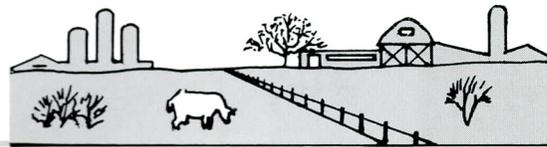


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# FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

**Stormwater Quality Report  
City of Mesa, Arizona**

**Third Quarter**

**April 26, 1999**

**FLOOD CONTROL  
DISTRICT**

**OF  
MARICOPA  
COUNTY**

# Stormwater Quality Report

Third Quarter, Sampling Year 1999

January 1, 1999 through March 31, 1999

For  
**City of Mesa, Arizona**

April 26, 1999

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Stormwater Quality Report  
City of Mesa, Arizona

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## Introduction

The Flood Control District of Maricopa County operates and maintains five land based stormwater monitoring stations for the City of Mesa for compliance with their National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge permit. This report contains data from the winter 1999 seasonal rainfall.

A representative event is defined in the following manner.

<b>MESA</b>	<b>RAINFALL</b>	<b>DURATION</b>
<b>SUMMER</b>	<b>0.24 – 0.72 INCH</b>	<b>2.4 – 7.2 HOURS</b>
<b>WINTER</b>	<b>0.22 – 0.66 INCH</b>	<b>5.9 – 17.7 HOURS</b>

In addition, no rainfall greater than 0.10 inches shall have fallen within the past 72 hours. Summer months are July through September and winter months are October through March. Any rainfall in April, May, and June is not considered representative. A brief report will be issued in late June or early July for the April – June period. The report will not contain storm summaries, but it will have maintenance and rainfall information.

## Storm Summaries

This is a summary of sampled storm events in the second quarter of the 1999 sample year, which is January 1 through March 31, 1999. A strong La Nina effect produced a very dry winter in Mesa. Only one sample was taken during the report period.

Any troubleshooting of the equipment detailed in the Maintenance Summaries. Following are detailed descriptions of the sampled events.

### **Storm of February 4, 1999**

Rainfall from this storm was light, ranging from 0.15 inch to 0.23 inches. Only the 0.23 inches at Falcon Field met the representative requirement.

#### **Storm of February 4, 1999**

<b>SITE</b>	<b>RAINFALL (inches)</b>	<b>SAMPLES COLLECTED</b>
<b>SIXTH AND HORNE</b>	<b>0.21</b>	<b>NO</b>
<b>BROADWAY AND LINDSAY</b>	<b>0.21</b>	<b>NO</b>
<b>FALCON FIELD</b>	<b>0.23</b>	<b>YES</b>
<b>HORNE AND GRANDVIEW</b>	<b>0.21</b>	<b>NO</b>
<b>DOBSON</b>	<b>0.15</b>	<b>NO</b>

All equipment activated during the storm event and seemed to operate properly. Grab and composite samples were taken at Falcon Field only. The grab samples were taken from the discharge.

### Other Storm Events Not Sampled

There were few opportunities for sample collection during the winter. Only one event at Dobson had sufficient rainfall to be a possible representative event. However, there was little runoff from this event and the rainfall occurred quickly.

#### **Events with rainfall > 0.22 inches but not sampled**

<b>SITE</b>	<b>DATE</b>	<b>RAIN</b>	<b>REASON</b>
<b>DOBSON</b>	<b>3/16/99</b>	<b>0.22</b>	Insufficient runoff

## **Maintenance Summary**

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

### **Sixth and Horne – Mesa 1**

The equipment was serviced on January 20, 1999. The intake tubing was replaced with Teflon lined tubing. Pump and distributor tubing were also replaced. The depth sensor and pump volume were calibrated. Calibration of the pump volume was difficult to achieve. After many attempts, the calibration succeeded.

A rain event occurred on April 1-4, 1999. The sampler initiated and completed its sample routine. The volume of liquid in the jars was about half of the expected amount. It appears that the pump is not functioning properly.

### **Broadway and Lindsay – Mesa 2**

The equipment was serviced on January 20, 1999. Intake tubing was replaced with Teflon lined tubing. Pump and distributor tubing were also replaced. The depth sensor and pump volume were calibrated.

During a rain event of April 1-4, 1999, the equipment appeared to operate properly.

### **Falcon Field – Mesa 3**

The equipment was serviced on January 6, 1999. Intake tubing was replaced with Teflon lined tubing. Pump and distributor tubing were also replaced. The depth sensor and pump volume were calibrated.

The equipment appeared to work properly during the event on February 4, 1999. Again, the storm drain was slow to empty after the event with water persisting for many days following the rain event. The equipment is operating well.

### **Horne and Grandview – Mesa 4**

The equipment was serviced on January 20, 1999. Intake tubing was replaced with Teflon lined tubing. Pump and distributor tubing were also replaced. The depth sensor and pump volume were calibrated.

An event occurred on April 1-4, 1999. Though a significant amount of rain fell, the flow at this site was not significant. The basin that receives the runoff was not filled appreciably. The equipment appeared to operate correctly.

## **Dobson Road – Mesa 5**

The equipment was serviced on January 20, 1999. Intake tubing was replaced with Teflon lined tubing. Pump and distributor tubing were also replaced. The depth sensor and pump volume were calibrated.

A rain event occurred on April 1-4, 1999. The equipment appeared to operate correctly during this event. However, the runoff seemed low for the amount of rain received.

## Data from Winter 1999

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

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

# MESA NPDES STORMWATER ANALYSIS FORM

SITE \_\_\_\_\_ DATE \_\_\_\_\_

## GRAB SAMPLE

		<u>Bottle(s) Required</u>	
<input checked="" type="checkbox"/>	BOD5	405.1	1- 1 liter plastic, unpreserved
<input checked="" type="checkbox"/>	Fecal Coliform	9222C	1- bacterial bottle, tablet preserved
<input checked="" type="checkbox"/>	Fecal Streptococci	9230C	1- bacterial bottle, tablet preserved
<input checked="" type="checkbox"/>	Oil and Grease	413.1	1- 1 liter amber glass, unpreserved
<input checked="" type="checkbox"/>	Methylene Chloride	EPA 624	4- 40 mL glass vials, unpreserved
<input checked="" type="checkbox"/>	Toluene	EPA 624	from above
<input checked="" type="checkbox"/>	E-coli		1- bacterial bottle, tablet preserved

## COMPOSITE SAMPLE

### Inorganic Chemistry - Non Metals

<input type="checkbox"/>			<input checked="" type="checkbox"/>	Nitrogen, Organic	351.4
<input checked="" type="checkbox"/>	COD	410.1	<input checked="" type="checkbox"/>	Nitrogen, Kjeldahl	351.3
<input checked="" type="checkbox"/>	Total Dissolved Solids	160.1	<input checked="" type="checkbox"/>	Phosphorous, Total	365.2
<input checked="" type="checkbox"/>	Total Suspended Solids	160.1	<input checked="" type="checkbox"/>	Phosphorous, Dissolved	365.3
<input checked="" type="checkbox"/>	Nitrogen, Ammonia	350.3	<input checked="" type="checkbox"/>	Hardness	130.2
<input checked="" type="checkbox"/>	Nitrogen, Nitrate	353.2			

### Inorganic Chemistry - Metals, Total and Dissolved

<input checked="" type="checkbox"/>	Cadmium, Total	213.2	<input checked="" type="checkbox"/>	Lead, Total	239.2
<input checked="" type="checkbox"/>	Cadmium, dissolved	213.2	<input checked="" type="checkbox"/>	Lead, dissolved	239.2
<input checked="" type="checkbox"/>	Chromium, Total	218.2	<input checked="" type="checkbox"/>	Mercury, Total	245.1
<input checked="" type="checkbox"/>	Chromium, dissolved	218.2	<input checked="" type="checkbox"/>	Mercury, dissolved	245.1
<input checked="" type="checkbox"/>	Copper, Total	220.2	<input checked="" type="checkbox"/>	Zinc, Total	289.2
<input checked="" type="checkbox"/>	Copper, dissolved	220.2	<input checked="" type="checkbox"/>	Zinc, dissolved	289.2
<input type="checkbox"/>					
<input type="checkbox"/>					

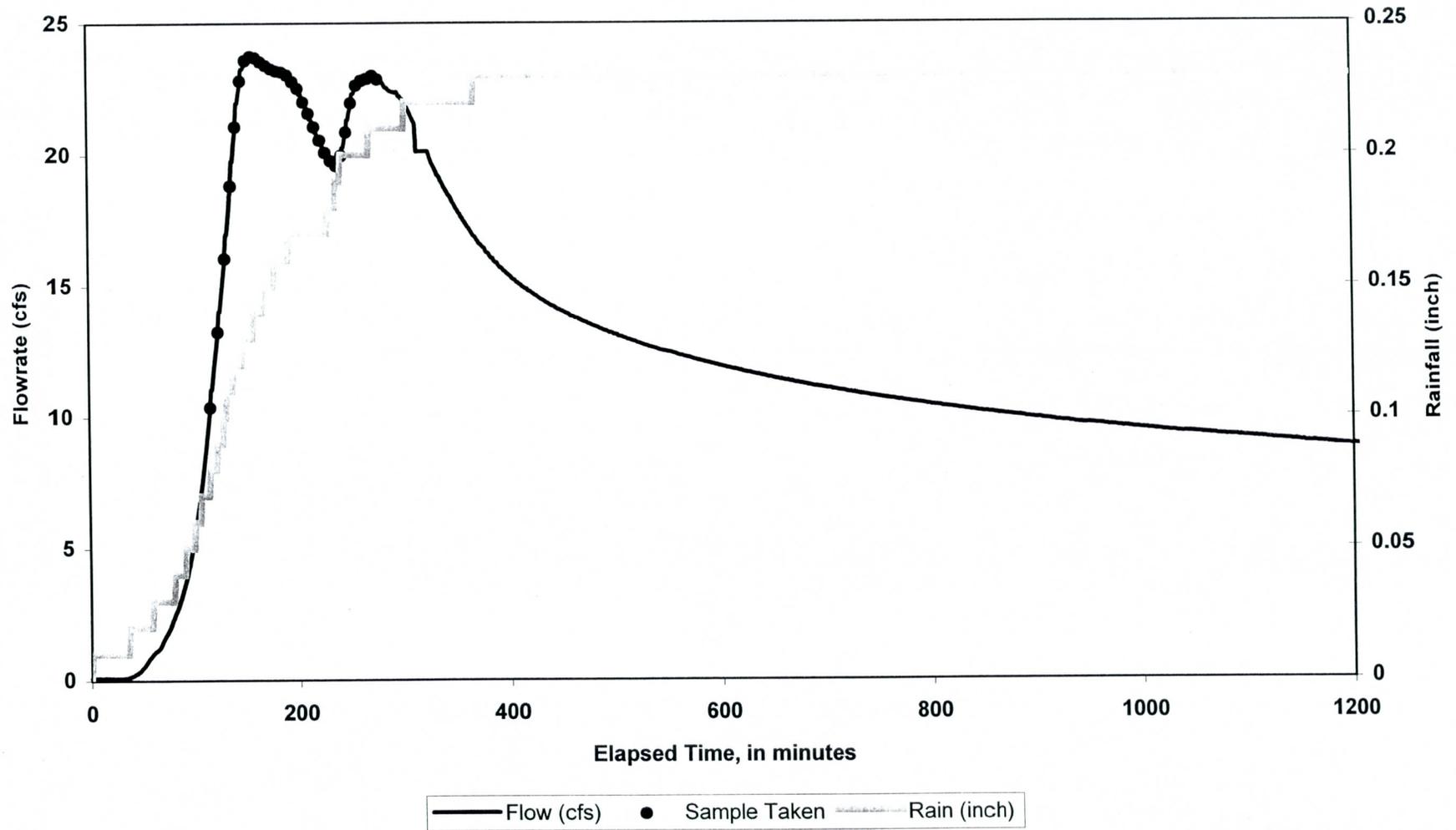
### Organic Compounds

<input checked="" type="checkbox"/>	DDE	608	<input checked="" type="checkbox"/>	Fluroanthene	625
<input checked="" type="checkbox"/>	Benzo(a) Pyrene	625	<input checked="" type="checkbox"/>	Indeno (1,2,3-cd) Pyrene	625
<input checked="" type="checkbox"/>	Chrysene	625	<input checked="" type="checkbox"/>	Pyrene	625
<input type="checkbox"/>					

# Storm Hydrographs

Mesa FALCON

04 February 1999



# Rainfall Data

Gauge Rainfall												
Gauge Number	Sixth (Mesa 1) - Data from Mesa 4 ALERT Raingauge											
Location	Home and Sixth Street											
	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999
1		0.05	0.01									
2		0.01	0.03			0.07						
3		0.02	0.01									
4	0.04		0.02					0.20				
5	0.10		0.01					0.03				
6			0.19			0.18						
7												
8			0.03									
9			0.05		0.02							
10		0.01										
11			0.01									
12		0.02										
13												
14												
15		0.28				0.06						
16		0.01						0.07				
17	0.13	0.28						0.01				
18	0.01	0.01										
19		0.03										
20												
21												
22												
23												
24	0.02		0.24		0.02							
25				0.16								
26	0.02			0.07			0.01					
27												
28		0.02			0.42							
29					0.01							
30				0.02								
31	0.64											
Month Total	0.96	0.74	0.60	0.25	0.47	0.31	0.01	0.23	0.08	0.00	0.00	0.00

Gauge Rainfall													
Gauge Number	Lindsay (Mesa 2)												
Location	Broadway and Lindsay												
	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999	
1	0.01	0.08											
2			0.04			0.04							
3													
4								0.20					
5	0.04					0.04							
6			0.04			0.20							
7													
8			0.04										
9													
10													
11			0.12										
12													
13													
14													
15		0.12											
16								0.04					
17	0.04	0.43											
18													
19													
20													
21													
22			0.16										
23													
24													
25				0.28									
26				0.04									
27													
28		0.04			0.35								
29					0.04								
30													
31	0.20												
Month Total	0.29	0.67	0.40	0.32	0.39	0.28	0.00	0.20	0.04	0.00	0.00	0.00	

Gauge Rainfall													
Gauge Number	Falcon Field (Mesa 3)												
Location	Falcon Field												
	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999	
1		0.24											
2						0.03							
3													
4								0.22					
5	0.04												
6	0.24		0.04			0.06							
7													
8													
9					0.01								
10													
11			0.08										
12													
13													
14													
15		0.47											
16									0.01				
17		0.35											
18													
19													
20													
21													
22	0.04												
23													
24	0.04												
25				0.09									
26				0.01			0.01						
27													
28					0.11								
29													
30				0.01									
31	0.79												
Month Total	1.15	1.06	0.12	0.11	0.12	0.09	0.01	0.22	0.01	0.00	0.00	0.00	

Gauge Rainfall													
Gauge Number	Grandview (Mesa 4)												
Location	Home and Grandview												
	July 1998	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999	February 1999	March 1999	April 1999	May 1999	June 1999	
1		0.05	0.01										
2		0.01	0.03			0.07							
3		0.02	0.01										
4	0.04		0.02					0.20					
5	0.10		0.01					0.03					
6			0.19			0.18							
7													
8			0.03										
9			0.05		0.02								
10		0.01											
11			0.01										
12		0.02											
13													
14													
15		0.28				0.06							
16		0.01							0.07				
17	0.13	0.28							0.01				
18	0.01	0.01											
19		0.03											
20													
21													
22													
23													
24	0.02		0.24		0.02								
25				0.16									
26	0.02			0.07			0.01						
27													
28		0.02			0.42								
29					0.01								
30				0.02									
31	0.64												
Month Total	0.96	0.74	0.60	0.25	0.47	0.31	0.01	0.23	0.08	0.00	0.00	0.00	

Gauge Rainfall												
Gauge Number	Dobson (Mesa 5)											
Location	Dobson and Broadway											
	July	August	September	October	November	December	January	February	March	April	May	June
	1998	1998	1998	1998	1998	1998	1999	1999	1999	1999	1999	1999
1		0.07	0.01									
2						0.13						
3												
4			0.13					0.19				
5	0.04	0.01	0.03					0.01				
6	0.01		0.24			0.17		0.01				
7	0.01											
8					0.02							
9			0.02		0.01							
10												
11			0.09									
12		0.61										
13												
14												
15		0.50				0.07						
16								0.22				
17	0.03	0.25										
18												
19												
20												
21												
22			0.11									
23												
24	0.02											
25				0.09			0.01					
26				0.26								
27												
28		0.04			0.28							
29					0.03							
30				0.06								
31	0.09											
Month Total	0.20	1.48	0.63	0.41	0.34	0.37	0.01	0.21	0.22	0.00	0.00	0.00

## Data Tables

Mesa 1 - Home and Sixth Street		
Date of Sampling	Method	
Time		No Data to Report
Representative Storm Event		No Data to Report
Agency Collecting Sample		No Data to Report
Agency Analyzing Sample		No Data to Report
Drainage Area (acres) (DA)		No Data to Report
Impervious Area (acres) (IA)		No Data to Report
Land Use - Residential		No Data to Report
Land Use - Commercial		No Data to Report
Land Use - Industrial		No Data to Report
Land Use - Undeveloped		No Data to Report
Sampling Duration (minutes) (DRN)		No Data to Report
Storm Duration (minutes)		No Data to Report
Runoff Sampled (cubic feet) (RUN)		No Data to Report
Total Storm Runoff (cubic feet)		No Data to Report
Instantaneous Discharge (cfs)		No Data to Report
Preceding Dry Period (days) (ANT)		No Data to Report
Total Storm Rainfall (Inch)		No Data to Report
Rainfall Sampled (Inch) (TRN)		No Data to Report
Maximum 5-minute rain intensity (MAX5)		No Data to Report
Sample Temperature (deg. C)	Field	No Data to Report
Effluent Temperature (deg. C)	Field	No Data to Report
pH, Effluent (standard units)	Field	No Data to Report
BOD5 (mg/l)	405.1	No Data to Report
COD High Level (mg/l)	410.1	No Data to Report
Fecal Coliform (MPN/100mL)	9222C	No Data to Report
Fecal Streptococci (MPN/100mL)	9230C	No Data to Report
Total Dissolved Solids (mg/l)	160.1	No Data to Report
Total Suspended Solids (mg/l)	160.1	No Data to Report
TKN Nitrogen (mg/l as N)	351.3	No Data to Report
Nitrogen Nitrate Total (mg/l as N)	353.2	No Data to Report
Nitrogen Ammonia Total (mg/l as N)	350.3	No Data to Report
Nitrogen Organic Total (mg/l as N)	351.4	No Data to Report
Phosphorous Total (mg/l as P)	365.2	No Data to Report
Phosphorous Dissolved (mg/l as P)	365.3	No Data to Report
Oil and Grease Total Recoverable (mg/l)	413.1	No Data to Report
Hardness (mg/l)	130.2	No Data to Report
Cadmium Total Recoverable (ug/l as Cd)	213.2	No Data to Report
Cadmium Dissolved (ug/l as Cd)	213.2	No Data to Report
Chromium Total Recoverable (ug/l as Cr)	218.2	No Data to Report
Chromium Dissolved (ug/l as Cr)	218.2	No Data to Report
Copper, Total Recoverable, (ug/l as Cu)	220.2	No Data to Report
Copper, Dissolved, (ug/l as Cu)	220.2	No Data to Report
Lead, Total Recoverable, (ug/l as Pb)	239.2	No Data to Report
Lead, Dissolved, (ug/l as Pb)	239.2	No Data to Report
Mercury, Total Recoverable, (ug/l as Hg)	245.1	No Data to Report
Mercury, Dissolved, (ug/l as Hg)	245.1	No Data to Report
Zinc, Total Recoverable, (ug/l as Zn)	289.2	No Data to Report
Zinc, Dissolved, (ug/l as Zn)	289.2	No Data to Report
P,P' DDE, Total, (ug/l)	608	No Data to Report
Methylene Chloride, Total, (ug/l)	624	No Data to Report
Toluene, Total, (ug/l)	624	No Data to Report
Benzo (a) Pyrene, Total, (ug/l)	625	No Data to Report
Chrysene, Total, (ug/l)	625	No Data to Report
Fluoranthene, Total, (ug/l)	625	No Data to Report
Indeno (1,2,3-CD) Pyrene, Total, (ug/l)	625	No Data to Report
Pyrene, Total, (ug/l)	625	No Data to Report

Mesa 2 - Broadway and Lindsay			
Date of Sampling	Method		
Time			No Data to Report
Representative Storm Event			No Data to Report
Agency Collecting Sample			No Data to Report
Agency Analyzing Sample			No Data to Report
Drainage Area (acres) (DA)			No Data to Report
Impervious Area (acres) (IA)			No Data to Report
Land Use - Residential			No Data to Report
Land Use - Commercial			No Data to Report
Land Use - Industrial			No Data to Report
Land Use - Undeveloped			No Data to Report
Sampling Duration (minutes) (DRN)			No Data to Report
Storm Duration (minutes)			No Data to Report
Runoff Sampled (cubic feet) (RUN)			No Data to Report
Total Storm Runoff (cubic feet)			No Data to Report
Instantaneous Discharge (cfs)			No Data to Report
Preceding Dry Period (days) (ANT)			No Data to Report
Total Storm Rainfall (inch)			No Data to Report
Rainfall Sampled (inch) (TRN)			No Data to Report
Maximum 5-minute rain intensity (MAX5)			No Data to Report
Sample Temperature (deg. C)	Field		No Data to Report
Effluent Temperature (deg. C)	Field		No Data to Report
pH, Effluent (standard units)	Field		No Data to Report
BOD5 (mg/l)	405.1		No Data to Report
COD High Level (mg/l)	410.1		No Data to Report
Fecal Coliform (MPN/100mL)	9222C		No Data to Report
Fecal Streptococci (MPN/100mL)	9230C		No Data to Report
Total Dissolved Solids (mg/l)	160.1		No Data to Report
Total Suspended Solids (mg/l)	160.1		No Data to Report
TKN Nitrogen (mg/l as N)	351.3		No Data to Report
Nitrogen Nitrate Total (mg/l as N)	353.2		No Data to Report
Nitrogen Ammonia Total (mg/l as N)	350.3		No Data to Report
Nitrogen Organic Total (mg/l as N)	351.4		No Data to Report
Phosphorous Total (mg/l as P)	365.2		No Data to Report
Phosphorous Dissolved (mg/l as P)	365.3		No Data to Report
Oil and Grease Total Recoverable (mg/l)	413.1		No Data to Report
Hardness (mg/l)	130.2		No Data to Report
Cadmium Total Recoverable (ug/l as Cd)	213.2		No Data to Report
Cadmium Dissolved (ug/l as Cd)	213.2		No Data to Report
Chromium Total Recoverable (ug/l as Cr)	218.2		No Data to Report
Chromium Dissolved (ug/l as Cr)	218.2		No Data to Report
Copper, Total Recoverable, (ug/l as Cu)	220.2		No Data to Report
Copper, Dissolved, (ug/l as Cu)	220.2		No Data to Report
Lead, Total Recoverable, (ug/l as Pb)	239.2		No Data to Report
Lead, Dissolved, (ug/l as Pb)	239.2		No Data to Report
Mercury, Total Recoverable, (ug/l as Hg)	245.1		No Data to Report
Mercury, Dissolved, (ug/l as Hg)	245.1		No Data to Report
Zinc, Total Recoverable, (ug/l as Zn)	289.2		No Data to Report
Zinc, Dissolved, (ug/l as Zn)	289.2		No Data to Report
P,P' DDE, Total, (ug/l)	608		No Data to Report
Methylene Chloride, Total, (ug/l)	624		No Data to Report
Toluene, Total, (ug/l)	624		No Data to Report
Benzo (a) Pyrene, Total, (ug/l)	625		No Data to Report
Chrysene, Total, (ug/l)	625		No Data to Report
Fluoranthene, Total, (ug/l)	625		No Data to Report
Indeno (1,2,3-CD) Pyrene, Total, (ug/l)	625		No Data to Report
Pyrene, Total, (ug/l)	625		No Data to Report

Mesa 3 - Falcon Field		
Date of Sampling	Method	02/04/1999
Time		1731
Representative Storm Event		Y
Agency Collecting Sample		FCD
Agency Analyzing Sample		BOLIN
Drainage Area (acres) (DA)		171
Impervious Area (acres) (IA)		111
Land Use - Residential		--
Land Use - Commercial		--
Land Use - Industrial		--
Land Use - Undeveloped		--
Sampling Duration (minutes) (DRN)		277
Storm Duration (minutes)		368
Runoff Sampled (cubic feet) (RUN)		219500
Total Storm Runoff (cubic feet)		>500,000
Instantaneous Discharge (cfs)		24
Preceding Dry Period (days) (ANT)		49
Total Storm Rainfall (inch)		0.23
Rainfall Sampled (inch) (TRN)		0.22
Maximum 5-minute rain intensity (MAX5)		0.24
Sample Temperature (deg. C)	Field	4
Effluent Temperature (deg. C)	Field	12.1
pH, Effluent (standard units)	Field	8.17
BOD5 (mg/l)	405.1	5
COD High Level (mg/l)	410.1	102
Fecal Coliform (MPN/100mL)	9222C	340
Fecal Streptococci (MPN/100mL)	9230C	--
Total Dissolved Solids (mg/l)	160.1	36
Total Suspended Solids (mg/l)	160.1	<1
TKN Nitrogen (mg/l as N)	351.3	2.37
Nitrogen Nitrate Total (mg/l as N)	353.2	--
Nitrogen Ammonia Total (mg/l as N)	350.3	1.16
Nitrogen Organic Total (mg/l as N)	351.4	1.21
Phosphorous Total (mg/l as P)	365.2	0.11
Phosphorous Dissolved (mg/l as P)	365.3	0.39
Oil and Grease Total Recoverable (mg/l)	413.1	<5.0
Hardness (mg/l)	130.2	12
Cadmium Total Recoverable (ug/l as Cd)	213.2	0.5
Cadmium Dissolved (ug/l as Cd)	213.2	0.2
Chromium Total Recoverable (ug/l as Cr)	218.2	3.7
Chromium Dissolved (ug/l as Cr)	218.2	3.4
Copper, Total Recoverable, (ug/l as Cu)	220.2	<15
Copper, Dissolved, (ug/l as Cu)	220.2	<15
Lead, Total Recoverable, (ug/l as Pb)	239.2	8
Lead, Dissolved, (ug/l as Pb)	239.2	<5
Mercury, Total Recoverable, (ug/l as Hg)	245.1	<0.2
Mercury, Dissolved, (ug/l as Hg)	245.1	<0.2
Zinc, Total Recoverable, (ug/l as Zn)	289.2	80
Zinc, Dissolved, (ug/l as Zn)	289.2	50
P,P' DDE, Total, (ug/l)	608	<1.0
Methylene Chloride, Total, (ug/l)	624	<20
Toluene, Total, (ug/l)	624	<8
Benzo (a) Pyrene	625	<5.0
Chrysene, Total, (ug/l)	625	<5.0
Fluoranthene, Total, (ug/l)	625	<5.0
Indeno (1,2,3-CD) Pyrene, Total, (ug/l)	625	<5.0
Pyrene, Total, (ug/l)	625	<5.0

**Mesa 4 - Home and Grandview**

Date of Sampling	Method	
Time		No Data to Report
Representative Storm Event		No Data to Report
Agency Collecting Sample		No Data to Report
Agency Analyzing Sample		No Data to Report
Drainage Area (acres) (DA)		No Data to Report
Impervious Area (acres) (IA)		No Data to Report
Land Use - Residential		No Data to Report
Land Use - Commercial		No Data to Report
Land Use - Industrial		No Data to Report
Land Use - Undeveloped		No Data to Report
Sampling Duration (minutes) (DRN)		No Data to Report
Storm Duration (minutes)		No Data to Report
Runoff Sampled (cubic feet) (RUN)		No Data to Report
Total Storm Runoff (cubic feet)		No Data to Report
Instantaneous Discharge (cfs)		No Data to Report
Preceding Dry Period (days) (ANT)		No Data to Report
Total Storm Rainfall (inch)		No Data to Report
Rainfall Sampled (inch) (TRN)		No Data to Report
Maximum 5-minute rain intensity (MAX5)		No Data to Report
Sample Temperature (deg. C)	Field	No Data to Report
Effluent Temperature (deg. C)	Field	No Data to Report
pH, Effluent (standard units)	Field	No Data to Report
BOD5 (mg/l)	405.1	No Data to Report
COD High Level (mg/l)	410.1	No Data to Report
Fecal Coliform (MPN/100mL)	9222C	No Data to Report
Fecal Streptococci (MPN/100mL)	9230C	No Data to Report
Total Dissolved Solids (mg/l)	160.1	No Data to Report
Total Suspended Solids (mg/l)	160.1	No Data to Report
TKN Nitrogen (mg/l as N)	351.3	No Data to Report
Nitrogen Nitrate Total (mg/l as N)	353.2	No Data to Report
Nitrogen Ammonia Total (mg/l as N)	350.3	No Data to Report
Nitrogen Organic Total (mg/l as N)	351.4	No Data to Report
Phosphorous Total (mg/l as P)	365.2	No Data to Report
Phosphorous Dissolved (mg/l as P)	365.3	No Data to Report
Oil and Grease Total Recoverable (mg/l)	413.1	No Data to Report
Hardness (mg/l)	130.2	No Data to Report
Cadmium Total Recoverable (ug/l as Cd)	213.2	No Data to Report
Cadmium Dissolved (ug/l as Cd)	213.2	No Data to Report
Chromium Total Recoverable (ug/l as Cr)	218.2	No Data to Report
Chromium Dissolved (ug/l as Cr)	218.2	No Data to Report
Copper, Total Recoverable, (ug/l as Cu)	220.2	No Data to Report
Copper, Dissolved, (ug/l as Cu)	220.2	No Data to Report
Lead, Total Recoverable, (ug/l as Pb)	239.2	No Data to Report
Lead, Dissolved, (ug/l as Pb)	239.2	No Data to Report
Mercury, Total Recoverable, (ug/l as Hg)	245.1	No Data to Report
Mercury, Dissolved, (ug/l as Hg)	245.1	No Data to Report
Zinc, Total Recoverable, (ug/l as Zn)	289.2	No Data to Report
Zinc, Dissolved, (ug/l as Zn)	289.2	No Data to Report
P,P' DDE, Total, (ug/l)	608	No Data to Report
Methylene Chloride, Total, (ug/l)	624	No Data to Report
Toluene, Total, (ug/l)	624	No Data to Report
Benzo (a) Pyrene, Total, (ug/l)	625	No Data to Report
Chrysene, Total, (ug/l)	625	No Data to Report
Fluoranthene, Total, (ug/l)	625	No Data to Report
Indeno (1,2,3-CD) Pyrene, Total, (ug/l)	625	No Data to Report
Pyrene, Total, (ug/l)	625	No Data to Report

Mesa 5 - Broadway and Dobson		
Date of Sampling	Method	
Time		No Data to Report
Representative Storm Event		No Data to Report
Agency Collecting Sample		No Data to Report
Agency Analyzing Sample		No Data to Report
Drainage Area (acres) (DA)		No Data to Report
Impervious Area (acres) (IA)		No Data to Report
Land Use - Residential		No Data to Report
Land Use - Commercial		No Data to Report
Land Use - Industrial		No Data to Report
Land Use - Undeveloped		No Data to Report
Sampling Duration (minutes) (DRN)		No Data to Report
Storm Duration (minutes)		No Data to Report
Runoff Sampled (cubic feet) (RUN)		No Data to Report
Total Storm Runoff (cubic feet)		No Data to Report
Instantaneous Discharge (cfs)		No Data to Report
Preceding Dry Period (days) (ANT)		No Data to Report
Total Storm Rainfall (inch)		No Data to Report
Rainfall Sampled (inch) (TRN)		No Data to Report
Maximum 5-minute rain intensity (MAX5)		No Data to Report
Sample Temperature (deg. C)	Field	No Data to Report
Effluent Temperature (deg. C)	Field	No Data to Report
pH, Effluent (standard units)	Field	No Data to Report
BOD <sub>5</sub> (mg/l)	405.1	No Data to Report
COD High Level (mg/l)	410.1	No Data to Report
Fecal Coliform (MPN/100mL)	9222C	No Data to Report
Fecal Streptococci (MPN/100mL)	9230C	No Data to Report
Total Dissolved Solids (mg/l)	160.1	No Data to Report
Total Suspended Solids (mg/l)	160.1	No Data to Report
TKN Nitrogen (mg/l as N)	351.3	No Data to Report
Nitrogen Nitrate Total (mg/l as N)	353.2	No Data to Report
Nitrogen Ammonia Total (mg/l as N)	350.3	No Data to Report
Nitrogen Organic Total (mg/l as N)	351.4	No Data to Report
Phosphorous Total (mg/l as P)	365.2	No Data to Report
Phosphorous Dissolved (mg/l as P)	365.3	No Data to Report
Oil and Grease Total Recoverable (mg/l)	413.1	No Data to Report
Hardness (mg/l)	130.2	No Data to Report
Cadmium Total Recoverable (ug/l as Cd)	213.2	No Data to Report
Cadmium Dissolved (ug/l as Cd)	213.2	No Data to Report
Chromium Total Recoverable (ug/l as Cr)	218.2	No Data to Report
Chromium Dissolved (ug/l as Cr)	218.2	No Data to Report
Copper, Total Recoverable, (ug/l as Cu)	220.2	No Data to Report
Copper, Dissolved, (ug/l as Cu)	220.2	No Data to Report
Lead, Total Recoverable, (ug/l as Pb)	239.2	No Data to Report
Lead, Dissolved, (ug/l as Pb)	239.2	No Data to Report
Mercury, Total Recoverable, (ug/l as Hg)	245.1	No Data to Report
Mercury, Dissolved, (ug/l as Hg)	245.1	No Data to Report
Zinc, Total Recoverable, (ug/l as Zn)	289.2	No Data to Report
Zinc, Dissolved, (ug/l as Zn)	289.2	No Data to Report
P,P' DDE, Total, (ug/l)	608	No Data to Report
Methylene Chloride, Total, (ug/l)	624	No Data to Report
Toluene, Total, (ug/l)	624	No Data to Report
Benzo (a) Pyrene, Total, (ug/l)	625	No Data to Report
Chrysene, Total, (ug/l)	625	No Data to Report
Fluoranthene, Total, (ug/l)	625	No Data to Report
Indeno (1,2,3-CD) Pyrene, Total, (ug/l)	625	No Data to Report
Pyrene, Total, (ug/l)	625	No Data to Report

# Validation Tables

Mesa Falcon																			
February 4, 1999		Method	Result	Units	Required Method Detection Limit	Flags	Date Analyzed	Allowable Holding Time	Required MS/MSD Precision (% RPD)	Actual MS/MSD Precision (%RPD)	Required Sample Duplication Precision (% RPD)	Actual Sample Duplication Precision (% RPD)	Other QA/QC Comments (out of spec)	Field Blank Detects	Comments				
Sample Temperature (deg. C)			4				02/04/1999								Field Parameter				
Effluent Temperature (deg. C)			12.1				02/04/1999								Field Parameter				
pH, Effluent (standard units)			8.2	std. Units			02/04/1999								Field Parameter				
BOD5 (mg/l)		405.1	5	mg/l	1		02/05/1999	48 hours			<30	n/a							
COD High Level (mg/l)		410.4	102	mg/l	1		02/10/1999	28 days			<30	n/a							
Fecal Coliform (CFU/100mL)		9221D	340	CFU/100ml	2		02/05/1999	6 hours			<30	n/a							
Fecal Streptococci (CFU/100mL)		9230B	-	CFU/100ml	2		N/A	6 hours			<30	n/a							
Total Dissolved Solids (mg/l)		2540C	36	mg/l	10		02/10/1999	7 days			<15	n/a							
Total Suspended Solids (mg/l)		160.2	<1	mg/l	10		02/11/1999	7 days			<15	n/a							
TKN Nitrogen (mg/l as N)		351.3	2.37	mg/l			02/11/1999	28 days											
Nitrogen Nitrate Total (mg/l as N)		300.0	--	mg/l			N/A	48 hours											
Nitrogen Ammonia Total (mg/l as N)		350.2	1.16	mg/l			02/10/1999	28 days											
Nitrogen Organic Total (mg/l as N)		calc.	1.21	mg/l			02/10/1999												
Phosphorous Total (mg/l as P)		365.3	0.11	mg/l	0.05		03/02/1999	28 days			<15	3.5							
Phosphorous Dissolved (mg/l as P)		365.3	0.39	mg/l			02/10/1999	28 days											
Oil and Grease Total Recoverable (mg/l)		413.1	<5.0	mg/l	0.2		03/04/1999	28 days	<30	n/a	<50	n/a		Analyzed at 27 days					
Hardness (mg/l)		2340B	12	mg/l	1		03/19/1999	6 months			<15	n/a							
Cadmium Total Recoverable (ug/l as Cd)		7131	0.5	ug/l	0.2		02/22/1999	6 months	<25		<35								
Cadmium Dissolved (ug/l as Cd)		7131	0.2	ug/l			02/25/1999	6 months											
Chromium Total Recoverable (ug/l as Cr)		7191	3.7	ug/l	1		02/23/1999	6 months	<25		<35								
Chromium Dissolved (ug/l as Cr)		7191	3.4	ug/l			02/23/1999	6 months											
Copper, Total Recoverable, (ug/l as Cu)		3113B	<15	ug/l	1		02/24/1999	6 months	<25		<35								
Copper, Dissolved, (ug/l as Cu)		200.9	<15	ug/l			03/02/1999	6 months											
Lead, Total Recoverable, (ug/l as Pb)		3113B	8	ug/l	1		02/22/1999	6 months	<25		<35								
Lead, Dissolved, (ug/l as Pb)		200.9	<5	ug/l			02/25/1999	6 months											
Mercury, Total Recoverable, (ug/l as Hg)		245.1	<0.2	ug/l			02/11/1999	6 months											
Mercury, Dissolved, (ug/l as Hg)		245.1	<0.2	ug/l			02/16/1999	6 months											
Zinc, Total Recoverable, (ug/l as Zn)		200.7	80	ug/l	1		02/24/1999	6 months	<25		<35								
Zinc, Dissolved, (ug/l as Zn)		200.7	50	ug/l			03/02/1999	6 months											
EPA Method 608 Extraction		608					02/10/1999	7 days											
P,P' DDE, Total, (ug/l)		608	<1.0	ug/l			02/20/1999	40 days											
Methylene Chloride, Total, (ug/l)		624	<20	ug/l			02/13/1999	14 days											
Toluene, Total, (ug/l)		624	<8	ug/l			02/13/1999	14 days											
EPA Method 625 Extraction		625					02/08/1999	7 days											
Benzo (a) Pyrene, Total, (ug/l)		625	<5.0	ug/l			02/26/1999	40 days											
Chrysenes, Total, (ug/l)		625	<5.0	ug/l			02/26/1999	40 days											
Fluoranthene, Total, (ug/l)		625	<5.0	ug/l			02/26/1999	40 days											
Indeno (1,2,3-CD) Pyrene, Total, (ug/l)		625	<5.0	ug/l			02/26/1999	40 days											
Pyrene, Total, (ug/l)		625	<5.0	ug/l			02/26/1999	40 days											

**Hard Copies of Data**

# Data Checksheet

Site	FALCON FIELD
Municipality	MESA
Sample Date	FEB 4, 1999

Date Received	APR 9, 1999
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Laboratory Used	BOWEN
Laboratory Contact	STEPHANIE
FCD Sample ID Number	M3G020499, M3C020499
Lab Sample ID Number	9902-01149-001, -002
Laboratory Invoice Number	051340

Initial Review Complete	<input checked="" type="checkbox"/>	Date	4-20-99
Lab Contacted	<input checked="" type="checkbox"/>	Date	4-20-99
Lab Review Complete	<input type="checkbox"/>	Date	4-21-99
Second Review Complete	<input type="checkbox"/>	Date	4-21-99
Additional Review Necessary	<input type="checkbox"/>		

Comments
(1) LAB DONT GIVE ABBREVIATED 624/625 PARAMS. -REQUESTED NEW REPORT.
(2) received faxed results of (new) report. Used this for completion of database & validation. Awaiting mailed copy (mailed 4/21/99).

Data Validation Table Complete	<input checked="" type="checkbox"/>	Date	4-21-99
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Data Entered Into Database	<input checked="" type="checkbox"/>	Date	4-21-99
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# Bolin Laboratories Inc.

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

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

Received: 2/05/99  
Reported: 3/22/99  
Invoice No: 051340

Project Name: Mesa NPDES

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Matrix:	Storm Water				
Sample No:	9902-01149-001		Time Sampled: 20:30		
Sample ID:	M3G020499 (Falcon)		Date Sampled: 2/04/1999		
Biochemical Oxygen Demand	EPA 405.1	5.	mg/L	1.0	2/05/99
Coliform, Fecal (MPN)	SM 9221D	340.	MPN/100ml	20.	2/05/99
Oil & Grease	EPA 413.1	<5.0	mg/L	5.0	3/04/99
Toluene	EPA 624	ND	ug/L	8	2/13/99
Dichloromethane	EPA 624	ND	ug/L	20	2/13/99
Surrogates:	EPA 624				2/13/99
***Pentafluorobenzene	EPA 624	81.	% Recovery		2/13/99
***1,2-dichloroethane-d4	EPA 624	88.	% Recovery		2/13/99
***4-bromofluorobenzene	EPA 624	76.	% Recovery		2/13/99
***1,2-dichlorobenzene-d4	EPA 624	83.	% Recovery		2/13/99

For EPA 624, the sample was diluted by a factor of 4 due to sample matrix.

Report revised on 4/20/99 to reflect only the compounds requested from EPA Method 624 and 625.

Authorized Signatory  
ADHS License No.: AZ0004



# Bolin Laboratories Inc.

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

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

Received: 2/05/99  
Reported: 3/22/99  
Invoice No: 051340

Project Name: Mesa NPDES

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
Matrix:	Storm Water				
Sample No:	9902-01149-004			Time Sampled: 20:30	
Sample ID:	M3C020499 (Falcon)			Date Sampled: 2/04/1999	
Chemical Oxygen Demand	EPA 410.4	102.	mg/L	20.	2/10/99
Total Dissolved Solids	SM 2540C	36.	mg/L	1.	2/10/99
Solids, Total Suspended	EPA 160.2	< 1.	mg/L	1.	2/11/99
Nitrogen as Ammonia	EPA 350.2	1.16	mg/L	0.03	2/10/99
Total Kjeldahl Nitrogen	EPA 351.3	2.37	mg/L	0.03	2/11/99
Organic Nitrogen	CALCULATION	1.21	mg/L		2/10/99
P as Total Phosphate	EPA 365.3	0.11	mg/L	0.05	3/02/99
Total Phosphate	CALCULATION	0.34	mg/L	0.15	3/02/99
Phosphorus, Dissolved	EPA 365.3	0.39	mg/L	0.05	2/10/99
Metals Digestion for ICP	EPA 200.7				2/12/99
Metals Digestion for GFAA	SM 3030E				2/12/99
Cadmium	SM 3113B	0.0005	mg/L	0.0002	2/22/99
Copper	EPA 200.7	< 0.015	mg/L	0.015	2/24/99
Lead	SM 3113B	0.008	mg/L	0.005	2/22/99
Mercury	EPA 245.1	< 0.0002	mg/L	0.0002	2/11/99
Zinc	EPA 200.7	0.08	mg/L	0.02	2/24/99
Cadmium, Dissolved	EPA 200.9	0.0002	mg/L	0.0002	2/25/99
Copper, Dissolved	EPA 200.7	< 0.015	mg/L	0.015	3/02/99
Lead, Dissolved	EPA 200.9	< 0.005	mg/L	0.005	2/25/99
Mercury, Dissolved	EPA 245.1	< 0.0002	mg/L	0.0002	2/16/99
Zinc, Dissolved	EPA 200.7	0.05	mg/L	0.02	3/02/99
Chromium	EPA 218.2	0.0037	mg/L	0.001	2/23/99
Chromium, Dissolved	EPA 218.2	0.0034	mg/L	0.001	2/23/99
Hardness (EDTA Titrimetric)	SM 2340C	12.	mg/L		3/19/99
Nitrate plus Nitrite	SM 4500 NO3E	0.72	mg/L	0.05	2/19/99
Benzo (a) pyrene	EPA 625	ND	ug/L	5.0	2/26/99
Chrysene	EPA 625	ND	ug/L	5.0	2/26/99
Fluoranthene	EPA 625	ND	ug/L	5.0	2/26/99
Indeno (1,2,3-cd) pyrene	EPA 625	ND	ug/L	5.0	2/26/99
Pyrene	EPA 625	ND	ug/L	5.0	2/26/99
Extraction	EPA 625				2/08/99
Surrogate:	EPA 625				2/26/99



# Bolin Laboratories Inc.

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

Matrix: Storm Water  
Sample No: 9902-01149-004

Time Sampled: 20:30  
Date Sampled: 2/04/1999

PARAMETER	METHOD	RESULTS	UNITS	PQL	DATE ANALYZED
*** 2-Fluorophenol	EPA 625	31.7	% Recovery		2/26/99
*** d6-Phenol	EPA 625	22.2	% Recovery		2/26/99
*** d5-Nitrobenzene	EPA 625	60.0	% Recovery		2/26/99
*** 2-Fluorobiphenyl	EPA 625	58.0	% Recovery		2/26/99
*** 2,4,6-Tribromophenol	EPA 625	87.1	% Recovery		2/26/99
*** d14-Terphenyl	EPA 625	117	% Recovery		2/26/99
4,4'-DDE	EPA 608	ND M1	ug/L	1.0	2/20/99
Extraction	EPA 608				2/10/99
Surrogate:	EPA 608				2/20/99
*** Dibutylchlorendate	EPA 608	178 S1	% Recovery		2/20/99

M1 = Matrix spike recovery was above laboratory acceptance limits. Data was not impacted.  
S1 = Surrogate recovery was above laboratory acceptance limits. Data was not impacted.

TKN & Ammonia analyzed by Aquatic Consulting, Tempe AZ. #AZ0003.

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

Total & Dissolved Chromium analyzed by BC Labs, Bakersfield CA, #AZ0345.

Due to laboratory error, Bolin is not able to provide separate values for Nitrate and Nitrite, only Nitrate plus Nitrite.

Report revised on 4/20/99 to reflect only the compounds requested from EPA Method 624 and 625.

  
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Authorized Signatory  
ADHS License No.: AZ0004



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

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

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

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

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

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

Quality Control Officer

  
Anthony Bonanno

**BC**

LABORATORIES

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

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

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

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

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

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

Quality Control Officer

  
 Anthony Bonanno

**BC**

LABORATORIES

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

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

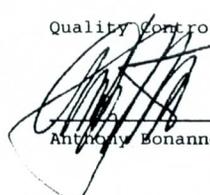
Date of Report: 03/25/99  
 Sample Matrix: SURFACE WA

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

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

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

Quality Control Officer

  
 Anthony Bonanno

**BC**

LABORATORIES

B C LABORATORIES  
QUALITY CONTROL REPORT - LEVEL III  
(Laboratory Control Sample)BOLIN LABORATORIES  
17631 N. 25TH AVE.  
PHOENIX, AZ 85023  
STEPHANIE KAUFMANDate of Report: 03/25/99  
Sample Matrix: SURFACE WATER

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

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

Quality Control Officer

  
Anthony Bonanno



# Bolin Laboratories Inc.

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

## Quality Control Data Report

Client: Maricopa County Flood Control District  
Bolin Sample ID: 9902-1149

Analyte	Method	Date Analyzed	Spk Conc.	MS %Rec	MSD %Rec	RPD	Blk	ICV %Rec	CCV %Rec
Chemical Oxygen Demand	EPA 410.4	2/10/99	30	91	95	4	<PQL	101	104
Total Suspended Solids	EPA 160.2	2/11/99	N/A	N/A	N/A	N/A	<PQL	104	-
Total Dissolved Solids	EPA 160.3	2/10/99	N/A	N/A	N/A	N/A	<PQL	98	96
Total Phosphorous	EPA 365.3	3/2/99	0.1	100	113	12	<PQL	91	95
Total Dissolved Phosphorous	EPA 365.3	2/10/99	0.1	*	*		<PQL	91	95

\* Above calibration curve

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



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## Quality Control Data Report

**Client:** Maricopa County Flood Control District

**Bolin Sample ID:** 9902-1149

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	MS %Rec	MSD %Rec	RPD	Blk (ppb)	ICV %Rec	CCV %Rec
BOD	EPA 405.1	2/5/99	N/A	N/A	N/A		<PQL		
Oil and Grease	EPA 413.1	3/4/99	N/A	N/A	N/A		<PQL	96	

MS/MSD are Matrix Spikes

ICV is Initial Calibration Verification

CCV is Continuing Calibration Verification

RPD is Relative Percent Difference

BLK is a Blank



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## Quality Control Data Report

Client: Maricopa County Flood Control  
 Bolin Sample ID: 9902-1149-1

Analyte	Method	Date Analyzed	Spk Conc. (ppb)	MS %Rec	BLK MS Conc. UNITS	BLK MS %Rec	BLK MSD Conc. UNITS	BLK MSD %Rec	RPD	BLK (ppb)	CCV %Rec
1,1-Dichloroethylene	EPA 624	2/13/99	10	98.7	10.1	101	9.49	94.9	6	<PQL	
Benzene	EPA 624	2/13/99	10	103	10.3	103	9.99	100	3	<PQL	
Trichloroethylene	EPA 624	2/13/99	10	104	10.6	106	10.2	102	4	<PQL	
Toluene	EPA 624	2/13/99	10	103	10.4	104	10.0	100	4	<PQL	
Chlorobenzene	EPA 624	2/13/99	10	104	10.5	105	10.1	101	4	<PQL	
Chloromethane	EPA 624	2/13/99	10							<PQL	101
Vinylchloride	EPA 624	2/13/99	10							<PQL	100
1,1-Dichloroethylene	EPA 624	2/13/99	10							<PQL	101
1,1-Dichloroethane	EPA 624	2/13/99	10							<PQL	105
Chloroform	EPA 624	2/13/99	10							<PQL	104
1,2-Dichloropropane	EPA 624	2/13/99	10							<PQL	102
Toluene	EPA 624	2/13/99	10							<PQL	102
Chlorobenzene	EPA 624	2/13/99	10							<PQL	103
Ethylbenzene	EPA 624	2/13/99	10							<PQL	104
Bromoform	EPA 624	2/13/99	10							<PQL	104
1,1,2,2-Tetrachloroethane	EPA 624	2/13/99	10							<PQL	104

CCV = Continuing Calibration Verification.  
 MS = Matrix Spike.  
 MSD = Matrix Spike Duplicate.  
 RPD = Relative Percent Difference.  
 BLK = Blank.



# Bolin Laboratories Inc.

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## Quality Control Data Report

Client: Maricopa County Flood Control  
 Bolin Sample ID: 9902-1149-4

Analyte	Method	Date Analyzed	Spk Conc. (ppb)	Blk (ppb)	Blk Spk Conc. ppb	Blk-Spk %Rec	Blk Spk Dup Conc. ppb	Blk Spk Dup %Rec	RPD	MS Conc.	MS %Rec	ICV %Rec	CCV %Rec
Alpha-BHC	EPA 608	0218/99	5.0	<PQL	3.91	78	4.12	82	5	8.11	162	103	114
Beta-BHC	EPA 608	2/18/99	5.0	<PQL	4.24	85	4.50	90	6	7.71	154	100	113
Gamma(Lindane)-BHC	EPA 608	2/18/99	5.0	<PQL	4.08	82	4.33	87	6	8.40	168	103	112
Delta-BHC	EPA 608	2/18/99	5.0	<PQL	4.44	89	4.67	93	5	8.25	165	103	114
Heptachlor	EPA 608	2/18/99	5.0	<PQL	4.28	86	4.53	91	6	9.88	198	104	101
Aldrin	EPA 608	2/18/99	5.0	<PQL	3.74	75	4.01	80	7	8.24	165	98	109
Heptachlor Epoxide	EPA 608	2/18/99	5.0	<PQL	4.02	80	4.31	86	7	8.60	172	98	111
Endosulfan I	EPA 608	2/18/99	5.0	<PQL	4.07	81	4.36	87	7	8.43	169	98	109
Dieldrin	EPA 608	2/18/99	5.0	<PQL	4.20	84	4.45	89	6	8.90	178	98	109
4,4'-DDE	EPA 608	2/18/99	5.0	<PQL	4.42	88	4.63	93	5	8.52	170	102	100
Endrin	EPA 608	2/18/99	5.0	<PQL	4.67	93	4.86	97	4	9.42	188	102	109
Endosulfan II	EPA 608	2/18/99	5.0	<PQL	4.60	92	4.81	96	4	8.56	171	103	107
4,4'-DDD	EPA 608	2/18/99	5.0	<PQL	4.63	93	4.86	97	5	8.83	177	103	105
Endrin Aldehyde	EPA 608	2/18/99	5.0	<PQL	4.43	89	4.36	87	2	7.50	150	101	106
Endosulfan Sulfate	EPA 608	2/18/99	5.0	<PQL	4.77	95	4.90	98	3	8.44	169	103	103
4,4'-DDT	EPA 608	2/18/99	5.0	<PQL	5.24	105	5.28	106	1	9.95	199	105	92

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



# Bolin Laboratories Inc.

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(602) 942 8220 • FAX (602) 942 1050

## Quality Control Data Report

**Client:** Maricopa Flood Control District

**Bolin Sample ID:** 9902-1149 Total

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	MS %Rec	MSD %Rec	Blk (ppm)	ICV %Rec	CCV %Rec
Cadmium	PA 200.9/SM 3113	2/22/99	0.002	110	125	<PQL	105	100
Copper	EPA 200.7	2/24/99	1	73	72	<PQL	98	104
Zinc	EPA 200.7	2/24/99	1	84	82	<PQL	99	96
Lead	PA 200.9/SM 3113	2/22/99	0.020	120	125	<PQL	105	100
Mercury	EPA 245.1	2/11/99	0.005	126	138	<PQL	94	94

MI Matrix Interference

ICV Initial Calibration Verification

CCV Continuing Calibration Verification

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MSD is a Matrix Spike Duplicate.

RPD is Relative Percent Difference

BLK is a Blank



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## Quality Control Data Report

**Client:** Maricopa Flood Control District

**Bolin Sample ID:** 9902-1149 Diss

Analyte	Method	Date Analyzed	Spk Conc. (ppm)	MS %Rec	MSD %Rec	Blk (ppm)	ICV %Rec	CCV %Rec
Cadmium	PA 200.9/SM 3113	2/25/99	0.002	125	115	<PQL	105	105
Copper	EPA 200.7	3/2/99	1	104	101	<PQL	104	97
Zinc	EPA 200.7	3/2/99	1	103	100	<PQL	103	95
Lead	PA 200.9/SM 3113	2/25/99	0.020	110	105	<PQL	102	105
Mercury	EPA 245.1	2/16/99	0.005	MI	MI	<PQL	96	98

MI Matrix Interference

ICV Initial Calibration Verification

CCV Continuing Calibration Verification

MS is Matrix Spike

MSD is a Matrix Spike Duplicate.

RPD is Relative Percent Difference

BLK is a Blank



# Records

# WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	MESA FALCON		DATE	JAN 6, 1999	
ARRIVAL TIME	1130	DEPARTURE TIME	1230	SERVICED BY	RWN DEG
SAMPLER MODEL NUMBER	800		SAMPLER SERIAL/ ASSET NUMBER	E07925067	
PT SERIAL NUMBER/ ASSET NUMBER			RAINGAGE SERIAL/ ASSET NUMBER		

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES <u>NO</u>	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO <u>N/A</u>	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	<u>GOOD</u> FAIR POOR	YES NO	YES NO	
RAINGAGE	<u>YES</u> NO	GOOD FAIR POOR	YES <u>NO</u>	<u>YES</u> NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	<u>YES</u> NO	YES NO	29' length (feet)
SAMPLER PUMP TUBING	<u>YES</u> NO	<u>GOOD</u> FAIR POOR	<u>YES</u> NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	depth (inch)
CALIBRATE DEPTH SENSOR	<u>YES</u> NO	<u>GOOD</u> FAIR POOR	N/A	N/A	5.25"
CALIBRATE SAMPLE VOLUME	<u>YES</u> NO	GOOD <u>FAIR</u> POOR	N/A	N/A	430 mL
CLEANED SAMPLE INTAKE TUBING	YES <u>NO</u>	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS

replaced intake tubing w/ 3/8" teflon

replaced pump tubing / replaced distr. tubing

calibrated PT

intake tubing @ 29' (set to 25' in prog)

# WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	MESA 1 SIXTH		DATE	1-20-99	
ARRIVAL TIME	1115	DEPARTURE TIME	1230	SERVICED BY	RWJ / CLK / DFC
SAMPLER MODEL NUMBER	800		SAMPLER SERIAL / ASSET NUMBER	H019511338 1350	
PT SERIAL NUMBER / ASSET NUMBER			RAINGAGE SERIAL / ASSET NUMBER		

	CHECKED / SERVICED / CALIBRATED		CONDITION	REPLACED?		NEEDS REPLACING?		NOTES
	YES	NO		YES	NO	YES	NO	
BATTERY VOLTAGE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	volts
SOLAR PANEL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	GOOD FAIR POOR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CONNECTION CABLES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
RAINGAGE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
SAMPLE INTAKE TUBING	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	53/4 length (feet)
SAMPLER PUMP TUBING	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEPTH SENSOR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.5 depth (inch)
CALIBRATE DEPTH SENSOR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR	N/A		N/A		
CALIBRATE SAMPLE VOLUME	<input checked="" type="checkbox"/>	<input type="checkbox"/>	GOOD <input checked="" type="checkbox"/> FAIR <input type="checkbox"/> POOR	N/A		N/A		485 mL
CLEANED SAMPLE INTAKE TUBING	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR	N/A		N/A		

NOTES / ACTIONS replaced intake tubing, pump tubing, distributor tubing, calibrated vol. (somewhat difficult) calibrated depth sensor

# WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

<b>SITE</b>	MESA 2 LINDSAY		<b>DATE</b>	1-20-99	
<b>ARRIVAL TIME</b>	750	<b>DEPARTURE TIME</b>	905	<b>SERVICED BY</b>	RWN / CFK / DEG
<b>SAMPLER MODEL NUMBER</b>			<b>SAMPLER SERIAL / ASSET NUMBER</b>		
<b>PT SERIAL NUMBER / ASSET NUMBER</b>			<b>RAINGAGE SERIAL / ASSET NUMBER</b>		

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING <i>replaced</i>	YES NO	GOOD FAIR POOR	YES NO	YES NO	56' length (feet)
SAMPLER PUMP TUBING <i>replaced</i>	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	6.0"
CALIBRATE SAMPLE VOLUME	YES NO	GOOD FAIR POOR	N/A	N/A	450 mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS *replaced intake tubing w/ 56' 3/8" Teflon*  
*replaced pump & distributor tubing*  
*calibrated PT, checked raingauge.*

# WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	MESA # GRANVIEW		DATE	1-20-99	
ARRIVAL TIME	1240	DEPARTURE TIME	110	SERVICED BY	CFK/RWN/DEG
SAMPLER MODEL NUMBER	800		SAMPLER SERIAL / ASSET NUMBER	E07925069	
PT SERIAL NUMBER / ASSET NUMBER			RAINGAGE SERIAL / ASSET NUMBER		

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED?	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	<input checked="" type="checkbox"/> YES NO N/A	<input checked="" type="checkbox"/> GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	<input checked="" type="checkbox"/> YES NO	<input checked="" type="checkbox"/> GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	<input checked="" type="checkbox"/> YES NO	<input checked="" type="checkbox"/> GOOD FAIR POOR	<input checked="" type="checkbox"/> YES NO	YES NO	73 length (feet)
SAMPLER PUMP TUBING	<input checked="" type="checkbox"/> YES NO	<input checked="" type="checkbox"/> GOOD FAIR POOR	<input checked="" type="checkbox"/> YES NO	YES NO	
DEPTH SENSOR	<input checked="" type="checkbox"/> YES NO	GOOD FAIR POOR	<input checked="" type="checkbox"/> YES NO	YES NO	4.5 depth (inch)
CALIBRATE DEPTH SENSOR	<input checked="" type="checkbox"/> YES NO	GOOD FAIR POOR	N/A	N/A	
CALIBRATE SAMPLE VOLUME	<input checked="" type="checkbox"/> YES NO	GOOD FAIR POOR	N/A	N/A	430 mL
CLEANED SAMPLE INTAKE TUBING	<input checked="" type="checkbox"/> YES NO	GOOD FAIR POOR	N/A	N/A	

NOTES / ACTIONS

replaced intake tubing w/ Teflon  
 73ft, calibrated vol - 430 mL,  
 replaced pump; distributor tubing  
 calibrated depth sensor

# WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	MESA 5 DOBSON		DATE	1-20-99	
ARRIVAL TIME	920	DEPARTURE TIME	1030	SERVICED BY	RWN/CFK/DCU
SAMPLER MODEL NUMBER	800		SAMPLER SERIAL/ ASSET NUMBER	None	
PT SERIAL NUMBER/ ASSET NUMBER			RAINGAGE SERIAL/ ASSET NUMBER	H07925066 1350	

	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	Power by city
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	Has been working well.
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	7' length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
DEPTH SENSOR	YES NO	GOOD FAIR POOR	YES NO	YES NO	6" 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	460 mL pumped mL
CLEANED SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	N/A	N/A	New

NOTES / ACTIONS Replaced sampler intake tubing & calibrated PT & Pump all looks good (CK) replaced pump & distributor tubing

# STORM EVENT LOG SHEET

SITE: MOBA SIXTH (1)

DATE: 2-4-99 TIME: 2150

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES  NO

IF NO, WHAT WERE PROBLEM(S):

pumped vol, seemed low -  
0.21" rain

## FIELD PARAMETERS:

Sampler Start Time 1824

Effluent pH

Effluent Temperature

## GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?

YES  NO

Preservatives added to bottles?

YES  NO

# STORM EVENT LOG SHEET

SITE: LINDSAY

DATE: 2-4-98 TIME: 2:15

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.21" rain

FIELD PARAMETERS:

Sampler Start Time ~1800

Effluent pH

Effluent Temperature

GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?

YES

NO

Preservatives added to bottles?

YES

NO

# STORM EVENT LOG SHEET

SITE: FALCON

DATE: 2-4-99 TIME: 2030

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.23" rain  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## FIELD PARAMETERS:

Sampler Start Time: 5:20P

Effluent pH: 8.17

Effluent Temperature: 12.1

## GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?

YES

NO

Preservatives added to bottles?

YES

NO

# STORM EVENT LOG SHEET

SITE: MESA GRANDVIEW

DATE: 2-4-99 TIME: 2140

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

didn't pump enough sample  
was not much runoff  
0.71" rain

### FIELD PARAMETERS:

Sampler Start Time

Effluent pH

Effluent Temperature

### GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?

YES

NO

Preservatives added to bottles?

YES

NO

# STORM EVENT LOG SHEET

SITE: MESA DIBSON

DATE: 2-4-99 TIME:

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.15" rain  
very little runoff

## FIELD PARAMETERS:

Sampler Start Time

Effluent pH

Effluent Temperature

## GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?

YES

NO

Preservatives added to bottles?

YES

NO

# EQUIPMENT CLEANING CHECKLIST

Site Home & Gr

Date 2/9/99 Time 1440

Serviced By: (Pur) (De)

Data Downloaded to DTU?

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

Pump approximately 1/2 gallon tap water through tubing.

Pump approximately 1/2 gallon of Liquinox through tubing.

Pump a large quantity of tap water through tubing.

Pump a small amount of Nitric Acid (pH 3 - 4) through tubing.

Pump approximately 1/2 - 1 gallon deionized water through tubing.

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

# EQUIPMENT CLEANING CHECKLIST

Site Droadway @ Lindsey

Date 2/9/99 Time 1330

Serviced By: (Rin) (Peg)

Data Downloaded to DTU?

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

Pump approximately 1/2 gallon tap water through tubing.

Pump approximately 1/2 gallon of Liquinox through tubing.

Pump a large quantity of tap water through tubing.

Pump a small amount of Nitric Acid (pH 3 - 4) through tubing.

Pump approximately 1/2 - 1 gallon deionized water through tubing.

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

# EQUIPMENT CLEANING CHECKLIST

Site **Falcon Field**

Date **2/9/99** Time **1400**

Serviced By: **Blair Dea**

Data Downloaded to DTU?

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

Pump approximately 1/2 gallon tap water through tubing.

Pump approximately 1/2 gallon of Liquinox through tubing.

Pump a large quantity of tap water through tubing.

Pump a small amount of Nitric Acid (pH 3 - 4) through tubing.

Pump approximately 1/2 - 1 gallon deionized water through tubing.

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

# EQUIPMENT CLEANING CHECKLIST

Site Home + Gardner

Date 2/19/99 Time 1420

Serviced By: (Signature) (Signature)

Data Downloaded to DTU?

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

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

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



# STORM EVENT LOG SHEET

SITE: 6<sup>th</sup> ST & Horne mesa SIXTH

DATE: 03/08/99 TIME: 1110

DID EQUIPMENT OPERATE PROPERLY DURING EVENT:  YES  NO

IF NO, WHAT WERE PROBLEM(S):

check station and program Precip reading "0"  
check site, Restart program.  
call US West, phone needs service.  
DEG RKN

## FIELD PARAMETERS:

Sampler Start Time

Effluent pH

Effluent Temperature

## GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?

YES

NO

Preservatives added to bottles?

YES

NO

# STORM EVENT LOG SHEET

SITE: Madison & Lindsay LINDSAY

DATE: 03/08/99 TIME: 1145

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

check program, small flow, no samples taken  
Restart program, check site  
DEG / RUN

FIELD PARAMETERS:

Sampler Start Time

Effluent pH

Effluent Temperature

GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken

YES

NO

Preservatives added to bottles

YES

NO

# STORM EVENT LOG SHEET

SITE: Falcon Field FALCON

DATE: 03/08/99 TIME: 1140

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

check site and program, NO precip "0"  
Restart program  
DFG / MNU

## FIELD PARAMETERS:

Sampler Start Time

Effluent pH

Effluent Temperature

## GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?

YES

NO

Preservatives added to bottles?

YES

NO

# STORM EVENT LOG SHEET

SITE: Horne & Grandview GRANDVIEW

DATE: 03/08/99 TIME: 1120

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

check site, program, no prec"p. 0", Restart  
program.

DEG- RAW

## FIELD PARAMETERS:

Sampler Start Time

Effluent pH

Effluent Temperature

## GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?

YES

NO

Preservatives added to bottles?

YES

NO

# STORM EVENT LOG SHEET

SITE: Drainway + Dobson

MESA DOBSON

DATE: 03/08/99 TIME: 1210

DID EQUIPMENT OPERATE PROPERLY DURING EVENT:  YES  NO

IF NO, WHAT WERE PROBLEM(S):

check station and program. "0" precip.  
Restart program  
DEG/RAW

## FIELD PARAMETERS:

Sampler Start Time

Effluent pH

Effluent Temperature

## GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?

YES

NO

Preservatives added to bottles?

YES

NO

# STORM EVENT LOG SHEET

SITE: MESA SIXTH

DATE: 3-16-99 TIME: 1330

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.09" rain  
sampling begun @ 1030  
2 samples in bottle 1

## FIELD PARAMETERS:

Discharge at time of event  
Temperature

## GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken?

YES NO

Grab Samples Taken?

YES NO

# STORM EVENT LOG SHEET

STATION: MESA LINDSAY

DATE: 3-16-99 TIME: 1400

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.08" rain - program started but  
1 samples collected - low runoff.

FIELD PARAMETERS:

Discharge at time of Grab

Temperature

Effluent Temperature

GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken

YES NO

Grab Samples Taken

YES NO

# STORM EVENT LOG SHEET

MESA FALCON

3/16/99 TIME: 1350

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.04" rain - no sampling

## FIELD PARAMETERS:

[Redacted field parameters section]

## GRAB SAMPLES:

Take grab samples from discharge only!

[Redacted grab sample entry 1]

YES NO

[Redacted grab sample entry 2]

YES NO

# STORM EVENT LOG SHEET

NAME: MESA 4 GRANDVIEW

DATE: 3-16-99 TIME: 1335

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.07" rain began sampling 1050 A  
little runoff in basin  
1 sample bottle 1

FIELD PARAMETERS:

Discharge at time of event  
Water Temp  
Air Temp

GRAB SAMPLES:

Take grab samples from discharge only!

Grab Samples Taken YES NO  
Grab Samples Taken YES NO

# STORM EVENT LOG SHEET

STATION: MESA 5 DOBSON

DATE: 3-16-99 TIME: 1305

DID EQUIPMENT OPERATE PROPERLY DURING EVENT: YES NO

IF NO, WHAT WERE PROBLEM(S):

0.22" rain  
prog start 0859 - only 1 full bottle  
rain occurred 0830 - 1130z

## FIELD PARAMETERS:

Distance of the ...  
Estimate of ...  
Event Temperature

## GRAB SAMPLES:

Take grab samples from discharge only!

State ...

YES NO

Other ...

YES NO

# WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	<i>Horne + 6<sup>th</sup></i>		DATE	<i>3/18/99</i>	
ARRIVAL TIME		DEPARTURE TIME	SERVICED BY		
SAMPLER MODEL NUMBER			<i>[Signature]</i>		
PT SERIAL NUMBER / ASSET NUMBER					
SAMPLER SERIAL / ASSET NUMBER			RAINGAGE SERIAL / ASSET NUMBER		

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

NOTES / ACTIONS *Flush and clean in lab line.*

*put in clean bottle, rest of program*

*[Signature]*

# WATER QUALITY SAMPLER INTENANCE LOG SHEET

<b>SITE</b>	<i>Hors + Arambica</i>	<b>DATE</b>	<i>3/18/99</i>
<b>ARRIVAL TIME</b>		<b>DEPARTURE TIME</b>	<b>SERVICED BY</b>
<b>SAMPLER MODEL NUMBER</b>		<b>SAMPLER SERIAL/ ASSET NUMBER</b>	<i>[Signature]</i>
<b>PT SERIAL NUMBER/ ASSET NUMBER</b>		<b>RAINGAGE SERIAL/ ASSET NUMBER</b>	

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

**NOTES / ACTIONS** *Flush and clean in tube line, not clean bottles in, recast program.*

*[Signature]*

# WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

<b>SITE</b>	<i>Broadway Palmer</i>	<b>DATE</b>	<i>3/18/99</i>
<b>ARRIVAL TIME</b>		<b>DEPARTURE TIME</b>	<b>SERVICED BY</b>
			<i>PLW</i>
<b>SAMPLER MODEL NUMBER</b>		<b>SAMPLER SERIAL/ ASSET NUMBER</b>	
<b>PT SERIAL NUMBER/ ASSET NUMBER</b>		<b>RAINGAGE SERIAL/ ASSET NUMBER</b>	

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

**NOTES / ACTIONS** *Flush intake lines. Put in clean bottle*

*reset program*

*PLW*

WATER QUALITY SAMPLER MAINTENANCE LOG SHEET

SITE	FALCON FIELD		DATE	3-31-99	
ARRIVAL TIME		DEPARTURE TIME	SERVICED BY		
SAMPLER MODEL NUMBER		SAMPLER SERIAL/ ASSET NUMBER			
PT SERIAL NUMBER/ ASSET NUMBER		RAINGAGE SERIAL/ ASSET NUMBER			

	CHECKED / SERVICED / CALIBRATED	CONDITION	REPLACED	NEEDS REPLACING?	NOTES
BATTERY VOLTAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	volts
SOLAR PANEL	YES NO N/A	GOOD FAIR POOR	YES NO	YES NO	
CONNECTION CABLES	YES NO	GOOD FAIR POOR	YES NO	YES NO	
RAINGAGE	YES NO	GOOD FAIR POOR	YES NO	YES NO	
SAMPLE INTAKE TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	length (feet)
SAMPLER PUMP TUBING	YES NO	GOOD FAIR POOR	YES NO	YES NO	
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 *Program shut down. Power off.*

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