

# Monthly Report

November, 1998

## TOSCO Refinery at Rodeo Fenceline Monitor System

### System Overview

#### Review/Objectives:

The FTIR script file was revised and the changes implemented on November 6. The changes were made to reduce the number of occurrences of Phosgene and Phenol false positives due to interfering compounds. The script file continues to be reviewed for further improvements.

Based on system checks and observations in mid-September, all of the PerspectUV units have been scheduled to rotate back to the factory for diagnostics, calibration and upgrade. This should begin in early December. The UV acquisition time was changed from 1-minute to 5-minutes on November 2. This was done to both standardize data acquisition time across all technologies and to improve stability for individual UV acquisitions.

The South TDLS units were sent back to the Boreal factory for software upgrade and annual calibration. Loaner units were installed while this upgrade was being performed. This upgrade cycle should be completed for all units by early December.

### FTIR System

#### Operation:

The North fenceline FTIR on-stream efficiency was 75.3% with approximately 5.6% weather-related downtime. Instrument calibration and maintenance resulted in approximately 1% downtime. A 20K-hour cryocooler was installed on November 19. Approximately 15% of the downtime was due to a recurring software error ("Bomem= - 305") that causes the unit to fall out of *Continuous Monitor* mode. The instrument and hardware manufacturers have been unable to determine the exact cause of the error. We are trying to find 3<sup>rd</sup> party software that will automatically restart monitoring and alleviate the downtime caused by this error. Approximately 1.5% downtime was due to electrical work being performed on the North fenceline circuits.

The South fenceline FTIR on-stream efficiency was 87.5% with approximately 3.4% weather-related down time. Instrument calibration and maintenance resulted in approximately 1% downtime. Approximately 5.9% of the downtime was due to a recurring software error as described above.

#### Data:

The ambient gas QA compound results for the North Sensor show the mean Methane concentration was 1.42 ppm with a 0.24 ppm or 17.27 % standard deviation. The mean Nitrous Oxide concentration was 0.272 ppm with a 0.039 ppm or 14.32 % standard deviation.

The ambient gas QA compound results for the South Sensor show the mean Methane concentration was 1.46 ppm with a 0.22 ppm or 14.83 % standard deviation. The mean Nitrous Oxide concentration was 0.244 ppm with a 0.036 ppm or 14.93 % standard deviation.

Data summary reports are attached.

## **UV System**

### **OPERATION:**

Weather accounted for approximately 5% downtime on the North and 3% on the South. UV system downtime was due largely to beam-block conditions in the instruments and intermittent lapses in the UV logging software. The software lapses are a known bug in the Sci-Tec software and is supposed to be resolved in the pending upgrade. The susceptibility to beam-block will be investigated when the units go to Sci-Tec (see below).

Sci-Tec should be able to determine the current reliability of the instruments once they return to the factory. We cannot vouch for the validity of the data obtained from them at this time. The UV data presented here should be used with caution.

### **DATA:**

Data summary reports are attached.

## **TDLS System**

### **OPERATION:**

Weather accounted for approximately 5% downtime on the North and 3% on the South. All units incurred approximately 1% downtime due to system maintenance activities. Remaining downtime was due to logging errors. We are in the process of revising our TDLS data logging practices in order to improve detection logging and OSE.

### **DATA:**

The data summary report is attached.

## **CGD System**

### **OPERATION:**

All Combustible Gas Detector (CGD) units functioned normally throughout the month. Approximately 4% downtime was due to system testing, maintenance and backup activities.

None of the CGD units experienced any hardware failures or hardware related downtime.

### **DATA:**

The data summary report is attached.