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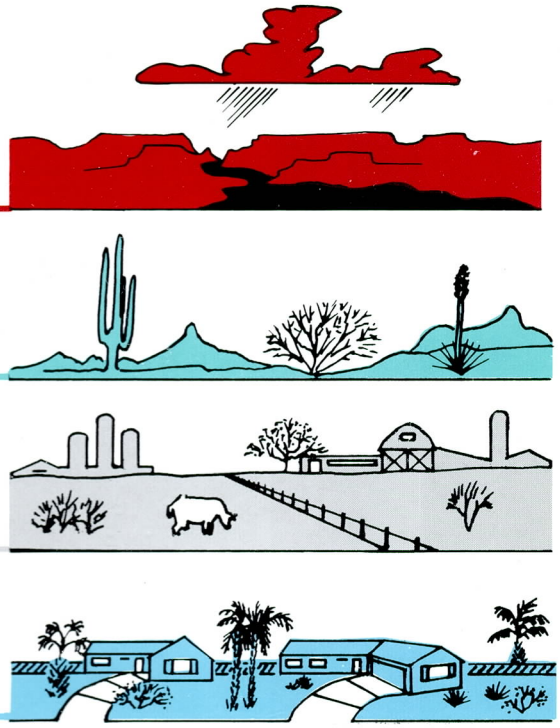

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Stormwater Quality Report
City of Phoenix, Arizona

Third Quarter

May 13, 1999

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Stormwater Quality Report

Third Quarter, Sampling Year 1999

January 1, 1999 through March 31, 1999

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For
City of Phoenix, Arizona

May 13, 1999

Stormwater Quality Report
City of Phoenix, Arizona

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Introduction

This report details the NPDES stormwater sampling activities during the winter of 1999. Due to a strong, persistent La Nina, there were few opportunities for sample collection during the period. The Flood Control District operates and maintains four land-based storm water quality monitoring stations, and in cooperation with the U.S. Geological Survey who operates and maintains two land-based storm water quality monitoring stations.

Only representative storm events are sampled. A representative storm event is defined in the following manner.

PHOENIX	RAINFALL	DURATION
SUMMER	0.2 – 0.7 INCH	2.2 – 6.5 HOURS
WINTER	0.2 – 0.7 INCH	5.2 – 15.6 HOURS

All storms are to be preceded by 72 hours with rainfall less than 0.10 inches. Summer months are April through September and winter months are October through March.

Beginning with the February 4 storm, the new grab/composite analysis schedule was implemented. In general, this means most organic samples were collected as grab samples.

Summary of Sampled Storm Events

This is a summary of sampled storm events in the third quarter of the 1999 sample year, which is January 1 through March 31, 1999. Any troubleshooting of the equipment is mentioned in the Storm Summaries but is detailed in the Maintenance Summaries. Following are detailed descriptions of the sampled events.

Storm of February 4, 1999

This storm event produced rainfall over most of Phoenix. Rainfall totals ranged from 0.15 to inches to 0.35 inches. The following table shows rainfall totals for each sampler site.

Storm of February 4, 1999

SITE	RAINFALL (inches)	SAMPLES COLLECTED
SR03	0.23	NO (1)
SR30	0.21	NO (2)
SR45	0.15	NO
SR49	0.24	YES
IB08	0.35	YES
ACDC43	0.25	NO (2)

(1) Insufficient Runoff
(2) USGS did not sample.

Grab samples were collected at IB08 and SR45. No grabs were collected at SR49 because there was very little flow associated with the first few hours of the storm.

Composite samples were collected at IB08 and SR49. Upon visitation at SR49 to collect rain and runoff data on the morning of February 5, the sampler had collected composite samples which were collected and analyzed. The storm at SR45 was not representative and the longer hold time grab samples were cancelled and no composite samples were collected.

The equipment at each site seemed to function well. The USGS did not collect samples from any sites during this event due to agreement expiration between them and the District.

Storm of March 16, 1999

The storm of March 16, 1999 affected the western portion of the city as a large cell moved over South Mountain and continued its movement toward the

northwest. Rainfall totals ranged from no precipitation at SR45 to 0.48 inches at SR30. Rainfall totals for each site are given in the table below.

Storm of March 16, 1999

SITE	RAINFALL (inches)	SAMPLES COLLECTED
SR03	0.33	NO (1)
SR30	0.48	NO (1)
SR45	0.00	NO
SR49	0.38	NO (1)
IB08	0.20	YES
ACDC43	0.04	NO

(1) Rainfall and runoff occurred too quickly.

Grabs were collected at IB08, SR03, and SR49. The storm began in the late morning at IB08 whereas the storm at SR03 and SR49 began in the early evening. Composites were collected from all three sites. However, after the storm, it was determined that the storm at SR03 and SR49 were not representative. Thus, composite samples were cancelled.

The equipment seemed to operate properly during the event. There were no problems to report for this event.

Other Storm Events Not Sampled

There were no other storms beside the two mentioned above.

Maintenance Summary

This section details maintenance activities and problems during the third quarter.

SR03 – Salt River at 35th Avenue

The Sigma 900 MAX sampler was removed from this site on February 4, 1999 (prior to the storm that same evening.) The keypad on the 900 MAX sampler was non-functional making it impossible to interact with the sampler. The sampler was sent to the factory for repair.

An older, Sigma 800 model sampler was installed and calibrated. Though the new sampler did not receive enough runoff during the February 4 event, it did operate correctly. This sampler remained at this site throughout the report period. The equipment worked well and collected samples during the event of March 16.

SR30 – Salt River at 27th Avenue

The USGS operates this site. They did not begin to monitor this site again until mid-March. No equipment problems were reported.

SR45 – Salt River at 40th Street

Equipment at this site appeared to work correctly during the entire winter season. Climatic conditions prevented any representative samples from being collected at this site.

SR49 – Salt River at 67th Avenue

The Sigma 900 MAX sampler was removed from this site on February 4, 1999 (prior to the storm that same evening.) The keypad on the 900 MAX sampler was non-functional making it impossible to interact with the sampler. The sampler was sent to the factory for repair.

An older, Sigma 800 model sampler was installed and calibrated. The sampler operated properly during the event of February 4. The equipment also worked well and collected samples during the event of March 16. This sampler remained at this site throughout the report period.

IB08 – 40th Street at Indian Bend Wash

Equipment at this site appeared to work correctly during the entire winter season. The equipment was serviced once on January 6, 1999 when the intake tubing was replaced with Teflon lined tubing. Calibrations were done on the pumped volume and the pressure transducer.

ACDC43 – ACDC near Peoria and 43rd Avenues

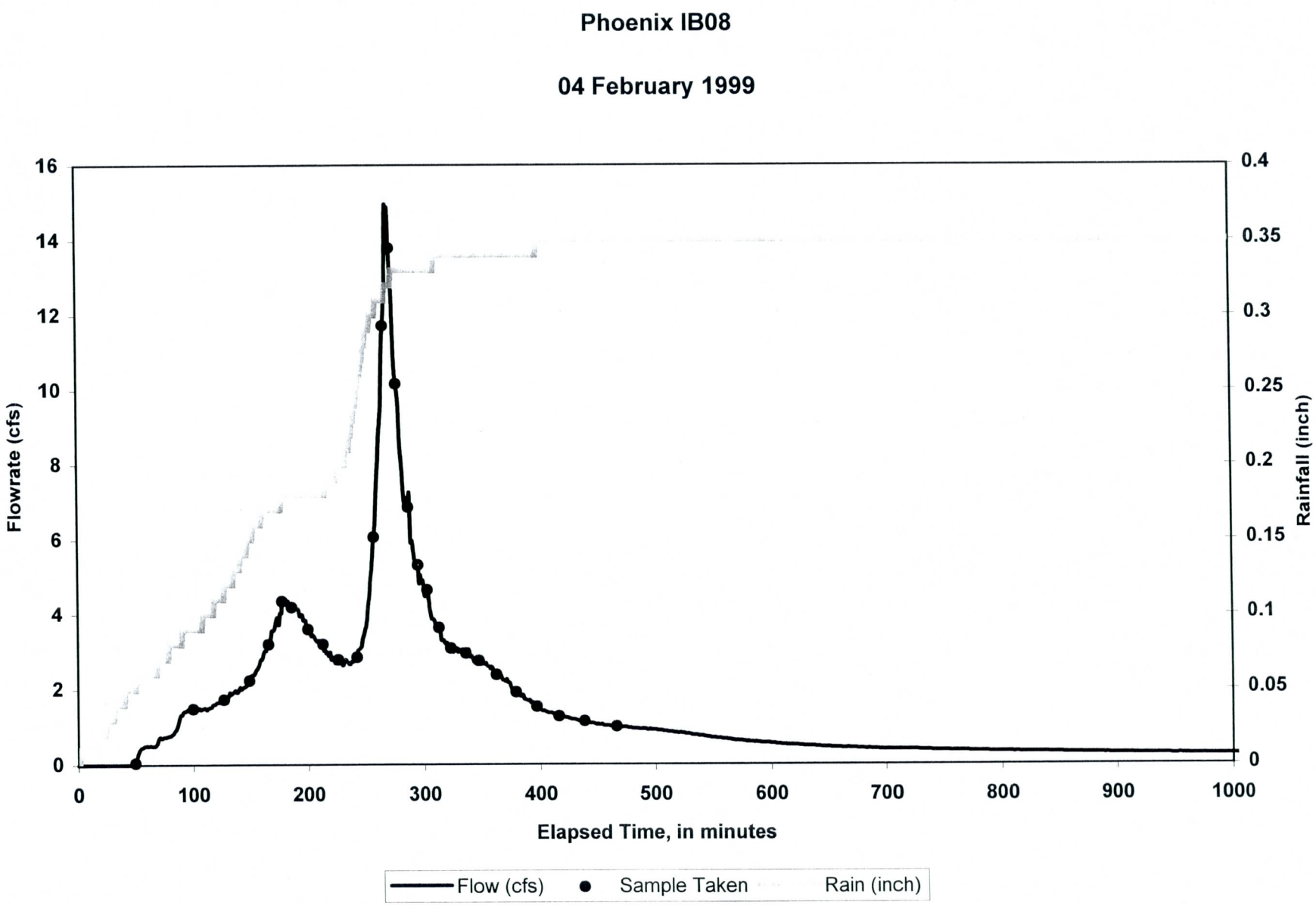
The USGS operates this site. They did not use the equipment during the winter season. The property owner of the parking lot that provides drainage had slurry sealed the lot and covered the intake tubing. It was decided to allow some runoff to 'clean' the parking lot of residual slurry and debris. No other equipment problems were reported.

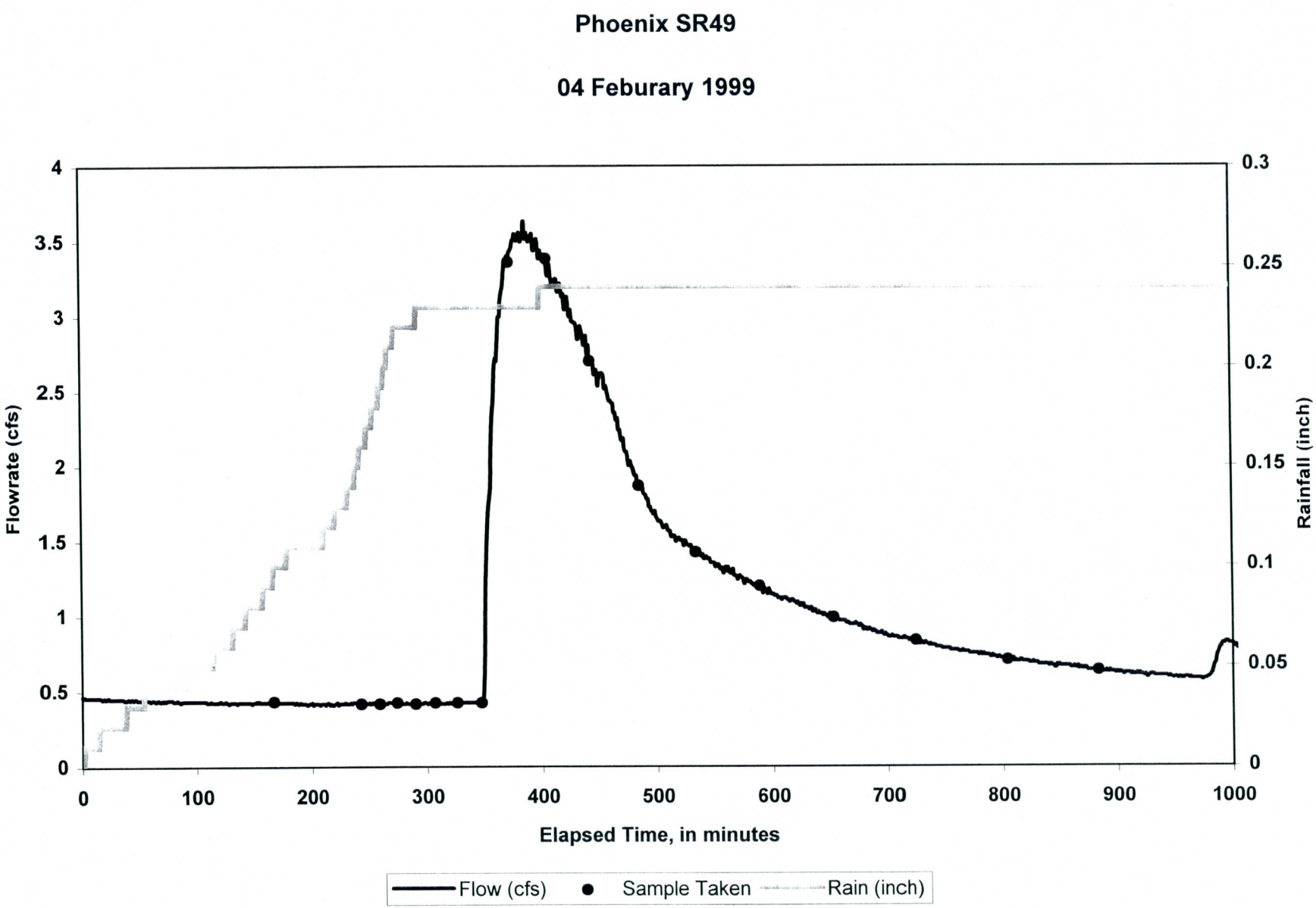
Data from Winter 1999

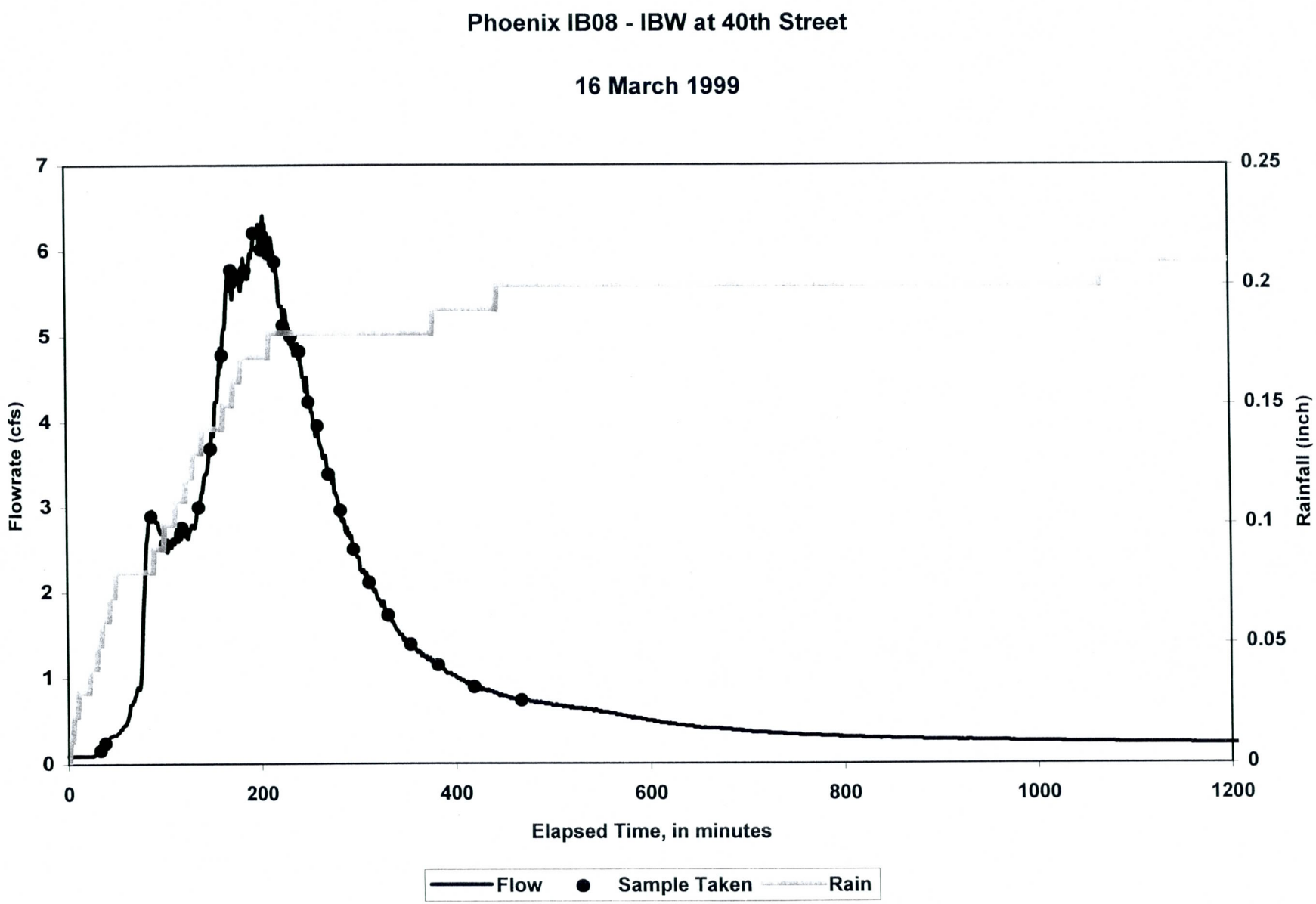
The remainder of this report contains data. The following data are included:

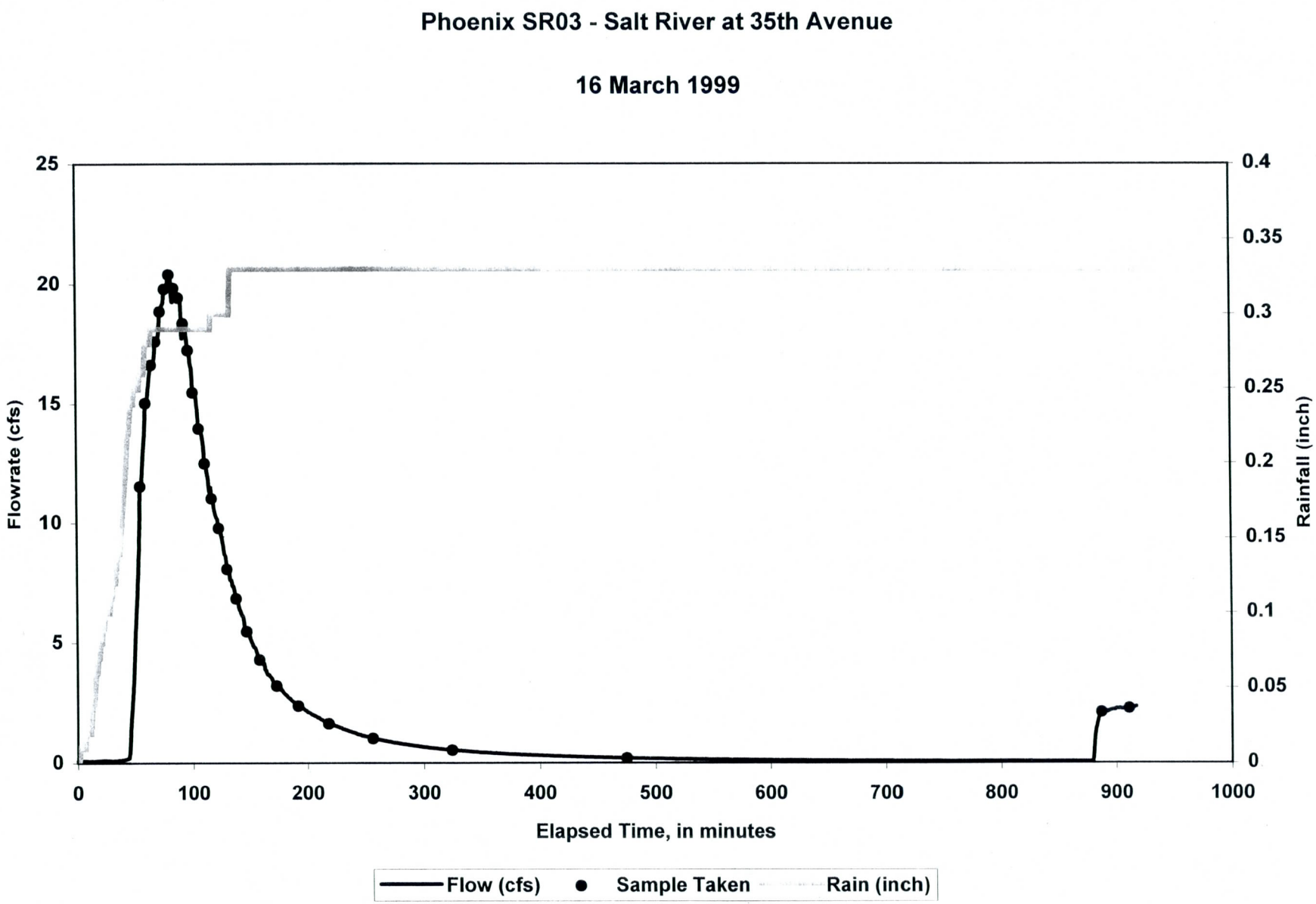
- Storm Hydrographs
- Rainfall Data from each monitoring site
- Printed tables of data from the winter. Included are required data for Phoenix's NPDES permit.
- Validation Tables. These data show a validation of the data on an individual basis for each storm event. One table is included for each site for each sampled event.
- Hard copies of data.
- Copies of maintenance and storm sheets.
- Disk of data files.

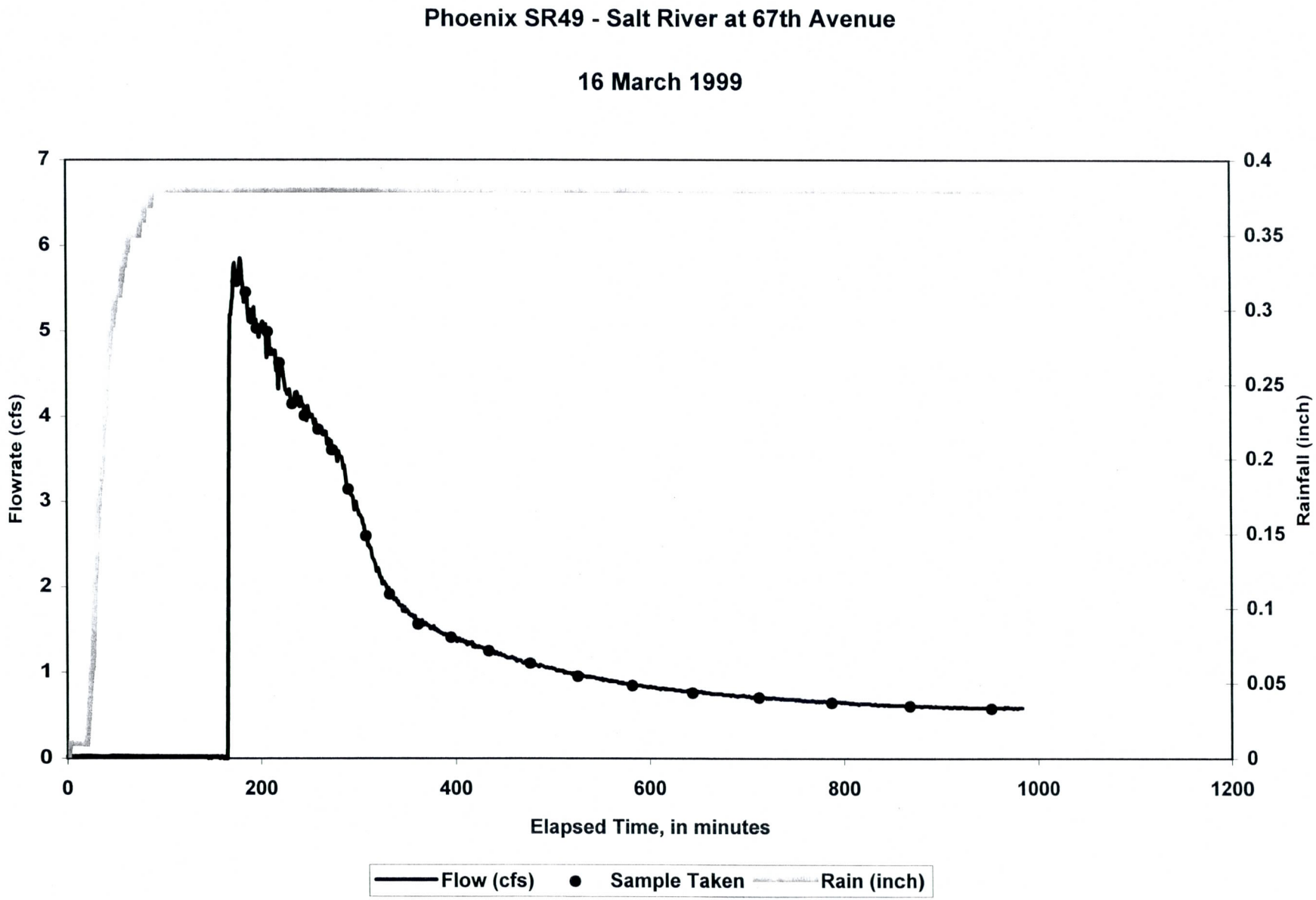
Storm Hydrographs


Phoenix IB08
04 February 1999
Flowrate (cfs)
Rainfall (inch)
Elapsed Time, in minutes
0
2
4
6
8
10
12
14
16
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0
100
200
300
400
500
600
700
800
900
1000
Flow (cfs)
Sample Taken
Rain (inch)


Phoenix SR49
04 Feburary 1999
Flowrate (cfs)
Rainfall (inch)
Elapsed Time, in minutes
0
0.5
1
1.5
2
2.5
3
3.5
4
0
0.05
0.1
0.15
0.2
0.25
0.3
0
100
200
300
400
500
600
700
800
900
1000
Flow (cfs)
Sample Taken
Rain (inch)


Phoenix IB08 - IBW at 40th Street
16 March 1999
Flowrate (cfs)
Rainfall (inch)
Elapsed Time, in minutes
0
1
2
3
4
5
6
7
0
0.05
0.1
0.15
0.2
0.25
0
200
400
600
800
1000
1200
Flow
Sample Taken
Rain


Phoenix SR03 - Salt River at 35th Avenue
16 March 1999
Flowrate (cfs)
Rainfall (inch)
Elapsed Time, in minutes
0
5
10
15
20
25
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0
100
200
300
400
500
600
700
800
900
1000
Flow (cfs)
Sample Taken
Rain (inch)


Phoenix SR49 - Salt River at 67th Avenue
16 March 1999
Flowrate (cfs)
Rainfall (inch)
Elapsed Time, in minutes
0
1
2
3
4
5
6
7
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0
200
400
600
800
1000
1200
Flow (cfs)
Sample Taken
Rain (inch)

Rainfall Data

Gauge Rainfall

Gage Number: IB08

Location: 40th Street at Indian Bend Wash

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.24						
3												
4			0.04					0.35				
5	0.04											
6	0.91		0.04			0.24						
7	0.55											
8	0.04											
9												
10												
11			0.08									
12												
13												
14												
15		0.39				0.08						
16									0.20			
17	0.28	0.12										
18												
19												
20												
21												
22			0.11									
23												
24												
25				0.28								
26				0.12								
27												
28					0.20							
29												
30				0.51								
31												
Month Total	1.82	0.51	0.27	0.91	0.20	0.56	0.00	0.35	0.20	0.00	0.00	0.00

Gauge Rainfall

Gage Number	SR03
Location	Salt River and 35th Avenue

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.04						
3												
4			0.11					0.23				
5	0.06											
6	0.26		0.24			0.24						
7	0.42	0.01										
8												
9			0.02									
10												
11			0.09									
12												
13												
14												
15												
16									0.33			
17		0.05										
18												
19												
20												
21												
22	0.25		0.16									
23												
24												
25				0.24								
26				0.04								
27												
28					0.08							
29												
30				0.47								
31												
Month Total	0.99	0.06	0.62	0.75	0.08	0.28	0.00	0.23	0.33	0.00	0.00	0.00

Gauge Rainfall

Gage Number	SR30 (Data from gauge and SR03)
Location	Salt River at 27th Avenue

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.03						
3												
4			0.11					0.14				
5	0.06							0.07				
6	0.26		0.24			0.22						
7	0.42	0.01							0.02			
8												
9			0.02									
10												
11			0.09									
12												
13												
14												
15												
16									0.48			
17		0.05										
18												
19												
20												
21												
22	0.25		0.16									
23												
24												
25				0.48								
26												
27												
28					0.13							
29												
30				0.47								
31												
Month Total	0.99	0.06	0.62	0.95	0.13	0.25	0.00	0.21	0.50	0.00	0.00	0.00

Gauge Rainfall

Gage Number: SR45

Location: Salt River at 40th Street (FCD ALERT gauge 4515)

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2												
3												
4	0.04		0.06					0.08				
5	0.59							0.07				
6	0.04	0.04	0.28			0.20						
7												
8												
9												
10												
11												
12												
13												
14												
15		0.59				0.20						
16												
17		0.39										
18	0.08											
19												
20	1.83											
21												
22												
23												
24												
25				0.28								
26				0.24								
27												
28					0.12							
29												
30				0.24								
31												
Month Total	2.58	1.02	0.34	0.76	0.12	0.40	0.00	0.15	0.00	0.00	0.00	0.00

Gauge Rainfall

Gage Number	SR49
Location	Salt River at 67th Avenue (FCD ALERT gauge 4755)

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1						0.04						
2												
3												
4			0.16					0.20				
5	0.12							0.11				
6			0.51			0.28						
7	0.04											
8												
9												
10												
11			0.44									
12		0.12										
13												
14												
15						0.08						
16									0.31			
17	0.04	0.19										
18												
19	0.08											
20												
21												
22												
23												
24												
25				0.16								
26				0.04								
27												
28					0.04							
29												
30				0.24								
31												
Month Total	0.28	0.31	1.11	0.44	0.04	0.40	0.00	0.31	0.31	0.00	0.00	0.00

Gauge Rainfall

Gage Number: ACDC43 (Data from sampler gauge and ALERT Gauge 4820)

Location: ACDC at 43rd Avenue

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.25						
3												
4			0.12					0.18				
5	0.08							0.07				
6	0.87					0.31						
7	0.16	0.12										
8												
9												
10												
11			0.43									
12												
13												
14												
15						0.14						
16									0.04			
17	0.04											
18												
19												
20												
21				0.06								
22												
23												
24		0.04										
25				0.28			0.01					
26												
27												
28					0.06							
29												
30				0.18								
31												
Month Total	1.15	0.16	0.55	0.52	0.06	0.70	0.01	0.25	0.04	0.00	0.00	0.00

Gauge Rainfall

Gage Number: SR49

Location: Salt River at 67th Avenue (FCD ALERT gauge 4755)

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1						0.04						
2												
3												
4			0.16					0.20				
5	0.12							0.11				
6			0.51			0.28						
7	0.04											
8												
9												
10												
11			0.44									
12		0.12										
13												
14												
15						0.08						
16									0.31			
17	0.04	0.19										
18												
19	0.08											
20												
21												
22												
23												
24												
25				0.16								
26				0.04								
27												
28					0.04							
29												
30				0.24								
31												
Month Total	0.28	0.31	1.11	0.44	0.04	0.40	0.00	0.31	0.31	0.00	0.00	0.00

Gauge Rainfall

Gage Number	SR45
Location	Salt River at 40th Street (FCD ALERT gauge 4515)

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2												
3												
4	0.04		0.06					0.08				
5	0.59											
6	0.04	0.04	0.28			0.20						
7												
8												
9												
10												
11												
12												
13												
14												
15		0.59				0.20						
16												
17		0.39										
18	0.08											
19												
20	1.83											
21												
22												
23												
24												
25				0.28								
26				0.24								
27												
28					0.12							
29												
30				0.24								
31												
Month Total	2.58	1.02	0.34	0.76	0.12	0.40	0.00	0.08	0.00	0.00	0.00	0.00

Gauge Rainfall

Gage Number	6560
Location	South Mountain Fan

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2												
3												
4			0.20					0.20				
5	0.08							0.04				
6	0.35		0.31			0.24						
7	0.31											
8												
9			0.04									
10												
11			0.04									
12												
13												
14												
15		0.24				0.12						
16									0.59			
17												
18												
19												
20												
21												
22			0.12									
23												
24												
25				0.39								
26				0.28								
27												
28					0.08							
29												
30				0.20								
31												
Month Total	0.74	0.24	0.71	0.87	0.08	0.36	0.00	0.24	0.59	0.00	0.00	0.00

Gauge Rainfall

Gage Number 6510

Location South Mountain Park

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2												
3												
4			0.12					0.16				
5	0.08											
6	0.83		0.47			0.16						
7	0.39											
8												
9												
10												
11												
12		0.20										
13												
14												
15		0.12										
16									0.08			
17		0.31							0.04			
18												
19												
20												
21												
22			0.16									
23												
24												
25				0.47								
26				0.75								
27												
28					0.16							
29												
30				0.16								
31												
Month Total	1.30	0.63	0.75	1.38	0.16	0.16	0.00	0.16	0.12	0.00	0.00	0.00

Gauge Rainfall

Gage Number 6500

Location Guadalupe FRS

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2												
3							0.04					
4								0.04				
5												
6	0.20		0.24			0.04						
7	0.04											
8												
9												
10												
11												
12		0.71										
13												
14												
15		0.12				0.16						
16												
17		0.51										
18							0.04					
19												
20												
21												
22			0.24									
23												
24												
25				0.08								
26				0.12								
27												
28					0.16							
29												
30				0.04								
31												
Month Total	0.24	1.34	0.48	0.24	0.16	0.20	0.08	0.04	0.00	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 5595

Location: New River and Bell Road

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.28						
3												
4			0.08					0.24				
5		0.28						0.12				
6	0.79	0.31				0.31						
7												
8												
9			0.08									
10												
11			0.47									
12												
13												
14												
15						0.04						
16									0.04			
17		0.12							0.04			
18												
19												
20												
21												
22	0.16											
23												
24												
25				0.08								
26				0.24								
27												
28					0.12							
29					0.04							
30				0.08								
31												
Month Total	0.95	0.71	0.63	0.40	0.16	0.63	0.00	0.36	0.08	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 5565

Location: Skunk Creek at I-17

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.28						
3												
4			0.08					0.04				
5		0.04										
6	1.77					0.24						
7	0.20	0.28										
8												
9												
10			0.04									
11			0.31									
12												
13												
14												
15						0.16						
16									0.16			
17									0.04			
18												
19												
20												
21												
22			0.04									
23												
24												
25				0.20			0.08					
26				0.04								
27												
28					0.20							
29												
30				0.16								
31												
Month Total	1.97	0.32	0.47	0.40	0.20	0.68	0.08	0.04	0.20	0.00	0.00	0.00

Gauge Rainfall

Gage Number 5550

Location Deer Valley Airport

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2			0.08			0.28						
3												
4			0.08					0.16				
5								0.16				
6	1.34		0.04			0.31						
7	0.31	0.67										
8												
9												
10												
11			0.43									
12												
13												
14												
15		0.83				0.12						
16									0.12			
17									0.04			
18												
19												
20												
21				0.04								
22			0.16									
23												
24	0.04											
25				0.35			0.04					
26				0.12								
27												
28					0.16							
29					0.04							
30				0.39								
31												
Month Total	1.69	1.50	0.79	0.90	0.20	0.71	0.04	0.32	0.16	0.00	0.00	0.00

Gauge Rainfall

Gage Number 5535

Location Adobe Dam

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.24						
3												
4			0.08					0.08				
5	0.04							0.04				
6	1.14	0.20	0.16			0.24						
7	0.98	0.47										
8												
9												
10												
11			0.59									
12												
13												
14												
15		0.20				0.31						
16									0.04			
17									0.04			
18												
19												
20												
21												
22			0.08									
23												
24												
25				0.39			0.04					
26				0.51								
27												
28					0.08							
29												
30				0.08								
31												
Month Total	2.16	0.87	0.91	0.98	0.08	0.79	0.04	0.12	0.08	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 5505

Location: New River at Glendale Avenue

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.16						
3												
4			0.12					0.24				
5	0.20							0.08				
6			0.08			0.31						
7	0.20	0.28										
8	0.04											
9			0.04									
10												
11			0.51									
12												
13												
14												
15												
16			0.08						0.43			
17												
18												
19												
20												
21												
22												
23												
24												
25				0.20			0.04					
26				0.43								
27												
28					0.08							
29					0.04							
30				0.24								
31												
Month Total	0.44	0.28	0.83	0.87	0.12	0.47	0.04	0.32	0.43	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 5400

Location: Agua Fria at Buckeye Road

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.04						
3												
4			0.16					0.40				
5	0.16							0.24				
6		0.04	0.08			0.24		0.04				
7	0.39	0.12										
8												
9			0.24		0.04							
10												
11			0.91									
12												
13												
14												
15						0.08						
16									0.04			
17	0.24	0.04										
18												
19												
20												
21				0.08								
22												
23	0.04											
24												
25				0.16			0.04					
26				0.04								
27							0.04					
28					0.12							
29					0.04							
30				0.08								
31												
Month Total	0.83	0.20	1.39	0.36	0.20	0.36	0.08	0.68	0.04	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 4900

Location: Cave Buttes Dam

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.20						
3						0.04						
4			0.04					0.35				
5	0.04	0.04										
6	0.16					0.16						
7	0.04	0.35										
8												
9												
10												
11			0.08									
12												
13												
14												
15		0.43				0.12						
16									0.16			
17		0.08							0.04			
18												
19												
20												
21				0.04								
22			0.08									
23												
24												
25				0.20								
26				0.16								
27												
28					0.20							
29					0.04							
30				0.31								
31												
Month Total	0.24	0.90	0.20	0.71	0.24	0.52	0.00	0.35	0.20	0.00	0.00	0.00

Gauge Rainfall

Gage Number	4840
Location	Greenway Road at 32nd Avenue

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.24						
3												
4			0.12					0.28				
5	0.08							0.04				
6	1.85					0.28						
7	0.59											
8												
9												
10												
11			0.47									
12												
13												
14												
15		0.12				0.24						
16			0.04						0.04			
17	0.04											
18												
19												
20												
21												
22			0.16									
23												
24												
25				0.20								
26				0.20								
27												
28					0.04							
29					0.04							
30				0.08								
31												
Month Total	2.56	0.12	0.79	0.48	0.08	0.76	0.00	0.32	0.04	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 4830

Location: Cave Creek Wash at Cactus Road

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2			0.04			0.24						
3												
4			0.12					0.12				
5	0.08							0.20				
6	1.18		0.04			0.24						
7	0.16	0.35										
8												
9												
10												
11			0.47									
12												
13												
14												
15		0.04				0.12						
16									0.04			
17	0.04								0.04			
18												
19												
20												
21				0.04								
22			0.12									
23												
24												
25				0.20								
26				0.08								
27												
28					0.12							
29					0.04							
30				0.16								
31												
Month Total	1.46	0.39	0.79	0.48	0.16	0.60	0.00	0.32	0.08	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 4820

Location: ACDC at 43rd Avenue

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.20						
3												
4			0.12					0.24				
5	0.08							0.04				
6	0.87					0.24						
7	0.16	0.12										
8												
9												
10												
11			0.43									
12												
13												
14												
15						0.08						
16												
17	0.04											
18												
19												
20												
21												
22												
23												
24		0.04										
25				0.20								
26				0.24								
27												
28					0.04							
29												
30				0.12								
31												
Month Total	1.15	0.16	0.55	0.56	0.04	0.52	0.00	0.28	0.00	0.00	0.00	0.00

Gauge Rainfall

Gage Number 4800

Location Dreamy Draw Dam

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.16						
3												
4			0.04					0.20				
5								0.24				
6	0.43		0.08			0.31						
7	0.08											
8												
9					0.16							
10												
11			0.08									
12												
13												
14												
15		0.63				0.20						
16									0.12			
17	0.08	0.12										
18												
19												
20												
21												
22			0.16									
23												
24		0.04										
25				0.16								
26				0.04								
27												
28					0.16							
29												
30				0.39								
31												
Month Total	0.59	0.79	0.36	0.59	0.32	0.67	0.00	0.44	0.12	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 4780

Location: Missouri Avenue at 16th Street

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1						0.04						
2					0.04							
3												
4			0.08					0.16				
5	0.04							0.15				
6	0.71		0.08			0.28		0.04				
7	0.04		0.04									
8												
9												
10												
11												
12												
13												
14												
15		0.16				0.16						
16			0.04						0.08			
17												
18												
19												
20												
21												
22			0.12									
23			0.04									
24												
25				0.04								
26												
27	0.04			0.04								
28					0.04							
29												
30												
31												
Month Total	0.83	0.16	0.40	0.08	0.08	0.48	0.00	0.35	0.08	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 4760

Location: Maryvale Municipal Golf Course - near Indian School Road and 59th Avenue

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.08						
3												
4			0.08					0.16				
5	0.12							0.16				
6	0.20		0.12			0.28		0.04				
7	0.35	0.04										
8												
9					0.16							
10												
11			0.24									
12												
13												
14												
15		0.12				0.04						
16									0.24			
17		0.08							0.04			
18												
19												
20												
21												
22	0.04											
23												
24												
25				0.31								
26				0.24								
27												
28					0.04							
29												
30				0.16								
31												
Month Total	0.71	0.24	0.44	0.71	0.20	0.40	0.00	0.36	0.28	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 4750

Location: Thomas Road at 48th Street

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
2	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
3	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
4	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
5	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
6	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
7	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
8	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
9	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
10	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
11	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
12	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
13	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
14	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
15	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
16	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	0.08			
17	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
18	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
19	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
20	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
21	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
22	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
23	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
24	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
25	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
26	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
27	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
28	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
29	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
30	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
31	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down				
Month Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00

Gauge Rainfall

Gage Number	4740
Location	Papago Park - near McDowell Road and 52nd Street

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.04						
3						0.04						
4			0.04					0.12				
5	0.04											
6	0.08		0.24			0.24						
7	0.04											
8												
9												
10												
11												
12		0.04										
13												
14												
15		0.24				0.31						
16									0.08			
17		0.35										
18												
19	0.24											
20												
21												
22	0.51		0.04									
23												
24												
25				0.24								
26				0.24								
27												
28					0.08							
29					0.08							
30				0.31								
31												
Month Total	0.91	0.63	0.32	0.79	0.16	0.63	0.00	0.12	0.08	0.00	0.00	0.00

Gauge Rainfall

Gage Number 4730

Location near Thomas Road and 32nd Street

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.08						
3												
4			0.04					0.12				
5	0.04							0.04				
6	0.67		0.12			0.28						
7	0.04											
8												
9												
10												
11			0.16									
12												
13												
14												
15		0.08				0.28						
16			0.04						0.08			
17		0.08										
18	0.08											
19	0.39											
20												
21												
22	0.43		0.16									
23												
24												
25				0.12								
26				0.08								
27												
28					0.16							
29												
30				0.16								
31												
Month Total	1.65	0.16	0.52	0.36	0.16	0.64	0.00	0.16	0.08	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 4700

Location: FCD - Durango Street at 27th Avenue

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.04						
3												
4	0.04		0.12					0.16				
5	0.39							0.12				
6	0.43		0.47			0.24						
7												
8												
9			0.04									
10												
11			0.12									
12												
13												
14												
15												
16									0.28			
17		0.04							0.03			
18												
19												
20												
21												
22	0.24		0.12									
23												
24												
25				0.24								
26				0.04								
27												
28					0.08							
29												
30				0.47								
31												
Month Total	1.10	0.04	0.87	0.75	0.08	0.28	0.00	0.28	0.31	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 4650

Location: Paradise Valley Park - near Union Hills Drive at 32nd Street

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.28						
3												
4			0.04					0.19				
5								0.31				
6	0.63	0.04				0.24						
7	0.28											
8												
9			0.04									
10												
11			0.08									
12												
13												
14												
15		0.12				0.20						
16									0.20			
17	0.24	0.04										
18												
19												
20												
21												
22			0.12									
23												
24		0.08										
25				0.35								
26				0.24								
27												
28					0.16							
29					0.08							
30				0.59								
31												
Month Total	1.15	0.28	0.28	1.18	0.24	0.72	0.00	0.50	0.20	0.00	0.00	0.00

Gauge Rainfall

Gage Number	4640
Location	IBW and Sweetwater Avenue

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.24						
3												
4			0.04					0.24				
5								0.27				
6	0.43		0.04			0.24						
7	0.20											
8	0.08											
9					0.08							
10												
11			0.08									
12												
13												
14												
15		0.39				0.08						
16									0.16			
17	0.28	0.12										
18												
19												
20												
21												
22			0.04									
23												
24												
25				0.28								
26				0.12								
27												
28					0.20							
29												
30				0.51								
31												
Month Total	0.99	0.51	0.20	0.91	0.28	0.56	0.00	0.51	0.16	0.00	0.00	0.00

Gauge Rainfall

Gage Number: 4630

Location: Thunderbird Academy - near Thunderbird and Scottsdale Roads

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.31						
3												
4								0.28				
5			0.04					0.23				
6	0.12		0.12			0.28						
7												
8												
9					0.35							
10												
11			0.04									
12												
13												
14												
15												
16									0.20			
17		0.12										
18												
19												
20												
21												
22			0.12									
23												
24												
25				0.24								
26				0.12								
27												
28		0.12			0.16							
29												
30				0.31								
31												
Month Total	0.12	0.24	0.32	0.67	0.51	0.59	0.00	0.51	0.20	0.00	0.00	0.00

Gauge Rainfall

Gage Number	4610
Location	IBW at Indian Bend Road

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.16						
3												
4			0.08					0.20				
5												
6	0.20		0.31			0.28						
7												
8												
9												
10												
11			0.04									
12												
13												
14												
15		0.16				0.24						
16									0.20			
17		0.20										
18												
19												
20												
21												
22	0.43		0.24									
23												
24												
25				0.12								
26				0.35								
27												
28		0.04			0.31							
29					0.04							
30				0.20								
31												
Month Total	0.63	0.40	0.67	0.67	0.35	0.68	0.00	0.20	0.20	0.00	0.00	0.00

Gauge Rainfall

Gage Number	4600
Location	IBW at McKellips Road

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1												
2						0.08						
3												
4			0.08					0.16				
5												
6	0.43		0.39									
7	0.04					0.12						
8						0.12						
9												
10												
11												
12		0.83										
13												
14												
15		0.83										
16									0.12			
17		0.12										
18												
19												
20												
21												
22	0.08		0.28									
23												
24												
25				0.47								
26				1.06								
27												
28		0.04			0.39							
29					0.04							
30				0.04								
31												
Month Total	0.55	1.82	0.75	1.57	0.43	0.32	0.00	0.16	0.12	0.00	0.00	0.00

Gauge Rainfall

Gage Number	4510
Location	Roeser at Second Street

	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
2	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
3	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
4	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
5	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
6	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
7	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
8	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
9	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
10	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
11	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
12	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
13	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
14	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
15	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
16	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
17	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
18	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
19	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
20	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
21	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
22	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
23	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
24	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
25	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
26	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
27	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
28	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
29	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
30	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
31	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down	gage down			
Month Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Data Tables

SR-03 (Phoenix)

35th Avenue north of Salt River

Phoenix SR03

Salt River at 35th Avenue

	Method	FC (ug/L)	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	AgI (ug/L)	AgL (ug/L)	
Date of Sampling								No Data to Report
Time								No Data to Report
Representative Storm Event								No Data to Report
Agency Collecting Sample								No Data to Report
Agency Analyzing Sample								No Data to Report
Drainage Area (acres) (DA)								No Data to Report
Impervious Area (acres) (IA)								No Data to Report
Land Use - Residential								No Data to Report
Land Use - Commercial								No Data to Report
Land Use - Industrial								No Data to Report
Land Use - Undeveloped								No Data to Report
Sampling Duration (minutes) (DRN)								No Data to Report
Storm Duration (minutes)								No Data to Report
Runoff Sampled (cubic feet) (RUN)								No Data to Report
Total Storm Runoff (cubic feet)								No Data to Report
Instantaneous Discharge (cfs)								No Data to Report
Preceeding Dry Period (days) (ANT)								No Data to Report
Total Storm Rainfall (inch)								No Data to Report
Rainfall Sampled (inch) (TRN)								No Data to Report
Maximum 5-minute rain intensity (MAX5)								No Data to Report
Sample Temperature (deg. C)								No Data to Report
Effluent Temperature (deg. C)								No Data to Report
pH, Effluent (standard units)								No Data to Report
Oxygen Dissolved (mg/l)								No Data to Report
BOD5 (mg/l)	405.1							No Data to Report
COD High Level (mg/l)	410.1							No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix SR03

Salt River at 35th Avenue

	Method	FC (ug/L)	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	AgI (ug/L)	AgL (ug/L)	
Date of Sampling								
Cyanide Total (mg/l as Cn)	353.3	210000 T	2800 T	41 T	9.7 T	NNS	200 T	No Data to Report
Fecal Coliform (MPN/100mL)	9222C							No Data to Report
Fecal Streptococci (MPN/100mL)	9230C							No Data to Report
Total Dissolved Solids (mg/l)	160.1							No Data to Report
Total Suspended Solids (mg/l)	160.1							No Data to Report
Nitrogen No2 + No3, Total (mg/l as N)	353.2	NNS	NNS	NNS	NNS	NNS	NNS	No Data to Report
TKN Nitrogen (mg/l as N)	351.3							No Data to Report
Nitrogen Nitrate Total (mg/l as N)	COMP	NNS	224000	NNS	NNS	NNS	NNS	No Data to Report
Nitrogen Nitrite Total (mg/l as N)	353.2	NNS	14000	NNS	NNS	NNS	NNS	No Data to Report
Nitrogen Ammonia Total (mg/l as N)	350.3							No Data to Report
Phosphorous Total (mg/l as P)	365.2							No Data to Report
Phosphorous Ortho (mg/l as P)	365.2							No Data to Report
Phenols Total Recoverable (ug/l)	420.1	6500000	84000	7000	1000	NNS	NNS	No Data to Report
Oil and Grease Total Recoverable (mg/l)	413.1							No Data to Report
Total Recoverable Petroleum Hydrocarbons (mg/l)	418.1							No Data to Report
Hardness (mg/l)	130.2							No Data to Report
Arsenic Total (ug/l as As)	200.7	1450 T	50 T	NNS	NNS	2000 T	200 T	No Data to Report
Arsenic Dissolved (ug/l as As)	200.7	NNS	NNS	360 D	190 D	NNS	NNS	No Data to Report
Beryllium Total Recoverable (ug/l as Be)	200.7							No Data to Report
Beryllium Dissolved (ug/l as Be)	200.7							No Data to Report
Cadmium Total Recoverable (ug/l as Cd)	213.2	41 T	70 T	NNS	NNS	50 T	50 T	No Data to Report
Cadmium Dissolved (ug/l as Cd)	213.2			c D	c D			No Data to Report
Chromium Total Recoverable (ug/l as Cr)	218.2	NNS	NNS	NNS	NNS	1000 T	1000 T	No Data to Report
Chromium Dissolved (ug/l as Cr)	218.2	NNS	NNS	NNS	NNS	NNS	NNS	No Data to Report
Copper, Total Recoverable, (ug/l as Cu)	220.2	NNS	NNS	NNS	NNS	5000 T	500 T	No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix SR03 Salt River at 35th Avenue	Method	FC (ug/L)	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	AgI (ug/L)	AgL (ug/L)	
Date of Sampling								
Copper, Dissolved, (ug/l as Cu)	220.2	NNS	5200 D	e D	e D	NNS	NNS	No Data to Report
Lead, Total Recoverable, (ug/l as Pb)	239.2	NNS	NNS	NNS	NNS	10000 T	100 T	No Data to Report
Lead, Dissolved, (ug/l as Pb)	239.2	NNS	NNS	f D	f D	NNS	NNS	No Data to Report
Nickel, Total Recoverable, (ug/l as Ni)	249.2	730 T	2800 T	NNS	NNS	NNS	NNS	No Data to Report
Nickel, Dissolved, (ug/l as Ni)	249.2	NNS	NNS	g D	g D	NNS	NNS	No Data to Report
Silver, Total Recoverable, (ug/l as Ag)	200.7	NNS	NNS	NNS	NNS	NNS	NNS	No Data to Report
Silver, Dissolved, (ug/l as Ag)	200.7	NNS	NNS	i D	NNS	NNS	NNS	No Data to Report
Zinc, Total Recoverable, (ug/l as Zn)	289.2	22000 T	42000 T	NNS	NNS	10000 T	25000 T	No Data to Report
Zinc, Dissolved, (ug/l as Zn)	289.2	NNS	NNS	j D	j D	NNS	NNS	No Data to Report
P,P' DDE, Total, (ug/l)	608	0.0006	NNS	1.1	0.02	0.001	0.001	No Data to Report
Acetone, Total, (ug/l)	624							No Data to Report
Benzoic Acid, Total, (ug/l)	625							No Data to Report
Chrysene, Total, (ug/l)	625	0.0001	NNS	NNS	NNS	NNS	NNS	No Data to Report
Phenol, Total, (ug/l)	625	6500000	84000	7000	1000	NNS	NNS	No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

SR-30 (Phoenix)

Salt River (south bank) at 27th Avenue

Phoenix SR30 Salt River at 27th Avenue	Method	FC (ug/L)	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	AgI (ug/L)	AgL (ug/L)	
Date of Sampling								
Time								No Data to Report
Representative Storm Event								No Data to Report
Agency Collecting Sample								No Data to Report
Agency Analyzing Sample								No Data to Report
Drainage Area (acres) (DA)								No Data to Report
Impervious Area (acres) (IA)								No Data to Report
Land Use - Residential								No Data to Report
Land Use - Commercial								No Data to Report
Land Use - Industrial								No Data to Report
Land Use - Undeveloped								No Data to Report
Sampling Duration (minutes) (DRN)								No Data to Report
Storm Duration (minutes)								No Data to Report
Runoff Sampled (cubic feet) (RUN)								No Data to Report
Total Storm Runoff (cubic feet)								No Data to Report
Instantaneous Discharge (cfs)								No Data to Report
Preceeding Dry Period (days) (ANT)								No Data to Report
Total Storm Rainfall (inch)								No Data to Report
Rainfall Sampled (inch) (TRN)								No Data to Report
Maximum 5-minute rain intensity (MAX5)								No Data to Report
Sample Temperature (deg. C)								No Data to Report
Effluent Temperature (deg. C)								No Data to Report
pH, Effluent (standard units)								No Data to Report
Oxygen Dissolved (mg/l)								No Data to Report
BOD5 (mg/l)	405.1							No Data to Report
COD High Level (mg/l)	410.1							No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix SR30
Salt River at 27th Avenue

	Method	FC (ug/L)	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	AgI (ug/L)	AgL (ug/L)	
Date of Sampling								
Cyanide Total (mg/l as Cn)	353.3	210000 T	2800 T	41 T	9.7 T	NNS	200 T	No Data to Report
Fecal Coliform (MPN/100mL)	9222C							No Data to Report
Fecal Streptococci (MPN/100mL)	9230C							No Data to Report
Total Dissolved Solids (mg/l)	160.1							No Data to Report
Total Suspended Solids (mg/l)	160.1							No Data to Report
Nitrogen No2 + No3, Total (mg/l as N)	353.2	NNS	NNS	NNS	NNS	NNS	NNS	No Data to Report
TKN Nitrogen (mg/l as N)	351.3							No Data to Report
Nitrogen Nitrate Total (mg/l as N)	COMP	NNS	224000	NNS	NNS	NNS	NNS	No Data to Report
Nitrogen Nitrite Total (mg/l as N)	353.2	NNS	14000	NNS	NNS	NNS	NNS	No Data to Report
Nitrogen Ammonia Total (mg/l as N)	350.3							No Data to Report
Phosphorous Total (mg/l as P)	365.2							No Data to Report
Phosphorous Ortho (mg/l as P)	365.2							No Data to Report
Phenols Total Recoverable (ug/l)	420.1	6500000	84000	7000	1000	NNS	NNS	No Data to Report
Oil and Grease Total Recoverable (mg/l)	413.1							No Data to Report
Total Recoverable Petroleum Hydrocarbons (mg/l)	418.1							No Data to Report
Hardness (mg/l)	130.2							No Data to Report
Arsenic Total (ug/l as As)	200.7	1450 T	50 T	NNS	NNS	2000 T	200 T	No Data to Report
Arsenic Dissolved (ug/l as As)	200.7	NNS	NNS	360 D	190 D	NNS	NNS	No Data to Report
Beryllium Total Recoverable (ug/l as Be)	200.7							No Data to Report
Beryllium Dissolved (ug/l as Be)	200.7							No Data to Report
Cadmium Total Recoverable (ug/l as Cd)	213.2	41 T	70 T	NNS	NNS	50 T	50 T	No Data to Report
Cadmium Dissolved (ug/l as Cd)	213.2			c D	c D			No Data to Report
Chromium Total Recoverable (ug/l as Cr)	218.2	NNS	NNS	NNS	NNS	1000 T	1000 T	No Data to Report
Chromium Dissolved (ug/l as Cr)	218.2	NNS	NNS	NNS	NNS	NNS	NNS	No Data to Report
Copper, Total Recoverable, (ug/l as Cu)	220.2	NNS	NNS	NNS	NNS	5000 T	500 T	No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix SR30 Salt River at 27th Avenue	Method	FC (ug/L)	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	AgI (ug/L)	AgL (ug/L)	
Date of Sampling								
Copper, Dissolved, (ug/l as Cu)	220.2	NNS	5200 D	e D	e D	NNS	NNS	No Data to Report
Lead, Total Recoverable, (ug/l as Pb)	239.2	NNS	NNS	NNS	NNS	10000 T	100 T	No Data to Report
Lead, Dissolved, (ug/l as Pb)	239.2	NNS	NNS	f D	f D	NNS	NNS	No Data to Report
Nickel, Total Recoverable, (ug/l as Ni)	249.2	730 T	2800 T	NNS	NNS	NNS	NNS	No Data to Report
Nickel, Dissolved, (ug/l as Ni)	249.2	NNS	NNS	g D	g D	NNS	NNS	No Data to Report
Silver, Total Recoverable, (ug/l as Ag)	200.7	NNS	NNS	NNS	NNS	NNS	NNS	No Data to Report
Silver, Dissolved, (ug/l as Ag)	200.7	NNS	NNS	i D	NNS	NNS	NNS	No Data to Report
Zinc, Total Recoverable, (ug/l as Zn)	289.2	22000 T	42000 T	NNS	NNS	10000 T	25000 T	No Data to Report
Zinc, Dissolved, (ug/l as Zn)	289.2	NNS	NNS	j D	j D	NNS	NNS	No Data to Report
P,P' DDE, Total, (ug/l)	608	0.0006	NNS	1.1	0.02	0.001	0.001	No Data to Report
Acetone, Total, (ug/l)	624							No Data to Report
Benzoic Acid, Total, (ug/l)	625							No Data to Report
Chrysene, Total, (ug/l)	625	0.0001	NNS	NNS	NNS	NNS	NNS	No Data to Report
Phenol, Total, (ug/l)	625	6500000	84000	7000	1000	NNS	NNS	No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

SR-45 (Phoenix)

Salt River (south bank) at 40th Street

Phoenix SR45

Salt River at 40th Street

	Method	PBC (ug/L)	A&We Acute (ug/L)	A&We Chronic (ug/L)	
Date of Sampling					
Time					No Data to Report
Representative Storm Event					No Data to Report
Agency Collecting Sample					No Data to Report
Agency Analyzing Sample					No Data to Report
Drainage Area (acres) (DA)					No Data to Report
Impervious Area (acres) (IA)					No Data to Report
Land Use - Residential					No Data to Report
Land Use - Commercial					No Data to Report
Land Use - Industrial					No Data to Report
Land Use - Undeveloped					No Data to Report
Sampling Duration (minutes) (DRN)					No Data to Report
Storm Duration (minutes)					No Data to Report
Runoff Sampled (cubic feet) (RUN)					No Data to Report
Total Storm Runoff (cubic feet)					No Data to Report
Instantaneous Discharge (cfs)					No Data to Report
Preceeding Dry Period (days) (ANT)					No Data to Report
Total Storm Rainfall (inch)					No Data to Report
Rainfall Sampled (inch) (TRN)					No Data to Report
Maximum 5-minute rain intensity (MAX5)					No Data to Report
Sample Temperature (deg. C)					No Data to Report
Effluent Temperature (deg. C)					No Data to Report
pH, Effluent (standard units)					No Data to Report
Oxygen Dissolved (mg/l)					No Data to Report
BOD5 (mg/l)	405.1				No Data to Report
COD High Level (mg/l)	410.1				No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix SR45

Salt River at 40th Street

	Method	PBC (ug/L)	A&We Acute (ug/L)	A&We Chronic (ug/L)	
Date of Sampling					
Cyanide Total (mg/l as Cn)	353.3	2800 T	84 T	19 T	No Data to Report
Fecal Coliform (MPN/100mL)	9222C				No Data to Report
Fecal Streptococci (MPN/100mL)	9230C				No Data to Report
Total Dissolved Solids (mg/l)	160.1				No Data to Report
Total Suspended Solids (mg/l)	160.1				No Data to Report
Nitrogen No2 + No3, Total (mg/l as N)	353.2	NNS	NNS	NNS	No Data to Report
TKN Nitrogen (mg/l as N)	351.3				No Data to Report
Nitrogen Nitrate Total (mg/l as N)	COMP	224000	NNS	NNS	No Data to Report
Nitrogen Nitrite Total (mg/l as N)	353.2	14000	NNS	NNS	No Data to Report
Nitrogen Ammonia Total (mg/l as N)	350.3				No Data to Report
Phosphorous Total (mg/l as P)	365.2				No Data to Report
Phosphorous Ortho (mg/l as P)	365.2				No Data to Report
Phenols Total Recoverable (ug/l)	420.1	84000	180000	26000	No Data to Report
Oil and Grease Total Recoverable (mg/l)	413.1				No Data to Report
Total Recoverable Petroleum Hydrocarbons (mg/l)	418.1				No Data to Report
Hardness (mg/l)	130.2				No Data to Report
Arsenic Total (ug/l as As)	200.7	50 T	NNS	NNS	No Data to Report
Arsenic Dissolved (ug/l as As)	200.7	NNS	440 D	230 D	No Data to Report
Beryllium Total Recoverable (ug/l as Be)	200.7				No Data to Report
Beryllium Dissolved (ug/l as Be)	200.7				No Data to Report
Cadmium Total Recoverable (ug/l as Cd)	213.2	70 T	NNS	NNS	No Data to Report
Cadmium Dissolved (ug/l as Cd)	213.2		c D	c D	No Data to Report
Chromium Total Recoverable (ug/l as Cr)	218.2	NNS	NNS	NNS	No Data to Report
Chromium Dissolved (ug/l as Cr)	218.2	NNS	NNS	NNS	No Data to Report
Copper, Total Recoverable, (ug/l as Cu)	220.2	NNS	NNS	NNS	No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix SR45

Salt River at 40th Street

	Method	PBC (ug/L)	A&We Acute (ug/L)	A&We Chronic (ug/L)	
Date of Sampling					
Copper, Dissolved, (ug/l as Cu)	220.2	5200 D	e D	e D	No Data to Report
Lead, Total Recoverable, (ug/l as Pb)	239.2	NNS	NNS	NNS	No Data to Report
Lead, Dissolved, (ug/l as Pb)	239.2	NNS	f D	f D	No Data to Report
Nickel, Total Recoverable, (ug/l as Ni)	249.2	2800 T	NNS	NNS	No Data to Report
Nickel, Dissolved, (ug/l as Ni)	249.2	NNS	g D	g D	No Data to Report
Silver, Total Recoverable, (ug/l as Ag)	200.7	NNS	NNS	NNS	No Data to Report
Silver, Dissolved, (ug/l as Ag)	200.7	NNS	i D	NNS	No Data to Report
Zinc, Total Recoverable, (ug/l as Zn)	289.2	42000 T	NNS	NNS	No Data to Report
Zinc, Dissolved, (ug/l as Zn)	289.2	NNS	j D	j D	No Data to Report
P,P' DDE, Total, (ug/l)	608	NNS	1.1	0.03	No Data to Report
Acetone, Total, (ug/l)	624				No Data to Report
Benzoic Acid, Total, (ug/l)	625				No Data to Report
Chrysene, Total, (ug/l)	625	NNS	NNS	NNS	No Data to Report
Phenol, Total, (ug/l)	625	84000	180000	26000	No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

SR-49 (Phoenix)

Salt River (north bank) at 67th Avenue

Phoenix SR49

Salt River at 67th Avenue

	Method	FC (ug/L)	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	AgI (ug/L)	AgL (ug/L)	
Date of Sampling								02/04/1999
Time								1754
Representative Storm Event								Y
Agency Collecting Sample								FCD
Agency Analyzing Sample								BOLIN
Drainage Area (acres) (DA)								4738
Impervious Area (acres) (IA)								--
Land Use - Residential								590
Land Use - Commercial								0
Land Use - Industrial								1241
Land Use - Undeveloped								2896
Sampling Duration (minutes) (DRN)								883
Storm Duration (minutes)								400
Runoff Sampled (cubic feet) (RUN)								56000
Total Storm Runoff (cubic feet)								63000
Instantaneous Discharge (cfs)								3.6
Preceeding Dry Period (days) (ANT)								49
Total Storm Rainfall (inch)								0.24
Rainfall Sampled (inch) (TRN)								0.24
Maximum 5-minute rain intensity (MAX5)								0.24
Sample Temperature (deg. C)								4
Effluent Temperature (deg. C)								12.6
pH, Effluent (standard units)								8.41
Oxygen Dissolved (mg/l)								--
BOD5 (mg/l)	405.1							22
COD High Level (mg/l)	410.1							307

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix SR49

Salt River at 67th Avenue

	Method	FC (ug/L)	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	AgI (ug/L)	AgL (ug/L)	
Date of Sampling								02/04/1999
Cyanide Total (mg/l as Cn)	353.3	210000 T	2800 T	41 T	9.7 T	NNS	200 T	<0.01
Fecal Coliform (MPN/100mL)	9222C							--
Fecal Streptococci (MPN/100mL)	9230C							--
Total Dissolved Solids (mg/l)	160.1							192
Total Suspended Solids (mg/l)	160.1							344
Nitrogen No2 + No3, Total (mg/l as N)	353.2	NNS	NNS	NNS	NNS	NNS	NNS	1.9
TKN Nitrogen (mg/l as N)	351.3							4.18
Nitrogen Nitrate Total (mg/l as N)	COMP	NNS	224000	NNS	NNS	NNS	NNS	1.9
Nitrogen Nitrite Total (mg/l as N)	353.2	NNS	14000	NNS	NNS	NNS	NNS	<0.1
Nitrogen Ammonia Total (mg/l as N)	350.3							1.85
Phosphorous Total (mg/l as P)	365.2							0.91
Phosphorous Ortho (mg/l as P)	365.2							0.23
Phenols Total Recoverable (ug/l)	420.1	6500000	84000	7000	1000	NNS	NNS	15
Oil and Grease Total Recoverable (mg/l)	413.1							--
Total Recoverable Petroleum Hydrocarbons (mg/l)	418.1							--
Hardness (mg/l)	130.2							114
Arsenic Total (ug/l as As)	200.7	1450 T	50 T	NNS	NNS	2000 T	200 T	<5
Arsenic Dissolved (ug/l as As)	200.7	NNS	NNS	360 D	190 D	NNS	NNS	5
Beryllium Total Recoverable (ug/l as Be)	200.7							<2
Beryllium Dissolved (ug/l as Be)	200.7							<2
Cadmium Total Recoverable (ug/l as Cd)	213.2	41 T	70 T	NNS	NNS	50 T	50 T	0.7
Cadmium Dissolved (ug/l as Cd)	213.2			c D	c D			0.3
Chromium Total Recoverable (ug/l as Cr)	218.2	NNS	NNS	NNS	NNS	1000 T	1000 T	7
Chromium Dissolved (ug/l as Cr)	218.2	NNS	NNS	NNS	NNS	NNS	NNS	4.6
Copper, Total Recoverable, (ug/l as Cu)	220.2	NNS	NNS	NNS	NNS	5000 T	500 T	33

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix SR49

Salt River at 67th Avenue

	Method	FC (ug/L)	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	AgI (ug/L)	AgL (ug/L)	
Date of Sampling								02/04/1999
Copper, Dissolved, (ug/l as Cu)	220.2	NNS	5200 D	e D	e D	NNS	NNS	33
Lead, Total Recoverable, (ug/l as Pb)	239.2	NNS	NNS	NNS	NNS	10000 T	100 T	13
Lead, Dissolved, (ug/l as Pb)	239.2	NNS	NNS	f D	f D	NNS	NNS	8
Nickel, Total Recoverable, (ug/l as Ni)	249.2	730 T	2800 T	NNS	NNS	NNS	NNS	16
Nickel, Dissolved, (ug/l as Ni)	249.2	NNS	NNS	g D	g D	NNS	NNS	10
Silver, Total Recoverable, (ug/l as Ag)	200.7	NNS	NNS	NNS	NNS	NNS	NNS	<40
Silver, Dissolved, (ug/l as Ag)	200.7	NNS	NNS	i D	NNS	NNS	NNS	<50
Zinc, Total Recoverable, (ug/l as Zn)	289.2	22000 T	42000 T	NNS	NNS	10000 T	25000 T	190
Zinc, Dissolved, (ug/l as Zn)	289.2	NNS	NNS	j D	j D	NNS	NNS	100
P,P' DDE, Total, (ug/l)	608	0.0006	NNS	1.1	0.02	0.001	0.001	--
Acetone, Total, (ug/l)	624							--
Benzoic Acid, Total, (ug/l)	625							--
Chrysene, Total, (ug/l)	625	0.0001	NNS	NNS	NNS	NNS	NNS	--
Phenol, Total, (ug/l)	625	6500000	84000	7000	1000	NNS	NNS	--

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

IB-08 (Phoenix)

40th Street at Indian Bend Wash (north bank)

Phoenix IB08 40th Street at IBW	Method	FC (ug/L)	PBC (ug/L)	A&Ww Acute (ug/L)	A&Ww Chronic (ug/L)	A&We Acute (ug/L)	A&We Chronic (ug/L)	
Date of Sampling								02/04/1999
Time								1628
Representative Storm Event								Y
Agency Collecting Sample								FCD
Agency Analyzing Sample								BOLIN
Drainage Area (acres) (DA)								801
Impervious Area (acres) (IA)								--
Land Use - Residential								659
Land Use - Commercial								62
Land Use - Industrial								0
Land Use - Undeveloped								81
Sampling Duration (minutes) (DRN)								466
Storm Duration (minutes)								400
Runoff Sampled (cubic feet) (RUN)								72600
Total Storm Runoff (cubic feet)								88600
Instantaneous Discharge (cfs)								15
Preceeding Dry Period (days) (ANT)								49
Total Storm Rainfall (inch)								0.35
Rainfall Sampled (inch) (TRN)								0.35
Maximum 5-minute rain intensity (MAX5)								0.36
Sample Temperature (deg. C)								4
Effluent Temperature (deg. C)								12.9
pH, Effluent (standard units)								8.68
Oxygen Dissolved (mg/l)								8.29
BOD5 (mg/l)	405.1							24
COD High Level (mg/l)	410.1							255

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix IB08 40th Street at IBW	Method	FC (ug/L)	PBC (ug/L)	A&Ww Acute (ug/L)	A&Ww Chronic (ug/L)	A&We Acute (ug/L)	A&We Chronic (ug/L)	
Date of Sampling								02/04/1999
Cyanide Total (mg/l as Cn)	353.3	210000 T	2800 T	41 T	9.7 T	84 T	19 T	<0.01
Fecal Coliform (MPN/100mL)	9222C							30000
Fecal Streptococci (MPN/100mL)	9230C							1700
Total Dissolved Solids (mg/l)	160.1							215
Total Suspended Solids (mg/l)	160.1							244
Nitrogen No2 + No3, Total (mg/l as N)	353.2	NNS	NNS	NNS	NNS	NNS	NNS	--
TKN Nitrogen (mg/l as N)	351.3							4.69
Nitrogen Nitrate Total (mg/l as N)	COMP	NNS	224000	NNS	NNS	NNS	NNS	1.8
Nitrogen Nitrite Total (mg/l as N)	353.2	NNS	14000	NNS	NNS	NNS	NNS	<0.1
Nitrogen Ammonia Total (mg/l as N)	350.3							2.23
Phosphorous Total (mg/l as P)	365.2							0.68
Phosphorous Ortho (mg/l as P)	365.2							0.23
Phenols Total Recoverable (ug/l)	420.1	6500000	84000	7000	1000	180000	26000	13
Oil and Grease Total Recoverable (mg/l)	413.1							5
Total Recoverable Petroleum Hydrocarbons (mg/l)	418.1							<1
Hardness (mg/l)	130.2							114
Arsenic Total (ug/l as As)	200.7	1450 T	50 T	NNS	NNS	NNS	NNS	<5
Arsenic Dissolved (ug/l as As)	200.7	NNS	NNS	360 D	190 D	440 D	230 D	<5
Beryllium Total Recoverable (ug/l as Be)	200.7							<2
Beryllium Dissolved (ug/l as Be)	200.7							<2
Cadmium Total Recoverable (ug/l as Cd)	213.2	41 T	70 T	NNS	NNS	NNS	NNS	0.7
Cadmium Dissolved (ug/l as Cd)	213.2	NNS	NNS	c D	c D	c D	c D	<0.2
Chromium Total Recoverable (ug/l as Cr)	218.2	NNS	NNS	NNS	NNS	NNS	NNS	6
Chromium Dissolved (ug/l as Cr)	218.2	NNS	NNS	NNS	NNS	NNS	NNS	2.4
Copper, Total Recoverable, (ug/l as Cu)	220.2	NNS	NNS	NNS	NNS	NNS	NNS	46

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix IB08 40th Street at IBW	Method	FC (ug/L)	PBC (ug/L)	A&Ww Acute (ug/L)	A&Ww Chronic (ug/L)	A&We Acute (ug/L)	A&We Chronic (ug/L)	
Date of Sampling								02/04/1999
Copper, Dissolved, (ug/l as Cu)	220.2	NNS	5200 D	e D	e D	e D	e D	23
Lead, Total Recoverable, (ug/l as Pb)	239.2	NNS	NNS	NNS	NNS	NNS	NNS	34
Lead, Dissolved, (ug/l as Pb)	239.2	NNS	NNS	f D	f D	f D	f D	<5
Nickel, Total Recoverable, (ug/l as Ni)	249.2	730 T	2800 T	NNS	NNS	NNS	NNS	13
Nickel, Dissolved, (ug/l as Ni)	249.2	NNS	NNS	g D	g D	g D	g D	6.9
Silver, Total Recoverable, (ug/l as Ag)	200.7	NNS	NNS	NNS	NNS	NNS	NNS	<40
Silver, Dissolved, (ug/l as Ag)	200.7	NNS	NNS	i D	i D	i D	NNS	<50
Zinc, Total Recoverable, (ug/l as Zn)	289.2	22000 T	42000 T	NNS	NNS	NNS	NNS	310
Zinc, Dissolved, (ug/l as Zn)	289.2	NNS	NNS	j D	j D	j D	j D	90
P,P' DDE, Total, (ug/l)	608	0.0006	NNS	1.1	0.02	1.1	0.03	--
Acetone, Total, (ug/l)	624							<130
Benzoic Acid, Total, (ug/l)	625							--
Chrysene, Total, (ug/l)	625	0.0001	NNS	NNS	NNS	NNS	NNS	--
Phenol, Total, (ug/l)	625	6500000	84000	7000	1000	180000	26000	--

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix IB08 40th Street at IBW	Method	FC (ug/L)	PBC (ug/L)	A&Ww Acute (ug/L)	A&Ww Chronic (ug/L)	A&We Acute (ug/L)	A&We Chronic (ug/L)	
Date of Sampling								03/16/1999
Time								930
Representative Storm Event								Y
Agency Collecting Sample								FCD
Agency Analyzing Sample								BOLIN
Drainage Area (acres) (DA)								801
Impervious Area (acres) (IA)								--
Land Use - Residential								659
Land Use - Commercial								62
Land Use - Industrial								0
Land Use - Undeveloped								81
Sampling Duration (minutes) (DRN)								467
Storm Duration (minutes)								445
Runoff Sampled (cubic feet) (RUN)								68600
Total Storm Runoff (cubic feet)								88000
Instantaneous Discharge (cfs)								6.3
Preceeding Dry Period (days) (ANT)								40
Total Storm Rainfall (inch)								0.2
Rainfall Sampled (inch) (TRN)								0.2
Maximum 5-minute rain intensity (MAX5)								0.24
Sample Temperature (deg. C)								4
Effluent Temperature (deg. C)								14
pH, Effluent (standard units)								8.9
Oxygen Dissolved (mg/l)								7.24
BOD5 (mg/l)	405.1							36
COD High Level (mg/l)	410.1							336

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix IB08 40th Street at IBW	Method	FC (ug/L)	PBC (ug/L)	A&Ww Acute (ug/L)	A&Ww Chronic (ug/L)	A&We Acute (ug/L)	A&We Chronic (ug/L)	
Date of Sampling								03/16/1999
Cyanide Total (mg/l as Cn)	353.3	210000 T	2800 T	41 T	9.7 T	84 T	19 T	<0.01
Fecal Coliform (MPN/100mL)	9222C							2400
Fecal Streptococci (MPN/100mL)	9230C							16000
Total Dissolved Solids (mg/l)	160.1							281
Total Suspended Solids (mg/l)	160.1							286
Nitrogen No2 + No3, Total (mg/l as N)	353.2	NNS	NNS	NNS	NNS	NNS	NNS	--
TKN Nitrogen (mg/l as N)	351.3							5.45
Nitrogen Nitrate Total (mg/l as N)	COMP	NNS	224000	NNS	NNS	NNS	NNS	1.3
Nitrogen Nitrite Total (mg/l as N)	353.2	NNS	14000	NNS	NNS	NNS	NNS	0.1
Nitrogen Ammonia Total (mg/l as N)	350.3							2.55
Phosphorous Total (mg/l as P)	365.2							7.29
Phosphorous Ortho (mg/l as P)	365.2							0.2
Phenols Total Recoverable (ug/l)	420.1	6500000	84000	7000	1000	180000	26000	6.3
Oil and Grease Total Recoverable (mg/l)	413.1							<5.0
Total Recoverable Petroleum Hydrocarbons (mg/l)	418.1							2
Hardness (mg/l)	130.2							108
Arsenic Total (ug/l as As)	200.7	1450 T	50 T	NNS	NNS	NNS	NNS	5
Arsenic Dissolved (ug/l as As)	200.7	NNS	NNS	360 D	190 D	440 D	230 D	<5
Beryllium Total Recoverable (ug/l as Be)	200.7							<2
Beryllium Dissolved (ug/l as Be)	200.7							<2
Cadmium Total Recoverable (ug/l as Cd)	213.2	41 T	70 T	NNS	NNS	NNS	NNS	0.7
Cadmium Dissolved (ug/l as Cd)	213.2	NNS	NNS	c D	c D	c D	c D	<0.2
Chromium Total Recoverable (ug/l as Cr)	218.2	NNS	NNS	NNS	NNS	NNS	NNS	15
Chromium Dissolved (ug/l as Cr)	218.2	NNS	NNS	NNS	NNS	NNS	NNS	7.5
Copper, Total Recoverable, (ug/l as Cu)	220.2	NNS	NNS	NNS	NNS	NNS	NNS	64

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Phoenix IB08 40th Street at IBW	Method	FC (ug/L)	PBC (ug/L)	A&Ww Acute (ug/L)	A&Ww Chronic (ug/L)	A&We Acute (ug/L)	A&We Chronic (ug/L)	
Date of Sampling								03/16/1999
Copper, Dissolved, (ug/l as Cu)	220.2	NNS	5200 D	e D	e D	e D	e D	23
Lead, Total Recoverable, (ug/l as Pb)	239.2	NNS	NNS	NNS	NNS	NNS	NNS	37
Lead, Dissolved, (ug/l as Pb)	239.2	NNS	NNS	f D	f D	f D	f D	<5
Nickel, Total Recoverable, (ug/l as Ni)	249.2	730 T	2800 T	NNS	NNS	NNS	NNS	20
Nickel, Dissolved, (ug/l as Ni)	249.2	NNS	NNS	g D	g D	g D	g D	7.8
Silver, Total Recoverable, (ug/l as Ag)	200.7	NNS	NNS	NNS	NNS	NNS	NNS	100
Silver, Dissolved, (ug/l as Ag)	200.7	NNS	NNS	i D	i D	i D	NNS	<50
Zinc, Total Recoverable, (ug/l as Zn)	289.2	22000 T	42000 T	NNS	NNS	NNS	NNS	330
Zinc, Dissolved, (ug/l as Zn)	289.2	NNS	NNS	j D	j D	j D	j D	90
P,P' DDE, Total, (ug/l)	608	0.0006	NNS	1.1	0.02	1.1	0.03	<1.0
Acetone, Total, (ug/l)	624							<500
Benzoic Acid, Total, (ug/l)	625							53
Chrysene, Total, (ug/l)	625	0.0001	NNS	NNS	NNS	NNS	NNS	--
Phenol, Total, (ug/l)	625	6500000	84000	7000	1000	180000	26000	<25

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

ACDC43 (Phoenix)

ACDC near northwest corner of Peoria and 43rd Avenues

ACDC at 43rd Avenue	Method	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	
Date of Sampling					
Time					No Data to Report
Representative Storm Event					No Data to Report
Agency Collecting Sample					No Data to Report
Agency Analyzing Sample					No Data to Report
Drainage Area (acres) (DA)					No Data to Report
Impervious Area (acres) (IA)					No Data to Report
Land Use - Residential					No Data to Report
Land Use - Commercial					No Data to Report
Land Use - Industrial					No Data to Report
Land Use - Undeveloped					No Data to Report
Sampling Duration (minutes) (DRN)					No Data to Report
Storm Duration (minutes)					No Data to Report
Runoff Sampled (cubic feet) (RUN)					No Data to Report
Total Storm Runoff (cubic feet)					No Data to Report
Instantaneous Discharge (cfs)					No Data to Report
Preceeding Dry Period (days) (ANT)					No Data to Report
Total Storm Rainfall (inch)					No Data to Report
Rainfall Sampled (inch) (TRN)					No Data to Report
Maximum 5-minute rain intensity (MAX5)					No Data to Report
Sample Temperature (deg. C)					No Data to Report
Effluent Temperature (deg. C)					No Data to Report
pH, Effluent (standard units)					No Data to Report
Oxygen Dissolved (mg/l)					No Data to Report
BOD5 (mg/l)	405.1				No Data to Report
COD High Level (mg/l)	410.1				No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

ACDC at 43rd Avenue	Method	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	
Date of Sampling					
Cyanide Total (mg/l as Cn)	353.3	2800 T	41 T	9.7 T	No Data to Report
Fecal Coliform (MPN/100mL)	9222C				No Data to Report
Fecal Streptococci (MPN/100mL)	9230C				No Data to Report
Total Dissolved Solids (mg/l)	160.1				No Data to Report
Total Suspended Solids (mg/l)	160.1				No Data to Report
Nitrogen No2 + No3, Total (mg/l as N)	353.2	NNS	NNS	NNS	No Data to Report
TKN Nitrogen (mg/l as N)	351.3				No Data to Report
Nitrogen Nitrate Total (mg/l as N)	COMP	224000	NNS	NNS	No Data to Report
Nitrogen Nitrite Total (mg/l as N)	353.2	14000	NNS	NNS	No Data to Report
Nitrogen Ammonia Total (mg/l as N)	350.3				No Data to Report
Phosphorous Total (mg/l as P)	365.2				No Data to Report
Phosphorous Ortho (mg/l as P)	365.2				No Data to Report
Phenols Total Recoverable (ug/l)	420.1	84000	7000	1000	No Data to Report
Oil and Grease Total Recoverable (mg/l)	413.1				No Data to Report
Total Recoverable Petroleum Hydrocarbons (mg/l)	418.1				No Data to Report
Hardness (mg/l)	130.2				No Data to Report
Arsenic Total (ug/l as As)	200.7	50 T	NNS	NNS	No Data to Report
Arsenic Dissolved (ug/l as As)	200.7	NNS	360 D	190 D	No Data to Report
Beryllium Total Recoverable (ug/l as Be)	200.7				No Data to Report
Beryllium Dissolved (ug/l as Be)	200.7				No Data to Report
Cadmium Total Recoverable (ug/l as Cd)	213.2	70 T	NNS	NNS	No Data to Report
Cadmium Dissolved (ug/l as Cd)	213.2		c D	c D	No Data to Report
Chromium Total Recoverable (ug/l as Cr)	218.2	NNS	NNS	NNS	No Data to Report
Chromium Dissolved (ug/l as Cr)	218.2	NNS	NNS	NNS	No Data to Report
Copper, Total Recoverable, (ug/l as Cu)	220.2	NNS	NNS	NNS	No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

ACDC at 43rd Avenue	Method	PBC (ug/L)	A&Wedw Acute (ug/L)	A&Wedw Chronic (ug/L)	
Date of Sampling					
Copper, Dissolved, (ug/l as Cu)	220.2	5200 D	e D	e D	No Data to Report
Lead, Total Recoverable, (ug/l as Pb)	239.2	NNS	NNS	NNS	No Data to Report
Lead, Dissolved, (ug/l as Pb)	239.2	NNS	f D	f D	No Data to Report
Nickel, Total Recoverable, (ug/l as Ni)	249.2	2800 T	NNS	NNS	No Data to Report
Nickel, Dissolved, (ug/l as Ni)	249.2	NNS	g D	g D	No Data to Report
Silver, Total Recoverable, (ug/l as Ag)	200.7	NNS	NNS	NNS	No Data to Report
Silver, Dissolved, (ug/l as Ag)	200.7	NNS	i D	NNS	No Data to Report
Zinc, Total Recoverable, (ug/l as Zn)	289.2	42000 T	NNS	NNS	No Data to Report
Zinc, Dissolved, (ug/l as Zn)	289.2	NNS	j D	j D	No Data to Report
P,P' DDE, Total, (ug/l)	608	NNS	1.1	0.02	No Data to Report
Acetone, Total, (ug/l)	624				No Data to Report
Benzoic Acid, Total, (ug/l)	625				No Data to Report
Chrysene, Total, (ug/l)	625	NNS	NNS	NNS	No Data to Report
Phenol, Total, (ug/l)	625	84000	7000	1000	No Data to Report

NNS - No Numeric Standard
letter - Standard for metals calculated from hardness

Validation Tables

Phoenix SR49

67th Avenue at Salt River

February 4, 1999

	Method	Result	Units	Required Method Detection Limit	Flags	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)		4				02/04/1999								
Effluent Temperature (deg. C)		12.6				02/04/1999								
pH, Effluent (standard units)		8.41				02/04/1999								
Oxygen Dissolved (mg/l)	360.1	--	mg/l			NA	Immediate							
BOD5 (mg/l)	405.1	22	mg/l	1		02/06/1999	48 hours			<30	n/a			
COD High Level (mg/l)	410.4	307	mg/l	1		02/10/1999	28 days			<30	n/a			
Cyanide Total (mg/l as Cn)	4500	<0.01	mg/l			02/16/1999	14 days							
Fecal Coliform (MPN/100mL)	9221D	--	MPN/100ml	2		NA	6 hours			<30	n/a			
Fecal Streptococci (MPN/100mL)	9230B	--	MPN/100ml	2		NA	6 hours			<30	n/a			
Total Dissolved Solids (mg/l)	2540C	192	mg/l	10		02/10/1999	7 days			<15	n/a			
Total Suspended Solids (mg/l)	160.2	344	mg/l	10		02/11/1999	7 days			<15	n/a			
Nitrogen No2 + No3, Total (mg/l as N)	calc.	1.9	mg/l	0.05		03/02/1999				<15	n/a			
TKN Nitrogen (mg/l as N)	351.3	4.18	mg/l			02/10/1999	28 days							
Nitrogen Nitrate Total (mg/l as N)	300.0	1.9	mg/l			02/06/1999	48 hours							
Nitrogen Nitrite Total (mg/l as N)	300.0	<0.1	mg/l			02/06/1999	48 hours							
Nitrogen Ammonia Total (mg/l as N)	350.2	1.85	mg/l			02/11/1999	28 days							
Phosphorous Total (mg/l as P)	365.3	0.91	mg/l	0.05		03/02/1999	28 days			<15	3.5			
Phosphorous Ortho (mg/l as P)	4500P	0.23	mg/l	0.05		02/05/1999	48 hours			<15	0			
Phenols Total Recoverable (ug/l)	420.1	15	ug/l			02/17/1999	28 days							
Oil and Grease Total Recoverable (mg/l)	413.1	--	mg/l	0.2		NA	7/40	<30	n/a	<50	n/a			
Total Petroleum Hydrocarbons	418.1	--	mg/l			NA	7/40							
Hardness (mg/l)	2340B	114	mg/l	1		03/19/1999	6 months			<15	n/a			
Arsenic Total (ug/l as As)	3113B	<5	ug/l			02/18/1999	6 months							
Arsenic Dissolved (ug/l as As)	200.9	5	ug/l			02/22/1999	6 months							
Beryllium Total Recoverable (ug/l as Be)	200.7	<2	ug/l			02/23/1999	6 months							
Beryllium Dissolved (ug/l as Be)	200.7	<2	ug/l			03/10/1999	6 months							
Cadmium Total Recoverable (ug/l as Cd)	7131	0.7	ug/l	0.2		03/09/1999	6 months	<25		<35				
Cadmium Dissolved (ug/l as Cd)	7131	0.3	ug/l			02/22/1999	6 months							
Chromium Total Recoverable (ug/l as Cr)	7191	7	ug/l	1		02/23/1999	6 months	<25		<35				
Chromium Dissolved (ug/l as Cr)	7191	4.6	ug/l			02/23/1999	6 months							
Copper, Total Recoverable, (ug/l as Cu)	3113B	33	ug/l	1		02/23/1999	6 months	<25		<35				
Copper, Dissolved, (ug/l as Cu)	200.9	33	ug/l			03/02/1999	6 months							
Lead, Total Recoverable, (ug/l as Pb)	3113B	13	ug/l	1		02/18/1999	6 months	<25		<35				
Lead, Dissolved, (ug/l as Pb)	200.9	8	ug/l			02/22/1999	6 months							
Nickel, Total Recoverable, (ug/l as Ni)	249.2	16	ug/l	2		02/24/1999	6 months	<25		<35				
Nickel, Dissolved, (ug/l as Ni)	249.2	10	ug/l			02/24/1999	6 months							
Silver, Total Recoverable, (ug/l as Ag)	200.7	<40	ug/l			02/23/1999	6 months							
Silver, Dissolved, (ug/l as Ag)	200.7	<50	ug/l			03/17/1999	6 months							
Zinc, Total Recoverable, (ug/l as Zn)	200.7	190	ug/l	1		02/23/1999	6 months	<25		<35				
Zinc, Dissolved, (ug/l as Zn)	200.7	100	ug/l			03/17/1999	6 months							
EPA Method 608 Extraction						NA	7 days							
P,P' DDE, Total, (ug/l)	608	--	ug/l			NA	40 days							
Acetone, Total, (ug/l)	624	--	ug/l			NA	14 days							
EPA Method 625 Extraction						NA	7 days							
Benzoic Acid, Total, (ug/l)	625	--	ug/l			NA	40 days							
Chrysene, Total, (ug/l)	625	--	ug/l			NA	40 days							
Phenol, Total, (ug/l)	625	--	ug/l			NA	40 days							

R - Rejected Data

05/11/1999, 9:46 AM

Phoenix IB08

40th Street at IBW

February 4, 1999

	Method	Result	Units	Required Method Detection Limit	Flags	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)		4				02/04/1999								
Effluent Temperature (deg. C)		12.9				02/04/1999								
pH, Effluent (standard units)		8.68				02/04/1999								
Oxygen Dissolved (mg/l)	360.1	8.29	mg/l			02/04/1999	Immediate							
BOD5 (mg/l)	405.1	24	mg/l	1		02/06/1999	48 hours			<30	n/a			
COD High Level (mg/l)	410.4	255	mg/l	1		02/10/1999	28 days			<30	n/a			
Cyanide Total (mg/l as Cn)	4500	<0.01	mg/l			02/16/1999	14 days							
Fecal Coliform (MPN/100mL)	9221D	30000	MPN/100ml	2		02/05/1999	6 hours			<30	n/a			
Fecal Streptococci (MPN/100mL)	9230B	1700	MPN/100ml	2		02/05/1999	6 hours			<30	n/a			
Total Dissolved Solids (mg/l)	2540C	215	mg/l	10		02/10/1999	7 days			<15	n/a			
Total Suspended Solids (mg/l)	160.2	244	mg/l	10		02/11/1999	7 days			<15	n/a			
Nitrogen No2 + No3, Total (mg/l as N)	calc.	--	mg/l	0.05		03/02/1999				<15	n/a			
TKN Nitrogen (mg/l as N)	351.3	4.69	mg/l			02/10/1999	28 days							
Nitrogen Nitrate Total (mg/l as N)	300.0	1.8	mg/l			02/06/1999	48 hours							
Nitrogen Nitrite Total (mg/l as N)	300.0	<0.1	mg/l			02/06/1999	48 hours							
Nitrogen Ammonia Total (mg/l as N)	350.2	2.23	mg/l			02/11/1999	28 days							
Phosphorous Total (mg/l as P)	365.3	0.68	mg/l	0.05		03/02/1999	28 days			<15	3.5			
Phosphorous Ortho (mg/l as P)	4500P	0.23	mg/l	0.05		02/05/1999	48 hours			<15	0			
Phenols Total Recoverable (ug/l)	420.1	13	ug/l			02/17/1999	28 days							
Oil and Grease Total Recoverable (mg/l)	413.1	5	mg/l	0.2		03/04/1999	7/40	<30	n/a	<50	n/a			
Total Petroleum Hydrocarbons	418.1	<1	mg/l			02/12/1999	7/40							
Hardness (mg/l)	2340B	114	mg/l	1		03/19/1999	6 months			<15	n/a			
Arsenic Total (ug/l as As)	3113B	<5	ug/l			02/18/1999	6 months							
Arsenic Dissolved (ug/l as As)	200.9	<5	ug/l			02/22/1999	6 months							
Beryllium Total Recoverable (ug/l as Be)	200.7	<2	ug/l			02/23/1999	6 months							
Beryllium Dissolved (ug/l as Be)	200.7	<2	ug/l			03/02/1999	6 months							
Cadmium Total Recoverable (ug/l as Cd)	7131	0.7	ug/l	0.2		03/09/1999	6 months	<25		<35				
Cadmium Dissolved (ug/l as Cd)	7131	<0.2	ug/l			02/22/1999	6 months							
Chromium Total Recoverable (ug/l as Cr)	7191	6	ug/l	1		02/23/1999	6 months	<25		<35				
Chromium Dissolved (ug/l as Cr)	7191	2.4	ug/l			02/23/1999	6 months							
Copper, Total Recoverable, (ug/l as Cu)	3113B	46	ug/l	1		02/23/1999	6 months	<25		<35				
Copper, Dissolved, (ug/l as Cu)	200.9	23	ug/l			03/02/1999	6 months							
Lead, Total Recoverable, (ug/l as Pb)	3113B	34	ug/l	1		02/18/1999	6 months	<25		<35				
Lead, Dissolved, (ug/l as Pb)	200.9	<5	ug/l			02/22/1999	6 months							
Nickel, Total Recoverable, (ug/l as Ni)	249.2	13	ug/l	2		02/24/1999	6 months	<25		<35				
Nickel, Dissolved, (ug/l as Ni)	249.2	6.9	ug/l			02/24/1999	6 months							
Silver, Total Recoverable, (ug/l as Ag)	200.7	<40	ug/l			02/23/1999	6 months							
Silver, Dissolved, (ug/l as Ag)	200.7	<50	ug/l			03/17/1999	6 months							
Zinc, Total Recoverable, (ug/l as Zn)	200.7	310	ug/l	1		02/23/1999	6 months	<25		<35				
Zinc, Dissolved, (ug/l as Zn)	200.7	90	ug/l			03/02/1999	6 months							
EPA Method 608 Extraction						NA	7 days							
P,P' DDE, Total, (ug/l)	608	--	ug/l			NA	40 days							
Acetone, Total, (ug/l)	624	<130	ug/l			02/13/1999	14 days							
EPA Method 625 Extraction						NA	7 days							
Benzoic Acid, Total, (ug/l)	625	--	ug/l			NA	40 days							
Chrysene, Total, (ug/l)	625	--	ug/l			NA	40 days							
Phenol, Total, (ug/l)	625	--	ug/l			NA	40 days							

R - Rejected Data

05/11/1999, 9:44 AM

Phoenix IB08

40th Street at IBW

March 16, 1999

	Method	Result	Units	Required Method Detection Limit	Flags	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)		4				03/16/1999								
Effluent Temperature (deg. C)		14				03/16/1999								
pH, Effluent (standard units)		8.9				03/16/1999								
Oxygen Dissolved (mg/l)	360.1	7.24	mg/l			03/16/1999	Immediate							
BOD5 (mg/l)	405.1	36	mg/l	1		03/18/1999	48 hours			<30	n/a			
COD High Level (mg/l)	410.4	336	mg/l	1		03/19/1999	28 days			<30	n/a			
Cyanide Total (mg/l as Cn)	4500	<0.01	mg/l			03/30/1999	14 days							
Fecal Coliform (MPN/100mL)	9221D	2400	MPN/100ml	2		03/16/1999	6 hours			<30	n/a			
Fecal Streptococci (MPN/100mL)	9230B	16000	MPN/100ml	2		03/16/1999	6 hours			<30	n/a			
Total Dissolved Solids (mg/l)	2540C	281	mg/l	10		03/22/1999	7 days			<15	n/a			
Total Suspended Solids (mg/l)	160.2	286	mg/l	10		03/22/1999	7 days			<15	n/a			
Nitrogen No2 + No3, Total (mg/l as N)	calc.	--	mg/l	0.05		NA				<15	n/a			
TKN Nitrogen (mg/l as N)	351.3	5.45	mg/l			03/25/1999	28 days							
Nitrogen Nitrate Total (mg/l as N)	300.0	1.3	mg/l			03/18/1999	48 hours							
Nitrogen Nitrite Total (mg/l as N)	300.0	0.1	mg/l			03/17/1999	48 hours							
Nitrogen Ammonia Total (mg/l as N)	350.2	2.55	mg/l			03/24/1999	28 days							
Phosphorous Total (mg/l as P)	365.3	7.29	mg/l	0.05		03/30/1999	28 days			<15	3.5			
Phosphorous Ortho (mg/l as P)	4500P	0.2	mg/l	0.05		03/18/1999	48 hours			<15	0			
Phenols Total Recoverable (ug/l)	420.1	6.3	ug/l			03/31/1999	28 days							
Oil and Grease Total Recoverable (mg/l)	413.1	<5.0	mg/l	0.2		03/23/1999	7/40	<30	n/a	<50	n/a			
Total Petroleum Hydrocarbons	418.1	2	mg/l	1		04/01/1999	7/40							
Hardness (mg/l)	2340B	108	mg/l	1		03/29/1999	6 months			<15	n/a			
Arsenic Total (ug/l as As)	3113B	5	ug/l			03/25/1999	6 months							
Arsenic Dissolved (ug/l as As)	200.9	<5	ug/l			03/26/1999	6 months							
Beryllium Total Recoverable (ug/l as Be)	200.7	<2	ug/l			03/23/1999	6 months							
Beryllium Dissolved (ug/l as Be)	200.7	<2	ug/l			04/06/1999	6 months							
Cadmium Total Recoverable (ug/l as Cd)	7131	0.7	ug/l	0.2		03/25/1999	6 months	<25		<35				
Cadmium Dissolved (ug/l as Cd)	7131	<0.2	ug/l			05/05/1999	6 months							
Chromium Total Recoverable (ug/l as Cr)	7191	15	ug/l	1		03/26/1999	6 months	<25		<35				
Chromium Dissolved (ug/l as Cr)	7191	7.5	ug/l			03/26/1999	6 months							
Copper, Total Recoverable, (ug/l as Cu)	3113B	64	ug/l	1		03/23/1999	6 months	<25		<35				
Copper, Dissolved, (ug/l as Cu)	200.9	23	ug/l			04/06/1999	6 months							
Lead, Total Recoverable, (ug/l as Pb)	3113B	37	ug/l	1		03/25/1999	6 months	<25		<35				
Lead, Dissolved, (ug/l as Pb)	200.9	<5	ug/l			03/26/1999	6 months							
Nickel, Total Recoverable, (ug/l as Ni)	249.2	20	ug/l	2		03/31/1999	6 months	<25		<35				
Nickel, Dissolved, (ug/l as Ni)	249.2	7.8	ug/l			03/26/1999	6 months							
Silver, Total Recoverable, (ug/l as Ag)	200.7	100	ug/l			03/23/1999	6 months							
Silver, Dissolved, (ug/l as Ag)	200.7	<50	ug/l			04/06/1999	6 months							
Zinc, Total Recoverable, (ug/l as Zn)	200.7	330	ug/l	1		03/23/1999	6 months	<25		<35				
Zinc, Dissolved, (ug/l as Zn)	200.7	90	ug/l			04/06/1999	6 months							
EPA Method 608 Extraction						03/22/1999	7 days							
P,P' DDE, Total, (ug/l)	608	<1.0	ug/l			04/02/1999	40 days							
Acetone, Total, (ug/l)	624	<500	ug/l			03/19/1999	14 days							
EPA Method 625 Extraction						03/23/1999	7 days							
Benzoic Acid, Total, (ug/l)	625	53	ug/l			04/16/1999	40 days							
Chrysene, Total, (ug/l)	625	--	ug/l			NA	40 days							
Phenol, Total, (ug/l)	625	<25	ug/l			04/16/1999	40 days							

R - Rejected Data

Hard Copies of Data

Data Checksheet

Site	IB08
Municipality	PHOENIX
Sample Date	FEBRUARY 4, 1999

Date Received	APRIL 20, 1999

Laboratory Used	BORIN
Laboratory Contact	STEPHANIE
FCD Sample ID Number	P4G020499 / P4C02499
Lab Sample ID Number	9902-01150-003 (G) / 9902-01167.003 (C)
Laboratory Invoice Number	051064 (G) / 051341 (C)

Initial Review Complete	✓	Date	4-20-99
Lab Contacted		Date	
Lab Review Complete		Date	
Second Review Complete		Date	
Additional Review Necessary			

Comments

Data Validation Table Complete	✓	Date	5-11-99

Data Entered Into Database	✓	Date	5-10-99

Bolin Laboratories Inc.

17631 N. 25th Avenue • Phoenix, Arizona 85023
(602) 942 8220 • FAX (602) 942 1050

Maricopa County Flood Control
Environmental Branch
2801 West Durango
Phoenix, AZ 85009
Attn: Dave Gardner

Received: 2/05/99
Reported: 3/12/99
Invoice No: 051064

Project Name: Phoenix NPDES

Matrix: Storm Water
Sample No: 9902-01150-003
Sample ID: P4G020499 (IBW)

Time Sampled: 21:42
Date Sampled: 2/04/1999

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Coliform, Fecal (MPN)	SM 9221D	30,000.	MPN/100ml	20.	2/05/99
Fecal Streptococcus	SM 9230B	1,700.	MPN/100ml	20.	2/05/99
Oil & Grease	EPA 413.1	5.	mg/L	5.0	3/04/99
Carbon tetrachloride	EPA 624	ND	ug/L	10	2/13/99
Bromomethane	EPA 624	ND	ug/L	30	2/13/99
Benzene	EPA 624	ND	ug/L	10	2/13/99
trans-1,3-Dichloropropene	EPA 624	ND	ug/L	10	2/13/99
trans 1,2-Dichloroethylene	EPA 624	ND	ug/L	10	2/13/99
cis 1,3-Dichloropropene	EPA 624	ND	ug/L	10	2/13/99
2-Chloroethylvinyl ether	EPA 624	ND	ug/L	10	2/13/99
1,4-Dichlorobenzene	EPA 624	ND	ug/L	10	2/13/99
1,3-Dichlorobenzene	EPA 624	ND	ug/L	10	2/13/99
1,2-Dichloropropane	EPA 624	ND	ug/L	10	2/13/99
1,2-Dichloroethane	EPA 624	ND	ug/L	10	2/13/99
1,2-Dichlorobenzene	EPA 624	ND	ug/L	10	2/13/99
1,1-Dichloroethylene	EPA 624	ND	ug/L	10	2/13/99
1,1-Dichloroethane	EPA 624	ND	ug/L	10	2/13/99
Trichloroethylene (TCE)	EPA 624	ND	ug/L	10	2/13/99
1,1,2-Trichloroethane	EPA 624	ND	ug/L	10	2/13/99
1,1,1-Trichloroethane	EPA 624	ND	ug/L	10	2/13/99
Toluene	EPA 624	ND	ug/L	10	2/13/99
Ethylbenzene	EPA 624	ND	ug/L	10	2/13/99
m,p-Xylenes	EPA 624	ND Y	ug/L	10	2/13/99
o-Xylene	EPA 624	ND Y	ug/L	10	2/13/99
Tetrachloroethylene (PCE)	EPA 624	ND	ug/L	10	2/13/99
1,1,2,2-Tetrachloroethane	EPA 624	ND	ug/L	10	2/13/99
Chloromethane	EPA 624	ND	ug/L	30	2/13/99
Chloroform	EPA 624	ND	ug/L	10	2/13/99
Bromodichloromethane	EPA 624	ND	ug/L	10	2/13/99
Bromoform	EPA 624	ND	ug/L	10	2/13/99
Chlorobenzene	EPA 624	ND	ug/L	10	2/13/99
Chloroethane	EPA 624	ND	ug/L	30	2/13/99

Bolin Laboratories Inc.

17631 N. 25th Avenue • Phoenix, Arizona 85023
(602) 942 8220 • FAX (602) 942 1050

Matrix: Storm Water
Sample No: 9902-01150-003

Time Sampled: 21:42
Date Sampled: 2/04/1999

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Dichloromethane	EPA 624	ND	ug/L	30	2/13/99
Trichlorofluoromethane	EPA 624	ND	ug/L	30	2/13/99
Dichlorodifluoromethane	EPA 624	ND Y	ug/L	30	2/13/99
Vinyl Chloride	EPA 624	ND	ug/L	30	2/13/99
Dibromochloromethane	EPA 624	ND	ug/L	10	2/13/99
Total Trihalomethanes	EPA 624	ND	ug/L	10	2/13/99
Acrolein	EPA 624	ND T,Y	ug/L	250	2/13/99
Acrylonitrile	EPA 624	ND Y	ug/L	50	2/13/99
Surrogates:	EPA 624				2/13/99
***Pentafluorobenzene	EPA 624	80.	% Recovery		2/13/99
***1,2-dichloroethane-d4	EPA 624	86.	% Recovery		2/13/99
***4-bromofluorobenzene	EPA 624	74.	% Recovery		2/13/99
***1,2-dichlorobenzene-d4	EPA 624	82.	% Recovery		2/13/99
Acetone	EPA 624	ND Y	ug/L	130	2/13/99
2-Butanone (MEK)	EPA 624	ND Y	ug/L	50	2/13/99
Carbon disulfide	EPA 624	ND Y	ug/L	50	2/13/99
2-Hexanone (MBK)	EPA 624	ND Y	ug/L	50	2/13/99
Styrene	EPA 624	ND Y	ug/L	10	2/13/99
Total Xylenes	EPA 624	ND Y	ug/L	10	2/13/99
Trichlorotrifluoroethane	EPA 624	ND Y	ug/L	10	2/13/99
cis 1,2-Dichloroethylene	EPA 624	ND Y	ug/L	10	2/13/99
m,p-Xylenes	EPA 624	ND Y	ug/L	10	2/13/99
o-Xylene	EPA 624	ND Y	ug/L	10	2/13/99
Dichlorodifluoromethane	EPA 624	ND Y	ug/L	30	2/13/99
TPH-Liquid	EPA 418.1	ND	mg/L	1	2/12/99

For EPA 624, the sample was diluted by a factor of 5 due to sample matrix.
T = Result based on a Tentatively Identified Compound search.
Y = Compound not listed in cited method.

S Kaufman

Authorized Signatory
ADHS License No.: AZ0004

Bolin Laboratories Inc.

17631 N. 25th Avenue • Phoenix, Arizona 85023
(602) 942 8220 • FAX (602) 942 1050

Maricopa County Flood Control
Environmental Branch
2801 West Durango
Phoenix, AZ 85009
Attn: Dave Gardner

Received: 2/05/99
Reported: 3/22/99
Invoice No: 051341

Project Name: Phoenix NPDES

Matrix: Storm Water
Sample No: 9902-01167-003
Sample ID: P4C02499 IBW

Time Sampled: 8:00
Date Sampled: 2/05/1999

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Biochemical Oxygen Demand	EPA 405.1	24.	mg/L	1.0	2/06/99
Chemical Oxygen Demand	EPA 410.4	255.	mg/L	20.	2/10/99
Cyanide, Total	SM 4500 CN E	<0.01	mg/L	0.01	2/16/99
Total Dissolved Solids	SM 2540C	215.	mg/L	1.	2/10/99
Solids, Total Suspended	EPA 160.2	244.	mg/L	1.	2/11/99
Nitrogen as Ammonia	EPA 350.2	2.23	mg/L	0.03	2/11/99
Nitrogen as Nitrate	EPA 300.0	1.8	mg/L	0.1	2/06/99
Nitrogen as Nitrite	EPA 300.0	<0.1	mg/L	0.1	2/06/99
Nitrate plus Nitrite	CALCULATION	1.8	mg/L	0.1	3/02/99
Total Kjeldahl Nitrogen	EPA 351.3	4.69	mg/L	0.03	2/10/99
P as Total Phosphate	EPA 365.3	0.68 D1	mg/L	0.3	3/02/99
Total Phosphate	CALCULATION	2.09	mg/L	0.15	3/02/99
Hardness (EDTA Titrimetric)	SM 2340C	114.	ppm		3/19/99
P as Orthophosphate	SM 4500 PE	0.23	mg/L	0.05	2/05/99
Phenolics, Total	EPA 420.1	0.013	mg/L	0.005	2/17/99
Metals Digestion for ICP	EPA 200.7				2/12/99
Metals Digestion for GFAA	SM 3030E				2/12/99
Arsenic	SM 3113B	<0.005	mg/L	0.005	2/18/99
Beryllium	EPA 200.7	<0.002	mg/L	0.002	2/23/99
Cadmium	SM 3113 B	0.0007	mg/L	0.0002	3/09/99
Copper	EPA 200.7	0.046	mg/L	0.015	2/23/99
Lead	SM 3113B	0.034	mg/L	0.005	2/18/99
Silver	EPA 200.7	<0.04	mg/L	0.04	2/23/99
Zinc	EPA 200.7	0.31	mg/L	0.03	2/23/99
Chromium	EPA 218.2	0.0060	mg/L	0.001	2/23/99
Nickel	EPA 249.2	0.013	mg/L	0.001	2/24/99
Chromium, Dissolved	EPA 218.2	0.0024	mg/L	0.001	2/23/99
Nickel, Dissolved	EPA 249.2	0.0069	mg/L	0.001	2/24/99
Arsenic, Dissolved	EPA 200.9	<0.005	mg/L	0.005	2/22/99
Beryllium, Dissolved	EPA 200.7	<0.002	mg/L	0.002	3/02/99
Cadmium, Dissolved	EPA 200.9	<0.0002	mg/L	0.0002	2/22/99
Copper, Dissolved	EPA 200.7	0.023	mg/L	0.015	3/02/99

Bolin Laboratories Inc.

17631 N. 25th Avenue • Phoenix, Arizona 85023
(602) 942 8220 • FAX (602) 942 1050

Matrix: Storm Water
Sample No: 9902-01167-003

Time Sampled: 8:00
Date Sampled: 2/05/1999

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Lead, Dissolved	EPA 200.9	<0.005	mg/L	0.005	2/22/99
Silver, Dissolved	EPA 200.7	<0.05	mg/L	0.05	3/17/99
Zinc, Dissolved	EPA 200.7	0.09	mg/L	0.02	3/02/99

Phenol analyzed by McKenzie Labs, Phoenix AZ, #AZ0034.
Total & Dissolved Chromium & Nickel analyzed by BC Labs, Bakersfield CA, #AZ0345.
TKN & Ammonia analyzed by Aquatic Consulting, Tempe AZ. #AZ0003.
D1 = Sample was diluted due to high concentration of target analyte.

S. Kaufman

Authorized Signatory
ADHS License No.: AZ0004

Data Checksheet

Site	SR-49
Municipality	PHOENIX
Sample Date	FEBRUARY 4, 1999

Date Received	APRIL 20, 1999

Laboratory Used	BORIN
Laboratory Contact	STEPHANIE
FCD Sample ID Number	P2C020499
Lab Sample ID Number	9902-01167-002
Laboratory Invoice Number	051341

Initial Review Complete	✓	Date	4-22-99
Lab Contacted		Date	
Lab Review Complete		Date	
Second Review Complete		Date	
Additional Review Necessary			

Comments

Data Validation Table Complete	✓	Date	5-11-99

Data Entered Into Database	✓	Date	5-10-99

Bolin Laboratories Inc.

17631 N. 25th Avenue • Phoenix, Arizona 85023
(602) 942 8220 • FAX (602) 942 1050

Maricopa County Flood Control
Environmental Branch
2801 West Durango
Phoenix, AZ 85009
Attn: Dave Gardner

Received: 2/05/99
Reported: 3/22/99
Invoice No: 051341

Project Name: Phoenix NPDES

Matrix: Storm Water
Sample No: 9902-01167-002
Sample ID: P2C020499 67TH Ave

Time Sampled: 6:00
Date Sampled: 2/05/1999

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Biochemical Oxygen Demand	EPA 405.1	22.	mg/L	1.0	2/06/99
Chemical Oxygen Demand	EPA 410.4	307.	mg/L	20.	2/10/99
Cyanide, Total	SM 4500 CN E	<0.01	mg/L	0.01	2/16/99
Total Dissolved Solids	SM 2540C	192.	mg/L	1.	2/10/99
Solids, Total Suspended	EPA 160.2	344.	mg/L	1.	2/11/99
Nitrogen as Ammonia	EPA 350.2	1.85	mg/L	0.03	2/11/99
Nitrogen as Nitrate	EPA 300.0	1.9	mg/L	0.1	2/06/99
Nitrogen as Nitrite	EPA 300.0	<0.1	mg/L	0.1	2/06/99
Nitrate plus Nitrite	CALCULATION	1.9	mg/L	0.1	3/02/99
Total Kjeldahl Nitrogen	EPA 351.3	4.18	mg/L	0.03	2/10/99
P as Total Phosphate	EPA 365.3	0.91 D1	mg/L	0.5	3/02/99
Total Phosphate	CALCULATION	2.79	mg/L	0.15	3/02/99
Hardness (EDTA Titrimetric)	SM 2340C	114.	mg/L		3/19/99
P as Orthophosphate	SM 4500 PE	0.23	mg/L	0.05	2/05/99
Phenolics, Total	EPA 420.1	0.015	mg/L	0.005	2/17/99
Metals Digestion for ICP	EPA 200.7				2/12/99
Metals Digestion for GFAA	SM 3030E				2/12/99
Arsenic	SM 3113B	<0.005	mg/L	0.005	2/18/99
Beryllium	EPA 200.7	<0.002	mg/L	0.002	2/23/99
Cadmium	SM 3113 B	0.0007	mg/L	0.0002	3/09/99
Copper	EPA 200.7	0.033	mg/L	0.015	2/23/99
Lead	SM 3113B	0.013	mg/L	0.005	2/18/99
Silver	EPA 200.7	<0.04	mg/L	0.04	2/23/99
Zinc	EPA 200.7	0.19	mg/L	0.03	2/23/99
Chromium	EPA 218.2	0.0070	mg/L	0.001	2/23/99
Nickel	EPA 249.2	0.016	mg/L	0.001	2/24/99
Chromium, Dissolved	EPA 218.2	0.0046	mg/L	0.001	2/23/99
Nickel, Dissolved	EPA 249.2	0.010	mg/L	0.001	2/24/99
Arsenic, Dissolved	EPA 200.9	0.005	mg/L	0.005	2/22/99
Beryllium, Dissolved	EPA 200.7	<0.002	mg/L	0.002	3/10/99
Cadmium, Dissolved	EPA 200.9	0.0003	mg/L	0.0002	2/22/99
Copper, Dissolved	EPA 200.7	0.033	mg/L	0.015	3/02/99

Bolin Laboratories Inc.

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(602) 942 8220 • FAX (602) 942 1050

Matrix: Storm Water
Sample No: 9902-01167-002

Time Sampled: 6:00
Date Sampled: 2/05/1999

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Lead, Dissolved	EPA 200.9	0.008	mg/L	0.005	2/22/99
Silver, Dissolved	EPA 200.7	<0.05	mg/L	0.05	3/17/99
Zinc, Dissolved	EPA 200.7	0.10	mg/L	0.02	3/02/99

Phenol analyzed by McKenzie Labs, Phoenix AZ, #AZ0034.
Total & Dissolved Chromium & Nickel analyzed by BC Labs, Bakersfield CA, #AZ0345.
TKN & Ammonia analyzed by Aquatic Consulting, Tempe AZ. #AZ0003.
D1 = Sample was diluted due to high concentration of target analyte.

C. Kaufman

Authorized Signatory
ADHS License No.: AZ0004

Bolin Laboratories Inc.

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Quality Control Data Report

Client: Maricopa County Flood Control District
Bolin Sample ID: 9902-1167-2 Diss

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	MS %Rec	MSD %Rec	Blk (ppm)	ICV %Rec	CCV %Rec
Berylium	EPA 200.7	3/10/99	0.5	101	100	<PQL	96	92
Cadmium	EPA 200.9	2/22/99	0.4	125	115	<PQL	95	105
Copper	EPA 200.7	3/2/99	1	104	101	<PQL	104	97
Silver	EPA 200.7	3/17/99	0.5	73	75	<PQL	94	91
Zinc	EPA 200.7	3/2/99	1	103	100	<PQL	103	95
Arsenic	EPA 200.9/SM 3113B	2/22/99	0.020	120	115	<PQL	110	105
Lead	EPA 200.9/SM 3113B	2/22/99	0.020	110	105	<PQL	110	105

MI Matrix Interference
ICV Initial Calibration Verification
CCV Continuing Calibration Verification
MS is Matrix Spike
MSD is a Matrix Spike Duplicate.
RPD is Relative Percent Difference
BLK is a Blank

Bolin Laboratories Inc.

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Quality Control Data Report

Client: Maricopa County Flood Control District
Bolin Sample ID: 9902-1167 Total

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	MS %Rec	MSD %Rec	Blk (ppm)	ICV %Rec	CCV %Rec
Berylium	EPA 200.7	2/23/99	0.5	104	99	<PQL	96	99
Cadmium	EPA 200.7	3/9/99	0.4	104	102	<PQL	97	97
Copper	EPA 200.7	2/23/99	1	102	96	<PQL	96	100
Silver	EPA 200.7	2/23/99	0.5	105	98	<PQL	99	102
Zinc	EPA 200.7	2/23/99	1	109	100	<PQL	96	101
Arsenic	EPA 200.9/SM 3113B	2/18/99	0.020	85	110	<PQL	100	105
Lead	EPA 200.9/SM 3113B	2/18/99	0.020	105	105	<PQL	95	105

MI Matrix Interference
ICV Initial Calibration Verification
CCV Continuing Calibration Verification
MS is Matrix Spike
MSD is a Matrix Spike Duplicate.
RPD is Relative Percent Difference
BLK is a Blank

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Quality Control Data Report

Client: Maricopa County Flood Control District
Bolin Sample ID: 9902-1167-3 Diss

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	MS %Rec	MSD %Rec	Blk (ppm)	ICV %Rec	CCV %Rec
Berylium	EPA 200.7	3/2/99	0.5	103	100	<PQL	98	98
Cadmium	EPA 200.9	2/22/99	0.4	125	115	<PQL	95	105
Copper	EPA 200.7	3/2/99	1	104	101	<PQL	104	97
Silver	EPA 200.7	3/17/99	0.5	73	75	<PQL	94	91
Zinc	EPA 200.7	3/2/99	1	103	100	<PQL	103	95
Arsenic	EPA 200.9/SM 3113B	2/22/99	0.020	120	115	<PQL	110	105
Lead	EPA 200.9/SM 3113B	2/22/99	0.020	110	105	<PQL	110	105

MI Matrix Interference
ICV Initial Calibration Verification
CCV Continuing Calibration Verification
MS is Matrix Spike
MSD is a Matrix Spike Duplicate.
RPD is Relative Percent Difference
BLK is a Blank

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Quality Control Data Report

Client: Maricopa County Flood Control District
Bolin Sample ID: 9902-1167-2,3

Analyte	Method	Date Analyzed	Spk Conc.	MS %Rec	MSD %Rec	RPD	Blk	ICV %Rec	CCV %Rec
Chemical Oxygen Demand	EPA 410.4	2/10/99	30	91	95	4	<PQL	101	104
Biological Oxygen Demand	EPA 405.1	2/6/99	N/A	N/A	N/A	N/A	<PQL	DNA	-
Total Suspended Solids	EPA 160.2	2/11/99	N/A	N/A	N/A	N/A	<PQL	100	-
Nitrate	EPA 300.0	2/6/99	4.54	91	97	6	<PQL	110	110
Nitrite	EPA 300.0	2/6/99	2.03	106	106	0	<PQL	100	101
Total Dissolved Solids	EPA 160.3	2/10/99	N/A	N/A	N/A	N/A	<PQL	98	96
Orthophosphorous	SM 4500 PE	2/5/99	0.1	103	99	4	<PQL	97	95
Total Phosphorous	EPA 365.3	3/2/99	0.1	80	90	12	<PQL	94	91
Total Cyanide	SM 4500 CNE	2/16/99	0.05	110	111	1	<PQL	94	92

ICV Initial Calibration Verification
CCV Continuing Calibration Verification
MS is Matrix Spike
MSD is a Matrix Spike Duplicate.
RPD is Relative Percent Difference
BLK is a Blank

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Preparation & Analysis Information)

BOLIN LABORATORIES
17631 N. 25TH AVE.
PHOENIX, AZ 85023
STEPHANIE KAUFMAN

Date of Report: 03/25/99
Sample Matrix: SURFACE WATER

Samples Affected: 99-02101-1 - 99-02101-6

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Dissolved Chromium	EPA-600-4-79-02	02/04/99	FIELD	EPA-7191	02/23/99	KAS
Dissolved Nickel	EPA-600-4-79-02	02/04/99	FIELD	EPA-249.2	02/24/99	KAS
Total Chromium	EPA-3020	02/05/99	BOLIN	EPA-7191	02/23/99	KAS
Total Nickel	EPA-3020	02/05/99	BOLIN	EPA-249.2	02/24/99	KAS
Total Thallium	EPA-3020	02/05/99	BOLIN	EPA-7841	02/23/99	KAS

Lab #99-02101-3 through 99-02101-6 were filtered on 02/05/99.

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Instrumental & Blank Parameters)

BOLIN LABORATORIES
17631 N. 25TH AVE.
PHOENIX, AZ 85023
STEPHANIE KAUFMAN

Date of Report: 03/25/99
Sample Matrix: SURFACE WATER

Samples Affected: 99-02101-1 - 99-02101-6

Constituents	ICV % Found	CCV % Found Before	CCV % Found After	% Found Control Limits	CCB Readings Before	CCB Readings After	Units	Method Blank Readings	Units
Dissolved Chromium	100.	104.	92.	90 - 110	< 1.	< 1.	µg/L	< 1.	µg/L
Dissolved Nickel	103.	104.	104.	90 - 110	<10.	<10.	µg/L	<10.	µg/L
Total Chromium	100.	92.	91.	90 - 110	< 1.	< 1.	µg/L	< 1.	µg/L
Total Nickel	103.	104.	105.	90 - 110	<10.	<10.	µg/L	<10.	µg/L
Total Thallium	101.	108.	104.	90 - 110	< 1.	< 1.	µg/L	< 1.	µg/L

ICV = Initial Calibration Verification; CCV = Continuing Calibration Verification
CCB = Continuing Calibration Blank

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Precision & Accuracy)

BOLIN LABORATORIES
17631 N. 25TH AVE.
PHOENIX, AZ 85023
STEPHANIE KAUFMAN

Date of Report: 03/25/99
Sample Matrix: SURFACE WA

Samples Affected: 99-02101-1 - 99-02101-6

Constituents	QC Sample ID	Sample Result	Sample Duplicate	MS Result	MSD Result	MS Spike Level	MSD Spike Level	Units	Sample R.P.D.	Spike R.P.D.	Precision Control Limits	MS % Rec	MSD % Rec	Accuracy Control Limits
Dissolved Chromium	DISS-02101-1	3.83	3.42	13.43	13.51	10.00	10.00	µg/L	<PQL	1.	20	96.	97.	85 - 11
Dissolved Nickel	DISS-02101-3	10.11	9.69	34.79	34.82	25.00	25.00	µg/L	<PQL	0.	20	99.	99.	85 - 11
Total Chromium	TAD-02101-5	4.61	4.38	14.04	14.01	10.00	10.00	µg/L	<PQL	0.	20	94.	94.	85 - 11
Total Nickel	DISS-02101-3	10.11	9.69	34.79	34.82	25.00	25.00	µg/L	<PQL	0.	20	99.	99.	85 - 11
Total Thallium	TAD-02101-1	< 1.	< 1.	21.7	21.44	25.00	25.00	µg/L	<PQL	1.	20	86.	85.	85 - 11

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

Quality Control Officer

Anthony Bonanno

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BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Laboratory Control Sample)

BOLIN LABORATORIES
17631 N. 25TH AVE.
PHOENIX, AZ 85023
STEPHANIE KAUFMAN

Date of Report: 03/25/99
Sample Matrix: SURFACE WATER

Samples Affected: 99-02101-1 - 99-02101-6

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Dissolved Chromium	LFB-10-LCS	9.58	10.	µg/L	96.	85 - 115
Dissolved Nickel	LFB-25-LCS	27.13	25.	µg/L	109.	85 - 115
Total Chromium	LFB-10-LCS	9.58	10.	µg/L	96.	85 - 115
Total Nickel	LFB-25-LCS	27.13	25.	µg/L	109.	85 - 115
Total Thallium	LFB-25-LCS	24.53	25.	µg/L	98.	85 - 115

Quality Control Officer

Anthony Bonanno

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Bolin Laboratories Inc.

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Quality Control Data Report

Client: Maricopa County Flood Control District
Bolin Sample ID: 9902-1150-03

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	BLMS %Rec	BLMSD %Rec	RPD	Blk (ppm)	ICV %Rec	CCV %Rec
Total Petroleum Hydrocarbons	EPA 418.1	2/15/99	10.4	96	98	2	<PQL	96	118

MS is Matrix Spike
BLK is a Blank
BLK-SPK is a Blank Spike

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Quality Control Data Report

Client: MCFCD
Bolin Sample ID: 9902-1150-03

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	MS %Rec	MSD %Rec	RPD	Blk (ppb)	ICV %Rec	CCV %Rec
Oil and Grease	EPA 413.1	3/4/99	N/A	N/A	N/A		<PQL	471	

MS/MSD are Matrix Spikes

ICV is Initial Calibration Verification

CCV is Continuing Calibration Verification

RPD is Relative Percent Difference
BLK is a Blank
BLK-SPK is a Blank Spike

Bolin Laboratories Inc.

☐ ~~17631 N. 25th Ave. Phoenix AZ 85023~~
(602) 942-8220 • Fax(602) 942-1050

☐ 4837 East Fifth Street, Suite 103, Tucson AZ 85711
(520) 327-1234 • Fax(520) 327-0518

CHAIN OF CUSTODY RECORD

Page 1 of 1

Laboratory Sample No. 9907 - 01167

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax
Flood Control	2801 W Durango	Phoenix	AZ	85009	506 8461	506 4601

Project Name	Project Number	Contact	P.O. No.	Fax Results ☐ QC Report ☐ Special Detection Limits ☐
Phoenix NPDES		D. Gardner		

SAMPLE TYPE CODES

DW=Drinking Water, S=Soil/Solid, WW=Wastewater, T=Travel Blank, SW=Surface Water, F=Food, GW=Groundwater, G=Sludge, O=Other

TURN AROUND TIME

☐ Standard 10 - 15 Day
☐ Other

Laboratory Authorization Required for Rush ★ ★

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	pH ✓ (Bolin Use Only)	See Attached List			BOD, TDS, TSS	COD, NH3, TKN	NO3+NO2, NO2	Hard, Ca, Mg	Phos, TP	* Metals	** Diss Metals	Cl					LAB NO
P2C020499	2/5/99	0600	67TH AVE	X		SW		5					X	X	X	X	X	X	X	X					01
P4C020499	2/5/99	0800	IBW	X		SW		7					X	X	X	X	X	X	X	X					02

Comments / Special Instructions: * T Metals As, Be, Cd, Cr, Cu, Pb, Ni, Ag, Zn ** D metals As, Be, Cd, Cr, Cu, Pb, Ni, Ag, Zn

SAMPLE CONDITION UPON RECEIPT

No. of Containers	18
Temperature	ice
Custody Seals	~~Y~~ N
Seals Intact	~~Y~~ N
Preserved	~~Y~~ N

WHITE-LAB YELLOW-LAB PINK-CLIENT

	RELINQUISHED BY		SAMPLES RECEIVED BY	
①	Signature: David Gardner	Date: 2/5/99	Signature: [illegible]	Date: 2/5/99
	Printed Name: DAVID GARDNER	Time: 1408	Printed Name: J Kimbrough	Time: 1409
②	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time
③	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time

Bolin Laboratories Inc.

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☐ 4837 East Fifth Street, Suite 103, Tucson AZ 85711
(520) 327-1234 • Fax(520) 327-0518

CHAIN OF CUSTODY RECORD

Page 1 of 1

Laboratory Sample No. 9902-01150

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax
FLOOD CONTROL	2801 W DURANGO	PHOENIX	AZ	85009	506-8401	506-4601

Project Name	Project Number	Contact	P.O. No.	Fax Results ☐ QC Report ☑ Special Detection Limits ☐
PHOENIX NPDES		D. GARDNER		

SAMPLE TYPE CODES

DW=Drinking Water, S=Soil/Solid, WW=Wastewater, T=Travel Blank, SW=Surface Water, F=Food, GW=Groundwater, G=Sludge, O=Other

TURN AROUND TIME

☐ Standard 10 - 15 Day
☐ Other

Laboratory Authorization Required for Rush ★ ★

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	pH ✓ (Bolin Use Only)	See Attached		TPH	FC, Fecal Strep	D+G	624	608	625									LAB NO
P32499G	2/4/99	2233	S40TH ST		X	SW		13		X		x	x	~~x~~	~~x~~	~~x~~	~~x~~	Analysis deleted per Dave G.								-01
P4G020499	2/4/99	2142	IBW		X	SW		13		X		x	x	x	x	~~x~~	~~x~~	★								-03
Travel Blank																										-02

Comments / Special Instructions: ★ Extraction & analysis not performed due to communication error in lab. @

SAMPLE CONDITION UPON RECEIPT

No. of Containers	32 ~~28~~ ~~34~~
Temperature	On Ice
Custody Seals	Y (N)
Seals Intact	Y N
Preserved	(Y) N

RELINQUISHED BY

	Signature	Date	Printed Name	Time
①	David Gardner	2/5/99	DAVID GARDNER	0021
②				
③				

SAMPLES RECEIVED BY

Signature	Date	Printed Name	Time
[illegible]	2/5/99	[illegible]	1205

WHITE-LAB YELLOW-LAB PINK-CLIENT

Bolin Laboratories Inc.

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(602) 942 8220 • FAX (602) 942 1050

Maricopa County Flood Control
Environmental Branch
2801 West Durango
Phoenix, AZ 85009
Attn: Dave Gardner

Received: 2/05/99
Reported: 3/12/99
Invoice No: 051064

Project Name: Phoenix NPDES

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Matrix: Storm Water					
Sample No: 9902-01150-001			Time Sampled:	22:33	
Sample ID: P32499G (S 40th St.)			Date Sampled:	2/04/1999	
Coliform, Fecal (MPN)	SM 9221D	3,500.	MPN/100ml	20.	2/05/99
Fecal Streptococcus	SM 9230B	34.	MPN/100ml	2.	2/05/99

S. Kaufman

Authorized Signatory
ADHS License No.: AZ0004

Data Checksheet

Site	IB08
Municipality	PHOENIX
Sample Date	3-16-1999

Date Received	5-4-1999

Laboratory Used	BOLIN
Laboratory Contact	STEPHANIE
FCD Sample ID Number	P4G031699, P4C031699
Lab Sample ID Number	9903-02522-001(G), 9903-02560-003(C)
Laboratory Invoice Number	052379(G), 052094(C)

Initial Review Complete	✓	Date	5-4-99
Lab Contacted		Date	
Lab Review Complete		Date	
Second Review Complete		Date	
Additional Review Necessary			

Comments

Data Validation Table Complete	✓	Date	5/11/99
Data Entered Into Database	✓	Date	5/10/99

Bolin Laboratories Inc.

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Maricopa County Flood Control
Environmental Branch
2801 West Durango
Phoenix, AZ 85009
Attn: Dave Gardner

Received: 3/16/99
Reported: 0/00/00
Invoice No: ~~000000~~ 052379

Project Name: Phoenix NPDES

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Matrix: Storm Water					
Sample No: 9903-02522-001			Time Sampled:	10:43	
Sample ID: P4G031699 (IB08)			Date Sampled:	3/16/1999	
TPH-Liquid	EPA 418.1	2.	mg/L	1	4/01/99
Coliform, Fecal (MPN)	SM 9221D	2,400	MPN/100ml	20	3/16/99
Fecal Streptococcus	SM 9230B	16,000	MPN/100ml	20	3/16/99
Oil & Grease	EPA 413.1	<5.0	mg/L	5.0	3/23/99
4,4'-DDE	EPA 608	ND	ug/L	1.0	4/02/99
Extraction	EPA 608				3/22/99
Surrogate:	EPA 608				4/02/99
***Dibutylchlorendate	EPA 608	70	% Recovery		4/02/99
Acetone	EPA 624	ND Y	ug/L	500	3/19/99
Benzoic acid	EPA 625	53. Y	ug/L	25.0	4/16/99
Phenol	EPA 625	ND	ug/L	25.0	4/16/99
Extraction	EPA 625				3/23/99
Surrogate:	EPA 625				4/16/99
***2-Fluorophenol	EPA 625	30.4	% Recovery		4/16/99
***d6-Phenol	EPA 625	24.6	% Recovery		4/16/99
***d5-Nitrobenzene	EPA 625	56.4	% Recovery		4/16/99
***2-Fluorobiphenyl	EPA 625	44.6	% Recovery		4/16/99
***2,4,6-Tribromophenol	EPA 625	76.5	% Recovery		4/16/99
***d14-Terphenyl	EPA 625	58.4	% Recovery		4/16/99

For EPA 624, the sample was diluted by a factor of 20 due to sample matrix.
Y = Compound not listed in cited method.
T = Result based on a Tentatively Identified Compound search.
* = 1,2-Diphenylhydrazine oxidizes to azobenzene under GC operating conditions. This compound was calibrated as azobenzene.

EPA Method 625 performed by Legend Technical Services, St.Paul MN, #AZ0557.

S. Kaufman

Authorized Signatory

Bolin Laboratories Inc.

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(602) 942 8220 • FAX (602) 942 1050

ADHS License No.: AZ0004

Bolin Laboratories Inc.

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(602) 942 8220 • FAX (602) 942 1050

Maricopa County Flood Control
Environmental Branch
2801 West Durango
Phoenix, AZ 85009
Attn: Dave Gardner

Received: 3/17/99
Reported: 4/12/99
Invoice No: 052094

Project Name: Phoenix NPDES

Matrix: Storm Water
Sample No: 9903-02560-003
Sample ID: P4C031699 (IB08-PHX 4)

Time Sampled: 9:30
Date Sampled: 3/17/1999

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Biochemical Oxygen Demand	EPA 405.1	36.	mg/L	2.	3/18/99
Chemical Oxygen Demand	EPA 410.4	336.	mg/L	20.	3/19/99
Cyanide, Total	SM 4500 CN E	<0.01	mg/L	0.01	3/30/99
Total Dissolved Solids	SM 2540C	281.	mg/L		3/22/99
Solids, Total Suspended	EPA 160.2	286.	mg/L	1.	3/22/99
Nitrogen as Ammonia	EPA 350.2	2.55	mg/L	0.03	3/24/99
Nitrogen as Nitrite	EPA 300.0	0.1	mg/L	0.1	3/17/99
Nitrogen as Nitrate	EPA 300.0	1.3	mg/L	0.1	3/18/99
Total Kjeldahl Nitrogen	EPA 351.3	5.45	mg/L	0.03	3/25/99
P as Total Phosphate	EPA 365.3	7.29 D1	mg/L	3	3/30/99
Total Phosphate	CALCULATION	22.4	mg/L	0.15	3/30/99
P as Orthophosphate	SM 4500 PE	0.2	mg/L	0.05	3/18/99
Phenolics, Total	EPA 420.1	0.0063	mg/L	0.0050	3/31/99
Metals Digestion for ICP	EPA 200.7				3/18/99
Metals Digestion for GFAA	SM 3030E				3/18/99
Arsenic	SM 3113B	0.005	mg/L	0.005	3/25/99
Beryllium	EPA 200.7	<0.002	mg/L	0.002	3/23/99
Cadmium	SM 3113B	0.0007	mg/L	0.0002	3/25/99
Copper	EPA 200.7	0.064	mg/L	0.015	3/23/99
Lead	SM 3113B	0.037	mg/L	0.005	3/25/99
Silver	EPA 200.7	0.10	mg/L	0.04	3/23/99
Zinc	EPA 200.7	0.33	mg/L	0.02	3/23/99
Filtration for Diss Metals					3/17/99
Arsenic, Dissolved	EPA 200.9	<0.005	mg/L	0.005	3/26/99
Beryllium, Dissolved	EPA 200.7	<0.002	mg/L	0.002	4/06/99
Cadmium, Dissolved	SM 3113B	<0.0002	mg/L	0.0002	5/05/99
Copper, Dissolved	EPA 200.7	0.023	mg/L	0.015	4/06/99
Lead, Dissolved	EPA 200.9	<0.005	mg/L	0.005	3/26/99
Silver, Dissolved	EPA 200.7	<0.05	mg/L	0.05	4/06/99
Zinc, Dissolved	EPA 200.7	0.09	mg/L	0.02	4/06/99
Chromium	EPA 218.2	0.015	mg/L	0.002	3/26/99
Nickel	EPA 249.2	0.020	mg/L	0.002	3/31/99

Bolin Laboratories Inc.

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Matrix: Storm Water
Sample No: 9903-02560-003

Time Sampled: 9:30
Date Sampled: 3/17/1999

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Chromium, Dissolved	EPA 218.2	0.0075	mg/L	0.002	3/26/99
Nickel, Dissolved	EPA 249.2	0.0078	mg/L	0.002	3/26/99
Hardness (EDTA Titrimetric)	SM 2340C	108.	ppm		3/29/99

D1 = Sample was diluted due to high concentration of target analyte.
TKN & Ammonia analyzed by Aquatic Consulting, Tempe AZ. #AZ0003.
Dissolved & Total Nickel & Chromium analyzed by BC Labs, Bakersfield CA, #AZ0345.
Phenol analyzed by McKenzie Labs, Phoenix AZ, #AZ0034.

S Kaufman

Authorized Signatory
ADHS License No.: AZ0004

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Quality Control Data Report

Bolin Sample ID: 9903-2353, 2366, 2445, 2410, **2425**, 2522, 2554, 2553 and 2578

Analyte	Method	Date Analyzed	Spk Conc. (ppb)	MS %Rec	BLK MS %Rec	BLK MSD %Rec	RPD	BLK (ppb)	CCV %Rec
Chloromethane	EPA 624	3/19/99	10	88	70	84	18	<PQL	93
Vinyl Chloride	EPA 624	3/19/99	10	108	90	101	12	<PQL	98
Bromomethane	EPA 624	3/19/99	10	112	75	88	16	<PQL	122
Chloroethane	EPA 624	3/19/99	10	104	93	101	8	<PQL	100
Trichlorofluoromethane	EPA 624	3/19/99	10	104	95	99	4	<PQL	100
1,1-Dichloroethylene	EPA 624	3/19/99	10	99	89	92	3	<PQL	98
Dichloromethane	EPA 624	3/19/99	10	82	94	95	1	<PQL	101
trans 1,2-DCE	EPA 624	3/19/99	10	96	90	91	1	<PQL	99
1,1-Dichloroethane	EPA 624	3/19/99	10	96	93	96	3	<PQL	100
Chloroform	EPA 624	3/19/99	10	98	94	97	3	<PQL	99
1,1,1-Trichloroethane	EPA 624	3/19/99	10	99	94	96	2	<PQL	100
Carbon tetrachloride	EPA 624	3/19/99	10	100	93	97	4	<PQL	102
Benzene	EPA 624	3/19/99	10	96	93	95	2	<PQL	99
1,2-Dichloroethane	EPA 624	3/19/99	10	95	94	94	0	<PQL	96
Trichloroethylene	EPA 624	3/19/99	10	98	94	96	2	<PQL	100
1,2-Dichloropropane	EPA 624	3/19/99	10	94	90	92	2	<PQL	97
Bromodichloromethane	EPA 624	3/19/99	10	96	93	95	2	<PQL	99
2-Chloroethylvinyl ether	EPA 624	3/19/99	10	na	87	91	4	<PQL	96
cis 1,3-Dichloropropene	EPA 624	3/19/99	10	95	90	91	1	<PQL	97
Toluene	EPA 624	3/19/99	10	106	91	94	3	<PQL	97
trans 1,3-Dichloropropene	EPA 624	3/19/99	10	94	90	92	2	<PQL	96
1,1,2-Trichloroethane	EPA 624	3/19/99	10	94	90	90	0	<PQL	93
Tetrachloroethylene	EPA 624	3/19/99	10	96	88	92	4	<PQL	96
Dibromochloromethane	EPA 624	3/19/99	10	105	102	103	1	<PQL	107
Chlorobenzene	EPA 624	3/19/99	10	107	102	104	2	<PQL	106
Ethylbenzene	EPA 624	3/19/99	10	111	106	109	3	<PQL	110
1,3-Dichlorobenzene	EPA 624	3/19/99	10	107	102	106	4	<PQL	106
1,4-Dichlorobenzene	EPA 624	3/19/99	10	106	103	104	1	<PQL	106
Bromoform	EPA 624	3/19/99	10	110	103	110	7	<PQL	114
1,1,2,2-Tetrachloroethane	EPA 624	3/19/99	10	105	95	103	8	<PQL	110
1,2-Dichlorobenzene	EPA 624	3/19/99	10	111	105	110	5	<PQL	113

CCV = Continuing Calibration Verification.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.

RPD = Relative Percent Difference.
BLK = Blank.
BLK-MS is a Blank Spike

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Quality Control Data Report

Bolin Sample ID: 9903-2554-1,4; 9903-2578-1; 9903-2657-1; 2848-3

Analyte	Method	Date Analyzed	Spk Conc. (ppb)	Blk Spk (PPB)	BLK Spk %Rec	Blk Spk Dup (PPB)	Blk Spk Dup %Rec	RPD	Blk (ppb)	ICV %Rec	CCV %Rec
Alpha-BHC	EPA 608	4/7/99	5.0	3.80	76	3.60	72	5	<PQL	104	100
Gamma-BHC (Lindane)	EPA 608	4/7/99	5.0	3.99	80	3.83	77	4	<PQL	105	100
Beta-BHC	EPA 608	4/7/99	5.0	4.43	89	4.22	84	5	<PQL	105	103
Delta-BHC	EPA 608	4/7/99	5.0	4.22	84	4.11	82	3	<PQL	105	107
Heptachlor	EPA 608	4/7/99	5.0	4.01	80	3.87	77	4	<PQL	104	97
Aldrin	EPA 608	4/7/99	5.0	3.83	77	3.72	74	3	<PQL	105	94
Heptachlor Epoxide	EPA 608	4/7/99	5.0	4.12	82	4.10	82	0	<PQL	104	95
Endosulfan I	EPA 608	4/7/99	5.0	3.97	79	4.00	80	1	<PQL	104	91
4,4'-DDE	EPA 608	4/7/99	5.0	3.80	76	4.10	82	8	<PQL	104	107
Dieldrin	EPA 608	4/7/99	5.0	4.12	82	4.17	83	1	<PQL	104	94
Endrin	EPA 608	4/7/99	5.0	4.41	88	4.38	88	1	<PQL	104	99
4,4'-DDD	EPA 608	4/7/99	5.0	4.18	84	4.16	83	0	<PQL	104	106
Endosulfan II	EPA 608	4/7/99	5.0	4.03	81	4.10	82	2	<PQL	104	91
4,4'-DDT	EPA 608	4/7/99	5.0	4.65	93	4.62	92	1	<PQL	103	90
Endrin Aldehyde	EPA 608	4/7/99	5.0	4.39	88	4.38	88	0	<PQL	104	92
Endosulfan Sulfate	EPA 608	4/7/99	5.0	4.32	86	4.27	85	1	<PQL	106	94

ICV Initial Calibration Verification
CCV Continuing Calibration Verification
BLK is a Blank
Blk Spk is a Blank Spike
Blk Spk Dup is a Blank Spike Duplicate
RPD is Relative Percent Difference

Bolin Laboratories Inc.

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Quality Control Data Report

Bolin Sample ID:

9903-2493-001
9903-2493-002
9903-2493-003
9903-2493-004
9903-2522-001
9903-2544-001
9903-2545-002
9903-2554-001
9903-2554-004
9903-2593-002
9903-2594-002
9903-2649-002
9903-2682-002

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	BLMS %Rec	BLMSD %Rec	RPD	Blk (ppm)	ICV %Rec	CCV %Rec
Total Petroleum Hydrocarbons	EPA 418.1	4/1/99	10.3	93	93	0	<PQL	97	120

MS is Matrix Spike
BLK is a Blank
BLK-SPK is a Blank Spike

Bolin Laboratories Inc.

❑ 17631 N. 25th Ave. Phoenix AZ 85023
(602) 942-8220 • Fax(602) 942-1050

❑ 440 N. Alvernon, Suite 103, Tucson AZ 85711
(520) 327-1234 • Fax(502) 327-0518

CHAIN OF CUSTODY RECORD

Page_____of_____

Laboratory Sample No. 9903-2554

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax
Flood Control	2801 W Durango	Phoenix	AZ	85009	602-506 8401	506 46[illegible]

Project Name	Project Number	Contact	P.O. No.	Fax Results ❑	QC Report ✓	Special Detection Limits ❑
Phoenix NPDES		D. Gardner				

SAMPLE TYPE CODES

DW=Drinking Water, S=Soil/Solid, WW=Wastewater, T=Travel Blank, SW=Surface Water, F=Food, GW=Groundwater, G=Sludge, O=Other_____

TURN AROUND TIME

❑ Standard 10 - 15 Day
❑ Other_____

Laboratory Authorization Required for Rush ★ ★

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	pH ✓ (Bolin Use Only)	TPH	Fecal Coli	Fecal Strep	Oil/Grease	624 Acetone	608 DDE	625 Chrysene	Benzoic Acid	Phenol	LAB NO
P1G 31699	31699	1900	35th Ave Sewer		X			12	✓										01
P2G 31699	3/6/99	2000	67th Ave Sewer		X			13	✓										04
Travel Blanks					X			4											03

Comments / Special Instructions:_____

SAMPLE CONDITION UPON RECEIPT

No. of Containers		
Temperature		
Custody Seals	Y	N
Seals Intact	Y	N
Preserved	Y	N

RELINQUISHED BY

	Signature	Date	Printed Name	Time
①	Robert Naud	3/6/99	Robert NAUD	2130
②				
③				

SAMPLES RECEIVED BY

Signature	Date	Printed Name	Time
M Hughes	3/6/99	M HUGHES	21 30

WHITE-LAB YELLOW-LAB PINK-CLIENT

Bolin Laboratories Inc.

17631 N. 25th Avenue • Phoenix, Arizona 85023
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Quality Control Data Report

Client: Maricopa County Flood Control District
Bolin Sample ID: 9903-2560 D

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	MS %Rec	MSD %Rec	Blk (ppm)	ICV %Rec	CCV %Rec
Berylium	EPA 200.7	4/6/99	0.5	101	101	<PQL	97	95
Cadmium	PA 200.9/SM 3113	5/5/99	0.002	110	110	<PQL	105	105
Copper	EPA 200.7	4/6/99	1	106	102	<PQL	101	96
Silver	EPA 200.7	4/6/99	0.5	84	75	<PQL	100	99
Zinc	EPA 200.7	4/6/99	1	112	111	<PQL	103	95
Arsenic	EPA 200.9/SM 3113B	3/26/99	0.020	123	120	<PQL	110	105
Lead	EPA 200.9/SM 3113B	3/26/99	0.020	115	110	<PQL	105	100

MI Matrix Interference
ICV Initial Calibration Verification
CCV Continuing Calibration Verification
MS is Matrix Spike
MSD is a Matrix Spike Duplicate.
RPD is Relative Percent Difference
BLK is a Blank

Bolin Laboratories Inc.

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Quality Control Data Report

Client: MCFC
Bolin Sample ID: 9903-2560-1,2,3

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	MS %Rec	MSD %Rec	RPD	Blk (ppb)	ICV %Rec	CCV %Rec
COD	EPA 410.4	3/19/99	30	97	97	0	<PQL	97	95
BOD	EPA 405.1	3/18/99	N/A	N/A	N/A	N/A	<PQL	102	
Total Suspended Solids	EPA 160.1	3/22/99	N/A	N/A	N/A	N/A	<PQL	94	
Nitrate	EPA 300.0	3/18/99	4.54	106	106	0	<PQL	104	102
Nitrite	SM 4500 NO2 B	3/17/99	2.03	96	96	0	<PQL	103	106
Total Dissolved Solids	EPA 160.3	3/22/99	N/A	N/A	N/A	N/A	<PQL	97	
Orthophosphate	SM 4500 PE	3/18/99	0.1	95	108	13	<PQL	100	9
Total Phosphorous	EPA 365.3	3/30/99	0.1	*	*	######	<PQL	98	100
Total Cyanide	SM4500-CN E	3/30/99	0.05	103	104	1	<PQL	92	93

* = Spike low, sample spiked was reanalyzed.

MS/MSD are Matrix Spikes

ICV is Initial Calibration Verification

CCV is Continuing Calibration Verification

RPD is Relative Percent Difference

BLK is a Blank

BLK-SPK is a Blank Spike

Bolin Laboratories Inc.

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Quality Control Data Report

Client: Maricopa County Flood Control District
Bolin Sample ID: 9903-2560 Total

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	MS %Rec	MSD %Rec	Blk (ppm)	ICV %Rec	CCV %Rec
Berylium	EPA 200.7	3/23/99	0.5	100	105	<PQL	100	99
Cadmium	PA 200.9/SM 3113	3/25/99	0.002	110	105	<PQL	100	100
Copper	EPA 200.7	3/23/99	1	104	110	<PQL	102	103
Silver	EPA 200.7	3/23/99	0.5	107	128	<PQL	97	96
Zinc	EPA 200.7	3/23/99	1	103	110	<PQL	100	101
Arsenic	EPA 200.9/SM 3113B	3/25/99	0.020	100	105	<PQL	100	100
Lead	EPA 200.9/SM 3113B	3/25/99	0.020	105	105	<PQL	100	110

MI Matrix Interference
ICV Initial Calibration Verification
CCV Continuing Calibration Verification
MS is Matrix Spike
MSD is a Matrix Spike Duplicate.
RPD is Relative Percent Difference
BLK is a Blank

BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Preparation & Analysis Information)

BOLIN LABORATORIES
17631 N. 25TH AVE.
PHOENIX, AZ 85023
STEPHANIE KAUFMAN

Date of Report: 04/27/99
Sample Matrix: DIGESTATE

Samples Affected: 99-03548-1 - 99-03548-4

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Dissolved Chromium	EPA-600-4-79-02	03/17/99	FIELD	EPA-7191	03/26/99	KAS
Dissolved Chromium #4	EPA-600-4-79-02	03/16/99	FIELD	EPA-7191	03/26/99	KAS
Dissolved Nickel	EPA-600-4-79-02	03/17/99	FIELD	EPA-249.2	03/26/99	MRM
Dissolved Nickel #4	EPA-600-4-79-02	03/16/99	FIELD	EPA-249.2	03/26/99	MRM
Total Chromium	EPA-3020		BOLIN	EPA-7191	03/26/99	KAS
Total Nickel	EPA-3020		BOLIN	EPA-249.2	03/31/99	MRM
Total Thallium	EPA-3020		BOLIN	EPA-279.2	03/29/99	KAS

Quality Control Officer

Anthony Bonanno

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BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Instrumental & Blank Parameters)

BOLIN LABORATORIES
17631 N. 25TH AVE.
PHOENIX, AZ 85023
STEPHANIE KAUFMAN

Date of Report: 04/27/99
Sample Matrix: DIGESTATE

Samples Affected: 99-03548-1 - 99-03548-4

Constituents	ICV % Found	CCV % Found Before	CCV % Found After	% Found Control Limits	CCB Readings Before	CCB Readings After	Units	Method Blank Readings	Units
Dissolved Chromium	103.	102.	101.	90 - 110	< 1.	< 1.	µg/L	< 1.	µg/L
Dissolved Nickel	105.	103.	103.	90 - 110	< 2.	< 2.	µg/L	< 2.	µg/L
Total Chromium	103.	102.	101.	90 - 110	< 1.	< 1.	µg/L	< 1.	µg/L
Total Nickel	100.	100.	98.	90 - 110	< 2.	< 2.	µg/L	< 2.	µg/L
Total Thallium	99.	105.	105.	90 - 110	< 1.	< 1.	µg/L	< 1.	µg/L

ICV = Initial Calibration Verification; CCV = Continuing Calibration Verification
CCB = Continuing Calibration Blank

Quality Control Officer

Anthony Bonanno

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BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Precision & Accuracy)

BOLIN LABORATORIES
17631 N. 25TH AVE.
PHOENIX, AZ 85023
STEPHANIE KAUFMAN

Date of Report: 04/27/99
Sample Matrix: DIGESTATE

Samples Affected: 99-03548-1 - 99-03548-4

Constituents	QC Sample ID	Sample Result	Sample Duplicate	MS Result	MSD Result	MS Spike Level	MSD Spike Level	Units	Sample R.P.D.	Spike R.P.D.	Precision Control Limits	MS % Rec	MSD % Rec	Accuracy Control Limits
Dissolved Chromium	DISS-3548-1	2.09	2.09	13.37	12.95	10.00	10.00	µg/L	<PQL	3.	20	113.	109.	85 - 115
Dissolved Nickel	DISS-3323-1	< 10.	< 10.	26.9	26.59	25.00	25.00	µg/L	<PQL	1.	20	107.	106.	85 - 115
Total Chromium	DISS-3548-1	2.09	2.09	13.37	12.95	10.00	10.00	µg/L	<PQL	3.	20	113.	109.	85 - 115
Total Nickel	DISS-3772-1	< 10.	< 10.	31.34	31.18	25.00	25.00	µg/L	<PQL	1.	20	112.	111.	85 - 115
Total Thallium	DISS-3536-1	< 1.	< 1.	25.1	25.56	25.00	25.00	µg/L	<PQL	2.	20	101.	103.	85 - 115

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

Quality Control Officer

Anthony Bonanno

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BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Laboratory Control Sample)

BOLIN LABORATORIES
17631 N. 25TH AVE.
PHOENIX, AZ 85023
STEPHANIE KAUFMAN

Date of Report: 04/27/99
Sample Matrix: DIGESTATE

Samples Affected: 99-03548-1 - 99-03548-4

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Dissolved Chromium	LFB-10-LCS	10.82	10.	µg/L	108.	85 - 115
Dissolved Nickel	LFB-25-LCS	27.38	25.	µg/L	110.	85 - 115
Total Chromium	LFB-10-LCS	10.82	10.	µg/L	108.	85 - 115
Total Nickel	LFB-25-LCS	25.13	25.	µg/L	101.	85 - 115
Total Thallium	LFB-25-LCS	27.3	25.	µg/L	109.	85 - 115

Quality Control Officer

Anthony Bonanno

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McKENZIE LABORATORIES

Date: 05-Apr-99

CLIENT: Bolin Laboratories Inc
Work Order: 9903192
Project:

QC SUMMARY REPORT

Method Blank

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Phenolics, Total Recoverable	<0.0050	0.0050		mg/L	1	EPA420.1	3/31/99	3/31/99	KA	420.1-3/31/99

McKENZIE LABORATORIES

Date: 05-Apr-99

CLIENT: Bolin Laboratories Inc
Work Order: 9903192
Project:

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: **9903273-07AD**		Batch ID:	420.1-3/31/99								
Client ID:											
Phenolics, Total Recoverable	<0.0050	0.0050	mg/L	<0.0050	0%	20	EPA420.1	3/31/99	3/31/99	KA	

McKENZIE LABORATORIES

Date: 05-Apr-99

CLIENT: Bolin Laboratories Inc
Work Order: 9903192
Project:

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: **9903273-07AS**	Batch ID: 420.1-3/31/99			Test Code: EPA420.1				Date Analyzed: 3/31/99			
Client ID:				Units: mg/L				Date Prepared: 3/31/99			
Phenolics, Total Recoverable	0.1131	0.0050	0.1000	<0.0050	113%	80	120				

McKENZIE LABORATORIES

Date: 05-Apr-99

CLIENT: Bolin Laboratories Inc
Work Order: 9903192
Project:

QC SUMMARY REPORT

Blank Spike (primary source)

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: 420.1-3/31/99			Test Code: EPA420.1				Date Analyzed: 3/31/99			
				Units: mg/L				Date Prepared: 3/31/99			
Phenolics, Total Recoverable	0.1054	0.0050	0.1000	<0.0050	105%	85	115				

McKENZIE LABORATORIES

Date: 05-Apr-99

CLIENT: Bolin Laboratories Inc
Work Order: 9903192
Project:

QC SUMMARY REPORT

Secondary Source QC Sample

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **LCSV**	Batch ID: 420.1-3/31/99			Test Code: EPA420.1				Date Analyzed: 3/31/99			
				Units: mg/L				Date Prepared: 3/31/99			
Phenolics, Total Recoverable	0.1054	0.0050	0.1000	<0.0050	105%	85	115				

Bolin Laboratories Inc.

- 17631 N. 25th Ave. Phoenix AZ 85023
  (602) 942-8220 • Fax(602) 942-1050
- 4837 East Fifth Street, Suite 103, Tucson AZ 85711
  (520) 327-1234 • Fax(520) 327-0518

CHAIN OF CUSTODY RECORD

Page_____of_____

Laboratory Sample No. 9903-025(00 (DS

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax
FLOOD CONTROL	2801 W DURANGO	PHOENIX	AZ	85009	602 506 8441	506-4641

Project Name	Project Number	Contact	P.O. No.	Fax Results ☐	QC Report ☑	Special Detection Limits ☐
PHOENIX NPDES		D GARDNER				

SAMPLE TYPE CODES

DW=Drinking Water, S=Soil/Solid, WW=Wastewater, T=Travel Blank, SW=Surface Water, F=Food, GW=Groundwater, G=Sludge, O=Other_____

TURN AROUND TIME

☐ Standard 10 - 15 Day
☐ Other_____

Laboratory Authorization Required for Rush ★ ★

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	pH ✓ (Bolin Use Only)	BOD, COD	CN-	TDS, TSS	NH3 - N	NO2 - NO3	NO2 + NO3 - TKN	P-total	P-ortho	Phenolics	As, Be	Cd, Cr, Cu	Pb, Ni	Ag, Zn	Hardness			LAB NO
P1C031699	3/17/99	0810	SR03 (PHX 1)	X				8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		01
P2C031699	3/17/99	0840	SR49 (PHX 2)	X				8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		02
P4C031699	3/17/99	0930	IB08 (PHX 4)	X				8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		03

Comments / Special Instructions:_____

SAMPLE CONDITION UPON RECEIPT

No. of Containers	24
Temperature	Cold/ice
Custody Seals	Y ~~N~~
Seals Intact	~~Y~~ N
Preserved	(Y) N

RELINQUISHED BY

	Signature	Date	Printed Name	Time
①	[signature]	3/17/99	DAVID GARDNER	948
②				
③				

SAMPLES RECEIVED BY

Signature	Date	Printed Name	Time
[signature]	3/17/99	K Sutherland	1:15

WHITE-LAB YELLOW-LAB PINK-CLIENT

Bolin Laboratories Inc.

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Quality Control Data Report

Bolin Sample ID: 9903-2353, 2366, 2445, 2410, **2425**, 2522, 2554, 2553 and 2578

Analyte	Method	Date Analyzed	Spk Conc. (ppb)	MS %Rec	BLK MS %Rec	BLK MSD %Rec	RPD	BLK (ppb)	CCV %Rec
Chloromethane	EPA 624	3/19/99	10	88	70	84	18	<PQL	93
Vinyl Chloride	EPA 624	3/19/99	10	108	90	101	12	<PQL	98
Bromomethane	EPA 624	3/19/99	10	112	75	88	16	<PQL	122
Chloroethane	EPA 624	3/19/99	10	104	93	101	8	<PQL	100
Trichlorofluoromethane	EPA 624	3/19/99	10	104	95	99	4	<PQL	100
1,1-Dichloroethylene	EPA 624	3/19/99	10	99	89	92	3	<PQL	98
Dichloromethane	EPA 624	3/19/99	10	82	94	95	1	<PQL	101
trans 1,2-DCE	EPA 624	3/19/99	10	96	90	91	1	<PQL	99
1,1-Dichloroethane	EPA 624	3/19/99	10	96	93	96	3	<PQL	100
Chloroform	EPA 624	3/19/99	10	98	94	97	3	<PQL	99
1,1,1-Trichloroethane	EPA 624	3/19/99	10	99	94	96	2	<PQL	100
Carbon tetrachloride	EPA 624	3/19/99	10	100	93	97	4	<PQL	102
Benzene	EPA 624	3/19/99	10	96	93	95	2	<PQL	99
1,2-Dichloroethane	EPA 624	3/19/99	10	95	94	94	0	<PQL	96
Trichloroethylene	EPA 624	3/19/99	10	98	94	96	2	<PQL	100
1,2-Dichloropropane	EPA 624	3/19/99	10	94	90	92	2	<PQL	97
Bromodichloromethane	EPA 624	3/19/99	10	96	93	95	2	<PQL	99
2-Chloroethylvinyl ether	EPA 624	3/19/99	10	na	87	91	4	<PQL	96
cis 1,3-Dichloropropene	EPA 624	3/19/99	10	95	90	91	1	<PQL	97
Toluene	EPA 624	3/19/99	10	106	91	94	3	<PQL	97
trans 1,3-Dichloropropene	EPA 624	3/19/99	10	94	90	92	2	<PQL	96
1,1,2-Trichloroethane	EPA 624	3/19/99	10	94	90	90	0	<PQL	93
Tetrachloroethylene	EPA 624	3/19/99	10	96	88	92	4	<PQL	96
Dibromochloromethane	EPA 624	3/19/99	10	105	102	103	1	<PQL	107
Chlorobenzene	EPA 624	3/19/99	10	107	102	104	2	<PQL	106
Ethylbenzene	EPA 624	3/19/99	10	111	106	109	3	<PQL	110
1,3-Dichlorobenzene	EPA 624	3/19/99	10	107	102	106	4	<PQL	106
1,4-Dichlorobenzene	EPA 624	3/19/99	10	106	103	104	1	<PQL	106
Bromoform	EPA 624	3/19/99	10	110	103	110	7	<PQL	114
1,1,2,2-Tetrachloroethane	EPA 624	3/19/99	10	105	95	103	8	<PQL	110
1,2-Dichlorobenzene	EPA 624	3/19/99	10	111	105	110	5	<PQL	113

CCV = Continuing Calibration Verification.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.

RPD = Relative Percent Difference.
BLK = Blank.
BLK-MS is a Blank Spike

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Quality Control Data Report

Bolin Sample ID: 9903-2554-1,4; 9903-2578-1; 9903-2657-1; 2848-3

Analyte	Method	Date Analyzed	Spk Conc. (ppb)	Blk Spk (PPB)	BLK Spk %Rec	Blk Spk Dup (PPB)	Blk Spk Dup %Rec	RPD	Blk (ppb)	ICV %Rec	CCV %Rec
Alpha-BHC	EPA 608	4/7/99	5.0	3.80	76	3.60	72	5	<PQL	104	100
Gamma-BHC (Lindane)	EPA 608	4/7/99	5.0	3.99	80	3.83	77	4	<PQL	105	100
Beta-BHC	EPA 608	4/7/99	5.0	4.43	89	4.22	84	5	<PQL	105	103
Delta-BHC	EPA 608	4/7/99	5.0	4.22	84	4.11	82	3	<PQL	105	107
Heptachlor	EPA 608	4/7/99	5.0	4.01	80	3.87	77	4	<PQL	104	97
Aldrin	EPA 608	4/7/99	5.0	3.83	77	3.72	74	3	<PQL	105	94
Heptachlor Epoxide	EPA 608	4/7/99	5.0	4.12	82	4.10	82	0	<PQL	104	95
Endosulfan I	EPA 608	4/7/99	5.0	3.97	79	4.00	80	1	<PQL	104	91
4,4'-DDE	EPA 608	4/7/99	5.0	3.80	76	4.10	82	8	<PQL	104	107
Dieldrin	EPA 608	4/7/99	5.0	4.12	82	4.17	83	1	<PQL	104	94
Endrin	EPA 608	4/7/99	5.0	4.41	88	4.38	88	1	<PQL	104	99
4,4'-DDD	EPA 608	4/7/99	5.0	4.18	84	4.16	83	0	<PQL	104	106
Endosulfan II	EPA 608	4/7/99	5.0	4.03	81	4.10	82	2	<PQL	104	91
4,4'-DDT	EPA 608	4/7/99	5.0	4.65	93	4.62	92	1	<PQL	103	90
Endrin Aldehyde	EPA 608	4/7/99	5.0	4.39	88	4.38	88	0	<PQL	104	92
Endosulfan Sulfate	EPA 608	4/7/99	5.0	4.32	86	4.27	85	1	<PQL	106	94

ICV Initial Calibration Verification
CCV Continuing Calibration Verification
BLK is a Blank
Blk Spk is a Blank Spike
Blk Spk Dup is a Blank Spike Duplicate
RPD is Relative Percent Difference

Bolin Laboratories Inc.

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Quality Control Data Report

Bolin Sample ID:

9903-2493-001
9903-2493-002
9903-2493-003
9903-2493-004
9903-2522-001
9903-2544-001
9903-2545-002
9903-2554-001
9903-2554-004
9903-2593-002
9903-2594-002
9903-2649-002
9903-2682-002

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	BLMS %Rec	BLMSD %Rec	RPD	Blk (ppm)	ICV %Rec	CCV %Rec
Total Petroleum Hydrocarbons	EPA 418.1	4/1/99	10.3	93	93	0	<PQL	97	120

MS is Matrix Spike
BLK is a Blank
BLK-SPK is a Blank Spike

Bolin Laboratories Inc.

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Laboratory Sample No. 9903-02522 K

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax
FLOOD CONTROL	2801 W DUELANGE	PHOENIX	AZ	85009	602 506 8401	506-4601

Project Name	Project Number	Contact	P.O. No.	Fax Results ☐	QC Report ☑	Special Detection Limits ☐
PHOENIX NPDES		D GARDNER				

SAMPLE TYPE CODES

DW=Drinking Water, S=Soil/Solid, WW=Wastewater, T=Travel Blank, SW=Surface Water, F=Food, GW=Groundwater, G=Sludge, O=Other

TURN AROUND TIME

☐ Standard 10 - 15 Day
☐ Other

Laboratory Authorization Required for Rush ★ ★

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	pH ✓ (Bolin Use Only)	TPH	Fecal Coli	Fecal Strep	Oil/Grease	624 Acetone	625 Chrysene	Benzoic Acid	Phenol	ODE	LAB NO
P4G031699	3/16/99	1043	IB08		X			12	✓	X	X	X	X	X	X				01

Comments / Special Instructions:

SAMPLE CONDITION UPON RECEIPT

No. of Containers	12
Temperature	ON ICE
Custody Seals	Y N
Seals Intact	Y N
Preserved	(Y) N

RELINQUISHED BY

	Signature	Printed Name	Date	Time
①	Robert Naud Jr	Robert NAUD Jr	3/16/99	1130
②				
③				

SAMPLES RECEIVED BY

Signature	Printed Name	Date	Time
[illegible]	J Kimbrough	3/16	1130

WHITE-LAB YELLOW-LAB PINK-CLIENT

Records

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	PHX IB-08			DATE	JAN 6 1999
ARRIVAL TIME	0915	DEPARTURE TIME	1030	SERVICED BY	RWN DCW
SAMPLER MODEL NUMBER	900 MAX			SAMPLER SERIAL/ ASSET NUMBER	
PT SERIAL NUMBER/ ASSET NUMBER				RAINGAGE SERIAL/ ASSET NUMBER	

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	12.0 volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	22 length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	4.00"
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS replaced intake tubing w/ 3/8" teflon

calibrated depth sensor

had trouble with keypad

setting in program

calibration of vol - needed to use vinyl tubing not teflon

even though teflon is present

Date: 10/08/1998

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Shea Blvd & 40th St	DATE	11/7/99
ARRIVAL TIME		DEPARTURE TIME	
SERVICED BY	(Rew)		
SAMPLER MODEL NUMBER		SAMPLER SERIAL/ ASSET NUMBER	
PT SERIAL NUMBER/ ASSET NUMBER		RAINGAGE SERIAL/ ASSET NUMBER	

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE old 11.8	YES NO	GOOD FAIR POOR	YES NO	YES NO	new 13.0 volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS Purchase new battery and replace old reading 11.8

new 13.0

Date: 10/08/1998

WATER QUALITY SAMPLER M NTENANCE LOG SHEET

SITE	40th ST & Shea Blvd			DATE	1/12/98 99
ARRIVAL TIME		DEPARTURE TIME		SERVICED BY	(Rey)
SAMPLER MODEL NUMBER				SAMPLER SERIAL/ ASSET NUMBER	
PT SERIAL NUMBER/ ASSET NUMBER				RAINGAGE SERIAL/ ASSET NUMBER	

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS Weld on new lock, Fix broken grate

EQUIPMENT CLEANING CHECKLIST

Site	35th ave & Salt River		
Date	1/26/99	Time	
Serviced By:	(Ray)		

N/A	Data Downloaded to DTU?

1. Halt program — Cut sample operating, restart program and put clean bottles in
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Press the Purge Key on 800 models or the Manual key on 900 models.
4. On 900 models, press the Pump Operation key and then the select Purge.
5. Follow the steps below and check each as it is done.

2nd	✓	Pump approximately 1/2 gallon of Liquinox through tubing.
1st	✓	Pump approximately 1/2 gallon tap water through tubing.
	N/A	Pump approximately 1/2 liter Nitric Acid (pH 3 - 4) through tubing.
3rd	✓	Pump approximately 1 - 2 gallons deionized water through tubing.

6. Disconnect the extension tubing and make sure the distributor tubing is seated properly.
7. Replace the base and clean bottles.
8. If the data has been downloaded to the DTU, START the program from the beginning.
9. If the data has not been downloaded, RESUME the program.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	67th Ave & Salt	DATE	2/3/99
ARRIVAL TIME		DEPARTURE TIME	
SERVICED BY			
SAMPLER MODEL NUMBER		SAMPLER SERIAL/ ASSET NUMBER	
PT SERIAL NUMBER/ ASSET NUMBER		RAINGAGE SERIAL/ ASSET NUMBER	

	CHECKED/ SERVICED/ CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS Pick and Shovel dirt and rocks on u/side of Sampler Station. This was needed so technicians can safely take Samples.

Date: 10/08/1998

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	PHX SR03			DATE	04 FEB 1999
ARRIVAL TIME	1230	DEPARTURE TIME	1315	SERVICED BY	RWN / DEG
SAMPLER MODEL NUMBER	800 SL			SAMPLER SERIAL NUMBER	H0792 5065
DATALOGGER MODEL NUMBER				DATALOGGER SERIAL NUMBER	

	SERVICE REQUIRED	CONDITION	OK	NEEDS REPAIR	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	26 length (feet)
SAMPLER PUMP TUBING on 800	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLER DISTRIBUTOR TUBING on 800	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS 900 MAX sampler removed EA0597MPC01067 8 because of non-functional Keypad - will send to Sigma for repair.

Date: 01/27/1999

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	PHX SR49	DATE	04 FEB 1999
ARRIVAL TIME	1100	DEPARTURE TIME	
		SERVICEMAN	RWN - DEG
SAMPLER MODEL NUMBER	Reduced w/ 800 SL	SAMPLER SERIAL ASSET NUMBER	H07925068
INTERFACE NUMBER ASSET NUMBER		CONTROLLER SERIAL ASSET NUMBER	

	SERVICE REQUIRED	CONDITION	OPERATIVE	NEEDS REPLACEMENT	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	10 tips
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	length (feet)
SAMPLER PUMP TUBING on 800	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLER DISTRIBUTOR TUBING on 800	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	5.2"
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	460 mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS replaced 900 MAX sampler EA0597MPC01679 because of non-functional keypad - will send to Sigma for repair

Date: 01/27/1999

EQUIPMENT CLEANING CHECKLIST

Site	PHX SR03		
Date	2-4-99	Time	1300
Serviced By:	D GARDNER		

☐	Data Downloaded to DTU?

1. Halt program
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Press the Purge Key on 800 models or the Manual key on 900 models.
4. On 900 models, press the Pump Operation key and then the select Purge.
5. Follow the steps below and check each as it is done.

✓	Pump approximately 1/2 gallon tap water through tubing.
✓	Pump approximately 1/2 gallon of Liquinox through tubing.
✓	Pump a large quantity of tap water through tubing.
☐	Pump a small amount of Nitric Acid (pH 3 - 4) through tubing.
✓	Pump approximately 1/2 - 1 gallon deionized water through tubing.

6. Disconnect the extension tubing and make sure the distributor tubing is seated properly.
7. Replace the base and clean bottles.
8. If the data has been downloaded to the DTU, START the program from the beginning.
9. If the data has not been downloaded, RESUME the program.

EQUIPMENT CLEANING CHECKLIST

Site	PHX SR-49		
Date	2-4-99	**Time**	1145
Serviced By:	D GARDNER		

☐	**Data Downloaded to DTU?**

1. Halt program
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Press the Purge Key on 800 models or the Manual key on 900 models.
4. On 900 models, press the Pump Operation key and then the select Purge.
5. Follow the steps below and check each as it is done.

✓	**Pump approximately 1/2 gallon tap water through tubing.**
✓	**Pump approximately 1/2 gallon of Liquinox through tubing.**
✓	**Pump a large quantity of tap water through tubing.**
☐	**Pump a small amount of Nitric Acid (pH 3 - 4) through tubing.**
✓	**Pump approximately 1/2 - 1 gallon deionized water through tubing.**

6. Disconnect the extension tubing and make sure the distributor tubing is seated properly.
7. Replace the base and clean bottles.
8. If the data has been downloaded to the DTU, START the program from the beginning.
9. If the data has not been downloaded, RESUME the program.

STORM EVENT LOG SHEET

SITE:	P4 (Phoenix 40th St and IBW

DATE:	2-4-99	TIME:	9:42 P.M

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: (YES) NO

IF NO, WHAT WERE PROBLEM(S):

2/5 composites collected
rain = 0.37
run ≈ 150,000 cf.

FIELD PARAMETERS:

Sampler Start Time	9:42 P.M
Effluent pH	8.68
Effluent Temperature	12.9C

GRAB SAMPLES: Take grab samples from discharge only!

Grab Samples Taken?	(YES)	NO
Preservatives added to bottles?	YES	NO

STORM EVENT LOG SHEET

SITE:	SR 03

DATE:	2-4-99	TIME:	2245

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: (YES) NO

IF NO, WHAT WERE PROBLEM(S):

0.23" rain 2/4/99 0810
little runoff
no composites picked up

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	
Effluent Temperature	

GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?	YES	NO
Preservatives added to bottles?	YES	NO

STORM EVENT LOG SHEET

SITE:	P3 40th ST And SAlt

DATE:	2-4-99	TIME:	10:33

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: (YES) NO

IF NO, WHAT WERE PROBLEM(S):

2/5/99 - 0.21" rain
low runoff - only 3 composite jars
filled - did not collect composites

FIELD PARAMETERS:

Sampler Start Time	10:33
Effluent pH	8.52
Effluent Temperature	13.8

GRAB SAMPLES: Take grab samples from discharge only!

Grab Samples Taken?	(YES)	NO
Preservatives added to bottles?	(YES)	NO

STORM EVENT LOG SHEET

SITE:	SR-49

DATE:	2-4-99	TIME:	

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: (YES) NO

IF NO, WHAT WERE PROBLEM(S):

0.24" rain 2/3/99 0830

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	8.41
Effluent Temperature	12.6

GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?	YES	(NO)
Preservatives added to bottles?	YES	NO

EQUIPMENT CLEANING CHECKLIST

Site	4/6th ST & Shea IBW		
Date	2/9/99	Time	1100
Serviced By:	RW DEG		

C	Data Downloaded to DTU?

1. Halt program
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Press the Purge Key on 800 models or the Manual key on 900 models.
4. On 900 models, press the Pump Operation key and then the select Purge.
5. Follow the steps below and check each as it is done.

✓	Pump approximately 1/2 gallon tap water through tubing.
✓	Pump approximately 1/2 gallon of Liquinox through tubing.
✓	Pump a large quantity of tap water through tubing.
	Pump a small amount of Nitric Acid (pH 3 - 4) through tubing.
✓	Pump approximately 1/2 - 1 gallon deionized water through tubing.

6. Disconnect the extension tubing and make sure the distributor tubing is seated properly.
7. Replace the base and clean bottles.
8. If the data has been downloaded to the DTU, START the program from the beginning.
9. If the data has not been downloaded, RESUME the program.

EQUIPMENT CLEANING CHECKLIST

Site	Phx / 35th ave & Salt
Date	2/4/99
Time	0750
Serviced By:	[illegible]

C	**Data Downloaded to DTU?**

1. Halt program
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Press the Purge Key on 800 models or the Manual key on 900 models.
4. On 900 models, press the Pump Operation key and then the select Purge.
5. Follow the steps below and check each as it is done.

✓	**Pump approximately 1/2 gallon tap water through tubing.**
✓	**Pump approximately 1/2 gallon of Liquinox through tubing.**
✓	**Pump a large quantity of tap water through tubing.**
	Pump a small amount of Nitric Acid (pH 3 - 4) through tubing.
✓	**Pump approximately 1/2 - 1 gallon deionized water through tubing.**

6. Disconnect the extension tubing and make sure the distributor tubing is seated properly.
7. Replace the base and clean bottles.
8. If the data has been downloaded to the DTU, START the program from the beginning.
9. If the data has not been downloaded, RESUME the program.

EQUIPMENT CLEANING CHECKLIST

Site	40th ST University		
Date	2/9/99	**Time**	1230
Serviced By:	[illegible]	Peg	

✓	**Data Downloaded to DTU?**

1. Halt program
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Press the Purge Key on 800 models or the Manual key on 900 models.
4. On 900 models, press the Pump Operation key and then the select Purge.
5. Follow the steps below and check each as it is done.

✓	**Pump approximately 1/2 gallon tap water through tubing.**
✓	**Pump approximately 1/2 gallon of Liquinox through tubing.**
✓	**Pump a large quantity of tap water through tubing.**
	Pump a small amount of Nitric Acid (pH 3 - 4) through tubing.
✓	**Pump approximately 1/2 - 1 gallon deionized water through tubing.**

6. Disconnect the extension tubing and make sure the distributor tubing is seated properly.
7. Replace the base and clean bottles.
8. If the data has been downloaded to the DTU, START the program from the beginning.
9. If the data has not been downloaded, RESUME the program.

EQUIPMENT CLEANING CHECKLIST

Site	67th Ave & Salt Mine		
Date	2/9/99	Time	0810
Serviced By:	[illegible]		

✓	Data Downloaded to DTU?

1. Halt program
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Press the Purge Key on 800 models or the Manual key on 900 models.
4. On 900 models, press the Pump Operation key and then the select Purge.
5. Follow the steps below and check each as it is done.

✓	Pump approximately 1/2 gallon tap water through tubing.
✓	Pump approximately 1/2 gallon of Liquinox through tubing.
✓	Pump a large quantity of tap water through tubing.
	Pump a small amount of Nitric Acid (pH 3 - 4) through tubing.
✓	Pump approximately 1/2 - 1 gallon deionized water through tubing.

6. Disconnect the extension tubing and make sure the distributor tubing is seated properly.
7. Replace the base and clean bottles.
8. If the data has been downloaded to the DTU, START the program from the beginning.
9. If the data has not been downloaded, RESUME the program.

STORM EVENT LOG SHEET

SITE:	40th & Shea Blvd IB-08

DATE:	03/08/99	TIME:	0950

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

Prog 0003, no flow, check program and station, Reset and start program.

DEG RCN

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	
Effluent Temperature	

GRAB SAMPLES: Take grab samples from discharge only!

Grab Samples Taken?	YES	NO
Preservatives added to bottles?	YES	NO

STORM EVENT LOG SHEET

SITE:	35th Ave & Salt	SR03

DATE:	03/08/99	TIME:	1305

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

check Station and Program. Precip "0.01"
No samples taken. Restart Program.

MEG/RLN

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	
Effluent Temperature	

GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?	YES	NO
Preservatives added to bottles?	YES	NO

STORM EVENT LOG SHEET

SITE:	40th ST + University SR-45
DATE: 03/08/99	TIME: 1015

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.04 precip recorded. Reset and Restart program. Every thing looked good.

DFG

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	
Effluent Temperature	

GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?	YES	NO
Preservatives added to bottles?	YES	NO

STORM EVENT LOG SHEET

SITE:	67th ave & Salt	SR49

DATE:	03/08/99	TIME:	1250

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

Check site, Program. No precip "0".
Restart program

NEO- RWW

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	
Effluent Temperature	

GRAB SAMPLES: Take grab samples from discharge only!

Grab Samples Taken?	YES	NO
Preservatives added to bottles?	YES	NO

STORM EVENT LOG SHEET

[redacted]	IB08

[redacted]	3-16-99	[redacted]	1043

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.14" rain @ visit
0.20" rain total @ composite pickup on 3/17/99

FIELD PARAMETERS:

[redacted]	5.50	[redacted]
[redacted]	8.9	[redacted]
[redacted]	14	[redacted]

GRAB SAMPLES:

Take grab samples from discharge only!

[redacted]	YES	NO
[redacted]	YES	NO

STORM EVENT LOG SHEET

[redacted]	35th ave & Salt

[redacted]	3/16/99	[redacted]	1900

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

FIELD PARAMETERS:

[redacted]		[redacted]
[redacted]	7.0	[redacted]
[redacted]	5.0	[redacted]

GRAB SAMPLES:

Take grab samples from discharge only!

[redacted]	YES	NO
[redacted]	YES	NO

STORM EVENT LOG SHEET

SITE	67th Ave & Salt

DATE	3/16/99	TIME	2000

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

_____

_____

_____

_____

FIELD PARAMETERS:

Discharge pH (Target 6-9)		pH
[illegible]	7	
Effluent temperature	5	°C

GRAB SAMPLES: Take grab samples from discharge only!

[illegible]	YES	NO
[illegible]	YES	NO

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	40th St & Shea	DATE	3/18/99
ARRIVAL TIME		DEPARTURE TIME	
SERVICED BY			
SAMPLER MODEL NUMBER		SAMPLER SERIAL/ ASSET NUMBER	
PT SERIAL NUMBER/ ASSET NUMBER		RAINGAGE SERIAL/ ASSET NUMBER	

	CHECKED/ SERVICED/ CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS clean in take line, put in clean bottles

restart program.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	35th Ave Salt	DATE	3/18/99
ARRIVAL TIME		DEPARTURE TIME	
SERVICED BY			
SAMPLER MODEL NUMBER		SAMPLER SERIAL/ ASSET NUMBER	
PT SERIAL NUMBER/ ASSET NUMBER		RAINGAGE SERIAL/ ASSET NUMBER	

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS Clean and flush in take line, put clean bottles in, vented propane

Date: 10/08/1998

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE:	67th Ave Salt		DATE:	3/18/99	
ARRIVAL TIME:		DEPARTURE TIME:		SERVICED BY:	Rew
SAMPLER MODEL NUMBER:				SAMPLER SERIAL/ ASSET NUMBER:	
PT SERIAL NUMBER/ ASSET NUMBER:				RAINGAGE SERIAL/ ASSET NUMBER:	

	CHECKED/ SERVICED/ CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS clean and Flush in take line, Put clean bottles in, restart program

Rew

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	35th Ave Sad	DATE	3/22/99
ARRIVAL TIME		DEPARTURE TIME		SERVICED BY	
SAMPLER MODEL NUMBER		SAMPLER SERIAL/ ASSET NUMBER	
PT SERIAL NUMBER/ ASSET NUMBER		RAINGAGE SERIAL/ ASSET NUMBER	

	CHECKED/ SERVICED/ CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS Installed shelf, new battery and telephone & shelf. Remove weeds but check sample

Date: 10/08/1998