Rule 1200 Health Risk Assessment

Facility Name:	Holland Partner Group
Facility ID:	APCD2023-SITE-04407
Application:	APCD2023-APP-007980, 8027
Project Engineer:	Hawzhin Muhamed
Modeler:	Tony Nguyen
Toxics Risk Analyst:	Stephen Amberg
Date Submitted to Toxics:	12/22/2023
Date Completed by Toxics:	1/25/2024
HRA Tools Used:	Lakes-AERMOD (Version 23132)/HARP2 (v22118)

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

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

Estimated Risk Levels:

Maximum Individual Cancer Risk (Resident)	0.540 in one million
Chronic Noncancer Health Hazard Index (Resident)	= 1.45E-04
8-Hour Noncancer Health Hazard Index (Worker)	= NA*
Acute Health Hazard Index	= 0.121

*8-Hour Non-Cancer Health Hazard Index is only applicable when calculating worker risk

Input Data Provided by Project Engineer:

Type of Source: Two (2) Diesel IC Engines

Worst-Case TAC Emissions Increase:

ATC-007980:

Toxic Air Contaminant	Hourly Emission Rate (lb/hr)	Annual Emission Rate (lb/yr)
DIESEL PARTICULATE	-	9.02E+00
ACETALDEHYDE	6.76E-02	3.38E+00
ACROLEIN	2.93E-03	1.46E-01
ARSENIC COMPOUNDS	1.38E-04	6.90E-03
BENZENE	1.61E-02	8.04E-01
BUTADIENE, 1,3-	1.87E-02	9.36E-01
CADMIUM AND COMPOUNDS	1.29E-04	6.47E-03
CHLOROBENZENE	1.73E-05	8.63E-04
CHROMIUM (HEXAVALENT)	8.63E-06	4.32E-04
COPPER AND COMPOUNDS	3.54E-04	1.77E-02
ETHYL BENZENE	9.41E-04	4.70E-02
FORMALDEHYDE	1.49E-01	7.45E+00
HEXANE-N	2.32E-03	1.16E-01
HYDROCHLORIC ACID	1.61E-02	8.04E-01
LEAD & COMPOUNDS	7.16E-04	3.58E-02
MANGANESE AND COMPOUNDS	2.68E-04	1.34E-02
MERCURY AND COMPOUNDS	1.73E-04	8.63E-03
NAPHTHALENE	1.70E-03	8.50E-02
NICKEL AND NICKEL COMPOUNDS	3.37E-04	1.68E-02
POLYCYCLIC AROM. HC (PAH) [Treat as B(a)P for HRA]	3.12E-03	1.56E-01
PROPYLENE	4.03E-02	2.02E+00
SELENIUM AND COMPOUNDS	1.90E-04	9.49E-03
TOLUENE	9.10E-03	4.55E-01
AMMONIA	0	0
XYLENES	3.66E-03	1.83E-01

ATC-008027:

Toxic Air Contaminant	Hourly Emission Rate (lb/hr)	Annual Emission Rate (lb/yr)
DIESEL PARTICULATE	-	1.42E+00
ACETALDEHYDE	3.37E-03	1.68E-01
ACROLEIN	1.46E-04	7.29E-03

ARSENIC COMPOUNDS	6.88E-06	3.44E-04
BENZENE	8.01E-04	4.01E-02
BUTADIENE, 1,3-	9.33E-04	4.67E-02
CADMIUM AND COMPOUNDS	6.45E-06	3.23E-04
CHLOROBENZENE	8.60E-07	4.30E-05
CHROMIUM (HEXAVALENT)	4.30E-07	2.15E-05
COPPER AND COMPOUNDS	1.76E-05	8.82E-04
ETHYL BENZENE	4.69E-05	2.34E-03
FORMALDEHYDE	7.42E-03	3.71E-01
HEXANE-N	1.16E-04	5.78E-03
HYDROCHLORIC ACID	8.01E-04	4.01E-02
LEAD & COMPOUNDS	3.57E-05	1.78E-03
MANGANESE AND COMPOUNDS	1.33E-05	6.67E-04
MERCURY AND COMPOUNDS	8.60E-06	4.30E-04
NAPHTHALENE	8.47E-05	4.24E-03
NICKEL AND NICKEL COMPOUNDS	1.68E-05	8.39E-04
POLYCYCLIC AROM. HC (PAH) [Treat as B(a)P for HRA]	1.56E-04	7.78E-03
PROPYLENE	2.01E-03	1.00E-01
SELENIUM AND COMPOUNDS	9.46E-06	4.73E-04
TOLUENE	4.53E-04	2.27E-02
AMMONIA	0	0
XYLENES	1.82E-04	9.12E-03

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. Ammonia is from the SCR system and is included in both annual and hourly risk calculations.

Process Data:

Operation Parameter	7980 - Value	8027 - Value
Diesel particulate emission factor (g/hp-hr)	0.014920	0.13
Engine horsepower (bhp)	1829	96
Fuel Consumption (gal/hr)	86.3	4.3
Annual hours of operation	50	50

Release Parameters:

Stack Height (ft)	9.1	25.8
Stack Diameter (ft)	0.71	0.21
Temperature deg F	807	1191
Exhaust Flow Rate (acfm)	10005.8	512

Discussion

The HRA was conducted in accordance with EPA and OEHHA guidance and District standard procedures. Two point sources were modeled with refined air dispersion modeling using EPA's AERMOD model, AERMET (Version 22112) processed Lindbergh Field 2019/2021 ustar updated meteorology data, AERMAP terrain processing, and rural dispersion coefficients. Building downwash effects were calculated using the EPA BPIP-Prime model. The receptor grid was sufficiently dense to identify maximum impacts.

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.

*HARP - HRACalc v22118 1/25/2024 11:19:00 AM - Cancer Risk

REC	GRP	NETID	X	Y	CONC	POLID	POLABBRE'	RISK_SUM	SCENARIO
17763	ALL		484913.5	3619798	0.000726	9901	DieselExhP	5.40E-07	30YrCancerRMP_InhSoilDermMMilk_FAH16to70

*HARP - HRACalc v22118 1/25/2024 11:19:00 AM - Chronic Risk

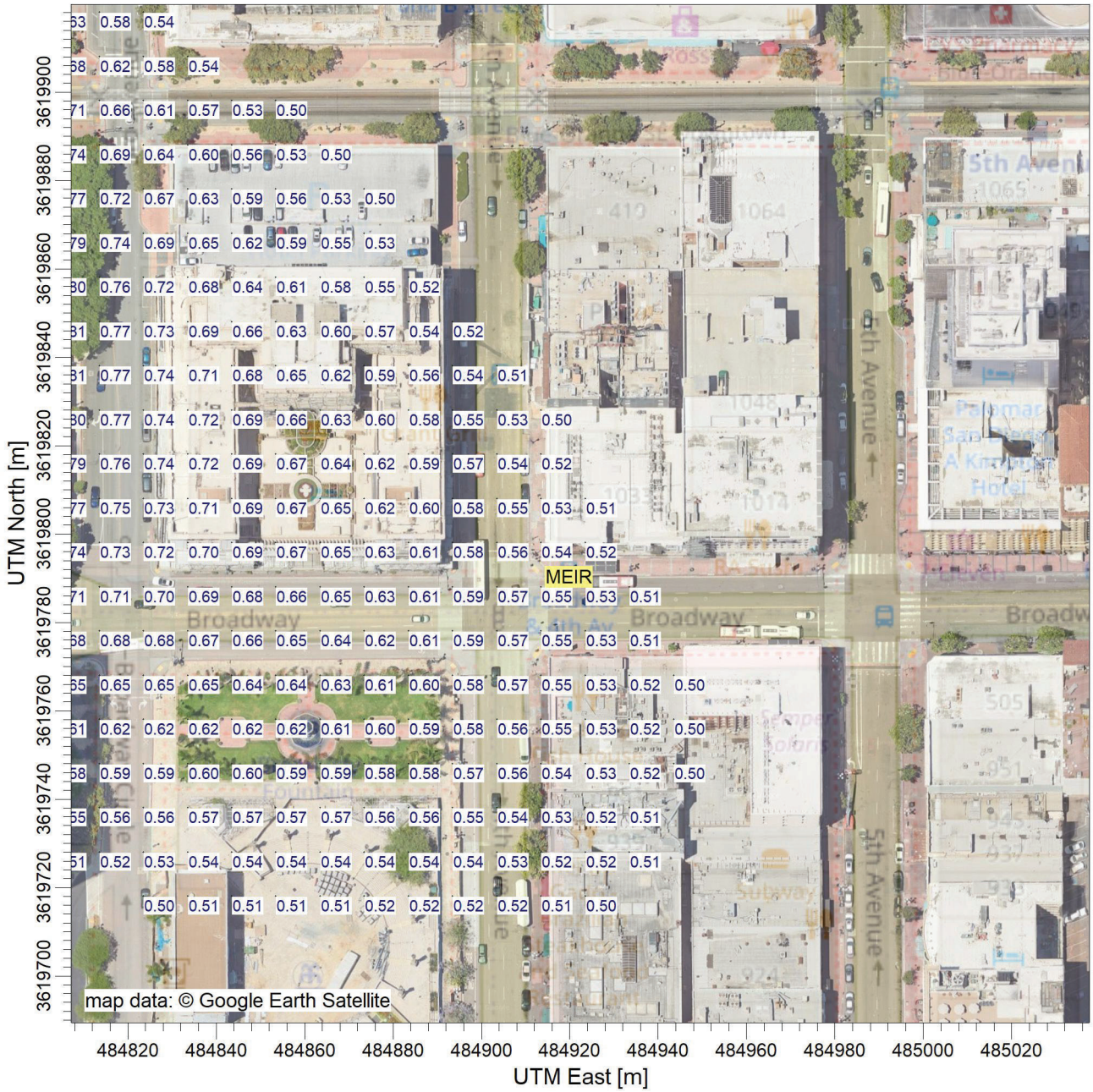
REC	GRP	NETID	X	Y	CONC	POLID	POLABBRE'	RESP	SCENARIO
17763	ALL		484913.5	3619798	0.000726	9901	DieselExhP	1.45E-04	NonCancerChronicDerived_InhSoilDermMMilk

*HARP - HRACalc v22118 1/25/2024 2:32:43 PM - Acute Risk

REC	GRP	NETID	X	Y	CONC	POLID	POLABBRE'	EYE	SCENARIO
48324	ALL		484512.4	3620043	0	9901	DieselExhP	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	2.868538	75070	Acetaldehy	6.10E-03	NonCancerAcute
48324	ALL		484512.4	3620043	0	107028	Acrolein	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.005856	7440382	Arsenic	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.683152	71432	Benzene	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.793532	106990	1,3-Butadie	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.005474	7440439	Cadmium	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.000734	108907	Chloroben:	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.000366	18540299	Cr(VI)	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.015021	7440508	Copper	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.03993	100414	Ethyl Benze	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	6.322493	50000	Formaldeh	1.15E-01	NonCancerAcute
48324	ALL		484512.4	3620043	0.098454	110543	Hexane	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.683152	7647010	HCl	3.25E-04	NonCancerAcute
48324	ALL		484512.4	3620043	0.030383	7439921	Lead	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.011371	7439965	Manganese	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.007341	7439976	Mercury	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.072137	91203	Naphthaler	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.0143	7440020	Nickel	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.132404	1151	PAHs-w/o	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	1.710111	115071	Propylene	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.008062	7782492	Selenium	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.386135	108883	Toluene	7.72E-05	NonCancerAcute
48324	ALL		484512.4	3620043	0	7664417	NH3	0.00E+00	NonCancerAcute
48324	ALL		484512.4	3620043	0.155299	1330207	Xylenes	7.06E-06	NonCancerAcute
								1.21E-01	

PROJECT TITLE:2021 Encina Wastewater AB2588 HRA

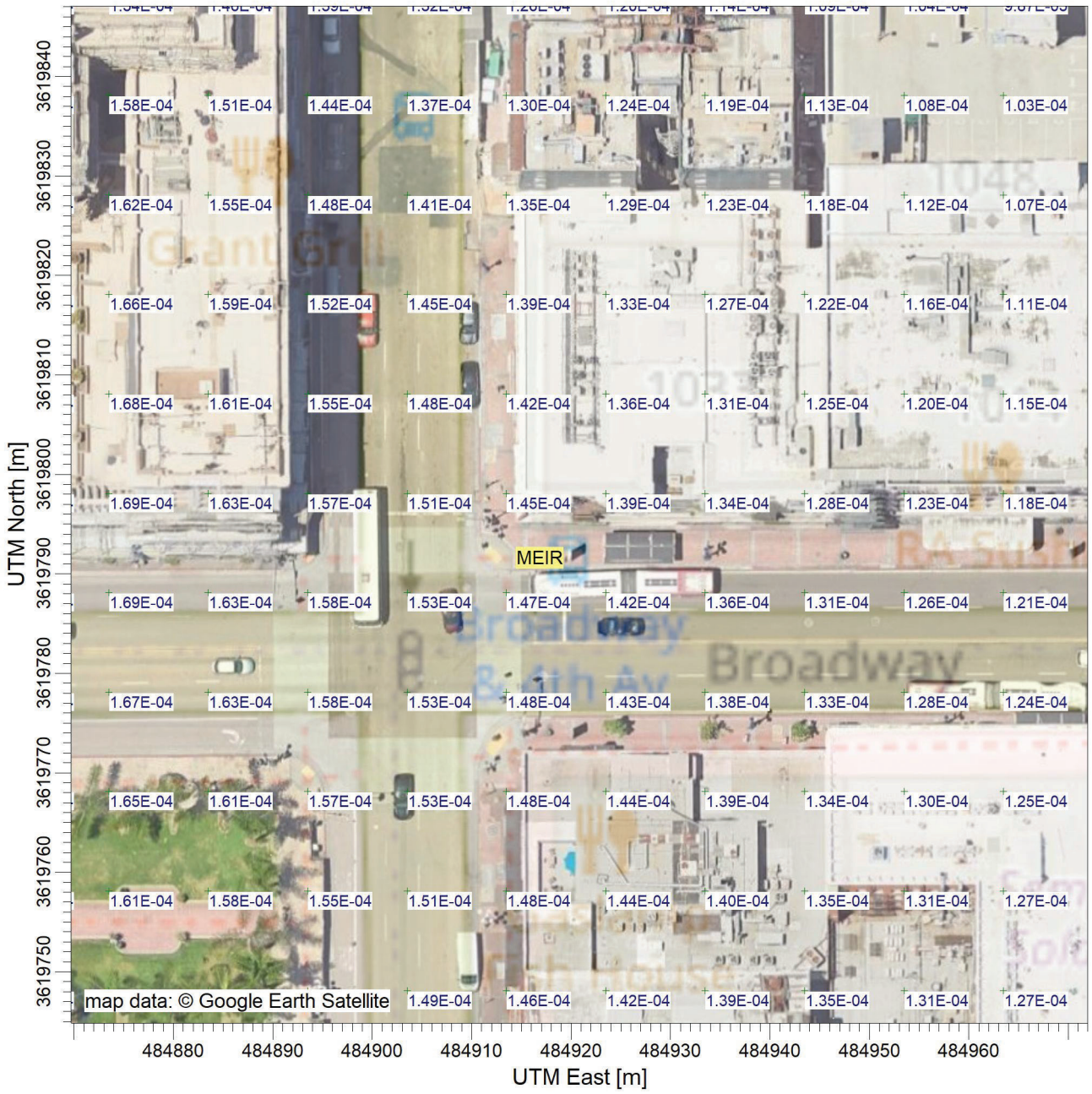
Holland Partner Group
Residential Cancer



COMMENTS:	SOURCES: **2**		
	RECEPTORS: **48342**		
	OUTPUT TYPE: **Concentration**	SCALE: 1:1,449 0 0.05 km	
	MAX: **1.35 ug/m^3**		PROJECT NO.:

PROJECT TITLE:2021 Encina Wastewater AB2588 HRA

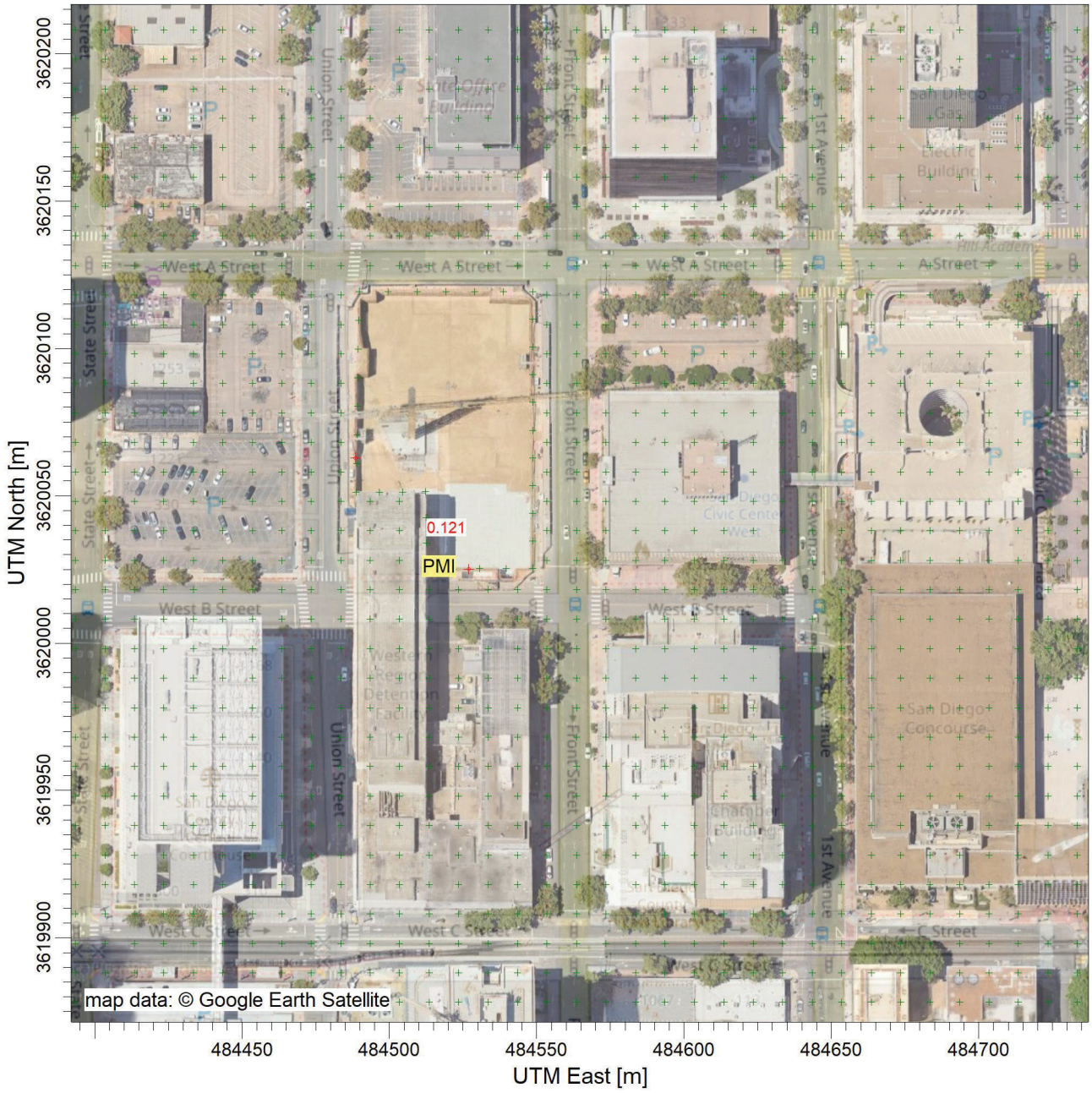
Holland Partner Group
Residential Chronic



COMMENTS:	SOURCES: **2**		
	RECEPTORS: **48342**		
	OUTPUT TYPE: **Concentration**	SCALE: 1:643 0 0.02 km	
	MAX: **3.6E-04 ug/m^3**		PROJECT NO.:

PROJECT TITLE:2021 Encina Wastewater AB2588 HRA

Holland Partner Group
Acute



COMMENTS:	SOURCES: **2**		
	RECEPTORS: **48342**		
	OUTPUT TYPE: **Concentration**	SCALE: 1:2,172 0 0.05 km	
	MAX: **0.121 ug/m^3**		PROJECT NO.:

Facility Name:	Holland Partner Group		
Application Number:	APCD2023-APP-007980		
Site ID Number:	APCD2023-SITE-04407		
Equipment Address:	1200 Front St San Diego CA 92101		
	San Diego CA 92101		
Contact Name:	John Cossette	E-mail:jcosette@hmtelectric.com	
Contact Title:	Project Manager	8584589771	
Contact Affiliation:	Holland Partner Group		
Contact Number:	2532758631		
Contact E-Mail:	cthourk@hawthornecat.com		
Project Engineer:	Hawzhin Muhamed		
Make:	Caterpillar		
Model:	C32 / D1250 GC		
S/N:	TBD		
Fuel Type:	Diesel		
BHP Rating:	1829		
Model Year:	2023		
Tier Level:	2		
Engine Family Number:	PCPXL32.0NZS		
Device Driven:	1250 kW generator		
	None		
NOx, g/BHP-hr:	3.74	5.01	g/kW-hr
CO, g/BHP-hr:	0.52	0.70	g/kW-hr
NMHC, g/BHP-hr:	0.07	0.10	g/kW-hr
PM10, g/BHP-hr:	0.04	0.06	g/kW-hr
NH3 Slip from SCR (yes/no)	no	0.00	ppm (default 10 ppm if
Fuel Usage, gal/hr:	86.3		
Operating Schedule, hrs/day:	16.5		
Operating Schedule, hrs/yr:	50		
Exhaust Flow Rate, cfm:	10005.8		
Exhaust Temperature, °F:	806.6		
Stack Height above ground, ft:	9.1		
Stack Diameter, ft:	0.71		
Nearest School, ft:	745		
Residential Receptor, m:	200.56	658	ft
Occupational Receptor, m:	25.00	62	ft
Acute Receptor, m:	25.00	62.00	ft
Vertical Exhaust? (yes/no):	no		
lapper Valve? (flapper/raincap):	no		
Plot Plan? (yes/no):	yes		
Flow Obstructions:	yes		

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

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

Facility Name: Holland Partner Group
Equipment Location: 1200 Front St San Diego CA 92101 San Diego CA 92101

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 or Duct	☐ 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)	9.1		
Stack Diameter (or length x width) (ft)	0.71		
Exhaust Gas Temperature (°F)[1]	807		
Exhaust Gas Flow (ACFM)	10005.8		
Direction of Flow[2]	non-vertical		
Flow Obstruction[3]	yes		
Distance to Nearest Property Line (+/- 10ft)	62.00		

[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:	APCD2023-SITE-04407
Project Engineer:	Hawzhin Muhamed	Appl. Number(s):	APCD2023-APP-007980
Fees Collected:		PTO No. (if existing):	

FACILITY NAME: Holland Partner Group

Fuel Consumption (gal/hr):	86.30
Diesel Particulate Emission Factor (g/hp-hr):	0.04476
Brake Horsepower (hp):	1829
Annual Hours of Operation (hrs):	50
FACILITY ID:	APCD2023-SITE-04407
APPLICATION NO.:	APCD2023-APP-007980
ENGINEER:	**Hawzhin Muhamed**

RISK ANALYST ONLY

DISPERSION MODELING DATA

Annual Receptor Type: Resident

ANNUAL DISPERSION FACTOR (µg/m3)/(g/s):

Distance (m):

Hourly Receptor Type: PMI

HOURLY DISPERSION FACTOR (µg/m3)/(g/s):

Distance (m):

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/m^3	Annual GLC µg/m^3
DIESEL PARTICULATE			9.02E+00		1.30E-04		
ACETALDEHYDE	7.83E-01	6.76E-02	3.38E+00	8.51E-03			
ACROLEIN*	3.39E-02	2.93E-03	1.46E-01	3.69E-04			
ARSENIC COMPOUNDS	1.60E-03	1.38E-04	6.90E-03	1.74E-05			
BENZENE	1.86E-01	1.61E-02	8.04E-01	2.03E-03			
BUTADIENE, 1,3-	2.17E-01	1.87E-02	9.36E-01	2.36E-03			
CADMIUM AND COMPOUNDS	1.50E-03	1.29E-04	6.47E-03	1.63E-05			
CHLOROBENZENE	2.00E-04	1.73E-05	8.63E-04	2.17E-06			
CHROMIUM (HEXAVALENT)	1.00E-04	8.63E-06	4.32E-04	1.09E-06			
COPPER AND COMPOUNDS	4.10E-03	3.54E-04	1.77E-02	4.46E-05			
ETHYL BENZENE	1.09E-02	9.41E-04	4.70E-02	1.19E-04			
FORMALDEHYDE	1.73E+00	1.49E-01	7.45E+00	1.88E-02			
HEXANE-N	2.69E-02	2.32E-03	1.16E-01	2.93E-04			
HYDROCHLORIC ACID	1.86E-01	1.61E-02	8.04E-01	2.03E-03			
LEAD & COMPOUNDS	8.30E-03	7.16E-04	3.58E-02	9.03E-05			
MANGANESE AND COMPOUNDS	3.10E-03	2.68E-04	1.34E-02	3.37E-05			
MERCURY AND COMPOUNDS (INORGANIC)	2.00E-03	1.73E-04	8.63E-03	2.17E-05			
NAPHTHALENE	1.97E-02	1.70E-03	8.50E-02	2.14E-04			
NICKEL AND NICKEL COMPOUNDS	3.90E-03	3.37E-04	1.68E-02	4.24E-05			
POLYCYCLIC AROM. HC (PAH) [Treat as B(a)P for I	3.62E-02	3.12E-03	1.56E-01	3.94E-04			
PROPYLENE	4.67E-01	4.03E-02	2.02E+00	5.08E-03			
SELENIUM AND COMPOUNDS	2.20E-03	1.90E-04	9.49E-03	2.39E-05			
TOLUENE	1.05E-01	9.10E-03	4.55E-01	1.15E-03			
AMMONIA (only if SCR)	N/A						
XYLENES	4.24E-02	3.66E-03	1.83E-01	4.61E-04			

Facility Name:	Holland Partner Group		
Application Number:	APCD2023-APP-008027		
Site ID Number:	APCD2023-SITE-04407		
Equipment Address:	1200 Front St San Diego CA 92101		
	San Diego CA 92101		
Contact Name:	John Cossette	E-mail:jcosette@hmtelectric.com	
Contact Title:	Project Manager	8584589771	
Contact Affiliation:	Holland Partner Group		
Contact Number:	2532758631		
Contact E-Mail:	cthourk@hawthornecat.com		
Project Engineer:	Hawzhin Muhamed		
Make:	Caterpillar		
Model:	C4.4		
S/N:	T9T00298		
Fuel Type:	Diesel		
BHP Rating:	96		
Model Year:	2024		
Tier Level:	3		
Engine Family Number:	RPKXL04.4NR2		
Device Driven:	60kW		
	None		
NOx, g/BHP-hr:	3.07	4.11	g/kW-hr
CO, g/BHP-hr:	0.86	1.15	g/kW-hr
NMHC, g/BHP-hr:	0.16	0.22	g/kW-hr
PM10, g/BHP-hr:	0.13	0.18	g/kW-hr
NH3 Slip from SCR (yes/no)	no	0.00	ppm (default 10 ppm if
Fuel Usage, gal/hr:	4.3		
Operating Schedule, hrs/day:	24		
Operating Schedule, hrs/yr:	50		
Exhaust Flow Rate, cfm:	512		
Exhaust Temperature, °F:	1191		
Stack Height above ground, ft:	25.8		
Stack Diameter, ft:	0.21		
Nearest School, ft:	840		
Residential Receptor, m:	201.17	660	ft
Occupational Receptor, m:	25.00	39	ft
Acute Receptor, m:	25.00	39	ft
Vertical Exhaust? (yes/no):	no		
Flapper Valve? (flapper/raincap):	no		
Plot Plan? (yes/no):	yes		
Flow Obstructions:	yes		

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

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

Facility Name: Holland Partner Group
Equipment Location: 1200 Front St San Diego CA 92101 San Diego CA 92101

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 or Duct	☐ 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)	25.8		
Stack Diameter (or length x width) (ft)	0.21		
Exhaust Gas Temperature (°F)[1]	1191		
Exhaust Gas Flow (ACFM)	512		
Direction of Flow[2]	non-vertical		
Flow Obstruction[3]	yes		
Distance to Nearest Property Line (+/- 10ft)	39.00		

[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:	APCD2023-SITE-04407
Project Engineer:	Hawzhin Muhamed	Appl. Number(s):	APCD2023-APP-008027
Fees Collected:		PTO No. (if existing):	

FACILITY NAME: Holland Partner Group

Fuel Consumption (gal/hr):	4.30
Diesel Particulate Emission Factor (g/hp-hr):	0.13428
Brake Horsepower (hp):	96
Annual Hours of Operation (hrs):	50
FACILITY ID:	APCD2023-SITE-04407
APPLICATION NO.:	APCD2023-APP-008027
ENGINEER:	**Hawzhin Muhamed**

RISK ANALYST ONLY

DISPERSION MODELING DATA

Annual Receptor Type:	Resident
ANNUAL DISPERSION FACTOR (µg/m3)/(g/s):	
Distance (m):	
Hourly Receptor Type:	PMI
HOURLY DISPERSION FACTOR (µg/m3)/(g/s):	
Distance (m):	

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/m^3	Annual GLC µg/m^3
DIESEL PARTICULATE			1.42E+00		2.04E-05		
ACETALDEHYDE	7.83E-01	3.37E-03	1.68E-01	4.24E-04			
ACROLEIN*	3.39E-02	1.46E-04	7.29E-03	1.84E-05			
ARSENIC COMPOUNDS	1.60E-03	6.88E-06	3.44E-04	8.67E-07			
BENZENE	1.86E-01	8.01E-04	4.01E-02	1.01E-04			
BUTADIENE, 1,3-	2.17E-01	9.33E-04	4.67E-02	1.18E-04			
CADMIUM AND COMPOUNDS	1.50E-03	6.45E-06	3.23E-04	8.13E-07			
CHLOROBENZENE	2.00E-04	8.60E-07	4.30E-05	1.08E-07			
CHROMIUM (HEXAVALENT)	1.00E-04	4.30E-07	2.15E-05	5.42E-08			
COPPER AND COMPOUNDS	4.10E-03	1.76E-05	8.82E-04	2.22E-06			
ETHYL BENZENE	1.09E-02	4.69E-05	2.34E-03	5.91E-06			
FORMALDEHYDE	1.73E+00	7.42E-03	3.71E-01	9.35E-04			
HEXANE-N	2.69E-02	1.16E-04	5.78E-03	1.46E-05			
HYDROCHLORIC ACID	1.86E-01	8.01E-04	4.01E-02	1.01E-04			
LEAD & COMPOUNDS	8.30E-03	3.57E-05	1.78E-03	4.50E-06			
MANGANESE AND COMPOUNDS	3.10E-03	1.33E-05	6.67E-04	1.68E-06			
MERCURY AND COMPOUNDS (INORGANIC)	2.00E-03	8.60E-06	4.30E-04	1.08E-06			
NAPHTHALENE	1.97E-02	8.47E-05	4.24E-03	1.07E-05			
NICKEL AND NICKEL COMPOUNDS	3.90E-03	1.68E-05	8.39E-04	2.11E-06			
POLYCYCLIC AROM. HC (PAH) [Treat as B(a)P for I	3.62E-02	1.56E-04	7.78E-03	1.96E-05			
PROPYLENE	4.67E-01	2.01E-03	1.00E-01	2.53E-04			
SELENIUM AND COMPOUNDS	2.20E-03	9.46E-06	4.73E-04	1.19E-06			
TOLUENE	1.05E-01	4.53E-04	2.27E-02	5.71E-05			
AMMONIA (only if SCR)	N/A						
XYLENES	4.24E-02	1.82E-04	9.12E-03	2.30E-05			

HARP2 - HRACalc (dated 22118) 1/25/2024 11:19:00 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 30

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 14
16 to 70 Years Bin: 0

****
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: True
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

****
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 breakdown by pollutant and receptor saved to: D:\1200\7980_8027_Holland Partner Group\HOLLLAND HARP\hra\Resident_CancerRisk.csv
Cancer risk total by receptor saved to: D:\1200\7980_8027_Holland Partner Group\HOLLLAND HARP\hra\Resident_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: D:\1200\7980_8027_Holland Partner Group\HOLLLAND HARP\hra\Resident_NCChronicRisk.csv
Chronic risk total by receptor saved to: D:\1200\7980_8027_Holland Partner Group\HOLLLAND HARP\hra\Resident_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: D:\1200\7980_8027_Holland Partner Group\HOLLLAND HARP\hra\Resident_NCAcuteRisk.csv
Acute risk total by receptor saved to: D:\1200\7980_8027_Holland Partner Group\HOLLLAND HARP\hra\Resident_NCAcuteRiskSumByRec.csv
HRA ran successfully

*** 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
STCK2	0	0.10000E+01	484488.5	3620062.8	14.3	7.86	917.04	75.09	0.06	YES	YES	NO	
STCK3	0	0.10000E+01	484527.0	3620025.2	13.6	2.77	703.71	128.38	0.22	YES	YES	NO	

*** AERMOD - VERSION 23132 *** *** C:\Users\E095598\OneDrive - County of San Diego\ModelingProjects\798 *** 01/25/24
*** AERMET - VERSION 22112 *** *** *** 10:50:07

*** 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 2 Source(s),
for Total of 1 Urban Area(s):
Urban Population = 1382000.0 ; 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:      2 Source(s);       3 Source Group(s); and   48342 Receptor(s)

               with:      2 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:  22112

**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) =     5.00 ;  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 =     13.2 MB of RAM.

 **Input Runstream File:          aermod.inp
 **Output Print File:             aermod.out

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


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

           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1

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


                              *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                    (METERS/SEC)

                                           1.54,   3.09,   5.14,   8.23,  10.80,
```

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

Surface file: Lindbergh_2019_2021_v22122.SFC Met Version: 22112
Profile file: Lindbergh_2019_2021_v22122.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23188 Upper air station no.: 3190
Name: SAN_DIEGO/LINDBERGH_FIELD Name: UNKNOWN
Year: 2019 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	-3.8	0.078	-9.000	-9.000	-999.	53.	11.4	0.02	0.83	1.00	1.40	356.	10.0	282.5	2.0
19	01	01	1	02	-4.6	0.086	-9.000	-9.000	-999.	61.	12.4	0.02	0.83	1.00	1.55	336.	10.0	281.4	2.0
19	01	01	1	03	-9.4	0.123	-9.000	-9.000	-999.	104.	18.0	0.02	0.83	1.00	2.18	357.	10.0	281.4	2.0
19	01	01	1	04	-13.9	0.151	-9.000	-9.000	-999.	141.	25.2	0.02	0.83	1.00	2.64	26.	10.0	281.4	2.0
19	01	01	1	05	-13.7	0.150	-9.000	-9.000	-999.	139.	24.7	0.01	0.83	1.00	2.64	31.	10.0	280.9	2.0
19	01	01	1	06	-15.6	0.160	-9.000	-9.000	-999.	154.	28.2	0.01	0.83	1.00	2.81	40.	10.0	282.0	2.0
19	01	01	1	07	-20.6	0.202	-9.000	-9.000	-999.	219.	45.1	0.02	0.83	1.00	3.47	26.	10.0	280.3	2.0
19	01	01	1	08	-11.1	0.200	-9.000	-9.000	-999.	215.	65.8	0.02	0.83	0.49	3.39	18.	10.0	281.4	2.0
19	01	01	1	09	36.3	0.219	0.541	0.005	158.	245.	-26.2	0.02	0.83	0.29	3.15	24.	10.0	284.2	2.0
19	01	01	1	10	80.5	0.251	0.835	0.005	262.	302.	-17.9	0.02	0.83	0.22	3.52	28.	10.0	285.9	2.0
19	01	01	1	11	110.8	0.250	1.329	0.005	771.	300.	-12.8	0.02	0.83	0.20	3.41	26.	10.0	287.0	2.0
19	01	01	1	12	125.5	0.288	1.459	0.005	899.	371.	-17.3	0.01	0.83	0.19	4.07	45.	10.0	288.8	2.0
19	01	01	1	13	118.6	0.434	1.485	0.005	1004.	687.	-62.6	0.01	0.83	0.19	6.63	39.	10.0	288.8	2.0
19	01	01	1	14	100.0	0.500	1.440	0.005	1085.	848.	-113.5	0.01	0.83	0.20	7.81	34.	10.0	288.8	2.0
19	01	01	1	15	65.6	0.423	1.270	0.005	1134.	665.	-104.6	0.02	0.83	0.23	6.52	28.	10.0	288.8	2.0
19	01	01	1	16	18.3	0.364	0.833	0.005	1147.	529.	-238.7	0.01	0.83	0.32	5.79	41.	10.0	288.1	2.0
19	01	01	1	17	-24.7	0.277	-9.000	-9.000	-999.	355.	84.7	0.01	0.83	0.59	4.73	30.	10.0	286.4	2.0
19	01	01	1	18	-12.2	0.141	-9.000	-9.000	-999.	141.	22.0	0.01	0.83	1.00	2.50	57.	10.0	285.9	2.0
19	01	01	1	19	-18.0	0.179	-9.000	-9.000	-999.	182.	35.3	0.01	0.83	1.00	3.12	58.	10.0	284.8	2.0
19	01	01	1	20	-24.4	0.243	-9.000	-9.000	-999.	287.	64.8	0.01	0.83	1.00	4.17	48.	10.0	284.2	2.0
19	01	01	1	21	-19.0	0.188	-9.000	-9.000	-999.	197.	39.0	0.02	0.83	1.00	3.24	61.	10.0	283.8	2.0
19	01	01	1	22	-27.5	0.272	-9.000	-9.000	-999.	341.	81.5	0.02	0.83	1.00	4.61	61.	10.0	283.1	2.0
19	01	01	1	23	-27.4	0.272	-9.000	-9.000	-999.	341.	81.6	0.02	0.83	1.00	4.61	68.	10.0	283.8	2.0
19	01	01	1	24	-23.9	0.237	-9.000	-9.000	-999.	277.	61.6	0.02	0.83	1.00	4.03	71.	10.0	283.1	2.0

*** 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
STCK2	1ST HIGHEST VALUE IS	14.46957 AT (484543.49, 3619998.10, 13.13, 13.13, 0.00)	DC	
	2ND HIGHEST VALUE IS	14.22383 AT (484533.49, 3619998.10, 13.06, 13.06, 0.00)	DC	
	3RD HIGHEST VALUE IS	14.22219 AT (484553.49, 3619988.10, 13.07, 13.07, 0.00)	DC	
	4TH HIGHEST VALUE IS	14.20547 AT (484543.49, 3619988.10, 12.73, 12.73, 0.00)	DC	
	5TH HIGHEST VALUE IS	14.12685 AT (484533.49, 3620008.10, 13.32, 13.32, 0.00)	DC	
	6TH HIGHEST VALUE IS	14.09683 AT (484553.49, 3619978.10, 12.94, 12.94, 0.00)	DC	
	7TH HIGHEST VALUE IS	13.82841 AT (484563.49, 3619978.10, 13.04, 13.04, 0.00)	DC	
	8TH HIGHEST VALUE IS	13.75598 AT (484563.49, 3619968.10, 12.95, 12.95, 0.00)	DC	
	9TH HIGHEST VALUE IS	13.69983 AT (484543.49, 3619978.10, 12.46, 12.46, 0.00)	DC	
	10TH HIGHEST VALUE IS	13.63316 AT (484543.49, 3620008.10, 13.32, 13.32, 0.00)	DC	
STCK3	1ST HIGHEST VALUE IS	12.33628 AT (484583.49, 3620008.10, 13.50, 13.50, 0.00)	DC	
	2ND HIGHEST VALUE IS	11.56529 AT (484603.49, 3619998.10, 13.62, 13.62, 0.00)	DC	
	3RD HIGHEST VALUE IS	11.52619 AT (484593.49, 3620008.10, 13.56, 13.56, 0.00)	DC	
	4TH HIGHEST VALUE IS	11.37427 AT (484593.49, 3619998.10, 13.54, 13.54, 0.00)	DC	
	5TH HIGHEST VALUE IS	10.80951 AT (484613.49, 3619998.10, 13.73, 13.73, 0.00)	DC	
	6TH HIGHEST VALUE IS	10.48908 AT (484573.49, 3620008.10, 13.50, 13.50, 0.00)	DC	
	7TH HIGHEST VALUE IS	10.30987 AT (484613.49, 3619988.10, 13.75, 13.75, 0.00)	DC	
	8TH HIGHEST VALUE IS	10.19043 AT (484603.49, 3620008.10, 13.65, 13.65, 0.00)	DC	
	9TH HIGHEST VALUE IS	10.14708 AT (484623.49, 3619988.10, 13.75, 13.75, 0.00)	DC	

```
         10TH HIGHEST VALUE IS       9.83148 AT (  484603.49,  3619988.10,    13.60,    13.60,    0.00)  DC

ALL       1ST HIGHEST VALUE IS      22.95102 AT (  484583.49,  3620008.10,    13.50,    13.50,    0.00)  DC
          2ND HIGHEST VALUE IS      21.96671 AT (  484593.49,  3619998.10,    13.54,    13.54,    0.00)  DC
          3RD HIGHEST VALUE IS      21.69236 AT (  484573.49,  3620008.10,    13.50,    13.50,    0.00)  DC
          4TH HIGHEST VALUE IS      21.68136 AT (  484593.49,  3620008.10,    13.56,    13.56,    0.00)  DC
          5TH HIGHEST VALUE IS      21.67029 AT (  484603.49,  3619998.10,    13.62,    13.62,    0.00)  DC
          6TH HIGHEST VALUE IS      20.78962 AT (  484583.49,  3619988.10,    13.29,    13.29,    0.00)  DC
          7TH HIGHEST VALUE IS      20.59645 AT (  484563.49,  3619998.10,    13.30,    13.30,    0.00)  DC
          8TH HIGHEST VALUE IS      20.54705 AT (  484613.49,  3619998.10,    13.73,    13.73,    0.00)  DC
          9TH HIGHEST VALUE IS      20.40299 AT (  484573.49,  3619998.10,    13.42,    13.42,    0.00)  DC
         10TH HIGHEST VALUE IS      20.39866 AT (  484613.49,  3619988.10,    13.75,    13.75,    0.00)  DC


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



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


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

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

STCK2    HIGH   1ST HIGH VALUE IS     340.31183  ON 21102008: AT (  484453.49,  3620048.10,    13.19,    13.19,    0.00)  DC

STCK3    HIGH   1ST HIGH VALUE IS     328.23604  ON 21122919: AT (  484512.43,  3620042.61,    14.06,    14.06,    0.00)  DC

ALL      HIGH   1ST HIGH VALUE IS     381.81608  ON 21091706: AT (  484423.49,  3620168.10,    14.66,    14.66,    0.00)  DC
```

*** 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   4 Warning Message(s)
A Total of   682 Informational Message(s)

A Total of   26304 Hours Were Processed

A Total of   249 Calm Hours Identified

A Total of   433 Missing Hours Identified (1.65 Percent)

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

   ********   WARNING MESSAGES   ********
SO W320   40   PPARM: Input Parameter May Be Out-of-Range for Parameter   VS
SO W320   41   PPARM: Input Parameter May Be Out-of-Range for Parameter   VS
ME W186   140   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used   0.50
ME W187   140   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

Amberg, Stephen

From: Nguyen, Tony
Sent: Tuesday, January 23, 2024 2:51 PM
To: Muhamed, Hawzhin S; Amberg, Stephen; Bernabe, Andrew; Canter, Adam; DiFulvio, Jaime; Galvez, Maria; Nguyen, Tony; Ossowski, Peter; Reeve, Bill; Swaney, Jim; Wong, Benjamin
Subject: RE: 7980 and 8027 HRA Request

Hello,

Modeling for 7980_8027_Holland Partner Group and modeling files are placed in the project folder.

Thanks,

San Diego County Air Pollution Control District

Tony Nguyen
Associate Meteorologist
San Diego County Air Pollution Control District

Telework: Mon - Tue | In-Office: Wed - Thu
10124 Old Grove Rd, San Diego, CA 92131
Phone: (858) 586-2768

www.sdapcd.org

#

From: Muhamed, Hawzhin S <HawzhinS.Muhamed@sdapcd.org>
Sent: Friday, 22 December, 2023 16:12
To: Reeve, Bill <Bill.Reeve@sdapcd.org>; Nguyen, Tony <Tony.Nguyen2@sdapcd.org>
Cc: Swaney, Jim <Jim.Swaney@sdapcd.org>; Canter, Adam <Adam.Canter@sdapcd.org>
Subject: 7980 and 8027 HRA Request

Hi Bill,

This is a request for an HRA for APCD2023-APP-007980 and APCD2023-APP-008027 as one project , both engines are at the same site .

Please post the result in 7980_8027_Holland Partner Group

Please let me know if additional information is needed!

Happy Holidays!

Thank you.
Hawzhin