



November 18, 1991

Project No. 198154

Mr. Barry Young
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

Ingersoll Rand Corporation
1944 Marina Boulevard, San Leandro, California

Dear Mr. Young:

Please review and authorize this permit application for authority to construct and operate a soil vapor extraction (SVE) system utilizing activated carbon for vapor abatement. The site location is 1944 Marina Boulevard, San Leandro, California (Attachment A). The SVE system will remove adsorbed-phase gasoline fuel from soils at the subject site. This contamination is believed to be a result of the unauthorized underground storage tank (UST) leak reported by the client to the proper authority, the San Leandro Fire Department. An extensive soil boring program delineated the horizontal and vertical extent of adsorbed-phase gasoline hydrocarbons and characterized the site geology. Positive results from a subsequent SVE pilot test and the modeled site geology are indicative that this approach should be effective.

As requested by the application process, we have supplied completed BAAQMD Forms P101B, A, G, and P (Attachment B). In order to expedite processing of our request, site location shown on a street map (Attachment A), site diagram, process diagram, and manufacturer's equipment specifications (Attachment C) are provided. Additionally, anticipated quantified SVE system emissions are presented below and a preliminary risk analysis is provided in Attachment D.

The SVE system will use a regenerative blower to draw soil vapor from the subsurface. Recovered soil vapors will be processed through two activated carbon units. Maximum rated capacity of the blower is 100 standard cubic feet per minute (scfm). Based on experience with design and operation of similar SVE units, total organic vapor (TOV) concentration in system influent at this site will not exceed an estimated 20 parts per million (ppm). Further, it is estimated that the maximum benzene concentration in system influent will not exceed 1 ppm. Once constructed, the system will undergo an initial test run to determine actual concentrations of TOV and benzene in system influent and effluent. Resultant concentrations, as reported by

Mr. Barry Young

3

November 18, 1991

Preliminary risk analysis was determined as per Chapter 2 of the Air Toxics Assessment Manual (ATAM) provided by the Air Resources Board (ARB). Values for effluent concentrations shown previously were used in the analysis. Worksheet 3 provides the calculated maximum concentrations for TOV and benzene (Attachment D). Values in Worksheet 3 were computed under the flat terrain and building downwash scenarios, respectively described in Sections 2.2.2.1 and 2.2.2.3 of the ATAM. The computer program PTPLU, provided by the ARB, was used to compute the maximum ambient concentrations of TOV and benzene for the flat terrain scenario (Attachment D). Because maximum ambient concentrations derived using the building downwash scenario are higher than those derived with the flat land scenario, calculated excess lifetime cancer risk factors are based on them. Excess lifetime cancer risk factors are presented in Worksheet 5 (Attachment D).

Enclosed with these application materials in an IT Corporation check in the amount of \$395.00. This amount is the sum of the filing fee (\$165.00) and the initial construction authority fee (\$230.00). Our client is eager for construction to begin. Construction involves grading and installation of a cement pad and fence before the actual SVE apparatus is set up. Construction requires a building permit from the City of San Leandro. To obtain the building permit, it is imperative that we provide evidence of a BAAQMD construction authority permit. Bearing this in mind, please provide expedient authorization of the submitted application, or a letter indicating that a preliminary review of the application suggests that a permit will be granted. In the event that the latter condition is acceptable, we recognize that subsequent activities should not progress beyond construction stages until a formal BAAQMD permit is received.

If you have any questions regarding these submitted materials, or other project elements, do not hesitate to call me at (510) 372-9100.

Sincerely

IT CORPORATION

William Schaal

William Schaal

WS:lpj

Attachments

DRAWING NUMBER 198154-A5

TR.S. CHECKED BY 11-13-91 APPROVED BY

DRAWN BY



SITE LOCATION MAP

PREPARED FOR
INGERSOLL RAND CORPORATION
1944 MARINA BLVD.
SAN LEANDRO, CALIFORNIA

REFERENCE:
U.S.G.S 7.5' TOPOGRAPHIC MAP OF SAN LEANDRO, CA.
DATED 1959 PHOTOREVISED 1980; SCALE 1:24000

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146494

Do Not Scale This Drawing

APPLICATION FORM

7/7/42 (REV. 1-28-42)

BUSINESS NAME (Optional) _____

MAILING ADDRESS

1497

2007-7152

HOME ADDRESS

1497

**BAY AREA
AIR QUALITY MANAGEMENT DISTRICT**
939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

**DATA FORM A
ABATEMENT DEVICE**

Abatement Device: Equipment/process whose primary purpose is to reduce the quantity of pollutant(s) emitted to the atmosphere.

1. Business Name: IT Corporation Plant No.: NA
(If unknown, leave blank)
2. Name or Description: Soil Vapor Extraction System
With Carbon Abatement Abatement Device No.: A-2
3. Make, Model and Rated Capacity: West States Vent-Scrub 1200
4. Abatement Device Code (Table on reverse side): 56 Date of Initial Operation: NA
5. With regard to air pollutant flow into this abatement device, what source(s) and/or abatement device(s) are immediately upstream?
- S S S A-1 A A A A
6. Typical Gas Stream Temperature at Inlet: Ambient °F

If this form is being submitted as part of an application for an AUTHORITY TO CONSTRUCT, completion of the following table is mandatory. If not, and the Abatement Device is already in operation, completion of table is requested but not required.

POLLUTANT	WEIGHT PERCENT REDUCTION (at typical operation)	BASIS CODE (Codes on reverse side)
7. Particulate	NA %	
8. Organics	Approximately 85 %	4
9. Nitrogen Oxides (as NO ₂)	NA %	
10. Sulfur Dioxide	NA %	
11. Carbon Monoxide	NA %	
12. Other: _____	%	
13. Other: _____	%	

14. Check box if this Abatement Device burns fuel; complete lines 1, 2 and 15-36 on Form C (using the Abatement Device No. above for the Source No.) and attach to this form.
15. With regard to air pollutant flow from this abatement device, what source(s), abatement device(s) and/or emission point(s) are immediately downstream?
- S A A P-1 P P P P

**BAY AREA
AIR QUALITY MANAGEMENT DISTRICT**
939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

**DATA FORM P
Emission Point**



Form P is for well-defined emission points such as stacks or chimneys only; do not use for windows, room vents, etc.

Business Name: IT Corporation Plant No.: NA

Emission Point No.: P-1

With regard to air pollutant flow into this emission point, what source(s) and/or abatement device(s) are immediately upstream?

S S S A-1 A-2 A A
S -1 S S

Exit Cross-section Area: 0.087 Square feet Height above grade: 10 Feet

Effluent Flow from Stack:

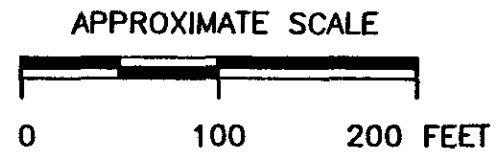
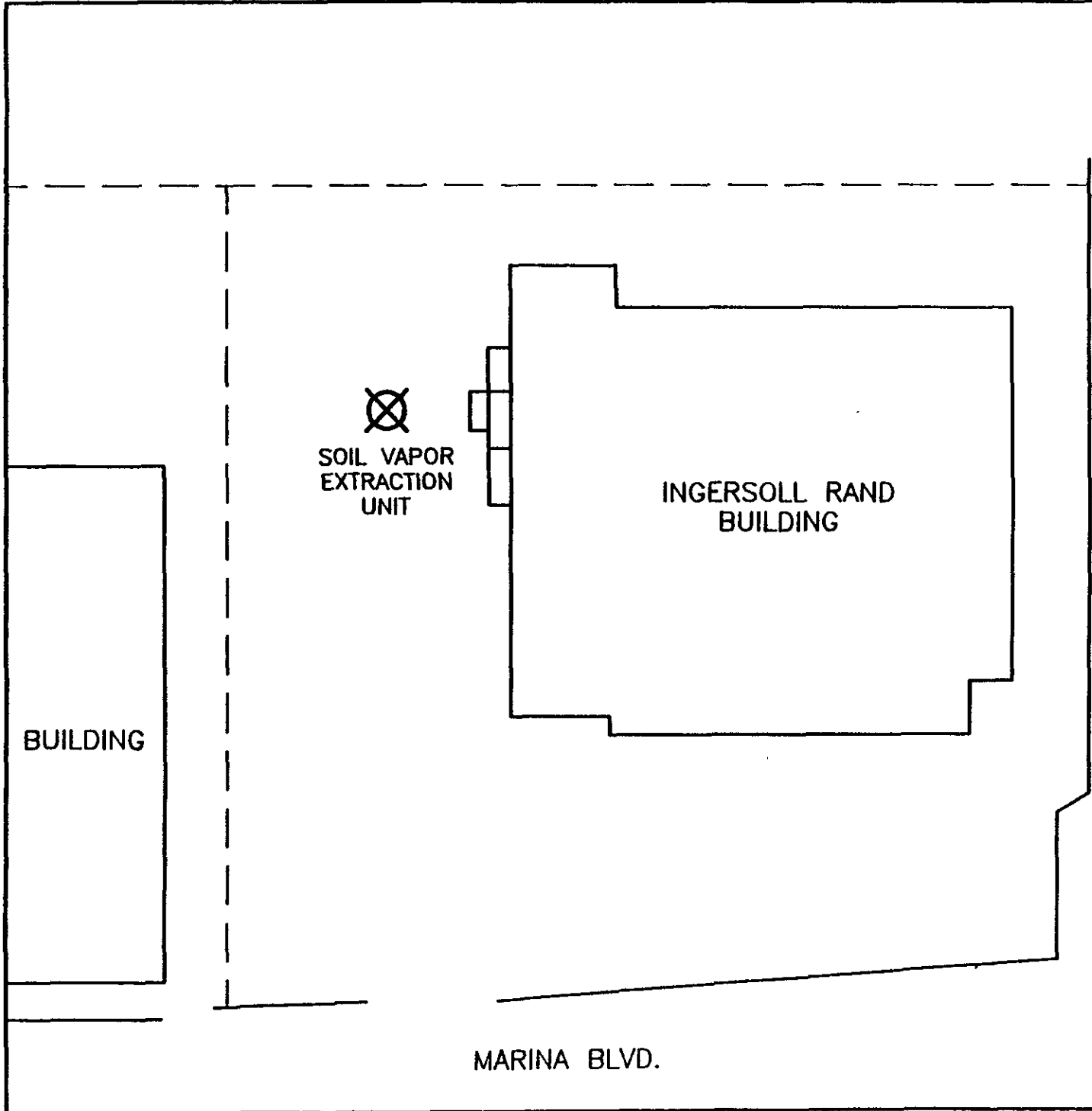
	<u>Typical Operating Condition</u>	<u>Maximum Operating Condition</u>
Actual Wet Gas Flow Rate	100 cfm	100 cfm
Percent Water Vapor	1 Vol %	1 Vol %
Temperature	Ambient °F	Ambient °F

If this stack is equipped to measure (monitor) the emission of any air pollutants,

-is monitoring continuous? NA

-what pollutants are monitored? NA

Person Completing this Form William Schaal Date 11/18/91



SITE VICINITY MAP
 PREPARED FOR
 INGERSOLL RAND
 1944 MARINA BLVD.
 SAN LEANDRO, CALIFORNIA



Regenerative Blower

FEATURES

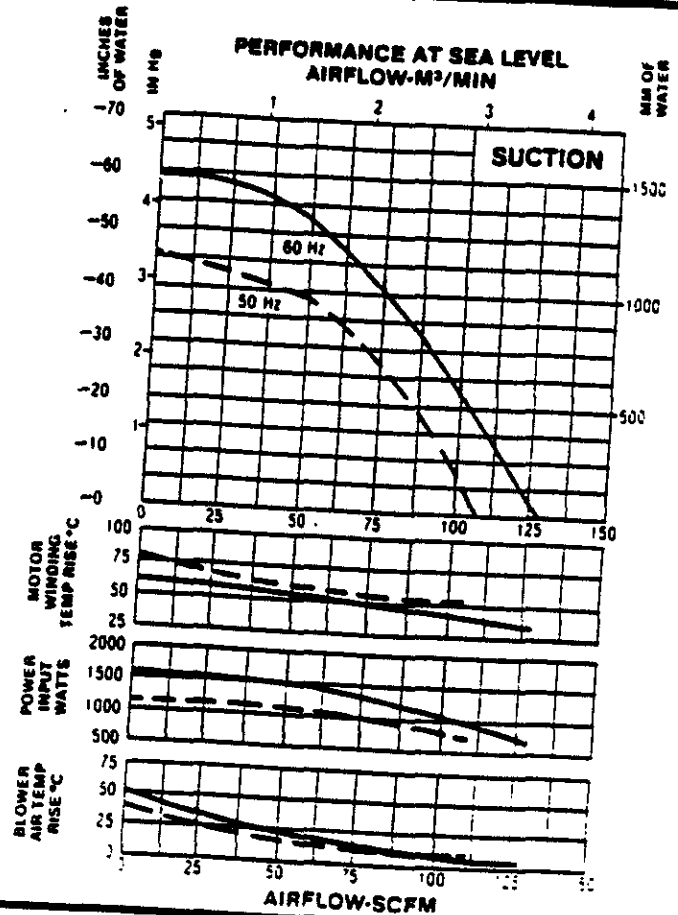
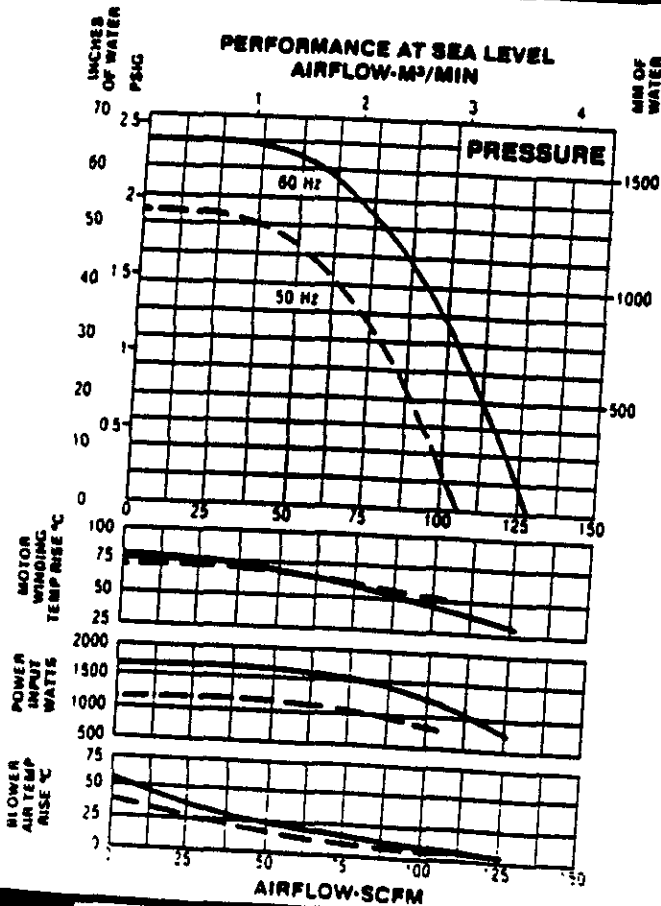
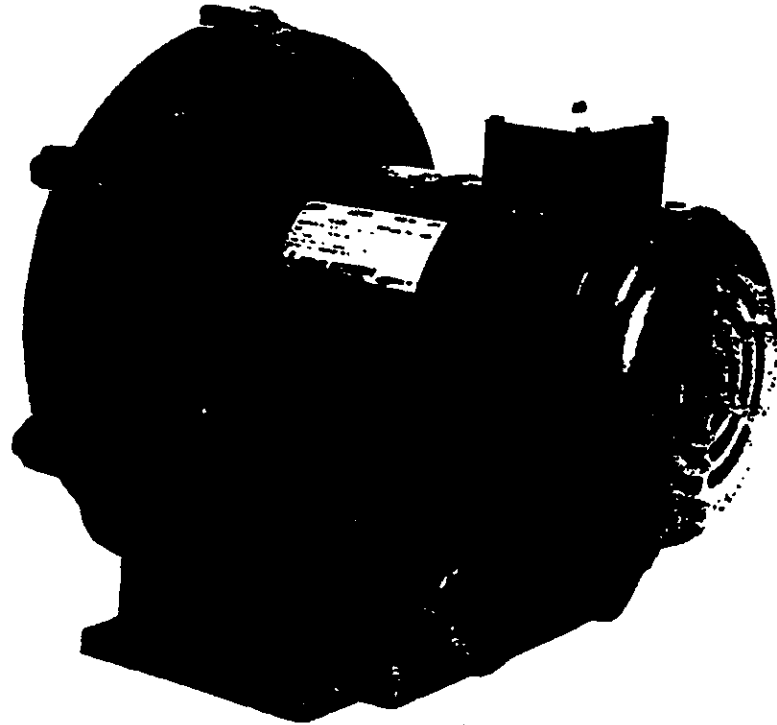
- Manufactured in the USA
- Maximum flow 127 SCFM
- Maximum pressure 65" WG
- Maximum vacuum 4.3" Hg
- 1.5 HP standard
- Blower construction—cast aluminum housing, impeller and cover
- Inlet and outlet internal muffling
- Noise level within OSHA standards
- Weight: 73 lbs. (33 Kg)

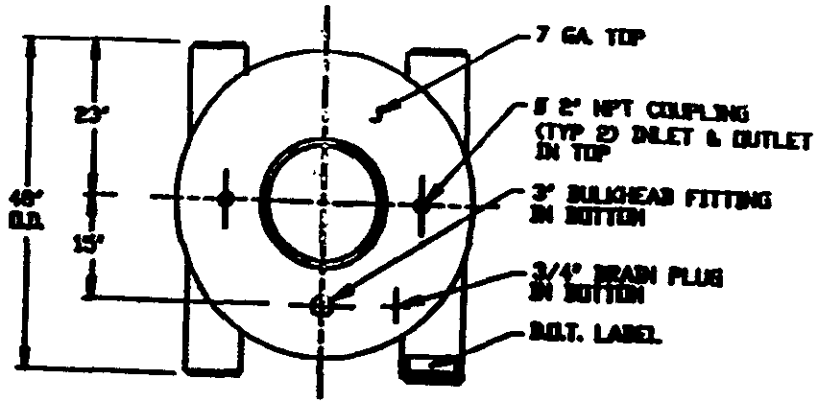
ACCESSORIES

- External mufflers
- Slip-on flanges
- Inlet and/or inline filters
- For details see Accessories Section

OPTIONS

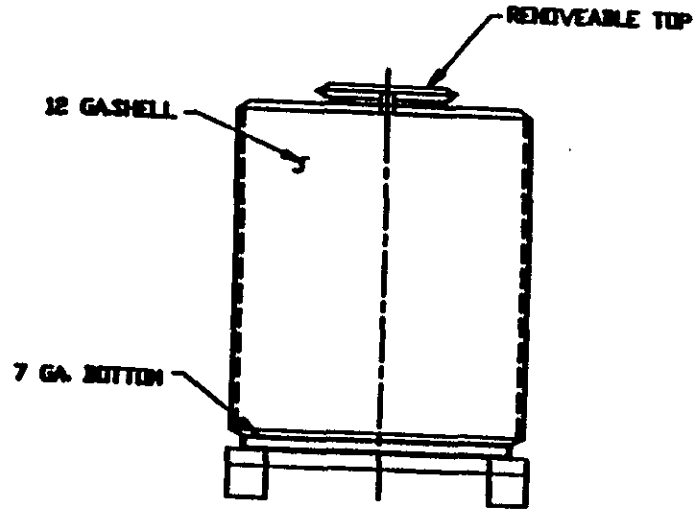
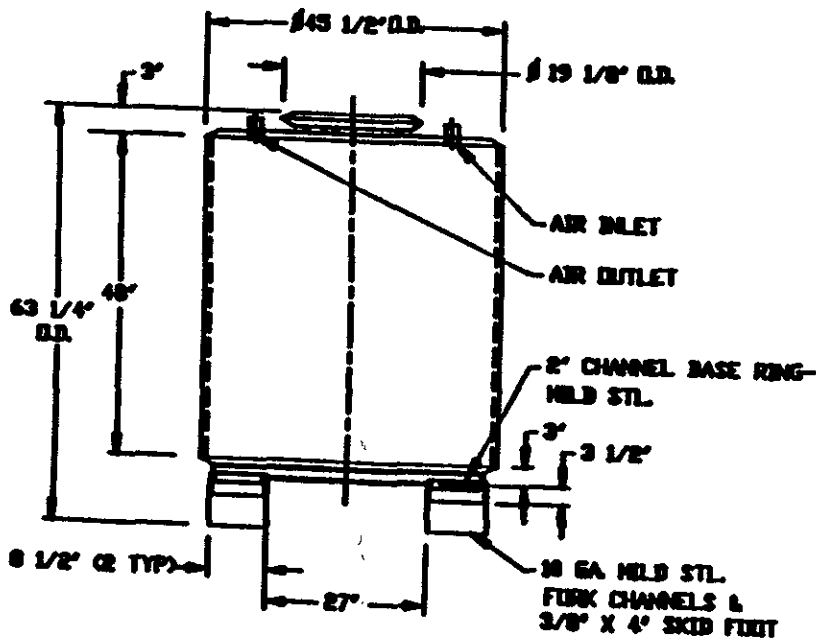
- Smaller horsepower motors
- 575-volt and XP motors
- Surface treatment or plating
- Single or three phase motors
- Gas tight sealing
- Belt drive (motorless) model; for detail see Remote Drive Section





NOTES:

1. ALL WETTED PARTS CARBON ST. A670C BINS COMPLY TO D.O.T. SPFC 68 FEDERAL REGULATIONS FOR THE TRANSPORTATION OF HAZARDOUS MATERIALS.
2. INTERNALS PVC
3. FULLY COATED EPOXY BAKED
4. 304 S.S. OPTIONAL
5. MAXIMUM PRESSURE 12 PSI



2130
 LEO AVENUE,
 LOS ANGELES,
 CALIFORNIA
 90040-1634
 213/722-7500
 TWX 910321-2355

PETER JAMES GUICHARD

(415)
 596
 1761

DESIGN BY SCZ		WESTATES CARBON	
REVISION 10-10-88		2130 S. LEO AVE.	
1-17-88		LOS ANGELES CA. 90040	
		VENT SCRUB 1800	
		2" INLET & OUTLET	
WELD NTS		DATE 8-24-88	REV MV002A

WORKSHEET 3

SUMMARY OF PREDICTED AMBIENT AIR CONCENTRATIONS

Substance	Calculation Technique (F,DW) ^a	Maximum Predicted Concentration (ug/m ³)			
		1-Hour Average	8-Hour Average	24-Hour Average	Annual Average
Total Organic Vapors	F	3.88x10 ⁻¹	2.72x10 ⁻¹	1.55x10 ⁻¹	3.88x10 ⁻²
Benzene	F	1.79x10 ⁻²	1.25x10 ⁻²	7.16x10 ⁻³	1.79x10 ⁻³
Total Organic Vapors	DW	2.04	1.42	8.16x10 ⁻¹	2.04x10 ⁻¹
Benzene	DW	9.4x10 ⁻²	6.58x10 ⁻²	3.76x10 ⁻²	9.4x10 ⁻³

^a F = flat terrain
DW = downwash

C	2.37	3.51061E-01	0.016	4.5
C	3.15	3.12238E-01	0.015	4.2
C	3.94	2.79199E-01	0.014	3.9
C	5.52	9.99900E+15	999999.000(3)	3.7
C	7.89	9.99900E+15	999999.000(3)	3.5
C	9.46	9.99900E+15	999999.000(3)	3.4
C	11.83	9.99900E+15	999999.000(3)	3.3
D	0.37	2.82875E-01	0.061	12.6
D	0.59	3.43992E-01	0.044	9.0
D	0.74	3.64980E-01	0.038	7.8
D	1.11	3.82637E-01	0.031	6.2
D	1.49	3.76633E-01	0.027	5.4
D	1.86	3.61774E-01	0.025	5.0
D	2.23	3.44002E-01	0.023	4.6
D	2.97	3.08362E-01	0.021	4.2
D	3.72	2.76972E-01	0.020	4.0
D	5.20	2.27739E-01	0.019	3.7
D	7.43	1.78403E-01	0.018	3.5
D	8.92	1.55430E-01	0.017	3.4
D	11.15	1.30447E-01	0.017	3.4
D	14.86	1.02531E-01	0.017	3.3
E	1.40	3.07941E-01	0.050	5.6
E	1.75	2.98089E-01	0.045	5.1
E	2.10	2.85139E-01	0.042	4.7
E	2.80	2.57837E-01	0.039	4.3
E	3.50	2.32814E-01	0.036	4.1
F	1.40	3.07941E-01	0.050	5.6
F	1.75	2.98089E-01	0.045	5.1
F	2.10	2.85139E-01	0.042	4.7
F	2.80	2.57837E-01	0.039	4.3
F	3.50	2.32814E-01	0.036	4.1

Cautionary Notes

(3) No computation was attempted for this height as the point of maximum concentration is greater than 100 km or less than 1 meter from the source

C	2.37	1.61534E-02	0.016	4.5
C	3.15	1.43670E-02	0.015	4.2
C	3.94	1.28468E-02	0.014	3.9
C	5.52	9.99900E+15	999999.000 (3)	3.7
C	7.89	9.99900E+15	999999.000 (3)	3.5
C	9.46	9.99900E+15	999999.000 (3)	3.4
C	11.83	9.99900E+15	999999.000 (3)	3.3
D	0.37	1.30160E-02	0.061	12.6
D	0.59	1.58281E-02	0.044	9.0
D	0.74	1.67939E-02	0.038	7.8
D	1.11	1.76063E-02	0.031	6.2
D	1.49	1.73301E-02	0.027	5.4
D	1.86	1.66464E-02	0.025	5.0
D	2.23	1.58286E-02	0.023	4.6
D	2.97	1.41887E-02	0.021	4.2
D	3.72	1.27443E-02	0.020	4.0
D	5.20	1.04790E-02	0.019	3.7
D	7.43	8.20885E-03	0.018	3.5
D	8.92	7.15179E-03	0.017	3.4
D	11.15	6.00225E-03	0.017	3.4
D	14.86	4.71777E-03	0.017	3.3
E	1.40	1.41693E-02	0.050	5.6
E	1.75	1.37160E-02	0.045	5.1
E	2.10	1.31201E-02	0.042	4.7
E	2.80	1.18639E-02	0.039	4.3
E	3.50	1.07125E-02	0.036	4.1
F	1.40	1.41693E-02	0.050	5.6
F	1.75	1.37160E-02	0.045	5.1
F	2.10	1.31201E-02	0.042	4.7
F	2.80	1.18639E-02	0.039	4.3
F	3.50	1.07125E-02	0.036	4.1

Cautionary Notes

(3) No computation was attempted for this height as the point of maximum concentration is greater than 100 km or less than 1 meter from the source

IT CORPORATION
4585 PACHECO BLVD.
MARTINEZ, CA 94553

1053

11-35/1210

November 19 19 91

PAY TO THE ORDER OF Bay Area Air Quality Management District

\$ 395.00****

Three hundred-Ninty-five dollars and no/100*****

DOLLARS

Bank of America MEMBER FDIC
Customer Service Americas 1233
1850 Gateway Boulevard
Concord, CA 94520

FOR PERMIT FEE/198154-01

Leri M. Rubin

⑈001053⑈ ⑆121000358⑆ 12336⑈10769⑈