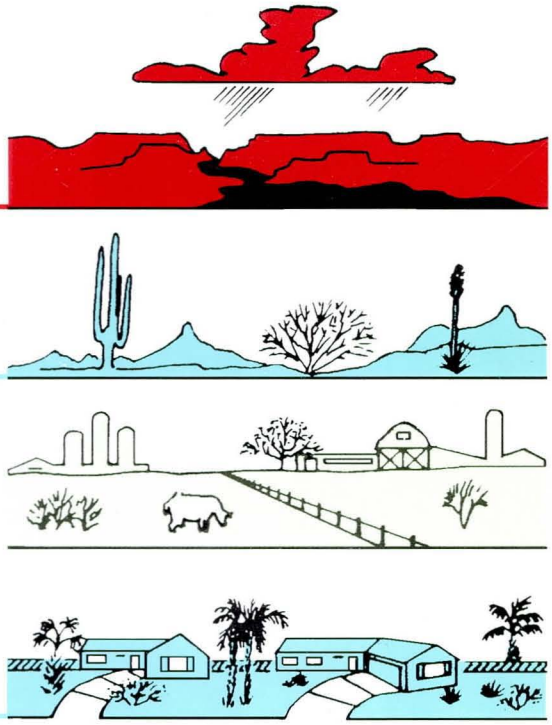
Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Stormwater Quality Report
City of Scottsdale, Arizona

Third Quarter 2003

April 18, 2003

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Stormwater Quality Report

Third Quarter, Sampling Year 2003

January 1, 2003 through March 31, 2003

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

For

City of Scottsdale, Arizona

April 18, 2003

Prepared by: Matthew A. Oller
FCDMC Hydrologist

Reviewed by: Todd G. Williams, M.Sc.
Water Quality Branch Manager

Stormwater Quality Report
City of Scottsdale, Arizona

Third Quarter 2003

April 18, 2003

Introduction

The Flood Control District of Maricopa County operates and maintains five land based stormwater monitoring stations for the City of Scottsdale for compliance with their National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit.

This report details stormwater sampling and equipment upkeep for the five Scottsdale stations for the period from January 1, 2003 through March 31, 2003.

During storm events, only representative storm events are sampled. A representative storm event has occurred when the following criteria have been met **and there has been no rainfall greater than 0.10 inches within the previous 72 hours.**

SCOTTSDALE	RAINFALL	DURATION
WINTER (October – March)	**0.22 – 0.65 INCHES**	**5.1 – 15.3 HOURS**
SUMMER (April – September)	**0.27 – 0.81 INCHES**	**2.2 – 6.5 HOURS**

Storm duration is defined as the time period from start to end of a sustained rainfall. Sustained rainfall is defined as rainfall that continues without a gap of greater than 150 consecutive minutes. If a gap greater than 150 consecutive minutes occurs, then the rainfall is considered to be from a separate storm event. Summer months are April through September and winter months are October through March.

Representative Storm Event Summaries

This is a summary of representative storm events that occurred during the third quarter of the 2003 sample year, from January 1 through March 31, 2002. Two representative storm events occurred during this period. The following is a description of the events.

The storm event of January 8 – 10, 2003, produced rainfall valley wide. The storm was a representative storm event at the Hayden site. All other sites did not meet the duration criteria. Grab samples were collected at Mckellips, Pierce, Camelback, Hayden, and Thunderbird sites. Composite samples were collected from the Hayden site. Rainfall totals for the three-day event in Scottsdale ranged from 0.31 to 0.51 inches.

Storm Event of January 8 – 10, 2003

SITE NAME	RAINFALL (inches)	REPRESENTATIVE EVENT	SAMPLES ANALYZED
MCKELLIPS	0.27	NO Duration 2.6 Hrs.	YES (Grab)
PIERCE	0.30	NO Duration 2.8 Hrs.	YES (Grab)
CAMELBACK	0.27	NO Duration 3.4 Hrs.	YES (Grab)
HAYDEN	**0.37**	**YES Duration 6.9 Hrs.**	**YES (Grab and Composite)**
THUNDERBIRD	0.25	NO Duration 4.4 Hrs.	YES (Grab)

The storm event of February 12 - 15, 2003, produced heavy rainfall valley wide. The storm was a representative storm event at the Mckellips, Pierce, Camelback, Hayden and Thunderbird sites. Grab samples were collected at Mckellips, Pierce, Camelback, Hayden, and Thunderbird. Composite samples were collected at the Mckellips, Pierce, Camelback, Hayden, and Thunderbird sites. A duplicate sample for the winter season was taken at the Hayden site for both grab and composite samples. Rainfall totals for the four-day event in Scottsdale ranged from 1.57 to 2.40 inches.

Storm Event of February 12 - 15, 2003

SITE NAME	RAINFALL (inches)	REPRESENTATIVE EVENT	SAMPLES ANALYZED
MCKELLIPS	**0.35**	**YES Duration 5.8 Hrs.**	**YES (Grab and Composite)**
PIERCE	**0.44**	**YES Duration 12.6 Hrs.**	**YES (Grab and Composite)**
CAMELBACK	**0.50**	**YES Duration 12.6 Hrs.**	**YES (Grab and Composite)**
HAYDEN	**0.42**	**YES Duration 11.3 Hrs.**	**YES (Grab and Composite)**
THUNDERBIRD	**0.51**	**YES Duration 13.0 Hrs.**	**YES (Grab and Composite)**

Table 1 below, lists storm events with rainfall greater than 0.22 inches of rain. The City of Scottsdale's winter rainfall criteria is 0.22 – 0.65 inches. Table 1 also specifies reasons why samples were / were not collected and/or analyzed.

TABLE 1
SUMMARY OF SCOTTSDALE STORM EVENTS
WITH RAINFALL > or = 0.22 INCHES BUT NOT REPRESENTATIVE
January 1 - March 31, 2003

SITE	DATE	RAIN (Inches)	REASONS NOT REPRESENTATIVE
MCKELLIPS	2/25/03	1.05	*GRAB & COMPOSITE SAMPLES TAKEN, AMOUNT > than 0.65
PIERCE	2/25/03	1.03	*GRAB SAMPLES TAKEN, DURATION TOO LONG, AMOUNT >THAN 0.65
CAMELBACK	2/25/03	0.90	*GRAB SAMPLES TAKEN, DURATION TOO LONG, AMOUNT >THAN 0.65
HAYDEN	2/25/03	0.91	*GRAB SAMPLES TAKEN, DURATION TOO LONG, AMOUNT >THAN 0.65
THUNDERBIRD	2/25/03	0.63	*GRAB & COMPOSITE SAMPLES TAKEN, DURATION TOO LONG, AMOUNT < than 0.65

* Grab samples at Mckellips, Pierce, Camelback, Hayden, and Thunderbird and Composite samples at Mckellips and Thunderbird were submitted to Del Mar Labs and the results are contained in the Lab Reports section of this report for the storm event of 2/25/03 the decision was made with cooperation from the City of Scottsdale to evaluate the stormwater quality at these sites during this non-representative event. On 3/4/03 all stations were shut down until April 1, 2003 for the start of the summer criteria, rainfall did occur on 3/16 – 17/03 the data on the rainfall amounts is listed in the ALERT rainfall table of this report.

Maintenance Summary

This section details maintenance activities that occurred from January 1, 2003 through March 31, 2003. All water quality samplers are SIGMA 900 MAX models.

MCKELLIPS

The sampler was reset on January 6, February 15, 24 and March 4. The battery voltage was checked on January 6, 13, 27, 30, February 3, 6, 10, 11, 15, 24 and March 4. All sampler tubing and collection bottles were cleaned on January 9, February 18, and 28. Data was downloaded with the DTU unit on January 9, February 15, and 26.

PIERCE

The sampler was reset on January 6, February 15, 24 and March 4. The battery voltage was checked on January 6, 13, 27, 30, February 3, 6, 10, 11, 15, 24 and March 4. All sampler tubing and collection bottles were cleaned on January 9, February 18, and 28. Data was downloaded with the DTU unit on January 9, February 15, and 26. On January 14 the Pressure transducer / flow meter were changed out and 50 feet of new intake sample tubing replaced.

CAMELBACK

The sampler was reset on January 6, February 15, 24 and March 4. The battery voltage was checked on January 6, 13, 27, 30, February 3, 6, 10, 11, 15, 24 and March 4. All sampler tubing and collection bottles were cleaned on January 9, February 18, and 28. Data was downloaded with the DTU unit on January 9, February 15, and 26.

HAYDEN

The sampler was reset on January 6, February 15, 24 and March 4. The battery voltage was checked on January 6, 13, 27, 30, February 3, 6, 10, 11, 15, 24 and

March 4. All sampler tubing and collection bottles were cleaned on January 9, February 18, and 28. Data was downloaded with the DTU unit on January 9, February 15, and 26.

THUNDERBIRD

The sampler was reset on January 6, February 15, 24 and March 4. The battery voltage was checked on January 6, 13, 27, 30, February 3, 6, 10, 11, 15, 24 and March 4. All sampler tubing and collection bottles were cleaned on January 9, February 18, and 28. Data was downloaded with the DTU unit on January 9, February 15, and 26.

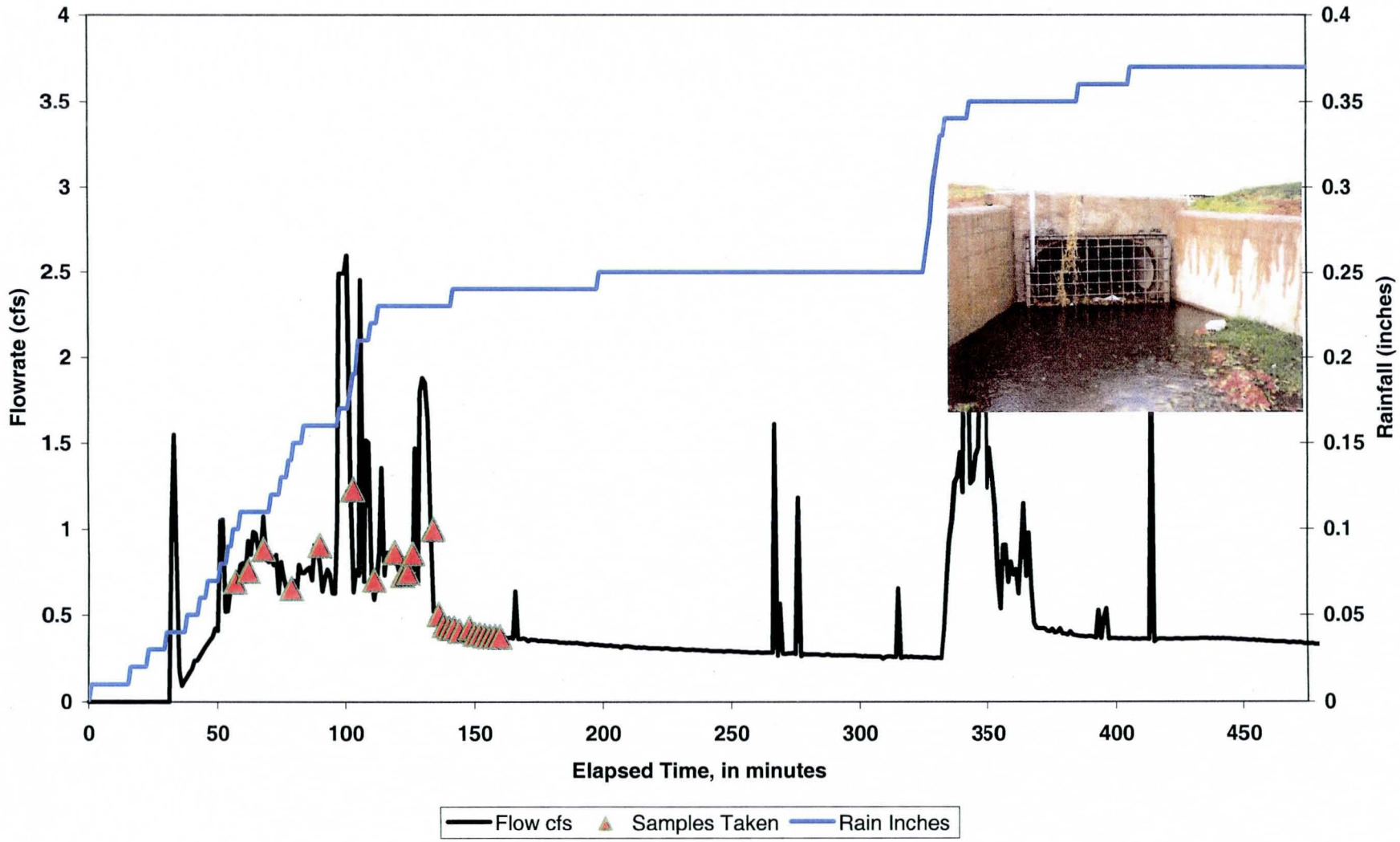
Data compiled for January 1 through March 31, 2003

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

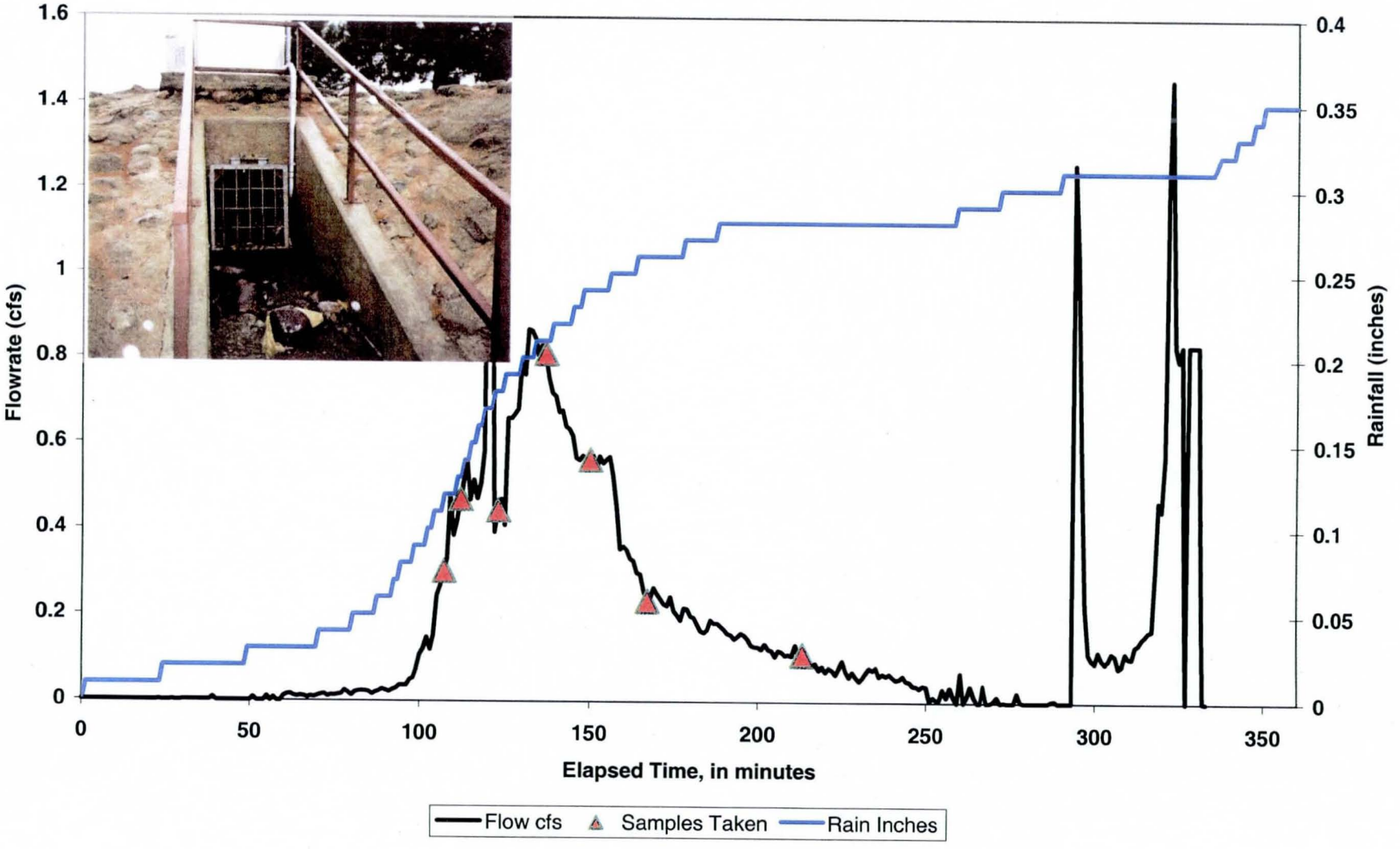
- Storm Hydrographs.
- Rainfall tables for five Scottsdale NPDES raingages.
- Rainfall data for Scottsdale ALERT raingages.
- Analytical Data Tables.
- Data Validation Tables.
- Lab Reports.
- Quality Control Data.
- Chain of Custody Forms.
- Operation and maintenance and storm event log sheets.

STORM HYDROGRAPHS

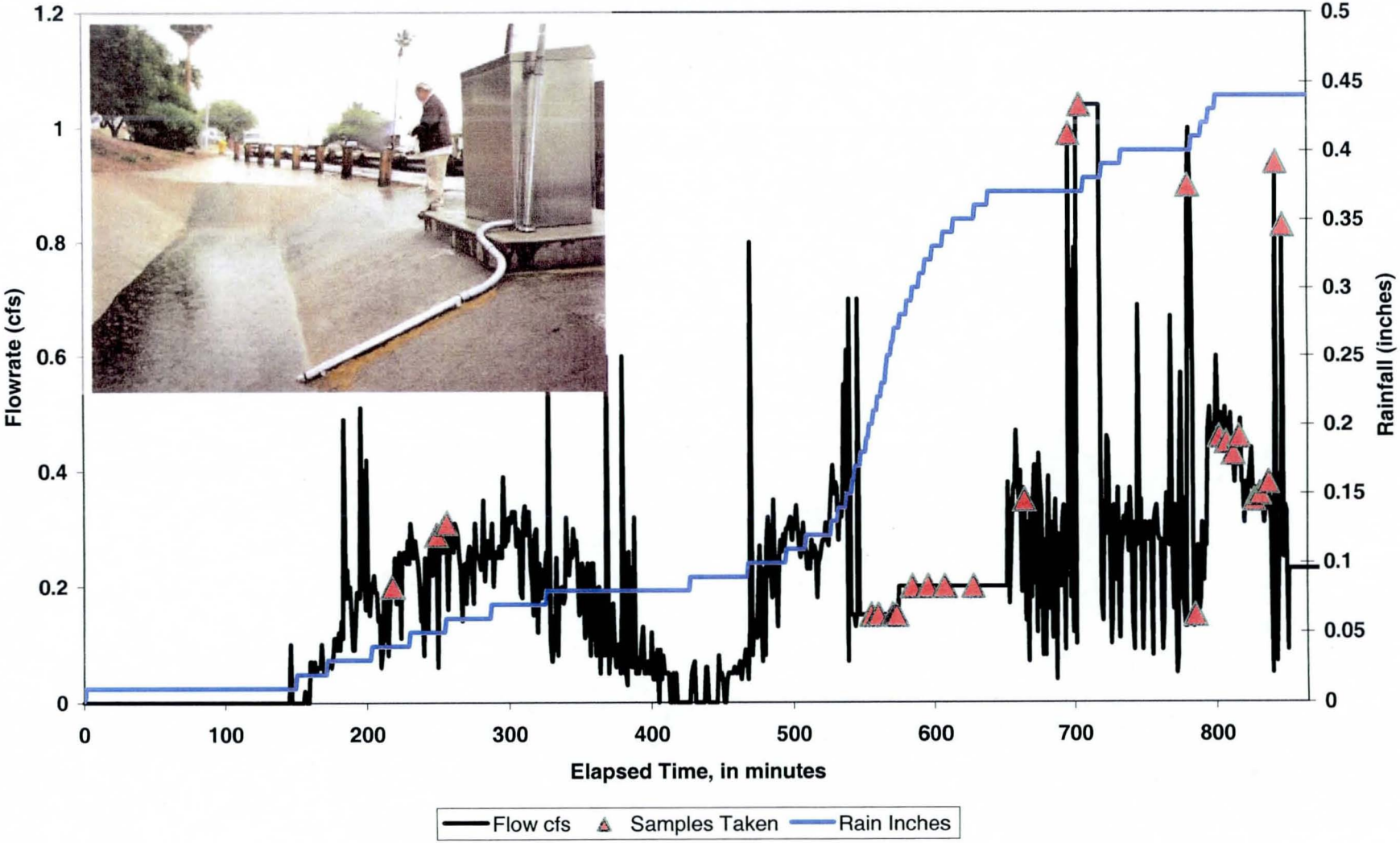
SCOTTSDALE HAYDEN
STORM EVENT OF JANUARY 8, 2003



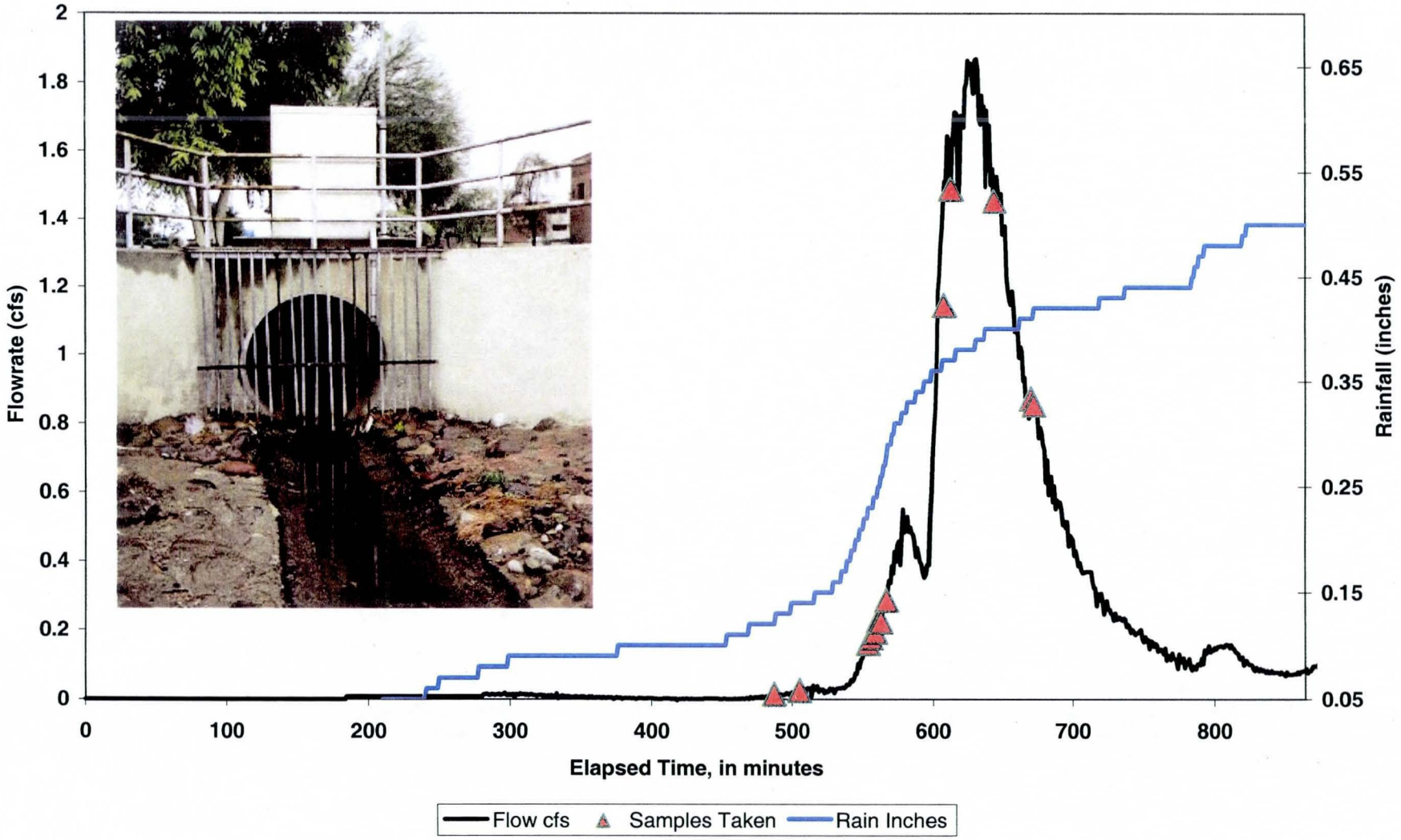
SCOTTSDALE MCKELLIPS
STORM EVENT OF FEBRUARY 13, 2003



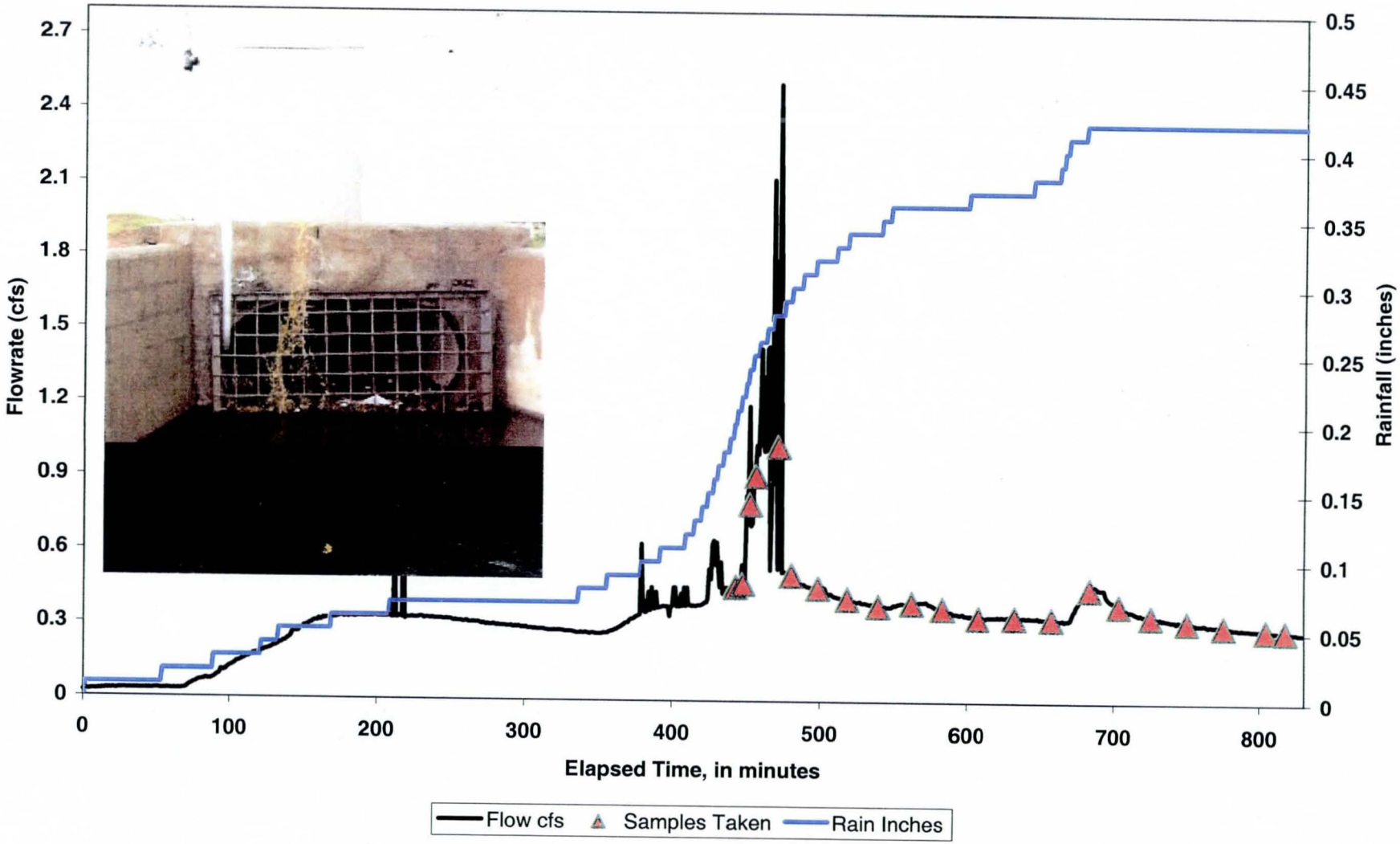
SCOTTSDALE PIERCE
STORM EVENT OF FEBRUARY 13, 2003



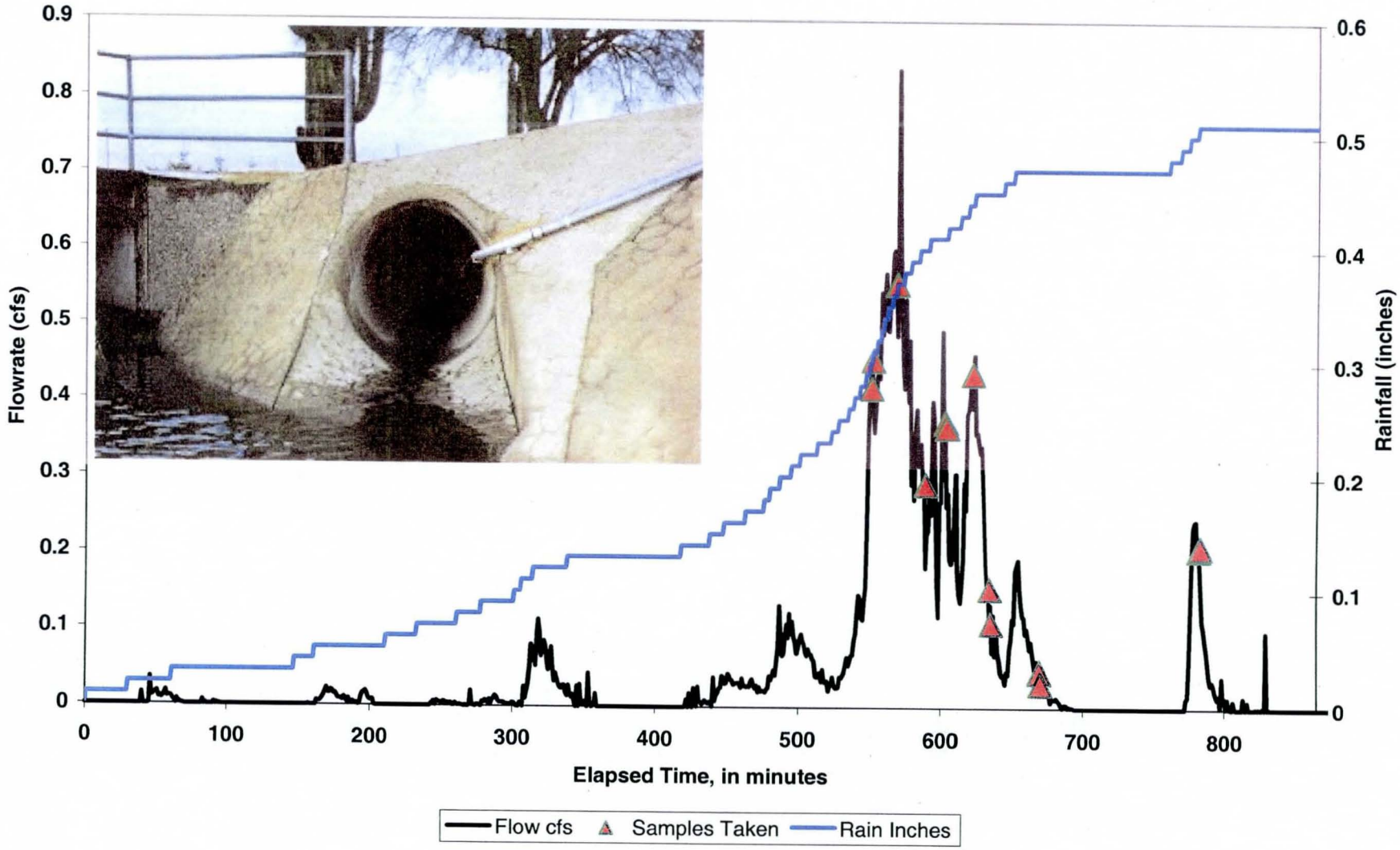
SCOTTSDALE CAMELBACK
STORM EVENT OF FEBRUARY 13, 2003



SCOTTSDALE HAYDEN
STORM EVENT OF FEBRUARY 13, 2003



SCOTTSDALE THUNDERBIRD
STORM EVENT OF FEBRUARY 13, 2003



ALERT RAINGAGES

City of Scottsdale Gaged Rainfall

Honor the Past - Imagine the Future

Stormwater Station Location: McKellips

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1			STATION SHUT DOWN									
2												
3												
4												
5												
6									0.20			
7				0.09								
8	0.38											
9												
10												
11												
12		0.06										
13		1.66										
14		0.42					0.72					
15		0.01										
16												
17										0.17		
18												
19												
20												
21												0.01
22												
23							0.76					0.30
24												
25		1.01										
26		0.04								0.26		
27										0.04		
28												
29											0.28	
30											0.07	
31												
Month Total	0.38	3.20	0.00	0.09	0.00	0.00	1.48	0.00	0.20	0.47	0.35	0.31

City of Scottsdale Gaged Rainfall

Honor the Past · Imagine the Future

Stormwater Station Location: Pierce

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1												
2												
3												
4												
5												
6									0.17			
7				0.11								
8	0.42											
9	0.01											
10												
11												
12		0.08										
13		1.33										
14		0.52					0.60					
15												
16												
17										0.13		
18												
19												
20												
21												0.01
22												0.01
23							0.80					0.30
24												
25		0.90										
26		0.13								0.24		
27										0.06		
28												
29											0.29	
30											0.08	
31												
Month Total	0.43	2.96	0.00	0.11	0.00	0.00	1.40	0.00	0.17	0.43	0.37	0.32

STATION SHUT DOWN

City of Scottsdale Gaged Rainfall

Stormwater Station Location: Camelback

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1												
2												
3												
4												
5												
6									0.55			
7				0.14								
8	0.41											
9	0.02											
10												
11												
12		0.11										
13		1.48					0.04					
14		0.43					0.58					
15		0.01										
16												
17												
18												
19												
20												0.01
21												0.01
22												0.34
23							1.18					
24												
25		0.89										
26		0.01								0.22		
27												
28												
29											0.27	
30											0.05	
31												
Month Total	0.43	2.93	0.00	0.14	0.00	0.00	1.80	0.00	0.55	0.22	0.32	0.36

STATION SHUT DOWN

City of Scottsdale Gaged Rainfall

Honor the Past · Imagine the Future

Stormwater Station Location: Hayden

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1												
2												
3												
4												
5												
6									0.05			
7				DATA LOST					0.03			
8	0.41											
9	0.03											
10												
11												
12		0.06										
13		1.66					0.05					
14		0.42					0.43					
15		0.01					0.01					
16												
17												
18												
19												
20												
21												0.01
22												0.34
23							0.85					0.01
24												
25		0.88										
26		0.03								0.22		
27												
28												
29											0.24	
30											0.04	
31												
Month Total	0.44	3.06	0.00	0.00	0.00	0.00	1.34	0.00	0.08	0.22	0.28	0.36

STATION SHUT DOWN

City of Scottsdale Gaged Rainfall

Honor the Past · Imagine the Future

Stormwater Station Location: Thunderbird

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1												
2										0.12		
3										0.02		
4												
5												
6				0.02								
7				0.22					0.34			
8	0.42											
9	0.06											
10												
11												
12		0.09										
13		1.35										
14		1.19					0.60					
15		0.03										
16												
17												
18												
19												
20												0.03
21												0.01
22												0.01
23							0.62					0.28
24												
25		0.51										
26		0.12								0.23		
27										0.01		
28												
29											0.28	
30											0.03	
31												
Month Total	0.48	3.29	0.00	0.24	0.00	0.00	1.22	0.00	0.34	0.38	0.31	0.33

STATION SHUT DOWN

NPDES RAINGAGES

City of Scottsdale Gaged Rainfall

Gage Number: 4600

Location: Indian Bend Wash at McKellips Road

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1												
2												
3												
4												
5									0.04			
6									0.12			
7				0.04					0.04			
8	0.31											
9									0.12			
10												
11												
12												
13		1.10										
14		0.51					0.71					
15												
16			0.31									
17			0.16							0.20		
18												
19												
20	0.04											
21												
22												
23							0.59					0.28
24												
25		0.91										
26		0.20								0.24		
27		0.24										
28		0.12										
29											0.24	
30											0.08	
31												
Month Total	0.35	3.08	0.47	0.04	0.00	0.00	1.30	0.00	0.32	0.44	0.32	0.28

City of Scottsdale Gaged Rainfall

Honor the Past · Imagine the Future

Gage Number	4605
Location	Osborn at 64th st.

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1												
2										0.04		
3												
4												
5			0.08									
6									0.24			
7				0.12					0.12			
8	0.31											
9	0.04								0.24			
10												
11												
12		0.08										
13		1.38					0.04					
14		0.35					0.28					
15												
16			0.28									
17			0.16							0.04		0.04
18												
19												
20	0.16											0.04
21												
22												
23							0.59			0.08		0.16
24												
25		0.75										
26		0.20								0.16		
27		0.31										
28		0.16										
29											0.31	
30												
31												
Month Total	0.51	3.23	0.52	0.12	0.00	0.00	0.91	0.00	0.60	0.32	0.31	0.24

City of Scottsdale Gaged Rainfall

Honor the Past Imagine the Future

Gage Number 4610

Location Indian Bend Wash at Indian Bend Road

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1			0.04									
2										0.04		
3												
4												
5			0.04									
6									0.20			
7				0.20					0.08			
8	0.39								0.04			
9	0.08								0.16			
10	0.04								0.04			
11												
12		0.08										
13		1.77					0.04					
14		0.51					0.55					
15		0.04										
16			0.31									
17			0.24							0.08		0.08
18												
19												
20	0.20											
21												
22												
23							0.71			0.08		0.28
24												
25		0.83										
26		0.16								0.16		
27		0.31										
28		0.12										
29											0.20	0.04
30											0.04	
31												
Month Total	0.71	3.82	0.63	0.20	0.00	0.00	1.30	0.00	0.52	0.36	0.24	0.40

City of Scottsdale Gaged Rainfall

Honor the Past · Imagine the Future

Gage Number: 4615

Location: Indian Bend Wash at Indian School

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1			0.04									
2												
3												
4												
5			0.04									
6									0.31			
7				0.12					0.12			
8	0.35											
9									0.16			
10									0.08			
11												
12		0.08										
13		1.14										
14		0.31					0.39					
15		0.04										
16			0.28									
17			0.16							0.08		0.04
18												
19												
20	0.08											
21												0.04
22												
23							1.14					0.24
24												
25		0.67										
26		0.20								0.24		
27		0.31										
28		0.12										
29											0.24	
30											0.04	
31												
Month Total	0.43	2.87	0.52	0.12	0.00	0.00	1.53	0.00	0.67	0.32	0.28	0.32

City of Scottsdale Gaged Rainfall

Honor the Past · Imagine the Future

Gage Number	4620
Location	Indian Bend Wash at Interceptor

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1			0.08									
2												
3												
4												
5			0.04									
6									0.24			
7				0.16					0.12			
8	0.39											
9	0.08								0..16			
10									0.16			
11												
12		0.08					0.79					
13		2.05					0.04					
14		0.12										
15												
16												
17			0.24							0.04		0.08
18			0.28									
19												
20	0.20											
21												
22												0.04
23							0.71			0.04		0.35
24												
25		0.87										
26		0.20								0.12		
27		0.28								0.04		
28		0.12										
29											0.24	0.04
30											0.04	
31												
Month Total	0.67	3.72	0.64	0.16	0.00	0.00	1.54	0.00	0.52	0.24	0.28	0.51

City of Scottsdale Gaged Rainfall

Gage Number: 4625

Location: Highland at 68th

	January 2003	February 2003	March 2003	April 2002	May 2002	June 2002	July 2002	August 2002	September 2002	October 2002	November 2002	December 2002
1			0.04									
2							0.12					
3												
4												
5			0.04									
6						0.24						
7						0.08						
8	0.35					0.04						
9	0.04					0.20						
10												
11												
12		0.04										
13		1.42		0.08								
14		0.39		0.20								
15												
16			0.31									
17			0.20				0.04		0.04			
18												
19												
20	0.16											
21												
22												
23				0.87			0.08		0.20			
24												
25		0.71										
26		0.12					0.12					
27		0.39					0.04					
28		0.16										
29								0.28	0.04			
30								0.04				
31												
Month Total	0.55	3.23	0.59	1.15	0.00	0.56	0.40	0.32	0.28			

ANALYTICAL DATA TABLES

Analytical Data Table

SCOTTSDALE
HAYDEN

January 8 - 10, 2003

Date of sampling	1/8/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	450
Storm Duration (minutes)	566
Instantaneous Discharge (cfs)	0.24
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.37
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.15
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	4.7
COD High Level (mg/l)	ND
Fecal Coliform (MPN/100mL)	800
Fecal Streptococci (MPN/100mL)	5000
Total Dissolved Solids (mg/l)	60
Total Suspended Solids (mg/l)	ND
Nitrogen No2 + No3, Total (mg/l as N)	0.8
Nitrogen Ammonia Total (mg/l as N)	0.42
Phosphorous Total (mg/l as P)	0.14
Phosphorous Ortho (mg/l as P)	< 0.10
Oil and Grease Total Recoverable (mg/l)	1.3
Calcium (mg/l)	9.1
Hardness (mg/l)	23
Magnesium Total Recoverable (ug/l)	1800
Cadmium Total Recoverable (ug/l as Cd)	ND
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	1.7
Chromium Dissolved (ug/l as Cr)	ND
Copper, Total Recoverable, (ug/l as Cu)	8.1
Copper, Dissolved, (ug/l as Cu)	4.4
Lead, Total Recoverable, (ug/l as Pb)	2.3
Lead, Dissolved, (ug/l as Pb)	ND
Nickel, Total Recoverable, (ug/l as Ni)	1.3
Nickel, Dissolved, (ug/l as Ni)	ND
Zinc, Total Recoverable, (ug/l as Zn)	6
Zinc, Dissolved, (ug/l as Zn)	ND
TKN Nitrogen (mg/l as N)	1.4

Analytical Data Table

SCOTTSDALE

Mckellips

February 13, 2003

Date of sampling	2/13/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	380
Storm Duration (minutes)	566
Instantaneous Discharge (cfs)	0.24
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.35
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.15
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	7.9
COD High Level (mg/l)	560
Fecal Coliform (MPN/100mL)	8000
Fecal Streptococci (MPN/100mL)	5000
Total Dissolved Solids (mg/l)	150
Total Suspended Solids (mg/l)	72
Nitrogen No2 + No3, Total (mg/l as N)	1.2
Nitrogen Ammonia Total (mg/l as N)	ND
Phosphorous Total (mg/l as P)	0.25
Phosphorous Ortho (mg/l as P)	ND
Oil and Grease Total Recoverable (mg/l)	1
Calcium (mg/l)	17
Hardness (mg/l)	63
Magnesium Total Recoverable (ug/l)	5100
Cadmium Total Recoverable (ug/l as Cd)	1.6
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	6.6
Chromium Dissolved (ug/l as Cr)	1.3
Copper, Total Recoverable, (ug/l as Cu)	11
Copper, Dissolved, (ug/l as Cu)	3.8
Lead, Total Recoverable, (ug/l as Pb)	7.9
Lead, Dissolved, (ug/l as Pb)	ND
Nickel, Total Recoverable, (ug/l as Ni)	5.3
Nickel, Dissolved, (ug/l as Ni)	ND
Zinc, Total Recoverable, (ug/l as Zn)	14000
Zinc, Dissolved, (ug/l as Zn)	50
TKN Nitrogen (mg/l as N)	1.1

Analytical Data Table

SCOTTSDALE

Pierce

February 13, 2003

Date of sampling	2/13/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	380
Storm Duration (minutes)	566
Instantaneous Discharge (cfs)	0.24
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.44
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.14
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	10
COD High Level (mg/l)	39
Fecal Coliform (MPN/100mL)	17000
Fecal Streptococci (MPN/100mL)	13000
Total Dissolved Solids (mg/l)	68
Total Suspended Solids (mg/l)	100
Nitrogen No2 + No3, Total (mg/l as N)	1.2
Nitrogen Ammonia Total (mg/l as N)	0.69
Phosphorous Total (mg/l as P)	0.92
Phosphorous Ortho (mg/l as P)	ND
Oil and Grease Total Recoverable (mg/l)	7.2
Calcium (mg/l)	8.8
Hardness (mg/l)	29
Magnesium Total Recoverable (ug/l)	1800
Cadmium Total Recoverable (ug/l as Cd)	ND
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	2.3
Chromium Dissolved (ug/l as Cr)	1.1
Copper, Total Recoverable, (ug/l as Cu)	11
Copper, Dissolved, (ug/l as Cu)	6.6
Lead, Total Recoverable, (ug/l as Pb)	20
Lead, Dissolved, (ug/l as Pb)	1.8
Nickel, Total Recoverable, (ug/l as Ni)	1.9
Nickel, Dissolved, (ug/l as Ni)	ND
Zinc, Total Recoverable, (ug/l as Zn)	560
Zinc, Dissolved, (ug/l as Zn)	50
TKN Nitrogen (mg/l as N)	1.4

Analytical Data Table

SCOTTSDALE
Camelback

February 13, 2003

Date of sampling	2/13/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	380
Storm Duration (minutes)	566
Instantaneous Discharge (cfs)	0.24
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.5
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.12
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	7.1
COD High Level (mg/l)	20
Fecal Coliform (MPN/100mL)	1100
Fecal Streptococci (MPN/100mL)	23000
Total Dissolved Solids (mg/l)	46
Total Suspended Solids (mg/l)	12
Nitrogen No2 + No3, Total (mg/l as N)	0.54
Nitrogen Ammonia Total (mg/l as N)	ND
Phosphorous Total (mg/l as P)	ND
Phosphorous Ortho (mg/l as P)	ND
Oil and Grease Total Recoverable (mg/l)	1.3
Calcium (mg/l)	5.8
Hardness (mg/l)	19
Magnesium Total Recoverable (ug/l)	1200
Cadmium Total Recoverable (ug/l as Cd)	ND
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	1.3
Chromium Dissolved (ug/l as Cr)	ND
Copper, Total Recoverable, (ug/l as Cu)	5.4
Copper, Dissolved, (ug/l as Cu)	4.1
Lead, Total Recoverable, (ug/l as Pb)	1.5
Lead, Dissolved, (ug/l as Pb)	ND
Nickel, Total Recoverable, (ug/l as Ni)	ND
Nickel, Dissolved, (ug/l as Ni)	ND
Zinc, Total Recoverable, (ug/l as Zn)	ND
Zinc, Dissolved, (ug/l as Zn)	ND
TKN Nitrogen (mg/l as N)	0.84

Analytical Data Table

SCOTTSDALE
Hayden

February 13, 2003

Date of sampling	2/13/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	588
Storm Duration (minutes)	678
Instantaneous Discharge (cfs)	0.61
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.42
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.11
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	4.1
COD High Level (mg/l)	42
Fecal Coliform (MPN/100mL)	180
Fecal Streptococci (MPN/100mL)	11000
Total Dissolved Solids (mg/l)	42
Total Suspended Solids (mg/l)	ND
Nitrogen No2 + No3, Total (mg/l as N)	0.55
Nitrogen Ammonia Total (mg/l as N)	ND
Phosphorous Total (mg/l as P)	ND
Phosphorous Ortho (mg/l as P)	ND
Oil and Grease Total Recoverable (mg/l)	ND
Calcium (mg/l)	6.8
Hardness (mg/l)	21
Magnesium Total Recoverable (ug/l)	1100
Cadmium Total Recoverable (ug/l as Cd)	ND
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	1.2
Chromium Dissolved (ug/l as Cr)	ND
Copper, Total Recoverable, (ug/l as Cu)	3.8
Copper, Dissolved, (ug/l as Cu)	2.4
Lead, Total Recoverable, (ug/l as Pb)	1.4
Lead, Dissolved, (ug/l as Pb)	ND
Nickel, Total Recoverable, (ug/l as Ni)	ND
Nickel, Dissolved, (ug/l as Ni)	ND
Zinc, Total Recoverable, (ug/l as Zn)	ND
Zinc, Dissolved, (ug/l as Zn)	ND
TKN Nitrogen (mg/l as N)	ND

Analytical Data Table

SCOTTSDALE
Thunderbird

February 13, 2003

Date of sampling	2/13/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	690
Storm Duration (minutes)	780
Instantaneous Discharge (cfs)	0.89
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.51
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.11
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	7.8
COD High Level (mg/l)	210
Fecal Coliform (MPN/100mL)	1100
Fecal Streptococci (MPN/100mL)	3000
Total Dissolved Solids (mg/l)	92
Total Suspended Solids (mg/l)	110
Nitrogen No2 + No3, Total (mg/l as N)	0.82
Nitrogen Ammonia Total (mg/l as N)	0.67
Phosphorous Total (mg/l as P)	0.24
Phosphorous Ortho (mg/l as P)	ND
Oil and Grease Total Recoverable (mg/l)	1.7
Calcium (mg/l)	13
Hardness (mg/l)	43
Magnesium Total Recoverable (ug/l)	2400
Cadmium Total Recoverable (ug/l as Cd)	ND
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	4.3
Chromium Dissolved (ug/l as Cr)	2.2
Copper, Total Recoverable, (ug/l as Cu)	17
Copper, Dissolved, (ug/l as Cu)	9.1
Lead, Total Recoverable, (ug/l as Pb)	5.8
Lead, Dissolved, (ug/l as Pb)	ND
Nickel, Total Recoverable, (ug/l as Ni)	3.9
Nickel, Dissolved, (ug/l as Ni)	2
Zinc, Total Recoverable, (ug/l as Zn)	66
Zinc, Dissolved, (ug/l as Zn)	50
TKN Nitrogen (mg/l as N)	1.4

Analytical Data Table

SCOTTSDALE
HAYDEN

January 8 - 10, 2003

Date of sampling	1/8/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	450
Storm Duration (minutes)	566
Instantaneous Discharge (cfs)	0.24
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.37
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.15
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	4.7
COD High Level (mg/l)	ND
Fecal Coliform (MPN/100mL)	800
Fecal Streptococci (MPN/100mL)	5000
Total Dissolved Solids (mg/l)	60
Total Suspended Solids (mg/l)	ND
Nitrogen No2 + No3, Total (mg/l as N)	0.8
Nitrogen Ammonia Total (mg/l as N)	0.42
Phosphorous Total (mg/l as P)	0.14
Phosphorous Ortho (mg/l as P)	< 0.10
Oil and Grease Total Recoverable (mg/l)	1.3
Calcium (mg/l)	9.1
Hardness (mg/l)	23
Magnesium Total Recoverable (ug/l)	1800
Cadmium Total Recoverable (ug/l as Cd)	ND
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	1.7
Chromium Dissolved (ug/l as Cr)	ND
Copper, Total Recoverable, (ug/l as Cu)	8.1
Copper, Dissolved, (ug/l as Cu)	4.4
Lead, Total Recoverable, (ug/l as Pb)	2.3
Lead, Dissolved, (ug/l as Pb)	ND
Nickel, Total Recoverable, (ug/l as Ni)	1.3
Nickel, Dissolved, (ug/l as Ni)	ND
Zinc, Total Recoverable, (ug/l as Zn)	6
Zinc, Dissolved, (ug/l as Zn)	ND
TKN Nitrogen (mg/l as N)	1.4

Analytical Data Table

SCOTTSDALE
Mckellips

February 13, 2003

Date of sampling	2/13/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	380
Storm Duration (minutes)	566
Instantaneous Discharge (cfs)	0.24
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.35
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.15
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	7.9
COD High Level (mg/l)	560
Fecal Coliform (MPN/100mL)	8000
Fecal Streptococci (MPN/100mL)	5000
Total Dissolved Solids (mg/l)	150
Total Suspended Solids (mg/l)	72
Nitrogen No2 + No3, Total (mg/l as N)	1.2
Nitrogen Ammonia Total (mg/l as N)	ND
Phosphorous Total (mg/l as P)	0.25
Phosphorous Ortho (mg/l as P)	ND
Oil and Grease Total Recoverable (mg/l)	1
Calcium (mg/l)	17
Hardness (mg/l)	63
Magnesium Total Recoverable (ug/l)	5100
Cadmium Total Recoverable (ug/l as Cd)	1.6
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	6.6
Chromium Dissolved (ug/l as Cr)	1.3
Copper, Total Recoverable, (ug/l as Cu)	11
Copper, Dissolved, (ug/l as Cu)	3.8
Lead, Total Recoverable, (ug/l as Pb)	7.9
Lead, Dissolved, (ug/l as Pb)	ND
Nickel, Total Recoverable, (ug/l as Ni)	5.3
Nickel, Dissolved, (ug/l as Ni)	ND
Zinc, Total Recoverable, (ug/l as Zn)	14000
Zinc, Dissolved, (ug/l as Zn)	50
TKN Nitrogen (mg/l as N)	1.1

Analytical Data Table

SCOTTSDALE

Pierce

February 13, 2003

Date of sampling	2/13/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	380
Storm Duration (minutes)	566
Instantaneous Discharge (cfs)	0.24
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.44
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.14
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	10
COD High Level (mg/l)	39
Fecal Coliform (MPN/100mL)	17000
Fecal Streptococci (MPN/100mL)	13000
Total Dissolved Solids (mg/l)	68
Total Suspended Solids (mg/l)	100
Nitrogen No2 + No3, Total (mg/l as N)	1.2
Nitrogen Ammonia Total (mg/l as N)	0.69
Phosphorous Total (mg/l as P)	0.92
Phosphorous Ortho (mg/l as P)	ND
Oil and Grease Total Recoverable (mg/l)	7.2
Calcium (mg/l)	8.8
Hardness (mg/l)	29
Magnesium Total Recoverable (ug/l)	1800
Cadmium Total Recoverable (ug/l as Cd)	ND
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	2.3
Chromium Dissolved (ug/l as Cr)	1.1
Copper, Total Recoverable, (ug/l as Cu)	11
Copper, Dissolved, (ug/l as Cu)	6.6
Lead, Total Recoverable, (ug/l as Pb)	20
Lead, Dissolved, (ug/l as Pb)	1.8
Nickel, Total Recoverable, (ug/l as Ni)	1.9
Nickel, Dissolved, (ug/l as Ni)	ND
Zinc, Total Recoverable, (ug/l as Zn)	560
Zinc, Dissolved, (ug/l as Zn)	50
TKN Nitrogen (mg/l as N)	1.4

Analytical Data Table

SCOTTSDALE

Camelback

February 13, 2003

Date of sampling	2/13/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	380
Storm Duration (minutes)	566
Instantaneous Discharge (cfs)	0.24
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.5
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.12
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	7.1
COD High Level (mg/l)	20
Fecal Coliform (MPN/100mL)	1100
Fecal Streptococci (MPN/100mL)	23000
Total Dissolved Solids (mg/l)	46
Total Suspended Solids (mg/l)	12
Nitrogen No2 + No3, Total (mg/l as N)	0.54
Nitrogen Ammonia Total (mg/l as N)	ND
Phosphorous Total (mg/l as P)	ND
Phosphorous Ortho (mg/l as P)	ND
Oil and Grease Total Recoverable (mg/l)	1.3
Calcium (mg/l)	5.8
Hardness (mg/l)	19
Magnesium Total Recoverable (ug/l)	1200
Cadmium Total Recoverable (ug/l as Cd)	ND
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	1.3
Chromium Dissolved (ug/l as Cr)	ND
Copper, Total Recoverable, (ug/l as Cu)	5.4
Copper, Dissolved, (ug/l as Cu)	4.1
Lead, Total Recoverable, (ug/l as Pb)	1.5
Lead, Dissolved, (ug/l as Pb)	ND
Nickel, Total Recoverable, (ug/l as Ni)	ND
Nickel, Dissolved, (ug/l as Ni)	ND
Zinc, Total Recoverable, (ug/l as Zn)	ND
Zinc, Dissolved, (ug/l as Zn)	ND
TKN Nitrogen (mg/l as N)	0.84

Analytical Data Table

SCOTTSDALE
Hayden

February 13, 2003

Date of sampling	2/13/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	588
Storm Duration (minutes)	678
Instantaneous Discharge (cfs)	0.61
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.42
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.11
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	4.1
COD High Level (mg/l)	42
Fecal Coliform (MPN/100mL)	180
Fecal Streptococci (MPN/100mL)	11000
Total Dissolved Solids (mg/l)	42
Total Suspended Solids (mg/l)	ND
Nitrogen No2 + No3, Total (mg/l as N)	0.55
Nitrogen Ammonia Total (mg/l as N)	ND
Phosphorous Total (mg/l as P)	ND
Phosphorous Ortho (mg/l as P)	ND
Oil and Grease Total Recoverable (mg/l)	ND
Calcium (mg/l)	6.8
Hardness (mg/l)	21
Magnesium Total Recoverable (ug/l)	1100
Cadmium Total Recoverable (ug/l as Cd)	ND
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	1.2
Chromium Dissolved (ug/l as Cr)	ND
Copper, Total Recoverable, (ug/l as Cu)	3.8
Copper, Dissolved, (ug/l as Cu)	2.4
Lead, Total Recoverable, (ug/l as Pb)	1.4
Lead, Dissolved, (ug/l as Pb)	ND
Nickel, Total Recoverable, (ug/l as Ni)	ND
Nickel, Dissolved, (ug/l as Ni)	ND
Zinc, Total Recoverable, (ug/l as Zn)	ND
Zinc, Dissolved, (ug/l as Zn)	ND
TKN Nitrogen (mg/l as N)	ND

Analytical Data Table

SCOTTSDALE

Thunderbird

February 13, 2003

Date of sampling	2/13/2003
Representative Storm Event	YES
Agency Collecting sample	FCD
Agency Analyzing Sample	DEL MAR
Composite Sampling Duration (minutes) (DRN)	690
Storm Duration (minutes)	780
Instantaneous Discharge (cfs)	0.89
Preceeding Dry Period within 72 hr. rule	16
Total Storm Rainfall (inch)	0.51
Maximum 5-minute rain intensitiy (in/hr)(max5)	0.11
Sample Temperature (deg. C)	4
Effluent Temperature (deg. C)	10
pH, Effluent (standard units)	6
BOD5 (mg/l)	7.8
COD High Level (mg/l)	210
Fecal Coliform (MPN/100mL)	1100
Fecal Streptococci (MPN/100mL)	3000
Total Dissolved Solids (mg/l)	92
Total Suspended Solids (mg/l)	110
Nitrogen No2 + No3, Total (mg/l as N)	0.82
Nitrogen Ammonia Total (mg/l as N)	0.67
Phosphorous Total (mg/l as P)	0.24
Phosphorous Ortho (mg/l as P)	ND
Oil and Grease Total Recoverable (mg/l)	1.7
Calcium (mg/l)	13
Hardness (mg/l)	43
Magnesium Total Recoverable (ug/l)	2400
Cadmium Total Recoverable (ug/l as Cd)	ND
Cadmium Dissolved (ug/l as Cd)	ND
Chromium Total Recoverable (ug/l as Cr)	4.3
Chromium Dissolved (ug/l as Cr)	2.2
Copper, Total Recoverable, (ug/l as Cu)	17
Copper, Dissolved, (ug/l as Cu)	9.1
Lead, Total Recoverable, (ug/l as Pb)	5.8
Lead, Dissolved, (ug/l as Pb)	ND
Nickel, Total Recoverable, (ug/l as Ni)	3.9
Nickel, Dissolved, (ug/l as Ni)	2
Zinc, Total Recoverable, (ug/l as Zn)	66
Zinc, Dissolved, (ug/l as Zn)	50
TKN Nitrogen (mg/l as N)	1.4

DATA VALIDATION TABLES

Data Validation Sheet

SCOTTSDALE
Hayden

January 8 - 10, 2003

	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)	FIELD	4	C				LAB							
Effluent Temperature (deg. C)	FIELD	10	C				Immediate							
pH, Effluent (standard units)	FIELD	6					Immediate							
BOD5 (mg/l)	405.1	4.7	mg/l	2		1/14/2003	48 hours			<30	n/a			
COD High Level (mg/l)	410.4	ND	mg/l	20		1/14/2003	28 days			<30	n/a			
Fecal Coliform (MPN/100mL)	9221E	800	MPN/100ml	2		1/11/2003	6 hours			<30	n/a			
Fecal Streptococci (MPN/100mL)	9230B	5000	MPN/100ml	2		1/11/2003	6 hours			<30	n/a			
Total Dissolved Solids (mg/l)	2540C	60	mg/l	20		1/10/2003	7 days			<15	n/a			
Total Suspended Solids (mg/l)	160.2	ND	mg/l	10		1/9/2003	7 days			<15	n/a			
Nitrogen No2 + No3, Total (mg/l as N)	353.2	0.8	mg/l	0.1		1/20/2003				<15	n/a			
Nitrogen Ammonia Total (mg/l as N)	350.2	0.42	mg/l	0.1		1/15/2003	28 days							
Phosphorous Total (mg/l as P)	365.3	0.14	mg/l	0.05		1/17/2003	28 days			<15	3.5			
Phosphorous Ortho (mg/l as P)	365.3	< 0.10	mg/l	0.05		1/9/2003	48 hours			<15	0			
Oil and Grease Total Recoverable (mg/l)	413.2	1.3	mg/l	0.2		1/14/2003	7/40	<30	n/a	<50	n/a			
Calcium (mg/l)	200.7	9.1	mg/l	2		1/13/2003	6 months							
Hardness (mg/l)	2340B	23	mg/l	1		1/13/2003	6 months			<15	n/a			
Magnesium Total Recoverable (ug/l)	200.7	1800	ug/l	500		1/13/2003	6 months							
Cadmium Total Recoverable (ug/l as Cd)	200.9	ND	ug/l	10		1/23/2003	6 months	<25		<35				
Cadmium Dissolved (ug/l as Cd)	200.9	ND	ug/l	0.5		1/23/2003	6 months							
Chromium Total Recoverable (ug/l as Cr)	200.9	1.7	ug/l	4		1/23/2003	6 months	<25		<35				
Chromium Dissolved (ug/l as Cr)	200.9	ND	ug/l	4		1/23/2003	6 months							
Copper, Total Recoverable, (ug/l as Cu)	200.9	8.1	ug/l	4		1/23/2003	6 months	<25		<35				
Copper, Dissolved, (ug/l as Cu)	200.9	4.4	ug/l	4		1/23/2003	6 months							
Lead, Total Recoverable, (ug/l as Pb)	3113B	2.3	ug/l	2		1/23/2003	6 months	<25		<35				
Lead, Dissolved, (ug/l as Pb)	200.9	ND	ug/l	2		1/23/2003	6 months							
Nickel, Total Recoverable, (ug/l as Ni)	200.9	1.3	ug/l	4		1/23/2003	6 months	<25		<35				
Nickel, Dissolved, (ug/l as Ni)	200.9	ND	ug/l	4		1/23/2003	6 months							
Zinc, Total Recoverable, (ug/l as Zn)	200.7	6	ug/l	1		1/23/2003	6 months	<25		<35				
Zinc, Dissolved, (ug/l as Zn)	200.7	ND	ug/l	50		1/23/2003	6 months							
TKN Nitrogen (mg/l as N)	351.2	1.4	mg/l	0.5		1/13/2003	28 days							

Data Validation Sheet

SCOTTSDALE
McKELLIPS

February 13, 2003

	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)	FIELD	4	C											
Effluent Temperature (deg. C)	FIELD	10	C				Immediate							
pH, Effluent (standard units)	FIELD	6					Immediate							
BOD5 (mg/l)	405.1	7.9	mg/l	2		2/14/2003	48 hours			<30	n/a			
COD High Level (mg/l)	410.4	560	mg/l	20		2/14/2003	28 days			<30	n/a			
Fecal Coliform (MPN/100mL)	9221E	8000	MPN/100ml	2		2/15/2003	6 hours			<30	n/a			
Fecal Streptococci (MPN/100mL)	9230B	5000	MPN/100ml	2		2/16/2003	6 hours			<30	n/a			
Total Dissolved Solids (mg/l)	2540C	150	mg/l	20		2/13/2003	7 days			<15	n/a			
Total Suspended Solids (mg/l)	160.2	72	mg/l	10		2/14/2003	7 days			<15	n/a			
Nitrogen No2 + No3, Total (mg/l as N)	353.2	1.2	mg/l	0.1		2/26/2003				<15	n/a			
Nitrogen Ammonia Total (mg/l as N)	350.2	ND	mg/l	0.1		2/19/2003	28 days							
Phosphorous Total (mg/l as P)	365.3	0.25	mg/l	0.05		2/19/2003	28 days			<15	3.5			
Phosphorous Ortho (mg/l as P)	365.3	ND	mg/l	0.05		2/13/2003	48 hours			<15	0			
Oil and Grease Total Recoverable (mg/l)	413.2	1	mg/l	0.2		2/26/2003	7/40	<30	n/a	<50	n/a			
Calcium (mg/l)	200.7	17	mg/l	2		2/19/2003	6 months							
Hardness (mg/l)	2340B	63	mg/l	1		2/19/2003	6 months			<15	n/a			
Magnesium Total Recoverable (ug/l)	200.7	5100	ug/l	500		2/19/2003	6 months							
Cadmium Total Recoverable (ug/l as Cd)	200.9	1.6	ug/l	10		2/21/2003	6 months	<25		<35				
Cadmium Dissolved (ug/l as Cd)	200.9	ND	ug/l	0.5		2/21/2003	6 months							
Chromium Total Recoverable (ug/l as Cr)	200.9	6.6	ug/l	4		2/21/2003	6 months	<25		<35				
Chromium Dissolved (ug/l as Cr)	200.9	1.3	ug/l	4		2/21/2003	6 months							
Copper, Total Recoverable, (ug/l as Cu)	200.9	11	ug/l	4		2/21/2003	6 months	<25		<35				
Copper, Dissolved, (ug/l as Cu)	200.9	3.8	ug/l	4		2/21/2003	6 months							
Lead, Total Recoverable, (ug/l as Pb)	3113B	7.9	ug/l	2		2/21/2003	6 months	<25		<35				
Lead, Dissolved, (ug/l as Pb)	200.9	ND	ug/l	2		2/21/2003	6 months							
Nickel, Total Recoverable, (ug/l as Ni)	200.9	5.3	ug/l	4		2/21/2003	6 months	<25		<35				
Nickel, Dissolved, (ug/l as Ni)	200.9	ND	ug/l	4		2/21/2003	6 months							
Zinc, Total Recoverable, (ug/l as Zn)	200.7	14000	ug/l	1		2/21/2003	6 months	<25		<35				
Zinc, Dissolved, (ug/l as Zn)	200.7	50	ug/l	50		2/20/2003	6 months							
TKN Nitrogen (mg/l as N)	351.2	1.1	mg/l	0.5		2/24/2003	28 days							

Data Validation Sheet

SCOTTSDALE
Pierce

February 13, 2003

	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)	FIELD	4	C				LAB							
Effluent Temperature (deg. C)	FIELD	10	C				Immediate							
pH, Effluent (standard units)	FIELD	6					Immediate							
BOD5 (mg/l)	405.1	10	mg/l	2		2/14/2003	48 hours			<30	n/a			
COD High Level (mg/l)	410.4	39	mg/l	20		2/14/2003	28 days			<30	n/a			
Fecal Coliform (MPN/100mL)	9221E	17000	MPN/100ml	2		2/15/2003	6 hours			<30	n/a			
Fecal Streptococci (MPN/100mL)	9230B	13000	MPN/100ml	2		2/16/2003	6 hours			<30	n/a			
Total Dissolved Solids (mg/l)	2540C	68	mg/l	20		2/13/2003	7 days			<15	n/a			
Total Suspended Solids (mg/l)	160.2	100	mg/l	10		2/14/2003	7 days			<15	n/a			
Nitrogen No2 + No3, Total (mg/l as N)	353.2	1.2	mg/l	0.1		2/26/2003				<15	n/a			
Nitrogen Ammonia Total (mg/l as N)	350.2	0.69	mg/l	0.1		2/19/2003	28 days							
Phosphorous Total (mg/l as P)	365.3	0.92	mg/l	0.05		2/19/2003	28 days			<15	3.5			
Phosphorous Ortho (mg/l as P)	365.3	ND	mg/l	0.05		2/13/2003	48 hours			<15	0			
Oil and Grease Total Recoverable (mg/l)	413.2	7.2	mg/l	0.2		2/26/2003	7/40	<30	n/a	<50	n/a			
Calcium (mg/l)	200.7	8.8	mg/l	2		2/19/2003	6 months							
Hardness (mg/l)	2340B	29	mg/l	1		2/19/2003	6 months			<15	n/a			
Magnesium Total Recoverable (ug/l)	200.7	1800	ug/l	500		2/19/2003	6 months							
Cadmium Total Recoverable (ug/l as Cd)	200.9	ND	ug/l	10		2/21/2003	6 months	<25		<35				
Cadmium Dissolved (ug/l as Cd)	200.9	ND	ug/l	0.5		2/21/2003	6 months							
Chromium Total Recoverable (ug/l as Cr)	200.9	2.3	ug/l	4		2/21/2003	6 months	<25		<35				
Chromium Dissolved (ug/l as Cr)	200.9	1.1	ug/l	4		2/21/2003	6 months							
Copper, Total Recoverable, (ug/l as Cu)	200.9	11	ug/l	4		2/21/2003	6 months	<25		<35				
Copper, Dissolved, (ug/l as Cu)	200.9	6.6	ug/l	4		2/21/2003	6 months							
Lead, Total Recoverable, (ug/l as Pb)	3113B	20	ug/l	2		2/21/2003	6 months	<25		<35				
Lead, Dissolved, (ug/l as Pb)	200.9	1.8	ug/l	2		2/21/2003	6 months							
Nickel, Total Recoverable, (ug/l as Ni)	200.9	1.9	ug/l	4		2/21/2003	6 months	<25		<35				
Nickel, Dissolved, (ug/l as Ni)	200.9	ND	ug/l	4		2/21/2003	6 months							
Zinc, Total Recoverable, (ug/l as Zn)	200.7	560	ug/l	1		2/21/2003	6 months	<25		<35				
Zinc, Dissolved, (ug/l as Zn)	200.7	50	ug/l	50		2/20/2003	6 months							
TKN Nitrogen (mg/l as N)	351.2	1.4	mg/l	0.5		2/24/2003	28 days							

Data Validation Sheet

SCOTTSDALE
Camelback

February 13, 2003

	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)	FIELD	4	C				LAB							
Effluent Temperature (deg. C)	FIELD	10	C				Immediate							
pH, Effluent (standard units)	FIELD	6					Immediate							
BOD5 (mg/l)	405.1	7.1	mg/l	2		2/14/2003	48 hours			<30	n/a			
COD High Level (mg/l)	410.4	20	mg/l	20		2/14/2003	28 days			<30	n/a			
Fecal Coliform (MPN/100mL)	9221E	1100	MPN/100ml	2		2/15/2003	6 hours			<30	n/a			
Fecal Streptococci (MPN/100mL)	9230B	23000	MPN/100ml	2		2/16/2003	6 hours			<30	n/a			
Total Dissolved Solids (mg/l)	2540C	46	mg/l	20		2/13/2003	7 days			<15	n/a			
Total Suspended Solids (mg/l)	160.2	12	mg/l	10		2/14/2003	7 days			<15	n/a			
Nitrogen No2 + No3, Total (mg/l as N)	353.2	0.54	mg/l	0.1		2/26/2003				<15	n/a			
Nitrogen Ammonia Total (mg/l as N)	350.2	ND	mg/l	0.1		2/19/2003	28 days							
Phosphorous Total (mg/l as P)	365.3	ND	mg/l	0.05		2/19/2003	28 days			<15	3.5			
Phosphorous Ortho (mg/l as P)	365.3	ND	mg/l	0.05		2/13/2003	48 hours			<15	0			
Oil and Grease Total Recoverable (mg/l)	413.2	1.3	mg/l	0.2		2/26/2003	7/40	<30	n/a	<50	n/a			
Calcium (mg/l)	200.7	5.8	mg/l	2		2/19/2003	6 months							
Hardness (mg/l)	2340B	19	mg/l	1		2/19/2003	6 months			<15	n/a			
Magnesium Total Recoverable (ug/l)	200.7	1200	ug/l	500		2/19/2003	6 months							
Cadmium Total Recoverable (ug/l as Cd)	200.9	ND	ug/l	10		2/21/2003	6 months	<25		<35				
Cadmium Dissolved (ug/l as Cd)	200.9	ND	ug/l	0.5		2/21/2003	6 months							
Chromium Total Recoverable (ug/l as Cr)	200.9	1.3	ug/l	4		2/21/2003	6 months	<25		<35				
Chromium Dissolved (ug/l as Cr)	200.9	ND	ug/l	4		2/21/2003	6 months							
Copper, Total Recoverable, (ug/l as Cu)	200.9	5.4	ug/l	4		2/21/2003	6 months	<25		<35				
Copper, Dissolved, (ug/l as Cu)	200.9	4.1	ug/l	4		2/21/2003	6 months							
Lead, Total Recoverable, (ug/l as Pb)	3113B	1.5	ug/l	2		2/21/2003	6 months	<25		<35				
Lead, Dissolved, (ug/l as Pb)	200.9	ND	ug/l	2		2/21/2003	6 months							
Nickel, Total Recoverable, (ug/l as Ni)	200.9	ND	ug/l	4		2/21/2003	6 months	<25		<35				
Nickel, Dissolved, (ug/l as Ni)	200.9	ND	ug/l	4		2/21/2003	6 months							
Zinc, Total Recoverable, (ug/l as Zn)	200.7	ND	ug/l	1		2/21/2003	6 months	<25		<35				
Zinc, Dissolved, (ug/l as Zn)	200.7	ND	ug/l	50		2/20/2003	6 months							
TKN Nitrogen (mg/l as N)	351.2	0.84	mg/l	0.5		2/24/2003	28 days							

Data Validation Sheet

SCOTTSDALE
Hayden

February 13, 2003

	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)	FIELD	4	C				LAB							
Effluent Temperature (deg. C)	FIELD	10	C				Immediate							
pH, Effluent (standard units)	FIELD	6					Immediate							
BOD5 (mg/l)	405.1	4.1	mg/l	2		2/14/2003	48 hours			<30	n/a			
COD High Level (mg/l)	410.4	42	mg/l	20		2/14/2003	28 days			<30	n/a			
Fecal Coliform (MPN/100mL)	9221E	180	MPN/100ml	2		2/15/2003	6 hours			<30	n/a			
Fecal Streptococci (MPN/100mL)	9230B	11000	MPN/100ml	2		2/16/2003	6 hours			<30	n/a			
Total Dissolved Solids (mg/l)	2540C	42	mg/l	20		2/13/2003	7 days			<15	n/a			
Total Suspended Solids (mg/l)	160.2	ND	mg/l	10		2/14/2003	7 days			<15	n/a			
Nitrogen No2 + No3, Total (mg/l as N)	353.2	0.55	mg/l	0.1		2/26/2003				<15	n/a			
Nitrogen Ammonia Total (mg/l as N)	350.2	ND	mg/l	0.1		2/19/2003	28 days							
Phosphorous Total (mg/l as P)	365.3	ND	mg/l	0.05		2/19/2003	28 days			<15	3.5			
Phosphorous Ortho (mg/l as P)	365.3	ND	mg/l	0.05		2/13/2003	48 hours			<15	0			
Oil and Grease Total Recoverable (mg/l)	413.2	ND	mg/l	0.2		2/26/2003	7/40	<30	n/a	<50	n/a			
Calcium (mg/l)	200.7	6.8	mg/l	2		2/19/2003	6 months							
Hardness (mg/l)	2340B	21	mg/l	1		2/19/2003	6 months			<15	n/a			
Magnesium Total Recoverable (ug/l)	200.7	1100	ug/l	500		2/19/2003	6 months							
Cadmium Total Recoverable (ug/l as Cd)	200.9	ND	ug/l	10		2/21/2003	6 months	<25		<35				
Cadmium Dissolved (ug/l as Cd)	200.9	ND	ug/l	0.5		2/21/2003	6 months							
Chromium Total Recoverable (ug/l as Cr)	200.9	1.2	ug/l	4		2/21/2003	6 months	<25		<35				
Chromium Dissolved (ug/l as Cr)	200.9	ND	ug/l	4		2/21/2003	6 months							
Copper, Total Recoverable, (ug/l as Cu)	200.9	3.8	ug/l	4		2/21/2003	6 months	<25		<35				
Copper, Dissolved, (ug/l as Cu)	200.9	2.4	ug/l	4		2/21/2003	6 months							
Lead, Total Recoverable, (ug/l as Pb)	3113B	1.4	ug/l	2		2/21/2003	6 months	<25		<35				
Lead, Dissolved, (ug/l as Pb)	200.9	ND	ug/l	2		2/21/2003	6 months							
Nickel, Total Recoverable, (ug/l as Ni)	200.9	ND	ug/l	4		2/21/2003	6 months	<25		<35				
Nickel, Dissolved, (ug/l as Ni)	200.9	ND	ug/l	4		2/21/2003	6 months							
Zinc, Total Recoverable, (ug/l as Zn)	200.7	ND	ug/l	1		2/21/2003	6 months	<25		<35				
Zinc, Dissolved, (ug/l as Zn)	200.7	ND	ug/l	50		2/20/2003	6 months							
TKN Nitrogen (mg/l as N)	351.2	ND	mg/l	0.5		2/24/2003	28 days							

Data Validation Sheet

SCOTTSDALE
Thunderbird

February 13, 2003

	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)	FIELD	4	C				LAB							
Effluent Temperature (deg. C)	FIELD	10	C				Immediate							
pH, Effluent (standard units)	FIELD	6					Immediate							
BOD5 (mg/l)	405.1	7.8	mg/l	2		2/14/2003	48 hours			<30	n/a			
COD High Level (mg/l)	410.4	210	mg/l	20		2/14/2003	28 days			<30	n/a			
Fecal Coliform (MPN/100mL)	9221E	1100	MPN/100ml	2		2/15/2003	6 hours			<30	n/a			
Fecal Streptococci (MPN/100mL)	9230B	3000	MPN/100ml	2		2/16/2003	6 hours			<30	n/a			
Total Dissolved Solids (mg/l)	2540C	92	mg/l	20		2/13/2003	7 days			<15	n/a			
Total Suspended Solids (mg/l)	160.2	110	mg/l	10		2/14/2003	7 days			<15	n/a			
Nitrogen No2 + No3, Total (mg/l as N)	353.2	0.82	mg/l	0.1		2/26/2003				<15	n/a			
Nitrogen Ammonia Total (mg/l as N)	350.2	0.67	mg/l	0.1		2/19/2003	28 days							
Phosphorous Total (mg/l as P)	365.3	0.24	mg/l	0.05		2/19/2003	28 days			<15	3.5			
Phosphorous Ortho (mg/l as P)	365.3	ND	mg/l	0.05		2/13/2003	48 hours			<15	0			
Oil and Grease Total Recoverable (mg/l)	413.2	1.7	mg/l	0.2		2/26/2003	7/40	<30	n/a	<50	n/a			
Calcium (mg/l)	200.7	13	mg/l	2		2/19/2003	6 months							
Hardness (mg/l)	2340B	43	mg/l	1		2/19/2003	6 months			<15	n/a			
Magnesium Total Recoverable (ug/l)	200.7	2400	ug/l	500		2/19/2003	6 months							
Cadmium Total Recoverable (ug/l as Cd)	200.9	ND	ug/l	10		2/21/2003	6 months	<25		<35				
Cadmium Dissolved (ug/l as Cd)	200.9	ND	ug/l	0.5		2/21/2003	6 months							
Chromium Total Recoverable (ug/l as Cr)	200.9	4.3	ug/l	4		2/21/2003	6 months	<25		<35				
Chromium Dissolved (ug/l as Cr)	200.9	2.2	ug/l	4		2/21/2003	6 months							
Copper, Total Recoverable, (ug/l as Cu)	200.9	17	ug/l	4		2/21/2003	6 months	<25		<35				
Copper, Dissolved, (ug/l as Cu)	200.9	9.1	ug/l	4		2/21/2003	6 months							
Lead, Total Recoverable, (ug/l as Pb)	3113B	5.8	ug/l	2		2/21/2003	6 months	<25		<35				
Lead, Dissolved, (ug/l as Pb)	200.9	ND	ug/l	2		2/21/2003	6 months							
Nickel, Total Recoverable, (ug/l as Ni)	200.9	3.9	ug/l	4		2/21/2003	6 months	<25		<35				
Nickel, Dissolved, (ug/l as Ni)	200.9	2	ug/l	4		2/21/2003	6 months							
Zinc, Total Recoverable, (ug/l as Zn)	200.7	66	ug/l	1		2/21/2003	6 months	<25		<35				
Zinc, Dissolved, (ug/l as Zn)	200.7	50	ug/l	50		2/20/2003	6 months							
TKN Nitrogen (mg/l as N)	351.2	1.4	mg/l	0.5		2/24/2003	28 days							

LAB REPORTS

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID Scottsdale - NPDES - Grab Stormwater Report Number: PMA0125	Sampled: 01/08/03 Received: 01/08/03 Issued: 1/17/03

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX
PMA0125-01	Thunderbird	Water
PMA0125-02	Camelback	Water
PMA0125-03	McKellips	Water
PMA0125-04	Pierce	Water
PMA0125-05	Hayden	Water

SAMPLE RECEIPT: Samples were received intact at 16°C, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

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

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted.

QA/QC CRITERIA: All analyses met method criteria.

EXPLANATION OF DATA QUALIFIERS: The N1 flag on the Fecal Strep-MPN indicates that the associated result may be biased low due to inconsistent readings from one of the performed dilutions.

Del Mar Analytical, Phoenix (AZ0426)

Tamara Saunders

Tamara Saunders For Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale - NPDES - Grab Stormwater

Report Number: PMA0125

Sampled: 01/08/03
Received: 01/08/03

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMA0125-01 (Thunderbird - Water)								
Oil & Grease	EPA 413.2	P3A1414	1.0	**6.7**	1	1/14/03	1/14/03	
The reporting limit for this sample was adjusted by a factor of 1.08 to account for the applicable preparation factor.								
Sample ID: PMA0125-02 (Camelback - Water)								
Oil & Grease	EPA 413.2	P3A1414	1.2	**9.2**	1	1/14/03	1/14/03	
The reporting limit for this sample was adjusted by a factor of 1.22 to account for the applicable preparation factor.								
Sample ID: PMA0125-03 (McKellips - Water)								
Oil & Grease	EPA 413.2	P3A1414	1.0	**3.9**	1	1/14/03	1/14/03	
The reporting limit for this sample was adjusted by a factor of 1.04 to account for the applicable preparation factor.								
Sample ID: PMA0125-04 (Pierce - Water)								
Oil & Grease	EPA 413.2	P3A1414	1.0	**8.3**	1	1/14/03	1/14/03	
The reporting limit for this sample was adjusted by a factor of 1.06 to account for the applicable preparation factor.								
Sample ID: PMA0125-05 (Hayden - Water)								
Oil & Grease	EPA 413.2	P3A1414	1.0	**1.3**	1	1/14/03	1/14/03	
The reporting limit for this sample was adjusted by a factor of 1.05 to account for the applicable preparation factor.								

DEL MAR ANALYTICAL, PHOENIX (AZ0426

Tamara Saunders For Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale - NPDES - Grab Stormwater

Report Number: PMA0125

Sampled: 01/08/03
Received: 01/08/03

MICROBIOLOGICALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			MPN/100 ml	MPN/100 m				
Sample ID: PMA0125-01 (Thunderbird - Water)								
Fecal Coliform	SM 9221E	P3A0814	2.0	**3000**	1	1/8/03	1/11/03	
Fecal Streptococcus	SM9230B	P3A0815	2.0	**19000**	1	1/8/03	1/11/03	
Sample ID: PMA0125-02 (Camelback - Water)								
Fecal Coliform	SM 9221E	P3A0814	2.0	**300**	1	1/8/03	1/11/03	
Fecal Streptococcus	SM9230B	P3A0815	2.0	**230**	1	1/8/03	1/11/03	N1
Sample ID: PMA0125-03 (McKellips - Water)								
Fecal Coliform	SM 9221E	P3A0814	2.0	**500**	1	1/8/03	1/11/03	
Fecal Streptococcus	SM9230B	P3A0815	2.0	**5000**	1	1/8/03	1/11/03	
Sample ID: PMA0125-04 (Pierce - Water)								
Fecal Coliform	SM 9221E	P3A0814	2.0	**1700**	1	1/8/03	1/11/03	
Fecal Streptococcus	SM9230B	P3A0815	2.0	**17000**	1	1/8/03	1/11/03	
Sample ID: PMA0125-05 (Hayden - Water)								
Fecal Coliform	SM 9221E	P3A0814	2.0	**800**	1	1/8/03	1/11/03	
Fecal Streptococcus	SM9230B	P3A0815	2.0	**5000**	1	1/8/03	1/11/03	

DEL MAR ANALYTICAL, PHOENIX (AZ0426

Tamara Saunders For Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Scottsdale - NPDES - Grab Stormwater Report Number: PMA0125	Sampled: 01/08/03 Received: 01/08/03

METHOD BLANK/QC DATA

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3A1414 Extracted: 01/14/03										
Blank Analyzed: 01/14/03 (P3A1414-BLK1)										
Oil & Grease	ND	1.0	mg/l							
LCS Analyzed: 01/14/03 (P3A1414-BS1)										
Oil & Grease	**10.9**	1.0	mg/l	10.0		109	85-135			
LCS Dup Analyzed: 01/14/03 (P3A1414-BSD1)										
Oil & Grease	**11.3**	1.0	mg/l	10.0		113	85-135	4	15	

Tamara Saunders For Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Scottsdale - NPDES - Grab Stormwater Report Number: PMA0125	Sampled: 01/08/03 Received: 01/08/03

METHOD BLANK/QC DATA

DATA QUALIFIERS AND DEFINITIONS

N1	See case narrative.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported.
RPD	Relative Percent Difference

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Scottsdale NPDES Stormwater Report Number: PMA0153	Sampled: 01/08/03-01/09/03 Received: 01/09/03 Issued: 1/28/03

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX
PMA0153-01	Hayden Golf	Water
PMA0153-02	Hayden Golf	Water

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

HOLDING TIMES: Holding times were met.

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

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: The ICPMS, COD and Phosphorus analyses were subcontracted to Del Mar Analytical - 2852 Alton Avenue - Irvine, CA 92606 (AZ0428). The Orthophosphate (EPA 300.0) analysis was subcontracted to Precision Analytical - 1725 W. 17th Street, Tempe, AZ (AZ0428). The Nitrate-N/Nitrite-N (EPA 353.2) analysis was subcontracted to Transwest Geochem - 3725 E. Atlanta Ave., Suite 1 - Phoenix, AZ 85040-2961 (AZ0133). The TKN analysis was subcontracted to Del Mar Analytical - 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (AZ0062) Results are attached.

QA/QC CRITERIA: All analyses met method criteria.

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

Del Mar Analytical, Phoenix (AZ0426)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

TOTAL RECOVERABLE METALS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMA0153-01 (Hayden Golf - Water)								
Calcium	EPA 200.7	P3A1306	2.0	**7.0**	1	1/13/03	1/13/03	
Magnesium	EPA 200.7	P3A1306	0.50	**1.4**	1	1/13/03	1/13/03	
Zinc	EPA 200.7	P3A1306	0.050	**0.052**	1	1/13/03	1/13/03	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMA0153-01 (Hayden Golf - Water)								
Ammonia-N	EPA 350.3	P3A1517	0.050	**0.42**	1	1/15/03	1/15/03	Q5
Biochemical Oxygen Demand	EPA 405.1	P3A1501	2.0	**4.7**	1	1/9/03	1/14/03	
Hardness (CaCO3)	SM2340B	P3A1306	1.0	**23**	1	1/13/03	1/13/03	
Total Dissolved Solids	SM2540C	P3A1019	20	**60**	1	1/10/03	1/10/03	
Total Suspended Solids	EPA 160.2	P3A0909	10	ND	1	1/9/03	1/9/03	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMA0153-01 (Hayden Golf - Water)								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C3A1303	0.50	**1.4**	1	1/13/03	1/13/03	

DEL MAR ANALYTICAL, COLTON (AZ0062)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

METALS

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMA0153-01 (Hayden Golf - Water)								
Cadmium	EPA 200.8	3A15037	1.0	ND	1	1/15/03	1/23/03	
Chromium	EPA 200.8	3A15037	1.0	**1.7**	1	1/15/03	1/23/03	
Copper	EPA 200.8	3A15037	2.0	**8.1**	1	1/15/03	1/23/03	
Lead	EPA 200.8	3A15037	1.0	**2.3**	1	1/15/03	1/23/03	
Nickel	EPA 200.8	3A15037	1.0	**1.3**	1	1/15/03	1/23/03	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			ug/l	ug/l				
Sample ID: PMA0153-02 (Hayden Golf - Water)								
Cadmium	EPA 200.8-Diss	3A15047	1.0	ND	1	1/15/03	1/23/03	
Chromium	EPA 200.8-Diss	3A15047	1.0	ND	1	1/15/03	1/23/03	
Copper	EPA 200.8-Diss	3A15047	2.0	**4.4**	1	1/15/03	1/23/03	
Lead	EPA 200.8-Diss	3A15047	1.0	ND	1	1/15/03	1/23/03	
Nickel	EPA 200.8-Diss	3A15047	1.0	ND	1	1/15/03	1/23/03	
			mg/l	mg/l				
Sample ID: PMA0153-02 (Hayden Golf - Water)								
Zinc	EPA 200.7-Diss	3A16044	0.020	ND	1	1/16/03	1/17/03	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMA0153-01 (Hayden Golf - Water)								
Chemical Oxygen Demand	EPA 410.4	3A13055	20	ND	1	1/13/03	1/14/03	
Phosphorus	EPA 365.3	3A17038	0.050	**0.14**	1	1/17/03	1/17/03	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3A1306 Extracted: 01/13/03										
Blank Analyzed: 01/13/03 (P3A1306-BLK1)										
Calcium	ND	2.0	mg/l							
Magnesium	ND	0.50	mg/l							
Zinc	ND	0.050	mg/l							
Blank Analyzed: 01/13/03 (P3A1306-BLK2)										
Calcium	ND	2.0	mg/l							
Magnesium	ND	0.50	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 01/13/03 (P3A1306-BS1)										
Calcium	**10.4**	2.0	mg/l	10.0		104	85-115			
Magnesium	**10.3**	0.50	mg/l	10.0		103	85-115			
Zinc	**1.04**	0.050	mg/l	1.00		104	85-115			
LCS Dup Analyzed: 01/13/03 (P3A1306-BSD1)										
Calcium	**10.3**	2.0	mg/l	10.0		103	85-115	1	20	
Magnesium	**10.2**	0.50	mg/l	10.0		102	85-115	1	20	
Zinc	**1.02**	0.050	mg/l	1.00		102	85-115	2	20	
Matrix Spike Analyzed: 01/13/03 (P3A1306-MS1)					**Source: PMA0156-02**					
Calcium	**68.9**	2.0	mg/l	10.0	58	109	70-130			
Magnesium	**32.8**	0.50	mg/l	10.0	23	98	70-130			
Zinc	**1.03**	0.050	mg/l	1.00	0.025	100	70-130			
Matrix Spike Dup Analyzed: 01/13/03 (P3A1306-MSD1)					**Source: PMA0156-02**					
Calcium	**68.0**	2.0	mg/l	10.0	58	100	70-130	1	20	
Magnesium	**32.7**	0.50	mg/l	10.0	23	97	70-130	0.3	20	
Zinc	**1.03**	0.050	mg/l	1.00	0.025	100	70-130	0	20	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3A0909 Extracted: 01/09/03										
Blank Analyzed: 01/09/03 (P3A0909-BLK1)										
Total Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 01/09/03 (P3A0909-DUP1)					**Source: PMA0119-02**					
Total Suspended Solids	ND	10	mg/l		ND				5	
Duplicate Analyzed: 01/09/03 (P3A0909-DUP2)					**Source: PMA0122-02**					
Total Suspended Solids	ND	10	mg/l		ND				5	
Reference Analyzed: 01/09/03 (P3A0909-SRM1)										
Total Suspended Solids	**48.0**	10	mg/l	47.7		101	75-107			
Batch: P3A1019 Extracted: 01/10/03										
Blank Analyzed: 01/10/03 (P3A1019-BLK1)										
Total Dissolved Solids	ND	20	mg/l							
LCS Analyzed: 01/10/03 (P3A1019-BS1)										
Total Dissolved Solids	**370**	20	mg/l	400		92	80-115			
Duplicate Analyzed: 01/10/03 (P3A1019-DUP1)					**Source: PMA0070-01**					
Total Dissolved Solids	**1220**	20	mg/l		1200			2	5	
Duplicate Analyzed: 01/10/03 (P3A1019-DUP2)					**Source: PMA0158-01**					
Total Dissolved Solids	**1450**	40	mg/l		1500			3	5	
Batch: P3A1501 Extracted: 01/09/03										
Blank Analyzed: 01/14/03 (P3A1501-BLK1)										
Biochemical Oxygen Demand	ND	2.0	mg/l							

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3A1501 Extracted: 01/09/03										
LCS Analyzed: 01/14/03 (P3A1501-BS1)										
Biochemical Oxygen Demand	170	2.0	mg/l	198		86	85-115			
Duplicate Analyzed: 01/14/03 (P3A1501-DUP1)					Source: PMA0119-01					
Biochemical Oxygen Demand	150	2.0	mg/l		150			0	20	
Duplicate Analyzed: 01/14/03 (P3A1501-DUP2)					Source: PMA0120-01					
Biochemical Oxygen Demand	222	2.0	mg/l		260			16	20	
Batch: P3A1517 Extracted: 01/15/03										
Blank Analyzed: 01/15/03 (P3A1517-BLK1)										
Ammonia-N	ND	0.050	mg/l							
LCS Analyzed: 01/15/03 (P3A1517-BS1)										
Ammonia-N	0.550	0.050	mg/l	0.500		110	85-115			
LCS Dup Analyzed: 01/15/03 (P3A1517-BSD1)										
Ammonia-N	0.534	0.050	mg/l	0.500		107	85-115	3	200	
Matrix Spike Analyzed: 01/15/03 (P3A1517-MS1)					Source: PMA0102-01					
Ammonia-N	0.561	0.050	mg/l	0.500	0.031	106	70-130			
Matrix Spike Dup Analyzed: 01/15/03 (P3A1517-MSD1)					Source: PMA0102-01					
Ammonia-N	0.568	0.050	mg/l	0.500	0.031	107	70-130	1	20	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: C3A1303 Extracted: 01/13/03										
Blank Analyzed: 01/13/03 (C3A1303-BLK1)										
Total Kjeldahl Nitrogen	ND	0.50	mg/l							
LCS Analyzed: 01/13/03 (C3A1303-BS1)										
Total Kjeldahl Nitrogen	**9.80**	0.50	mg/l	10.0		98	85-120			
Matrix Spike Analyzed: 01/13/03 (C3A1303-MS1)					**Source: CMA0074-01**					
Total Kjeldahl Nitrogen	**10.9**	0.50	mg/l	10.0	1.1	98	85-120			
Matrix Spike Dup Analyzed: 01/13/03 (C3A1303-MSD1)					**Source: CMA0074-01**					
Total Kjeldahl Nitrogen	**10.6**	0.50	mg/l	10.0	1.1	95	85-120	3	15	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3A15037 Extracted: 01/15/03										
Blank Analyzed: 01/23/03 (3A15037-BLK1)										
Cadmium	ND	1.0	ug/l							
Chromium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Nickel	ND	1.0	ug/l							
LCS Analyzed: 01/23/03 (3A15037-BS1)										
Cadmium	**79.4**	1.0	ug/l	80.0		99	85-115			
Chromium	**81.6**	1.0	ug/l	80.0		102	85-115			
Copper	**80.6**	2.0	ug/l	80.0		101	85-115			
Lead	**89.6**	1.0	ug/l	80.0		112	85-115			
Nickel	**76.0**	1.0	ug/l	80.0		95	85-115			
Matrix Spike Analyzed: 01/23/03 (3A15037-MS1)					**Source: IMA0572-01**					
Cadmium	**76.9**	1.0	ug/l	80.0	0.054	96	70-130			
Chromium	**80.9**	1.0	ug/l	80.0	0.35	101	70-130			
Copper	**75.9**	2.0	ug/l	80.0	2.8	91	70-130			
Lead	**82.0**	1.0	ug/l	80.0	0.33	102	70-130			
Nickel	**70.6**	1.0	ug/l	80.0	ND	88	70-130			
Matrix Spike Dup Analyzed: 01/23/03 (3A15037-MSD1)					**Source: IMA0572-01**					
Cadmium	**76.7**	1.0	ug/l	80.0	0.054	96	70-130	0.3	20	
Chromium	**81.5**	1.0	ug/l	80.0	0.35	101	70-130	0.7	20	
Copper	**76.4**	2.0	ug/l	80.0	2.8	92	70-130	0.7	20	
Lead	**80.8**	1.0	ug/l	80.0	0.33	101	70-130	1	20	
Nickel	**71.7**	1.0	ug/l	80.0	ND	90	70-130	2	20	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3A15047 Extracted: 01/15/03										
Blank Analyzed: 01/23/03 (3A15047-BLK1)										
Cadmium	ND	1.0	ug/l							
Chromium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Nickel	ND	1.0	ug/l							
LCS Analyzed: 01/23/03 (3A15047-BS1)										
Cadmium	**87.8**	1.0	ug/l	80.0		110	85-115			
Chromium	**84.1**	1.0	ug/l	80.0		105	85-115			
Copper	**85.2**	2.0	ug/l	80.0		106	85-115			
Lead	**88.0**	1.0	ug/l	80.0		110	85-115			
Nickel	**81.0**	1.0	ug/l	80.0		101	85-115			
Matrix Spike Analyzed: 01/23/03 (3A15047-MS1)					**Source: IMA0484-02**					
Cadmium	**85.2**	1.0	ug/l	80.0	0.097	106	70-130			
Chromium	**88.2**	1.0	ug/l	80.0	1.6	108	70-130			
Copper	**96.7**	2.0	ug/l	80.0	7.4	112	70-130			
Lead	**89.5**	1.0	ug/l	80.0	0.57	111	70-130			
Nickel	**83.6**	1.0	ug/l	80.0	2.0	102	70-130			
Matrix Spike Dup Analyzed: 01/23/03 (3A15047-MSD1)					**Source: IMA0484-02**					
Cadmium	**85.9**	1.0	ug/l	80.0	0.097	107	70-130	0.8	20	
Chromium	**86.7**	1.0	ug/l	80.0	1.6	106	70-130	2	20	
Copper	**90.3**	2.0	ug/l	80.0	7.4	104	70-130	7	20	
Lead	**87.6**	1.0	ug/l	80.0	0.57	109	70-130	2	20	
Nickel	**82.4**	1.0	ug/l	80.0	2.0	100	70-130	1	20	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3A16044 Extracted: 01/16/03										
Blank Analyzed: 01/17/03 (3A16044-BLK1)										
Zinc	ND	0.020	mg/l							
LCS Analyzed: 01/17/03 (3A16044-BS1)										
Zinc	0.985	0.020	mg/l	1.00		98	85-115			
Matrix Spike Analyzed: 01/17/03 (3A16044-MS1)					Source: PMA0153-02					
Zinc	1.02	0.020	mg/l	1.00	0.017	100	70-130			
Matrix Spike Dup Analyzed: 01/17/03 (3A16044-MSD1)					Source: PMA0153-02					
Zinc	1.02	0.020	mg/l	1.00	0.017	100	70-130	0	20	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMA0153

Sampled: 01/08/03-01/09/03
Received: 01/09/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3A13055 Extracted: 01/13/03										
Blank Analyzed: 01/14/03 (3A13055-BLK1)										
Chemical Oxygen Demand	ND	20	mg/l							
LCS Analyzed: 01/14/03 (3A13055-BS1)										
Chemical Oxygen Demand	**517**	20	mg/l	500		103	90-110			
Matrix Spike Analyzed: 01/14/03 (3A13055-MS1)					**Source: IMA0292-05**					
Chemical Oxygen Demand	**985**	40	mg/l	1000	40	94	90-110			
Matrix Spike Dup Analyzed: 01/14/03 (3A13055-MSD1)					**Source: IMA0292-05**					
Chemical Oxygen Demand	**985**	40	mg/l	1000	40	94	90-110	0	15	
Batch: 3A17038 Extracted: 01/17/03										
Blank Analyzed: 01/17/03 (3A17038-BLK1)										
Phosphorus	ND	0.050	mg/l							
LCS Analyzed: 01/17/03 (3A17038-BS1)										
Phosphorus	**0.932**	0.050	mg/l	1.00		93	80-120			
Matrix Spike Analyzed: 01/17/03 (3A17038-MS1)					**Source: IMA0609-01**					
Phosphorus	**1.00**	0.050	mg/l	1.00	ND	100	65-130			
Matrix Spike Dup Analyzed: 01/17/03 (3A17038-MSD1)					**Source: IMA0609-01**					
Phosphorus	**1.02**	0.050	mg/l	1.00	ND	102	65-130	2	15	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Scottsdale NPDES Stormwater Report Number: PMA0153	Sampled: 01/08/03-01/09/03 Received: 01/09/03

METHOD BLANK/QC DATA

DATA QUALIFIERS AND DEFINITIONS

Q5	Sample received with inadequate chemical preservation, but preserved by the laboratory.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported.
RPD	Relative Percent Difference

Linda Eshelman
Project Manager

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

P A L

Precision Analytical Laboratories
a division of Aerotech Laboratories, Inc.

January 16, 2003

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

RE: PMA0153-MCFC

Dear Linda Eshelman: Order No.: 03010459

Precision Analytical Laboratories received 1 sample on 1/9/2003 for the analyses presented in the following report.

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

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

Sincerely,

Carlene McCutcheon

Carlene McCutcheon
Project Manager

■ Corporate Address 1501 W. Knudsen Phoenix, AZ 85027 Phone: 623-780-4800 Toll Free: 800-651-4802 Fax: 623-780-7695 www.aerotechlabs.com
■ Main Laboratory 1725 W. 17th Street Tempe, AZ 85281 Phone: 480-967-1310 Toll Free: 866-772-5227 Fax: 480-967-1019 www.palabs.com
■ Tucson Facility 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520-807-3801 Fax: 520-807-3803

Precision Analytical Laboratories **Date:** *16-Jan-03*

CLIENT: Del Mar
Project: PMA0153-MCFC
Lab Order: 03010459

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

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

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

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

40 CFR, Part 136, Revised 1995. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

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

Precision Analytical Laboratories, Inc. (PAL) holds Arizona certification no. AZ0610 and PAL-Tucson holds Arizona certification no. AZ0609.

PAL participates in the AIHA Proficiency Analytical Testing (PAT) program for metals, solvents and formaldehyde.

Analytical Comments:

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

■ Corporate Address 1501 W. Knudsen Phoenix, AZ 85027 Phone: 623-780-4800 Toll Free: 800-651-4802 Fax: 623-780-7695 www.aerotechlabs.com
■ Main Laboratory 1725 W. 17th Street Tempe, AZ 85281 Phone: 480-967-1310 Toll Free: 866-772-5227 Fax: 480-967-1019 www.palabs.com
■ Tucson Facility 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520-807-3801 Fax: 520-807-3803

Precision Analytical Laboratories

Date: *16-Jan-03*

CLIENT:	Del Mar	**Client Sample ID:**	PMA0153-01
Lab Order:	03010459	**Tag Number:**	
Project:	PMA0153-MCFC	**Collection Date:**	1/8/2003 7:00:00 PM
Lab ID:	03010459-01A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ORTHOPHOSPHATE, TOTAL AS P		**M4500-P E**				Analyst: **DS**
Orthophosphate - P	< 0.10	0.10		mg/L	1	1/10/2003 6:30:00 AM

Qualifiers:

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

■ Corporate Address 1501 W. Knudsen Phoenix, AZ 85027 Phone: 623-780-4800 Toll Free: 800-651-4802 Fax: 623-780-7695 www.aerotechlabs.com
■ Main Laboratory 1725 W. 17th Street Tempe, AZ 85281 Phone: 480-967-1310 Toll Free: 866-772-5227 Fax: 480-967-1019 www.palabs.com
■ Tucson Facility 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520-807-3801 Fax: 520-807-3803

Precision Analytical Laboratories
a division of Aerotech Laboratories, Inc.

Date: *16-Jan-03*

CLIENT: Del Mar
Work Order: 03010459
Project: PMA0153-MCFC

ANALYTICAL QC SUMMARY REPORT

TestCode: P-ORTHO

Sample ID **MB-R31139** SampType: **MBLK** TestCode: **P-ORTHO** Units: **mg/L** Prep Date: Run ID: **SPEC 1_030110D**
Client ID: **ZZZZZ** Batch ID: **R31139** TestNo: **M4500-P E** Analysis Date: **1/10/2003** SeqNo: **350301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate - P	< 0.10	0.10									

Sample ID **LCS-R31139** SampType: **LCS** TestCode: **P-ORTHO** Units: **mg/L** Prep Date: Run ID: **SPEC 1_030110D**
Client ID: **ZZZZZ** Batch ID: **R31139** TestNo: **M4500-P E** Analysis Date: **1/10/2003** SeqNo: **350300**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate - P	0.292	0.10	0.3	0	97.3	90	110	0	0		

Sample ID **LCSD-R31139** SampType: **LCSD** TestCode: **P-ORTHO** Units: **mg/L** Prep Date: Run ID: **SPEC 1_030110D**
Client ID: **ZZZZZ** Batch ID: **R31139** TestNo: **M4500-P E** Analysis Date: **1/10/2003** SeqNo: **350302**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate - P	0.294	0.10	0.3	0	98	90	110	0.292	0.683	20	

Sample ID **03010330-02A MS** SampType: **MS** TestCode: **P-ORTHO** Units: **mg/L** Prep Date: Run ID: **SPEC 1_030110D**
Client ID: **ZZZZZ** Batch ID: **R31139** TestNo: **M4500-P E** Analysis Date: **1/10/2003** SeqNo: **350303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate - P	1.88	0.50	1.5	0.49	92.7	80	120	0	0		

Sample ID **03010330-02A MSD** SampType: **MSD** TestCode: **P-ORTHO** Units: **mg/L** Prep Date: Run ID: **SPEC 1_030110D**
Client ID: **ZZZZZ** Batch ID: **R31139** TestNo: **M4500-P E** Analysis Date: **1/10/2003** SeqNo: **350304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate - P	1.83	0.50	1.5	0.49	89.3	80	120	1.88	2.70	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits

■ Corporate Address 1501 W. Knudsen Phoenix, AZ 85027 Phone: 623-780-4800 Toll Free: 800-651-4802 Fax: 623-780-7695 www.aerotechlabs.com
■ Main Laboratory 1725 W. 17th Street Tempe, AZ 85281 Phone: 480-967-1310 Toll Free: 866-772-5227 Fax: 480-967-1019 www.palabs.com
■ Tucson Facility 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520-807-3801 Fax: 520-807-3803

Precision Analytical Laboratories, Inc.

Sample Receipt Checklist

Client Name Del Mar

Date and Time Received 1-9-03 1450

Lab Number 0-301-0459

Received by Tm

Checklist completed by T. MacArthur 1-9
Signature / Date

Containers: Brass Sleeves ____ Glass Jars ____ Methanol Kits ____

Matrix: Water

Carrier name: Rose

Shipping container/cooler in good condition?	Yes ✓	No ___	Not Present ___
Custody seals intact on shipping container/cooler?	Yes ___	No ___	Not Present ✗
Custody seals intact on sample bottles?	Yes ___	No ___	Not Present ✗
Chain of custody present?	Yes ✓	No ___	
Chain of custody signed when relinquished and received?	Yes ✓	No ___	
Chain of custody agrees with sample labels?	Yes ✓	No ___	
Samples in proper container/bottle?	Yes ✓	No ___	
Sample containers intact?	Yes ✓	No ___	
All samples received within holding time?	Yes ✓	No ___	
Water – VOA vials have zero headspace?	No VOA submitted ✓	Yes ___	No ___

Number of sample bottles: 1 Preserved: _____ Unpreserved: 1

Temperature of samples? 4.3 °C Blue Ice ___ Wet Ice ✗ Not Present ___

Water – pH acceptable upon receipt? Yes ___ No ___ Not applicable ✓

pH: Metals ____ 413.1 ____ Other ____
Cyanide ____ 418.1 ____
Nutrients ____ Sulfide ____

Adjusted? ____ Results? _____

Any No response must be detailed in the comments section below:

Person/Client contacted: _____ Date contacted: _____ Contacted by: _____

Comments: _____

Corrective Action: _____

Del Mar Analytical

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

CHAIN OF CUSTODY FORM
SUBCONTRACT ORDER

D-301-0459

SENDING LABORATORY:

Del Mar Analytical - Phoenix
9830 South 51st Street, Suite B-120
Phoenix, AZ 85044
Phone: (480) 785-0043
Fax: (480) 785-0851
Project Manager: Linda Eshelman
Project: PMA0153-MCFC

RECEIVING LABORATORY:

Precision Analytical Lab.,Inc.-OU
1725 W. 17th St.
Tempe, AZ 85281
Phone: 480-967-1310
Fax: 480-967-1019

SAMPLE INTEGRITY:

Please complete upon receipt

intact: ☒ Y ☐ N Initials
on ice: ☒ Y ☐ N Initials
Temp: °C 4.3 ☒ Y ☐ N Initials

Sample Description	Sample Matrix	Sampling Date/Time	Analysis Required	Date Due	Expires	# of Cont.	Sample Bottle Type
PMA0153-01	Water	01/08/03 19:00	Orthophosphate (300)	Standard TAT	01/10/03 19:00	1	☐ Voa ☐ Amber Voa ☒ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other

Special Instructions:
None

Relinquished By 1-9-3 1425 Date/Time:
Received By: 1-9-3 1425 Date/Time:
Relinquished By 1-9-3 1450 Date/Time:
Received By: 1-9 1450 Date/Time:

TRANSWEST GEOCHEM

January 21, 2003

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

RE: PMA0153-MCFC
Work Order No.: 0301087

Dear Linda,
Transwest Geochem, Inc. received 1 sample on 1/10/2003 10:30:00 AM for the analyses presented in the following report.

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

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

Sincerely,

Vic Nielsen
Project Manager

ADHS License No. AZM133/AZ0133

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

Client: Del Mar Analytical
Work Order: 0301087
Project Name: PMA0153-MCFC
Project Number:

Date Printed: 21-Jan-03

CASE NARRATIVE

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

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

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

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

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

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

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

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

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

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

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

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

TRANSWEST GEOCHEM

Date Printed 21-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Project Name: PMA0153-MCFC
Project Number:
Work Order: 0301087
Date Received: 10-Jan-03

Work Order Sample Summary

Client Sample ID	Lab Sample ID	Test Code	Collection Date
PMA0153-01	0301087-01A	EPA353.2	1/8/2003 7:00:00 PM

TRANSWEST GEOCHEM

Date Printed 21-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Project Name: PMA0153-MCFC
Project Number:
Work Order: 0301087
Date Received: 10-Jan-03

Definitions

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

TRANSWEST GEOCHEM

Date Printed 21-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0301087
Lab ID: 0301087-01
Project Name: PMA0153-MCFC
Project Number:

Client Sample ID: PMA0153-01
Collection Date: 1/8/2003 7:00:00 PM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	0.80	0.50		mg/L	1.0	EPA353.2	N/A	1/20/03	TL	NO3_W-1/20/2003

Confidential and Privileged

TRANSWEST GEOCHEM

Date: 21-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0301087
Project: PMA0153-MCFC

QC SUMMARY REPORT

Method Blank

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	1/20/03	TL	NO3_W-1/20/2003
Nitrate-Nitrite (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	1/20/03	TL	NO3_W-1/20/2003

TRANSWEST GEOCHEM

Date: 21-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0301087
Project: PMA0153-MCFC

QC SUMMARY REPORT

Sample Duplicate

Analyte	Result	PQL	Units	RPD Ref Val	% RPD	RPD Limit	Test Code	Date Prepared	Date Analyzed	Analyst	Qual
Sample ID: **0301144-01AD**		Batch ID: NO3_W-1/20/2003									
Client ID:											
Nitrate-Nitrite (As N)	<0.50	0.50	mg/L	<0.50	0%	20	EPA353.2	N/A	1/20/03	TL	

TRANSWEST GEOCHEM

Date: 21-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0301087
Project: PMA0153-MCFC

QC SUMMARY REPORT

Sample Matrix Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **0301144-01AS**	Batch ID: NO3_W-1/20/2003			Test Code: EPA353.2				Date Analyzed: 01/20/03 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	4.931	0.50	5.000	<0.50	99%	90	110				

TRANSWEST GEOCHEM

Date: 21-Jan-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0301087
Project: PMA0153-MCFC

QC SUMMARY REPORT

Blank Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **LCS**	Batch ID: NO3_W-1/20/2003			Test Code: EPA353.2				Date Analyzed: 01/20/03 00:00			
				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.131	0.50	5.000	<0.50	103%	90	110				

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

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

Project: Scottsdale NPDES Stormwater

Sampled: 02/13/03
Received: 02/13/03
Issued: 02/27/03

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

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. This entire report was reviewed and approved for release.

CASE NARRATIVE

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

HOLDING TIMES: Holding times were met.

PRESERVATION: Q3-The sample, as received, was not preserved in accordance to the referenced analytical method.

QA/QC CRITERIA: All analyses met method criteria.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted.

FLOOD CONTROL DISTRICT
RECEIVED
MAR 06 '03
C & GM FINANCE
PIO LANDS
ADMIN O & M
REG P & PM
✓ENG FILE
CONTRACTS
MAO

Additional Case Narrative Details:

No further explanation of data qualifiers needed.

LABORATORY ID	CLIENT ID	MATRIX
PMB0285-01	McKellips	Water
PMB0285-02	Pierce	Water
PMB0285-03	Camelback	Water
PMB0285-04	Hayden	Water
PMB0285-05	Thunderbird	Water
PMB0285-06	Dup 1	Water

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Tonda Waugh For Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0285

Sampled: 02/13/03
Received: 02/13/03

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/l	mg/l				
Sample ID: PMB0285-01 (McKellips - Water)								
Oil & Grease	EPA 413.2	P3B2528	1.0	**1.0**	1	2/25/03	2/26/03	
The reporting limit for this sample was adjusted by a factor of 1.06 to account for the applicable preparation factor.								
Sample ID: PMB0285-02 (Pierce - Water)								
Oil & Grease	EPA 413.2	P3B2528	1.0	**7.2**	1	2/25/03	2/26/03	
Sample ID: PMB0285-03 (Camelback - Water)								
Oil & Grease	EPA 413.2	P3B2528	1.0	**1.3**	1	2/25/03	2/26/03	Q3
The reporting limit for this sample was adjusted by a factor of 1.02 to account for the applicable preparation factor.								
Sample ID: PMB0285-04 (Hayden - Water)								
Oil & Grease	EPA 413.2	P3B2528	1.0	ND	1	2/25/03	2/26/03	
Sample ID: PMB0285-05 (Thunderbird - Water)								
Oil & Grease	EPA 413.2	P3B2528	1.0	**1.7**	1	2/25/03	2/26/03	
The reporting limit for this sample was adjusted by a factor of 1.06 to account for the applicable preparation factor.								
Sample ID: PMB0285-06 (Dup 1 - Water)								
Oil & Grease	EPA 413.2	P3B2528	1.0	ND	1	2/25/03	2/26/03	Q3

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Tonda Waugh For Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0285

Sampled: 02/13/03
Received: 02/13/03

MICROBIOLOGICALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			MPN/100 ml	MPN/100 ml				
Sample ID: PMB0285-01 (McKellips - Water)								
Fecal Coliform	SM 9221E	P3B1814	2.0	**8000**	1	2/13/03	2/15/03	
Fecal Streptococcus	SM9230B	P3B1812	2.0	**5000**	1	2/13/03	2/16/03	
Sample ID: PMB0285-02 (Pierce - Water)								
Fecal Coliform	SM 9221E	P3B1814	2.0	**17000**	1	2/13/03	2/16/03	
Fecal Streptococcus	SM9230B	P3B1812	2.0	**13000**	1	2/13/03	2/16/03	
Sample ID: PMB0285-03 (Camelback - Water)								
Fecal Coliform	SM 9221E	P3B1814	2.0	**1100**	1	2/13/03	2/15/03	
Fecal Streptococcus	SM9230B	P3B1812	2.0	**23000**	1	2/13/03	2/16/03	
Sample ID: PMB0285-04 (Hayden - Water)								
Fecal Coliform	SM 9221E	P3B1814	2.0	**180**	1	2/13/03	2/16/03	
Fecal Streptococcus	SM9230B	P3B1812	2.0	**11000**	1	2/13/03	2/16/03	
Sample ID: PMB0285-05 (Thunderbird - Water)								
Fecal Coliform	SM 9221E	P3B1814	2.0	**1100**	1	2/13/03	2/15/03	
Fecal Streptococcus	SM9230B	P3B1812	2.0	**3000**	1	2/13/03	2/16/03	
Sample ID: PMB0285-06 (Dup 1 - Water)								
Fecal Coliform	SM 9221E	P3B1814	2.0	**300**	1	2/13/03	2/16/03	
Fecal Streptococcus	SM9230B	P3B1812	2.0	**8000**	1	2/13/03	2/16/03	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Tonda Waugh For Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0285

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3B2528 Extracted: 02/25/03										
Blank Analyzed: 02/26/03 (P3B2528-BLK1)										
Oil & Grease	ND	1.0	mg/l							
LCS Analyzed: 02/26/03 (P3B2528-BS1)										
Oil & Grease	**10.6**	1.0	mg/l	10.0		106	85-135			
LCS Dup Analyzed: 02/26/03 (P3B2528-BSD1)										
Oil & Grease	**11.3**	1.0	mg/l	10.0		113	85-135	6	15	

Tonda Waugh For Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distric 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Scottsdale NPDES Stormwater Report Number: PMB0285	Sampled: 02/13/03 Received: 02/13/03

METHOD BLANK/QC DATA

DATA QUALIFIERS AND DEFINITIONS

Q3	Sample received with improper chemical preservation.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported.
RPD	Relative Percent Difference

Tonda Waugh For Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

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

Project: Scottsdale NPDES Stormwater

Sampled: 02/13/03
Received: 02/13/03
Issued: 03/10/03

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

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. This entire report was reviewed and approved for release.

FLOOD CONTROL DISTRICT
RECEIVED
MAR 13 '03
CH & GM | FINANCE
PIO | LANDS
ADMIN | C & M
REG | P & PM
ENG | FILE
CONTRACTS
ROUTING
MAO

CASE NARRATIVE

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

HOLDING TIMES: Holding times were met.

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

QA/QC CRITERIA: All analyses met method criteria.

COMMENTS: No significant observations were made.

SUBCONTRACTED: The ICPMS, COD and Phosphorus analyses were subcontracted to Del Mar Analytical - 2852 Alton Avenue - Irvine, CA 92606 (AZ0428). The Nitrate-N/Nitrite-N (EPA 353.2) analysis was subcontracted to Transwest Geochem - 3725 E. Atlanta Ave., Suite 1 - Phoenix, AZ 85040-2961 (AZ0133). The TKN analysis was subcontracted to Del Mar Analytical - 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (AZ0062) Results are attached.

Additional Case Narrative Details:

No further explanation of data qualifiers needed.

LABORATORY ID	CLIENT ID	MATRIX
PMB0298-01	McKellips	Water
PMB0298-02	McKellips	Water
PMB0298-03	Pierce	Water
PMB0298-04	Pierce	Water
PMB0298-05	Camelback	Water
PMB0298-06	Camelback	Water
PMB0298-07	Hayden	Water
PMB0298-08	Hayden	Water
PMB0298-09	Thunderbird	Water
PMB0298-10	Thunderbird	Water

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

CASE NARRATIVE

PMB0298-10	Thunderbird	Water
PMB0298-11	Dup 1	Water
PMB0298-12	Dup 1	Water

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Esheiman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

TOTAL RECOVERABLE METALS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-01 (McKellips - Water)								
Calcium	EPA 200.7	P3B1913	2.0	**17**	1	2/19/03	2/20/03	
Magnesium	EPA 200.7	P3B1913	0.50	**5.1**	1	2/19/03	2/20/03	
Zinc	EPA 200.7	P3B1913	0.050	**0.14**	1	2/19/03	2/20/03	
Sample ID: PMB0298-03 (Pierce - Water)								
Calcium	EPA 200.7	P3B1913	2.0	**8.8**	1	2/19/03	2/20/03	
Magnesium	EPA 200.7	P3B1913	0.50	**1.8**	1	2/19/03	2/20/03	
Zinc	EPA 200.7	P3B1913	0.050	**0.056**	1	2/19/03	2/20/03	
Sample ID: PMB0298-05 (Camelback - Water)								
Calcium	EPA 200.7	P3B1913	2.0	**5.8**	1	2/19/03	2/20/03	
Magnesium	EPA 200.7	P3B1913	0.50	**1.2**	1	2/19/03	2/20/03	
Zinc	EPA 200.7	P3B1913	0.050	ND	1	2/19/03	2/20/03	
Sample ID: PMB0298-07 (Hayden - Water)								
Calcium	EPA 200.7	P3B1913	2.0	**6.8**	1	2/19/03	2/20/03	
Magnesium	EPA 200.7	P3B1913	0.50	**1.1**	1	2/19/03	2/20/03	
Zinc	EPA 200.7	P3B1913	0.050	ND	1	2/19/03	2/20/03	
Sample ID: PMB0298-09 (Thunderbird - Water)								
Calcium	EPA 200.7	P3B1913	2.0	**13**	1	2/19/03	2/20/03	
Magnesium	EPA 200.7	P3B1913	0.50	**2.4**	1	2/19/03	2/20/03	
Zinc	EPA 200.7	P3B1913	0.050	**0.066**	1	2/19/03	2/20/03	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

TOTAL RECOVERABLE METALS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-11 (Dup 1 - Water) HAYDEN								
Calcium	EPA 200.7	P3B1913	2.0	**6.9**	1	2/19/03	2/20/03	
Magnesium	EPA 200.7	P3B1913	0.50	**1.1**	1	2/19/03	2/20/03	
Zinc	EPA 200.7	P3B1913	0.050	ND	1	2/19/03	2/20/03	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-02 (McKellips - Water)								
Zinc, Dissolved	EPA 200.7	P3B1913	0.050	ND	1	2/19/03	2/20/03	
Sample ID: PMB0298-04 (Pierce - Water)								
Zinc, Dissolved	EPA 200.7	P3B2016	0.050	ND	1	2/20/03	2/20/03	
Sample ID: PMB0298-06 (Camelback - Water)								
Zinc, Dissolved	EPA 200.7	P3B2016	0.050	ND	1	2/20/03	2/20/03	
Sample ID: PMB0298-08 (Hayden - Water)								
Zinc, Dissolved	EPA 200.7	P3B2016	0.050	ND	1	2/20/03	2/20/03	
Sample ID: PMB0298-10 (Thunderbird - Water)								
Zinc, Dissolved	EPA 200.7	P3B1913	0.050	ND	1	2/19/03	2/20/03	
Sample ID: PMB0298-12 (Dup 1 - Water)								
Zinc, Dissolved	EPA 200.7	P3B2016	0.050	ND	1	2/20/03	2/20/03	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-01 (McKellips - Water)								
Biochemical Oxygen Demand	EPA 405.1	P3B1806	2.0	**7.9**	1	2/14/03	2/19/03	
Hardness (CaCO3)	SM2340B	P3B1913	1.0	**63**	1	2/19/03	2/20/03	
Orthophosphate	EPA 300.0	P3B1308	0.50	ND	1	2/13/03	2/13/03	
Total Dissolved Solids	SM2540C	P3B1313	20	**150**	1	2/13/03	2/13/03	
Total Suspended Solids	EPA 160.2	P3B1409	10	**72**	1	2/14/03	2/14/03	
Sample ID: PMB0298-02 (McKellips - Water)								
Filtration	PREP METHOD	P3B2013	1.0	ND	1	2/19/03	2/19/03	
			mg/l	**mg/l**				
Sample ID: PMB0298-03 (Pierce - Water)								
Biochemical Oxygen Demand	EPA 405.1	P3B1806	2.0	**10**	1	2/14/03	2/19/03	
Hardness (CaCO3)	SM2340B	P3B1913	1.0	**29**	1	2/19/03	2/20/03	
Orthophosphate	EPA 300.0	P3B1308	0.50	ND	1	2/13/03	2/13/03	
Total Dissolved Solids	SM2540C	P3B1313	20	**68**	1	2/13/03	2/13/03	
Total Suspended Solids	EPA 160.2	P3B1409	10	**100**	1	2/14/03	2/14/03	
Sample ID: PMB0298-04 (Pierce - Water)								
Filtration	PREP METHOD	P3B2013	1.0	ND	1	2/19/03	2/19/03	
			mg/l	**mg/l**				
Sample ID: PMB0298-05 (Camelback - Water)								
Biochemical Oxygen Demand	EPA 405.1	P3B1806	2.0	**7.1**	1	2/14/03	2/19/03	
Hardness (CaCO3)	SM2340B	P3B1913	1.0	**19**	1	2/19/03	2/20/03	
Orthophosphate	EPA 300.0	P3B1308	0.50	ND	1	2/13/03	2/13/03	
Total Dissolved Solids	SM2540C	P3B1313	20	**46**	1	2/13/03	2/13/03	
Total Suspended Solids	EPA 160.2	P3B1409	10	**12**	1	2/14/03	2/14/03	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-06 (Camelback - Water)								
Filtration	PREP METHOD	P3B2013	1.0	ND	1	2/19/03	2/19/03	
			mg/l	**mg/l**				
Sample ID: PMB0298-07 (Hayden - Water)								
Biochemical Oxygen Demand	EPA 405.1	P3B1806	2.0	**4.1**	1	2/14/03	2/19/03	
Hardness (CaCO3)	SM2340B	P3B1913	1.0	**21**	1	2/19/03	2/20/03	
Orthophosphate	EPA 300.0	P3B1308	0.50	ND	1	2/13/03	2/13/03	
Total Dissolved Solids	SM2540C	P3B1313	20	**42**	1	2/13/03	2/13/03	
Total Suspended Solids	EPA 160.2	P3B1409	10	ND	1	2/14/03	2/14/03	
Sample ID: PMB0298-08 (Hayden - Water)								
Filtration	PREP METHOD	P3B2013	1.0	ND	1	2/19/03	2/19/03	
			mg/l	**mg/l**				
Sample ID: PMB0298-09 (Thunderbird - Water)								
Biochemical Oxygen Demand	EPA 405.1	P3B1806	2.0	**7.8**	1	2/14/03	2/19/03	
Hardness (CaCO3)	SM2340B	P3B1913	1.0	**43**	1	2/19/03	2/20/03	
Orthophosphate	EPA 300.0	P3B1308	0.50	ND	1	2/13/03	2/13/03	
Total Dissolved Solids	SM2540C	P3B1313	20	**92**	1	2/13/03	2/13/03	
Total Suspended Solids	EPA 160.2	P3B1409	10	**110**	1	2/14/03	2/14/03	
Sample ID: PMB0298-10 (Thunderbird - Water)								
Filtration	PREP METHOD	P3B2013	1.0	ND	1	2/19/03	2/19/03	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-11 (Dup 1 - Water)								
Biochemical Oxygen Demand	EPA 405.1	P3B1806	2.0	**4.1**	1	2/14/03	2/19/03	
Hardness (CaCO3)	SM2340B	P3B1913	1.0	**22**	1	2/19/03	2/20/03	
Orthophosphate	EPA 300.0	P3B1308	0.50	ND	1	2/13/03	2/13/03	
Total Dissolved Solids	SM2540C	P3B1313	20	**46**	1	2/13/03	2/13/03	
Total Suspended Solids	EPA 160.2	P3B1409	10	ND	1	2/14/03	2/14/03	
Sample ID: PMB0298-12 (Dup 1 - Water)								
Filtration	PREP METHOD	P3B2013	1.0	ND	1	2/19/03	2/19/03	

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-01 (McKellips - Water)								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C3B2404	0.50	**1.1**	1	2/24/03	2/24/03	
Sample ID: PMB0298-03 (Pierce - Water)								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C3B2404	0.50	**1.4**	1	2/24/03	2/24/03	
Sample ID: PMB0298-05 (Camelback - Water)								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C3B2404	0.50	**0.84**	1	2/24/03	2/24/03	
Sample ID: PMB0298-07 (Hayden - Water)								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C3B2409	0.50	ND	1	2/24/03	2/25/03	
Sample ID: PMB0298-09 (Thunderbird - Water)								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C3B2409	0.50	**1.4**	1	2/24/03	2/25/03	
Sample ID: PMB0298-11 (Dup 1 - Water)								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C3B2409	0.50	ND	1	2/24/03	2/25/03	

DEL MAR ANALYTICAL, COLTON (AZ0062)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METALS

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-01 (McKellips - Water)								
Cadmium	EPA 200.8	3B20077	1.0	**1.6**	1	2/20/03	2/21/03	
Chromium	EPA 200.8	3B20077	1.0	**6.6**	1	2/20/03	2/21/03	
Copper	EPA 200.8	3B20077	2.0	**11**	1	2/20/03	2/21/03	
Lead	EPA 200.8	3B20077	1.0	**7.9**	1	2/20/03	2/21/03	
Nickel	EPA 200.8	3B20077	1.0	**5.3**	1	2/20/03	2/21/03	
Sample ID: PMB0298-03 (Pierce - Water)								
Cadmium	EPA 200.8	3B20077	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8	3B20077	1.0	**2.3**	1	2/20/03	2/21/03	
Copper	EPA 200.8	3B20077	2.0	**12**	1	2/20/03	2/21/03	
Lead	EPA 200.8	3B20077	1.0	**20**	1	2/20/03	2/21/03	
Nickel	EPA 200.8	3B20077	1.0	**1.9**	1	2/20/03	2/21/03	
Sample ID: PMB0298-05 (Camelback - Water)								
Cadmium	EPA 200.8	3B20077	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8	3B20077	1.0	**1.3**	1	2/20/03	2/21/03	
Copper	EPA 200.8	3B20077	2.0	**5.4**	1	2/20/03	2/21/03	
Lead	EPA 200.8	3B20077	1.0	**1.5**	1	2/20/03	2/21/03	
Nickel	EPA 200.8	3B20077	1.0	ND	1	2/20/03	2/21/03	
Sample ID: PMB0298-07 (Hayden - Water)								
Cadmium	EPA 200.8	3B20077	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8	3B20077	1.0	**1.2**	1	2/20/03	2/21/03	
Copper	EPA 200.8	3B20077	2.0	**3.8**	1	2/20/03	2/21/03	
Lead	EPA 200.8	3B20077	1.0	**1.4**	1	2/20/03	2/21/03	
Nickel	EPA 200.8	3B20077	1.0	ND	1	2/20/03	2/21/03	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METALS

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-09 (Thunderbird - Water)								
Cadmium	EPA 200.8	3B20077	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8	3B20077	1.0	**4.3**	1	2/20/03	2/21/03	
Copper	EPA 200.8	3B20077	2.0	**17**	1	2/20/03	2/21/03	
Lead	EPA 200.8	3B20077	1.0	**5.8**	1	2/20/03	2/21/03	
Nickel	EPA 200.8	3B20077	1.0	**3.9**	1	2/20/03	2/21/03	
Sample ID: PMB0298-11 (Dup 1 - Water)								
Cadmium	EPA 200.8	3B20077	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8	3B20077	1.0	ND	1	2/20/03	2/21/03	
Copper	EPA 200.8	3B20077	2.0	**3.8**	1	2/20/03	2/21/03	
Lead	EPA 200.8	3B20077	1.0	**1.2**	1	2/20/03	2/21/03	
Nickel	EPA 200.8	3B20077	1.0	ND	1	2/20/03	2/21/03	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-02 (McKellips - Water)								
Cadmium	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8-Diss	3B20066	1.0	**1.3**	1	2/20/03	2/21/03	
Copper	EPA 200.8-Diss	3B20066	2.0	**3.8**	1	2/20/03	2/21/03	
Lead	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Nickel	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Sample ID: PMB0298-04 (Pierce - Water)								
Cadmium	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8-Diss	3B20066	1.0	**1.1**	1	2/20/03	2/21/03	
Copper	EPA 200.8-Diss	3B20066	2.0	**6.6**	1	2/20/03	2/21/03	
Lead	EPA 200.8-Diss	3B20066	1.0	**1.8**	1	2/20/03	2/21/03	
Nickel	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Sample ID: PMB0298-06 (Camelback - Water)								
Cadmium	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Copper	EPA 200.8-Diss	3B20066	2.0	**4.1**	1	2/20/03	2/21/03	
Lead	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Nickel	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Sample ID: PMB0298-08 (Hayden - Water)								
Cadmium	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Copper	EPA 200.8-Diss	3B20066	2.0	**2.4**	1	2/20/03	2/21/03	
Lead	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Nickel	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit ug/l	Sample Result ug/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-10 (Thunderbird - Water)								
Cadmium	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8-Diss	3B20066	1.0	**2.2**	1	2/20/03	2/21/03	
Copper	EPA 200.8-Diss	3B20066	2.0	**9.1**	1	2/20/03	2/21/03	
Lead	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Nickel	EPA 200.8-Diss	3B20066	1.0	**2.0**	1	2/20/03	2/21/03	
Sample ID: PMB0298-12 (Dup 1 - Water)								
Cadmium	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Chromium	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Copper	EPA 200.8-Diss	3B20066	2.0	**2.5**	1	2/20/03	2/21/03	
Lead	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	
Nickel	EPA 200.8-Diss	3B20066	1.0	ND	1	2/20/03	2/21/03	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-01 (McKellips - Water)								
Chemical Oxygen Demand	EPA 410.4	3B25034	20	**560**	1	2/25/03	2/25/03	
Phosphorus	EPA 365.3	3B19046	0.050	**0.25**	1	2/19/03	2/19/03	
Sample ID: PMB0298-03 (Pierce - Water)								
Chemical Oxygen Demand	EPA 410.4	3B25034	20	**39**	1	2/25/03	2/25/03	
Phosphorus	EPA 365.3	3B19046	0.050	**0.92**	1	2/19/03	2/19/03	
Sample ID: PMB0298-05 (Camelback - Water)								
Chemical Oxygen Demand	EPA 410.4	3B25034	20	**35**	1	2/25/03	2/25/03	
Phosphorus	EPA 365.3	3B19046	0.050	ND	1	2/19/03	2/19/03	
Sample ID: PMB0298-07 (Hayden - Water)								
Chemical Oxygen Demand	EPA 410.4	3B25034	20	**42**	1	2/25/03	2/25/03	
Phosphorus	EPA 365.3	3B19046	0.050	ND	1	2/19/03	2/19/03	
Sample ID: PMB0298-09 (Thunderbird - Water)								
Chemical Oxygen Demand	EPA 410.4	3B25034	20	**210**	1	2/25/03	2/25/03	
Phosphorus	EPA 365.3	3B19046	0.050	**0.24**	1	2/19/03	2/19/03	
Sample ID: PMB0298-11 (Dup 1 - Water)								
Chemical Oxygen Demand	EPA 410.4	3B25034	20	**53**	1	2/25/03	2/25/03	
Phosphorus	EPA 365.3	3B19046	0.050	**0.12**	1	2/19/03	2/19/03	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

INORGANICS

Analyte	Method	Batch	Reporting Limit mg/l	Sample Result mg/l	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0298-01 (McKellips - Water)								
Ammonia-N	EPA 350.3	3C03028	0.50	ND	1	3/3/03	3/3/03	
Sample ID: PMB0298-03 (Pierce - Water)								
Ammonia-N	EPA 350.3	3C03028	0.50	**0.61**	1	3/3/03	3/3/03	
Sample ID: PMB0298-05 (Camelback - Water)								
Ammonia-N	EPA 350.3	3C03028	0.50	ND	1	3/3/03	3/3/03	
Sample ID: PMB0298-07 (Hayden - Water)								
Ammonia-N	EPA 350.3	3C03028	0.50	ND	1	3/3/03	3/3/03	
Sample ID: PMB0298-09 (Thunderbird - Water)								
Ammonia-N	EPA 350.3	3C03028	0.50	**0.67**	1	3/3/03	3/3/03	
Sample ID: PMB0298-11 (Dup 1 - Water)								
Ammonia-N	EPA 350.3	3C03028	0.50	ND	1	3/3/03	3/3/03	

DEL MAR ANALYTICAL, IRVINE (AZ0428)

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3B1913 Extracted: 02/19/03										
Blank Analyzed: 02/20/03 (P3B1913-BLK1)										
Calcium	ND	2.0	mg/l							
Magnesium	ND	0.50	mg/l							
Zinc	ND	0.050	mg/l							
Blank Analyzed: 02/20/03 (P3B1913-BLK2)										
Calcium	ND	2.0	mg/l							
Magnesium	ND	0.50	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 02/20/03 (P3B1913-BS1)										
Calcium	**10.8**	2.0	mg/l	10.0		108	85-115			
Magnesium	**10.7**	0.50	mg/l	10.0		107	85-115			
Zinc	**1.10**	0.050	mg/l	1.00		110	85-115			
LCS Dup Analyzed: 02/20/03 (P3B1913-BSD1)										
Calcium	**10.8**	2.0	mg/l	10.0		108	85-115	0	20	
Magnesium	**10.5**	0.50	mg/l	10.0		105	85-115	2	20	
Zinc	**1.09**	0.050	mg/l	1.00		109	85-115	0.9	20	
Matrix Spike Analyzed: 02/20/03 (P3B1913-MS1)					**Source: PMB0325-01**					
Calcium	**10.7**	2.0	mg/l	10.0	ND	107	70-130			
Magnesium	**10.4**	0.50	mg/l	10.0	ND	104	70-130			
Zinc	**1.11**	0.050	mg/l	1.00	0.022	109	70-130			
Matrix Spike Dup Analyzed: 02/20/03 (P3B1913-MSD1)					**Source: PMB0325-01**					
Calcium	**10.9**	2.0	mg/l	10.0	ND	109	70-130	2	20	
Magnesium	**10.6**	0.50	mg/l	10.0	ND	106	70-130	2	20	
Zinc	**1.13**	0.050	mg/l	1.00	0.022	111	70-130	2	20	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3B1913 Extracted: 02/19/03										
Blank Analyzed: 02/20/03 (P3B1913-BLK1)										
Zinc, Dissolved	ND	0.050	mg/l							
Blank Analyzed: 02/20/03 (P3B1913-BLK2)										
Zinc, Dissolved	ND	0.050	mg/l							
LCS Analyzed: 02/20/03 (P3B1913-BS1)										
Zinc, Dissolved	**1.10**	0.050	mg/l	1.00		110	85-115			
LCS Dup Analyzed: 02/20/03 (P3B1913-BSD1)										
Zinc, Dissolved	**1.09**	0.050	mg/l	1.00		109	85-115	0.9	20	
Matrix Spike Analyzed: 02/20/03 (P3B1913-MS1)					**Source: PMB0325-01**					
Zinc, Dissolved	**1.11**	0.050	mg/l	1.00	0.022	109	70-130			
Matrix Spike Dup Analyzed: 02/20/03 (P3B1913-MSD1)					**Source: PMB0325-01**					
Zinc, Dissolved	**1.13**	0.050	mg/l	1.00	0.022	111	70-130	2	20	
Batch: P3B2016 Extracted: 02/20/03										
Blank Analyzed: 02/20/03 (P3B2016-BLK1)										
Zinc, Dissolved	ND	0.050	mg/l							
Blank Analyzed: 02/20/03 (P3B2016-BLK2)										
Zinc, Dissolved	ND	0.050	mg/l							
LCS Analyzed: 02/20/03 (P3B2016-BS1)										
Zinc, Dissolved	**0.982**	0.050	mg/l	1.00		98	85-115			

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3B2016 Extracted: 02/20/03										
LCS Dup Analyzed: 02/20/03 (P3B2016-BSD1)										
Zinc, Dissolved	**0.976**	0.050	mg/l	1.00		98	85-115	0.6	20	
Matrix Spike Analyzed: 02/20/03 (P3B2016-MS1)					**Source: PMB0339-01**					
Zinc, Dissolved	**0.967**	0.050	mg/l	0.999	0.0065	96	70-130			
Matrix Spike Dup Analyzed: 02/20/03 (P3B2016-MSD1)					**Source: PMB0339-01**					
Zinc, Dissolved	**0.970**	0.050	mg/l	0.999	0.0065	96	70-130	0.3	20	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3B1308 Extracted: 02/13/03										
Blank Analyzed: 02/13/03 (P3B1308-BLK1)										
Orthophosphate	ND	0.50	mg/l							
LCS Analyzed: 02/13/03 (P3B1308-BS1)										
Orthophosphate	**5.36**	0.50	mg/l	5.00		107	90-110			
LCS Dup Analyzed: 02/13/03 (P3B1308-BSD1)										
Orthophosphate	**5.30**	0.50	mg/l	5.00		106	90-110	1	15	
Matrix Spike Analyzed: 02/13/03 (P3B1308-MS1)					**Source: PMB0262-02RE1**					
Orthophosphate	**67.0**	5.0	mg/l	50.0	13	108	80-120			
Matrix Spike Dup Analyzed: 02/13/03 (P3B1308-MSD1)					**Source: PMB0262-02RE1**					
Orthophosphate	**66.4**	5.0	mg/l	50.0	13	107	80-120	0.9	20	
Batch: P3B1313 Extracted: 02/13/03										
Blank Analyzed: 02/13/03 (P3B1313-BLK1)										
Total Dissolved Solids	ND	20	mg/l							
LCS Analyzed: 02/13/03 (P3B1313-BS1)										
Total Dissolved Solids	**404**	20	mg/l	400		101	80-115			
Duplicate Analyzed: 02/13/03 (P3B1313-DUP1)					**Source: PMB0171-01**					
Total Dissolved Solids	**1410**	20	mg/l		1400			0.7	5	
Duplicate Analyzed: 02/13/03 (P3B1313-DUP2)					**Source: PMB0298-11**					
Total Dissolved Solids	**46.0**	20	mg/l		46			0	5	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3B1409 Extracted: 02/14/03										
Blank Analyzed: 02/14/03 (P3B1409-BLK1)										
Total Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 02/14/03 (P3B1409-DUP1)					**Source: PMB0243-02**					
Total Suspended Solids	ND	10	mg/l		ND				5	
Duplicate Analyzed: 02/14/03 (P3B1409-DUP2)					**Source: PMB0254-04**					
Total Suspended Solids	ND	10	mg/l		ND				5	
Reference Analyzed: 02/14/03 (P3B1409-SRM1)										
Total Suspended Solids	**48.0**	10	mg/l	47.7		101	75-107			
Batch: P3B1806 Extracted: 02/14/03										
Blank Analyzed: 02/19/03 (P3B1806-BLK1)										
Biochemical Oxygen Demand	ND	2.0	mg/l							
LCS Analyzed: 02/19/03 (P3B1806-BS1)										
Biochemical Oxygen Demand	**211**	2.0	mg/l	198		107	85-115			
Duplicate Analyzed: 02/19/03 (P3B1806-DUP1)					**Source: PMB0346-01**					
Biochemical Oxygen Demand	**200**	2.0	mg/l		210			5	20	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: C3B2404 Extracted: 02/24/03										
Blank Analyzed: 02/24/03 (C3B2404-BLK1)										
Total Kjeldahl Nitrogen	ND	0.50	mg/l							
LCS Analyzed: 02/24/03 (C3B2404-BS1)										
Total Kjeldahl Nitrogen	**10.1**	0.50	mg/l	10.0		101	85-120			
LCS Dup Analyzed: 02/24/03 (C3B2404-BSD1)										
Total Kjeldahl Nitrogen	**10.1**	0.50	mg/l	10.0		101	85-120	0	15	
Matrix Spike Analyzed: 02/24/03 (C3B2404-MS1)					**Source: CMB0086-14**					
Total Kjeldahl Nitrogen	**11.2**	0.50	mg/l	10.0	0.84	104	85-120			
Matrix Spike Dup Analyzed: 02/24/03 (C3B2404-MSD1)					**Source: CMB0086-14**					
Total Kjeldahl Nitrogen	**10.6**	0.50	mg/l	10.0	0.84	98	85-120	6	15	
Batch: C3B2409 Extracted: 02/24/03										
Blank Analyzed: 02/25/03 (C3B2409-BLK1)										
Total Kjeldahl Nitrogen	ND	0.50	mg/l							
LCS Analyzed: 02/25/03 (C3B2409-BS1)										
Total Kjeldahl Nitrogen	**10.1**	0.50	mg/l	10.0		101	85-120			
LCS Dup Analyzed: 02/25/03 (C3B2409-BSD1)										
Total Kjeldahl Nitrogen	**10.4**	0.50	mg/l	10.0		104	85-120	3	15	
Matrix Spike Analyzed: 02/25/03 (C3B2409-MS1)					**Source: CMB0093-01**					
Total Kjeldahl Nitrogen	**10.1**	0.50	mg/l	10.0	ND	101	85-120			

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: C3B2409 Extracted: 02/24/03										
Matrix Spike Dup Analyzed: 02/25/03 (C3B2409-MSD1)					**Source: CMB0093-01**					
Total Kjeldahl Nitrogen	**10.4**	0.50	mg/l	10.0	ND	104	85-120	3	15	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3B20077 Extracted: 02/20/03										
Blank Analyzed: 02/22/03 (3B20077-BLK1)										
Cadmium	ND	1.0	ug/l							
Chromium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Nickel	ND	1.0	ug/l							
LCS Analyzed: 02/22/03 (3B20077-BS1)										
Cadmium	**82.1**	1.0	ug/l	80.0		103	85-115			
Chromium	**81.3**	1.0	ug/l	80.0		102	85-115			
Copper	**79.5**	2.0	ug/l	80.0		99	85-115			
Lead	**82.0**	1.0	ug/l	80.0		102	85-115			
Nickel	**78.8**	1.0	ug/l	80.0		98	85-115			
Matrix Spike Analyzed: 02/22/03 (3B20077-MS1)					**Source: IMB0626-28**					
Cadmium	**80.4**	1.0	ug/l	80.0	0.27	100	70-130			
Chromium	**80.9**	1.0	ug/l	80.0	2.6	98	70-130			
Copper	**85.2**	2.0	ug/l	80.0	7.7	97	70-130			
Lead	**85.2**	1.0	ug/l	80.0	3.9	102	70-130			
Nickel	**80.3**	1.0	ug/l	80.0	3.1	97	70-130			
Matrix Spike Dup Analyzed: 02/22/03 (3B20077-MSD1)					**Source: IMB0626-28**					
Cadmium	**81.2**	1.0	ug/l	80.0	0.27	101	70-130	1	20	
Chromium	**82.0**	1.0	ug/l	80.0	2.6	99	70-130	1	20	
Copper	**87.3**	2.0	ug/l	80.0	7.7	100	70-130	2	20	
Lead	**86.1**	1.0	ug/l	80.0	3.9	103	70-130	1	20	
Nickel	**80.7**	1.0	ug/l	80.0	3.1	97	70-130	0.5	20	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3B20066 Extracted: 02/20/03										
Blank Analyzed: 02/21/03 (3B20066-BLK1)										
Cadmium	ND	1.0	ug/l							
Chromium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Nickel	ND	1.0	ug/l							
LCS Analyzed: 02/21/03 (3B20066-BS1)										
Cadmium	**73.3**	1.0	ug/l	80.0		92	85-115			
Chromium	**86.4**	1.0	ug/l	80.0		108	85-115			
Copper	**77.9**	2.0	ug/l	80.0		97	85-115			
Lead	**77.8**	1.0	ug/l	80.0		97	85-115			
Nickel	**83.1**	1.0	ug/l	80.0		104	85-115			
Matrix Spike Analyzed: 02/21/03 (3B20066-MS1)					**Source: IMB0626-02**					
Cadmium	**75.2**	1.0	ug/l	80.0	0.16	94	70-130			
Chromium	**91.9**	1.0	ug/l	80.0	5.4	108	70-130			
Copper	**92.7**	2.0	ug/l	80.0	14	98	70-130			
Lead	**79.5**	1.0	ug/l	80.0	0.56	99	70-130			
Nickel	**85.8**	1.0	ug/l	80.0	3.3	103	70-130			
Matrix Spike Dup Analyzed: 02/21/03 (3B20066-MSD1)					**Source: IMB0626-02**					
Cadmium	**72.6**	1.0	ug/l	80.0	0.16	91	70-130	4	20	
Chromium	**89.5**	1.0	ug/l	80.0	5.4	105	70-130	3	20	
Copper	**90.3**	2.0	ug/l	80.0	14	95	70-130	3	20	
Lead	**77.7**	1.0	ug/l	80.0	0.56	96	70-130	2	20	
Nickel	**83.0**	1.0	ug/l	80.0	3.3	100	70-130	3	20	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3B19046 Extracted: 02/19/03										
Blank Analyzed: 02/19/03 (3B19046-BLK1)										
Phosphorus	ND	0.050	mg/l							
LCS Analyzed: 02/19/03 (3B19046-BS1)										
Phosphorus	**0.868**	0.050	mg/l	1.00		87	80-120			
Matrix Spike Analyzed: 02/19/03 (3B19046-MS1)					**Source: IMB0624-15**					
Phosphorus	**0.894**	0.050	mg/l	1.00	0.019	88	65-130			
Matrix Spike Dup Analyzed: 02/19/03 (3B19046-MSD1)					**Source: IMB0624-15**					
Phosphorus	**0.995**	0.050	mg/l	1.00	0.019	98	65-130	11	15	
Batch: 3B25034 Extracted: 02/25/03										
Blank Analyzed: 02/25/03 (3B25034-BLK1)										
Chemical Oxygen Demand	ND	20	mg/l							
LCS Analyzed: 02/25/03 (3B25034-BS1)										
Chemical Oxygen Demand	**525**	20	mg/l	500		105	90-110			
Matrix Spike Analyzed: 02/25/03 (3B25034-MS1)					**Source: IMB0912-01**					
Chemical Oxygen Demand	**1010**	40	mg/l	1000	ND	101	90-110			
Matrix Spike Dup Analyzed: 02/25/03 (3B25034-MSD1)					**Source: IMB0912-01**					
Chemical Oxygen Demand	**951**	40	mg/l	1000	ND	95	90-110	6	15	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Client Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0298

Sampled: 02/13/03
Received: 02/13/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
atch: 3C03028 Extracted: 03/03/03										
Blank Analyzed: 03/03/03 (3C03028-BLK1)										
Ammonia-N	ND	0.50	mg/l							
CS Analyzed: 03/03/03 (3C03028-BS1)										
mmonia-N	**1.03**	0.50	mg/l	1.00		103	85-115			
Matrix Spike Analyzed: 03/03/03 (3C03028-MS1)					**Source: IMB1610-01**					
mmonia-N	**2.06**	0.50	mg/l	2.00	ND	103	75-125			
atrix Spike Dup Analyzed: 03/03/03 (3C03028-MSD1)					**Source: IMB1610-01**					
Ammonia-N	**2.02**	0.50	mg/l	2.00	ND	101	75-125	2	15	

Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Maricopa County -Flood Control Distr 2801 West Durango Street Phoenix, AZ 85009 Attention: Matt Oller	Client Project ID: Scottsdale NPDES Stormwater Report Number: PMB0298	Sampled: 02/13/03 Received: 02/13/03

METHOD BLANK/QC DATA

DATA QUALIFIERS AND DEFINITIONS

ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported.

RPD Relative Percent Difference

Linda Eshelman
Project Manager

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

TRANSWEST GEOCHEM

March 07, 2003

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

RE: PMB0298-DMAP
Work Order No.: 0302164

Dear Linda,
Transwest Geochem, Inc. received 6 samples on 2/14/2003 11:07:00 AM for the analyses presented in the following report.

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

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

Sincerely,

Michael Barbee for

Vic Nielsen
Project Manager

ADHS License No. AZM133/AZ0133

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

Client: Del Mar Analytical
Work Order: 0302164
Project Name: PMB0298-DMAP
Project Number:

Date Printed: 07-Mar-03

CASE NARRATIVE

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

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

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

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

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

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

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

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

Metals were analyzed using multi-element ICP instrumentation. Some metals reported in the QC report may not be associated with this Work Order.

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

The sample introduction technique for Method 8015AZ used by this laboratory is direct injection.

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

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

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

TRANSWEST GEOCHEM

Date Printed 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Project Name: PMB0298-DMAP
Project Number:
Work Order: 0302164
Date Received: 14-Feb-03

Work Order Sample Summary

Client Sample ID	Lab Sample ID	Test Code	Collection Date
PMB0298-01	0302164-01A	EPA353.2	2/13/2003 10:30:00 AM
PMB0298-03	0302164-02A	EPA353.2	2/13/2003 10:35:00 AM
PMB0298-05	0302164-03A	EPA353.2	2/13/2003 10:45:00 AM
PMB0298-07	0302164-04A	EPA353.2	2/13/2003 11:00:00 AM
PMB0298-09	0302164-05A	EPA353.2	2/13/2003 11:20:00 AM
PMB0298-11	0302164-06A	EPA353.2	2/13/2003 11:30:00 AM

TRANSWEST GEOCHEM

Date Printed 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Project Name: PMB0298-DMAP
Project Number:
Work Order: 0302164
Date Received: 14-Feb-03

Definitions

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

TRANSWEST GEOCHEM

Date Printed 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302164
Lab ID: 0302164-01
Project Name: PMB0298-DMAP
Project Number:

Client Sample ID: PMB0298-01
Collection Date: 2/13/2003 10:30:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	1.2	0.50		mg/L	1.0	EPA353.2	N/A	2/26/03	TL	NO3_W-2/26/2003

Confidential and Privileged

TRANSWEST GEOCHEM

Date Printed 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302164
Lab ID: 0302164-02
Project Name: PMB0298-DMAP
Project Number:

Client Sample ID: PMB0298-03
Collection Date: 2/13/2003 10:35:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	0.69	0.50		mg/L	1.0	EPA353.2	N/A	2/26/03	TL	NO3_W-2/26/2003

Confidential and Privileged

TRANSWEST GEOCHEM

Date Printed 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302164
Lab ID: 0302164-03
Project Name: PMB0298-DMAP
Project Number:

Client Sample ID: PMB0298-05
Collection Date: 2/13/2003 10:45:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	0.54	0.50		mg/L	1.0	EPA353.2	N/A	2/26/03	TL	NO3_W-2/26/2003

Confidential and Privileged

TRANSWEST GEOCHEM

Date Printed 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302164
Lab ID: 0302164-04
Project Name: PMB0298-DMAP
Project Number:

Client Sample ID: PMB0298-07
Collection Date: 2/13/2003 11:00:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	0.55	0.50		mg/L	1.0	EPA353.2	N/A	2/26/03	TL	NO3_W-2/26/2003

Confidential and Privileged

TRANSWEST GEOCHEM

Date Printed 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302164
Lab ID: 0302164-05
Project Name: PMB0298-DMAP
Project Number:

Client Sample ID: PMB0298-09
Collection Date: 2/13/2003 11:20:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	0.82	0.50		mg/L	1.0	EPA353.2	N/A	2/26/03	TL	NO3_W-2/26/2003

Confidential and Privileged

TRANSWEST GEOCHEM

Date Printed 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302164
Lab ID: 0302164-06
Project Name: PMB0298-DMAP
Project Number:

Client Sample ID: PMB0298-11
Collection Date: 2/13/2003 11:30:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	0.57	0.50		mg/L	1.0	EPA353.2	N/A	2/26/03	TL	NO3_W-2/26/2003

Confidential and Privileged

TRANSWEST GEOCHEM

Date: 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302164
Project: PMB0298-DMAP

QC SUMMARY REPORT

Method Blank

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	2/26/03	TL	NO3_W-2/26/2003
Nitrate-Nitrite (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	2/26/03	TL	NO3_W-2/26/2003

TRANSWEST GEOCHEM

Date: 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302164
Project: PMB0298-DMAP

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: **0302212-06CD** Batch ID: NO3_W-2/26/2003											
Client ID:											
Nitrate-Nitrite (As N)	2.0	0.50	mg/L	1.929	1%	20	EPA353.2	N/A	2/26/03	TL	
Sample ID: **0302164-03AD** Batch ID: NO3_W-2/26/2003											
Client ID: **PMB0298-05**											
Nitrate-Nitrite (As N)	0.54	0.50	mg/L	0.5429	0%	20	EPA353.2	N/A	2/26/03	TL	

TRANSWEST GEOCHEM

Date: 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302164
Project: PMB0298-DMAP

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: **0302212-06CS**	Batch ID: NO3_W-2/26/2003			Test Code: EPA353.2				Date Analyzed: 02/26/03 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	11.64	1.0	10.00	2.257	94%	90	110				
Sample ID: **0302164-03AS**	Batch ID: NO3_W-2/26/2003			Test Code: EPA353.2				Date Analyzed: 02/26/03 00:00			
Client ID: **PMB0298-05**				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	4.967	0.50	5.000	<0.50	99%	90	110				

TRANSWEST GEOCHEM

Date: 05-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302164
Project: PMB0298-DMAP

QC SUMMARY REPORT

Blank Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: LCS	Batch ID: NO3_W-2/26/2003			Test Code: EPA353.2				Date Analyzed: 02/26/03 00:00			
				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.003	0.50	5.000	<0.50	100%	90	110				

Del Mar Analytical

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

CHAIN OF CUSTODY FORM
SUBCONTRACT ORDER

0302164

SENDING LABORATORY:
Del Mar Analytical - Phoenix
9830 South 51st Street, Suite B-120
Phoenix, AZ 85044
Phone: (480) 785-0043
Fax: (480) 785-0851
Project Manager: Linda Eshelman
Project: PMB0298-DMAP

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

SAMPLE INTEGRITY:
Please complete upon receipt
intact: ☑ Y ☐ N Initials AC
on ice: ☑ Y ☐ N Initials AC
Temp: °C ☑ Y ☐ N Initials AC
2.3

Sample Description	Sample Matrix	Sampling Date/Time	Analysis Required	Date Due	Expires	# of Cont.	Sample Bottle Type
PMB0298-01	Water	02/13/03 10:30	NO3/NO2-N (353.2)	Standard TAT	03/13/03 10:30	1	☐ Voa ☐ Amber Voa ☑ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other
Special Instructions: Transwest							
PMB0298-03	Water	02/13/03 10:35	NO3/NO2-N (353.2)	Standard TAT	03/13/03 10:35	1	☐ Voa ☐ Amber Voa ☑ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other
Special Instructions: Transwest							
PMB0298-05	Water	02/13/03 10:45	NO3/NO2-N (353.2)	Standard TAT	03/13/03 10:45	1	☐ Voa ☐ Amber Voa ☑ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other
Special Instructions: Transwest							
PMB0298-07	Water	02/13/03 11:00	NO3/NO2-N (353.2)	Standard TAT	03/13/03 11:00	1	☐ Voa ☐ Amber Voa ☑ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other
Special Instructions: Transwest							
PMB0298-09	Water	02/13/03 11:20	NO3/NO2-N (353.2)	Standard TAT	03/13/03 11:20	1	☐ Voa ☐ Amber Voa ☑ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other
Special Instructions: Transwest							

Del Mar Analytical

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

CHAIN OF CUSTODY FORM
SUBCONTRACT ORDER

PMB0298-11 Water 02/13/03 10:30 NO3/NO2-N (353.2)

Standard TAT 03/13/03 10:30 1

- [ ] Voa
- [ ] Amber Voa
- [x] Poly
- [ ] Glass Jar
- [ ] Amber
- [ ] Brass Slee
- [ ] Other _____

Special Instructions:
Transwest

Relinquished By	Date/Time:	Received By:	Date/Time:
[illegible]	2-14-03 1040	[illegible]	2-14-03 1040
[illegible]	2-14-03 1107	Amy Ford	2/14/03 11:07

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

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

Project: Scottsdale NPDES Stormwater

Sampled: 02/25/03
Received: 02/25/03
Issued: 03/07/03

AZ DHS #AZ0426

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. This entire report was reviewed and approved for release.

FLOOD CONTROL DISTRICT
RECEIVED
MAR 13 '03
CH & GM | FINANCE
PIO | LANDS
ADMIN | O & M
REG | P & PM
✓ENG | FILE
CONTRACTS
ROUTING
MAO

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, on ice, at 8°C, and with chain of custody documentation.
HOLDING TIMES:	Holding times were met.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS:	No significant observations were made.
SUBCONTRACTED:	No analyses were subcontracted to an outside laboratory.
ADDITIONAL INFORMATION:	N2 - See Corrective Action Report.

LABORATORY ID	CLIENT ID	MATRIX
PMB0608-01	Pierce	Water
PMB0608-02	McKellips	Water
PMB0608-03	Camelback	Water
PMB0608-04	Hayden	Water
PMB0608-05	Thunderbird	Water

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID Scottsdale NPDES Stormwater

Report Number: PMB0608

Sampled: 02/25/03
Received: 02/25/03

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/l	mg/l				
Sample ID: PMB0608-01 (Pierce - Water)				**Sampled: 02/25/03**				
Oil & Grease	EPA 413.2	P3C0706	1.0	**7.7**	1.02	3/7/03	3/7/03	
Sample ID: PMB0608-02 (McKellips - Water)				**Sampled: 02/25/03**				
Oil & Grease	EPA 413.2	P3C0706	1.0	**2.5**	1.02	3/7/03	3/7/03	
Sample ID: PMB0608-03 (Camelback - Water)				**Sampled: 02/25/03**				
Oil & Grease	EPA 413.2	P3C0706	1.0	**1.3**	1.02	3/7/03	3/7/03	
Sample ID: PMB0608-04 (Hayden - Water)				**Sampled: 02/25/03**				
Oil & Grease	EPA 413.2	P3C0706	1.0	ND	0.965	3/7/03	3/7/03	
Sample ID: PMB0608-05 (Thunderbird - Water)				**Sampled: 02/25/03**				
Oil & Grease	EPA 413.2	P3C0706	1.0	**6.7**	1.02	3/7/03	3/7/03	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0608

Sampled: 02/25/03
Received: 02/25/03

MICROBIOLOGICALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			MPN/100 ml	MPN/100 ml				
Sample ID: PMB0608-01 (Pierce - Water)				**Sampled: 02/25/03**				
Fecal Coliform	SM 9221E	P3B2609	2.0	**11000**	1	2/25/03	2/27/03	
Fecal Streptococcus	SM9230B	P3B2607	2.0	**110000**	1	2/25/03	2/28/03	
Sample ID: PMB0608-02 (McKellips - Water)				**Sampled: 02/25/03**				
Fecal Coliform	SM 9221E	P3B2609	2.0	**130**	1	2/25/03	2/28/03	
Fecal Streptococcus	SM9230B	P3B2607	2.0	**8000**	1	2/25/03	2/28/03	
Sample ID: PMB0608-03 (Camelback - Water)				**Sampled: 02/25/03**				
Fecal Coliform	SM 9221E	P3B2609	2.0	**3000**	1	2/25/03	2/28/03	N2
Fecal Streptococcus	SM9230B	P3B2607	2.0	**50000**	1	2/25/03	2/28/03	
Sample ID: PMB0608-04 (Hayden - Water)				**Sampled: 02/25/03**				
Fecal Coliform	SM 9221E	P3B2609	2.0	**8000**	1	2/25/03	2/28/03	
Fecal Streptococcus	SM9230B	P3B2607	2.0	**11000**	1	2/25/03	2/28/03	
Sample ID: PMB0608-05 (Thunderbird - Water)				**Sampled: 02/25/03**				
Fecal Coliform	SM 9221E	P3B2609	2.0	**280**	1	2/25/03	2/27/03	
Fecal Streptococcus	SM9230B	P3B2607	2.0	**5000**	1	2/25/03	2/28/03	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0608

Sampled: 02/25/03
Received: 02/25/03

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Pierce (PMB0608-01) - Water					
SM 9221E	0	02/25/2003 15:45	02/25/2003 17:45	02/25/2003 18:21	02/27/2003 15:30
SM9230B	0	02/25/2003 15:45	02/25/2003 17:45	02/25/2003 18:21	02/28/2003 15:45
Sample ID: McKellips (PMB0608-02) - Water					
SM 9221E	0	02/25/2003 16:00	02/25/2003 17:45	02/25/2003 18:33	02/28/2003 14:16
SM9230B	0	02/25/2003 16:00	02/25/2003 17:45	02/25/2003 18:33	02/28/2003 15:47
Sample ID: Camelback (PMB0608-03) - Water					
SM 9221E	0	02/25/2003 14:25	02/25/2003 17:45	02/25/2003 18:40	02/28/2003 14:17
SM9230B	0	02/25/2003 14:25	02/25/2003 17:45	02/25/2003 18:40	02/28/2003 15:50
Sample ID: Hayden (PMB0608-04) - Water					
SM 9221E	0	02/25/2003 14:40	02/25/2003 17:45	02/25/2003 18:50	02/28/2003 14:18
SM9230B	0	02/25/2003 14:40	02/25/2003 17:45	02/25/2003 18:50	02/28/2003 15:51
Sample ID: Thunderbird (PMB0608-05) - Water					
SM 9221E	0	02/25/2003 16:30	02/25/2003 17:45	02/25/2003 19:00	02/27/2003 20:45
SM9230B	0	02/25/2003 16:30	02/25/2003 17:45	02/25/2003 19:00	02/28/2003 15:53

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0608

Sampled: 02/25/03
Received: 02/25/03

METHOD BLANK/QC DATA

TOTAL RECOVERABLE OIL & GREASE (EPA 413.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3C0706 Extracted: 03/07/03										
Blank Analyzed: 03/07/03 (P3C0706-BLK1)										
Oil & Grease	ND	1.0	mg/l							
LCS Analyzed: 03/07/03 (P3C0706-BS1)										Q8
Oil & Grease	11.3	1.0	mg/l	10.0		113	85-135			
LCS Dup Analyzed: 03/07/03 (P3C0706-BSD1)										
Oil & Grease	11.3	1.0	mg/l	10.0		113	85-135	0	15	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0608

Sampled: 02/25/03
Received: 02/25/03

DATA QUALIFIERS AND DEFINITIONS

N2	See corrective action report.
Q8	Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CORRECTIVE ACTION REPORT

Department: Microbiology
Method: SM9221E
QC Batch: P3B2609

Date: 2/27/03
Matrix: Water

Identification and Definition of Problem:

The presumptive phase of batch P3B2609 for Coliforms was not read within 48 ± 3 hours.

Determination of the Cause of the Problem:

Due to an oversight the samples were read 40 minutes too early.

Corrective Action Taken:

Changes will be made to our written procedure to help ensure that future samples are checked within the correct time. Since the affected samples were checked 40 minutes early there may be a slight low bias. The samples have been flagged "N2" to indicate this low bias.

Quality Assurance Approval: [illegible] 03·12·03

Ref: 3691

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

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

Project: Scottsdale NPDES Stormwater

Sampled: 02/26/03
Received: 02/26/03
Issued: 03/11/03

AZ DHS #AZ0426

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, on ice, at 3°C, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

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

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: The TDS, TSS and dissolved metals were not analyzed for Thunderbird Rd. due to insuffient sample volume received.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID	CLIENT ID	MATRIX
PMB0629-01	McKellips Rd	Water
PMB0629-02	McKellips Rd.	Water
PMB0629-03	Thunderbird Rd.	Water

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

TOTAL RECOVERABLE METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0629-01 (McKellips Rd - Water)				**Sampled: 02/26/03**				
Reporting Units: mg/l								
Calcium	EPA 200.7	P3C0321	2.0	**15**	1	3/3/03	3/4/03	
Magnesium	EPA 200.7	P3C0321	0.50	**6.6**	1	3/3/03	3/4/03	
Zinc	EPA 200.7	P3C0321	0.050	**0.11**	1	3/3/03	3/4/03	
Sample ID: PMB0629-03 (Thunderbird Rd. - Water)				**Sampled: 02/26/03**				
Reporting Units: mg/l								
Calcium	EPA 200.7	P3C0321	2.0	**13**	1	3/3/03	3/4/03	
Magnesium	EPA 200.7	P3C0321	0.50	**6.6**	1	3/3/03	3/4/03	
Zinc	EPA 200.7	P3C0321	0.050	**0.21**	1	3/3/03	3/4/03	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0629-02 (McKellips Rd. - Water)				**Sampled: 02/26/03**				
Reporting Units: mg/l								
Zinc, Dissolved	EPA 200.7	P3C0321	0.050	ND	1	3/3/03	3/5/03	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0629-01 (McKellips Rd - Water)				**Sampled: 02/26/03**				
Reporting Units: mg/l								
Ammonia-N	EPA 350.3	P3C0611	0.050	**0.36**	1	3/6/03	3/6/03	
Biochemical Oxygen Demand	EPA 405.1	P3B2804	2.0	**4.1**	1	2/26/03	3/3/03	
Hardness (CaCO3)	SM2340B	P3C0321	1.0	**65**	1	3/3/03	3/4/03	
Orthophosphate	EPA 300.0	P3B2601	0.50	ND	1	2/26/03	2/26/03	
Total Dissolved Solids	SM2540C	P3C0420	20	**120**	1	3/4/03	3/4/03	
Total Suspended Solids	EPA 160.2	P3B2704	10	**190**	1	2/27/03	2/27/03	
Sample ID: PMB0629-02 (McKellips Rd. - Water)				**Sampled: 02/26/03**				
Reporting Units: None								
Filtration	PREP METHOD	P3C0619	1.0	ND	1	2/26/03	2/26/03	
Sample ID: PMB0629-03 (Thunderbird Rd. - Water)				**Sampled: 02/26/03**				
Reporting Units: mg/l								
Ammonia-N	EPA 350.3	P3C0611	0.050	**0.66**	1	3/6/03	3/6/03	
Biochemical Oxygen Demand	EPA 405.1	P3B2804	2.0	**9.2**	1	2/26/03	3/3/03	
Orthophosphate	EPA 300.0	P3B2601	0.50	ND	1	2/26/03	2/26/03	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0629-01 (McKellips Rd - Water)				**Sampled: 02/26/03**				
Reporting Units: mg/l								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C3C0706	0.50	**0.84**	1	3/7/03	3/7/03	
Sample ID: PMB0629-03 (Thunderbird Rd. - Water)				**Sampled: 02/26/03**				
Reporting Units: mg/l								
Total Kjeldahl Nitrogen	SM4500-N-O,C	C3C0706	0.50	ND	1	3/7/03	3/7/03	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0629-01 (McKellips Rd - Water)				**Sampled: 02/26/03**				
Reporting Units: ug/l								
Cadmium	EPA 200.8	3C05087	1.0	**1.7**	1	3/5/03	3/7/03	
Chromium	EPA 200.8	3C05087	1.0	**8.9**	1	3/5/03	3/7/03	
Copper	EPA 200.8	3C05087	2.0	**13**	1	3/5/03	3/7/03	
Lead	EPA 200.8	3C05087	1.0	**9.8**	1	3/5/03	3/7/03	
Nickel	EPA 200.8	3C05087	1.0	**10**	1	3/5/03	3/7/03	
Sample ID: PMB0629-03 (Thunderbird Rd. - Water)				**Sampled: 02/26/03**				
Reporting Units: ug/l								
Cadmium	EPA 200.8	3C05087	1.0	ND	1	3/5/03	3/7/03	
Chromium	EPA 200.8	3C05087	1.0	**15**	1	3/5/03	3/7/03	
Copper	EPA 200.8	3C05087	2.0	**41**	1	3/5/03	3/7/03	
Lead	EPA 200.8	3C05087	1.0	**18**	1	3/5/03	3/7/03	
Nickel	EPA 200.8	3C05087	1.0	**16**	1	3/5/03	3/7/03	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0629-02 (McKellips Rd. - Water)				**Sampled: 02/26/03**				
Reporting Units: ug/l								
Cadmium	EPA 200.8-Diss	3C06032	1.0	ND	1	3/6/03	3/7/03	
Chromium	EPA 200.8-Diss	3C06032	1.0	**2.0**	1	3/6/03	3/7/03	
Copper	EPA 200.8-Diss	3C06032	2.0	**3.6**	1	3/6/03	3/7/03	
Lead	EPA 200.8-Diss	3C06032	1.0	ND	1	3/6/03	3/7/03	
Nickel	EPA 200.8-Diss	3C06032	1.0	**1.4**	1	3/6/03	3/7/03	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PMB0629-01 (McKellips Rd - Water)				**Sampled: 02/26/03**				
Reporting Units: mg/l								
Chemical Oxygen Demand	EPA 410.4	3C04036	20	**31**	1	3/4/03	3/5/03	
Phosphorus	EPA 365.3	3B28044	0.050	**0.17**	1	2/28/03	2/28/03	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: McKellips Rd (PMB0629-01) - Water					
EPA 300.0	2	02/26/2003 07:30	02/26/2003 12:30	02/26/2003 08:54	02/26/2003 17:36
EPA 405.1	2	02/26/2003 07:30	02/26/2003 12:30	02/26/2003 17:43	03/03/2003 13:35
Sample ID: McKellips Rd. (PMB0629-02) - Water					
PREP METHOD	1	02/26/2003 07:30	02/26/2003 12:30	02/26/2003 14:30	02/26/2003 14:30
Sample ID: Thunderbird Rd. (PMB0629-03) - Water					
EPA 300.0	2	02/26/2003 08:47	02/26/2003 12:30	02/26/2003 08:54	02/26/2003 17:50
EPA 405.1	2	02/26/2003 08:47	02/26/2003 12:30	02/26/2003 17:46	03/03/2003 13:35

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3C0321 Extracted: 03/03/03										
Blank Analyzed: 03/04/03 (P3C0321-BLK1)										
Calcium	ND	2.0	mg/l							
Magnesium	ND	0.50	mg/l							
Zinc	ND	0.050	mg/l							
Blank Analyzed: 03/04/03 (P3C0321-BLK2)										
Calcium	ND	2.0	mg/l							
Magnesium	ND	0.50	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 03/04/03 (P3C0321-BS1)										
Calcium	10.7	2.0	mg/l	9.99		107	85-115			
Magnesium	10.6	0.50	mg/l	9.99		106	85-115			
Zinc	1.08	0.050	mg/l	0.999		108	85-115			
LCS Dup Analyzed: 03/04/03 (P3C0321-BSD1)										
Calcium	10.7	2.0	mg/l	9.99		107	85-115	0	20	
Magnesium	10.5	0.50	mg/l	9.99		105	85-115	1	20	
Zinc	1.06	0.050	mg/l	0.999		106	85-115	2	20	
Matrix Spike Analyzed: 03/04/03 (P3C0321-MS1)					**Source: PMB0536-01**					
Calcium	303	2.0	mg/l	9.99	290	130	70-130			
Magnesium	198	0.50	mg/l	9.99	190	80	70-130			
Zinc	1.13	0.050	mg/l	0.999	0.064	107	70-130			
Matrix Spike Dup Analyzed: 03/04/03 (P3C0321-MSD1)					**Source: PMB0536-01**					
Calcium	298	2.0	mg/l	9.99	290	80	70-130	2	20	
Magnesium	195	0.50	mg/l	9.99	190	50	70-130	2	20	*M2*
Zinc	1.11	0.050	mg/l	0.999	0.064	105	70-130	2	20	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3C0321 Extracted: 03/03/03										
Blank Analyzed: 03/04/03 (P3C0321-BLK1)										
Zinc, Dissolved	ND	0.050	mg/l							
Blank Analyzed: 03/04/03 (P3C0321-BLK2)										
Zinc, Dissolved	ND	0.050	mg/l							
LCS Analyzed: 03/04/03 (P3C0321-BS1)										
Zinc, Dissolved	1.08	0.050	mg/l	0.999		108	85-115			
LCS Dup Analyzed: 03/04/03 (P3C0321-BSD1)										
Zinc, Dissolved	1.06	0.050	mg/l	0.999		106	85-115	2	20	
Matrix Spike Analyzed: 03/04/03 (P3C0321-MS1)					**Source: PMB0536-01**					
Zinc, Dissolved	1.13	0.050	mg/l	0.999	0.064	107	70-130			
Matrix Spike Dup Analyzed: 03/04/03 (P3C0321-MSD1)					**Source: PMB0536-01**					
Zinc, Dissolved	1.11	0.050	mg/l	0.999	0.064	105	70-130	2	20	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3B2601 Extracted: 02/26/03										
Blank Analyzed: 02/26/03 (P3B2601-BLK1)										
Orthophosphate	ND	0.50	mg/l							
LCS Analyzed: 02/26/03 (P3B2601-BS1)										
Orthophosphate	5.15	0.50	mg/l	5.00		103	90-110			
LCS Dup Analyzed: 02/26/03 (P3B2601-BSD1)										
Orthophosphate	5.31	0.50	mg/l	5.00		106	90-110	3	15	
Matrix Spike Analyzed: 02/26/03 (P3B2601-MS1)					**Source: PMB0595-01RE**					
Orthophosphate	60.9	5.0	mg/l	50.0	8.8	104	80-120			
Matrix Spike Dup Analyzed: 02/26/03 (P3B2601-MSD1)					**Source: PMB0595-01RE**					
Orthophosphate	60.7	5.0	mg/l	50.0	8.8	104	80-120	0	20	
Batch: P3B2704 Extracted: 02/27/03										
Blank Analyzed: 02/27/03 (P3B2704-BLK1)										
Total Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 02/27/03 (P3B2704-DUP1)					**Source: PMB0619-02**					
Total Suspended Solids	ND	10	mg/l		ND				5	
Duplicate Analyzed: 02/27/03 (P3B2704-DUP2)					**Source: PMB0593-07**					
Total Suspended Solids	100	20	mg/l		110			10	20	
Reference Analyzed: 02/27/03 (P3B2704-SRM1)										
Total Suspended Solids	44.0	10	mg/l	47.7		92	75-107			

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3B2804 Extracted: 02/26/03										
Blank Analyzed: 03/03/03 (P3B2804-BLK1)										
Biochemical Oxygen Demand	ND	2.0	mg/l							
LCS Analyzed: 03/03/03 (P3B2804-BS1)										
Biochemical Oxygen Demand	178	2.0	mg/l	198		90	85-115			
Duplicate Analyzed: 03/03/03 (P3B2804-DUP1)					**Source: PMB0593-04**					
Biochemical Oxygen Demand	532	2.0	mg/l		520			2	20	
Batch: P3C0420 Extracted: 03/04/03										
Blank Analyzed: 03/04/03 (P3C0420-BLK1)										
Total Dissolved Solids	ND	20	mg/l							
LCS Analyzed: 03/04/03 (P3C0420-BS1)										
Total Dissolved Solids	416	20	mg/l	400		104	80-115			
Duplicate Analyzed: 03/04/03 (P3C0420-DUP1)					**Source: PMB0628-01**					
Total Dissolved Solids	74.0	20	mg/l		80			8	20	
Duplicate Analyzed: 03/04/03 (P3C0420-DUP2)					**Source: PMC0045-02**					
Total Dissolved Solids	238	20	mg/l		240			1	5	
Batch: P3C0611 Extracted: 03/06/03										
Blank Analyzed: 03/06/03 (P3C0611-BLK1)										
Ammonia-N	ND	0.050	mg/l							

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P3C0611 Extracted: 03/06/03										
LCS Analyzed: 03/06/03 (P3C0611-BS1)										
Ammonia-N	0.470	0.050	mg/l	0.500		94	85-115			
LCS Dup Analyzed: 03/06/03 (P3C0611-BSD1)										
Ammonia-N	0.459	0.050	mg/l	0.500		92	85-115	2	200	
Matrix Spike Analyzed: 03/06/03 (P3C0611-MS1)					**Source: PMC0014-01**					
Ammonia-N	0.502	0.050	mg/l	0.500	0.036	93	70-130			
Matrix Spike Dup Analyzed: 03/06/03 (P3C0611-MSD1)					**Source: PMC0014-01**					
Ammonia-N	0.514	0.050	mg/l	0.500	0.036	96	70-130	2	20	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: C3C0706 Extracted: 03/07/03										
Blank Analyzed: 03/07/03 (C3C0706-BLK1)										
Total Kjeldahl Nitrogen	ND	0.50	mg/l							
LCS Analyzed: 03/07/03 (C3C0706-BS1)										
Total Kjeldahl Nitrogen	9.52	0.50	mg/l	10.0		95	85-120			
LCS Dup Analyzed: 03/07/03 (C3C0706-BSD1)										
Total Kjeldahl Nitrogen	9.52	0.50	mg/l	10.0		95	85-120	0	15	
Matrix Spike Analyzed: 03/07/03 (C3C0706-MS1)					**Source: CMB0197-19**					
Total Kjeldahl Nitrogen	10.1	0.50	mg/l	10.0	ND	101	85-120			
Matrix Spike Dup Analyzed: 03/07/03 (C3C0706-MSD1)					**Source: CMB0197-19**					
Total Kjeldahl Nitrogen	9.80	0.50	mg/l	10.0	ND	98	85-120	3	15	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3C05087 Extracted: 03/05/03										
Blank Analyzed: 03/06/03 (3C05087-BLK1)										
Cadmium	ND	1.0	ug/l							
Chromium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Nickel	ND	1.0	ug/l							
LCS Analyzed: 03/07/03 (3C05087-BS1)										
Cadmium	77.5	1.0	ug/l	80.0		97	85-115			
Chromium	77.4	1.0	ug/l	80.0		97	85-115			
Copper	76.7	2.0	ug/l	80.0		96	85-115			
Lead	78.3	1.0	ug/l	80.0		98	85-115			
Nickel	76.6	1.0	ug/l	80.0		96	85-115			
Matrix Spike Analyzed: 03/06/03 (3C05087-MS1)					**Source: IMB1479-24**					
Cadmium	87.5	1.0	ug/l	80.0	0.79	108	70-130			
Chromium	84.0	1.0	ug/l	80.0	7.3	96	70-130			
Copper	121	2.0	ug/l	80.0	43	98	70-130			
Lead	170	1.0	ug/l	80.0	87	104	70-130			
Nickel	81.7	1.0	ug/l	80.0	6.0	95	70-130			
Matrix Spike Analyzed: 03/07/03 (3C05087-MS2)					**Source: IMB1516-03**					
Cadmium	77.4	1.0	ug/l	80.0	ND	97	70-130			
Chromium	82.1	1.0	ug/l	80.0	8.3	92	70-130			
Copper	87.8	2.0	ug/l	80.0	6.0	102	70-130			
Lead	1620	1.0	ug/l	80.0	1500	150	70-130			*M3*
Nickel	83.0	1.0	ug/l	80.0	4.4	98	70-130			
Matrix Spike Dup Analyzed: 03/06/03 (3C05087-MSD1)					**Source: IMB1479-24**					
Cadmium	87.3	1.0	ug/l	80.0	0.79	108	70-130	0	20	
Chromium	84.0	1.0	ug/l	80.0	7.3	96	70-130	0	20	
Copper	121	2.0	ug/l	80.0	43	98	70-130	0	20	
Lead	174	1.0	ug/l	80.0	87	109	70-130	2	20	
Nickel	81.6	1.0	ug/l	80.0	6.0	94	70-130	0	20	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3C06032 Extracted: 03/06/03										
Blank Analyzed: 03/07/03 (3C06032-BLK1)										
Cadmium	ND	1.0	ug/l							
Chromium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Nickel	ND	1.0	ug/l							
LCS Analyzed: 03/07/03 (3C06032-BS1)										
Cadmium	94.7	1.0	ug/l	100		95	85-115			
Chromium	100	1.0	ug/l	100		100	85-115			
Copper	96.7	2.0	ug/l	100		97	85-115			
Lead	95.5	1.0	ug/l	100		96	85-115			
Nickel	98.3	1.0	ug/l	100		98	85-115			
Matrix Spike Analyzed: 03/07/03 (3C06032-MS1)					**Source: PMB0629-02**					
Cadmium	94.2	1.0	ug/l	100	0.21	94	70-130			
Chromium	99.0	1.0	ug/l	100	2.0	97	70-130			
Copper	98.7	2.0	ug/l	100	3.6	95	70-130			
Lead	94.5	1.0	ug/l	100	0.78	94	70-130			
Nickel	97.0	1.0	ug/l	100	1.4	96	70-130			
Matrix Spike Dup Analyzed: 03/07/03 (3C06032-MSD1)					**Source: PMB0629-02**					
Cadmium	94.8	1.0	ug/l	100	0.21	95	70-130	1	20	
Chromium	98.4	1.0	ug/l	100	2.0	96	70-130	1	20	
Copper	105	2.0	ug/l	100	3.6	101	70-130	6	20	
Lead	95.1	1.0	ug/l	100	0.78	94	70-130	1	20	
Nickel	97.8	1.0	ug/l	100	1.4	96	70-130	1	20	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3B28044 Extracted: 02/28/03										
Blank Analyzed: 02/28/03 (3B28044-BLK1)										
Phosphorus	ND	0.050	mg/l							
LCS Analyzed: 02/28/03 (3B28044-BS1)										
Phosphorus	1.01	0.050	mg/l	1.00		101	80-120			
Matrix Spike Analyzed: 02/28/03 (3B28044-MS1)					**Source: IMB1511-01**					
Phosphorus	0.767	0.050	mg/l	1.00	0.35	42	65-130			*M2*
Matrix Spike Dup Analyzed: 02/28/03 (3B28044-MSD1)					**Source: IMB1511-01**					
Phosphorus	0.822	0.050	mg/l	1.00	0.35	47	65-130	7	15	*M2*
Batch: 3C04036 Extracted: 03/04/03										
Blank Analyzed: 03/05/03 (3C04036-BLK1)										
Chemical Oxygen Demand	ND	20	mg/l							
LCS Analyzed: 03/05/03 (3C04036-BS1)										
Chemical Oxygen Demand	504	20	mg/l	500		101	90-110			
Matrix Spike Analyzed: 03/05/03 (3C04036-MS1)					**Source: IMB1524-01**					
Chemical Oxygen Demand	1120	40	mg/l	1000	140	98	90-110			
Matrix Spike Dup Analyzed: 03/05/03 (3C04036-MSD1)					**Source: IMB1524-01**					
Chemical Oxygen Demand	1110	40	mg/l	1000	140	97	90-110	1	15	

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

DATA QUALIFIERS AND DEFINITIONS

M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
M3	The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Scottsdale NPDES Stormwater

Report Number: PMB0629

Sampled: 02/26/03
Received: 02/26/03

Certification Summary

Subcontracted Laboratories

Del Mar Analytical *CA ELAP Cert #1169, AZ DHS Licence #AZ0062 and NV Cert #CA0242*
1014 E. Cooley Dr., Ste. A - Colton, CA 92324
Method Performed: SM4500-N-O,C
Samples: PMB0629-01, PMB0629-03

Del Mar Analytical *CA ELAP Cert #1197, AZ DHS Licence #AZ0428 and NV Cert #CA72-2002-63*
2852 Alton Parkway - Irvine, CA 92606
Method Performed: EPA 200.8
Samples: PMB0629-01, PMB0629-03
Method Performed: EPA 200.8-Diss
Samples: PMB0629-02
Method Performed: EPA 365.3
Samples: PMB0629-01
Method Performed: EPA 410.4
Samples: PMB0629-01

Transwest Geochem *AZ DHS Licence #AZ0133*
3725 E. Atlanta Ave Ste 1 - Phoenix, AZ 85040-2961
Analysis Performed: NO3/NO2-N (353.2)
Samples: PMB0629-01, PMB0629-03

Del Mar Analytical - Phoenix
Linda Eshelman
Project Manager

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

TRANSWEST GEOCHEM

March 14, 2003

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

RE: PMB0629-DMAP
Work Order No.: 0302336

Dear Linda,
Transwest Geochem, Inc. received 2 samples on 2/26/2003 1:33:00 PM for the analyses presented in the following report.

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

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

Sincerely,

Vic Nielsen
Project Manager

ADHS License No. AZM133/AZ0133

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

Client: Del Mar Analytical
Work Order: 0302336
Project Name: PMB0629-DMAP
Project Number:

Date Printed: 14-Mar-03

CASE NARRATIVE

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

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

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

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

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

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

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

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

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

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

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

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

TRANSWEST GEOCHEM

Date Printed 12-Mar-03
License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Project Name: PMB0629-DMAP
Project Number:
Work Order: 0302336
Date Received: 26-Feb-03

Work Order Sample Summary

Client Sample ID	Lab Sample ID	Test Code	Collection Date
PMB0629-01	0302336-01A	EPA353.2	2/26/2003 7:30:00 AM
PMB0629-03	0302336-02A	EPA353.2	2/26/2003 8:47:00 AM

TRANSWEST GEOCHEM

Date Printed 12-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Project Name: PMB0629-DMAP
Project Number:
Work Order: 0302336
Date Received: 26-Feb-03

Definitions

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

TRANSWEST GEOCHEM

Date Printed 12-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302336
Lab ID: 0302336-01
Project Name: PMB0629-DMAP
Project Number:

Client Sample ID: PMB0629-01
Collection Date: 2/26/2003 7:30:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	0.55	0.50		mg/L	1.0	EPA353.2	N/A	3/6/03	TL	NO3_W-3/6/2003

Confidential and Privileged

TRANSWEST GEOCHEM

Date Printed 12-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302336
Lab ID: 0302336-02
Project Name: PMB0629-DMAP
Project Number:

Client Sample ID: PMB0629-03
Collection Date: 2/26/2003 8:47:00 AM
Matrix: WATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate-Nitrite (As N)	0.73	0.50		mg/L	1.0	EPA353.2	N/A	3/6/03	TL	NO3_W-3/6/2003

Confidential and Privileged

TRANSWEST GEOCHEM

Date: 12-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302336
Project: PMB0629-DMAP

QC SUMMARY REPORT

Method Blank

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Nitrate (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	3/6/03	TL	NO3_W-3/6/2003
Nitrate-Nitrite (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	3/6/03	TL	NO3_W-3/6/2003

TRANSWEST GEOCHEM

Date: 12-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302336
Project: PMB0629-DMAP

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: **0302358-01DD**		Batch ID: NO3_W-3/6/2003									
Client ID:											
Nitrate-Nitrite (As N)	3.7	0.50	mg/L	3.605	1%	20	EPA353.2	N/A	3/6/03	TL	

TRANSWEST GEOCHEM

Date: 12-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302336
Project: PMB0629-DMAP

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: **0302358-01DS**	Batch ID: NO3_W-3/6/2003			Test Code: EPA353.2				Date Analyzed: 03/06/03 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	13.75	1.0	10.00	3.631	101%	90	110				

TRANSWEST GEOCHEM

Date: 12-Mar-03

License No. AZM133/AZ0133

CLIENT: Del Mar Analytical
Work Order: 0302336
Project: PMB0629-DMAP

QC SUMMARY REPORT

Blank Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: LCS	Batch ID: NO3_W-3/6/2003			Test Code: EPA353.2				Date Analyzed: 03/06/03 00:00			
				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.026	0.50	5.000	<0.50	101%	90	110				

Del Mar Analytical

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

CHAIN OF CUSTODY FORM 0302336
SUBCONTRACT ORDER

SENDING LABORATORY:
Del Mar Analytical - Phoenix
9830 South 51st Street, Suite B-120
Phoenix, AZ 85044
Phone: (480) 785-0043
Fax: (480) 785-0851
Project Manager: Linda Eshelman
Project: PMB0629-DMAP

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

SAMPLE INTEGRITY:
Please complete upon receipt
intact: ☑ Y ☐ N SH Initials
on ice: ☑ Y ☐ N SH Initials
Temp: °C ☑ Y ☐ N SH Initials
2.6°

Sample Description	Sample Matrix	Sampling Date/Time	Analysis Required	Date Due	Expires	# of Cont.	Sample Bottle Type
PMB0629-01	Water	02/26/03 07:30	NO3/NO2-N (353.2)	Standard TAT	03/26/03 07:30	1	☐ Voa ☐ Amber Voa ☑ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other
Special Instructions: Transwest pH<2							
PMB0629-03	Water	02/26/03 08:47	NO3/NO2-N (353.2)	Standard TAT	03/26/03 08:47	1	☐ Voa ☐ Amber Voa ☑ Poly ☐ Glass Jar ☐ Amber ☐ Brass Sleeve ☐ Other
Special Instructions: Transwest pH<2							

MDU 2-26-03 12:52
Relinquished By Date/Time:

RW Johnson 2-26-03 12:52
Received By: Date/Time:

RW Johnson 2-26-03 13:33
Relinquished By Date/Time:

2/26/03 1337
Received By: Date/Time:

CHAIN OF CUSTODY FORMS

Del Mar Analytical
[redacted] 1014 [redacted]ley Dr., [redacted] Colton, [redacted]24
[redacted] 77 Hay[redacted], Suite [redacted] in Nuys [redacted]406
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123
9830 South 51st St., Suite B-120, Phoenix, AZ 85044
2520 E. Sunset Rd., Suite 3, Las Vegas, NV 89120
2852 Alton Ave., Irvine, CA 92606
(909) 370-4667 FAX (909) 370-1045
(858) 505-8596 FAX (858) 505-9589
(480) 785-0043 FAX (480) 785-0851
(702) 798-3620 FAX (702) 798-3621

Scottsdale Grab

CHAIN OF CUSTODY FORM

Page 1 of 1

Client Name/Address: Flood Control District, 2801 W Durango St., Phoenix, AZ 85009

Project/PO Number: Scottsdale NPDES Stormwater

Project Manager: Matt Giller

Phone Number: 602 506 4663

Sampler:

Fax Number: 602 506 4601

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Oil n Grease 2	Fecal Strep 1	Fecal Coliform 1								Special Instructions
Thunderbird	S	Misc	4	1/8/03	9:55	Yes	X	X	X					PM	A	O	125-1
Cave Creek					10:50												2
Pecos					11:00												3
Travel Blank						Yes											
Pierce					10:25												4
Harborn					10:45												5

Relinquished By:	Date /Time:	Received by:	Date /Time:
[illegible]	1/8/03 1220	[illegible]	1-8-03
Relinquished By:	Date /Time:	Received by:	Date /Time:
Relinquished By:	Date /Time:	Received in Lab by:	Date /Time:
		[illegible]	1-8-03 12:30

Turnaround Time: (Check)
same day _____ 72 hours _____
24 hours _____ 5 days _____
48 hours _____ normal X

Sample Integrity: (Check)
intact _____ on ice X 16°C

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

Del Mar Analytical

Scottsdale Composite

1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
7277 Hayvenhurst, Suite B-12, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9589
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd., Suite 3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

Page 1 of 1

Client Name/Address: Flood Control District 3301 W. Durango St Phoenix AZ 85009

Project/PO Number: Scottsdale NPDES Stormwater

Project Manager: Matt Oller

Phone Number: 602-506-4663

Sampler: Rowland

Fax Number: 602-506-4601

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Hardness TSS TDS	BOD, COD	Total O-PO4 phosphate	TKN, NH3	(NO2+NO3)-N	Cd	Cu	Pb	Zn		Special Instructions
Composite	S	Misc	3	01/08/03	1400	No	X	X	X	X	X	X	X	X	X		Lab will Composite, Split and preserve Composites PMA01531 ↓ 2

Relinquished By: Date /Time: 01/09/03 1105

Received by: Date /Time: 1-9-03

Relinquished By: Date /Time:

Received by: Date /Time:

Relinquished By: Date /Time:

Received in Lab by: Date /Time: 1-9-03 1105

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

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

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

Del Mar Analytical
1014 E. Cooley Dr., Suite A, Colton, CA 92324
277 Ha[redacted]st, Suit[redacted]an Nu[redacted]1406
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9589
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd., Suite 3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Scottsdale Grab

CHAIN OF CUSTODY FORM

Page 1 of 1

Client Name/Address: Maricopa County District, 3401 E. Durango St., Phoenix, AZ 85009

Project/PO Number: Scottsdale NPDES Stormwater

Project Manager: Matt Oller

Phone Number: 602-506-4663

Sampler: Ryan/[illegible]

Fax Number: 602-506-4601

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Oil + Grease 2	Total Solids 1	Total Chlorine 1							Special Instructions
M. Kellips	S	Misc	4	2/12/03	7:25	Yes	X	X	X			PMB028st-1				
[illegible]			4		7:30									2		
Cooler Back			4		7:25									3		
Trip Blank	—	—	—	—	—	Yes	—	—	—							
[illegible]			4		7:00									4		
[illegible]			4		6:30									5		
Dup 1			4		am									6		

Relinquished By:	Date /Time:	Received by:	Date /Time:
[illegible]	2/13/03 1:23	[illegible]	2-13-03
Relinquished By:	Date /Time:	Received by:	Date /Time:
Relinquished By:	Date /Time:	Received in Lab by:	Date /Time:
		[illegible]	2-13-03 8:13

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

Sample Integrity: (Check)
intact ____ on ice X 5°C

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

Del Mar Analytical
2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Scottsdale Composite

CHAIN OF CUSTODY FORM

Client Name/Address: FLOOD CONTROL DISTRICT, 2801 W. DURANGO ST., PHOENIX, AZ 85009

Project/PO Number: SCOTTSDALE NPDES STORMWATER

Project Manager: MATT OLLER

Phone Number: 602-506-4663

Sampler: MAO/PWN

Fax Number: 602-506-4601

Analysis Required: HARDNESS, TSS, TDS, BOD, COD, TOTAL P, ORTHOPHOSPHATE, TKN, NH_3, $(NO_2+NO_3)-N$, Cd, Cr, Cu, Pd (TOTAL + DISSOLVED), Ni, Zn

LAB WILL COMPOSITE, SPLIT, AND PRESERVE COMPOSITES

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Special Instructions
McKellips	S	(2/1 gal) MISC	2	2/13/03 - 1030	NO	PMB0298-1 + 2
Pierce			2	2/13/03 1035		3 + 4
Camelback			1	2/13/03 1045		5 + 6 ~~3 + 5~~
HAYDEN			2	2/13/03 1100		7 + 8 ~~5 + 6~~
Thunderbird			1	2/13/03 1120		9 + 10 ~~6 + 7~~
Dup 1			1	2/13/03		11 + 12 ~~7 + 8~~

Relinquished By:	Date/Time:	Received by:	Date/Time:
[signature]	2/13/03 1205		2-13-03
Relinquished By:	Date/Time:	Received by:	Date/Time:
Relinquished By:	Date/Time:	Received in Lab by: [signature]	Date/Time: 2-13-03 12:05

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

Sample Integrity: (Check)
intact ____ on ice (✓) 8°C

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

Del Mar Analytical
Scottsdale Grab
2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
10[redacted]oley D[redacted]A, Colt[redacted]2324 [redacted]70-466[redacted]09) 37[redacted]
7277 Hayvenhurst, Suite B-12, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1845
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9589
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd., Suite 3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

Page 1 of 1

Client Name/Address: Flood Control District, 3301 W Durango St, Phoenix AZ 85009

Project/PO Number: Scottsdale NPDES Stormwater

Project Manager: Matt Oliver

Phone Number: 602 506 4663

Sampler: [illegible]

Fax Number: 602 506 4601

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Oil + Grease	Total Silver	Total Cadmium							Special Instructions
Pierce	S	Misc	4	2/25/03	1545	YES	X	X	X			PMBDLOD8			1	
McKellips					1600		X	X	X						2	
Camelback					1425		X	X	X						3	
~~Trip Blank~~					—	~~YES~~										
Hayden					1440		X	X	X						4	
Thunderbird					1630		X	X	X						5	

Relinquished By:	Date /Time:	Received by:	Date /Time:
[illegible]	2/25/03 1745	[illegible]	2-25-03
Relinquished By:	Date /Time:	Received by:	Date /Time:
Relinquished By:	Date /Time:	Received in Lab by:	Date /Time:
		[illegible]	2-25-03 17:45

Tumaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours ____ normal X

Sample Integrity: (Check)
intact ____ on ice X 8°

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

Del Mar Analytical
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
7277 Hayvenhurst, Suite B-12, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9589
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd., Suite 3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Scottsdale Composite

CHAIN OF CUSTODY FORM

Client Name/Address: Flood Control District 3301 W. Durango St. Phoenix AZ 85009

Project/PO Number: Scottsdale NPDES Stormwater

Project Manager: Matt Oliver

Phone Number: 602-506-4663

Sampler: [illegible]

Fax Number: 602-506-4601

Analysis Required: Hardness, TSS, TDS; BOD, COD; Total Orthophosphate; TKN, NH3; (NO2+NO3)-N; Cd; Cu; Pb; Total + Dissolved; Ni; Zn; Lab will Composite, Split and preserve Composites

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Special Instructions
~~Pima Road~~	~~S~~	~~Misc~~	~~3~~	~~7/29/03~~	~~0726~~	~~No~~	
McKellips Rd	"	"	3	7/29/03	0720	"	PNR0629-1
~~Thunderbird Rd~~	~~"~~	~~"~~	~~3~~	~~7/29/03~~	~~0755~~		
~~Hayden Corr~~	~~"~~	~~"~~	~~3~~	~~7/29/03~~	~~0800~~	~~"~~	
Thunderbird Rd	"	"	1	7/29/03	0847	"	3-1

Relinquished By:	Date /Time:	Received by:	Date /Time:
[signature]	7/30/03 1230	[signature]	7-30-03 1230
Relinquished By:	Date /Time:	Received by:	Date /Time:
Relinquished By:	Date /Time:	Received in Lab by:	Date /Time:
		[signature]	7/30/03 1230

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

Sample Integrity: (Check)
intact ✓ on ice ✓

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

OPERATION, MAINTENANCE, AND STORM EVENT LOG SHEETS

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Mckellips Road			DATE	01/06/03
ARRIVAL TIME	0745	DEPARTURE TIME	0755	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, cell phone on
Batteries, 12.1 & 12.2
Restart program.

STORM EVENT LOG SHEET

1. Site: McKell'422 Your Name: WTO/RDB

2. Date: 1/8/03 Time: 11:00

Channel/BACK 1/8/03 @ 17:15

SAMPLER PARAMETERS

3. Rainfall: 0.15 in — 0.17 in

4. Flow: 0.88 cfs — 0.12 cfs

5. Level: 2.607 in — 1.429 in/channel

6. Velocity: 3.05 ft/sec — 0.70 ft/sec

O&M PARAMETERS

7. Did sampling equipment operate during event? **Yes or No?** Describe problems. NO Manual grab (composite ABS started 1115, 1120, 1125, 1130, 1135 WTO)

8. Battery voltage: _____ **volts**

9. Power **On or Off?** If power off (Mesa), reset circuit breaker and check/replace fuse if necessary.

FIELD PARAMETERS

10. Discharge (flow) at time of grabs 0.77 **cfs** — 0.12 cfs

11. pH ~~7.0~~ WTO 6.0 **su** — 6.0 pH su

12. Temperature ~~14~~ WTO °C 10°C **deg. C** — 18.5°C deg. C

GRAB SAMPLES Take grabs from discharge only!

13. Grab samples taken? **Yes or No?** — Yes Cubs

14. Preservatives added to bottles? Wished 520 **Yes or No?**

EQUIPMENT CLEANING CHECKLIST

Site	01/09/03 McKellips Road		
Date	01/09/03	Time	0640
Serviced By:	Robert Nauel		

Rain fall 0.38

Yes	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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	McKellips Road			DATE	01-13-03
ARRIVAL TIME	0908	DEPARTURE TIME	0920	SERVICED BY	Quen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES C NO S	12.4 12.6 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check Station, Batteries, Bottle location

Turn cell phone on, turn sampler on and restart program.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	McKellip's Road			DATE	01-27-03
ARRIVAL TIME	0735	DEPARTURE TIME	0745	SERVICED BY	Pen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y N

STATION DATA COPIED: Y N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?!	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	C 12.0 S 12.3 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station Batteries, remove rocks from drain opening. Weather forecast, no rain. Shut off cell phones.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	McKellips Road			DATE	01-30-03
ARRIVAL TIME	0910	DEPARTURE TIME	0916	SERVICED BY	Quen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	S 12.3 C 12.6 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check station, Batteries and turn cell phone on.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	McKellips Road			DATE	2-3-07
ARRIVAL TIME	1035	DEPARTURE TIME	1045	SERVICED BY	Ram
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO S C	12.8 12.7 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, Batteries.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	McKellips Road			DATE	2/6/03
ARRIVAL TIME	1040	DEPARTURE TIME	1045	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES C NO S	12.9 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, Batteries and bottle location

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Mckellips Road			DATE	02-10-03
ARRIVAL TIME	0825	DEPARTURE TIME	0835	SERVICED BY	Glen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	d 12.0 s 12.2 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check site, batteries

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	McKellip's Road			DATE	2-11-03
ARRIVAL TIME	0720	DEPARTURE TIME	0730	SERVICED BY	Jeea
SAMPLER	SIGMA	900		STATION CONDITION:	bad
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Change out cell phone battery, Restart program

STORM EVENT LOG SHEET

SITE:	McKellips Rd

DATE:	2/13/09	TIME:	745

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: (YES) NO

IF NO, WHAT WERE PROBLEM(S):

GRABS Taken 745 2nd/Pmo - Rain 0.40
Composit 3/4 1 Jar +
photo taken 1+2, light RAIN -

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	6
Effluent Temperature	5

GRAB SAMPLES: Take grab samples from discharge only!

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

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Mekellip's Rd			DATE	2/15/03
ARRIVAL TIME	0735	DEPARTURE TIME	0750	SERVICED BY	Pete
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	12.2 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Copy data, check over site, empty base.
Rain recorded total 1.86. lake over flowing.
Put Sampler on halt.

EQUIPMENT CLEANING CHECKLIST

Site	McKellip's Road
Date	2-18-03
Time	0800 - 0820
Serviced By:	Glen

Check Battery S 12.2 C 12.3 Restart program

Y	2/15/03	Data Downloaded to DTU?

Install clean bottles

1. On 900 : Sigma Halt program. On Isco Stop program.
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Isco 6712 models, hit stop key and follow program.
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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	McKellip's Road			DATE	02/24/03
ARRIVAL TIME	0835	DEPARTURE TIME	0850	SERVICED BY	RMW
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES C NO S	12.3 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, Batteries, ready Site for incoming Storm. Battles Connect, Cell phone on. Talk with Scottsdale Park employee. Restart program.

STORM EVENT LOG SHEET

SITE:	McKellips Road

DATE:	2/25/03	TIME:	1600

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	6
Effluent Temperature	16

GRAB SAMPLES: Take grab samples from discharge only!

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

EQUIPMENT CLEANING CHECKLIST

Site	McKellips Park
Date	2/26/03
Time	0730
Serviced By:	[illegible]

Take 3 bottles Composites

Yes	Data Downloaded to DTU?

1. On 900 : Sigma Halt program. On Isco Stop program.
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Isco 6712 models, hit stop key and follow program.
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.

No	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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	McKellip's Road			DATE	3/4/03
ARRIVAL TIME	0850	DEPARTURE TIME	0912	SERVICED BY	Greg
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Remove batteries, shut station down until Summer.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	01/06/03
ARRIVAL TIME	0758	DEPARTURE TIME	0805	SERVICED BY	Pleau
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, cell phone on.
Batteries, 12.2 & 12.4
Restart program.

STORM EVENT LOG SHEET

1. Site: Pierce Your Name: MAD/Bob

2. Date: 1/8/03 Time: 1040

HAYDEN –
11:30
1/8/03 MAD
0.19
2.90
11.92
1.26

SAMPLER PARAMETERS

3. Rainfall: ~~0.15~~ 0.16 in

4. Flow: 0 cfs

5. Level: NA in

6. Velocity: NA ft/sec

O&M PARAMETERS

7. Did sampling equipment operate during event? **Yes or No?** Describe problems.
manual composite at site 1015, 1020, 1025 1030 1035 1040
photo # 12 & #11

8. Battery voltage: _____ **volts**

9. Power **On or Off?** If power off (Mesa), reset circuit breaker and check/replace fuse if necessary.

FIELD PARAMETERS

10. Discharge (flow) at time of grabs yes **cfs** 2.85

11. pH ~~7.0~~ MAD 6.0 **su** 6.0

12. Temperature ~~15 MAD C~~ 10°C **deg. C** 14.5

GRAB SAMPLES Take grabs from discharge only!

13. Grab samples taken? **Yes or No?** Yes

14. Preservatives added to bottles? **Yes or No?** Lab will need to

EQUIPMENT CLEANING CHECKLIST

Site	Pierce Road		
Date	01/09/03	Time	0700
Serviced By:	[illegible]		

Rainfall 0.47 Battery 12.3

Yes	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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	01-13-03
ARRIVAL TIME	0845	DEPARTURE TIME	0905	SERVICED BY	Peen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	d 13.2 s 13.1 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	9 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 Check Station, Batteries, bottles and location. Restart program, turn cell phone on. drain small discharge from building. Sweep and Shovel dirt and sediment from sensors, clean drain past of Station to below sensors. Need to return and check Pressure/flow sensor

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	01-14-03
ARRIVAL TIME		DEPARTURE TIME		SERVICED BY	Peep MG
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	13.0 Both 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	✓
RAINGAUGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	25' length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLER DISTRIBUTOR TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	✓
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	1.68 ✓ depth (inch)
CALIBRATE DEPTH SENSOR	YES NO	GOOD FAIR POOR	N/A	N/A	ON
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 Service Station Pressure transducer/Flow meter. Change out PT/Flow # F01679615002*88000 50' and install spare, new PT/Flow # 100286901 50' PT. Calibrated, old PT not repairable. Check everything else. Change out intake line, install 25' new line.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	01-27-03
ARRIVAL TIME	0948	DEPARTURE TIME	0805	SERVICED BY	Reen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?!	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES C NO S	12.3 12.3 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Batteries, Shovel and sweep drain.
Due to Weather forecast, Shut off cell phones.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	01-30-03
ARRIVAL TIME	0920	DEPARTURE TIME	0925	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	Cell 13.6 Sample 13.7 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, Batteries and turn cell phone on.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	2-3-03
ARRIVAL TIME	1048	DEPARTURE TIME	1055	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?!	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES ✓ NO S	18.2 13.6 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, Batteries

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	2-6-03
ARRIVAL TIME	1050	DEPARTURE TIME	1055	SERVICED BY	Glenn
SAMPLER	SIGMA	900		STATION CONDITION:	
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	13.3 13.5 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check station, cell phone on, bottles correct

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	02-18-03
ARRIVAL TIME	0837	DEPARTURE TIME	0845	SERVICED BY	Mun
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	C 12.3 S 12.4 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check site, Batteries

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	2-18-03
ARRIVAL TIME	0732	DEPARTURE TIME	0735	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Restart program.

STORM EVENT LOG SHEET

SITE:	Pierce Rd

DATE:	2/13/09	TIME:	0730

DID EQUIPMENT OPERATE PROPERLY DURING EVENT? YES NO

IF NO, WHAT WERE PROBLEM(S):

Grabs -730 Rain 0.41

1 Jar Composite sample ok-

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	6
Effluent Temperature	5

GRAB SAMPLES: Take grab samples from discharge only!

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

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Rd			DATE	2/15/03
ARRIVAL TIME	0753	DEPARTURE TIME	0758	SERVICED BY	Allen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	12.4 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Copy data, drain had some flow.
Rain recorded total 1.93
Sampler put on hold.

EQUIPMENT CLEANING CHECKLIST

Site	Pierce Road

Date	2/18/03	Time	0828 - 0845

Serviced By:	Ren

Battery's C 12.5 S 12.3 Restart program

✓	2/15/03	Data Downloaded to DTU?

Install clean bottles

1. On 900 Sigma Halt program. On Isco Stop program.
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Isco 6712 models, hit stop key and follow program.
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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	02/24/03
ARRIVAL TIME	0900	DEPARTURE TIME	0915	SERVICED BY	Mun
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	12.4 12.5 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, Batteries ready, Site for incoming Storm. Cell phone on, Bottles in correct location. Sweep drain around sensors. Restart program

STORM EVENT LOG SHEET

SITE:	Pierce Road

DATE:	2/25/03	TIME:	1545

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: (YES) NO

IF NO, WHAT WERE PROBLEM(S):

_____

_____

_____

_____

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	6
Effluent Temperature	10

GRAB SAMPLES: Take grab samples from discharge only!

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

EQUIPMENT CLEANING CHECKLIST

Site	Pierce Road
Date	2/26/03
Time	0715
Serviced By:	[illegible]

Take 3 bottles of composites.

Yes	Data Downloaded to DTU?

1. On 900 : Sigma Halt program. On Isco Stop program.
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Isco 6712 models, hit stop key and follow program.
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.

No	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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Pierce Road			DATE	3/4/03
ARRIVAL TIME	0838	DEPARTURE TIME	0845	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES ~~NO~~	GOOD FAIR POOR	YES NO	YES S NO C	13.3 13.2 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Remove batteries, shut down site until Summer.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Camelback Road			DATE	01/06/03
ARRIVAL TIME	0815	DEPARTURE TIME	0825	SERVICED BY	Glen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, cellphone on
Batteries, 12.4 and 12.6
Restart program.
No flow in drain, clean around drain

STORM EVENT LOG SHEET

1. Site: Camel Back Your Name: [illegible]

2. Date: 1/8/03 Time: 11[illegible]

SAMPLER PARAMETERS

3. Rainfall: 0.17 **in**

4. Flow: 0.17 **cfs**

5. Level: 1.42 **in**

6. Velocity: 0.70 **ft/sec**

O&M PARAMETERS

7. Did sampling equipment operate during event? **Yes or No?** Describe problems.
Manual Composite Started -

8. Battery voltage: _____ **volts**

9. Power **On or Off?** If power off (Mesa), reset circuit breaker and check/replace fuse if necessary.

FIELD PARAMETERS

10. Discharge (flow) at time of grabs 0.12 **cfs**

11. pH 6.0 **su**

12. Temperature 10°C **deg. C**

GRAB SAMPLES Take grabs from discharge only!

13. Grab samples taken? **Yes or No?**

14. Preservatives added to bottles? **Yes or No?**

EQUIPMENT CLEANING CHECKLIST

Site	Camelback Road		
Date	01/09/03	Time	0725
Serviced By:	[illegible]		

Rainfall Battery 12.5

Yes	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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Camelback Road			DATE	01-13-03
ARRIVAL TIME	0828	DEPARTURE TIME	0835	SERVICED BY	Glen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO S C	12.9 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check Station, Batteries, Turn Sampler on, and restart program. Turn cell phone on. check bottles and their Location.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Camelback Road			DATE	01-27-03
ARRIVAL TIME	0815	DEPARTURE TIME	0820	SERVICED BY	Ruen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check station batteries. Forecast, clear shut off cell phones.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Camelback Road			DATE	01-30-03
ARRIVAL TIME	0938	DEPARTURE TIME	0935	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	13.7 13.9 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check station, Batteries and turn cell phone on

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Comeback Road			DATE	2-3-03
ARRIVAL TIME	1100	DEPARTURE TIME	1105	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK (Y) / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	(YES) NO	GOOD FAIR POOR	YES NO	YES NO	13.7 13.8 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station and Battery's.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Camelback Road			DATE	2-6-03
ARRIVAL TIME	1112	DEPARTURE TIME	1117	SERVICED BY	Glenn
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES C NO S	13.6 13.9 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, Batteries, cell phone on, bottles connect

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Camelback Road			DATE	02-10-03
ARRIVAL TIME	0858	DEPARTURE TIME	0905	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	d 12.7 s 12.8 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check site, Batteries

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Camelback Road			DATE	2-11-03
ARRIVAL TIME	0744	DEPARTURE TIME	0750	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 change battery on cell phone. Restart program.

STORM EVENT LOG SHEET

SITE:	Camelback Rd

DATE:	2/13/03	TIME:	0715

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES (NO)

IF NO, WHAT WERE PROBLEM(S):

0715 GRABS – RAINFALL 0.45 –

STARTED Composite manual – 1 JAR –

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	6
Effluent Temperature	16

GRAB SAMPLES: Take grab samples from discharge only!

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

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Camelback Rd			DATE	2/15/03
ARRIVAL TIME	0805	DEPARTURE TIME	0815	SERVICED BY	Tam
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK (Y) / N

STATION DATA COPIED: (Y) / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	(YES) NO	(GOOD) FAIR POOR	YES (NO)	YES NO	12.3 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Copy data, large flow in drain and lakes over flowing.

Rain totals 2.03

Sampler program on hold.

Schedule pT calibration and volume.

EQUIPMENT CLEANING CHECKLIST

Site	Camelback Road		
Date	2/18/03	Time	0853 0905
Serviced By:	Rich		

Battery's 5-12.8 c 12.6 Re Start Program

Y	2/15/03	Data Downloaded to DTU?

Install clean bottles

1. On 900 : Sigma Halt program. On Isco Stop program.
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Isco 6712 models, hit stop key and follow program.
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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Camelback Road			DATE	02/24/03
ARRIVAL TIME	0920	DEPARTURE TIME	0935	SERVICED BY	Rem
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	C 13.0 S 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR See notes!	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 check station, batteries, program. check PT Ready Station for incoming Storm. Check cordphone on Bottle Location connect. Light flow from drain. Change Program lock from enabled to disabled. Once this Change was made, PT Started reading.

STORM EVENT LOG SHEET

SITE:	Camelback Road

DATE:	2/25/03	TIME:	1425

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	8
Effluent Temperature	10

GRAB SAMPLES: Take grab samples from discharge only!

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

EQUIPMENT CLEANING CHECKLIST

Site	Camelback		
Date	2/26/03	Time	0751
Serviced By:	[illegible]		

Yes	Data Downloaded to DTU?

1. On 900 : Sigma Halt program. On Isco Stop program.
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Isco 6712 models, hit stop key and follow program.
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.

No	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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Camelback Road			DATE	3/4/03
ARRIVAL TIME	0920	DEPARTURE TIME	0930	SERVICED BY	Rey
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Remove batteries, Shut Station down until Summer

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden Golf			DATE	01/06/03
ARRIVAL TIME	0828	DEPARTURE TIME	0835	SERVICED BY	Rem
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, cell phone "on" Found off.
Batteries, 12.5 & 12.6
Restart program.

STORM EVENT LOG SHEET

1. Site: HAYDEN Your Name: WMO/BOS

2. Date: 1/8/03 Time: @ 11:30

SAMPLER PARAMETERS

3. Rainfall: 0.19 **in**

4. Flow: 2.90 **cfs**

5. Level: 11.42 **in**

6. Velocity: 1.26 **ft/sec**

O&M PARAMETERS

7. Did sampling equipment operate during event? **Yes or No?** Describe problems.
working good 1 + JARS -
photos taken -

8. Battery voltage: _____ **volts**

9. Power **On or Off?** If power off (Mesa), reset circuit breaker and check/replace fuse if necessary.

FIELD PARAMETERS

10. Discharge (flow) at time of grabs 2.88 **cfs**

11. pH 6.0 **su**

12. Temperature 19.5 **deg. C**

GRAB SAMPLES Take grabs from discharge only!

13. Grab samples taken? **Yes or No?**

14. Preservatives added to bottles? **Yes or No?**

EQUIPMENT CLEANING CHECKLIST

Site	Hayden Road		
Date	01/09/03	Time	0735
Serviced By:	Sean		

Rowbelly 0:44 Battery 12.5

Yes	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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden @ Golf			DATE	01-13-03
ARRIVAL TIME	0818	DEPARTURE TIME	0825	SERVICED BY	Jean
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES S NO C	13.7 13.5 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, Batteries, Restart program, turn cell phone on. Replace and set bottles.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden @ Y&GF			DATE	01-27-03
ARRIVAL TIME	0823	DEPARTURE TIME	0830	SERVICED BY	Pen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK (Y) / N

STATION DATA COPIED: Y / (N)

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	(YES) NO	(GOOD) FAIR POOR	YES (NO)	YES (NO) Good S	13.0 13.1 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check batteries, need to check tipping bucket, weather forcast, clear & shut off cell phones

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden e Golf			DATE	01-30-03
ARRIVAL TIME	0938	DEPARTURE TIME	0945	SERVICED BY	Glen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	Bad 13.7 S 13.7 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check station, batteries and turn cell phone on

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden Golf			DATE	2-3-03
ARRIVAL TIME	1108	DEPARTURE TIME	1115	SERVICED BY	Ram
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO C S	13.2 13.7 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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: Check station Battery's

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden C Golf			DATE	2-6-03
ARRIVAL TIME	1120	DEPARTURE TIME	1125	SERVICED BY	Rem
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?!	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO C S	12.9 13.4 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, Batteries, call on bottles connect.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden Golf			DATE	02-10-03
ARRIVAL TIME	0908	DEPARTURE TIME	0920	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK (Y) / N

STATION DATA COPIED: Y / (N)

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	(YES) NO	(GOOD) FAIR POOR	YES NO	YES NO	a 13.0 S 13.1 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check site batteries. Replace cell phone fuse.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden Golf			DATE	2-11-03
ARRIVAL TIME	0752	DEPARTURE TIME	0756	SERVICED BY	Reem
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Re Start program. adjust level

STORM EVENT LOG SHEET

SITE:	Hayden

DATE:	2/13/03	TIME:	

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

Dup 1 Samples TAKEN @ 7:00

RAIN fall - 0.37 @ 7:00 - Composite Sampling (6 hr)

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	6
Effluent Temperature	10

GRAB SAMPLES: Take grab samples from discharge only!

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

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden - Wolf			DATE	2/15/03
ARRIVAL TIME	0805	DEPARTURE TIME	0815	SERVICED BY	Ken
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	12.3 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Copy data, Flow night before flowed around Station house. Flow line 1 foot above Station house location. Everything okay, no damage noticed at this time. Rain recorded 2.15.
Sampler on halt.

EQUIPMENT CLEANING CHECKLIST

Site	Hayden & Holt
Date	02/18/03
Time	0910 - 0928
Serviced By:	Ken

Deacon Battery's S 12.6 C 12.6 No Stalt program

✓	2/15/03	Data Downloaded to DTU?

Install clean bottles

1. On 900 : Sigma Halt program. On Isco Stop program.
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Isco 6712 models, hit stop key and follow program.
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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden e Ho LF			DATE	02/24/03
ARRIVAL TIME	0940	DEPARTURE TIME	0948	SERVICED BY	Gram
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK (Y) / N

STATION DATA COPIED: Y / (N)

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	(YES) NO	(GOOD) FAIR POOR	YES (NO)	YES S NO C	13.0 12.8 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, batteries. Ready site for incoming Storm. Cell phone on. Bottles in correct location.

STORM EVENT LOG SHEET

SITE:	Hayden Road

DATE:	2/25/03	TIME:	1440

DID EQUIPMENT OPERATE PROPERLY DURING EVENT? YES NO

IF NO, WHAT WERE PROBLEM(S):

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	6
Effluent Temperature	16

GRAB SAMPLES:

Take grab samples from discharge only!

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

EQUIPMENT CLEANING CHECKLIST

Site	Hayden Golf		
Date	2/26/03	Time	0810
Serviced By:	[illegible]		

Take 3 bottles composites

Yes	Data Downloaded to DTU?

1. On 900 : Sigma Halt program. On Isco Stop program.
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Isco 6712 models, hit stop key and follow program.
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.

No	
	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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Hayden Road Golf			DATE	3/4/03
ARRIVAL TIME	0935	DEPARTURE TIME	0950	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Remove batteries, shut station down until Summer

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunderbird Road			DATE	01/06/03
ARRIVAL TIME	0850	DEPARTURE TIME	0900	SERVICED BY	Pem
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check station cell phone "64"

Batteries, 12.2 & 12.3

Restart program

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	THUNDERBIRD			DATE	1/8/03
ARRIVAL TIME	10^05	DEPARTURE TIME		SERVICED BY	mas / Bob-
SAMPLER	SIGMA	900		STATION CONDITION:	
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 GRAB TAKEN - 0.07 inches recorded on Sensor

photo # 13 & # 14 taken - pH 7.0 temp 15°C

STORM EVENT LOG SHEET

1. Site: T-bird Your Name: [illegible]

2. Date: 1/8/03 Time: 930

SAMPLER PARAMETERS

3. Rainfall: 0.10 **in**

4. Flow: 2.9 **cfs**

5. Level: 10.1 **in**

6. Velocity: 1.40 **ft/sec**

O&M PARAMETERS

7. Did sampling equipment operate during event? **Yes or No?** Describe problems.
1/2 bottle

8. Battery voltage: 12.4 **volts**

9. Power **On or Off?** If power off (Mesa), reset circuit breaker and check/replace fuse if necessary.

FIELD PARAMETERS

10. Discharge (flow) at time of grabs N/A 2.5 **cfs**

11. pH 6.0 **su**

12. Temperature 14.5° **deg. C**

GRAB SAMPLES Take grabs from discharge only!

13. Grab samples taken? **Yes or No?**

14. Preservatives added to bottles? **Yes or No?**

EQUIPMENT CLEANING CHECKLIST

Site	Thunderbird Road
Date	4/09/03
Time	0805
Serviced By:	Neen

Rainfall 0.48

Yes	Data Downloaded to DTU?

Found Dist arm off base top, flanging. Replace

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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunderbird Road			DATE	01-13-03
ARRIVAL TIME	0745	DEPARTURE TIME	0758	SERVICED BY	Glenn
SAMPLER	SIGMA	900		STATION CONDITION	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK (Y) / N

STATION DATA COPIED: Y (N)

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	(YES) NO	(GOOD) FAIR POOR	YES (NO)	YES S (NO) C	12.5 12.6 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, replace bottle, check Batteries, Turn cell phone on and restart program. check and secure distributor arm. check location of Bottles.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunderbird Road			DATE	01-27-03
ARRIVAL TIME	0842	DEPARTURE TIME	0848	SERVICED BY	Glen
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	12.1 12.3 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check Station batteries, Weather forecast, clear shut off cell phones.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunderbird Road			DATE	01-30-03
ARRIVAL TIME	0957	DEPARTURE TIME	1005	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK (Y) / N

STATION DATA COPIED: Y / (N)

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES C NO S	13.0 13.2 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station, batteries and turn cell phone on.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunderbird Road			DATE	2-3-03
ARRIVAL TIME	1210	DEPARTURE TIME	1220	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES C NO S	12.8 12.9 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Check Station & Battery's

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunderbird Road			DATE	2-6-03
ARRIVAL TIME	1155	DEPARTURE TIME	1205	SERVICED BY	Yeau
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?!	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	C 12.8 S 13.2 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check Station, Battery, cell on bottles connect.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunderbird Road			DATE	02-10-03
ARRIVAL TIME	0932	DEPARTURE TIME	0936	SERVICED BY	Ken
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES C NO S	12.3 12.4 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check site, Batteries

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunderbird Road			DATE	2-11-03
ARRIVAL TIME	0813	DEPARTURE TIME	0818	SERVICED BY	Glenn
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Re Start program. trickle flow from drain

STORM EVENT LOG SHEET

SITE:	Thunderbird Rd

DATE:	2/13/07	TIME:	0630

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.47 Rain at 0610

~3/4 1 Sec Composite Sample

FIELD PARAMETERS:

Sampler Start Time	[illegible]
Effluent pH	6
Effluent Temperature	18

GRAB SAMPLES: Take grab samples from discharge only!

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

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunder bird Rd			DATE	2/15/03
ARRIVAL TIME	0850	DEPARTURE TIME	0905	SERVICED BY	Rem
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: (Y) N

STATION DATA COPIED: (Y) / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	(YES) NO	(GOOD) FAIR POOR	YES (NO)	YES NO	12.4 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Copy data, Flow in channel, Some drainage out of our pipe.
Rain total 2.66
Sampler program on hold.

EQUIPMENT CLEANING CHECKLIST

Site	Thunderbird Road
Date	2/18/03
Time	0945 - 1005
Serviced By:	[illegible]

Check Battery's S 12.6 C 12.5 Re Start program

✓	2/15/03	Data Downloaded to DTU?

Install clean bottles

1. On 900 : Sigma Halt program. On Isco Stop program.
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Isco 6712 models, hit stop key and follow program.
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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunderbird Road			DATE	02/24/03
ARRIVAL TIME	1020	DEPARTURE TIME	1030	SERVICED BY	[illegible]
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	S 12.7 C 12.5 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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 check Station, batteries. Ready Site for incoming Storm. Cell phone on. Bottles correct location. ReStart program.

STORM EVENT LOG SHEET

SITE:	Thunderbird Road

DATE:	2/25/03	TIME:	1630

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: (YES) NO

IF NO, WHAT WERE PROBLEM(S):

FIELD PARAMETERS:

Sampler Start Time	
Effluent pH	6.5
Effluent Temperature	10

GRAB SAMPLES: Take grab samples from discharge only!

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

EQUIPMENT CLEANING CHECKLIST

Site	Thunderbird Rd		
Date	2/26/07	Time	0845
Serviced By:	[illegible]		

Take 1 bottle Composite

Yes	Data Downloaded to DTU?

1. On 900 : Sigma Halt program. On Isco Stop program.
2. Connect extension tubing to the distributor tubing on the underside of the sampler.
3. Isco 6712 models, hit stop key and follow program.
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.

No	
	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.

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	Thunderbird Road			DATE	3/4/03
ARRIVAL TIME	1002	DEPARTURE TIME	1015	SERVICED BY	Rem
SAMPLER	SIGMA	900		STATION CONDITION:	Good
SAMPLER	ISCO	6712		STATION CONDITION:	

ENTRY MADE STATION LOG BOOK: Y / N

STATION DATA COPIED: Y / N

	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	
RAINGAUGE	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	
SAMPLER DISTRIBUTOR 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 Remove batteries, shut down until summer.