TAYLOR
ENVIRONMENTAL
SERVICES, INC.

5122 Bolsa Avenue, Suite 101
Huntington Beach, CA 92649
P: (714) 587-2595 F: (714) 587-2598
www.tayloresinc.com

April 7, 2025

Stephen Amberg ***(via email)***
San Diego County Air Pollution Control District
10124 Old Grove Rd, San Diego, CA 92131

Subject: Martin Marrietta San Diego Aggregates, LLC (formally Hanson Aggregates Pacific Southwest, LLC) Emission Inventory ID 9165
Santee Aggregate Facility
Risk Reduction Audit and Plan

Dear Stephen:

On October 9th, 2024, Martin Marietta San Diego Aggregates, LLC received an approval letter for its Health Risk Assessment (HRA) . The letter indicated the Maximum Residential and Occupational Cancer Risk was above 10 in a million, the Maximum Residential and Occupational Chronic Risk was above 1, the 8-hour Chronic Risk was above 1.0, and Acute Occupational Risk was above 1. As a result, public notice and a risk reduction audit and plan is required. Attached you will find the risk reduction and audit plan.

This risk reduction plan outlines two mitigation options. These options are presented as distinct, independent yet sequential phases aimed at reducing dust emissions and associated risks. Each option addresses the primary risk drivers at the site, specifically the unpaved haul roads, and details the steps Martin Marietta is taking to reduce the risk below regulatory thresholds. These plans include an application to modify the Permit to Operate to establish enforceable permit conditions to add additional control to unpaved haul roads.

Option 1 of the plan focuses on near-term risk reduction by maintaining the current haul road route, as presented in the approved Health Risk Assessment (HRA). This phase includes the application of additional control measures, such as increased watering frequency and the application of dust suppressant to mitigate particulate matter. Furthermore, Option 1 involves paving the first 0.15 miles of the unpaved haul road to reduce dust generation from vehicle traffic. This phase addresses the immediate need for dust control to reduce emissions during the near-term operations. This plan can be sustained as long as necessary and brings the facility into compliance with the risk reduction requirements.

Option 2 builds upon the risk mitigation measures implemented in Option 1 but is designed to address anticipated future changes to the haul road routes as presented by Sycamore Landfill. In this phase, the first 0.15 miles of the unpaved haul road will be slightly rerouted and paved, allowing for alignment with future site logistics. These changes are necessary due to potential reconfigurations of the shared property and the need to accommodate operations from other tenants. Like Option 1, Option 2 will continue to employ increased watering and dust suppressant applications to address the risks effectively. Once

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implemented this plan is also sustainable as long as necessary and brings the facility into compliance with the risk reduction requirements.

The distinction between the two options is that Option 1 addresses the immediate, short-term risk reduction, while Option 2 focuses on the anticipated future changes to the haul road routes. This two-option approach offers the flexibility needed to address current site conditions while adapting to future operational demands, ensuring the continued protection of public health and regulatory compliance.

We trust that this two-option approach provides the necessary flexibility to manage site conditions effectively, ensuring risk reduction in the near term while preparing for future operational changes. We look forward to your feedback and approval of the proposed plan.

If you have any questions, please do not hesitate to contact us at 714-587-2595 x2.

Regards,

[redacted]

Susana Mitchell
Taylor Environmental Services, Inc

Cc: Martin Marietta, Erika Guerra (***via email***)

Internal Use Only
APP ID: APCD -APP/CER-
SITE ID: APCD -SITE-

GENERAL PERMIT OR REGISTRATION APPLICATION FORM

San Diego County Air Pollution Control District

Submittal of this application does not grant permission to construct or to operate equipment except as specified in Rule 24(c).

REASON FOR SUBMITTAL OF APPLICATION:

- ☐ New Installation
- ☐ Amendment to Existing Authority to Construct or Application
- ☒ Change of Permit Conditions
- ☐ Registration of Portable Equipment
- ☐ Existing Unpermitted Equipment or Rule 11 Change
- ☐ Change of Equipment Location
- ☐ Change Permit to Operate Status to Inactive
- ☐ Other (Specify)_____
- ☐ Modification of Existing Permitted Equipment
- ☐ Change of Equipment Ownership *(please provide proof of ownership)*
- ☐ Banking Emissions

List affected APP/PTO Record ID(s): 2009-PTO-979270

APPLICANT INFORMATION

Name of Business (DBA) Martin Marietta San Diego Aggregates, LLC.

Does this organization own or operate any other APCD permitted equipment at this or any other adjacent locations? ☒ Yes ☐ No

If yes, list assigned Site Record IDs listed on your Permits APCD2003-SITE-04824

Name of Legal Owner (if different from DBA) Martin Marietta San Diego Aggregates, LLC.

Equipment Owner	Authority to Construct Mailing Address
Name: Martin Marietta San Diego Aggregates, LLC.	Name: Martin Marietta San Diego Aggregates, LLC.
Mailing Address: 4211 Ponderosa Ave, #C	Mailing Address: 4211 Ponderosa Ave. #C
City: San Diego State: CA Zip: 92123	City: San Diego State: CA Zip: 92123
Phone: (925) 365-0004	Phone: (925) 365-0004
E-Mail Address: erika.guerra@martinmarietta.com	E-Mail Address: erika.guerra@martinmarietta.com

Permit To Operate Mailing Address	Invoice Mailing Address
Name: Martin Marietta San Diego Aggregates, LLC.	Name: Martin Marietta San Diego Aggregates, LLC.
Mailing Address: 4211 Ponderosa Ave, #C	Mailing Address: 4211 Ponderosa Ave. #C
City: San Diego State: CA Zip: 92123	City: San Diego State: CA Zip: 92123
Phone: (925) 365-0004	Phone: (925) 365-0004
E-Mail Address: erika.guerra@martinmarietta.com	E-Mail Address: erika.guerra@martinmarietta.com

EQUIPMENT/PROCESS INFORMATION: Type of Equipment: ☒ Stationary ☐ Portable, *if portable please enter below the equipment storage address*. If portable, will operation exceed 12 consecutive months at the same location ☐ Yes ☐ No

Equipment Location Address 8514 Mast Blvd. City San Diego State: CA

Parcel No. 366-041-02-00 Zip_____ Phone (____) _____ E-mail:_____

Site Contact Cortes Macachor Phone (858) 598-1851

General Description of Equipment/Process Aggregate Processing

Application Submitted by ☐ Owner ☐ Operator ☐ Contractor ☒ Consultant Affiliation Taylor Environmental Services, Inc.

EXPEDITED APPLICATION PROCESSING: ☐ I hereby request Expedited Application Processing and understand that:

a) Expedited processing will incur additional fees and permits will not be issued until the additional fees are paid in full (see Rule 40(d)(8)(iv) for details) b) Expedited processing is contingent on the availability of qualified staff c) Once engineering review has begun this request cannot be cancelled d) Expedited processing does not guarantee action by any specific date nor does it guarantee permit approval.

☐ **This application contains trade secret or confidential information** *(see reverse for instructions)*

I hereby certify that all information provided on this application is true and correct.

[redacted] Date 4/7/2025

Print Name Erika Guerra Company Martin Marietta

Phone (925) 365-0004 E-mail Address erika.guerra.@martinmarietta.com

Internal Use Only

Date _____ Staff Initials:_____ Amt Rec'd $ _____ Fee Schedule _____

RNP: _____ EMF: _____ NBF: _____ TA: _____ *GEN_APP_Form_Rev Date: Aug. 2017*

SAN DIEGO COUNTY
AIR POLLUTION CONTROL DISTRICT
10124 Old Grove Rd.
San Diego, CA 92131

MARTIN MARIETTA SAN DIEGO AGGREGATES, LLC
SANTEE FACILITY
SITE ID 01824
OPTION 1 RISK REDUCTION AUDIT AND PLAN
REPORTING YEAR 2021

Prepared For:

Martin Marietta San Diego Aggregates, LLC
4211 Ponderosa Ave. #C
San Diego, CA 92123

Project No.: MMARI-23-3094
Contact: Susana Mitchell
Date: April 7, 2025

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Part I EXECUTIVE SUMMARY

This application, prepared by Taylor Environmental Services, on behalf of Martin Marietta San Diego Aggregates LLC. (Martin Marietta) details the Risk Reduction Audit and Plan (RRAP) for the Aggregate facility located at 8514 Mast Blvd, Santee, CA 92071.

On October 9, 2024, Martin Marietta received approval of the 2021 Health Risk Assessment (HRA). The resulting HRA determined a residential cancer risk of 32.9 in a million, occupational cancer risk of 37.08 in a million, residential non-cancer chronic Health Hazard Index (HHI) of 1.91, occupational non-cancer chronic HHI of 14.41, an occupational 8-hour non-cancer chronic HHI of 5.74, and occupational Acute HHI of 2.225. Pursuant to Rule 1210 (e)1, since the HRA resulted in risk above the significant risk threshold equal to or greater than 10 in a million for maximum individual cancer risk and a total chronic noncancer health hazard index greater than 1.0, a Risk Reduction Audit and Plan is required.

In accordance with San Diego Air Pollution Control District Rule 2010 (e) (1)

(1) Within 180 days of receipt of written notice from the Air Pollution Control Officer that a stationary source's most recent approved health risk assessment indicates health risks at or above the significant risk threshold(s), the owner or operator shall submit to the Air Pollution Control Officer, for completeness review and approval, a risk reduction audit and plan. For the purpose of this section, the significant risk threshold for maximum individual cancer risk shall be:

(i) equal to or greater than 10 in one million for emissions inventory years 2018 and later, or

(ii) equal to or greater than 100 in one million for emissions inventory years prior to 2018.

The risk reduction audit and plan shall comply with the requirements of Subsection (e)(2). Such risk reductions shall be accomplished within five years of the date the plan is approved by the Air Pollution Control Officer unless an extension has been granted pursuant to Subsections (e)(4) or (e)(5).

(2) The risk reduction audit and plan submitted by the owner or operator shall be accompanied by appropriate application(s) to implement the plan and contain all of the following:

(i) The name and location of the stationary source.

(ii) A facility risk characterization which includes an updated emissions inventory report and health risk assessment, if the risk due to total facility emissions has increased to above or decreased to below the levels indicated in the previously approved health risk assessment.

(iii) The identification of all the emission unit(s) for which the owner or operator proposes to reduce toxic air contaminant emissions and the identification of the

airborne toxic risk reduction measures proposed for implementation to reduce such emissions, and the anticipated emission and health risk reductions.

(iv) A schedule for implementing the proposed airborne toxic risk reduction measures within five years. The schedule shall include specific increments of progress towards implementing the airborne toxic risk reduction measures.

(v) A demonstration, including supporting documentation such as emission calculations, that the proposed airborne toxic risk reduction measures will reduce or eliminate toxic air contaminant emissions from the stationary source. The demonstration shall be made through analogy with the approved health risk assessment for the stationary source or by submission of a revised forecast risk assessment. The demonstration also shall include any foreseeable new or increased emissions of toxic air contaminants from the stationary source and the estimated health risks resulting from such new or increased emissions during the period approved for implementation of the risk reduction audit and plan.

(vi) A schedule for providing progress reports on reductions in emissions of toxic air contaminants and estimated health risks achieved under the implemented plan. Progress reports shall include a technology review, as applicable, that provides an update on new emissions reducing technologies, and shall be provided not less frequently than within 12 months from when the plan is approved, and annually thereafter, and may be incorporated into emission inventory report updates required pursuant to Section 44344 of the California Health and Safety Code.

Part II Project Description

A. Business Background

1.	Name	Martin Marietta San Diego Aggregates, LLC.
2.	Owner	Martin Marietta San Diego Aggregates, LLC.
3.	Contact	Erika Guerra - Environmental Director Martin Marietta 4211 Ponderosa Ave, #C San Diego, CA 92123 (925) 365-0004
	Facility Address	8514 Mast Blvd. Santee, CA 92071 (Site ID 04824)
4.	Business Description	Aggregate Processing Facility

B. Description of Facility

Martin Marietta San Diego Aggregates, LLC., operates an Aggregate Crushing and Screening facility located at 8514 Mast Blvd. Santee, CA 92071 (Site ID 04824). Refer to Figure 1 below for a vicinity map detailing the location of the site. The facility produces sand and gravel to supply the construction needs of the San Diego area. Sand and Gravel are key components in a number of critical building materials. It is used as base in foundations for homes, in sidewalks, buildings and roads. The facility provides construction materials for wholesale delivery.

(Source: Google Maps)

Figure 1 - Vicinity Map

Part III Risk Reduction

A. Emission Sources

Martin Marietta San Diego Aggregates, LLC. Santee Facility contains the following emission units that contribute to public health risks above the significant mitigation levels:

- Aggregate Conveying and Screening (volume source)
- Unpaved and Paved haul roads (line volume sources)
- Dozer Mining and Quarry Operations

B. Risk Contribution

According to the 2021 HRA approval letter, dated October 9, 2024, the unpaved haul roads contribute the most to the total health risk at the facility, as seen in Table 1.

Table 1 - Emission Unit Health Risk Contribution

Source	Risk Scenario	Maximum % Contribution
Unpaved Haul Road	Maximum Residential Cancer Risk	90%
Unpaved Haul Road	Maximum Worker Cancer Risk	98%
Unpaved Haul Road	Resident Non-Cancer Health Hazard Index	92%
Unpaved Haul Road	Worker Non-Cancer Health Hazard Index	98%
Unpaved Haul Road	Worker Acute Health Hazard Index	94%

Specific toxic air contaminates (TACs) that contribute the most to overall health risk under the risk scenarios are details in Table 2.

Table 2 - Specific TAC Health Risk Contribution

Risk Scenario	TAC	Maximum % Contribution
Maximum Residential Cancer Risk	Arsenic	96%
Maximum Worker Cancer Risk	Arsenic	91%
Resident Non-Cancer Health Hazard Index	Arsenic	92%
Worker Non-Cancer Health Hazard Index	Arsenic	88%
Worker Acute Health Hazard Index	Arsenic	100%

The largest contributing source is arsenic from the unpaved haul roads. Arsenic is naturally present in the soil. The RRAP is required to reduce the cancer risks below 10 in a million for both resident and worker and the non-cancer chronic and acute health hazard indices below 1.0. The focus of the RRAP will be from the unpaved haul road segment Device D33 as this device is the driving risk.

In January of 2023 the facility submitted a Risk Reduction Plan to SDAPCD for the 2019 Inventory year. That plan included increasing the watering frequency of the roads which greatly reduced emissions such that the risk was lowered for both the residents and the workers below the thresholds. The conditions to implement the mitigation in the plan were added to the permit in the summer of 2024 and the increased watering of the roads had started long before that. Due to timing, the 2021 Inventory was not able to include the 2019 Risk Reduction measures because the approval occurred after the 2021 inventory was prepared. Had the 2019 Risk Reduction been fully accounted for in 2021 Inventory the residential risk would have been below the risk reduction thresholds.

C. Risk Reduction Evaluation

Table 3 below summarizes the existing risk levels as presented in the approved 2021 Health Risk Assessment.

Table 3 - Existing Risk Analysis for Reporting Year 2021

Risk Scenario- Cancer Risk	***Risk (in 1 million)***	***Receptor Location X (m)***	***Receptor Location Y (m)***
Point of Maximum Impact Cancer Risk (PMI)	466	497239.6	3635725.8
Maximum Exposed Individual Resident Cancer Risk (MEIR)	32.90	498639.6	3636025.8
Maximum Exposed Individual Worker Cancer Risk (MEIW)	37.08	497239.6	3635625.8

Risk Scenario- Non- Cancer Chronic Health Hazard Index	***Health Hazard Index***	***Receptor Location X (m)***	***Receptor Location Y (m)***
Maximum Non-Cancer Chronic HHI (PMI)	27.17	497239.6	3635725.8
Maximum Residential Non-Cancer Chronic HHI (MEIR)	1.91	498639.6	3636025.8
Maximum Worker Non-Cancer Chronic HHI (MEIW)	14.41	497239.6	3635625.8
Maximum Worker 8-Hour Non-Cancer Chronic HHI (MEIW)	5.74	497239.6	3635625.8

Risk Scenario- Acute	***Health Hazard Index***	***Receptor Location X (m)***	***Receptor Location Y (m)***
Maximum Acute Health Hazard Index (PMI)	3.77	497214.6	3635450.8
Maximum Residential Acute HHI (MEIR)	0.67	496602.39	3633341.77
Maximum Worker Acute Health Hazard Index (MEIW)	2.23	497239.6	3635625.8

As shown in Table 1, the main contributor to the risk are the unpaved haul roads. The focus of this risk reduction plan is the unpaved haul road Devices D30 and D33.

The risk reduction actions evaluated for the plan are detailed below.

1. Dust suppressant will be applied to the unpaved haul roads D30 and D33 and the frequency of watering will be increased to 2-hour intervals. The emissions from the unpaved haul roads have been recalculated to account for the application of dust suppressant and water. See Attachment “B” for the assumptions used in the unpaved haul road calculations for D30 and D33.

2. The first 0.15-mile section of D33 will be paved. See Attachment “A” for a map depicting the paved road segment of D33.

Table 4 below details the summary of the revised Risk Analysis after paving part of D33 and applying additional control to the unpaved haul roads. Isopleth maps summarizing the results can be found in Attachment "C".

Table 4 - Revised Risk Analysis After Mitigation

Risk Scenario- Cancer Risk	***Risk (in 1 million)***	***Receptor Location***	
		X (m)	***Y (m)***
Point of Maximum Impact Cancer Risk (PMI)	172	497239.6	3636825.8
Maximum Exposed Individual Resident Cancer Risk (MEIR)	7.17	497860.76	3634180.42
Maximum Exposed Individual Worker Cancer Risk (MEIW)	1.66	497239.6	3635625.8

Risk Scenario- Non- Cancer Chronic Health Hazard Index	***Health Hazard Index***	***Receptor Location***	
		X (m)	***Y (m)***
Maximum Non-Cancer Chronic HHI (PMI)	10.07	497239.6	3636825.8
Maximum Residential Non-Cancer Chronic HHI (MEIR)	0.41	497860.76	3634180.42
Maximum Worker Non-Cancer Chronic HHI (MEIW)	0.63	497239.6	3635625.8
Maximum Worker 8-Hour Non-Cancer Chronic HHI (MEIW)	0.25	497239.6	3635625.8

Risk Scenario- Acute	***Health Hazard Index***	***X (m)***	***Y (m)***
Maximum Acute Health Hazard Index (PMI)	1.22	497239.6	3636825.8
Maximum Residential Acute HHI (MEIR)	0.17	497860.76	3634180.42
Maximum Worker Acute Health Hazard Index (MEIW)	0.26	497239.6	3635625.8

After implementing the mitigation measures discussed above, all risk scenarios are under the respective thresholds and the risk reduction requirements are satisfied.

D. Risk Reduction Schedule

Paving of the haul road segment will be completed by the end of Q3 2026. The application of dust suppressant and watering mitigation measures have already begun. Water is applied at 2-hour intervals daily and dust suppressants are applied every 140 days.

E. Permit Modification

Martin Marietta is requesting to modify the Permit to Operate to include a condition on the unpaved haul roads requiring the application of dust suppressant applied every 140 days.

Additionally, Martin Marietta requests a condition requiring the facility to pave 0.15 miles of the unpaved haul road D33 as depicted in Attachment “A”.

ATTACHMENT "A"

ROAD LOCATION

Prepared For: Martin Marietta
CRS: WGS 84 / UTM zone 11N
Date: 04/03/2025

Paved and Unpaved Road Segments

N

0 200 400 600 m

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ATTACHMENT "B"

HAUL ROAD CALCULATIONS

D30: Unpaved Haul Road (0.5 Miles Round Trip)

$E_a = (VMT) \times [(k) \times (5.9) \times (s/12) \times (S/30) \times (W/3)^{0.7} \times (w/4)^{0.5} \times ((365-p)/365)] * (C_i) (1-e)$

$E_h = E_a / (D_a * H)$

E_a =	3273.466056	Annual emissions of PM_{10} (lbs/year)			
E_h =	1.704930237	Maximum hourly emissions of PM_{10} (lbs/hour)			
VMT =	21,590.91	Vehicle miles traveled on site (miles/yr)			
k =	0.36	Particle size multiplier (dimensionless)			
s =	15	Unpaved haul road surface material silt content (weight %)			
S =	10	Mean vehicle speed (miles/hr)			
W =	57	Mean vehicle weight (tons)			
w =	6	Number of vehicle wheels (dimensionless)			
p =	40	Days with precipitation (days/yr)			
C_i =	1	Concentration of each listed substance in the haul road dust (lbs/lb)			
D_a =	240	Active days during reporting period (days/yr)			
H =	8	Hours of operation (hours/day)			
e =	0.95	Control efficiency 2 hr watering, if applicable (%)			
e =	0.6	Control efficiency dust suppresant			
Amount Hauled (tons/yr) =	1,900,000				
Haul Road Distance =	0.5	miles			
Truck Load =	44	tons			

D33: Unpaved Haul Road (2.5 miles round trip)

$E_a = (VMT) \times [(k) \times (5.9) \times (s/12) \times (S/30) \times (W/3)^{0.7} \times (w/4)^{0.5} \times ((365-p)/365)] * (C_i) (1-e)$

$E_h = E_a / (D_a * H)$

E_a =	10922.91731	Annual emissions of PM_{10} (lbs/year)			
E_h =	9.10243109	Maximum hourly emissions of PM_{10} (lbs/hour)			
VMT =	120,000.00	Vehicle miles traveled on site (miles/yr)			
k =	0.36	Particle size multiplier (dimensionless)			
s =	15	Unpaved haul road surface material silt content (weight %)			
S =	10	Mean vehicle speed (miles/hr)			
W =	27.5	Mean vehicle weight (tons)			
w =	6	Number of vehicle wheels (dimensionless)			
p =	40	Days with precipitation (days/yr)			
C_i =	1	Concentration of each listed substance in the haul road dust (lbs/lb)			
D_a =	240	Active days during reporting period (days/yr)			
H =	5	Hours of operation (hours/day)			
e =	0.95	Control efficiency 2 hr watering, if applicable (%)			
e =	0.6	Control efficiency dust suppresant			
Amount Hauled (tons/yr) =	1,200,000				
Haul Road Distance =	2.5	miles			
Truck Load =	25	tons			

D33 New Paved Segment (0.3 miles round trip)

$E_a = (VMT) \times [(k) \times (sL)^{0.91} \times (W)^{1.02} \times (1- P/4N)] * (C_i) (1-e)$

$E_h = E_a / (D_a * H)$

		lbs PM10/yr			
E_a =	486.7774151	Annual emissions of each contaminant, (lbs/year)			
E_h =	0.405647846	Maximum hourly emissions of each contaminant, (lbs/hour)			
	Input				
VMT =	14,400.00	Vehicle miles traveled on site (miles/yr)			
k =	0.0022	Particle size multiplier (lbs/VMT)			
sL =	13.6	Silt loading (oz/yd^2)			
W =	27.5	Average vehicle weight (tons)			
P =	40	Days with precipitation (days/yr)			
N =	365	Number of Days in averaging period			
C_i =	1	Concentration of each listed substance in the haul road dust (lbs/lb)			
D_a =	240	Active days during reporting period (days/yr)			
H =	5	Hours of operation (hours/day)			
e =	0.95	Control efficiency, if applicable (%)			
Amount Hauled (tons/yr) =	1,200,000				
Haul Road Distance =	0.3	miles			
Truck Load =	25	tons			

ATTACHMENT "C"

ISOPLETHS

Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 04/03/2025

25-Year Worker Cancer Risk

N

0 800 1,600 m

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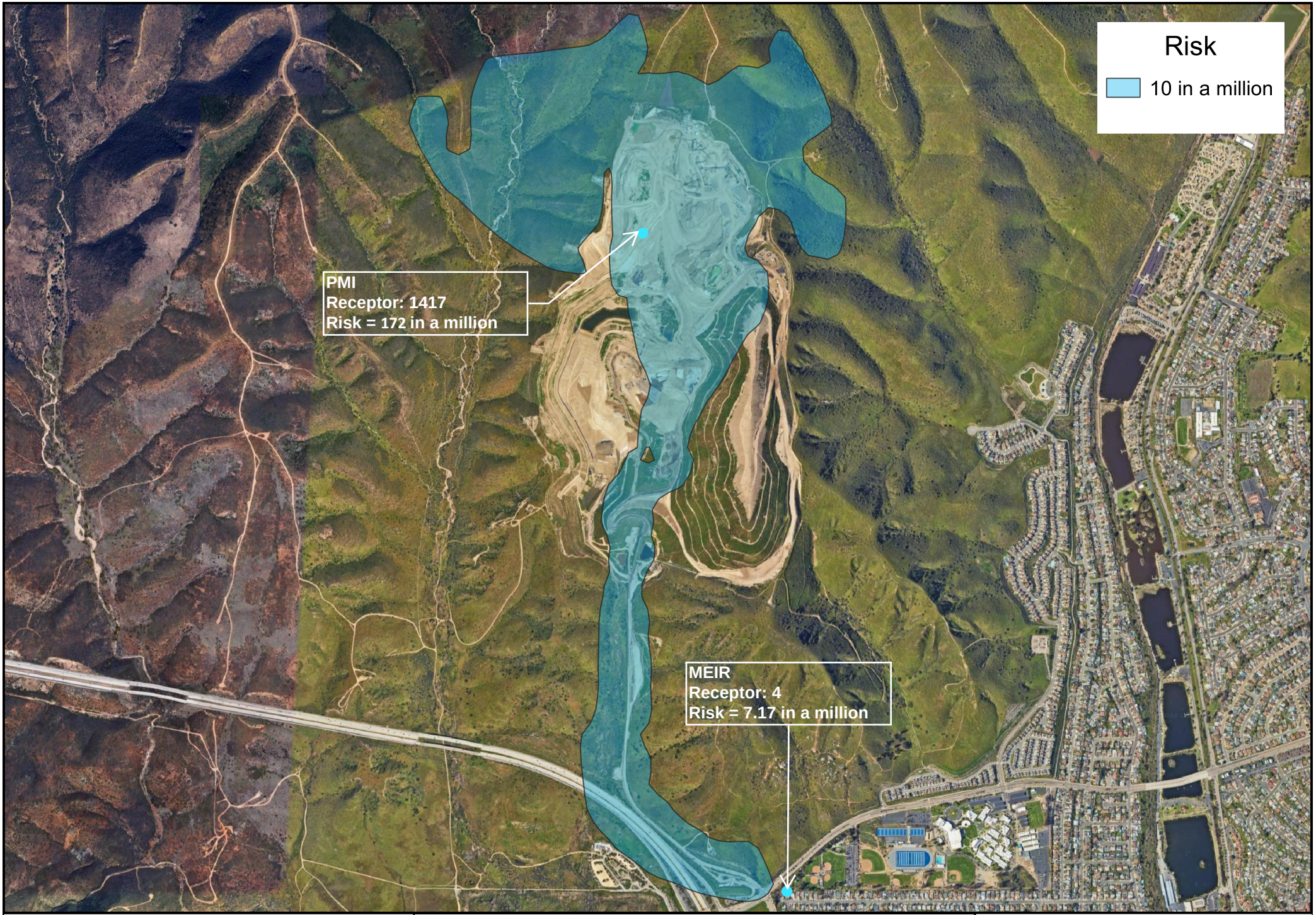

Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 04/03/2025

30-Year Resident Cancer Risk

N

0 800 1,600 m

TAYLOR ENVIRONMENTAL SERVICES, INC.

Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 04/03/2025

Worker Chronic HI

N

0 900 1,800 m

TAYLOR ENVIRONMENTAL SERVICES, INC.

Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 04/03/2025

Resident Chronic HI

N

0 800 1,600 m

TAYLOR ENVIRONMENTAL SERVICES, INC.

Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 04/03/2025

Worker 8-Hour Chronic HI

N

0 800 1,600 m

TAYLOR ENVIRONMENTAL SERVICES, INC.

Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 04/03/2025

Acute HI

N

0 800 1,600 m

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SAN DIEGO COUNTY
AIR POLLUTION CONTROL DISTRICT
10124 Old Grove Rd.
San Diego, CA 92131

MARTIN MARIETTA SAN DIEGO AGGREGATES, LLC
SANTEE FACILITY
SITE ID 01824
OPTION 2 RISK REDUCTION AUDIT AND PLAN
REPORTING YEAR 2021

Prepared For:

Martin Marietta San Diego Aggregates, LLC
4211 Ponderosa Ave. #C
San Diego, CA 92123

Project No.: MMARI-23-3094
Contact: Susana Mitchell
Date: April 7, 2025

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(ii) A facility risk characterization which includes an updated emissions inventory report and health risk assessment, if the risk due to total facility emissions has increased to above or decreased to below the levels indicated in the previously approved health risk assessment.

(iii) The identification of all the emission unit(s) for which the owner or operator proposes to reduce toxic air contaminant emissions and the identification of the

airborne toxic risk reduction measures proposed for implementation to reduce such emissions, and the anticipated emission and health risk reductions.

(iv) A schedule for implementing the proposed airborne toxic risk reduction measures within five years. The schedule shall include specific increments of progress towards implementing the airborne toxic risk reduction measures.

(v) A demonstration, including supporting documentation such as emission calculations, that the proposed airborne toxic risk reduction measures will reduce or eliminate toxic air contaminant emissions from the stationary source. The demonstration shall be made through analogy with the approved health risk assessment for the stationary source or by submission of a revised forecast risk assessment. The demonstration also shall include any foreseeable new or increased emissions of toxic air contaminants from the stationary source and the estimated health risks resulting from such new or increased emissions during the period approved for implementation of the risk reduction audit and plan.

(vi) A schedule for providing progress reports on reductions in emissions of toxic air contaminants and estimated health risks achieved under the implemented plan. Progress reports shall include a technology review, as applicable, that provides an update on new emissions reducing technologies, and shall be provided not less frequently than within 12 months from when the plan is approved, and annually thereafter, and may be incorporated into emission inventory report updates required pursuant to Section 44344 of the California Health and Safety Code.

Part II Project Description

A. Business Background

1.	Name	Martin Marietta San Diego Aggregates, LLC.
2.	Owner	Martin Marietta San Diego Aggregates, LLC.
3.	Contact	Erika Guerra - Environmental Director Martin Marietta 4211 Ponderosa Ave, #C San Diego, CA 92123 (925) 365-0004
	Facility Address	8514 Mast Blvd. Santee, CA 92071 (Site ID 04824)
4.	Business Description	Aggregate Processing Facility

B. Description of Facility

Martin Marietta San Diego Aggregates, LLC., operates an Aggregate Crushing and Screening facility located at 8514 Mast Blvd. Santee, CA 92071 (Site ID 04824). Refer to Figure 1 below for a vicinity map detailing the location of the site. The facility produces sand and gravel to supply the construction needs of the San Diego area. Sand and Gravel are key components in a number of critical building materials. It is used as base in foundations for homes, in sidewalks, buildings and roads. The facility provides construction materials for wholesale delivery.

(Source: Google Maps)

Figure 1 - Vicinity Map

Part III Risk Reduction

A. Emission Sources

Martin Marietta San Diego Aggregates, LLC. Santee Facility contains the following emission units that contribute to public health risks above the significant mitigation levels:

- Aggregate Conveying and Screening (volume source)
- Unpaved and Paved haul roads (line volume sources)
- Dozer Mining and Quarry Operations

B. Risk Contribution

According to the 2021 HRA approval letter, dated October 9, 2024, the unpaved haul roads contribute the most to the total health risk at the facility, as seen in Table 1.

Table 1 - Emission Unit Health Risk Contribution

Source	Risk Scenario	Maximum % Contribution
Unpaved Haul Road	Maximum Residential Cancer Risk	90%
Unpaved Haul Road	Maximum Worker Cancer Risk	98%
Unpaved Haul Road	Resident Non-Cancer Health Hazard Index	92%
Unpaved Haul Road	Worker Non-Cancer Health Hazard Index	98%
Unpaved Haul Road	Worker Acute Health Hazard Index	94%

Specific toxic air contaminates (TACs) that contribute the most to overall health risk under the risk scenarios are details in Table 2.

Table 2 - Specific TAC Health Risk Contribution

Risk Scenario	TAC	Maximum % Contribution
Maximum Residential Cancer Risk	Arsenic	96%
Maximum Worker Cancer Risk	Arsenic	91%
Resident Non-Cancer Health Hazard Index	Arsenic	92%
Worker Non-Cancer Health Hazard Index	Arsenic	88%
Worker Acute Health Hazard Index	Arsenic	100%

The largest contributing source is arsenic from the unpaved haul roads. Arsenic is naturally present in the soil. The RRAP is required to reduce the cancer risks below 10 in a million for both resident and worker and the non-cancer chronic and acute health hazard indices below 1.0. The focus of the RRAP will be from the unpaved haul road segment Device D33 as this device is the driving risk.

In January of 2023 the facility submitted a Risk Reduction Plan to SDAPCD for the 2019 Inventory year. That plan included increasing the watering frequency of the roads which greatly reduced emissions such that the risk was lowered for both the residents and the workers below the thresholds. The conditions to implement the mitigation in the plan were added to the permit in the summer of 2024 and the increased watering of the roads had started long before that. Due to timing, the 2021 Inventory was not able to include the 2019 Risk Reduction measures because the approval occurred after the 2021 inventory was prepared. Had the 2019 Risk Reduction been fully accounted for in 2021 Inventory the residential risk would have been below the risk reduction thresholds.

C. Risk Reduction Evaluation

Table 3 below summarizes the existing risk levels as presented in the approved 2021 Health Risk Assessment.

Table 3 - Existing Risk Analysis for Reporting Year 2021

Risk Scenario- Cancer Risk	***Risk (in 1 million)***	***Receptor Location***	
		X (m)	***Y (m)***
Point of Maximum Impact Cancer Risk (PMI)	466	497239.6	3635725.8
Maximum Exposed Individual Resident Cancer Risk (MEIR)	32.90	498639.6	3636025.8
Maximum Exposed Individual Worker Cancer Risk (MEIW)	37.08	497239.6	3635625.8

Risk Scenario- Non- Cancer Chronic Health Hazard Index	***Health Hazard Index***	***Receptor Location***	
		X (m)	***Y (m)***
Maximum Non-Cancer Chronic HHI (PMI)	27.17	497239.6	3635725.8
Maximum Residential Non-Cancer Chronic HHI (MEIR)	1.91	498639.6	3636025.8
Maximum Worker Non-Cancer Chronic HHI (MEIW)	14.41	497239.6	3635625.8
Maximum Worker 8-Hour Non-Cancer Chronic HHI (MEIW)	5.74	497239.6	3635625.8

Risk Scenario- Acute	***Health Hazard Index***	***Receptor Location***	
		X (m)	***Y (m)***
Maximum Acute Health Hazard Index (PMI)	3.77	497214.6	3635450.8
Maximum Residential Acute HHI (MEIR)	0.67	496602.39	3633341.77
Maximum Worker Acute Health Hazard Index (MEIW)	2.23	497239.6	3635625.8

As shown in Table 1, the main contributor to the risk are the unpaved haul roads. The focus of this risk reduction plan is the unpaved haul road Devices D30 and D33.

Several risk reduction actions have been evaluated for the plan and are detailed below.

1. Dust suppressant will continue to be applied to the unpaved haul roads D30 and D33 and the frequency of watering will be increased to 2-hour intervals. The emissions from the unpaved haul roads have been recalculated to account for the application of dust suppressant and water. See Attachment "B" for the assumptions used in the unpaved haul road calculations for D30 and D33.

2. The risk reduction analysis also considers anticipated changes to worker exposure locations at both the landfill and the energy plant, which are co-located on the site. Specifically, the employee trailer (designated as the MEIW location in the 2021 HRA) will be relocated by the end of June 2025, and the relocation of the scale house area will be completed by July 2025. To address these changes, new receptor locations have been added at these sites to ensure that the risk levels remain below the established thresholds, in addition to the previously analyzed on-site worker locations from the 2021 assessment. A map illustrating the proposed changes to the worker receptor locations is provided in Figure 2 below.

3. As part of the relocation of on-site worker locations, haul roads are being redirected. Therefore, this risk reduction includes the relocation and paving of the first 0.15-mile section of D33. See Attachment "A" for a map depicting the modified paved road segment of D33.

Figure 2 – Worker Receptor Map

Table 4 below details the summary of the revised Risk Analysis after paving part of D33 and applying additional control to the unpaved haul roads. Isopleth maps summarizing the results can be found in Attachment "C".

Table 4 - Revised Risk Analysis After Mitigation

Risk Scenario- Cancer Risk	***Risk (in 1 million)***	***Receptor Location***	
		X (m)	***Y (m)***
Point of Maximum Impact Cancer Risk (PMI)	167	497239.6	3636825.8
Maximum Exposed Individual Resident Cancer Risk (MEIR)	7.92	497860.76	3634180.42
Maximum Exposed Individual Worker Cancer Risk (MEIW)	2.33	497172.2	3634686.5

Risk Scenario- Non- Cancer Chronic Health Hazard Index	***Health Hazard Index***	***Receptor Location***	
		X (m)	***Y (m)***
Maximum Non-Cancer Chronic HHI (PMI)	9.80	497239.6	3636825.8
Maximum Residential Non-Cancer Chronic HHI (MEIR)	0.46	497860.76	3634180.42
Maximum Worker Non-Cancer Chronic HHI (MEIW)	0.89	497172.2	3634686.5
Maximum Worker 8-Hour Non-Cancer Chronic HHI (MEIW)	0.36	497172.2	3634686.5

Risk Scenario- Acute	***Health Hazard Index***	***X (m)***	***Y (m)***
Maximum Acute Health Hazard Index (PMI)	1.29	497239.6	3636825.8
Maximum Residential Acute HHI (MEIR)	0.23	498639.6	3636025.8
Maximum Worker Acute Health Hazard Index (MEIW)	0.35	497239.6	3635625.8

After implementing the mitigation measures discussed above, all risk scenarios are under the respective thresholds and the risk reduction requirements are satisfied.

D. Risk Reduction Schedule

Paving of the new haul road segment will be completed by the end of Q3 2026. The application of dust suppressant and watering mitigation measures have already begun. Water is applied at 2-hour intervals daily and dust suppressants are applied every 140 days.

E. Permit Modification

Martin Marietta is requesting to modify the Permit to Operate to include a condition on the unpaved haul roads requiring the application of dust suppressant applied every 140 days.

Additionally, Martin Marietta requests a condition requiring the facility to pave 0.15 miles of the unpaved haul road D33 as depicted in Attachment “A”.

ATTACHMENT "A"

ROAD LOCATION

Prepared For: Martin Marietta
CRS: WGS 84 / UTM zone 11N
Date: 03/26/2025

Paved and Unpaved Road Segments

N

0 200 400 600 m

TAYLOR ENVIRONMENTAL SERVICES, INC.

ATTACHMENT "B"

HAUL ROAD CALCULATIONS

D30: Unpaved Haul Road (0.5 Miles Round Trip)

$E_a = (VMT) \times [(k) \times (5.9) \times (s/12) \times (S/30) \times (W/3)^{0.7} \times (w/4)^{0.5} \times ((365-p)/365)] * (C_i) (1-e)$

$E_h = E_a / (D_a * H)$

E_a =	3273.466056	Annual emissions of PM_{10} (lbs/year)			
E_h =	1.704930237	Maximum hourly emissions of PM_{10} (lbs/hour)			

VMT =	21,590.91	Vehicle miles traveled on site (miles/yr)
k =	0.36	Particle size multiplier (dimensionless)
s =	15	Unpaved haul road surface material silt content (weight %)
S =	10	Mean vehicle speed (miles/hr)
W =	57	Mean vehicle weight (tons)
w =	6	Number of vehicle wheels (dimensionless)
p =	40	Days with precipitation (days/yr)
C_i =	1	Concentration of each listed substance in the haul road dust (lbs/lb)
D_a =	240	Active days during reporting period (days/yr)
H =	8	Hours of operation (hours/day)
e =	0.95	Control efficiency 2 hr watering, if applicable (%)
e =	0.6	Control efficiency dust suppresant

Amount Hauled (tons/yr) =	1,900,000	
Haul Road Distance =	0.5	miles
Truck Load =	44	tons

D33: Unpaved Haul Road (2.6 Miles Round Trip)

$E_a = (VMT) \times [(k) \times (5.9) \times (s/12) \times (S/30) \times (W/3)^{0.7} \times (w/4)^{0.5} \times ((365-p)/365)] * (C_i) (1-e)$

$E_h = E_a / (D_a * H)$

E_a =	11359.834	Annual emissions of PM_{10} (lbs/year)			
E_h =	9.466528334	Maximum hourly emissions of PM_{10} (lbs/hour)			

VMT =	124,800.00	Vehicle miles traveled on site (miles/yr)
k =	0.36	Particle size multiplier (dimensionless)
s =	15	Unpaved haul road surface material silt content (weight %)
S =	10	Mean vehicle speed (miles/hr)
W =	27.5	Mean vehicle weight (tons)
w =	6	Number of vehicle wheels (dimensionless)
p =	40	Days with precipitation (days/yr)
C_i =	1	Concentration of each listed substance in the haul road dust (lbs/lb)
D_a =	240	Active days during reporting period (days/yr)
H =	5	Hours of operation (hours/day)
e =	0.95	Control efficiency 2 hr watering, if applicable (%)
e =	0.6	Control efficiency dust suppresant

Amount Hauled (tons/yr) =	1,200,000	
Haul Road Distance =	2.6	miles
Truck Load =	25	tons

D33 New Paved Segment (0.3 miles round trip)

$E_a = (VMT) \times [(k) \times (sL)^{0.91} \times (W)^{1.02} \times (1- P/4N)] * (C_i) (1-e)$

$E_h = E_a / (D_a * H)$

lbs PM10/yr

E_a =	486.7774151	Annual emissions of each contaminant, (lbs/year)			
E_h =	0.405647846	Maximum hourly emissions of each contaminant, (lbs/hour)			

	Input	
VMT =	14,400.00	Vehicle miles traveled on site (miles/yr)
k =	0.0022	Particle size multiplier (lbs/VMT)
sL =	13.6	Silt loading (oz/yd^2)
W =	27.5	Average vehicle weight (tons)
P =	40	Days with precipitation (days/yr)
N =	365	Number of Days in averaging period
C_i =	1	Concentration of each listed substance in the haul road dust (lbs/lb)
D_a =	240	Active days during reporting period (days/yr)
H =	5	Hours of operation (hours/day)
e =	0.95	Control efficiency, if applicable (%)

Amount Hauled (tons/yr) =	1,200,000	
Haul Road Distance =	0.3	miles
Truck Load =	25	tons

ATTACHMENT "C"

ISOPLETHS

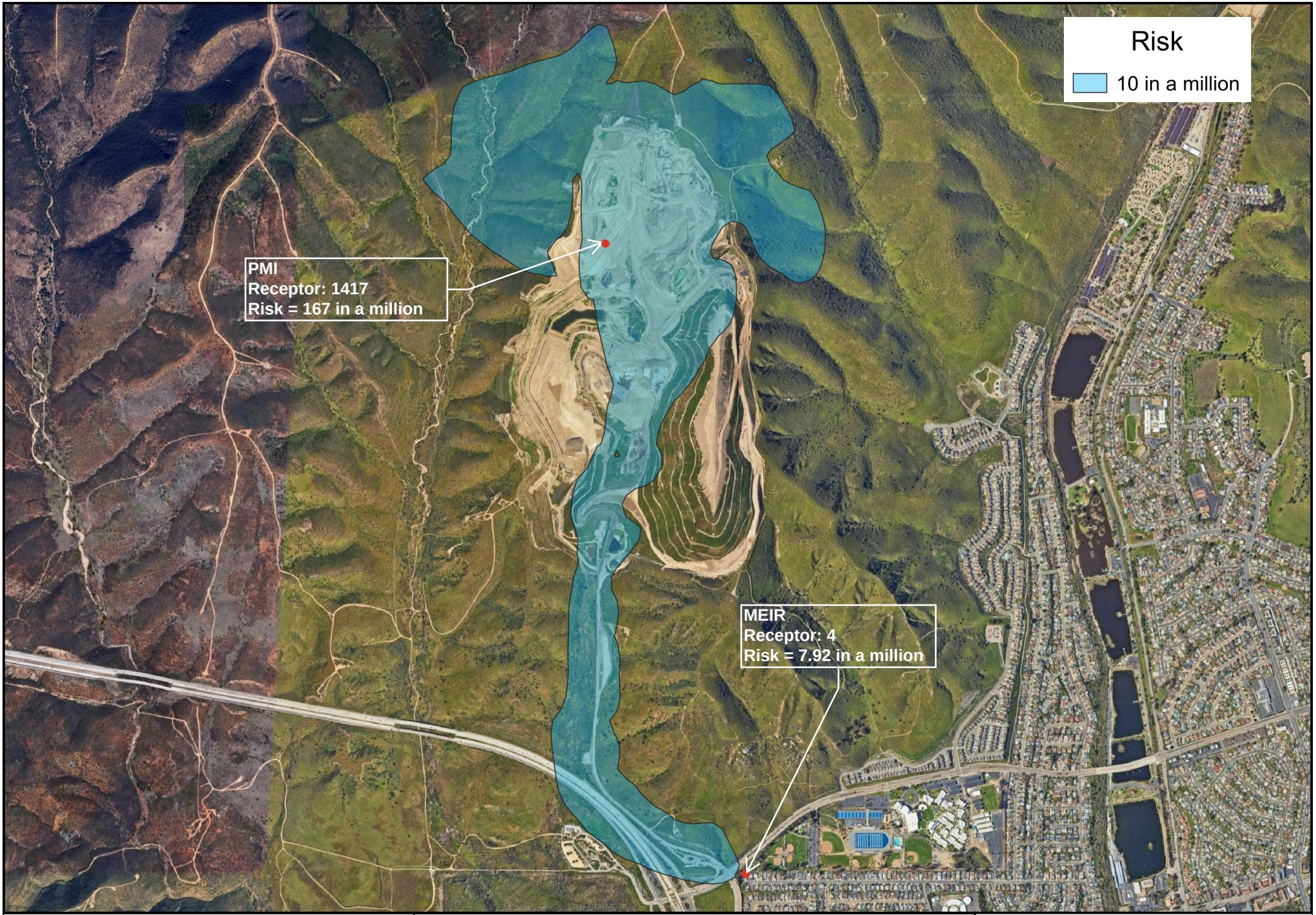
Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 03/31/2025

25-Year Worker Cancer Risk

N

0 800 1,600 m

TAYLOR ENVIRONMENTAL SERVICES, INC.



Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 03/31/2025

30-Year Resident Cancer Risk

N

0 900 1,800 m

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Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 03/31/2025

Worker Chronic HI

N

0 900 1,800 m

TAYLOR ENVIRONMENTAL SERVICES, INC.

Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 03/31/2025

Resident Chronic HI

N

0 900 1,800 m

TAYLOR ENVIRONMENTAL SERVICES, INC.

Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 03/31/2025

Worker 8-Hour Chronic HI

N

0 900 1,800 m

TAYLOR ENVIRONMENTAL SERVICES, INC.

Prepared For: Martin Marietta
Job Number: MMARI-23-3094
CRS: WGS 84 / UTM zone 11N
Date: 03/31/2025

Acute HI

N

0 900 1,800 m

TAYLOR ENVIRONMENTAL SERVICES, INC.