

**REVIEW OF PACIFIC SHIP REPAIR & FABRICATION INC.
AB2588 HEALTH RISK ASSESSMENT (HRA)**

November 16, 2021

Emissions Inventory Facility ID: 7067

Toxics Emissions Inventory Year: 2015

Review Conducted by: Peter Ossowski, SDAPCD

A Health Risk Assessment (HRA) was performed for Pacific Ship Repair & Fabrication Inc., 1625 Rigel St., San Diego, CA 92113 by BlueScape Environmental for emissions in calendar year 2015 and submitted to the District for review on April 13, 2021 (Submittal HRA). The District provided District's comments on the HRA along with comments provided from the Office of Environmental Health Hazard Assessment (OEHHA) to Pacific Ship Repair & Fabrication Inc. on June 30, 2021. Pacific Ship Repair & Fabrication Inc. submitted a revised HRA to the District on August 27, 2021. Subsequently, the District revised the HRA on November 16, 2021.

The following are the District's comments on the Submittal HRA and, in addition, the results of the District Modified HRA.

Summary of District Modified Risk Assessment Results:

Cancer Point of Maximum Impact (PMI)	61.3 in one million
Cancer Maximum Exposed Individual Resident (MEIR)	1.28 in one million
Cancer Maximum Exposed Individual Worker (MEIW)	15.6 in one million
Chronic Noncancer Health Hazard Index (PMI)	2.68
Chronic Noncancer Health Hazard Index (MEIR)	0.0284
Chronic Noncancer Health Hazard Index (MEIW)	2.01
8-Hour Noncancer Health Hazard Index (MEIW)	1.84
Acute Noncancer Health Hazard Index (PMI)	3.64
Acute Noncancer Health Hazard Index (MEIR)	0.59
Acute Noncancer Health Hazard Index (MEIW)	2.75
Population Excess Cancer Burden	0.001
Sub-Chronic Lead Exposure Risk	< 0.12 ug/m3

The 30-day lead concentration using EPA's AERMOD model at the Maximum Offsite Concentration (MOC) is estimated to be 0.022 ug/m3 which is below the High Exposure Scenario approval level of 0.12 ug/m3 in the Air Resources Board (ARB) Risk

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Management Guidelines for New, Modified, and Existing Sources of Lead, March 2001. Lead emissions were estimated based on annual emissions being emitted in 30-days.

The facility's sources include:

- Abrasive Blasting
- Coating
- Solvent Cleaning
- Welding

Summary of Health Impacts by Pollutant:

Cancer risk at the MEIW is mainly due to Cadmium (59%), Nickel (36%), and Hexavalent Chromium (4%).

The Chronic Health Hazard Index (HHI) at the MEIW is mainly due to Nickel (94%) and Cadmium (6%).

The 8-Hour Chronic HHI at the MEIW is due to Nickel (100%).

The Acute HHI is due to Nickel (100%).

The Submittal and District Revised HRA concludes that cancer risk and the noncancer indexes do exceed the public notification levels specified in District Rule 1210.

Changes to the Revised HRA:

Sub-Chronic Lead Exposure risk analysis was completed according to Air Resources Board (ARB) Risk Management Guidelines for New, Modified, and Existing Sources of Lead, March 2001.

Harp Risk Calculations:

Inhalation Rates: Residential cancer risk was calculated using the Air Resources Board (ARB) Risk Management Policy (RMP) for the daily breathing rate. For the residential 30-year exposure duration, the RMP daily breathing rate uses the 95th percentile DBR for age groups less than 2 years old (3rd trimester through age 2) and the 80th percentile DBR for age groups greater than 2 years old. The Submittal HRA used a more conservative DBR for the total 30-year exposure. Reference the Air Resources Board (ARB) Risk Management Guidance Document, July 2015.

Noninhalation Pathways: The cancer risk and chronic HHI calculations included the minimum oral exposure pathways (dermal contact, soil ingestion, and mother's milk for cancer residential exposure) referencing the OEHHA Guidance Manual, Criteria for Exposure Pathway Evaluation, Section 5.2, February 2015.

PROJECT TITLE:

**Pacific Ship Repair & Fabrication Inc 2015 HOT SPOT HRA
Worker Cancer Notification Isoleth**

COMMENTS:

SOURCES:

11

RECEPTORS:

3018

OUTPUT TYPE:

Concentration

MAX:

20.7 ug/m³

COMPANY NAME:

MODELER:

DATE:

10/21/2021

SCALE:

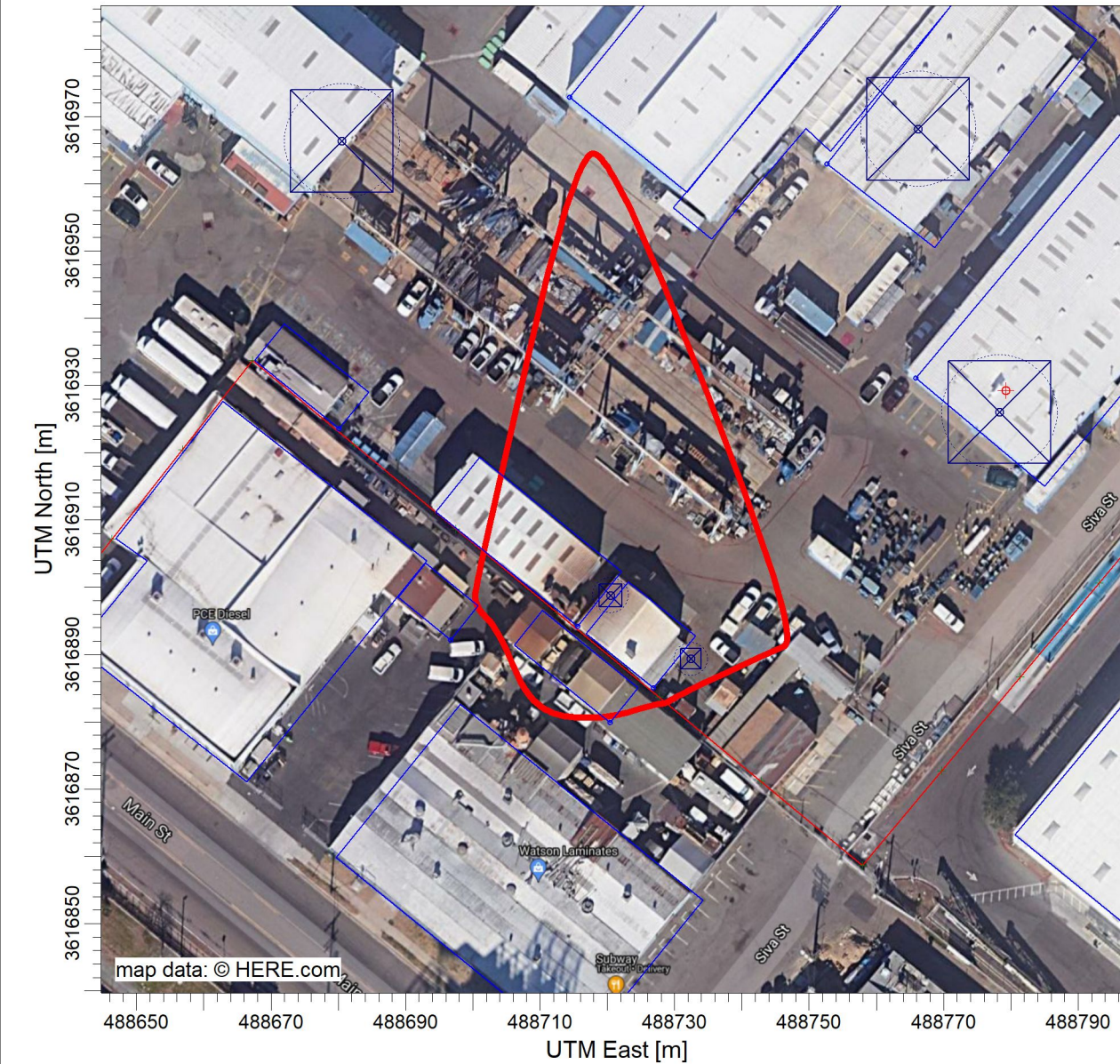
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0.03 km

PROJECT NO.:



ug/m³

PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL
Max: 20.7 [ug/m³] at (488712.59, 3616896.21)



PROJECT TITLE:

**Pacific Ship Repair & Fabrication Inc 2015 HOT SPOT HRA
Worker Chronic Notification Isoleth**

COMMENTS:

SOURCES:

11

RECEPTORS:

3018

OUTPUT TYPE:

Concentration

MAX:

2.68 ug/m³

COMPANY NAME:

MODELER:

DATE:

10/21/2021

SCALE:

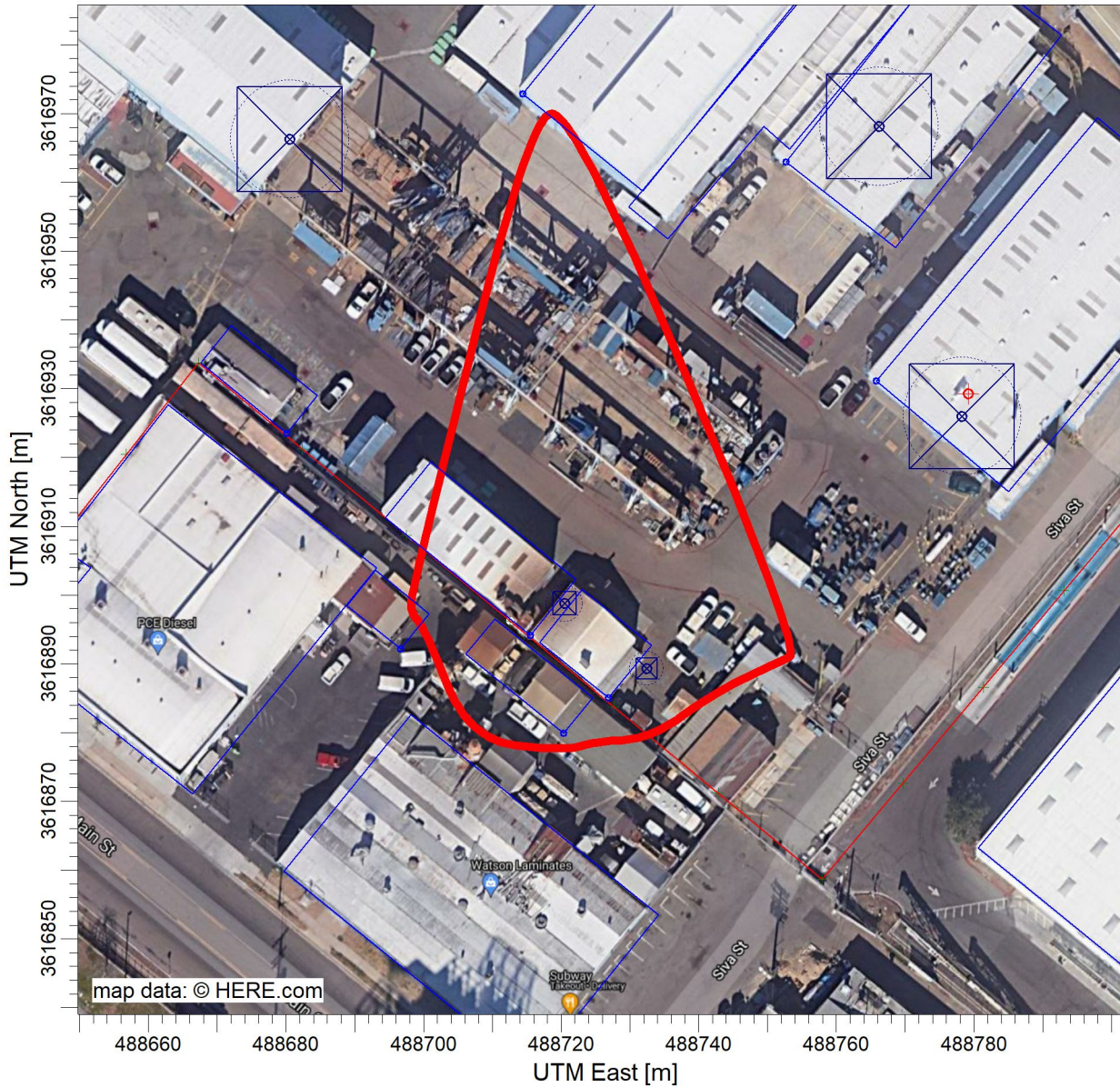
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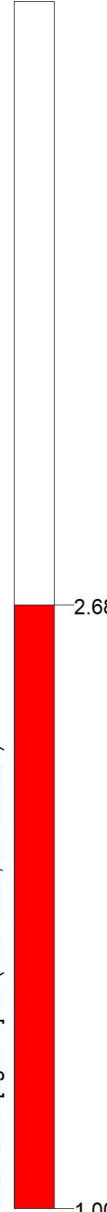
0.03 km

PROJECT NO.:



ug/m³

PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL
Max: 2.68 [ug/m³] at (488712.59, 3616896.21)



PROJECT TITLE:

**Pacific Ship Repair & Fabrication Inc 2015 HOT SPOT HRA
Acute Notification Isoleth**

COMMENTS:

SOURCES:

11

RECEPTORS:

3018

OUTPUT TYPE:

Concentration

MAX:

3.64 ug/m³

COMPANY NAME:

MODELER:

DATE:

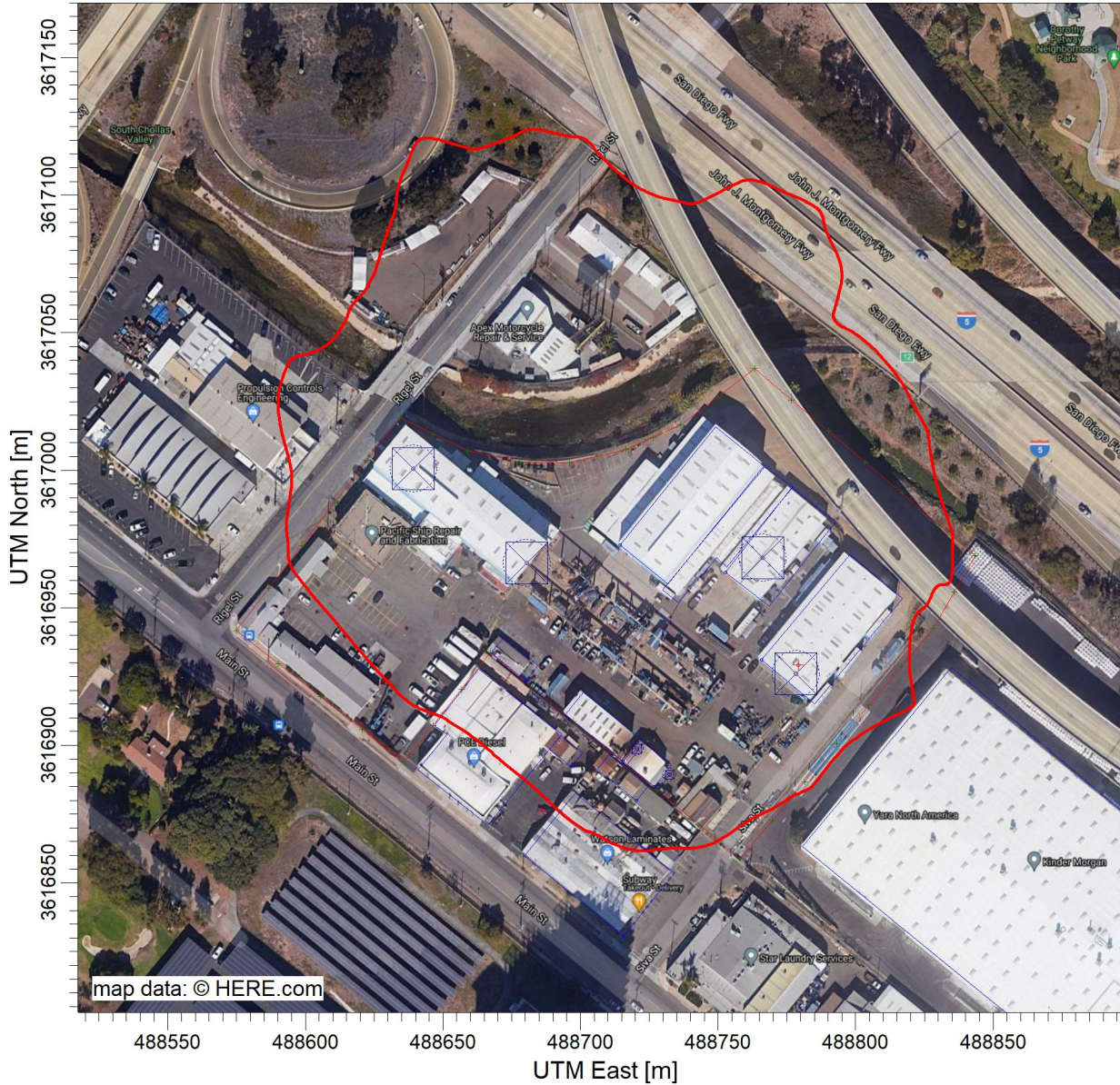
10/21/2021

SCALE:

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PROJECT NO.:



ug/m³

PLOT FILE OF HIGH 1ST HIGH 1-HR VALUES FOR SOURCE GROUP: ALL

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