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VALVE SCREENING STUDY AT SIX SAN FRANCISCO BAY AREA PETROLEUM REFINERIES

FINAL REPORT

RADIAN CORPORATION

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VALVE SCREENING STUDY AT SIX SAN FRANCISCO BAY AREA PETROLEUM REFINERIES

FINAL REPORT

By:

R. L. Honerkamp
L. P. Provost
J. W. Sawyer
R. G. Wetherold

of

RADIAN CORPORATION

Prepared for:

Chevron USA, Inc.
Shell Oil Company
Exxon Company, USA
Union Oil Company of California
Lion Oil Company
Pacific Refining Company

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8500 Shoal Creek Blvd./P.O. Box 9948/Austin, Texas 78766/(512)454-4797

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CHAPTER 1

INTRODUCTION

The Bay Area Air Quality Management District (BAAQMD) in California has proposed regulations for the monitoring and control of hydrocarbon emissions from valves in petroleum refinery service. In an effort to provide a reliable data base to guide the formulation of these regulations, a valve screening study was proposed to measure valve leakage. Petroleum companies with refineries in the San Francisco Bay Area engaged Radian to conduct valve emission screening studies at each of their six refineries.

The field testing portion for this study was conducted between October 16 and December 31, 1978. Radian performed quality control assessments at all six refineries, and conducted valve screening programs at two of these refineries. Four of the refineries screened valves using their own or other contractor personnel.

This report summarizes the results of the valve screening study in the Bay Area. The statistical distribution of the data is presented for valves in process service for hydrocarbons with Reid vapor pressures above 1.5 psi. Mass emission rates have been estimated for each valve with a screening value above 1000 ppmv volatile organic compounds (VOC). BAAQMD regulation 10, measurement and reporting of VOC concentrations greater than 1000 ppmv expressed as methane measured by a hydrocarbon detection instrument.[1] The distribution of mass emission rates is also presented.

Also included in this report are descriptions of the testing procedures as well as discussions of screening value oscillations, quality control procedures, and all facets of the study which may be valuable in designing appropriate regulations.

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[1]Unless otherwise specified, all VOC concentrations in this document are expressed as methane.

SECTION 1

INTRODUCTION

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This report summarizes the results of the valve screening study in the Bay Area. The statistical distribution of the data is presented for valves in process service for hydrocarbons with Reid vapor pressures above 1.55 psi. Mass emission rates have been estimated for each valve with a screening value above 3000 ppmv volatile organic compounds (VOC). BAAQMD requires, in Regulation 10, measurement and reporting of VOC concentrations greater than 3000 ppmv expressed as methane measured by a hydrocarbon detection instrument.[1] The distribution of mass emission rates is also presented.

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SECTION 2

SUMMARY AND CONCLUSIONS

2.1 SUMMARY

A total of 25,960 valves were screened during the course of this study. The maximum net screening value was recorded if it was equal to or greater than 3000 ppmv. Net screening value was defined as the maximum VOC concentration observed at one centimeter from the source. Of the 25,960 valves screened, 23,030 were found suitable for statistical analysis and emission rate estimations.

Estimates of mass emission rates from valves with screening values equal to or greater than 3000 ppm were made by applying screening value/mass emission correlations developed by Radian.

The data collected in the quality control phase of the study indicate that valve screening values are extremely variable. Analysis of the quality control surveys made at each refinery showed that the original and quality control screening teams found approximately the same frequency of screening values equal to or greater than 3000 ppm (7.8 percent and 8.4 percent). The average overall screening values were also approximately equal, but large variations in individual valve screening values were observed. Approximately twenty valves were screened numerous times during the study. Analysis of this historical screening data showed that large oscillations may occur rapidly. Even the most stable readings observed showed substantial variations.

2.2 CONCLUSIONS

1) The extreme variability of screening values indicates that random spot checking of individual valves would be an unreliable method for determining compliance with a valve screening and maintenance regulation. (See Figures 5-8, 5-9 and 5-10.)

2) Approximately 85 percent of the mass emissions identified are contributed by valves with screening values equal to or greater than 10,000 ppm (4% of all valves screened). (See Figures 5-12 and 5-13.)

3) Screening values equal to or greater than 3000 ppm were observed for 7% of all valves screened. (See Figure 5-13.)

4) The estimated mass emission rate from screened valves with concentrations greater than 3000 ppm is 220 lbs/hr. The mass emission rate from screened valves with concentrations greater than 10,000 ppm is 190 lbs/hr. (See Figure 5-11.)

SECTION 3

TEST PROCEDURES

The equipment and procedures used for screening valves are described in this section. Equipment operation and calibration procedures and valve screening techniques were discussed with representatives from each refinery before field sampling operations were begun, in order to minimize any differences in data collection methods. Quality control checks were made at each refinery in order to assess any variances in data collection.

3.1 EQUIPMENT

The Century Systems "OVA-108" organic vapor analyzer was used for screening most of the valves. The J. W. Bacharach "TLV Sniffer" was used for screening the remainder of the valve population. The OVA-108 has a self-contained, portable flame ionization detector and sampling pump. A rechargeable battery and refillable hydrogen tank provide for a minimum of 8 hours of continuous operation. The sampled air is continually drawn into the instrument using an internal vacuum pump. The detector output is read on a hand-held logarithmic meter scale which is graduated from 1 to 10,000 ppmv. Hydrocarbon concentrations greater than 10,000 ppmv can be measured by using a dilution probe tip which mixes charcoal scrubbed ambient air with the sample. The dilution factor obtained can be adjusted for calibration within a range of 5:1 to 50:1. The dilution factor was set at 10:1, resulting in a maximum measurable concentration of 100,000 ppmv. Activated charcoal filter elements were used to separate methane and ethane from heavier hydrocarbons, in order to detect only the concentration of methane and ethane at the sample point.

The J. W. Bacharach "TLV Sniffer" portable hydrocarbon detector uses a thermal conductivity detector to determine hydrocarbon concentrations. A rechargeable battery pack provides power for the internal bellows pump which draws the sample through the detector chamber. The battery will operate up to 8 hours before recharging is necessary. The detector element catalytically oxidizes the hydrocarbon in the sample in order to determine the heat of combustion, which is displayed on a linear scale meter as an equivalent concentration, expressed as ppmv. A disadvantage of this instrument is that it responds to hydrogen in the sample.

Hydrocarbon concentrations greater than 10,000 ppmv can be measured by using a dilution probe which mixes ambient air with the sample. The dilution factor is set at 10:1, resulting in a maximum measurable concentration of 100,000 ppmv. Minor adjustments of the dilution factor can be made if necessary. Although the TLV Sniffer does not have an activated charcoal filter for separating methane and ethane from heavier hydrocarbons, the charcoal filter used with the OVA-108 could also be used with the TLV Sniffer, with minor modifications. No measurements were made by using a charcoal filter with the TLV Sniffer.

3.2 SAMPLING PROCEDURES

The BAAQMD Regulation 10 requires reporting of all VOC concentrations >3000 ppm as methane within one centimeter of the source. All instruments used in collecting the data in this study were calibrated to methane as described in Section 3.3. There are two places where hydrocarbons can leak from most valves. These are at the interface between the valve stem and packing gland and between the packing gland and valve body. Each valve screened was checked by making a traverse around the stem and packing gland at a distance of one centimeter. This distance was measured by attaching a rigid wire to the end of the probe tip with one centimeter of wire projecting beyond the tip. The probe tip was positioned at 1 cm when the wire contacted the source. In cases where the valve body or other obstructions were in close proximity to the stem or gland of the valve, the wire projection was used as a visual reference guide for positioning the probe tip. The point of maximum hydrocarbon concentration was determined by moving the probe tip around the stem or gland slowly in order to allow for response time of the pump and detector. Once the point of maximum concentration was located, the probe tip was held in that position until a "stable maximum reading" was determined. Due to the variability of the leak and wind velocity, a stable maximum was not necessarily a non-varying reading on the detector meter. The stable maximum reading was defined as the maximum reading which was repeatably observed at that position. Therefore, momentarily high readings were not recorded as the maximum unless the reading was observed 4-5 times in 30-60 seconds.

All valves that were included in this study were transporting hydrocarbon with ≥1.55 psi Reid Vapor Pressure, as determined by the refinery process engineers. If methane and/or ethane were present in the process fluid, the charcoal scrubber was used to determine the maximum C_1/C_2 concentration. This value was subtracted from the previously determined maximum concentration and the difference was recorded as the maximum net screening concentration. The BAAQMD rule excludes any valves which are inaccessible. BAAQMD has not presently prepared procedures for determining "accessibility", so each refinery screened valves they believed reasonably accessible. In cases where there was not sufficient time available to screen every valve to which the rule applies, a random selection technique was used. This provided for a proper distribution of types of valves and services included in the data base.

In addition to the sampling described above, Radian sampling teams also obtained data which was used to develop correlations between the TLV and OVA detectors at varying distances from the source of leakage. These correlations were necessary in order to relate the screening values recorded in this study to mass emission rates. The correlation between mass emission rates and TLV Sniffer concentrations was developed by Radian as part of a contract with EPA. This is described in Section 4.2.

3.3 QUALITY CONTROL PROCEDURES

Procedures used to insure the quality of the data collected in this study are described in this section. These procedures included instrument calibration, determination of screening repeatability, and replicate screening by Radian quality control teams.

Each instrument (OVA or TLV) was calibrated twice daily, once before beginning screening and once at the end of the day's activities. Methane in air mixtures were obtained from specialty gas suppliers in three concentration ranges: 300 ppmv, 3,000 ppmv, and 25,000 ppmv. The instruments were calibrated according to procedures outlined in the manufacturers' instruction manuals. The instruments were set at the 3,000 ppm level and the linearity of response was checked at the 300 ppm level. The 25,000 ppm gas was used to set the dilution factor at 10:1 for the dilution probe tip. The dilution probe calibration was checked and reset each time the dilution air scrubber charcoal was changed, approximately every 2-3 days. All calibration data was recorded in a quality control log book. It was also necessary to check various fittings in the sample collecting system to prevent any leakage which would dilute the sample.

In order to assess the variability of screening values, several valves were screened daily at each refinery. The maximum net screening value was measured and recorded for each valve. The results of this daily screening are presented in Section 5.2.

In order to assess any variances in calibration procedure or screening technique, a replicate screening quality control program was conducted. A Radian sampling team conducted the replicate screening program. This consisted of screening valves which had been recently screened by the sampling team at each refinery. An analysis of the results of this replicate screening is presented in Section 5.2.

SECTION 4

DATA PROCESSING AND INTERPRETATION

4.1 DATA COLLECTION AND HANDLING

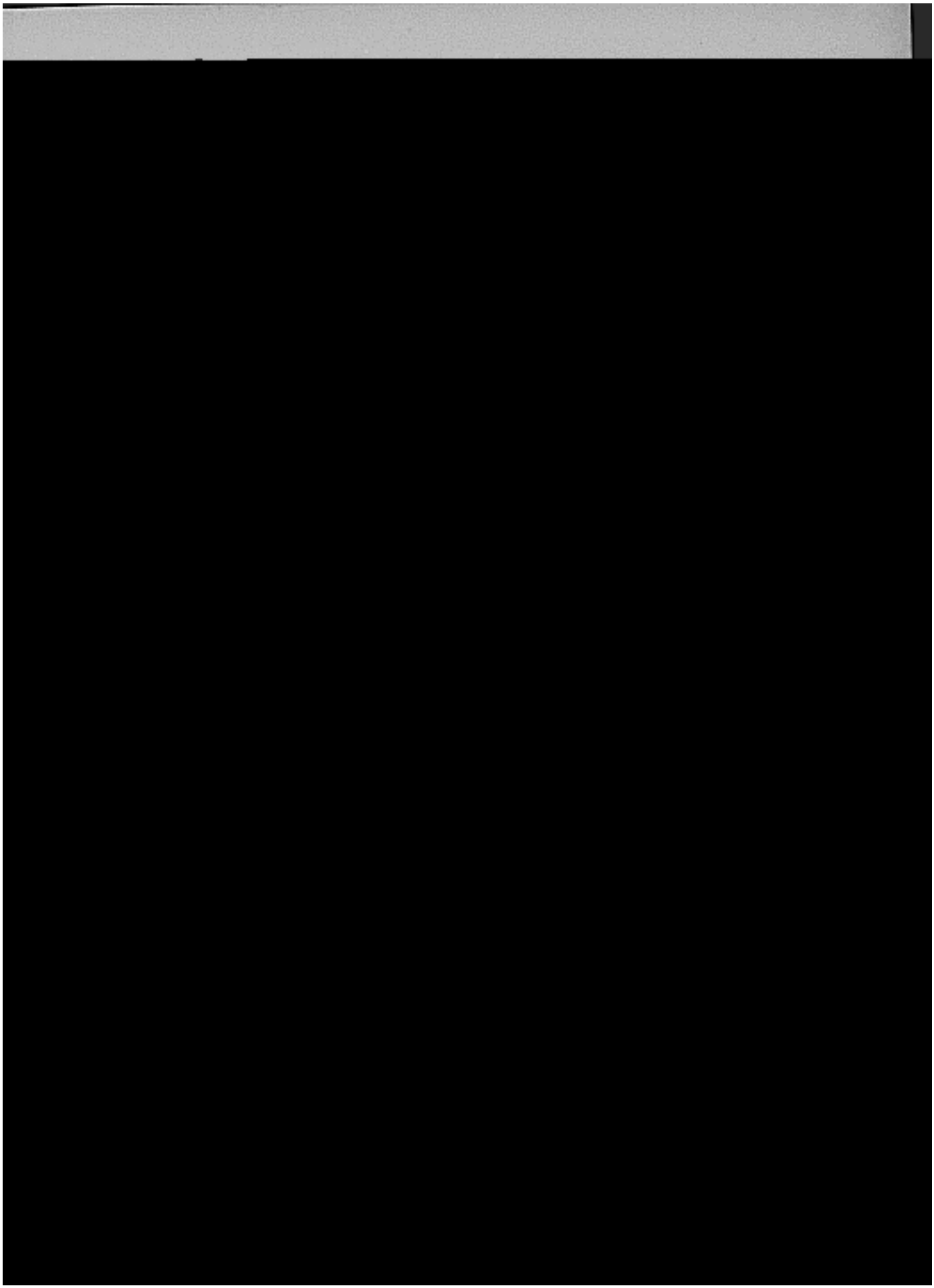
Each screening team recorded the number of valves checked and the maximum net screening concentrations if greater than or equal to 3000 ppm. This data was compiled from all refineries and was sent to Radian Corporation on magnetic tape. The data received consisted of maximum net screening values and a code to indicate whether the data was taken using the TLV or OVA. Nineteen additional net screening values were added to the data base at Radian. These values had been inadvertantly omitted from the magnetic tape, and the numerical values were sent by mail to Radian. The data were loaded into a computer file and then tested for acceptable screening values. The submitted data included seventeen values less than 3000 ppm. Two high values were found, one at 150,001 and the other at 976,000. The low values were eliminated from analysis and considered as "less than 3000 ppm." The high values were discarded and the total valve count was decreased by two.

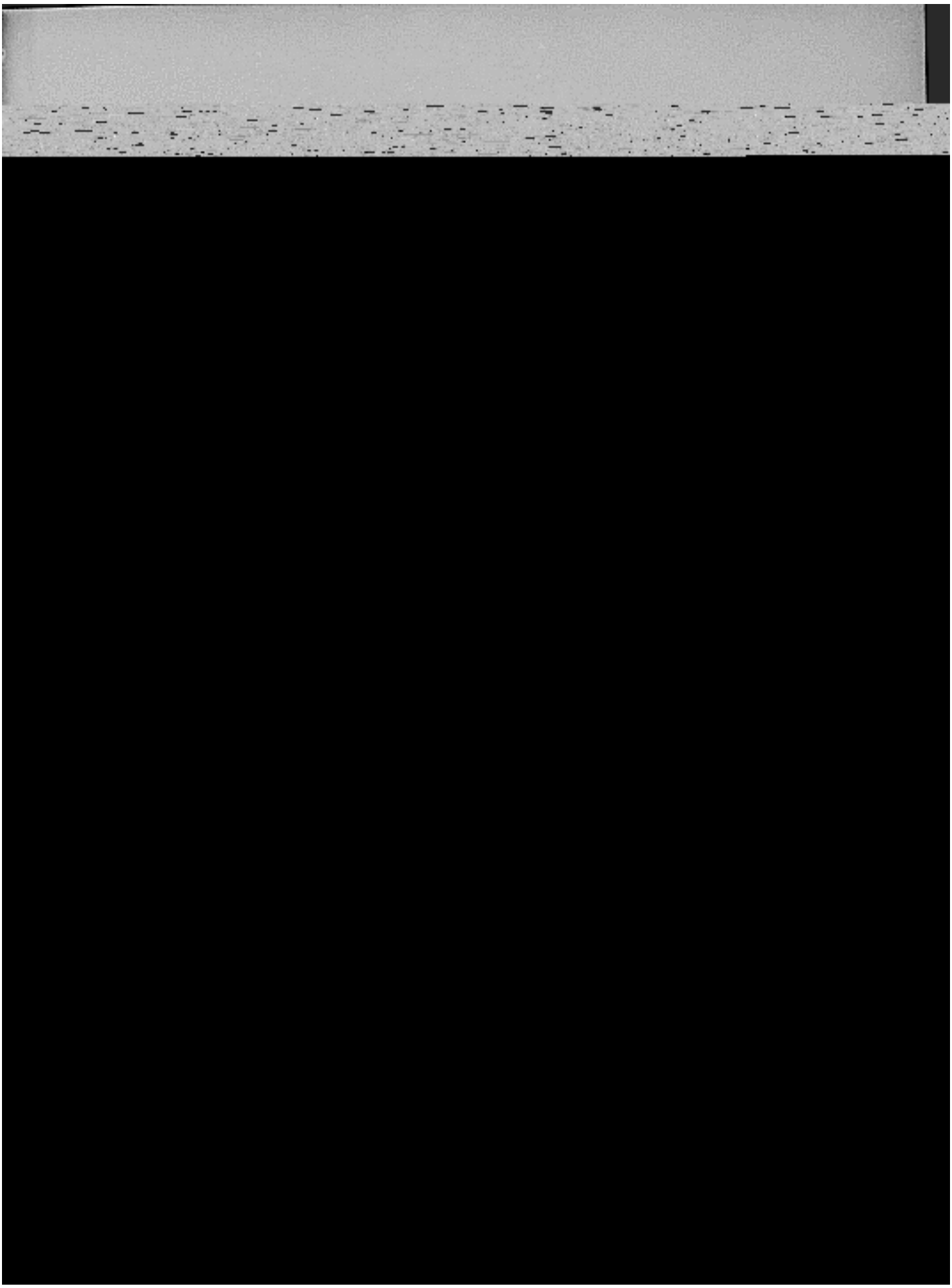
The data were next adjusted so that all screening values were on an equivalent basis (equivalent to a TLV reading at the source (0 cm) calibrated to hexane). Values obtained using the TLV Sniffer were first divided by 1.58 to adjust to calibration using hexane. Then calibration equations developed in the correlation studies were used to adjust the OVA1 and TLV1 readings to the TLV0 equivalent. The data thus obtained are listed in Appendix A.

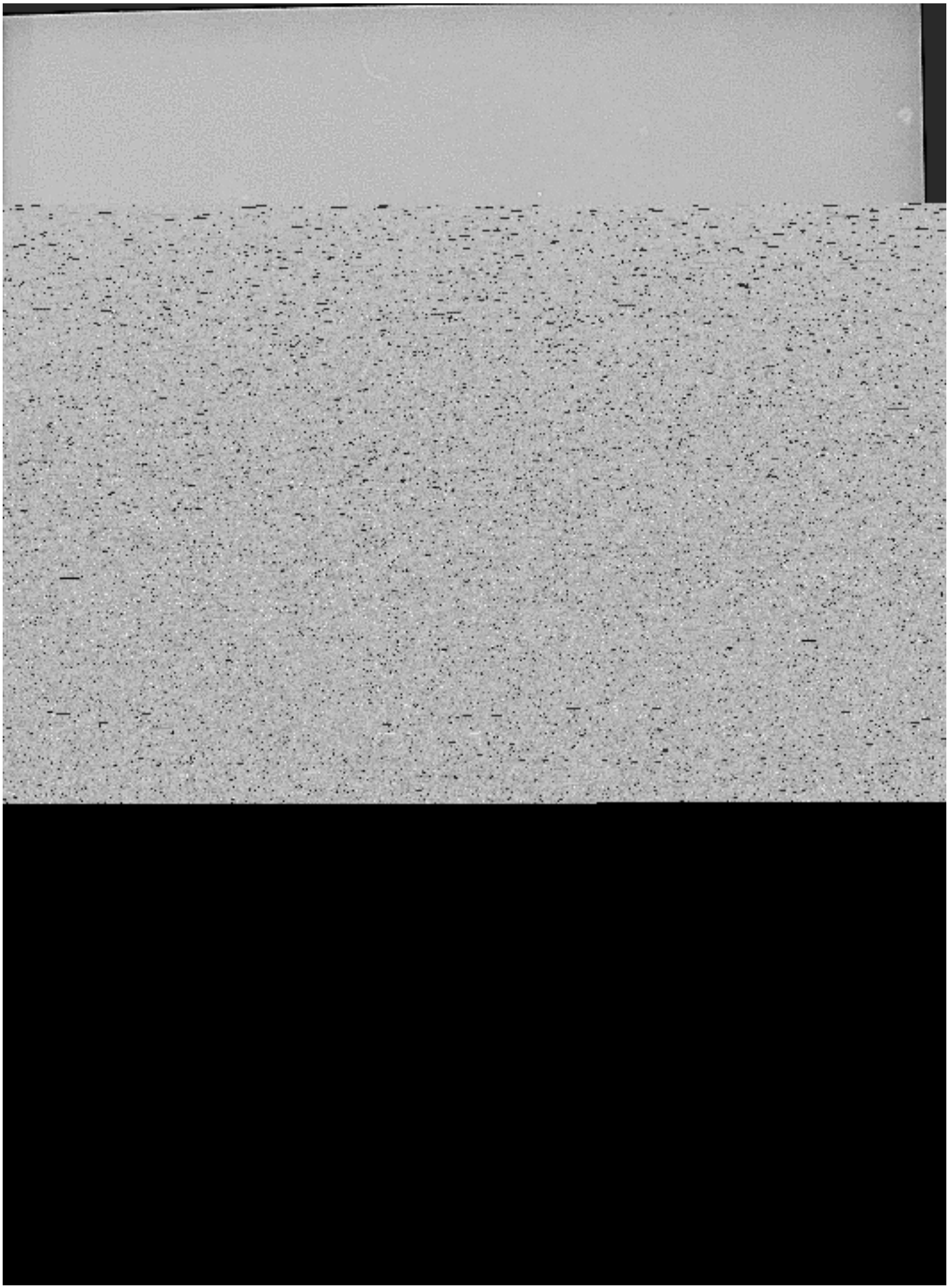
4.2 RESULTS OF PREVIOUS STUDIES

As part of contract with the Environmental Protection Agency (No. 68-02-2665), Radian is measuring the frequency and rate of fugitive hydrocarbon emissions from various sources in petroleum refineries. Included in this sampling effort were the screening and sampling of valves in refinery service.

Randomly selected valves were monitored (or "screened") for leaking







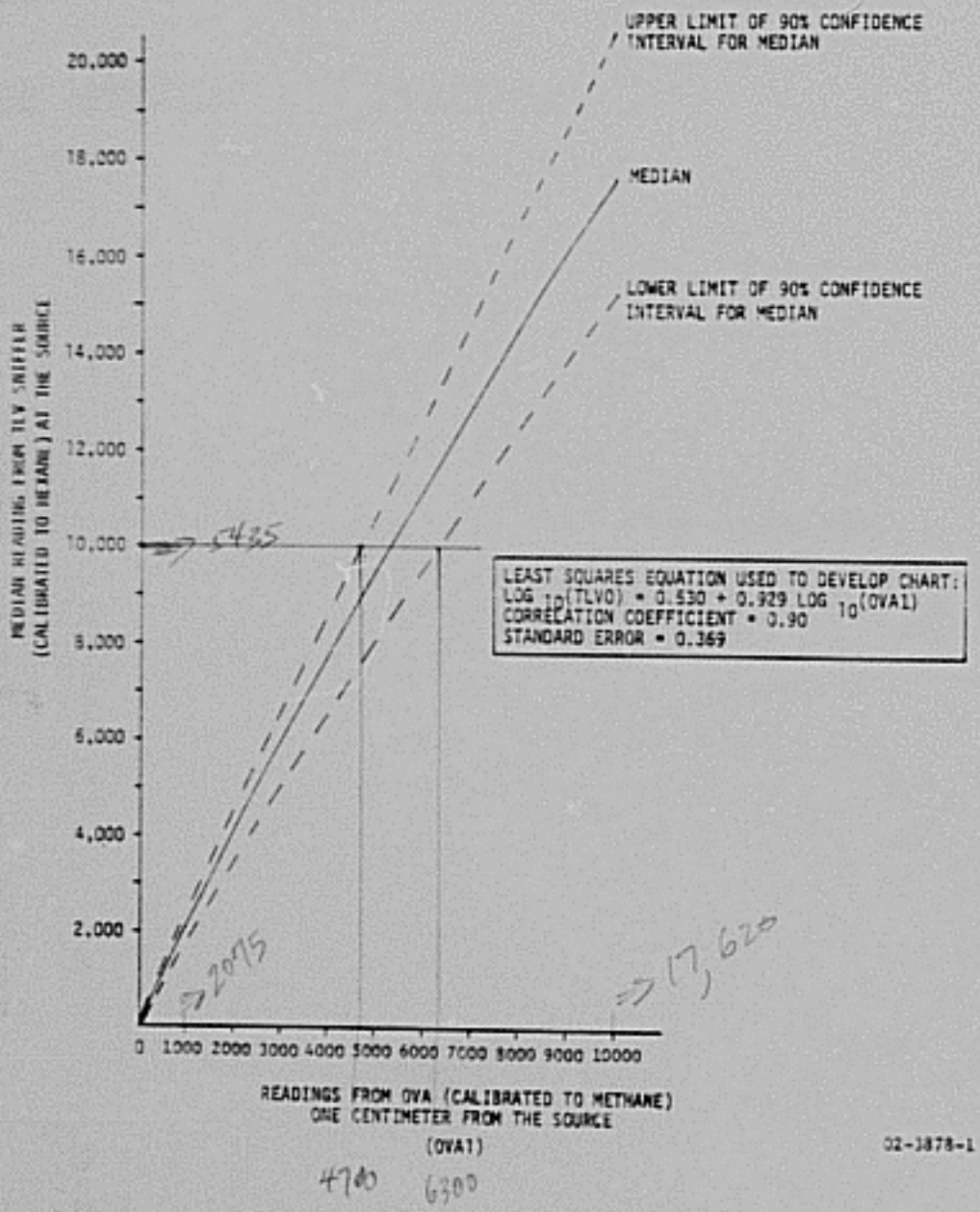


Figure 5-2. Nomograph for relating TLV Sniffer and OVA readings - Part I.

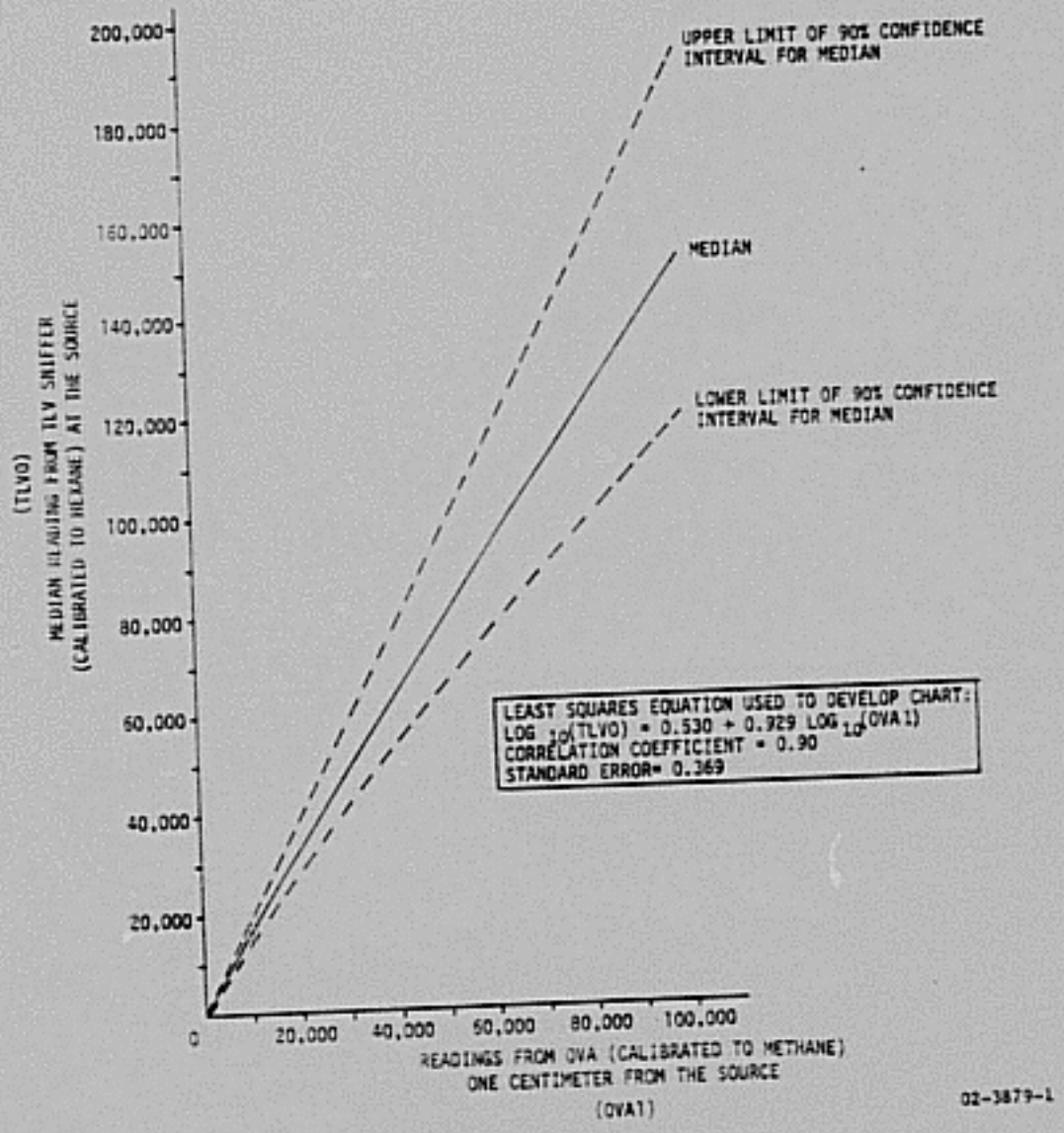


Figure 5-3. Nomograph for relating TLV Sniffer and OVA readings - Part II.

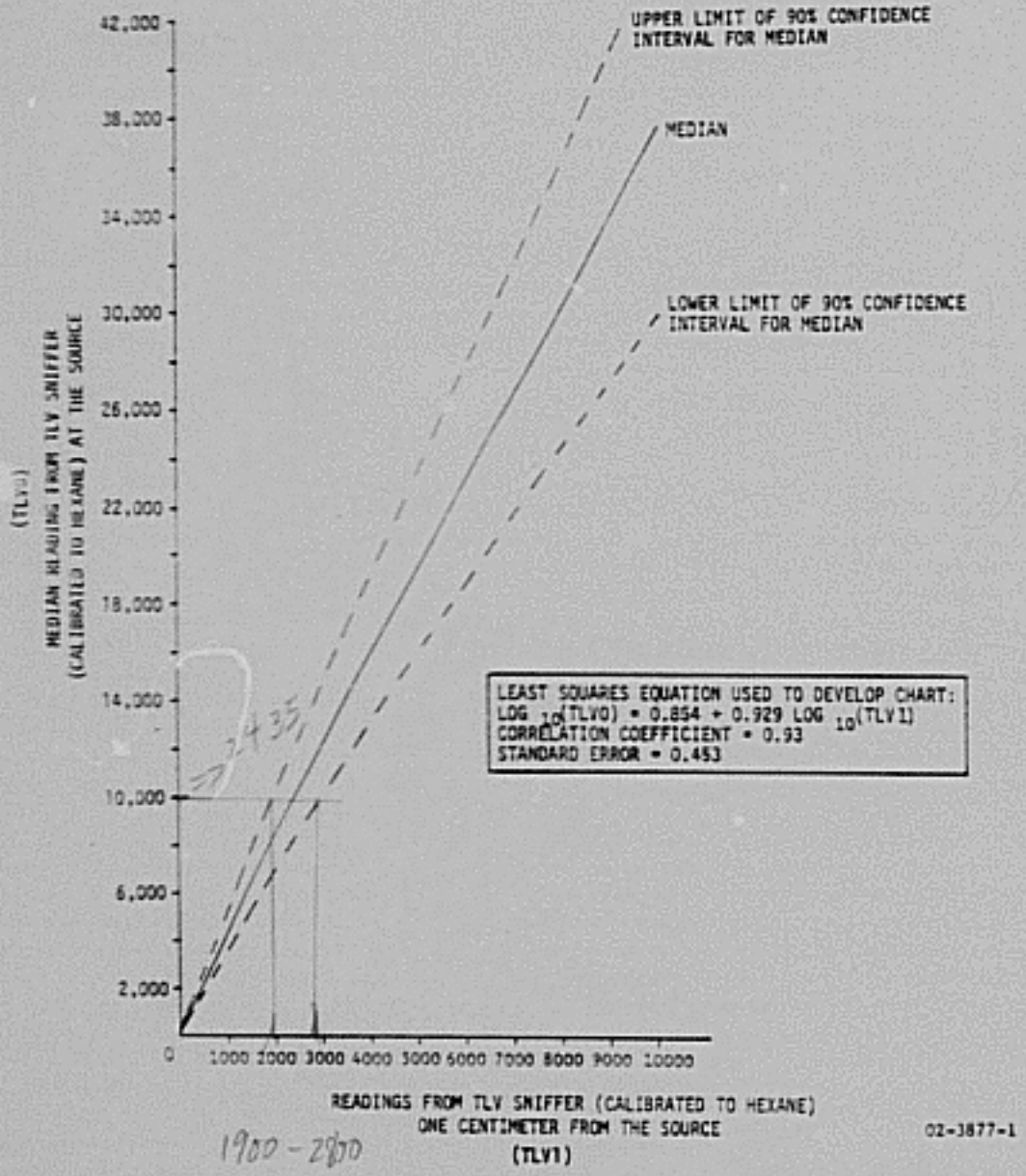


Figure 5-4. Nomograph for relating TLV Sniffer readings at zero and one centimeter - Part I.

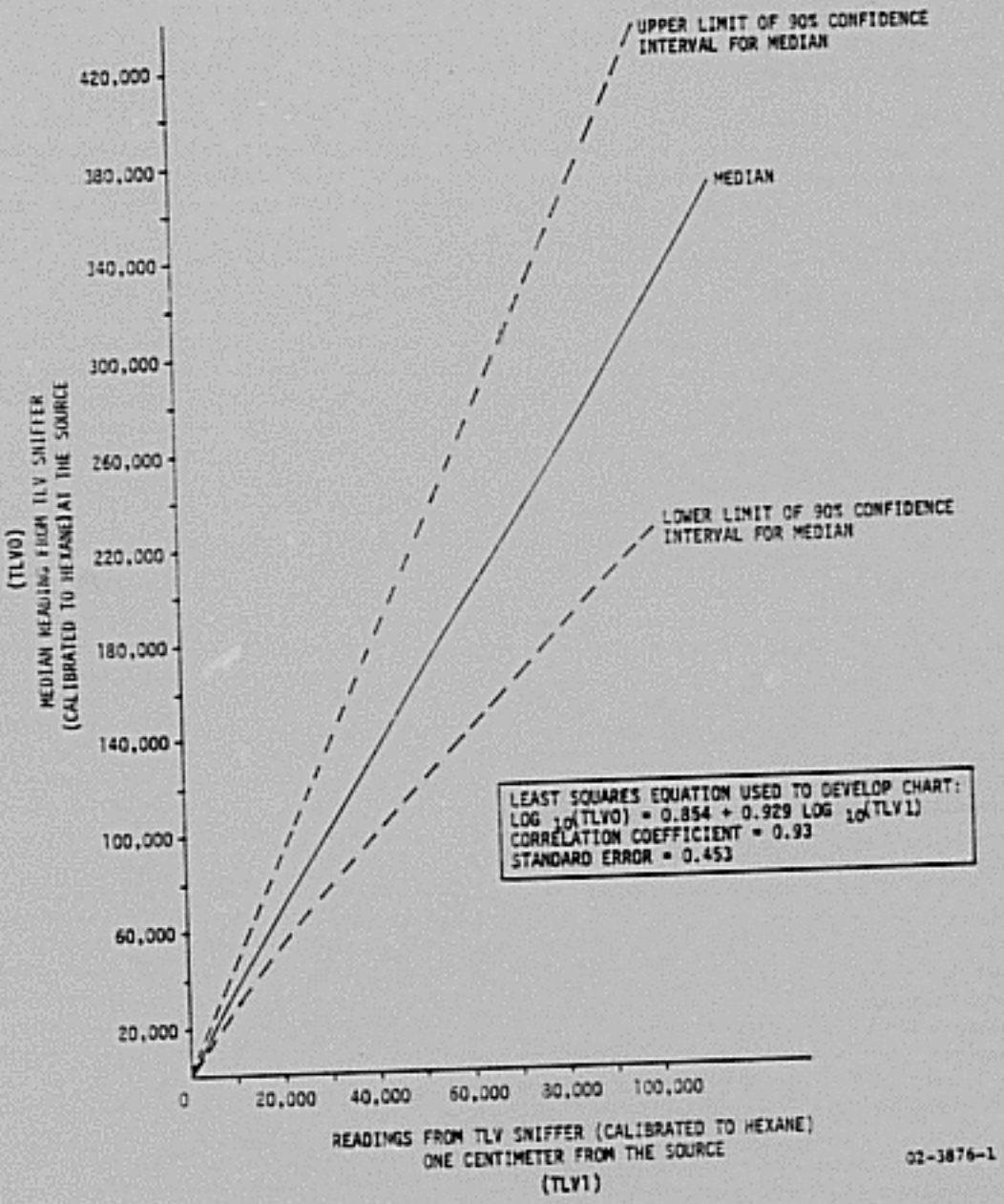


Figure 5-5. Nomograph for relating TLV Sniffer readings at zero and one centimeter - Part II.

based on calibration with hexane, the screening value calibrated to methane must be divided by (1.58). This factor reflects the relative response of the TLV detector to methane and hexane, as specified in the manufacturer's instruction manual.

The correlations described by Figures 4-1, 4-2, 5-2, and 5-3 were combined in order to develop the relationship shown in Figures 5-6 and 5-7. The confidence intervals for the mean are wider in these graphs, since the data from two other correlations have been combined.

5.2 RESULTS OF QUALITY CONTROL PROGRAM

As mentioned previously, the quality control program was broken into two parts. In the daily quality control program, approximately twenty valves were screened daily by the various screening teams. In the replicate quality control program, a Radian screening team rescreened a unit previously screened by the refinery screening team. The results of each of these quality control programs are presented below.

Results of the Daily Quality Control Program

Daily quality control data indicate a wide range in day-to-day response of the screened valves. Maximum net screening values for some valves remained fairly steady over the period of this study, while others had wide day-to-day variations. This is illustrated in Figures 5-8 and 5-9.

Figure 5-8 shows the net OVA 1 cm reading for the two valves with the most consistent net screening values. The dashed line on these figures indicates 3000 ppm. As can be seen, the net screening values for these valves were fairly consistently between 3000 and 10,000 ppm. However, in several instances, the net screening value fell well below the 3000 ppm line.

Figure 5-9 shows the net OVA 1 cm reading for the two valves with the widest day-to-day screening value variation. Again, the dashed line indicates 3000 ppm. This figure indicates that within a few days time, the net screening value can vary widely. In one case the screening value changed from greater than 100,000 ppm to essentially zero and back in a few days time. These two figures indicate the extremes in net screening value day-to-day variation encountered in this study.

Results of the Replicate Quality Control Program

The overall results of the replicate quality control program are summarized in Table 5-2. The percentage of leaking valves found by the Radian quality control teams compares favorably with the percentage found by the original screening teams. The difference in the percentage of leaking valves found by the two teams could be accounted for by the net screening value variation previously mentioned.

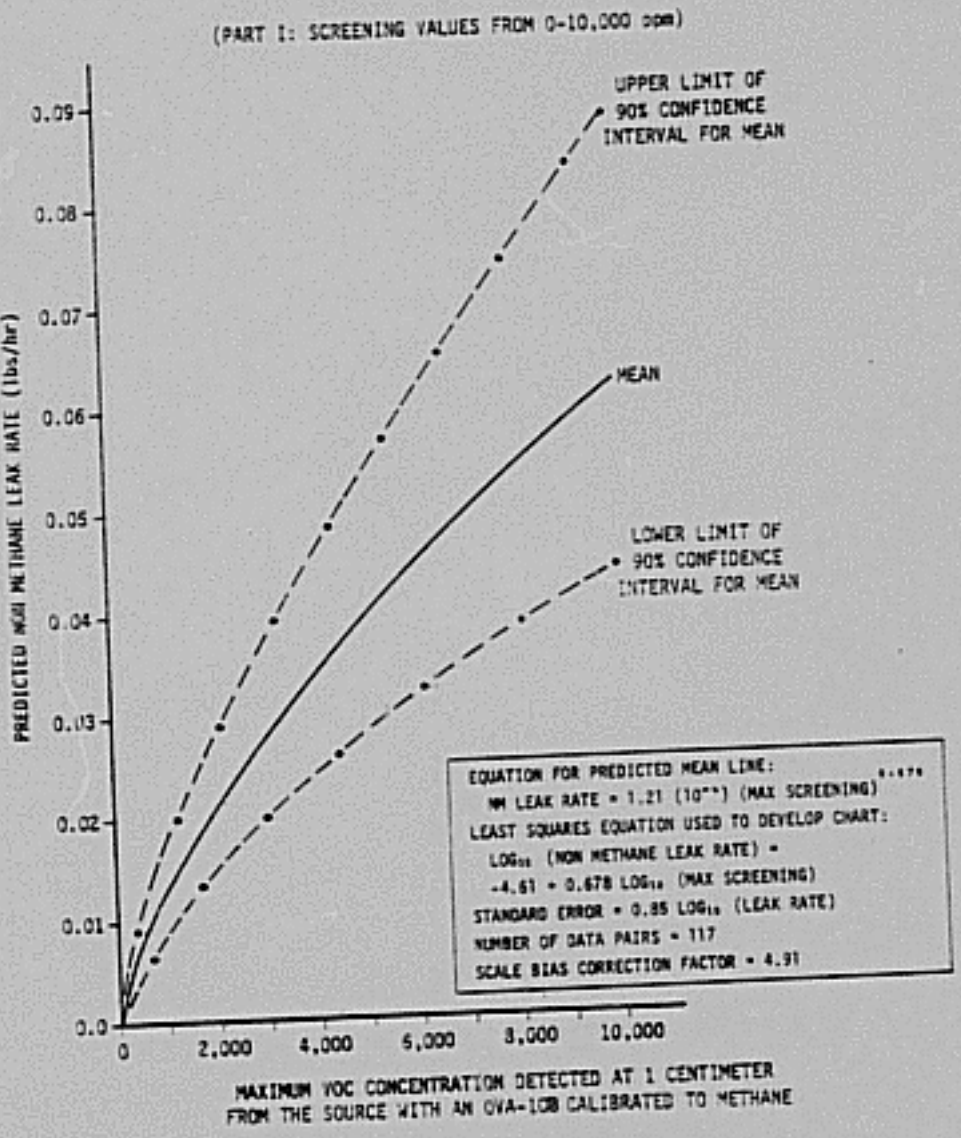


Figure 5-6. Nomograph for predicting total non-methane hydrocarbon leak rates from maximum screening values.

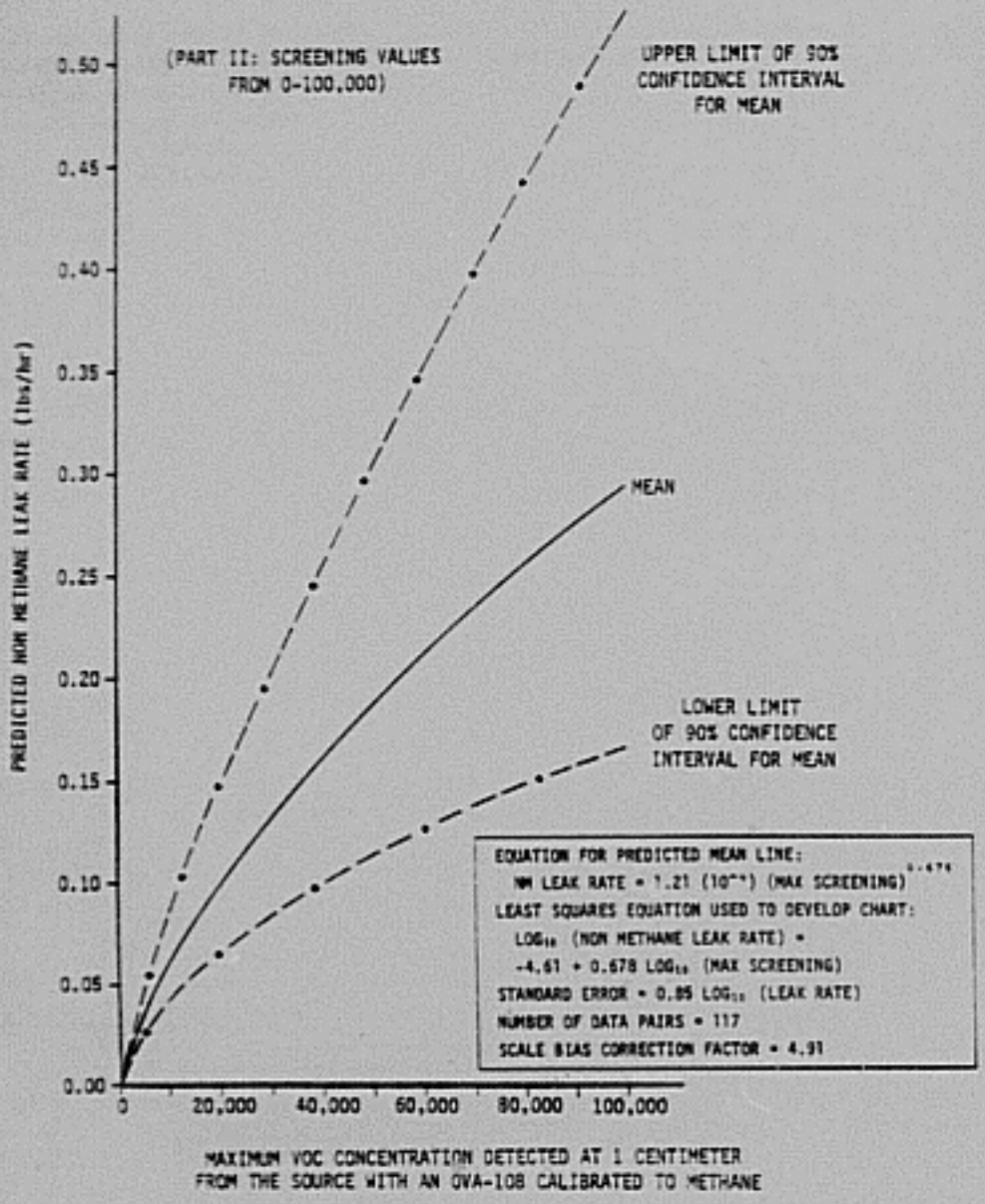


Figure 5-7. Nomograph for predicting total non-methane hydrocarbon leak rates from maximum screening values.

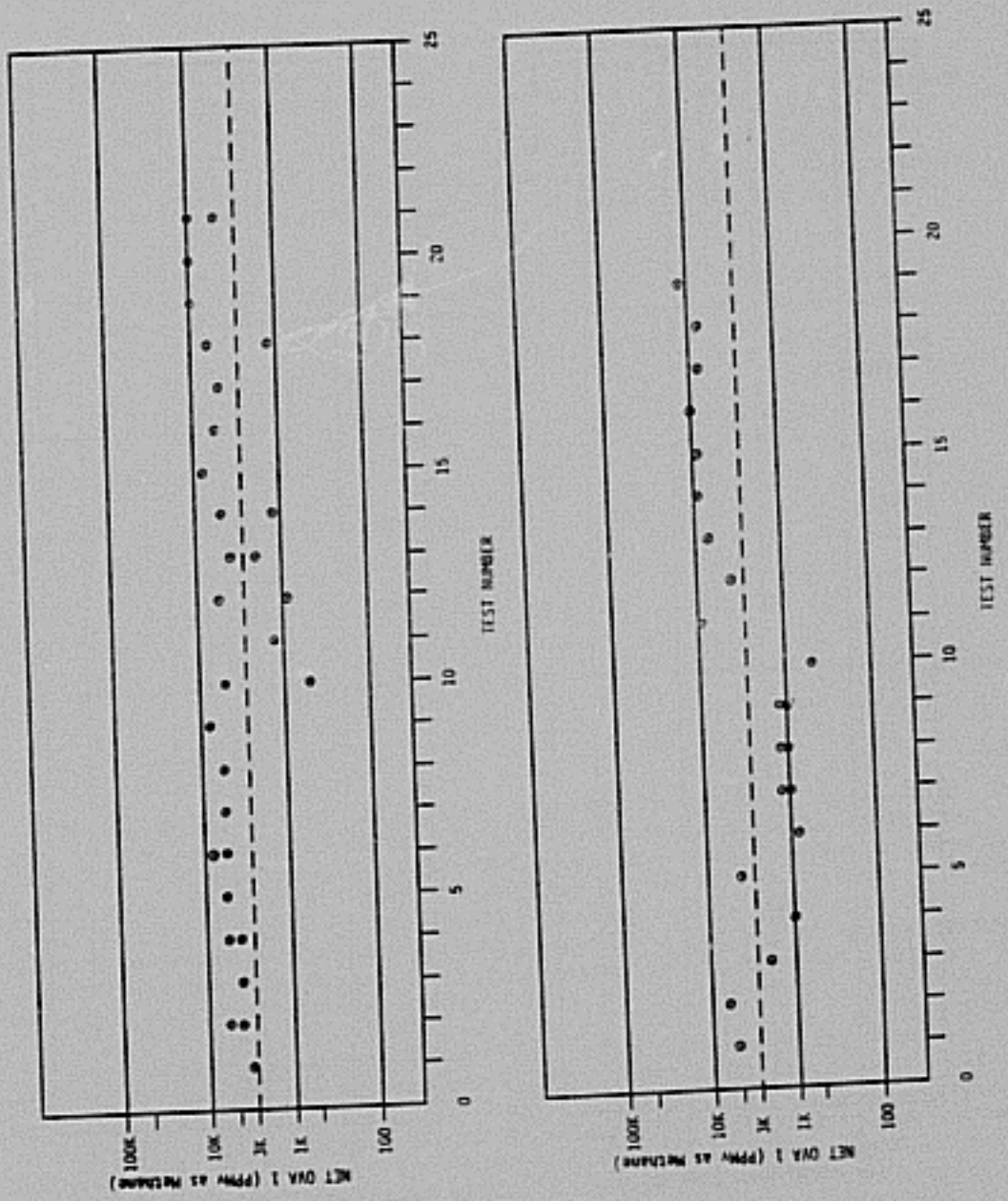


Figure 5-8. Daily screening of "best" valves.

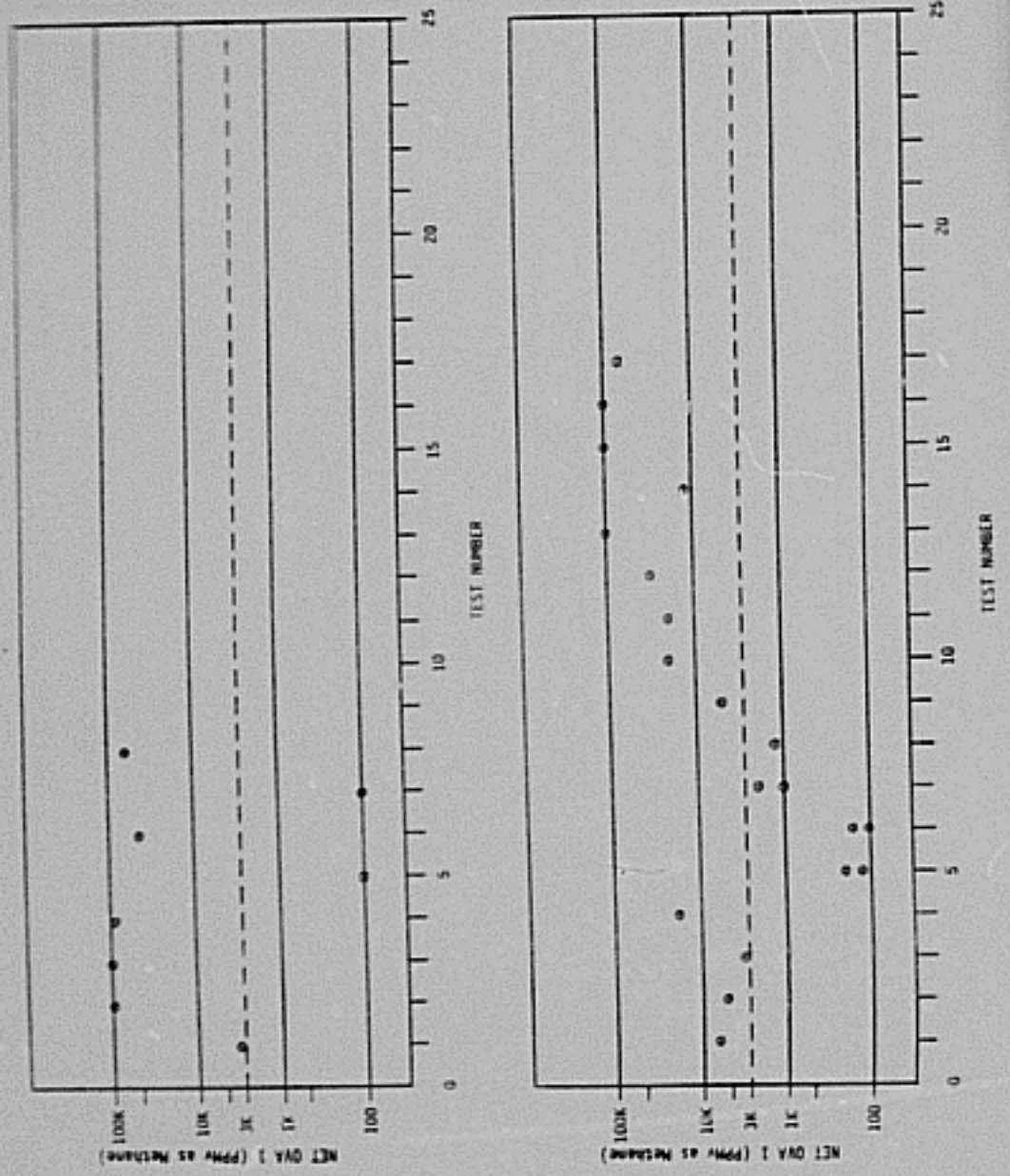


Figure 5-9. Daily screening of "worst" valves.

Figure 5-10 is a plot of the quality control net screening values versus the net screening values obtained by the original screening team. This plot would indicate whether the data was biased high or low by either screening team. As can be seen, there is no bias in either direction. However, the scattering of the data does again indicate the individual variation in net screening value mentioned earlier. However, the variation is shown to be random in that no bias was introduced into the data by the variation.

TABLE 5-2. OVERALL RESULTS OF REPLICATE QUALITY CONTROL PROGRAM

	Radian Q.C. Teams	Original Screening Teams
Number of Valves Screened	1678	1688
Number of Valves with Net Screening Values Over 3000 ppm	141	132
Percent of Valves with Net Screening Value Over 3000 ppm	8.4	7.8

5.3 EMISSIONS ESTIMATES

Estimates of mass emission rates from each valve were made by using the correlations described above to relate all screening values to equivalent TLV readings at the source (TLV0). The previously developed Radian correlation of mass emission rate with TLV readings at the source was then applied. These correlations were applied to all screening values ≥3000 ppm. Mass emission estimates (lb/hr) are shown in Appendix A for all screening values received. Screening values coded with an asterisk (*) were not used in developing the following analyses.

The cumulative leak rate (lb/hr) for valves with screening values between 3000 and any higher concentration is shown in Figure 5-11. A more significant representation of this data is shown in Figure 5-12. This shows the percent of emissions contributed by valves with screening values between 3000 and any concentration. For example, 100 percent of the emissions are identified as coming from valves having screening values ≥3000. As another example, valves with screening values ≥10,000 ppm are responsible for approximately 85 percent of the emissions identified. The percent of total valves with screening values equal to or greater than any selected value is shown in Figure 5-13. For example, 7.1 percent of all screened valves had readings ≥3000 and approximately 4 percent of all valves had screening values ≥10,000.

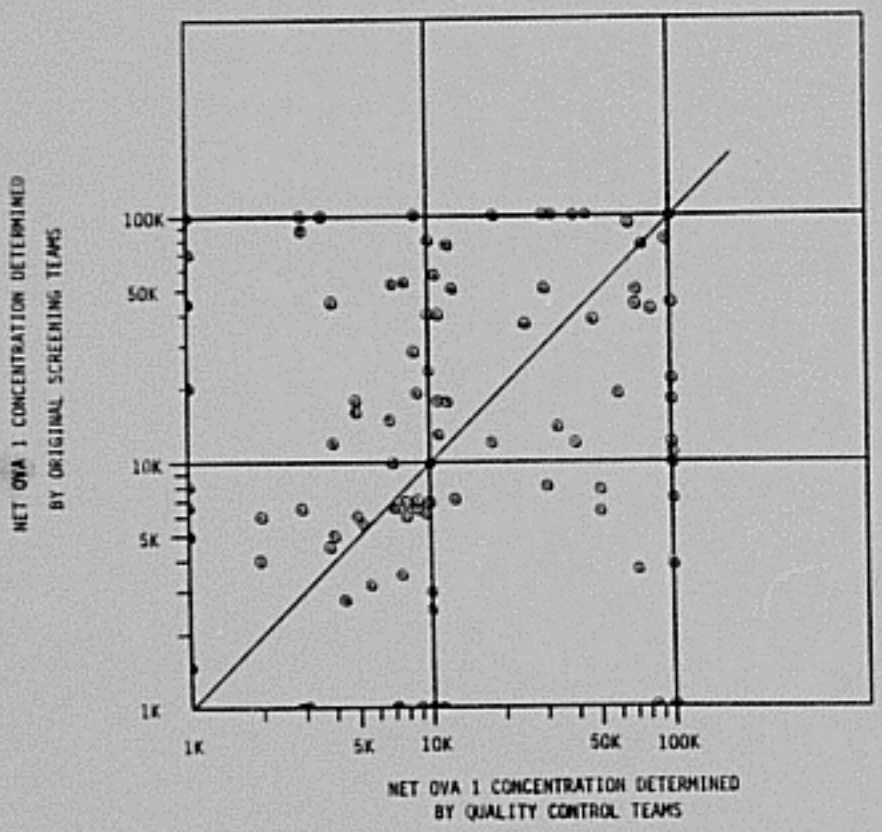


Figure 5-10. Overall results of replicate valve screening.

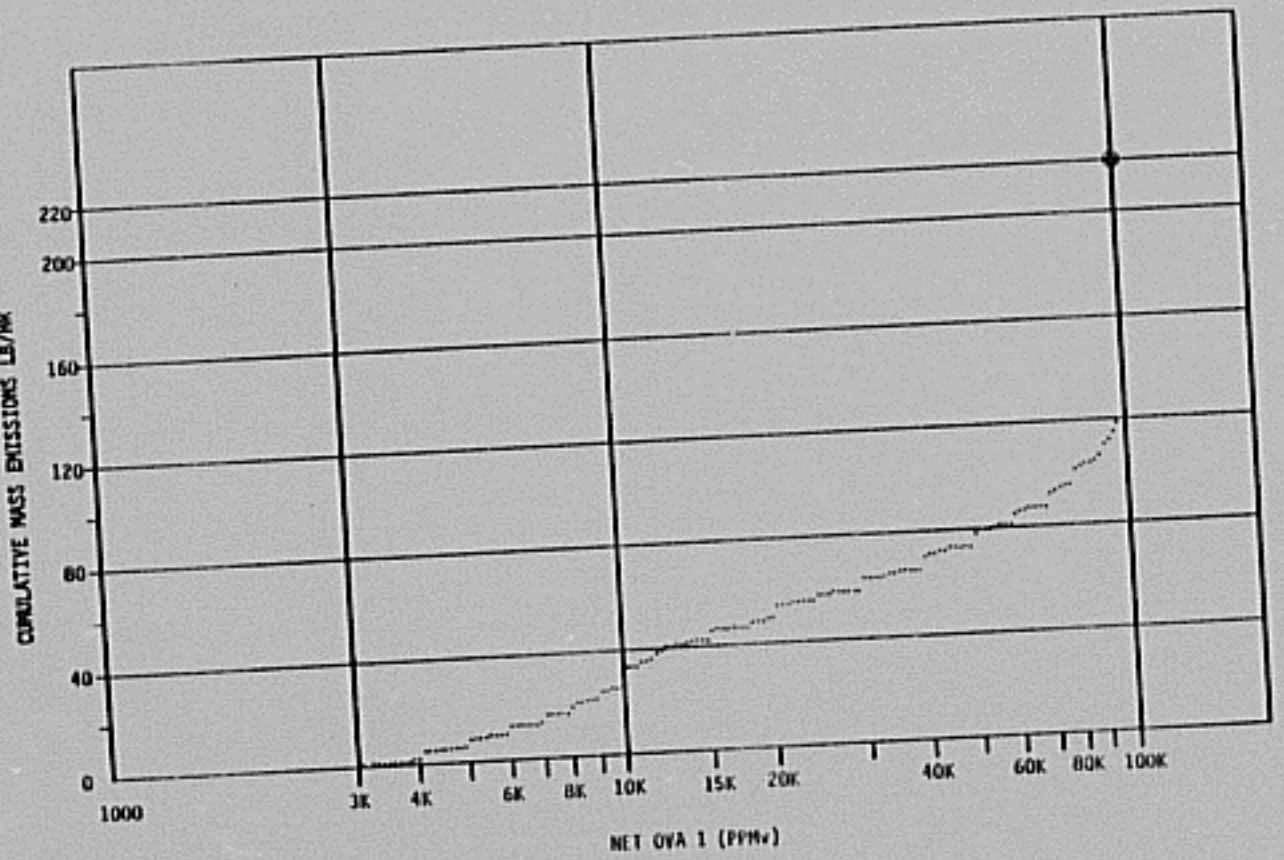


Figure 5-11. Cumulative mass emission rate represented by valves with OVA1 net screening values between 3000 and any given value.

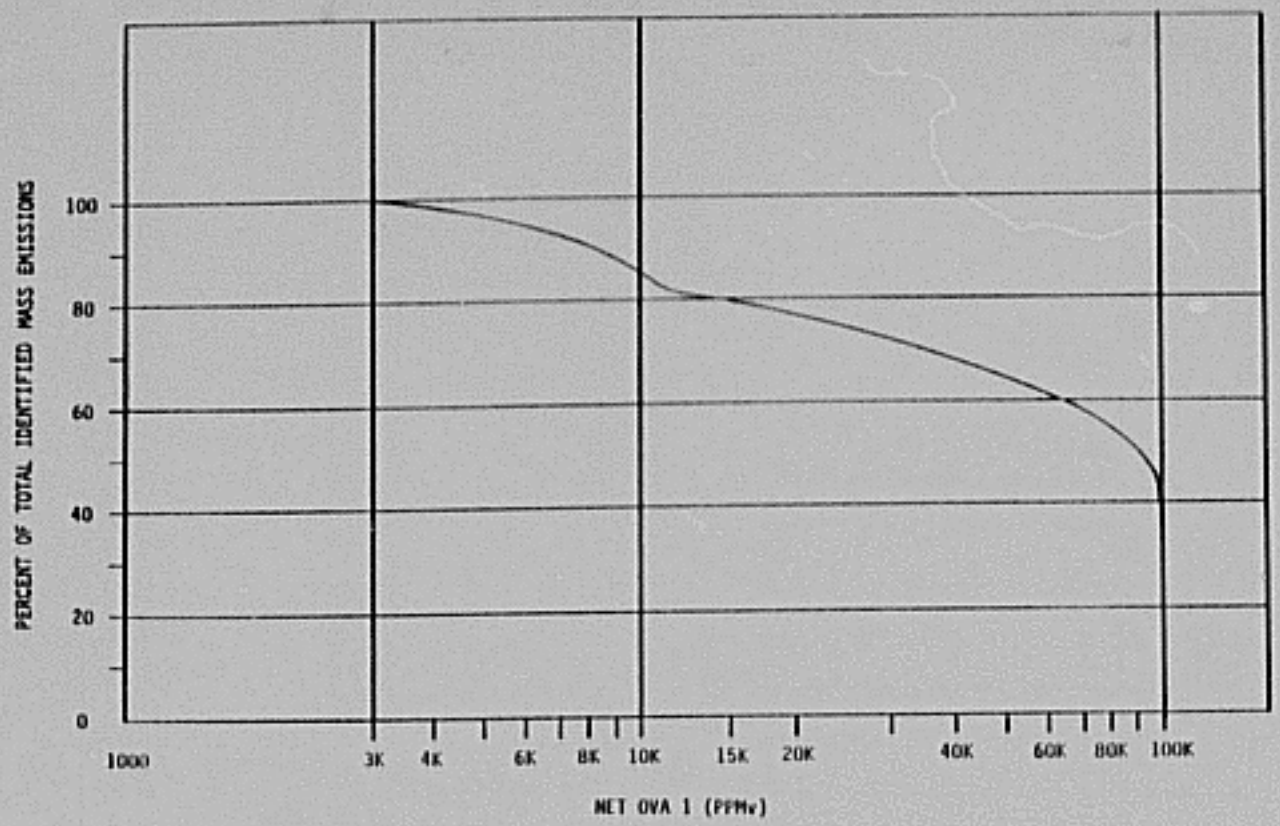


Figure 5-12. Percent of total mass emissions from valves with net screening values above any selected value.

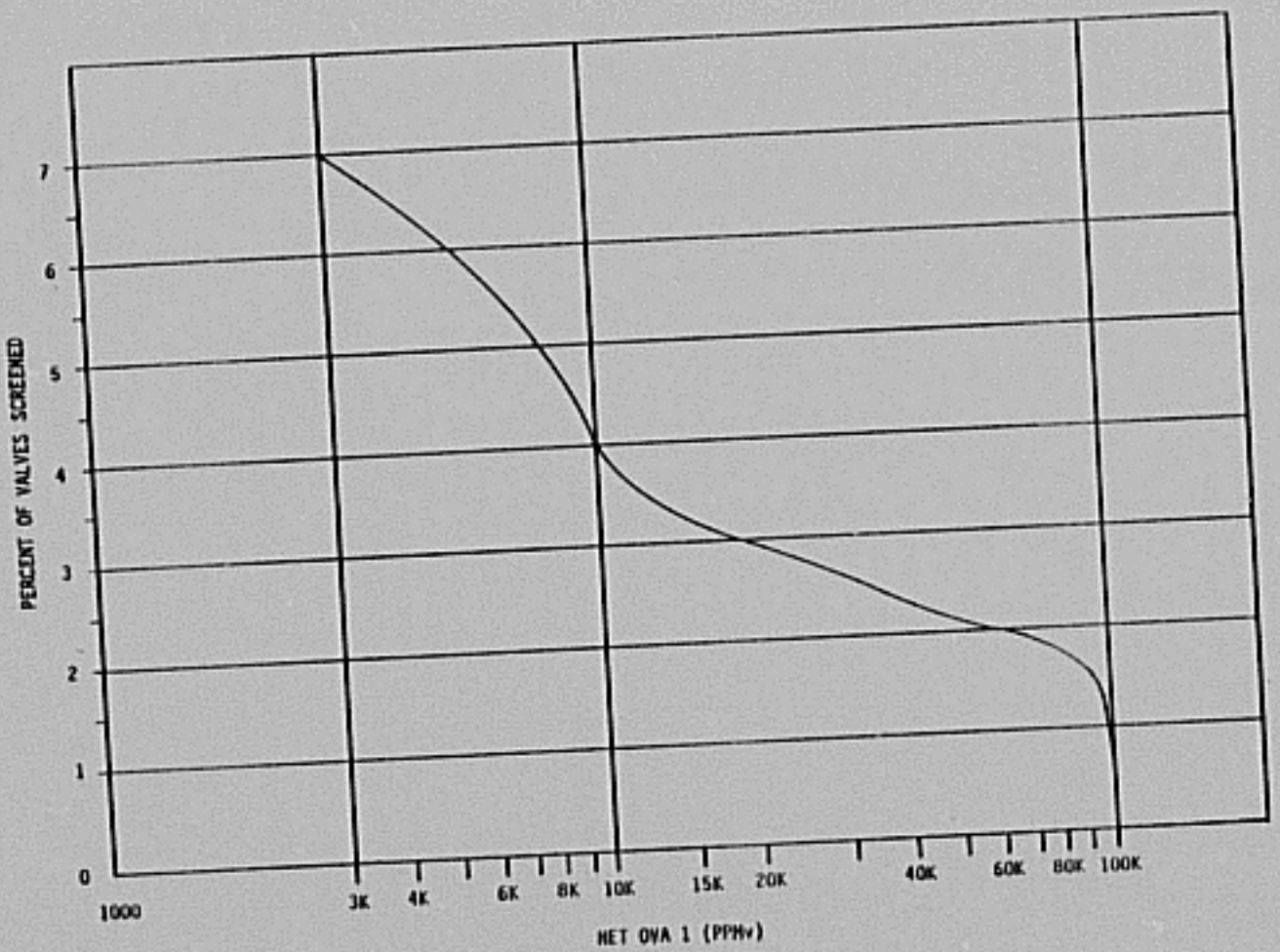


Figure 5-13. Percent of valves with screening values above any selected value.

These presentations of percent of total emissions identified represent the potential reduction of emissions from valves with screening values equal to or greater than 3000 ppm. Actual emission reductions will depend on many factors which cannot be assessed at this time. Radian has recently completed the first phase of a study of the effectiveness of valve screening and maintenance in refineries. The results of that study, which should indicate how much emissions can be reduced by identifying leaking valves and performing simple maintenance, are not yet available. The second phase of that study will assess the emission rate from repaired valves over a period of 6 months. The results of that study will provide information for estimating the emission reduction potential and required frequency of screening and maintenance programs.

5.4 DISCUSSION AND CONCLUSIONS

The total mass emission rate from all fugitive valve leaks in Bay Area refineries cannot be estimated from the data collected in this study. Valves in service with hydrocarbons having Reid vapor pressures less than 1.55 psi were not screened, and valves having screening values <3000 ppm were not recorded. Therefore, there is no method for extrapolating the results of this study to estimate total mass emissions from refinery valves. This study was conducted in order to establish a relationship between valve screening concentrations and mass emissions for a specific population of valves. Using Figures 5-12 and 5-13 provides a way to assess potential emission reductions and maintenance requirements for any population of valves having screening values between 3000 and 100,000 ppm.

A significant result of this study is the documentation of the variability of fugitive leaks (or, at least, screening values) from valves. In Figures 5-8 and 5-9, historical records of valve screening values are shown. Approximately twenty valves were screened in this manner during the course of this study. Days when no screening values were recorded (weekends, etc.) have been eliminated in order to present the data in a more compact graph. The four valves shown in these figures represent the best and worst cases of variability observed in the twenty sets of data recorded. Even the best cases show some significant variations in screening values over the duration of testing.

The results of all quality control screening are shown in Figure 5-10. This graph shows that no bias was introduced by the original screening teams or quality control screening teams, since the data points are equally distributed along the 45° line. However, these data also show the extreme variability of individual valve screening values.

The dotted line in Figures 5-8 and 5-9 represents 3000 ppm. The valve screening values may be below this line for several days, and then they rise to very high levels. These data indicate that random spot checking of individual valves is not a valid method for assessing compliance with screening and maintenance regulations. A very large valve population could be screened in order to minimize the effect of individual variations. Even

in this case, however, some percentage of the valves would be expected to exceed the minimum screening value limit. There are other factors which make this an inadequate method for assessing compliance. The overall emission reduction possible with simple maintenance has not yet been determined. In addition, the long term effectiveness of valve maintenance procedures is not known at this time.

The overall effect of subtracting methane and ethane concentrations from the total concentrations could not be assessed, since only net maximum screening values were analyzed. Discussions with screening teams at several refineries did reveal a wide variation in these concentrations. At some refineries, there were numerous cases where the total screening concentration was >3000, but the net value was <3000. At other refineries, this rarely occurred. It would be advantageous to all refiners to have the C_1/C_2 exclusion in the regulation as an optional determination. Refiners with large C_1/C_2 concentrations could determine which leaking valves were exempt due to this provision. Refiners that do not expect to find large C_1/C_2 concentrations would not need to determine this value, but would then assume the total concentration was the net concentration. This might prove to be cost effective for some refiners since it does require at least twice as much time to determine the C_1/C_2 concentrations.

A program of valve screening and maintenance can reduce fugitive emissions, but the magnitude of reduction and cost effectiveness of such a program cannot be determined at this time. Test results which will become available in the next year should provide some information about these aspects of valve maintenance programs.

APPENDIX A

LIST OF MAXIMUM NET SCREENING VALUES RECEIVED FROM SIX BAY AREA REFINERIES WITH ESTIMATED LEAK RATES

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	3000	3000	5804	0. 027
	OVA	3000	3000	5804	0. 027
	OVA	3000	3000	5804	0. 027

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	3000	3000	5804	0.027
	OVA	3000	3000	5804	0.027
	OVA	3100	3100	5984	0.028
	OVA	3200	3200	6163	0.029
	OVA	3200	3200	6163	0.029
	OVA	3200	3200	6163	0.029
	OVA	3200	3200	6163	0.029
	OVA	3200	3200	6163	0.029
	OVA	3200	3200	6163	0.029
	OVA	3300	3300	6342	0.029
	OVA	3300	3300	6342	0.029
	OVA	3300	3300	6342	0.029
	OVA	3350	3350	6431	0.030
	OVA	3350	3350	6431	0.030
	OVA	3500	3500	6699	0.031
	OVA	3500	3500	6699	0.031
	OVA	3500	3500	6699	0.031

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
			3500	6699	0.031
	OVA	3500	3500	6699	0.031
	OVA	3500	3500	6699	0.031
	OVA	3500	3500	6699	0.031
	OVA	3500	3500	6699	0.031
	OVA	3500	3500	6699	0.031
	OVA	3500	3500	6699	0.031
	OVA	3600	3600	6876	0.031
	OVA	3800	3800	7231	0.032
	OVA	3800	3800	7231	0.032
	OVA	3900	3900	7408	0.033
	OVA	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	3000	3964	7926	0.034
	TLV	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	4000	4000	7584	0. 033
	OVA	4000	4000	7584	0. 033
	OVA	4000	4000	7584	0. 033

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4000	4000	7584	0.033
	OVA	4020	4020	7620	0.034
	OVA	4080	4080	7725	0.034
*	TLV	3160	4149	8321	0.036
	TLV	3200	4195	8417	0.036
	OVA	4300	4300	8112	0.035
	TLV	3400	4423	8907	0.038
	TLV	3400	4423	8907	0.038
	TLV	3400	4423	8907	0.038
	TLV	3400	4423	8907	0.038
	OVA	4500	4500	8462	0.036
	OVA	4500	4500	8462	0.036
	OVA	4500	4500	8462	0.036
	OVA	4500	4500	8462	0.036
	OVA	4500	4500	8462	0.036
	OVA	4500	4500	8462	0.036
	OVA	4500	4500	8462	0.036
	OVA	4500	4500	8462	0.036
	OVA	4500	4500	8462	0.036
	TLV	3500	4536	9149	0.038
	OVA	4600	4600	8637	0.037
	TLV	3600	4648	9391	0.039
	TLV	3600	4648	9391	0.039
	OVA	4800	4800	8986	0.038

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	4800	4800	8986	0.038
	TLV	3800	4874	9877	0.040
	TLV	3800	4874	9877	0.040
	OVA	4900	4900	9160	0.038
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET 0CM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	OVA	5000	5000	9333	0.039
	TLV	4000	5096	10357	0.042
	TLV	4000	5096	10357	0.042
	TLV	4000	5096	10357	0.042
	TLV	4000	5096	10357	0.042
	TLV	4000	5096	10357	0.042
	TLV	4000	5096	10357	0.042
	TLV	4000	5096	10357	0.042
	TLV	4200	5318	10839	0.043
	TLV	4200	5318	10839	0.043
	OVA	5400	5400	10026	0.041
	OVA	5500	5500	10199	0.041
	OVA	5500	5500	10199	0.041
	OVA	5500	5500	10199	0.041
	OVA	5500	5500	10199	0.041
	TLV	4400	5539	11320	0.045
	TLV	4400	5539	11320	0.045
	TLV	4400	5539	11320	0.045
	OVA	5800	5800	10715	0.043
	OVA	5800	5800	10715	0.043
*	TLV	4740	5911	12130	0.047
*	TLV	4740	5911	12130	0.047
*	TLV	4740	5911	12130	0.047
*	TLV	4740	5911	12130	0.047
*	TLV	4740	5911	12130	0.047
*	TLV	4740	5911	12130	0.047

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
			5911	12130	0. 047
*	TLV	4740	5950	10972	0. 044
	OVA	5950	5976	12273	0. 047
	TLV	4800	6000	11058	0. 044
	OVA	6000	6000	11058	0. 044
	OVA	6000	6000	11058	0. 044
	OVA	6000

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET 0CM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	OVA	6000	6000	11058	0.044
	TLV	5000	6192	12745	0.049
	TLV	5000	6192	12745	0.049
	TLV	5000	6192	12745	0.049
	TLV	5000	6192	12745	0.049
	OVA	6200	6200	11401	0.045
	OVA	6200	6200	11401	0.045
	OVA	6200	6200	11401	0.045
	OVA	6200	6200	11401	0.045
	OVA	6400	6400	11742	0.046
	OVA	6470	6470	11862	0.046
	OVA	6500	6500	11913	0.046
	OVA	6500	6500	11913	0.046
	OVA	6500	6500	11913	0.046
	OVA	6500	6500	11913	0.046
	OVA	6560	6560	12015	0.047
	OVA	5400	6624	13694	0.051
	TLV	6750	6750	12338	0.048
	OVA	6800	6800	12423	0.048
	OVA	6800	6800	12423	0.048
	OVA	6800	6800	12423	0.048
	OVA	6970	6970	12712	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7000	7000	12763	0.049
	OVA	7012	7012	12783	0.049
	TLV	6000	7260	15100	0.055
	TLV	6000	7260	15100	0.055
	TLV	6000	7260	15100	0.055
	TLV	6000	7260	15100	0.055
	TLV	6000	7260	15100	0.055
	TLV	6000	7260	15100	0.055
	TLV	6000	7260	15100	0.055
	TLV	6000	7260	15100	0.055
	TLV	6200	7472	15569	0.056
	TLV	6200	7472	15569	0.056
	OVA	7500	7500	13608	0.051
	OVA	7500	7500	13608	0.051

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	7500	7500	13608	0.051
	OVA	7500	7500	13608	0.051
*	TLV	6320	7598	15850	0.057
*	TLV	6320	7598	15850	0.057
*	TLV	6320	7598	15850	0.057
*	TLV	6320	7598	15850	0.057
*	TLV	6320	7598	15850	0.057
*	TLV	6320	7598	15850	0.057
*	TLV	6320	7598	15850	0.057
*	TLV	6320	7598	15850	0.057
*	TLV	6320	7598	13777	0.052
	OVA	7600	7600	16037	0.058
	TLV	6400	7682	16037	0.058
	TLV	6400	7682	16269	0.058
	TLV	6500	7787	14443	0.053
	OVA	7996	7996	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8000	8000	14450	0.053
	OVA	8100	8100	14618	0.054
	OVA	8112	8112	14638	0.054
	OVA	8200	8200	14786	0.054
	OVA	7000	8306	17428	0.061
	TLV	7000	8306	17428	0.061
	TLV	7000	8306	17428	0.061
	TLV	7000	8306	17428	0.061
	TLV	8500	8500	15288	0.056
	OVA	8500	8500	15288	0.056
	OVA	8500	8500	15288	0.056
	OVA	8500	8500	15288	0.056
	OVA	8500	8500	15288	0.056
	OVA	8500	8500	15288	0.056
	OVA	8500	8500	15623	0.057
	OVA	8700	8700	15656	0.057
	OVA	8720	8720	15790	0.057
	OVA	8800	8800	15790	0.057
	OVA	8800	8800	15790	0.057
	OVA	8800	8800	18585	0.064
	TLV	7500	8823	18585	0.064
	TLV	7500	8823	16023	0.058
	OVA	8940	8940	16106	0.058
	OVA	8990	8990	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9000	9000	16123	0.058
	OVA	9200	9200	16456	0.059
	OVA	9200	9200	16456	0.059
	OVA	9200	9232	19504	0.067
*	TLV	7900	9232	19504	0.067
*	TLV	7900	9232	19504	0.067
*	TLV	7900	9232	19504	0.067
*	TLV	7900	9232	19504	0.067
*	TLV	7900	9232	19504	0.067
	TLV	8000	9333	19732	0.067
	TLV	8000	9333	19732	0.067
	TLV	8000	9333	19732	0.067
	TLV	8000	9333	19732	0.067
	TLV	8000	9333	19732	0.067
	TLV	9500	9500	16954	0.060
	OVA	9600	9600	17120	0.061
	OVA				

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	9600	9600	17120	0.061
	OVA	9600	9600	17120	0.061
	OVA	9600	9600	17120	0.061
	OVA	9870	9870	17568	0.062
	OVA	9900	9900	17617	0.062
	TLV	8600	9942	21106	0.070
	OVA	9960	9960	17717	0.062
	OVA	9960	9960	17717	0.062
	OVA	9970	9970	17733	0.062
	OVA	9970	9970	17733	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10000	10000	17783	0.062
	OVA	10002	10002	17786	0.062
	OVA	10002	10002	17786	0.062
	TLV	8900	10244	21790	0.072
	TLV	9000	10344	22017	0.073
	TLV	9000	10344	22017	0.073
	OVA	10625	10625	18814	0.065
	TLV	9400	10745	22928	0.075
*	TLV	9480	10824	23107	0.075
*	TLV	9480	10824	23107	0.075
*	TLV	9480	10824	23107	0.075
*	TLV	9480	10824	23107	0.075
*	TLV	9480	10824	23107	0.075
*	TLV	9480	10824	23107	0.075
*	TLV	9480	10824	23107	0.075
*	TLV	9480	10824	23107	0.075

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
*	TLV	9480	10824	23107	0.075
	OVA	10963	10963	19370	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11000	11000	19431	0.066
	OVA	11200	11200	19759	0.067
	OVA	11200	11200	19759	0.067
	TLV	10000	11340	24283	0.078
	TLV	10000	11340	24283	0.078
	TLV	10000	11340	24283	0.078

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET ICM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10000	11340	24283	0 078
	TLV	10001	11342	24287	0 078
	TLV	10001	11342	24287	0 078
	TLV	10001	11342	24287	0 078
	TLV	10001	11342	24287	0 078
	TLV	10001	11342	24287	0 078
	TLV	10001	11342	24287	0 078
	TLV	10001	11342	24287	0 078
	TLV	10001	11342	24287	0 078
	TLV	10001	11342	24287	0 078
	TLV	10001	11342	24287	0 078
	TLV	10001	11342	24287	0 078

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	TLV	10001	11342	24287	0.078
	TLV	10001	11342	24287	0.078
	TLV	10001	11342	24287	0.078
	TLV	10001	11342	24287	0.078
	TLV	10001	11342	24287	0.078
	TLV	10001	11342	24287	0.078
	TLV	10001	11342	24287	0.078
	TLV	10001	11342	24287	0.078
	TLV	10001	11342	24287	0.078
	TLV	10001	11342	24287	0.078
	TLV	10001	11342	24287	0.078
	OVA	11500	11500	20251	0.068
	OVA	11500	11500	20251	0.068
	OVA	11600	11600	20415	0.069
	OVA	11600	11600	20415	0.069
	OVA	11700	11700	20578	0.069
	OVA	11990	11990	21052	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12000	12000	21069	0.070
	OVA	12500	12500	21884	0.072
	OVA	13000	13000	22697	0.074
	OVA	13000	13000	22697	0.074
	OVA	13000	13000	22697	0.074
	OVA	13000	13000	22697	0.074
	OVA	13000	13000	22697	0.074
	OVA	13000	13000	22697	0.074
	OVA	13000	13000	22697	0.074
	OVA	13000	13000	22697	0.074
	OVA	13000	13000	22697	0.074
	OVA	13500	13500	23508	0.076
	OVA	13600	13600	23670	0.077
	OVA	14000	14000	24316	0.078
	OVA	14000	14000	24316	0.078
	OVA	14000	14000	24316	0.078

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	14000	14000	24316	0.078
	OVA	14000	14000	24316	0.078
	OVA	14400	14400	24962	0.080
	OVA	14500	14500	25123	0.080
	OVA	14800	14800	25606	0.081
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15000	15000	25928	0.082
	OVA	15500	15500	26731	0.084
	OVA	15500	15500	26731	0.084
	OVA	16000	16000	27532	0.086
	OVA	16000	16000	27532	0.086
	OVA	16000	16000	27532	0.086
	OVA	16000	16000	27532	0.086
	OVA	16100	16100	27692	0.086
	OVA	16400	16400	28171	0.087
	OVA	17000	17000	29128	0.089
	OVA	17000	17000	29128	0.089

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	17000	17000	29128	0.089
	OVA	17000	17000	29128	0.089
	OVA	17500	17500	29924	0.091
	OVA	17600	17600	30083	0.091
	OVA	17600	17600	30083	0.091
	OVA	17600	17600	30083	0.091
	OVA	17600	17600	30083	0.091
	OVA	18000	18000	30719	0.093
	OVA	18000	18000	30719	0.093
	OVA	18000	18000	30719	0.093
	OVA	18000	18000	30719	0.093
	OVA	18000	18000	30719	0.093
	OVA	18000	18000	30719	0.093
	OVA	18000	18000	30719	0.093
	OVA	18000	18000	30719	0.093
	OVA	18000	18000	30719	0.093
	OVA	18000	18000	30719	0.093
	TLV	18000	18944	41948	0.116
	OVA	19000	19000	32303	0.096
	OVA	19000	19000	32303	0.096
	OVA	19000	19000	32303	0.096
	OVA	19000	19000	32303	0.096
	OVA	19000	19000	32303	0.096
	OVA	19000	19000	32303	0.096
	OVA	19000	19000	32303	0.096
	OVA	19000	19000	32619	0.097
	OVA	19200	19200	33724	0.099
	OVA	19900	19900	33724	0.099
	OVA	19900	19900	33881	0.100
	OVA	20000	20000		

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/H
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	20000	20000	33881	0.100
	OVA	21000	21000	35454	0.103
	OVA	21000	21000	35454	0.103
	OVA	21000	21000	35454	0.103
	OVA	21000	21000	35454	0.103
	OVA	21000	21187	47258	0.127
*	TLV	11060	21187	47258	0.127
*	TLV	11060	21187	47258	0.127
*	TLV	11060	21187	47258	0.127
*	TLV	11060	21187	47258	0.127
*	TLV	11060	21187	47258	0.127
*	TLV	11060	21500	36238	0.105
	OVA	21500	22000	37021	0.106
	OVA	22000	22000	37021	0.106
	OVA	22000			

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	22000	22000	37021	0.106
	OVA	22000	22000	37021	0.106
	OVA	22000	22000	37021	0.106
	OVA	22000	22000	37021	0.106
	OVA	22000	22000	37021	0.106
	OVA	23000	23000	38584	0.110
	OVA	23000	23000	38584	0.110
	OVA	23000	23000	38584	0.110
	OVA	23000	23000	38584	0.110
*	TLV	12640	23809	53512	0.139
*	TLV	12640	23809	53512	0.139
*	TLV	12640	23809	53512	0.139
	OVA	24000	24000	40142	0.113
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116
	OVA	25000	25000	41695	0.116

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET 0CM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	25000	25000	41695	0.116
	OVA	25800	25800	42934	0.118
*	TLV	14220	26387	59705	0.151
*	TLV	14220	26387	59705	0.151
	OVA	26400	26400	43862	0.120
	OVA	26400	26400	43862	0.120
	OVA	27000	27000	44789	0.122
	OVA	27000	27000	44789	0.122
	OVA	27000	27000	44789	0.122
	OVA	27000	27000	44789	0.122
	OVA	28000	28000	46329	0.125
	OVA	28000	28000	46329	0.125
	OVA	28000	28000	46329	0.125
	OVA	28000	28000	46329	0.125
	OVA	28000	28000	46329	0.125
	OVA	28000	28928	65850	0.162
*	TLV	15800	29750	49017	0.130
	OVA	29750	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131
	OVA	30000	30000	49400	0.131

SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

		MUM NET VALUE THANE)	EQUIVALENT NET 10CM OVA VALUE (PPMV,METHANE)	EQUIVALENT NET 0CM TLV VALUE (PPMV,HEXANE)	ESTIMATED LEAK (LBS/HR)
	TLV	18960	33918	78016	0.183
*	TLV	18960	33918	78016	0.183
	OVA	34000	34000	55498	0.143
	OVA	34000	34000	55498	0.143
	OVA	34400	34400	56105	0.144
	OVA	35000	35000	57014	0.146
	OVA	35000	35000	57014	0.146

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	35000	35000	57014	0.146
	OVA	35000	35000	57014	0.146
	OVA	35000	35000	57014	0.146
	OVA	35000	35000	57014	0.146
	OVA	35000	35000	57014	0.146
	OVA	35000	35000	57014	0.146
*	TLV	20540	36373	84044	0.193
*	TLV	20540	36373	84044	0.193
	OVA	37000	37000	60038	0.151
	OVA	38000	38000	61546	0.154
*	TLV	22120	38803	90039	0.203
	OVA	39000	39000	63051	0.157
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40000	40000	64553	0.159
	OVA	40001	40001	64554	0.159
	OVA	40002	40002	64556	0.159
	OVA	40500	40500	65303	0.161
*	TLV	23700	41215	96011	0.213
	OVA	41520	41520	66831	0.164
	OVA	42000	42000	67549	0.165
	OVA	42000	42000	67549	0.165
	OVA	42000	42000	67549	0.165
	OVA	43000	43000	69044	0.167
*	TLV	25280	43603	101949	0.223
*	TLV	25280	43603	101949	0.223
	OVA	44000	44000	70536	0.170
	OVA	44000	44000	70536	0.170
	OVA	45000	45000	72026	0.173
	OVA	45000	45000	72026	0.173
	OVA	45000	45000	72026	0.173

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	45000	45000	72026	0.173
*	TLV	26860	45972	107861	0.232
*	TLV	26860	45972	107861	0.232
*	TLV	26860	45972	107861	0.232
*	TLV	26860	45972	107861	0.232
	OVA	47000	47000	74998	0.178
	OVA	48000	48000	76481	0.180
	OVA	49000	49000	77962	0.183
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50000	50000	79441	0.186
	OVA	50001	50001	79442	0.186
	OVA	50002	50002	79443	0.186
	OVA	50002	50002	79443	0.186
	OVA	50002	50002	79443	0.186
	OVA	50002	50002	79443	0.186
*	TLV	30020	50659	119613	0.250
	OVA	52000	52000	82392	0.191
	OVA	54000	54000	85335	0.195
	OVA	54000	54000	85335	0.195
	OVA	55000	55000	86804	0.198
	OVA	55000	55000	86804	0.198
	OVA	55000	55000	86804	0.198
	OVA	55000	55000	86804	0.198
	OVA	55001	55001	86805	0.198
	OVA	55440	55440	87449	0.199
	OVA	56002	56002	88273	0.200
*	TLV	34760	57577	137089	0.276
	OVA	58001	58001	91200	0.205
	OVA	59000	59000	92660	0.208
	OVA	59600	59600	93536	0.209
*	TLV	36340	59855	142374	0.285
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60000	60000	94120	0.210
	OVA	60002	60002	94123	0.210
	OVA	60002	60002	94123	0.210
	OVA	60002	60002	94123	0.210
	OVA	62000	62000	97034	0.215
	OVA	63000	63000	98489	0.217
	OVA	64000	64000	99942	0.219
	OVA	65000	65000	101393	0.222
	OVA	65001	65001	101395	0.222
	OVA	66000	66000	102843	0.224
	OVA	68500	68500	106461	0.230
*	TLV	42660	68847	165845	0.317
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0 233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70000	70000	108628	0.233
	OVA	70001	70001	108629	0.233
	OVA	70001	70001	108629	0.233
	OVA	70003	70003	108632	0.233
	OVA	72000	72000	111511	0.238
*	TLV	45820	73280	177245	0.333
*	TLV	45820	73280	177245	0.333
	OVA	75000	75000	115826	0.244
	OVA	75000	75000	115826	0.244
	OVA	75001	75001	115828	0.244
	OVA	75002	75002	115829	0.244
	OVA	76000	76000	117262	0.247

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	76001	76001	117263	0.247
	OVA	76002	76002	117265	0.247
	OVA	77000	77000	118696	0.249
	OVA	77002	77002	118699	0.249
	OVA	77200	77200	118983	0.249
	OVA	78001	78001	120130	0.251
	OVA	78001	78001	120130	0.251
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80000	80000	122991	0.255
	OVA	80001	80001	122993	0.255
	OVA	80002	80002	122994	0.255
	OVA	80002	80002	122994	0.255
	OVA	80002	80002	122994	0.255

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	80002	80002	122994	0.255
	OVA	80501	80501	123707	0.256
	OVA	81750	81750	125491	0.259
	OVA	83501	83501	127989	0.263
	OVA	84001	84001	128702	0.264
	OVA	85000	85000	130125	0.266
	OVA	85001	85001	130126	0.266
	OVA	85002	85002	130128	0.266
	OVA	87200	87200	133254	0.271
	OVA	88000	88000	134391	0.272
	OVA	88000	88000	134391	0.272
	OVA	88000	88000	134391	0.272
	OVA	88001	88001	134392	0.272
	OVA	88001	88001	134392	0.272
	OVA	88001	88001	134392	0.272
	OVA	88001	88001	134392	0.272
	OVA	89000	89000	135810	0.274
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET 0CM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	90000	90000	137229	0.276
	OVA	90000	90000	137229	0.276
	OVA	90002	90002	137232	0.276
*	TLV	58460	90646	222315	0.393
	OVA	91001	91001	138648	0.279
	OVA	91001	91001	138648	0.279
	OVA	92000	92000	140063	0.281
	OVA	92001	92001	140064	0.281
	OVA	92001	92001	140064	0.281
	OVA	92500	92500	140771	0.282
*	TLV	60040	92781	227896	0.400
	OVA	93001	93001	141479	0.283
	OVA	93001	93001	141479	0.283
	OVA	93500	93500	142185	0.284
	OVA	94000	94000	142892	0.285
	OVA	94001	94001	142894	0.285
	OVA	94001	94001	142894	0.285
	OVA	94001	94001	142894	0.285
	OVA	94001	94001	142894	0.285
	OVA	94001	94001	142894	0.285
	OVA	95000	95000	144306	0.287
	OVA	95000	95000	144306	0.287
	OVA	95000	95000	144306	0.287
	OVA	95000	95000	144306	0.287
	OVA	95000	95000	144306	0.287
	OVA	95002	95002	144308	0.287
	OVA	95002	95002	144308	0.287
	OVA	96002	96002	145721	0.289
	OVA	97000	97000	147129	0.291

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	97000	97000	147129	0.291
	OVA	97002	97002	147132	0.291
	OVA	97002	97002	147132	0.291
	OVA	98000	98000	148539	0.293
	OVA	98000	98000	148539	0.293
	OVA	98000	98000	148539	0.293
	OVA	98001	98001	148540	0.293
	OVA	98500	98500	149244	0.294
	OVA	98501	98501	149245	0.294
	OVA	98701	98701	149527	0.294
	OVA	98701	98701	149527	0.294
	OVA	99801	99801	151076	0.297
	OVA	99801	99801	151076	0.297
	OVA	99801	99801	151076	0.297
	OVA	99801	99801	151076	0.297
	OVA	99801	99801	151076	0.297
	OVA	99850	99850	151145	0.297
	OVA	99851	99851	151146	0.297
	OVA	99970	99970	151314	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100000	100000	151356	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET 0CM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100001	100001	151358	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 10M OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100002	100002	151359	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
	OVA	100003	100003	151360	0.297
*	TLV	67940	103352	255659	0.435
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
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*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF DATA RECEIVED

CODE	INSTRUMENT	MAXIMUM NET SCREENING VALUE (PPMV, METHANE)	EQUIVALENT NET 1CM OVA VALUE (PPMV, METHANE)	EQUIVALENT NET OCM TLV VALUE (PPMV, HEXANE)	ESTIMATED LEAK (LBS/HR)
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566
*	TLV	100000	144833	366248	0.566

APPENDIX B

LIST OF SCREENING VALUES USED TO DEVELOP CORRELATIONS
BETWEEN TLV AND OVA READINGS AT 0 AND 1 CENTIMETER

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF CORRELATION DATA
TLV CALIBRATED TO HEXANE -- OVA CALIBRATED TO METHANE

OVA AT 0 CM	OVA AT 1 CM	TLV AT 0 CM	TLV AT 1 CM	TLV AT 5 CM
100002	40000	100002	60000	500
100002	100000	100002	100001	3000
100002	20000	100002	40000	260
100001	10000	100002	3000	440
100001	40000	100001	20000	400
100002	12000	100001	14000	2000
100001	10000	100001	9000	800
100002	20000	100001	20000	3000
100001	25000	100001	40000	4000
100001	15000	100001	4800	90
100001	20000	100001	40000	740
100000	45000	100000	10000	1200
100000	45000	100000	36000	20000
100000	30000	100000	40000	5000
100000	15000	100000	18000	700
100000	15000	100000	22000	500
60000	10000	100000	4000	200
100002	100000	100000	20000	400
100001	20000	100000	10000	80
100001	25000	92000	7600	340
100000	15000	92000	9800	88
100001	40000	90000	24000	500
100001	50000	85000	14000	600
100001	45000	74000	8600	460
100002	80000	66000	36000	620
100000	20000	66000	8000	700
100000	30000	65000	2000	500
70000	2000	60000	5000	600
100001	30000	56000	32000	4000
100000	25000	52000	14000	2000

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF CORRELATION DATA
TLV CALIBRATED TO HEXANE -- OVA CALIBRATED TO METHANE

OVA AT 0 CM	OVA AT 1 CM	TLV AT 0 CM	TLV AT 1 CM	TLV AT 5 CM
100001	15000	42000	6000	600
100000	10000	38000	3400	800
100000	5000	32000	6600	320
70000	5000	30000	2400	200
100000	6000	30000	6400	86
100001	45000	30000	8000	800
100002	70000	30000	8000	500
100002	50000	30000	4000	50
50000	4500	26000	4800	60
80000	15000	26000	1400	30
70000	10000	20000	3000	200
100001	30000	20000	6400	92
100000	10000	15000	6000	300
100001	18000	12000	3600	600
18000	2000	10000	1200	0
100001	40000	10000	5400	700
100002	9000	8000	3800	320
25000	5000	7000	4400	50
40000	10000	6600	2200	.
120000	6000	6400	3800	52
12000	2000	6000	300	72
12000	10000	6000	4000	200
50000	8000	6000	1400	200
55000	15000	6000	1200	50
3470	70	5800	1600	0
30000	5000	5000	1600	220
12000	4000	4600	800	150
50000	2200	4400	1100	240
12000	1000	4400	680	0

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF CORRELATION DATA
TLV CALIBRATED TO HEXANE -- OVA CALIBRATED TO METHANE

OVA AT 0 CM	OVA AT 1 CM	TLV AT 0 CM	TLV AT 1 CM	TLV AT 5 CM
45000	7000	4200	2400	32
5000	1000	4200	1600	30
30000	3000	4000	1600	90
10000	4000	4000	2200	20
20000		3600	1400	82
30000	10000	3600	1300	40
7000	2000	3500	1000	200
20000	3000	3400	800	40
100001	30000	3400	2000	88
15000	5000	3200	2400	60
10000	2000	3000	760	40
7000	1000	2500	300	70
5000	1000	2500	600	0
970	70	2400	380	12
5000	1000	2400	1200	44
1070	170	2200	1000	12
25000	4000	2200	1000	0
8000	3000	2200	900	0
9000	800	2200	60	0
4000	1000	2000	340	44
11000	1500	2000	700	90
20000	2000	2000	1200	32
11000	7000	2000	1200	140
7500	800	2000	700	38
10000	1000	1600	620	46
11000	1200	1600	340	0
1770	370	1300	180	40
970	370	1200	100	4
3500	2000	1200	1300	60

ANALYSIS OF SCREENING VALUES FROM BAY AREA REFINERIES
LIST OF CORRELATION DATA
TLV CALIBRATED TO HEXANE -- OVA CALIBRATED TO METHANE

OVA AT 0 CM	OVA AT 1 CM	TLV AT 0 CM	TLV AT 1 CM	TLV AT 5 CM
4500	800	1100	290	10
6000	1000	1000	500	110
2000	450	920	220	12
7000	600	800	220	10
6000	200	740	160	32
5000	300	640	80	14
340	280	620	82	18
470	70	600	160	0
1200	400	560	320	20
700	350	540	66	14
500	200	340	170	10
350	80	320	70	0
590	270	300	44	4
600	200	300	100	12
300	100	240	50	0
600	200	220	90	22
670	70	190	0	0
120	20	140	48	8
120	40	140	12	0
270	120	120	12	0
150	110	110	64	0
500	70	75	32	0
500	150	66	36	0
50	10	50	20	0
100	30	50	20	0
400	150	46	20	0
130	80	44	22	0
200	150	40	16	0
30	10	36	0	0
80	35	30	18	0