



July 20, 2021

EMISSIONS INVENTORY  
FACILITY ID: 7263

OTAY LANDFILL INC.  
1700 MAXWELL ROAD  
CHULA VISTA, CA 91910

### **SUMMARY OF REVISED AB2588 “HOT SPOTS” HEALTH RISK ASSESSMENT**

As required by the California Health and Safety (H&S) code, section 44360, the San Diego County Air Pollution Control District (District) requested a Health Risk Assessment (HRA) from Otay Landfill Inc. on July 5, 2016 for the landfill operation conducted at 1700 Maxwell Road, Chula Vista, CA based on emissions that occurred in calendar year 2013. Otay Landfill Inc. submitted a HRA to the District on December 29, 2016. The District provided a draft revised 2013 emission inventory, comments on the HRA, and comments provided from the Office of Environmental Health Hazard Assessment (OEHHA) to Otay Landfill on October 13, 2017. Subsequently, the District revised and approved the HRA on November 9, 2020 considering the comments provided by OEHHA. Based upon additional comments provided to the District by Otay Landfill Inc. on February 17, 2021, the District revised the emission calculations and updated the HRA. On March 4, 2021, the District provided the revised emissions calculations and updated HRA to Otay Landfill, Inc., and allowed for submittal of comments or a modified HRA meeting District requirements.

After considering the comments provided by Otay Landfill on April 19, 2021, in accordance with the California Health and Safety (H&S) code, section 44362, the District approved the revised 2013 HRA with the following results:

#### **Approved HRA Results:**

Maximum Individual Excess Lifetime Cancer Risk (PMI)	141.97 in a million
Maximum Residential Excess Lifetime Cancer Risk	32.95 in a million
Maximum Occupational Excess Lifetime Cancer Risk	3.76 in a million
Maximum Chronic Non-Cancer Health Hazard Index (PMI)	9.40
Maximum Residential Chronic Non-Cancer Health Hazard Index	2.09
Maximum Occupational Chronic Non-Cancer Health Hazard Index	2.76
Maximum 8-Hour Occupational Non-Cancer Health Hazard Index	0.09
Maximum Acute Health Hazard Index (PMI)	0.91
Maximum Residential Acute Health Hazard Index	0.37
Maximum Occupational Acute Health Hazard Index	0.77

Population Excess Cancer Burden	0.62
Sub-Chronic Lead Notification Level	< 0.30 ug/m <sup>3</sup>

**Summary of Health Impacts by Pollutant:**

Cancer risk at the MEIR is mainly due to Arsenic (86%), Benzene (4%), Cobalt (2%), Ethyl Benzene (2%), Ethylene dichloride (1%), Acrylonitrile (1%), Lead (1%), and Nickel (1%).

Cancer risk at the MEIR is mainly due to Haul Roads (54%), Stockpiles (30%), and Landfill Gas (11%)

The Chronic Health Hazard Index (HHI) at the MEIR is mainly due to Arsenic (77%), Crystalline Silica (20%), Nickel (1%), and Hydrogen Sulfide (1%).

The Chronic Health Hazard Index (HHI) at the MEIR is mainly due to Haul Roads (62%), Stockpiles (34%), and Landfill Gas (2%)

The Chronic Health Hazard Index (HHI) at the MEIW is mainly due to Arsenic (69%), Crystalline Silica (27%), Nickel (2%), and Hydrogen Sulfide (2%).

The Chronic Health Hazard Index (HHI) at the MEIW is mainly due to Haul Roads (63%), Stockpiles (33%), and Landfill Gas (2%)

The 8-Hour HHI is primarily due to Manganese (66%) and Arsenic (30%).

The Acute HHI is primarily due to Hydrogen Sulfide (97%) and Arsenic (2%).

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

**Air Dispersion Modeling**

AERMOD (Version 19191) and AERMET (Version 19191) preprocessed Chula Vista 2010-2012 Ustar adjusted surface and profile meteorological data, rural dispersion coefficients, and flat terrain were modeled.

**Summary of Changes in District Modified HRA**

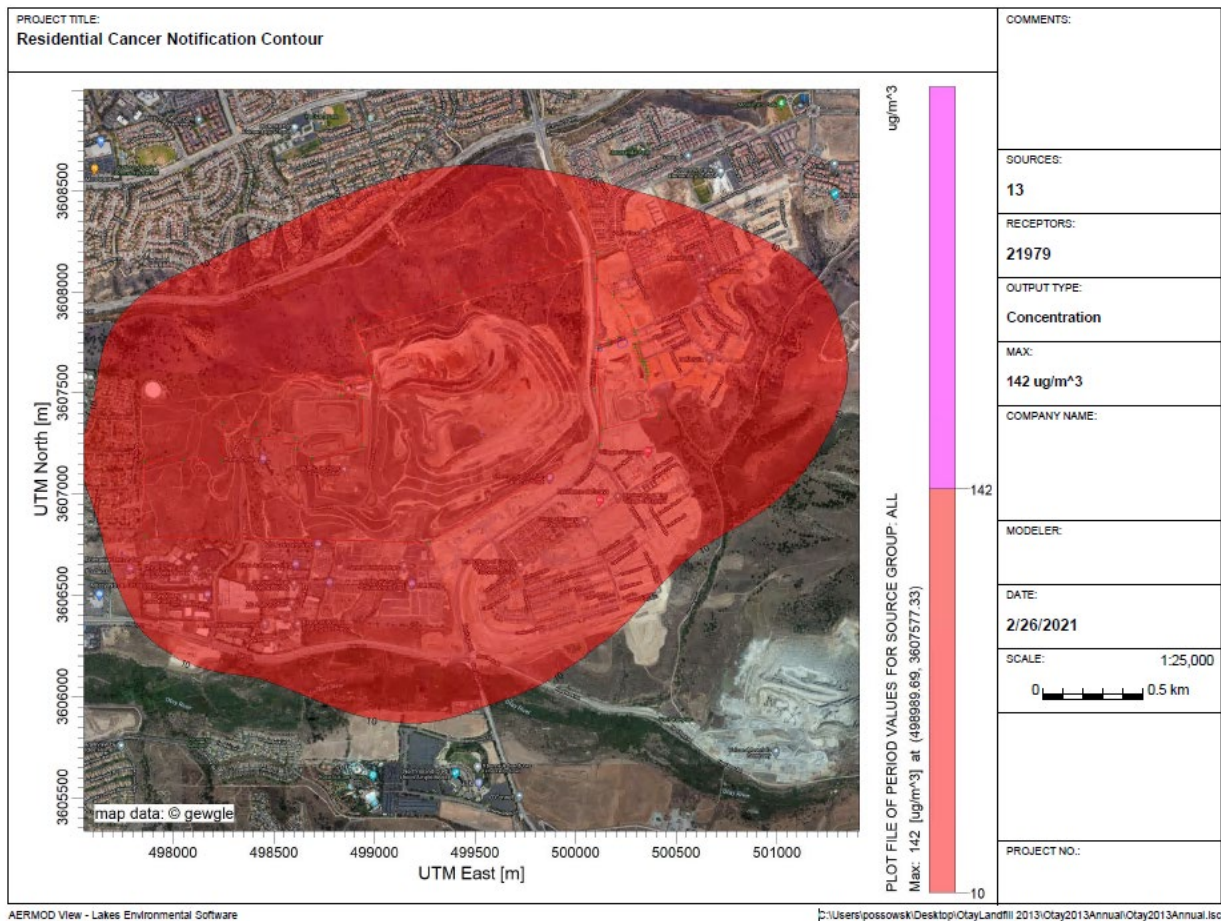
The following modifications, which address the preliminary comments to the Submittal HRA, were made in the District Modified HRA:

1. The model included additional sources (i.e., haul roads, cover application, diesel engine, storage piles, and quarrying).
2. Updated software was used: HARP version 19044 and AERMOD version 19191.
3. Line volume sources (paved and unpaved roads) were modeled as contiguous rather than separated line volume sources, according to District policy.

4. A 10-meter grid of receptors was added in populated areas and areas under development where maximum impacts were expected to occur.
5. Hour of day scalars were used for sources that are operated for a portion of the day (i.e., haul roads, cover application, diesel engine, and quarrying)
6. A plume height of 5.58 m and a plume width of 8.5 m were used for the unpaved and paved haul road line volume sources.
7. ARB Risk Management Policy (RMP) daily breathing rates (DBR) were used for the inhalation-based residential cancer risk. 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.
8. For the residential cancer risk calculation, a fraction of time at home (FAH) was applied for the ages 16 to 70 bin. As in the Submittal HRA, the FAH was not applied to the 3rd trimester to age 16 bin.
9. The occupational cancer and non-cancer chronic risk calculations included dermal contact and soil ingestion pathways, in addition to inhalation pathways.
10. The cancer burden is based on census receptors within a one in one million isopleth.

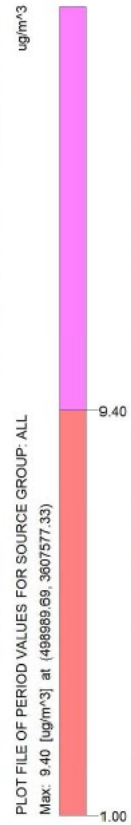
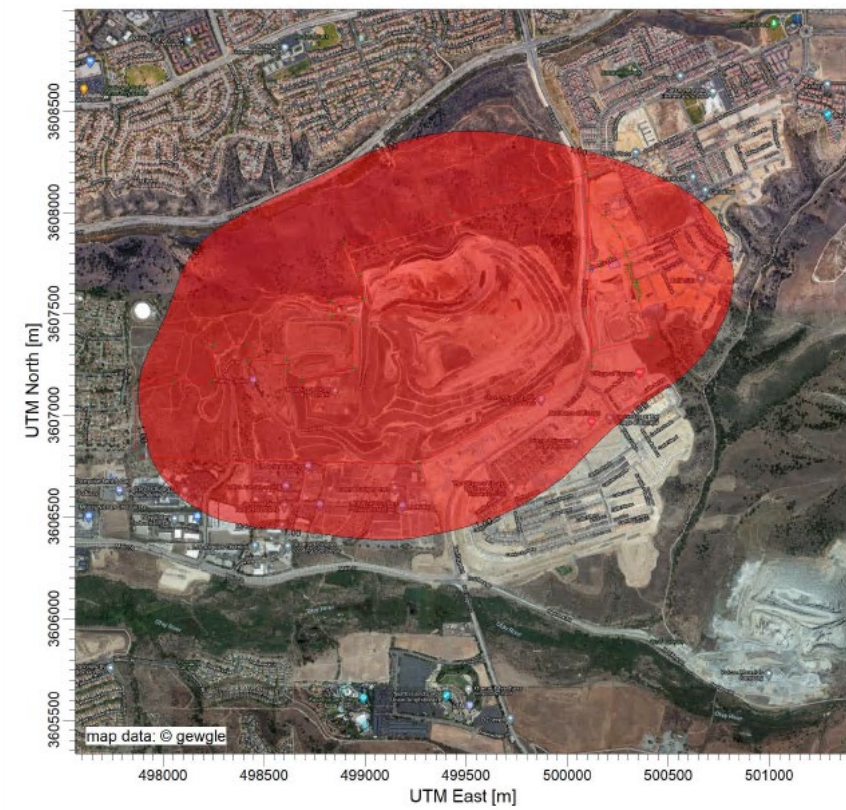
### Contours for Notification Risk Calculations

Contours for selected risk calculations are on the following pages.



PROJECT TITLE:  
Residential Chronic HHI Notification Contour

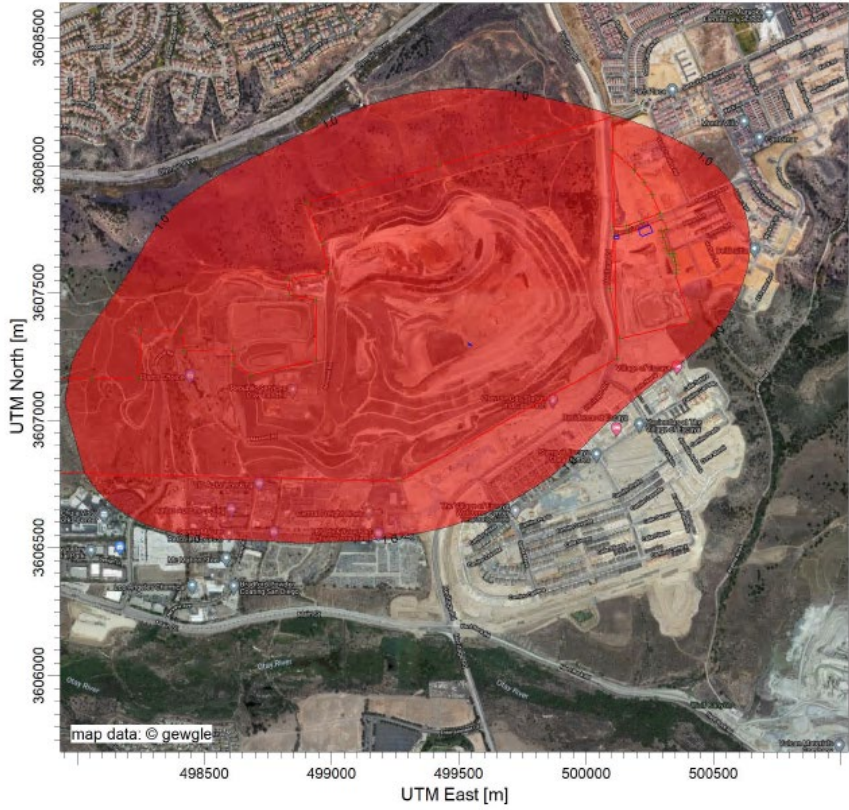
COMMENTS:



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL  
Max: 9.40 [ug/m<sup>3</sup>] at (498989.69, 3607577.33)

SOURCES:	13
RECEPTORS:	21979
OUTPUT TYPE:	Concentration
MAX:	9.40 ug/m <sup>3</sup>
COMPANY NAME:	
MODELER:	
DATE:	2/26/2021
SCALE:	1:25,000
PROJECT NO.:	

PROJECT TITLE:  
**Worker Chronic HHI Notification Contour**




ug/m<sup>3</sup>

PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL  
 Max: 8.6 [ug/m<sup>3</sup>] at (498448.59; 3607272.76)

9.0

1.0

COMMENTS:
SOURCES: <b>13</b>
RECEPTORS: <b>21979</b>
OUTPUT TYPE: <b>Concentration</b>
MAX: <b>8.6 ug/m<sup>3</sup></b>
COMPANY NAME:
MODELER:
DATE: <b>2/26/2021</b>
SCALE: 1:20,000 
PROJECT NO.: