STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. CI 9053
EXXON MOBIL CORPORATION
(20310 MADRONA AVENUE, TORRANCE REFINERY)
(PILOT INJECTION TEST OF CALCIUM POLYSULFIDE AND SUBSEQUENT FULL SCALE REMEDIATION FOR CHROMIUM VI IN GROUNDWATER AND SOIL)
(FILE NO. 05-045)

Exxon Mobil Corporation (hereafter "Discharger") shall implement this Monitoring and Reporting Program (MRP) on the effective date (March 9, 2006) of Regional Board Order No. R4-2006-0035. The Discharger shall not implement any changes to this MRP unless approved by the Executive Officer.

I. Discharge Monitoring

A. MONITORING WELL LOCATIONS:

The following wells will be monitored during the pilot test and full-scale CPS injection program, to monitor remediation progress and compliance with WDR permit conditions (Figure 1):

TABLE 1 – DISCHARGE MONITORING WELL NETWORK

Area:	**Zone:**	**Monitoring Locations:**	
		Pilot Test *(at NIW-02)*	**Full-Scale Injection**
Planned Injection Area *(To monitor progress of remediation)*	Nested - Vadose Zone and Shallow groundwater	NMW-02 NMW-03	NMW-01 NMW-02 NMW-03 NMW-04 NMW-05 NMW-06
	Shallow groundwater Only		XII-02 XII-03 XII-04 XII-05 XII-09 XII-10 XII-11 XII-12
Upgradient / Cross-Gradient *(To monitor background conditions)*	Shallow groundwater	D-02 XII-05	C-19 C-28 XII-07
	Gage-Gardena Aquifer		I-08R
Downgradient *(To monitor compliance with WDR permit conditions)*	Shallow groundwater	NMW-01 XII-02	D-03 I-08 XII-06 XII-13
	Gage-Gardena Aquifer		C-13R XII-14R

Monitoring well locations are shown on Figure 2.

Following completion of the injection program, monitoring wells on City Of Torrance right of way (NMW-01 through NMW-06, XII-02 through XII-05, XII-09, XII-14R, D-02 and D-03) will need to be decommissioned to allow for the City's expansion of Del Amo Boulevard in to this area of the site. As such, these wells will be removed from the monitoring program, with the exception of well D-03, which will be relocated to adjacent Exxon Mobil property. The Regional Board may require the installation of additional new wells to ensure long term monitoring of the remediation site and the revision of the remediation work plan to document these requirements.

B. FIELD AND LABORATORY MEASUREMENTS:

Discharge monitoring during the implementation of the remediation program will be conducted in accordance with the following discharge monitoring program:

TABLE 2 – DISCHARGE MONITORING PARAMETERS

Parameter:	Units:	Sample Type:	Minimum Frequency:
Total daily injection of CPS per injection point	Liters/day		Daily during injection
Groundwater Elevation	Feet, relative to mean sea level	In Situ	Daily for first 2 weeks during injection
			Weekly from week 3 throughout remainder of injection
			Weekly for 1 month following injection
			Quarterly thereafter
pH (Field Probe)	pH units	Grab	Weekly for first 2 weeks during injection Bi-weekly from week 3 throughout remainder of injection Quarterly thereafter
Conductivity (Field Probe)	mS/cm	Grab	
Oxidation-Reduction Potential (Field Probe)	millivolts	Grab	
Temperature (Field Probe)	°F/°C	Grab	
Dissolved Oxygen (Field Probe)	mg/L	Grab	
Carbonate	mg/L	Grab	
Bicarbonate	mg/L	Grab	
Sodium	mg/L	Grab	
Chloride	mg/L	Grab	
Potassium	mg/L	Grab	
Magnesium	mg/L	Grab	

Hexavalent Chromium (USEPA Method 7199)	ug/L	Grab	
Total Chromium (USEPA Method 6010B)	ug/L	Grab	
Total Petroleum Hydrocarbons (TPH)	ug/L	Grab	
Benzene, Toluene, ethylbenzene and xylenes (BTEX)	ug/L	Grab	
Total Arsenic, Iron, and Manganese (USEPA 6010B)	mg/L	Grab	
Calcium (USEPA 6010B)	mg/L	Grab	
Sulfate (USEPA Method 375.4)	mg/L	Grab	
Sulfides (USEPA Method 376.2)	mg/L	Grab	
Total Dissolved Solids (USEPA Method 160.1)	mg/L	Grab	

Monitoring requirements may be modified or revised by the Executive Officer based on review of the monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted to a less frequent basis or parameters and locations dropped by the Executive Officer if the Discharger makes a request and the request is backed by statistical trends of monitoring data submitted.

C. BASELINE MONITORING:

Within one month prior to the start of the pilot test portion of the remediation program, the Discharger shall sample for baseline groundwater parameters as listed above in Table 2 from the following monitoring wells:

XII-01
XII-02
XII-03
XII-04
XII-05
XII-06
XII-07
XII-09
C-13R
C-19
C-28
D-03
I-08
I-08R
NMW-01
NMW-02
NMW-0

II. Reporting and Laboratory Analyses

A. REPORTING REQUIREMENTS:

1. The monitoring reports shall be received at the Regional Board according to the following schedule:

Reporting Period:	Report Due:
January – March	April 15
April – June	July 15
July – September	October 15
October – December	January 15

2. All monitoring reports shall include tabulated analytical data, well location figures with groundwater direction, chain of custody forms, and laboratory reports (including but not limited to date and time of sampling, date of analyses, method of analysis, and detection limits). If there is no discharge, the report shall so state it. Monitoring reports must be addressed to the Regional Board-attention: Information Technology Unit.

3. By March 1st of each year after 2006, the Discharger shall submit an annual summary report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained prior to and proceeding the remediation

4. Six months after the end of the remediation, the Discharger shall submit a final summary report to the Regional Board to report the comprehensive findings observed during the remediation and post remediation monitoring period.

B. LABORATORY ANALYSIS REQUIREMENTS

1. All chemical analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer.

2. Samples shall be analyzed within allowable holding time limits as specified in 40 CFR Part 136.3. All quality assurance/quality control (QA/QC) items should be run on the same dates when samples were actually analyzed and documentation shall accompany the laboratory reports.

3. The detection limits employed for sample analyses shall be lower than the permit limits established for a given parameter, unless the Discharger can demonstrate that a particular detection limit is not attainable and obtains approval for a higher detection limit from the Executive Officer.

III. Notification

A. The Discharger shall inform this Regional Board one business day before the start of the discharge.

B. The Discharger shall inform this Regional Board within one business day by telephone in the event that any discharge exceeds the discharge requirements

described in the Waste Discharge Requirement. Written confirmation shall follow within one week and shall include date and time, estimated volume and/or concentration, duration, cause, and all corrective actions taken.

C. The Discharger shall inform this Regional Board of the termination of the remediation project.

Ordered by: _____ Date: March 9, 2006
Jonathan S. Bishop
Executive Officer