

**REVIEW OF OTAY LANDFILL INC.
AB2588 HEALTH RISK ASSESSMENT (HRA)**

April 7, 2022

Emissions Inventory Facility ID: 7263

Toxics Emissions Inventory Year: 2017

Review Conducted by: Peter Ossowski, SDAPCD

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 September 2, 2020, for the Landfill at 1700 Maxwell Road in Chula Vista based on emissions that occurred in calendar year 2017. Otay Landfill Inc. submitted an HRA to the District on April 12, 2021. The District provided our comments on the HRA along with comments provided from the Office of Environmental Health Hazard Assessment (OEHHA) to Otay Landfill Inc. on November 18, 2021. Otay Landfill Inc. submitted a revised HRA to the District on February 14, 2022 (Revised HRA). Subsequently, the District completed a Modified HRA on April 7, 2022.

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:

Point of Maximum Impact (PMI) Cancer Risk	108.83 in a million
Maximum Exposed Individual Resident (MEIR) Cancer Risk	30.39 in a million
Maximum Exposed Individual Worker (MEIW) Cancer Risk	3.23 in a million
Chronic Non-Cancer Health Hazard Index (PMI)	7.79
Chronic Non-Cancer Health Hazard Index (MEIR)	1.79
Chronic Non-Cancer Health Hazard Index (MEIW)	1.63
8-hour Chronic Non-Cancer Health Hazard Index (MEIW)	0.13
Acute Non-Cancer Health Hazard Index (PMI)	1.64
Acute Non-Cancer Health Hazard Index (MEIR)	1.05
Acute Non-Cancer Health Hazard Index (MEIW)	1.28
Population Excess Cancer Burden	0.49
Sub-Chronic Lead Exposure Risk	<0.12 $\mu\text{g}/\text{m}^3$

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The facility's sources include:

- Landfill
- Haul Roads
- Quarrying
- Stockpiles
- Engines
- Flares

Summary of Health Impacts by Pollutant and Source:

Cancer risk at the MEIR is mainly due to arsenic (69%), benzene (8%), vinyl chloride (5%), EDC (4%), ethyl benzene (4%), acrylonitrile (2%), diesel exhaust (2%), perchloroethylene (1%) lead (1%), nickel (1%), and cadmium (1%).

Cancer risk at the MEIR is mainly due to the stockpiles (49%), the active face of the landfill (31%), JZ flare (7%), the paved roads (6%), Perennial flare (3%), and the engines that power the green waste grinder.

Chronic HHI at the MEIR is mainly due to arsenic (65%), silica (31%), hydrogen sulfide (2%), and nickel (1%).

Chronic HHI at the MEIR is mainly due to the stockpiles (71%), the active face of the landfill (9%), the paved roads (9%), JZ flare (7%), Perennial flare (3%), and the unpaved road leading to the active face of the landfill (1%).

Chronic HHI at the MEIW is mainly due to arsenic (59%), silica (36%), hydrogen sulfide (3%), nickel (2%), and hydrogen chloride (1%).

Chronic HHI at the MEIW is mainly due to the stockpiles (58%), JZ flare (12%), the paved roads (11%), the active face of the landfill (11%), Perennial flare (7%), and the unpaved road leading to the active face of the landfill (1%).

The Acute HHI at the MEIR is due to arsenic (73%) and hydrogen sulfide (27%).

The Acute HHI at the MEIR is due to the stockpiles (60%), the active face of the landfill (28%), the paved roads (8%), the unpaved roads leading to the green waste grinder (1%), JZ flare (1%), the unpaved roads for cover application (1%), and the unpaved roads leading to the active face of the landfill (1%).

The Acute HHI at the MEIW is due to arsenic (70%) and hydrogen sulfide (29%).

The Acute HHI at the MEIW is due to the stockpiles (58%), the active face of the landfill (31%), the paved roads (7%), the unpaved roads leading to the green waste grinder (2%), the unpaved roads leading to the active face of the landfill (1%), and the unpaved roads for cover application (1%).

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The District Revised HRA concludes that residential cancer risk, residential chronic non-cancer HHI, worker chronic non-cancer HHI, residential acute non-cancer HHI, and worker acute non-cancer HHI do exceed the significant risk thresholds specified in District Rule 1210.

Location of Receptors at Maximum Exposure Points:

Universal Transverse Mercator (UTM)	X (m)	Y (m)
Cancer Risk at the (PMI)	498989.69	3607577.33
Cancer Risk at the (MEIR)	499550	3606700
Cancer Risk at (MEIW)	498750	3606750
Chronic Non-Cancer Health Hazard Index (PMI)	498978.20	3607622.56
Chronic Non-Cancer Health Hazard Index (MEIR)	499550	3606700
Chronic Non-Cancer Health Hazard Index (MEIW)	499250	3606700
8-hour Chronic Non-Cancer Health Hazard Index (MEIW)	498500	3606750
Acute Non-Cancer Health Hazard Index (PMI)	4983989.69	3607577.33
Acute Non-Cancer Health Hazard Index (MEIR)	500300	3607800
Acute Non-Cancer Health Hazard Index (MEIW)	500111.59	3607802.47

UTM was used for the geographic coordinate system with the North American Datum of 1983 (NAD83).

Changes to the Revised HRA:

The approved emissions inventory was updated with new emission factors and with a source that was not present in the original inventory.

The additional source was modeled with the same parameters that were used in the approved 2013 HRA for this facility.

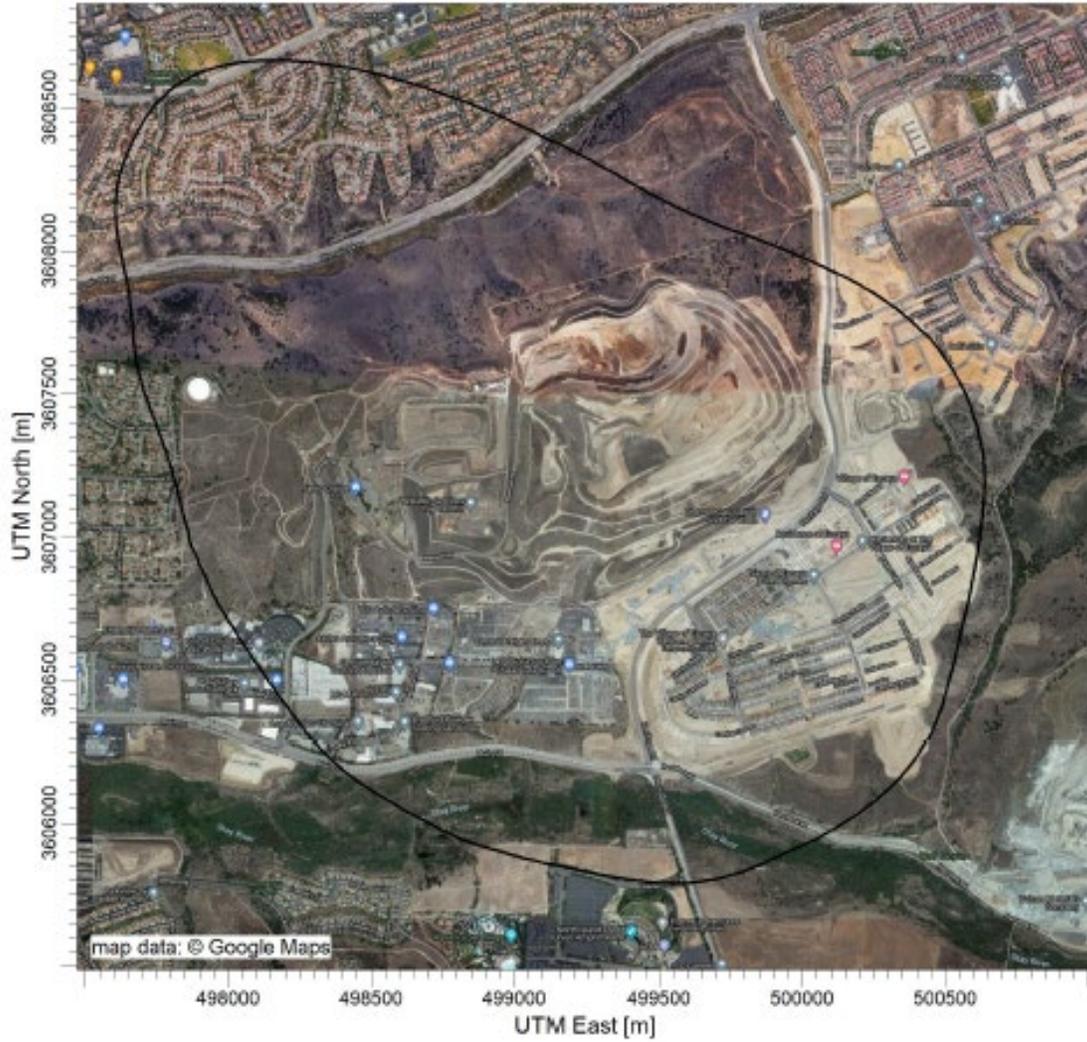
Sub-Chronic Lead Exposure risk analysis was completed according to the Air Resources Board Risk Management Guidelines for Lead, 2001.

District Engineering approved a deposition velocity of 0.02 m/s for all sources from this facility instead of the 0.05 m/s default assuming the majority of the particles, emitted from the entire facility including the haul roads, have an aerodynamic diameter of less than or equal to 10 microns.

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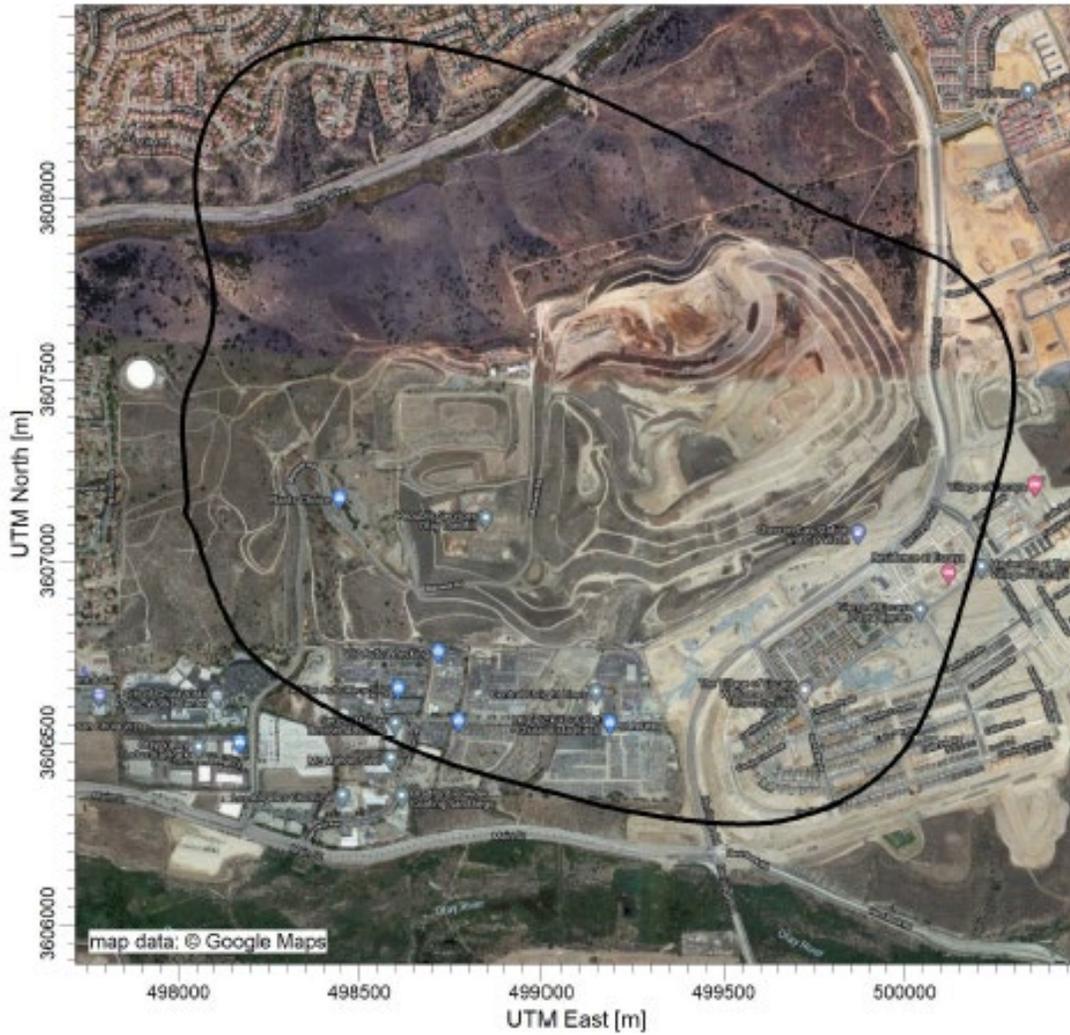
Notification-Triggering Isopleths

Residential Cancer



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Residential Chronic Non-Cancer Health Hazard Index



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Worker Chronic Non-Cancer Health Hazard Index



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Acute Non-Cancer Health Hazard Index

