



Monthly Report

June, 1998

TOSCO Refinery at Rodeo Fenceline Monitor System

A handwritten signature in cursive script, reading "Ted R. McKelvey".

Ted R. McKelvey

07/21/1998

Date

Monthly Report

June, 1998

TOSCO Refinery at Rodeo Fenceline Monitor System

FTIR System

Operation:

Both FTIR units experienced significant downtime due to hardware failure. These hardware difficulties were all due to cryocooler/detector assembly problems.

The North FTIR on stream efficiency was 66.9 percent with no weather related down time. A small portion (>0.2) of the downtime was due to short duration lapses (1-2 acquisition periods). System maintenance accounted for approximately 0.4% downtime. The cryocooler/detector assembly was returned to the manufacturer (ETG) for diagnostics and service on 21 June 98 and the FTIR remained offline until the beginning of July. This accounted for the remaining downtime.

The South FTIR on stream efficiency was 52.1 percent with no weather related down time. Short duration lapses accounted for approximately 0.2% downtime. The remaining downtime was due to a series of cryocooler failure. The first malfunction occurred on 16 June 98. A recharged replacement unit was installed on 19 June 98. It failed within 15 hours of installation, on 20 June 98. This FTIR also remained offline until the beginning of July, when a replacement was received and installed.

Data:

The ambient gas QA compound results for the North Sensor show the mean Nitrous Oxide concentration was 0.18 ppm with a 0.004 ppm or 2.45 percent standard deviation, and the mean Methane concentration was 1.37 ppm with a 0.10 ppm or 7.12 percent standard deviation.

The ambient gas QA compound results for the South Sensor show the mean Nitrous Oxide concentration was 0.18 ppm with a 0.016 ppm or 8.82 percent standard deviation (see cryocooler failure above), and the mean Methane concentration was 0.92 ppm with a 0.068 ppm or 7.41 percent standard deviation.

Data summary reports are attached.

UV System

OPERATION:

Downtime for the UV systems was due largely to beam-block conditions in the instruments. The susceptibility to beam block was decreased by careful alignment of the receiver units. Further improvements could be achieved by improving the alignment mechanism. The alignment apparatus we evaluated in May was not a significant improvement over the present mechanism.

DATA:

Data summary reports are attached.

TDLS System

OPERATION:

Neither of the North TDLS units experienced any significant downtime due to hardware or software failure. The downtime reported here was due to system backup and maintenance activities. Both of the South TDLS units incurred downtime due to hardware malfunctions, as outlined below.

The South ammonia unit experienced power problems on June 14 resulting in unreliable data transmission to the data collection computer. This was resolved by installing an in-line power booster to this unit. Shortly following this installation, the unit began to experience data errors. The entire unit was shipped to the manufacturer (Boreal) on June 26 for diagnostics and repair. Simultaneously, Boreal shipped a loaner H2S unit to cover for the one being serviced. The loaner was installed on June 29 and operated normally for the rest of the month.

DATA:

The data summary report is attached.

VOC System

OPERATION:

All VOC detector units functioned normally throughout the month. The small amount of reported downtime was due to system backup and maintenance activities.

New alarm strobe lenses were installed to replace the remaining patched units in service since April. Half of the replacement lenses had leaked and were sent back to the factory for corrective action. All units now have watertight lenses installed.

DATA:

The data summary report is attached.