

Rose Canyon Watershed
Opportunities Assessment Grant
Report for June 1, 2004 – September 30, 2004
(Submitted by September 30, 2004)

Prepared by
City of San Diego
Storm Water Program

Rose Canyon Watershed Opportunities Assessment Summary
City of San Diego Dry Weather Monitoring
September 30, 2004

Introduction:

The City of San Diego Storm Water Program collected Dry Weather Monitoring samples in the Rose Canyon Creek Drainage area and other watersheds. The goal of the Dry Weather Monitoring Program is to detect and eliminate Illicit Connections and Illicit Discharges (IC/ID) to the storm drain system. The monitoring portion of the program has four main components: field screening, analytical testing, evaluation, and follow-up. These samples are collected between May 1st and September 30th of every year. Analytical results collected in the Rose Canyon watershed will be included in the Rose Canyon Watershed Opportunities Assessment Grant program. A total of twenty-four samples were collected between June 21, 2004 and July 13, 2004, consisting of sixteen field-screening-only samples, and eight analytical and field screening samples. See Figure 1 for sample locations.

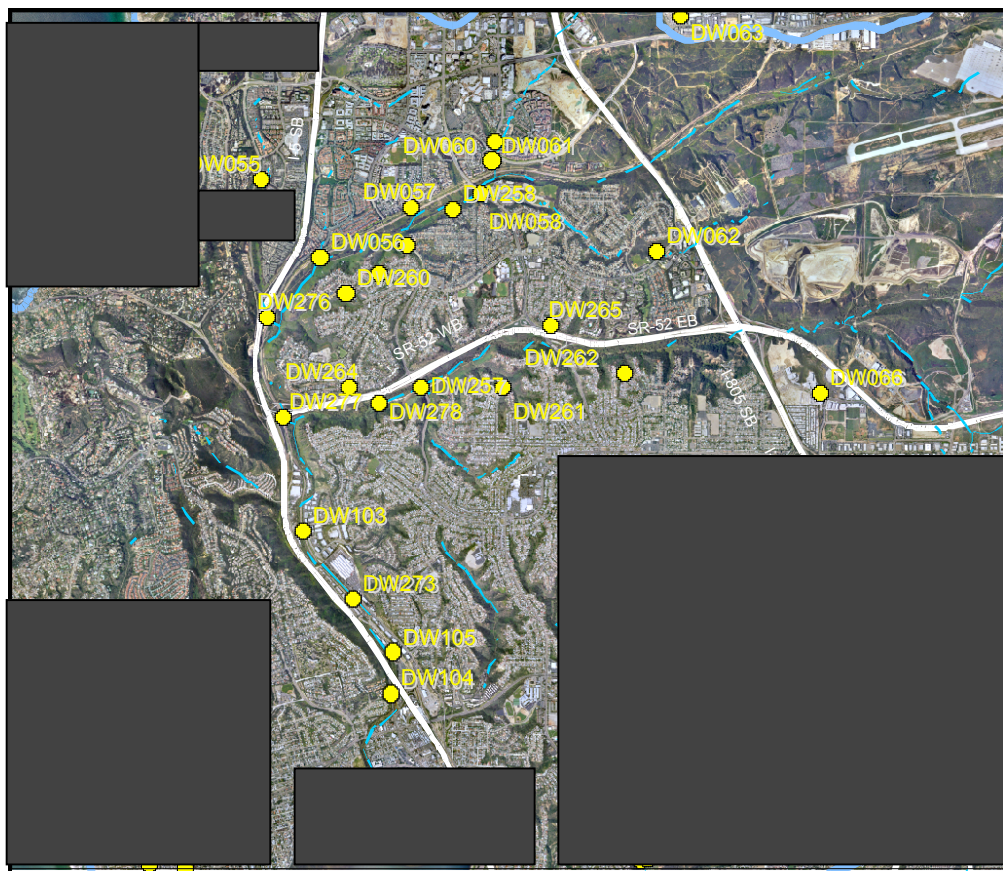


Figure 1: Rose Canyon Creek Monitoring Stations
The City of San Diego Storm Water Pollution Prevention Program monitors 24 stations in the Rose Canyon Creek Drainage area, including San Clemente Canyon.

Field Screening:

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At each sample location, runoff characteristics of the sample, such as odor, color, clarity, and flow observations are recorded. Field screening samples are tested by field staff for nitrates, ammonia, phosphate, pH, temperature, turbidity, and conductivity. These results are recorded on the Dry Weather Monitoring Field Sheet.

Analytical Testing:

Samples were collected at eight sites, and consist of laboratory analysis of samples for oil and grease, pesticides, MBAS (detergents), hardness, metals (Cadmium, Copper, Lead and Zinc), and the three bacteria indicators. Once collected, analytical samples are preserved and relinquished to City of San Diego Metropolitan Wastewater Department Laboratory facilities. If a chemistry sample exceeds trigger levels, the laboratory notifies Storm Water Program. With the exception of MBAS, bacteria, and those samples exceeding trigger levels, analytical sample results are not available until after the end of the Dry Weather Monitoring Program. See Table 1 for bacteria results, and Table 2 for MBAS results. At the writing of this summary, Storm Water Program has not been notified of any chemistry exceedences. There are different holding times for the different analyses, so it is possible that some of the analytical tests may not have been run yet.

Table 1: Bacteriological results for samples collected in Rose Canyon Creek Drainage Area

SAMPLE		TOTAL COLIFORM* (MPN Index/100mL)	FECAL COLIFORM* (MPN Index/100mL)	ENTEROCOCCUS** (CFU/100mL)
DATE	SAMPLE ID			
29Jun04	DW 058	5,000	1,300	220e
	DW 103	17,000	2,300	760
	DW 263	80,000	500	5,800
	DW 273	130,000	300	100e
	DW 276	8,000	270	580
	DW 277	5,000	230	200e
13July04	DW 261	13,000	210	620
	DW 278	NS	NS	NS

* MTF method - APHA 9221B (Total Coliforms); APHA 9221E(Fecal Coliforms)

**MF method - EPA 1600

NS- Not sampled / site dry

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Table 2: MBAS results for samples collected in Rose Canyon Creek Drainage Area

Sample date	Source	Analysis	MDL	Units	Type	Result
29-Jun-04	DW58	MBAS	0.03	MG/L	SAMP	0.12
29-Jun-04	DW103	MBAS	0.03	MG/L	SAMP	0.06
29-Jun-04	DW263	MBAS	0.03	MG/L	SAMP	0.06
29-Jun-04	DW273	MBAS	0.03	MG/L	SAMP	0.08
29-Jun-04	DW276	MBAS	0.03	MG/L	SAMP	0.05
29-Jun-04	DW277	MBAS	0.03	MG/L	SAMP	0.09
13-Jul-04	DW261	MBAS	0.03	MG/L	SAMP	0.15

Evaluation:

If a site exceeds any trigger levels, field screening or analytical, the field data sheet for that site is reviewed to determine if the site should be scheduled for a follow-up visit. See Table 3 for the action levels for field screening and analytical parameters. Based on these parameters, thirteen of the twenty-four sample locations are candidates for follow-up visits. Nine of the thirteen samples had Orthophosphate-P levels >2.0 mg/L; one site exceeded on Orthophosphate-P and pH; one site had a conductivity measurement > 7.0mS/cm; and two sites conduct an investigation upstream of the sample location. None of the sites sampled in the Rose Creek Canyon Drainage Area have grossly exceeded any of the parameters.

Follow-up:

The thirteen sites with exceedences will be re-visited, and if necessary, upstream IC/ID investigations will be conducted. In addition to upstream investigations, field staff perform other types of follow-up as necessary including leaving informational door hangers in neighborhoods that are over-irrigating; contacting City of San Diego Vector Control personnel to report mosquito larvae; notifying the appropriate departments of illegal dumping, presence of homeless encampments, or other situations requiring attention.

Conclusion:

Final results of Dry Weather Monitoring will not be available until all reports are received from the laboratory, and until follow-up visits are complete.

Table 3: Action Levels for Field Screening and Laboratory Analytical Parameters*

Field Screening Analytes Action Levels¹	Notes
pH	<6.5 or >9.0
Orthophosphate-P (mg/L)	>2.0

Basin Plan water quality objective.
USEPA Multi-sector General Permit & Statistical Confidence Intervals.

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Nitrate-N (mg/L)	>10.0		Basin Plan, and drinking water standards.
Ammonia-N (mg/L)	>4.0		Statistical Confidence Interval (α=0.10, one tail).
Turbidity (NTU)	Flowing	Ponded	Statistical Confidence Interval (α=0.10, one tail).
	>100	>300	
Temperature (°F or C)	<15 or >25 °C		Statistical Confidence Interval (α=0.05, two tail).
Conductivity (mS/cm)	>7.0 mS/cm Electrical Conductivity		Statistical Confidence Interval. (α=0.10, one tail)

Laboratory Analytes	Action Levels	Source/ Notes
MBAS (mg/L)	>1.0	Basin Plan.
Oil and Grease (mg/L)	>15	USEPA Multi-sector General Permit.
Diazinon (μg/L)	>0.5	Laboratory Detection Limit.
Chlorpyrifos (μg/L)	>0.5	Laboratory Detection Limit.
Dissolved Cadmium	California Toxics Rule	Use CTR table, 1-hour criteria to determine appropriate action level for individual samples. Table provides benchmarks based on hardness and dissolved metals concentration. For example, at 300 mg/L hardness the following action levels would apply: Cd - 14 ppb; Cu - 38 ppb; Pb - 209 ppb; and Zn - 297 ppb.
Dissolved Copper	California Toxics Rule	
Dissolved Lead	California Toxics Rule	
Dissolved Zinc	California Toxics Rule	
Total Coliform (MPN/ 100 mLs)	>50,000	
Fecal Coliform (MPN/ 100 mLs)	>10,000	
Enterococcus (MPN/ 100 mLs)	>20,000	

¹The referenced action levels are not the sole criteria for initiating a source identification investigation. Dry Weather Program sampling data including flow measurements and observation conditions are considered when evaluating which sites to investigate.