	10.01	10.01	OK

☒ unfiltered sample ☐ filtered sample

Temp correction factors for buffers applied? ☒ YES ☐ NO

stirrer used? ☐ YES ☒ NO

if yes, ☐ magnetic stirrer ☐ manually stirred

pH subsample from or pH measurement location : Churn sample bottle (single point at) ____ sta ____ depth vertical avg of ____ points x-sec average of ____ points

Sample Temp = 15.0°C

FIELD pH = 7.70 USE: 7.70

SPECIFIC CONDUCTANCE

Mtr W-no. W-495251 METER Make/Model CORNING CHECKMATE 90

probe no.

standard value	Temp Std °C	Initial Reading	Adj. Reading	Remarks
0	15.0	0	0	OK
1413 µS	15.0	1413 µS	1413 µS	OK

correction factor applied? ☐ YES ☒ NO

☒ auto temp compensated meter

☐ manual temp compensated meter

corr. factor = _____

SC subsample from or SC measurement location : Churn sample bottle (single point at) ____ sta ____ depth vertical avg of ____ points x-sec avg of ____ points

FIELD CONDUCTANCE = 163 µS USE: 163 µS

DISSOLVED OXYGEN W-no. _____ METER Make/Model YSI-55

D.O. measurement location or D.O. subsample from : (single point at) ____ sta ____ depth vertical avg of ____ points x-sec avg of ____ points BOD bottle

Calibration :

☒ Air Calibration in Water ☐ Air Calibration Chamber in Air

☐ Air-Saturation Deionized Water ☐ Calibration by Winkler Titration (attach Supplementary Winkler page)

D.O. Zero Check (using zero D.O. solution) ☐ YES ☒ NO

Thermister Check ☐ YES ☒ NO

BAR. PRESS. 722 mm Hg; (mm = in. X 25.4)

Salinity Corr. Factor —

H_2O Temp. 15.0 °C

Chart D.O. Sat. 9.55 mg/L

stirrer used? ☐ YES ☒ NO if yes, ☐ magnetic stirrer ☐ manually stirred

Meter D.O. Sat. 9.70 mg/L; Adjusted to 9.55 (if corr. factor applicable)

DISSOLVED OXYGEN IN STREAM = 8.23 mg/L

QUALITY ASSURANCE SAMPLES

Were quality assurance samples collected? ☐ YES ☒ NO If YES indicate type(s) :

	Organic-free	DI	water from sampling site
Replicate	☐	☐	☐
Spike	☐	☐	☐
Field Blank	☐	☐	Supplementary page w/additional
Trip Blank	☐	☐	QA sample info attached ☐

Other ☐ Indicate Type(s) :

Calibration Notes and Remarks

USED INTERNAL THERMISTOR IN CORNING METER.

Del Mar Analytical
[redacted] 2852 [redacted], Irvin[redacted]606 [redacted]1-1022 [redacted]9) 261[redacted]
10[redacted] Sobley Dr[redacted], Colton[redacted]2324 [redacted] 4667 FAX (909) 370-1046
7277 Hayvenhurst, Suite B-12, Van Nuys, CA 91406 (818) [redacted]44 FAX (818) 779-1843
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) [redacted]96 FAX (858) 505-9589
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd., Suite 3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

Client Name/Address: MATT OLLER
FCDMC
2801 W. DURANGO
PHOENIX, AZ 85009

Project/PO Number: [redacted]
PHOENIX
NPDES STORMWATER

Project Manager: MATT OLLER

Phone Number: 602-506-4663

Sampler: HEMAUER + FOSSUM

Fax Number: 602-506-4601

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	TPH[2]	Fecal Strep[1]	Fecal Coliform[1]	E. Coli[1]	Oil & Grease[2]	608[1]	624[2]	625[3]		Special Instructions
40TH ST. + IBW - GRAB	S	MISC.	13	12/23/02	1520	Y	X	X	X	X	X	X	X	X		PLL0666-01/02 SEE CONTRACT
Trip Blank			1										X			

Relinquished By: [signature] Date /Time: 12/23/02 1637
Received by: Date /Time:

Relinquished By: Date /Time: 12/23/02
Received by: Date /Time: 12/23/02 E.S

Relinquished By: 12/23/02 Date /Time:
Received in Lab by: [signature] Date /Time: 12/23/02 1637

Turnaround Time: (Check) SEE CONTRACT
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours ____ normal ✓

Sample Integrity: (Check)
intact ✓ on ice ✓ 2.C

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

PLEASE NOTE TEMP.

Del Mar Analytical

[redacted] Ave., [redacted] A 9260[redacted]) 261-[redacted] X (949) [redacted] 8
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 37[redacted]667 FAX (909) 370-1046
7277 Hayvenhurst, Suite B-12, Van Nuys, CA 91406 (818) [redacted]44 FAX (818) 779-1843
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) [redacted]96 FAX (858) 505-9589
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd., Suite 3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

Page 1 of 1

Client Name/Address: MATT OLLER
FCDMC
2801 W. DURANGO
PHOENIX, AZ 85009

Project/PO Number: PHOENIX
NPDES STORMWATER

Project Manager: MATT OLLER

Phone Number: 602-506-4663

Sampler: HEMAUER + FOSSUM

Fax Number: 602-506-4601

Analysis Required: As, Be, Cd, Cr, Cu, Pb, Ni, Ag, Zn (TOTAL + DISS.); P (TOTAL + ORTHO); NH_3, NO_2, NO_3, TKN, NO_2 + NO_3; BOD/COD; CN^-; TDS/TSS; ALKALINITY/HARDNESS; PHENOLICS

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	As, Be, Cd, Cr, Cu, Pb, Ni, Ag, Zn (TOTAL + DISS.)	P (TOTAL + ORTHO)	NH_3, NO_2, NO_3, TKN, NO_2 + NO_3	BOD/COD	CN^-	TDS/TSS	ALKALINITY/HARDNESS	PHENOLICS		Special Instructions PLL0667-01
40TH ST. + IBW - COMP.	S	~~[illegible]~~ 5 1L GLASS	~~[illegible]~~ 3	12/23/02	0	N	X	X	X	X	X	X	X	X		SEE CONTRACT

Relinquished By: [signature]	Date /Time: 12/23/02 1637	Received by:	Date /Time:
Relinquished By:	Date /Time:	Received by:	Date /Time: 12/23/2
Relinquished By:	Date /Time:	Received in Lab by: [signature]	Date /Time: 12-23-2 1637

Turnaround Time: (Check) SEE CONTRACT
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours ____ normal ✓

Sample Integrity: (Check)
intact ✓ on ice 7°C

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

PLEASE NOTE TEMP.

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9830 South 51st Street, Suite B-120, Phoenix, AZ 8504 Ph (480) 785-0043 Fax (480) 785-0851

CHAIN OF CUSTODY FORM
SUBCONTRACT ORDER

0212305

SENDING LABORATORY:

Del Mar Analytical - Phoenix
9830 South 51st Street, Suite B-120
Phoenix, AZ 85044
Phone: (480) 785-0043
Fax: (480) 785-0851
Project Manager: Linda Eshelman
Project: PLL0667-MCFC

RECEIVING LABORATORY:

Transwest Geochem (out)
3725 E. Atlanta Ave Ste 1
Phoenix, AZ 85040-2961
Phone: 602-437-0330
Fax: 602-470-0660

SAMPLE INTEGRITY:

Please complete upon receipt

intact: ☒ Y ☐ N Initials
on ice: ☒ Y ☐ N Initials
Temp: °C ☒ Y ☐ N Initials 6.3

Sample Description	Sample Matrix	Sampling Date/Time	Analysis Required	Date Due	Expires	# of Cont.	Sample Bottle Type
PLL0667-01	Water	12/23/02 08:00	NO3/NO2-N (353.2)	Standard TAT	01/20/03 08:00	1	☐ Voa ☐ Amber Voa ☒ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other

Special Instructions:
None

Relinquished By: [signature] Date/Time: 12/24/02 0836
Received By: [signature] Date/Time: 12/24/02 0836

Relinquished By: [signature] Date/Time: 12/24/02 0905
Received By: [signature] Date/Time: 12/24/2002 9:a

Operation and maintenance and storm event log sheets

STORMWATER O&M LOG SHEET

SITE	6TH + SR			DATE	10/16/02
ARRIVAL TIME	0915	DEPARTURE TIME	0930	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	(ISCO - 3700)

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	(YES) NO	13.0 volts
SOLAR PANEL CLEAN	(YES) NO	
CABLES AND CONNECTIONS GOOD	(YES) NO	
CELLULAR ANTENNA	(YES) NO	
PHONE TONE	(YES) NO	
RAINGAGE (screen, funnel, tipping bucket)	(YES) NO	
SAMPLE TUBING (intake, pump, distributor)	(YES) NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES (NO)	
CALIBRATED DEPTH SENSOR	YES (NO)	depth (in)
CALIBRATED SAMPLE VOLUME	YES (NO)	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY, PULLED DATA,

2 CHANGED CR-10 BATTERY

3

STORMWATER O&M LOG SHEET

SITE	67 AVE + SR			DATE	10/28/02
ARRIVAL TIME	0840	DEPARTURE TIME	0900	SERVICED BY	FOSSUM HEMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.8 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 DROPPED OFF CLEAN BOTTLE, MUCKED OUT GRATE + OUTLET

2 CHANGED PHONE BATTERY CLEANED TUBING

3

STORMWATER O&M LOG SHEET

SITE	67TH AVE. & 5R			DATE	11/8/02
ARRIVAL TIME	0945	DEPARTURE TIME	0955	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.8 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY

2

3

STORMWATER O&M LOG SHEET

SITE	SR + 67 AVE			DATE	11/25/02
ARRIVAL TIME	0940	DEPARTURE TIME	0930	SERVICED BY	HEMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	~~YES~~ NO	12.5 volts
SOLAR PANEL CLEAN	~~YES~~ NO	
CABLES AND CONNECTIONS GOOD	~~YES~~ NO	
CELLULAR ANTENNA	~~YES~~ NO	
PHONE TONE	~~YES~~ NO	
RAINGAGE (screen, funnel, tipping bucket)	~~YES~~ NO	
SAMPLE TUBING (intake, pump, distributor)	~~YES~~ NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES ~~NO~~	
CALIBRATED DEPTH SENSOR	YES ~~NO~~	depth (in)
CALIBRATED SAMPLE VOLUME	YES ~~NO~~	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED BATTERY

2

3

STORMWATER O&M LOG SHEET

SITE	67TH AVE & SR			DATE	12/03/02
ARRIVAL TIME	1150	DEPARTURE TIME	1210	SERVICED BY	HEMAUER + FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.7 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CLEANED AROUND OUTLET, CHANGED PHONE

2 BATTERY

3

STORMWATER O&M LOG SHEET

SITE	67 AVE & SR			DATE	12/13/02
ARRIVAL TIME	1248	DEPARTURE TIME	1255	SERVICED BY	FOSSUM / HEMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.6 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY

2

3

STORMWATER O&M LOG SHEET

SITE	67 AVE + S.R			DATE	12/23/02
ARRIVAL TIME	0850	DEPARTURE TIME	0903	SERVICED BY	FOSSUM / KOMACKER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.5 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CLEANED INTAKE TUBING, CHANGED PHONE BATTERY

2 CLEANED BOTTLE.

3

STORMWATER O&M LOG SHEET

SITE	67TH AVE & SR			DATE	12/27/02
ARRIVAL TIME	11:10	DEPARTURE TIME	11:17	SERVICED BY	HEMMER/FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.6 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CLEANED INTAKE TUBING + SAMPLE BOTTLE,

2 CHANGED ISCO BATTERY

3

STORMWATER O&M LOG SHEET

SITE	35TH & SR			DATE	10/16/02
ARRIVAL TIME	0900	DEPARTURE TIME	0910	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.7 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY, PULLED DATA,

2 CHANGED CR-10 BATTERY

3

STORMWATER O&M LOG SHEET

SITE	35 AVE + SR			DATE	10/28/02
ARRIVAL TIME	0815	DEPARTURE TIME	0833	SERVICED BY	Fossum Hemauer
SAMPLER - MODEL NUMBER				SIGMA - 900	(ISCO - 3700)

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	(YES) NO	12.8 volts
SOLAR PANEL CLEAN	(YES) NO	
CABLES AND CONNECTIONS GOOD	(YES) NO	
CELLULAR ANTENNA	(YES) NO	
PHONE TONE	(YES) NO	
RAINGAGE (screen, funnel, tipping bucket)	(YES) NO	
SAMPLE TUBING (intake, pump, distributor)	(YES) NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	(YES) NO	
CALIBRATED DEPTH SENSOR	YES (NO)	depth (in)
CALIBRATED SAMPLE VOLUME	YES (NO)	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 DROPPED OFF CLEAN BOTTLE, CLEANED SAMPLER TUBING

2 CHANGED PHONE + CR10 BATTERIES, PULLED DATA CAN

3 REPAIRED BATTERY TERMINALS

STORMWATER O&M LOG SHEET

SITE	35TH AVE & SR			DATE	11/8/02
ARRIVAL TIME	0930	DEPARTURE TIME	0940	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	(ISCO - 3700)

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	(YES) NO	12.3 volts
SOLAR PANEL CLEAN	(YES) NO	
CABLES AND CONNECTIONS GOOD	(YES) NO	
CELLULAR ANTENNA	(YES) NO	
PHONE TONE	(YES) NO	
RAINGAGE (screen, funnel, tipping bucket)	(YES) NO	
SAMPLE TUBING (intake, pump, distributor)	(YES) NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES (NO)	
CALIBRATED DEPTH SENSOR	YES (NO)	depth (in)
CALIBRATED SAMPLE VOLUME	YES (NO)	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY

2

3

STORMWATER O&M LOG SHEET

SITE	SR + 35 AVE			DATE	11/25/02
ARRIVAL TIME	0855	DEPARTURE TIME	0903	SERVICED BY	HEMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	(ISCO - 3700)

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	(YES) NO	12.6 volts
SOLAR PANEL CLEAN	(YES) NO	
CABLES AND CONNECTIONS GOOD	(YES) NO	
CELLULAR ANTENNA	(YES) NO	
PHONE TONE	(YES) NO	
RAINGAGE (screen, funnel, tipping bucket)	(YES) NO	
SAMPLE TUBING (intake, pump, distributor)	(YES) NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES (NO)	
CALIBRATED DEPTH SENSOR	YES (NO)	depth (in)
CALIBRATED SAMPLE VOLUME	YES (NO)	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY

2

3

STORMWATER O&M LOG SHEET

SITE	35TH AVE & SR			DATE	12/03/02
ARRIVAL TIME	1215	DEPARTURE TIME	1230	SERVICED BY	HEMAUER/FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY, CHANGED CR-10 BATTERY,

2 PULLED DATA CAN

3

STORMWATER O&M LOG SHEET

SITE	35TH AVE + SR			DATE	12/13/02
ARRIVAL TIME	1305	DEPARTURE TIME	1315	SERVICED BY	HEMAUER / FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.7 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED CRIO + PHONE BATTERIES

2

3

STORMWATER O&M LOG SHEET

SITE	35 AVE & S.R.			DATE	12/23/02
ARRIVAL TIME	0825	DEPARTURE TIME	0840	SERVICED BY	FOSSUM / HEMALER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.7 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA, RESET SAMPLER, CHANGED PHONE &

2 CR10 BATTERIES

3

STORMWATER O&M LOG SHEET

SITE	27TH AVE + SR			DATE	10/16/02
ARRIVAL TIME	1350	DEPARTURE TIME	1405	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.7 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY, PULLED DATA,

2 CHANGED CR-10 BATTERY

3

STORMWATER O&M LOG SHEET

SITE	27TH AVE & SR			DATE	11/1/02
ARRIVAL TIME	0930	DEPARTURE TIME	0950	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	(ISCO - 3700)

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	(YES) NO	12.6 volts
SOLAR PANEL CLEAN	(YES) NO	
CABLES AND CONNECTIONS GOOD	(YES) NO	
CELLULAR ANTENNA	(YES) NO	
PHONE TONE	(YES) NO	
RAINGAGE (screen, funnel, tipping bucket)	(YES) NO	
SAMPLE TUBING (intake, pump, distributor)	(YES) NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	(YES) NO	
CALIBRATED DEPTH SENSOR	YES (NO)	depth (in)
CALIBRATED SAMPLE VOLUME	YES (NO)	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CLEANED INTAKE AND TUBING, DROPPED OFF

2 CLEAN BOTTLE, CHANGED PHONE BATTERY.

3

STORMWATER O&M LOG SHEET

SITE	27TH AVE & SR			DATE	11/8/02
ARRIVAL TIME	0915	DEPARTURE TIME	0925	SERVICED BY	Fossum
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.5 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY

2

3

STORMWATER O&M LOG SHEET

SITE	SR + 27 AVE			DATE	11/25/02
ARRIVAL TIME	0840	DEPARTURE TIME	0845	SERVICED BY	HEMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.6 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY

2

3

STORMWATER O&M LOG SHEET

SITE	27 AVE + SR			DATE	12/03/02
ARRIVAL TIME	1240	DEPARTURE TIME	1250	SERVICED BY	Fossum / Lemauer
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.45 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY, RESET SAMPLER

2

3

STORMWATER O&M LOG SHEET

SITE	27 AVE & SR			DATE	12/13/02
ARRIVAL TIME		DEPARTURE TIME		SERVICED BY	Fossum / HEMALER
SAMPLER - MODEL NUMBER				SIGMA - 900	(ISCO - 3700)

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	(YES) NO	12.4 volts
SOLAR PANEL CLEAN	(YES) NO	
CABLES AND CONNECTIONS GOOD	(YES) NO	
CELLULAR ANTENNA	(YES) NO	
PHONE TONE	(YES) NO	
RAINGAGE (screen, funnel, tipping bucket)	(YES) NO	
SAMPLE TUBING (intake, pump, distributor)	(YES) NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES (NO)	
CALIBRATED DEPTH SENSOR	YES (NO)	depth (in)
CALIBRATED SAMPLE VOLUME	YES (NO)	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED PHONE BATTERY - REATTACHED DISCONNECTED BATTERY

2 CR10' CABLE

3

Date: 11/4/02

STORMWATER O&M LOG SHEET

SITE	40 ST + SALT R.			DATE	10/1/02
ARRIVAL TIME	0750	DEPARTURE TIME	0755	SERVICED BY	FOSSUM/HEMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	11.01 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA

2

3

STORMWATER O&M LOG SHEET

SITE	40TH + SR			DATE	10/16/02
ARRIVAL TIME	0750	DEPARTURE TIME	0800	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.8 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED CR-10 BATTERY, PULLED DATA CAN

2

3

STORMWATER O&M LOG SHEET

SITE	40TH + SR			DATE	10/28/02
ARRIVAL TIME	0745	DEPARTURE TIME	0755	SERVICED BY	FOSSUM + HEMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.5 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CLEANED TUBING AND DROPPED OFF CLEAN BOTTLE

2

3

STORMWATER O&M LOG SHEET

SITE	40 ST + SR			DATE	12/03/02
ARRIVAL TIME	1300	DEPARTURE TIME	1310	SERVICED BY	Fossum / Hemauer
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.4 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	~~YES~~ ~~NO~~	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.
1
2
3

STORMWATER O&M LOG SHEET

SITE	40TH + SR			DATE	12/17/02
ARRIVAL TIME	1015	DEPARTURE TIME	1025	SERVICED BY	HEMAUER/FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.5 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CLEANED INTAKE + SAMPLE BOTTLE

2

3

STORMWATER O&M LOG SHEET

SITE	40 ST + SR			DATE	12/23/02
ARRIVAL TIME	1030	DEPARTURE TIME	1040	SERVICED BY	Fossum/Hemauer
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.2 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 NEED TO CHECK POWER TO SAMPLER + CALIBRATE PT

2

3

STORMWATER O&M LOG SHEET

SITE	40TH ST. + SR			DATE	12/27/02
ARRIVAL TIME	11:45	DEPARTURE TIME	12:00	SERVICED BY	HEMAUER/FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.2 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CLEANED PT, CHANGED ISCO BATTERY

2

3

STORMWATER O&M LOG SHEET

SITE	43RD AVE & PEORIA			DATE	10/16/02
ARRIVAL TIME	1150	DEPARTURE TIME	1200	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.8 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CHANGED CR-10 BATTERY

2

3

STORMWATER O&M LOG SHEET

SITE	PEORIA			DATE	10/28/02
ARRIVAL TIME	1020	DEPARTURE TIME	1030	SERVICED BY	FOSSUM / LEMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.7 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 DROPPED OFF CLEAN BOTTLE CLEANED TUBING

2

3

STORM EVENT LOG SHEET

1. Site: 43RD & PEORIA Your Name: HEMAUER & FOSSUM

2. Date: 11/30/02 Time: 06:30

SAMPLER PARAMETERS

3. Rainfall: .65 in

4. Flow: TRICKLE cfs

5. Level: 0.154 ft

O&M PARAMETERS

6. Did sampling equipment operate during event? **Yes or No?** Describe problems.

7. Battery voltage: 12.4 **volts**

8. Power **On or Off?** If power off (Mesa), reset circuit breaker and check/replace fuse if necessary.

FIELD PARAMETERS

9. Discharge (flow) at time of grabs TRICKLE **cfs**

10. pH 7.66 **su**

11. Air Temperature 15.0 **deg. C**

12. Water Temperature 15.0 **deg. C**

13. Specific Conductance 413 **uS/cm**

14. Dissolved Oxygen 8.12 **mg/L**

15. Barometric Pressure 732 **mmHg**

GRAB SAMPLES Take grabs from discharge only!

16. Grab samples taken? **Yes or No?**

17. Preservatives added to bottles? **Yes or No?**

STORMWATER O&M LOG SHEET

SITE	PEORIA			DATE	12/03/02
ARRIVAL TIME	1040	DEPARTURE TIME	1050	SERVICED BY	Fossum Hemaver
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.4 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CLEANED INTAKE TUBING

2

3

STORMWATER O&M LOG SHEET

SITE	43RD + PEORIA			DATE	12/17/02
ARRIVAL TIME	1315	DEPARTURE TIME	1325	SERVICED BY	HEMAUER/FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.6 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CLEANED INTAKE TUBING + SAMPLE

2 BOTTLE, RESET

3

STORMWATER O&M LOG SHEET

SITE	1BW + 40 ST			DATE	10/1/02
ARRIVAL TIME	1105	DEPARTURE TIME	1115	SERVICED BY	FOSSUM/HEMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.6 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA, PROGRAMMED FOR WINTER SAMPLING, RESET,

2 NEED NEW DESCICANT CANISTER FOR P.T.

3

Date: 9/25/02

STORMWATER O&M LOG SHEET

SITE	IBW @ 40TH ST.			DATE	10/16/02
ARRIVAL TIME	1310	DEPARTURE TIME	1320	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.9 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA W/ DTU, CHANGED SIGMA BATTERY,

2 RESET

3

Date: 9/25/02

STORMWATER O&M LOG SHEET

SITE	40TH ST. + IBW			DATE	10/29/02
ARRIVAL TIME	0900	DEPARTURE TIME	0915	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.5 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA W/DTU, RESET, CHANGED BEEPER

2 PROGRAMMING TO CALL USGS.

3

STORMWATER O&M LOG SHEET

SITE	IBW @ 40 ST			DATE	10/28/02
ARRIVAL TIME	1255	DEPARTURE TIME	1307	SERVICED BY	Fossum Hemauer
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	~~YES~~ NO	volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES ~~NO~~	depth (in)
CALIBRATED SAMPLE VOLUME	YES ~~NO~~	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA, PUT CLEAN BOTTLES IN CARAGE

2 NEED NEW SOLAR PANEL

3

Date: 8/20/02

STORM EVENT LOG SHEET

1. Site: 40TH + IBW Your Name: HEMAUER + FOSSUM

2. Date: 11/30/02 Time: 0545

SAMPLER PARAMETERS

3. Rainfall: 0.50 **in**

4. Flow: 0.431 **cfs**

5. Level: 2.842 in

O&M PARAMETERS

6. Did sampling equipment operate during event? **Yes or No?** Describe problems.

7. Battery voltage: 12.1 **volts**

8. Power **On or Off?** If power off (Mesa), reset circuit breaker and check/replace fuse if necessary.

FIELD PARAMETERS

9. Discharge (flow) at time of grabs 0.431 **cfs**

10. pH 7.67 **su**

11. Air Temperature 15.0 **deg. C**

12. Water Temperature 18.5 **deg. C**

13. Specific Conductance 108 **uS/cm**

14. Dissolved Oxygen 8.11 **mg/L**

15. Barometric Pressure 732 **mmHg**

GRAB SAMPLES Take grabs from discharge only!

16. Grab samples taken? **Yes or No?**

17. Preservatives added to bottles? **Yes or No?**

STORMWATER O&M LOG SHEET

SITE	1BW + 40 ST			DATE	12/3/02
ARRIVAL TIME	0805	DEPARTURE TIME	0820	SERVICED BY	Fossum / Hemauer
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.7 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA, CHANGED BATTERY CLEANED INTAKE
2 TUBING, REPLACED CLEAN BOTTLES + CAROUSEL, RESET
3 SAMPLER

STORMWATER O&M LOG SHEET

SITE	IBW r 40 ST			DATE	12/17/02
ARRIVAL TIME	1050	DEPARTURE TIME	1100	SERVICED BY	Fossum/Hemauer
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.6 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 CLEANED INTAKE TUBING, RESET SAMPLER, DROPPED

2 OFF CLEAN BOTTLES

3

Date: 11/4/02

STORM EVENT LOG SHEET

1. Site: 40TH + IBW Your Name: HEMAKER + FOSSUM

2. Date: 12/23/02 Time: 1520

SAMPLER PARAMETERS

3. Rainfall: 0.18 **in**

4. Flow: 1.43 **cfs**

5. Level: 4.99

O&M PARAMETERS

6. Did sampling equipment operate during event? **Yes or No?** Describe problems.

7. Battery voltage: 12.5 **volts**

8. Power **On or Off?** If power off (Mesa), reset circuit breaker and check/replace fuse if necessary.

FIELD PARAMETERS

9. Discharge (flow) at time of grabs 4.99 **cfs**

10. pH 7.70 **su**

11. Air Temperature 8.0 **deg. C**

12. Water Temperature 15.0 **deg. C**

13. Specific Conductance 163 **uS/cm**

14. Dissolved Oxygen 8.23 **mg/L**

15. Barometric Pressure 722 **mmHg**

GRAB SAMPLES Take grabs from discharge only!

16. Grab samples taken? **Yes or No?**

17. Preservatives added to bottles? **Yes or No?**

STORMWATER O&M LOG SHEET

SITE	1BW + 40 ST			DATE	12/27/02
ARRIVAL TIME	0745	DEPARTURE TIME	0810	SERVICED BY	Possum / Hemauer
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	13.2 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA, RESET SAMPLER, CLEANED INTAKE

2 TUBING, CHANGED SAMPLER BATTERY, DROPPED OFF CLEAN

3 BOTTLES

STORMWATER O&M LOG SHEET

SITE	CAVE			DATE	10/1/02
ARRIVAL TIME	1030	DEPARTURE TIME	1045	SERVICED BY	FOSSUM/HEMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.75 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA TRIMMED PALO VERDE BACK FROM

2 GAGE

3

Date: 9/25/02

STORMWATER O&M LOG SHEET

SITE	CAVE & TATUM			DATE	10/16/02
ARRIVAL TIME	1240	DEPARTURE TIME	1245	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.7 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA + RESET

2

3

STORMWATER O&M LOG SHEET

SITE	CAVE CREEK			DATE	10/25/02
ARRIVAL TIME	1355	DEPARTURE TIME	1400	SERVICED BY	FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.6 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA, RESET

2

3

STORMWATER O&M LOG SHEET

SITE	CAVE CREEK			DATE	10/28/02
ARRIVAL TIME	1140	DEPARTURE TIME	1150	SERVICED BY	HEMAUER + FOSSUM
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.6 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA, RESET

2

3

STORMWATER O&M LOG SHEET

SITE	CAVE CREEK			DATE	12/8/02
ARRIVAL TIME	0900	DEPARTURE TIME	0910	SERVICED BY	Fossum/Hemaven
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.4 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA & RESET

2

3

STORMWATER O&M LOG SHEET

SITE	CAVE			DATE	12/17/02
ARRIVAL TIME	1140	DEPARTURE TIME	1153	SERVICED BY	Fossum/Hemauer
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.4 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	~~YES~~ NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.
1 PULLED DATA RESET SAMPLER
2
3

STORMWATER O&M LOG SHEET

SITE	CAVE			DATE	12/27/02
ARRIVAL TIME	0820	DEPARTURE TIME	0840	SERVICED BY	FOSSOM/HOMAUER
SAMPLER - MODEL NUMBER				SIGMA - 900	ISCO - 3700

EQUIPMENT CHECKED		COMMENTS
BATTERY VOLTAGE OK	YES NO	12.3 volts
SOLAR PANEL CLEAN	YES NO	
CABLES AND CONNECTIONS GOOD	YES NO	
CELLULAR ANTENNA	YES NO	
PHONE TONE	YES NO	
RAINGAGE (screen, funnel, tipping bucket)	YES NO	
SAMPLE TUBING (intake, pump, distributor)	YES NO	
CLEANED SAMPLE TUBING AND COLLECTION BOTTLE	YES NO	
CALIBRATED DEPTH SENSOR	YES NO	depth (in)
CALIBRATED SAMPLE VOLUME	YES NO	ml

SPECIFY ITEMS REMOVED/REPLACED/REPAIRED/INSTALLED. INCLUDE SERIAL NO IF SAMPLER OR PT INSTALLED/REMOVED.

1 PULLED DATA, RESET SAMPLER

2

3