

ITEM	12
MANAGER'S REPORT NO.	10
COUNCIL MEETING	95/03/06

TO: CITY MANAGER 1995 MARCH 01

FROM: CHIEF ENVIRONMENTAL HEALTH OFFICER

SUBJECT: CAPITOL HILL AIR MONITORING STUDY: MARCH-JULY, 1994

PURPOSE: A) TO PROVIDE COUNCIL WITH A SUMMARY OF FINDINGS AND COMMENTS ON THE CAPITOL HILL AIR MONITORING STUDY UNDERTAKEN BY THE G.V.R.D. BETWEEN 1994 MARCH-JULY, AND

B) TO INFORM COUNCIL OF THE MOST SUITABLE LOCATION FOR ESTABLISHING A PERMANENT AIR QUALITY MONITORING STATION ON CAPITOL HILL TO MEASURE SULPHUR DIOXIDE AND TOTAL REDUCED SULPHUR LEVELS.

RECOMMENDATIONS:

1. THAT a letter be forwarded to Chevron Canada Limited recommending Chevron Canada Limited Refinery to minimize shifts of process streams during adverse meteorological conditions which may potentially increase ground level concentrations of sulphur dioxide and total reduced sulphur.
2. THAT Council conditionally approve the establishment of a permanent air quality monitoring station at Harbourview Park pending upon receiving approval from the Parks & Recreation Commission.
3. THAT a copy of this report be forwarded to Ms. Nancy Berranger, 309 N. Springer Avenue, Burnaby, B.C., V5B 1H4.

REPORT

1.0 INTRODUCTION

At the regular Council Meeting on 1994 February 07, Council received correspondence from Ms. Nancy Berranger expressing concerns, amongst other issues, regarding poor air quality on the north side of Capitol Hill due to sulphur emissions from Chevron Canada Limited Refinery. The correspondence also indicated that requests were made to the regional district staff for undertaking mobile monitoring in the aforementioned area but this had not been done to date.

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Council, upon reviewing the said correspondence, unanimously passed a Motion to forward a letter to the G.V.R.D. Air Quality Committee requesting the placement of a mobile air quality monitoring station on the north side of Capitol Hill for a period of time in order to compare air quality measurements with the neighbouring G.V.R.D. stationary air monitoring stations located at Confederation Park and Kensington Park.

The G.V.R.D. responded to Council's request on 1994 March 16 and agreed to initiate a three month study to determine sulphur dioxide and total reduced sulphur concentrations experienced by the residents residing near the top of the Capitol Hill area. The G.V.R.D. study was initiated on 1994 March 21 and concluded on 1994 July 29. The findings of the study were presented in a report in 1994 November. Copies of the said report were forwarded to the City Clerk and this Department.

The following report summarizes the study's findings and staff's comments on the G.V.R.D. report titled "Capitol Hill Air Monitoring Study: March-July 1994".

**2.0 CAPITOL HILL AIR QUALITY MONITORING STUDY: MARCH-JULY 1994**

**2.1 Background**

The G.V.R.D. Mobile Air Monitoring Unit (MAMU) was stationed at 469 N. Springer Avenue, identified as location S47 for the purposes of the study, from 1994 March 21 to July 29 inclusive, except between 1994 June 01 to 12.

The MAMU measured sulphur dioxide and total reduced sulphur levels and reported the data on an hourly basis. In addition, local wind speed and wind direction information was also recorded.

Data collected from the MAMU was compared with data from the two other G.V.R.D. stationary air quality monitoring stations located at Confederation and Kensington Parks (see Attachment #1). In addition, relevant air quality complaints in the neighbouring area were also recorded.

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2.2 Findings of the study

Recorded sulphur dioxide and total reduced sulphur concentrations were compared with the Guidelines for a Short Term Air Quality Index established by the Federal-Provincial Advisory Committee on Air Quality (FPACAQ). The Short Term Air Quality Index is based on the National Air Quality Objectives that have been set for Canada and take into consideration impacts on health, vegetation and other effects. The FPACAQ for sulphur dioxide is 170 parts per billion (ppb) and 5 ppb for total reduced sulphur.

The results indicated that:

- the FPACAQ for sulphur dioxide was exceeded on two occasions;
- the FPACAQ for total reduced sulphur was exceeded on eight occasions;
- there were six occasions where exceeding levels of sulphur dioxide and total reduced sulphur were attributable to shift process changes at the Chevron Canada Refinery;
- most of the exceeding total reduced sulphur levels were recorded during either calm or very low wind speed conditions;
- elevated levels of both sulphur dioxide and total reduced sulphur occurred during moderate to strong upper level inversions;
- of the three monitoring stations utilized in this study, Capitol Hill Site (S47) is the most suitable site to monitor emissions from the Chevron Canada Limited Refinery.

Staff concur with the findings of the study.

3.0 **ESTABLISHMENT OF A PERMANENT AIR QUALITY MONITORING STATION ON CAPITOL HILL**

Discussions with G.V.R.D. officials have revealed that an agreement has been signed between the G.V.R.D. and Chevron Canada Limited on 1995 February 25 to establish a permanent air quality monitoring station on Capitol Hill.

According to the agreement, the G.V.R.D. and Chevron Canada Limited will undertake air quality monitoring program with all costs being borne by Chevron Canada Limited. The station will be incorporated into the G.V.R.D. Air Quality Monitoring System and the G.V.R.D. will ensure regular electronic access of this data by Chevron Canada Limited. The monitoring program is to commence on 1995 April 01 or soon thereafter as the facilities and equipment are available.

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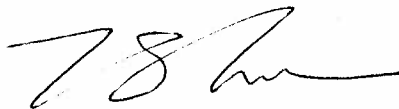
G.V.R.D. staff, working in conjunction with City staff, recommend the establishment of a permanent air quality monitoring station at Harbourview Park (see Attachment #1). The air quality monitoring equipment will be housed in a secured structure approximately 8 feet by 8-10 feet in size.

The G.V.R.D. has agreed to ensure that all City permitting requirements are met. In addition, the G.V.R.D. has indicated that they will work with the Parks & Recreation Department staff to ensure that the building structure and facade will blend with the surrounding park use.

Due to the time constraint in commencing the air quality monitoring program by 1995 April 01 and the next Parks & Recreation Commission Meeting to be held on 1995 March 15, staff are seeking to receive a conditional approval from Council to establish a permanent air quality monitoring station at Harbourview Park pending upon receiving an approval from the Parks & Recreation Commission. The Parks & Recreation Commission will be presented with a separate report on this subject at their 1995 March 15 regular meeting.

#### 4.0 CONCLUSION

The Capitol Hill Air Quality Monitoring Study undertaken between 1994 March to July provided useful air emission data from the Chevron Canada Limited Refinery. It also identified Capitol Hill as the most suitable location to monitor air emissions from the Chevron Canada Limited Refinery. Advancement of the recommendations in this report will result in further safeguarding the general health of Capitol Hill area residents.

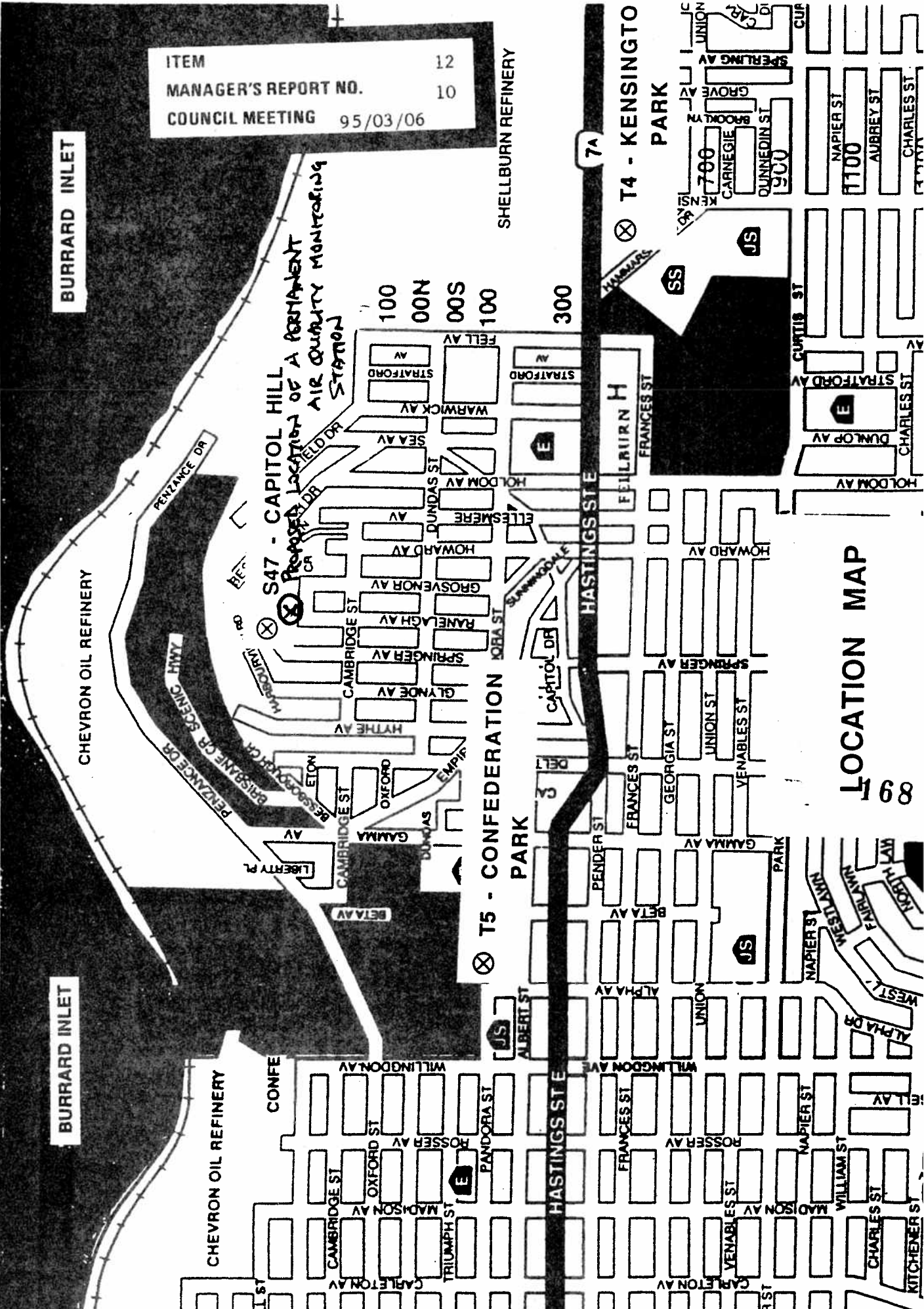


T. Shum  
CHIEF ENVIRONMENTAL HEALTH OFFICER

DD/TS/gl

Attachment

- cc: ( ) Director Planning and Building  
( ) Director Recreation & Cultural Services  
( ) Medical Health Officer



LOCATION MAP  
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