

Rule 1200 Health Risk Assessment

Facility Name: Solana Beach Fire Station (City of Solana Beach)
Facility ID: APCD2014-SITE-01786
Application: APCD2025-APP-008878
Project Engineer: Priscilla Castanon
Modeler: Bill Reeve
Toxics Risk Analyst: Ben Wong
Date Submitted to Toxics: 11/25/2025
Date Completed by Toxics: 11/26/2025
HRA Tools Used: Lakes-AERMOD (Version 24142) / HARP (v 22118)

The following estimated risks are valid only for the input data provided by the Project Engineer.

Estimated residential risk does not exceed the worker risk. Therefore, only worker risk is presented in the following results.

Estimated Risk Levels:

Maximum Individual Cancer Risk (Worker)	0.395 in one million
Chronic Noncancer Health Hazard Index (Worker)	= 3.04E-04
8-Hour Noncancer Health Hazard Index (Worker)	= No Health Data
Acute Health Hazard Index (*PMI)	= 1.90E-01

*Point of Maximum Impact

The proposed application is for a stationary diesel emergency engine powering an emergency generator 50 hours per year for testing and maintenance purposes. The CARB Air Toxics Control Measure (ATCM) limits non-emergency operations to 50 hours per year.

The estimated cancer risk for the application is less than the Rule 1200 limit of 1 in one million (not equipped with T-BACT) at 50 operating hours per year.

Rule 1200 Health Risk Assessment Report

Solana Beach Fire Station, APCD2014-SITE-01786

Application Number APCD2025-APP-008878

page 2 of 3

11/26/2025

Input Data Provided by Project Engineer:

Type of Source: Stationary Diesel IC Engine.

Controls Description: None (Tier 3)

Worst-Case TAC Emissions Increase:

Toxic Air Contaminant	Hourly Emission Rate (lb/hr)	Annual Emission Rate (lb/yr)
DIESEL PARTICULATE*	N/A	2.32E-01
ACETALDEHYDE	3.76E-03	1.88E-01
ACROLEIN**	1.63E-04	8.14E-03
ARSENIC COMPOUNDS	7.68E-06	3.84E-04
BENZENE	8.94E-04	4.47E-02
BUTADIENE, 1,3-	1.04E-03	5.21E-02
CADMIUM AND COMPOUNDS	7.20E-06	3.60E-04
CHLOROBENZENE	9.60E-07	4.80E-05
CHROMIUM (HEXAVALENT)	4.80E-07	2.40E-05
COPPER AND COMPOUNDS	1.97E-05	9.84E-04
ETHYL BENZENE	5.23E-05	2.62E-03
FORMALDEHYDE	8.29E-03	4.14E-01
HEXANE-N	1.29E-04	6.46E-03
HYDROCHLORIC ACID	8.94E-04	4.47E-02
LEAD & COMPOUNDS	3.98E-05	1.99E-03
MANGANESE AND COMPOUNDS	1.49E-05	7.44E-04
MERCURY AND COMPOUNDS	9.60E-06	4.80E-04
NAPHTHALENE	9.46E-05	4.73E-03
NICKEL AND NICKEL COMPOUNDS	1.87E-05	9.36E-04
POLYCYCLIC AROM. HC (PAH) [Treat as B(a)P for HRA]	1.74E-04	8.69E-03
PROPYLENE	2.24E-03	1.12E-01
SELENIUM AND COMPOUNDS	1.06E-05	5.28E-04
TOLUENE	5.06E-04	2.53E-02
AMMONIA (only if SCR)	N/A	N/A
XYLENES	2.04E-04	1.02E-02

Source: Acute TACs – Ventura County, 5/17/01.

*Diesel particulate exhaust is a surrogate for all toxic air contaminant annual emissions from diesel-fueled engines when determining the potential cancer risk and noncancer chronic hazard index. Speciated toxic air contaminant hourly emissions are used when determining the potential noncancer acute hazard index.

** Acrolein generated from combustion was not used to evaluate risk due to issues with its source testing methods accuracy

(See <https://ww2.arb.ca.gov/acrolein-test-method-advisory-and-data> for more information)

Rule 1200 Health Risk Assessment Report

Solana Beach Fire Station, APCD2014-SITE-01786

Application Number APCD2025-APP-008878

page 3 of 3

11/26/2025

Process Data:

Operation Parameter	Value
Diesel particulate emission factor (g/hp-hr)	0.02238
Engine horsepower (bhp)	94
Fuel Consumption (gal/hr)	4.80
Annual hours of operation	50

Release Parameters:

Stack Height (ft)	4.8
Stack Diameter (ft)	0.25
Temperature deg F	880
Exhaust Flow Rate (acfm)	406
Stack Orientation	Vertical (flapper)

Discussion

The HRA was conducted in accordance with EPA and OEHHA guidance and District standard procedures. A point source was modeled with refined air dispersion modeling using EPA's AERMOD model, AERMET (Version 24142) processed Palomar 2019/2021 ustar updated meteorology data, AERMAP terrain processing, and urban dispersion coefficients. Building downwash effects were calculated using the EPA BPIP-Prime model. The receptor grid was sufficiently dense to identify maximum impacts.

An occupational Ground Level Concentration (GLC) adjustment factor was applied to calculate worker cancer risk assuming source emissions are released 8 hours per day and 5 days a week.

These risk results are based on the risk scenario calculations and health data at the time of the review, and should not be scaled with revised emissions rates without consulting with the Toxics Section.

HARP2 - HRACalc (dated 22118) 11/26/2025 9:07:10 AM - Output Log

GLCs loaded successfully

Pollutants loaded successfully

RISK SCENARIO SETTINGS

Receptor Type: Worker

Scenario: All

Calculation Method: Derived

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 16

Total Exposure Duration: 25

Exposure Duration Bin Distribution

3rd Trimester Bin: 0

0<2 Years Bin: 0

2<9 Years Bin: 0

2<16 Years Bin: 0

16<30 Years Bin: 0

16 to 70 Years Bin: 25

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True

Soil: True

Dermal: True

Mother's milk: False

Water: False

Fish: False

Homegrown crops: False

Beef: False

Dairy: False

Pig: False

Chicken: False

Egg: False

INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors

NOTE: The worker adjustment factors below are only used for cancer assessments. However, the GLC adjustment factor is also applied to 8-hr noncancer chronic assessments.

Worker adjustments factors enabled: YES

GLC adjustment factor: 4.2

Exposure frequency: 250

Fraction at time at home

3rd Trimester to 16 years: OFF

16 years to 70 years: OFF

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02

Soil mixing depth (m): 0.01

Dermal climate: Warm

TIER 2 SETTINGS

Tier2 not used.

Calculating cancer risk

Cancer risk saved to: C:\Users\bwong\Desktop\8878_Solana Beach Fire Station\Initial Risk\WAF4.2_CancerRisk.csv

Calculating chronic risk

Chronic risk saved to: C:\Users\bwong\Desktop\8878_Solana Beach Fire Station\Initial Risk\WAF4.2_NCChronicRisk.csv

Calculating acute risk

Acute risk saved to: C:\Users\bwong\Desktop\8878_Solana Beach Fire Station\Initial Risk\WAF4.2_NCAcuteRisk.csv

HRA ran successfully

*HARP - HRACalc v22118 11/26/2025 9:07:10 AM - **Cancer Risk** - Input File: C:\Users\bwong\Desktop\8878_Solana Beach Fire Station\Initial Risk\WAF4.2_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO
1	Engine		9901	DieselExhPM	0.00152	3.95E-07	25YrCancerDerived_InhSoilDerm
2	Engine		75070	Acetaldehyde	0	0.00E+00	25YrCancerDerived_InhSoilDerm
3	Engine		7440382	Arsenic	0	0.00E+00	25YrCancerDerived_InhSoilDerm
4	Engine		71432	Benzene	0	0.00E+00	25YrCancerDerived_InhSoilDerm
5	Engine		106990	1,3-Butadiene	0	0.00E+00	25YrCancerDerived_InhSoilDerm
6	Engine		7440439	Cadmium	0	0.00E+00	25YrCancerDerived_InhSoilDerm
7	Engine		108907	Chlorobenzn	0	0.00E+00	25YrCancerDerived_InhSoilDerm
8	Engine		18540299	Cr(VI)	0	0.00E+00	25YrCancerDerived_InhSoilDerm
9	Engine		7440508	Copper	0	0.00E+00	25YrCancerDerived_InhSoilDerm
10	Engine		100414	Ethyl Benzene	0	0.00E+00	25YrCancerDerived_InhSoilDerm
11	Engine		50000	Formaldehyde	0	0.00E+00	25YrCancerDerived_InhSoilDerm
12	Engine		110543	Hexane	0	0.00E+00	25YrCancerDerived_InhSoilDerm
13	Engine		7647010	HCl	0	0.00E+00	25YrCancerDerived_InhSoilDerm
14	Engine		7439921	Lead	0	0.00E+00	25YrCancerDerived_InhSoilDerm
15	Engine		7439965	Manganese	0	0.00E+00	25YrCancerDerived_InhSoilDerm
16	Engine		7439976	Mercury	0	0.00E+00	25YrCancerDerived_InhSoilDerm
17	Engine		91203	Naphthalene	0	0.00E+00	25YrCancerDerived_InhSoilDerm
18	Engine		7440020	Nickel	0	0.00E+00	25YrCancerDerived_InhSoilDerm
19	Engine		1151	PAHs-w/o	0	0.00E+00	25YrCancerDerived_InhSoilDerm
20	Engine		115071	Propylene	0	0.00E+00	25YrCancerDerived_InhSoilDerm
21	Engine		7782492	Selenium	0	0.00E+00	25YrCancerDerived_InhSoilDerm
22	Engine		108883	Toluene	0	0.00E+00	25YrCancerDerived_InhSoilDerm
23	Engine		7664417	NH3	0	0.00E+00	25YrCancerDerived_InhSoilDerm
24	Engine		1330207	Xylenes	0	0.00E+00	25YrCancerDerived_InhSoilDerm
						<u>3.95E-07</u>	

*HARP - HRACalc v22118 11/26/2025 9:07:10 AM - **Chronic Risk** - Input File: C:\Users\bwong\Desktop\8878_Solana Beach Fire Station\Initial Risk\WAF4.2_HRAInput.hra

[illegible]

*HARP - HRACalc v22118 11/26/2025 9:07:10 AM - **Acute Risk** - Input File: C:\Users\bwong\Desktop\8878_Solana Beach Fire Station\Initial Risk\WAF4.2_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	EYE
1	Engine		9901	DieselExhPM		0 NonCancerAcute	0.00E+00
2	Engine		75070	Acetaldehyde	4.48	NonCancerAcute	9.53E-03
3	Engine		7440382	Arsenic	0.00915	NonCancerAcute	0.00E+00
4	Engine		71432	Benzene	1.07	NonCancerAcute	0.00E+00
5	Engine		106990	1,3-Butadiene	1.24	NonCancerAcute	0.00E+00
6	Engine		7440439	Cadmium	0.00858	NonCancerAcute	0.00E+00
7	Engine		108907	Chlorobenzn	0.00114	NonCancerAcute	0.00E+00
8	Engine		18540299	Cr(VI)	0.000572	NonCancerAcute	0.00E+00
9	Engine		7440508	Copper	0.0234	NonCancerAcute	0.00E+00
10	Engine		100414	Ethyl Benzene	0.0623	NonCancerAcute	0.00E+00
11	Engine		50000	Formaldehyde	9.87	NonCancerAcute	1.79E-01
12	Engine		110543	Hexane	0.154	NonCancerAcute	0.00E+00
13	Engine		7647010	HCl	1.07	NonCancerAcute	5.10E-04
14	Engine		7439921	Lead	0.0475	NonCancerAcute	0.00E+00
15	Engine		7439965	Manganese	0.0177	NonCancerAcute	0.00E+00
16	Engine		7439976	Mercury	0.0114	NonCancerAcute	0.00E+00
17	Engine		91203	Naphthalene	0.113	NonCancerAcute	0.00E+00
18	Engine		7440020	Nickel	0.0223	NonCancerAcute	0.00E+00
19	Engine		1151	PAHs-w/o	0.207	NonCancerAcute	0.00E+00
20	Engine		115071	Propylene	2.67	NonCancerAcute	0.00E+00
21	Engine		7782492	Selenium	0.0126	NonCancerAcute	0.00E+00
22	Engine		108883	Toluene	0.603	NonCancerAcute	1.21E-04
23	Engine		7664417	NH3		0 NonCancerAcute	0.00E+00
24	Engine		1330207	Xylenes	0.242	NonCancerAcute	1.10E-05
							1.90E-01

FACILITY NAME: Solana Beach Fire Station (City of Solana Beach)							
Fuel Consumption (gal/hr): 4.80 Diesel Particulate Emission Factor (g/hp-hr): 0.02238 Brake Horsepower (hp): 94 Annual Hours of Operation (hrs): 50	RISK ANALYST ONLY						
DISPERSION MODELING DATA							
Annual Receptor Type: Worker ▼							
ANNUAL DISPERSION FACTOR (µg/m³)/(g/s): 456.1							
Distance (m): ▼							
Hourly Receptor Type: PMI ▼							
HOURLY DISPERSION FACTOR (µg/m³)/(g/s): 9455.9							
Distance (m): ▼							
FACILITY ID: APCD2014-SITE-01786 APPLICATION NO.: APCD2025-APP-008878 ENGINEER: Priscilla Castanon							

CHEMICAL NAME	Emission Factor lb/1000 gal	Acute Emission Rate lb/hr	Annual Emission Rate lb/yr	Acute Emissions Rate g/s	Annual Emission Rate g/s	Hourly GLC µg/m³	Annual GLC µg/m³
DIESEL PARTICULATE			2.32E-01		3.33E-06		1.52E-03
ACETALDEHYDE	7.83E-01	3.76E-03	1.88E-01	4.74E-04		4.48E+00	
ACROLEIN*	3.39E-02	1.63E-04	8.14E-03	2.05E-05			
ARSENIC COMPOUNDS	1.60E-03	7.68E-06	3.84E-04	9.68E-07		9.15E-03	
BENZENE	1.86E-01	8.94E-04	4.47E-02	1.13E-04		1.07E+00	
BUTADIENE, 1,3-	2.17E-01	1.04E-03	5.21E-02	1.31E-04		1.2410074	
CADMIUM AND COMPOUNDS	1.50E-03	7.20E-06	3.60E-04	9.07E-07		8.58E-03	
CHLOROBENZENE	2.00E-04	9.60E-07	4.80E-05	1.21E-07		1.14E-03	
CHROMIUM (HEXAVALENT)	1.00E-04	4.80E-07	2.40E-05	6.05E-08		5.72E-04	
COPPER AND COMPOUNDS	4.10E-03	1.97E-05	9.84E-04	2.48E-06		2.34E-02	
ETHYL BENZENE	1.09E-02	5.23E-05	2.62E-03	6.59E-06		6.23E-02	
FORMALDEHYDE	1.73E+00	8.29E-03	4.14E-01	1.04E-03		9.87E+00	
HEXANE-N	2.69E-02	1.29E-04	6.46E-03	1.63E-05		1.54E-01	
HYDROCHLORIC ACID	1.86E-01	8.94E-04	4.47E-02	1.13E-04		1.07E+00	
LEAD & COMPOUNDS	8.30E-03	3.98E-05	1.99E-03	5.02E-06		4.75E-02	
MANGANESE AND COMPOUNDS	3.10E-03	1.49E-05	7.44E-04	1.87E-06		1.77E-02	
MERCURY AND COMPOUNDS (INORGANIC)	2.00E-03	9.60E-06	4.80E-04	1.21E-06		1.14E-02	
NAPHTHALENE	1.97E-02	9.46E-05	4.73E-03	1.19E-05		1.13E-01	
NICKEL AND NICKEL COMPOUNDS	3.90E-03	1.87E-05	9.36E-04	2.36E-06		2.23E-02	
POLYCYCLIC AROM. HC (PAH) [Treat as B(a)P for H	3.62E-02	1.74E-04	8.69E-03	2.19E-05		2.07E-01	
PROPYLENE	4.67E-01	2.24E-03	1.12E-01	2.82E-04		2.67E+00	
SELENIUM AND COMPOUNDS	2.20E-03	1.06E-05	5.28E-04	1.33E-06		1.26E-02	
TOLUENE	1.05E-01	5.06E-04	2.53E-02	6.37E-05		6.03E-01	
AMMONIA (only if SCR)							
XYLENES	4.24E-02	2.04E-04	1.02E-02	2.56E-05		2.42E-01	

PROJECT TITLE:
D:\Modeling Projects\8878_SB_Fire\8878_SB_Fire.isc

COMMENTS:

SOURCES:

1

RECEPTORS:

40420

OUTPUT TYPE:

Concentration

MAX:

746 ug/m^3

COMPANY NAME:

MODELER:

DATE:

11/26/2025

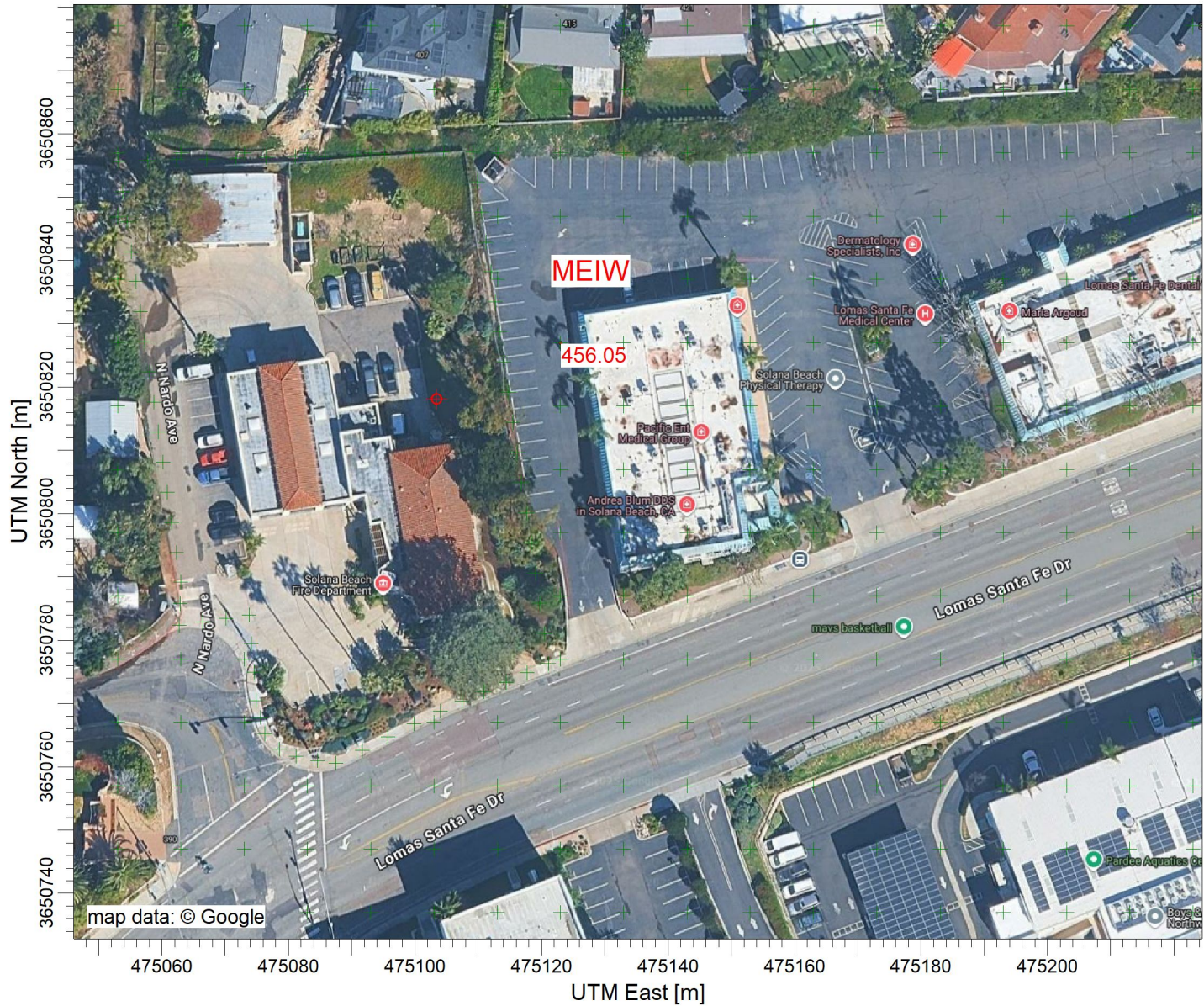
SCALE:

1:1,005

0

0.03 km

PROJECT NO.:



PROJECT TITLE:
D:\Modeling Projects\8878_SB_Fire\8878_SB_Fire.isc

COMMENTS:

SOURCES:

1

RECEPTORS:

40420

OUTPUT TYPE:

Concentration

MAX:

9456 ug/m^3

COMPANY NAME:

MODELER:

DATE:

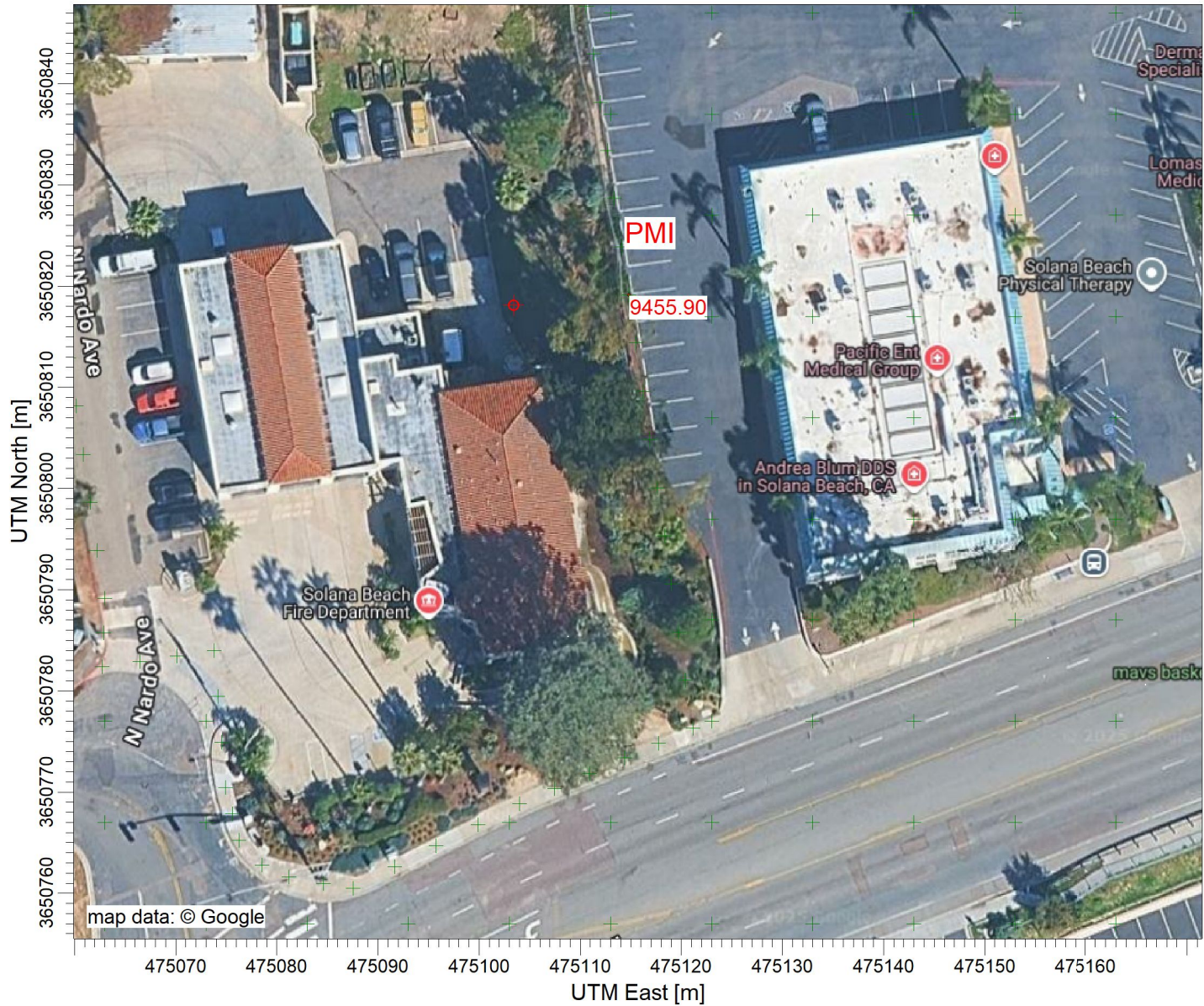
11/26/2025

SCALE:

1:629

0 0.01 km

PROJECT NO.:



*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
-----------	--------------------	---------------------------	------------	------------	---------------------	-----------------------	---------------------	-------------------------	-------------------------	-------------	--------------	----------	--------------------------

STCK1 0 0.10000E+01 475103.4 3650818.1 52.9 1.46 744.26 42.02 0.08 YES YES NO

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** MODEL SETUP OPTIONS SUMMARY ***

** Model Options Selected:

- * Model Uses Regulatory DEFAULT Options
 - * Model Is Setup For Calculation of Average CONCentration Values.
 - * NO GAS DEPOSITION Data Provided.
 - * NO PARTICLE DEPOSITION Data Provided.
 - * Model Uses NO DRY DEPLETION. DDPLETE = F
 - * Model Uses NO WET DEPLETION. WETDPLT = F
 - * Stack-tip Downwash.
 - * Model Accounts for ELEVated Terrain Effects.
 - * Use Calms Processing Routine.
 - * Use Missing Data Processing Routine.
 - * No Exponential Decay.
 - * Model Uses URBAN Dispersion Algorithm for the SBL for 1 Source(s),
for Total of 1 Urban Area(s):
- Urban Population = 78238.0 ; Urban Roughness Length = 1.000 m
- * Urban Roughness Length of 1.0 Meter Used.
 - * ADJ_U* - Use ADJ_U* option for SBL in AERMET
 - * CCVR_Sub - Meteorological data includes CCVR substitutions

- * TEMP_Sub - Meteorological data includes TEMP substitutions
- * Model Assumes No FLAGPOLE Receptor Heights.
- * The User Specified a Pollutant Type of: OTHER

**Model Calculates 1 Short Term Average(s) of: 1-HR
and Calculates PERIOD Averages

**This Run Includes: 1 Source(s); 1 Source Group(s); and 40420 Receptor(s)

with: 1 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 0 VOLUME source(s)
and: 0 AREA type source(s)
and: 0 LINE source(s)
and: 0 RLINE/RLINEXT source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with a total of 0 line(s)
and: 0 SWPOINT source(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 24142

**Output Options Selected:

Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 100.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 8.1 MB of RAM.

```
**Detailed Error/Message File: 8878_SB_Fire.err
**File for Summary of Results: 8878_SB_Fire.sum
```

*** 11/25/25
*** 16:12:21
PAGE 2

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

1.54, 3.09, 5.14, 8.23, 10.80,

*** 11/25/25
*** 16:12:21
PAGE 3

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\breeve\OneDrive - County of San Diego\Meteorology Documents\AERMET File Met Version: 24142

Profile file: C:\Users\breeve\OneDrive - County of San Diego\Meteorology Documents\AERMET File

Surface format: FREE

Profile format: FREE

Surface station no.: 3177

Name: UNKNOWN

Year: 2019

Upper air station no.: 3190

Name: UNKNOWN

Year: 2019

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS	WD	HT	REF	TA	HT
19	01	01	1	01	-7.7	0.111	-9.000	-9.000	-999.	89.	16.0	0.05	0.59	1.00	1.57	25.	7.9	280.3	2.0			
19	01	01	1	02	-9.9	0.126	-9.000	-9.000	-999.	108.	18.1	0.04	0.59	1.00	1.79	35.	7.9	279.8	2.0			
19	01	01	1	03	-17.8	0.177	-9.000	-9.000	-999.	178.	34.4	0.04	0.59	1.00	2.45	31.	7.9	279.2	2.0			
19	01	01	1	04	-9.7	0.125	-9.000	-9.000	-999.	106.	17.8	0.04	0.59	1.00	1.77	41.	7.9	278.1	2.0			
19	01	01	1	05	-15.0	0.156	-9.000	-9.000	-999.	148.	26.8	0.04	0.59	1.00	2.18	30.	7.9	279.2	2.0			
19	01	01	1	06	-14.3	0.153	-9.000	-9.000	-999.	143.	25.7	0.05	0.59	1.00	2.10	24.	7.9	278.8	2.0			
19	01	01	1	07	-15.7	0.161	-9.000	-9.000	-999.	154.	28.4	0.05	0.59	1.00	2.20	6.	7.9	279.8	2.0			
19	01	01	1	08	-17.4	0.253	-9.000	-9.000	-999.	305.	83.4	0.04	0.59	0.50	3.42	40.	7.9	280.9	2.0			
19	01	01	1	09	23.3	0.220	0.443	0.005	134.	247.	-40.9	0.04	0.59	0.29	2.61	41.	7.9	283.1	2.0			
19	01	01	1	10	59.8	0.240	0.721	0.005	225.	283.	-20.9	0.05	0.59	0.22	2.67	7.	7.9	284.8	2.0			
19	01	01	1	11	84.9	0.240	1.082	0.005	536.	281.	-14.5	0.05	0.59	0.20	2.57	17.	7.9	286.4	2.0			
19	01	01	1	12	96.9	0.246	1.299	0.005	814.	292.	-13.7	0.05	0.59	0.19	2.62	2.	7.9	287.0	2.0			
19	01	01	1	13	95.3	0.301	1.341	0.005	908.	396.	-25.6	0.05	0.59	0.19	3.35	353.	7.9	287.5	2.0			
19	01	01	1	14	80.5	0.261	1.301	0.005	982.	320.	-19.8	0.05	0.59	0.20	2.88	7.	7.9	288.8	2.0			
19	01	01	1	15	52.7	0.247	1.146	0.005	1027.	294.	-25.5	0.03	0.59	0.23	3.07	64.	7.9	288.8	2.0			
19	01	01	1	16	13.9	0.315	0.738	0.005	1035.	424.	-201.4	0.03	0.59	0.32	4.29	87.	7.9	287.0	2.0			
19	01	01	1	17	-26.3	0.294	-9.000	-9.000	-999.	384.	95.4	0.05	0.59	0.60	3.93	114.	7.9	285.3	2.0			
19	01	01	1	18	-7.3	0.108	-9.000	-9.000	-999.	125.	15.5	0.05	0.59	1.00	1.53	116.	7.9	283.8	2.0			
19	01	01	1	19	-7.7	0.111	-9.000	-9.000	-999.	89.	15.9	0.05	0.59	1.00	1.57	98.	7.9	282.0	2.0			
19	01	01	1	20	-3.9	0.078	-9.000	-9.000	-999.	53.	11.2	0.05	0.59	1.00	1.11	98.	7.9	279.8	2.0			
19	01	01	1	21	-6.4	0.101	-9.000	-9.000	-999.	77.	14.3	0.05	0.59	1.00	1.43	25.	7.9	279.8	2.0			
19	01	01	1	22	-8.3	0.115	-9.000	-9.000	-999.	93.	16.3	0.04	0.59	1.00	1.64	39.	7.9	279.2	2.0			
19	01	01	1	23	-17.8	0.176	-9.000	-9.000	-999.	177.	34.1	0.04	0.59	1.00	2.44	49.	7.9	279.2	2.0			
19	01	01	1	24	-26.3	0.262	-9.000	-9.000	-999.	321.	75.4	0.03	0.59	1.00	3.83	69.	7.9	280.3	2.0			

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
19	01	01	01	7.9	1	25.	1.57	280.4	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

*** AERMOD - VERSION 24142 *** D:\Modeling Projects\8878_SB_Fire\8878_SB_Fire.isc
*** AERMET - VERSION 24142 ***

*** 11/25/25
*** 16:12:21
PAGE 4

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (26304 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)						OF TYPE	NETWORK GRID-ID	

ALL	1ST HIGHEST VALUE IS	746.25391	AT (	475114.10,	3650823.89,	56.24,	87.12,	0.00)	DC			
	2ND HIGHEST VALUE IS	677.93680	AT (	475114.80,	3650819.13,	56.05,	87.12,	0.00)	DC			
	3RD HIGHEST VALUE IS	456.04796	AT (	475123.00,	3650827.00,	58.07,	86.97,	0.00)	DC			
	4TH HIGHEST VALUE IS	381.01162	AT (	475123.00,	3650817.00,	57.19,	86.97,	0.00)	DC			
	5TH HIGHEST VALUE IS	353.24056	AT (	475115.51,	3650814.37,	55.90,	87.12,	0.00)	DC			
	6TH HIGHEST VALUE IS	326.97840	AT (	475113.40,	3650828.65,	56.52,	87.12,	0.00)	DC			
	7TH HIGHEST VALUE IS	300.22038	AT (	475133.00,	3650827.00,	57.75,	87.12,	0.00)	DC			
	8TH HIGHEST VALUE IS	225.14816	AT (	475133.00,	3650837.00,	58.32,	87.12,	0.00)	DC			
	9TH HIGHEST VALUE IS	215.49080	AT (	475143.00,	3650827.00,	57.19,	87.31,	0.00)	DC			
	10TH HIGHEST VALUE IS	212.99208	AT (	475133.00,	3650817.00,	56.40,	87.12,	0.00)	DC			

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** AERMOD - VERSION 24142 *** D:\Modeling Projects\8878_SB_Fire\8878_SB_Fire.isc
*** AERMET - VERSION 24142 ***

*** 11/25/25
*** 16:12:21
PAGE 5

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3
 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID

ALL HIGH 1ST HIGH VALUE IS 9455.90434 ON 21101119: AT (475114.80, 3650819.13, 56.05, 87.12, 0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR

*** AERMOD - VERSION 24142 *** *** AERMET - VERSION 24142 ***	*** D:\Modeling Projects\8878_SB_Fire\8878_SB_Fire.isc ***	*** ***	11/25/25 16:12:21 PAGE 6
--	---	------------	--------------------------------

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** Message Summary : AERMOD Model Execution ***

----- Summary of Total Messages -----

A Total of	0 Fatal Error Message(s)
A Total of	2 Warning Message(s)
A Total of	1272 Informational Message(s)
A Total of	26304 Hours Were Processed
A Total of	701 Calm Hours Identified
A Total of	571 Missing Hours Identified (2.17 Percent)

***** FATAL ERROR MESSAGES *****
 *** NONE ***

***** WARNING MESSAGES *****

ME W186	100	MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used	0.50
ME W187	100	MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET	

Facility Name: Solana Beach Fire Station (City of Solana Beach)
 Application Number: APCD2025-APP-008878
 Site ID Number: APCD2014-SITE-01786
 Equipment Address: 500 Lomas Santa Fe dr
 Solana Beach, CA 92075
 Contact Name: Carlos Cortez
 Contact Title: Project Manager
 Contact Affiliation: Solana Beach Fire Station (City of Solana Beach)
 Contact Number: 213- 925-9331
 Contact E-Mail: c.cortez@ppetinc.com
 Project Engineer: Priscilla Castanon

Make: Kohler Diesel
 Model: KDI 3404TCR
 S/N: TBD
 Fuel Type: diesel
 BHP Rating: 94
 Model Year: 2025
 Tier Level: 3
 Engine Family Number: SKHXL03.4TCG
 Device Driven: 60 kW generator
 Equipped with DOC

NOx, g/BHP-hr:	1.87	2.5	g/kW-hr
CO, g/BHP-hr:	0.01	0.02	g/kW-hr
NMHC, g/BHP-hr:	0.01	0.01	g/kW-hr
PM10, g/BHP-hr:	0.02	0.03	g/kW-hr
NH3 Slip from SCR (yes/no)	no	0	ppm (default 10 ppm i

Fuel Usage, gal/hr: 4.8
 Operating Schedule, hrs/day: 24
 Operating Schedule, hrs/yr: 50

Exhaust Flow Rate, cfm: 406
 Exhaust Temperature, °F: 880
 Stack Height above ground, ft: 4.8
 Stack Diameter, ft: 0.25

Nearest School, ft:	685	
Residential Receptor, m:	47.55	156 ft
Occupational Receptor, m:	25.00	74 ft
Acute Receptor, m:	25.00	74 ft

Vertical Exhaust? (yes/no): yes
 Flapper Valve? (flapper/raincap): Flapper
 Plot Plan? (yes/no): yes
 Flow Obstructions*: no

*Also Indicate yes if there is a flow obstruction similar to a capped stack

**San Diego Air Pollution Control District
Supplemental Application Information
Rule 1200 Toxics Evaluation**

(ALL REQUESTED INFORMATION IS IMPORTANT - PLEASE FILL BLUE CELLS)

Facility Name: Solana Beach Fire Station (City of Solana Beach)
Equipment Location: 500 Lomas Santa Fe dr Solana Beach, CA 92075

Project Description: Emergency Diesel Engine
Control Equipment: None

Operating Schedule:	Hours per Day: 1	Weeks per Year: 50
	Days per Week: 1	Days per Year: 50

RELEASE POINT DATA

How are the emissions from this project released into the outdoor air? (Check all that apply)

Point Source	Non-Point Source
☒ Exhaust Stack	☐ Passive Ventilation ☐ Released through windows and/or roll-up doors ☐ Fugitive Emissions

Point Source

Parameter	Point Source #1	Point Source #2	Point Source #3
Height of release above ground (ft)	4.8		
Stack Diameter (or length x width) (ft)	0.25		
Exhaust Gas Temperature (°F) ¹	880		
Exhaust Gas Flow (ACFM)	406		
Direction of Flow ²	vertical		
Flow Obstruction ³	no		
Distance to Nearest Property Line (+/- 10ft)	74.00		

¹ Use "70 °F" or "Ambient" if unknown

² if "other" describe:

³ if "other" describe:

AERIAL MAP AND FACILITY PLOT PLAN must be attached and labeled with **Release Point(s)** and **Building(s)**
(includes facility and neighboring buildings within 5x the release height of a point source(s)).

Parameter	Building A	Building B	Building C
Point Source(s)			
Point Source Location			
Building Length (ft) (optional)			
Building Width (ft) (optional)			
Building Height above ground (ft)	41' 8"		

San Diego APCD Use Only

Additional Rule 1200 Submittal Information

Submittal Date:		Site ID:	APCD2014-SITE-01786
Project Engineer:	Priscilla Castanon	Appl. Number(s):	APCD2025-APP-008878
Fees Collected:		PTO No. (if existing):	

Figure 1: Aerial View of the Emergency Engine and Surrounding Area



ArcGIS Parcel for property line

