

**PERMIT APPLICATION REVIEW
TEMPORARY COVERED SOURCE PERMIT NO. 0824-01-CT
Application for Initial Review No. 0824-01**

Company: Liana Construction LLC

Mailing Address: 803 Kamehameha, Suite 402
Pearl City, HI 96782

Facility: Crushing and Scalping Plants

Location: Various Temporary Sites, State of Hawaii

Initial Location: ZONE 4 591,752 M East – 2,375,335 M North (NAD-83), Schofield Barracks, Oahu

SIC Code: 1442 (Stone Crushing and Screening, Not Elsewhere Classified)

Responsible Official: Ms. Shelaine Liana
Managing Member
(808) 393-5909

Contact: Mr. Fred Peyer
Environmental Management Consultant
95-109 Waikalani Drive
Mililani, Hawaii 96789
(808) 779-2948

Proposed Project

Liana Construction LLC has submitted an application to operate a 248 TPH Sandvik Track Mounted Jaw Crushing plant and a 385 TPH Sandvik Track Mounted Scalping Screen needed for a new job at Scoffield Barracks, Oahu. These plants are going to be used to process raw material consisting of basalt rock or concrete.

Plant 1

One 248 TPH Sandvik Track Mounted Jaw Crusher, model No. QJ241, consists of a vibrating Grizzly feed hopper, a cone crusher, main conveyor, and a power unit (diesel engine). The crusher can be used as a stand-alone unit, it is track mounted and powered by a 225 HP diesel engine. The diesel engine is exempt since it propels the crusher. The 248 TPH Sandvik Track Mounted Jaw Crusher's capacity is bigger than the 150 TPH limit for portable plants defined in 40 Code of Federal Regulatory (CFR) 60 §60.671, hence it is subject to Title 40 CFR 60, Subpart 000 – Standards of performance for Nonmetallic Mineral Processing Plants.

Process

The feed material is dumped into the crusher hopper by front end loader or from a conveyor belt. The material travels on the grizzly feeder to the crusher. From the crusher it falls onto the main conveyor and travels onto a stockpile.

Plant 2

One 385 TPH track mounted Sandvik QE341 2-deck scalper screen consists of a hopper, two (2) screening decks, oversize conveyor, side conveyor (midsize), and transfer conveyor. The scalper screen can be used as a stand-alone unit. The scalper screen is powered by a 100 HP diesel engine. The diesel engine is exempt since it propels the scalper screen. The scalper screen maybe used before or after the crusher, hence subject to Title 40 CFR, Subpart 000 – Standards of performance for Nonmetallic Mineral Processing Plants.

Process

The scalper screen can be fed by either a front-end loader or a conveyor belt. The material enters the hopper and is separated on the vibrating screens. Oversize material travels on the oversize conveyor to a stockpile or back to a crusher in a closed loop. Mid-size material travels on the side conveyor to a stockpile,

Maximum emission calculations for fugitive dust are calculated separately for the jaw crusher and the scalper screen since the two (2) plants may operate separately, and since there are no hour limitations requested with this application.

Equipment Description

1. 248 TPH Sandvik Track Mounted Jaw Crushing plant, model No. QJ241, serial no. QJ24100056. Manufactured 2014, with a built-in water spray system for dust suppression. Propelled by a 225 hp diesel engine which is exempt pursuant to HAR §11-60.1-82(d)(4).
2. 385 TPH Sandvik Track Mounted Scalping Screen, model No. QE341, serial No. QE34100035. Manufactured 2014, propelled by a 100 hp diesel engine which is exempt pursuant to HAR §11-60.1-82(d)(4).

Due to the size and manufacture date of the crusher, the crusher and screen are subject to 40 CFR Part 60, Subpart 000 - Standards of Performance for Nonmetallic Mineral Processing Plants.

AIR POLLUTION CONTROLS

The crusher features a built-in dust suppression system consisting of spray bars with atomizer nozzles. Water trucks/water sprays will be used as necessary to minimize fugitive dust from plant operations, material transfer points, stockpiles, and plant roads.

APPLICABLE REQUIREMENTS

Hawaii Administrative Rules (HAR)

Title 11 Chapter 59, Ambient Air Quality Standards

Title 11 Chapter 60.1, Air Pollution Control

Subchapter 1, General Requirements

Subchapter 2, General Prohibitions

11-60.1-31, Applicability

11-60.1-32, Visible Emissions

11-60.1-33, Fugitive Dust

11-60.1-38, Sulfur Oxides from Fuel Combustion

- Subchapter 5, Covered Sources
- Subchapter 6, Fees for Covered Sources, Noncovered Sources, and Agricultural Burning
 - 11-60.1-111, Definitions
 - 11-60.1-112, General Fee Provisions for Covered sources
 - 11-60.1-113, Application Fees for Covered sources
 - 11-60.1-114, Annual Fees for Covered sources
 - 11-60.1-115, Basis of Annual Fees for Covered Sources
- Subchapter 8, Standards of Performance for Stationary Sources
 - 11-60.1-161, New Source Performance Standards
- Subchapter 9, Hazardous Air Pollutant Sources
- Subchapter 10, Field Citations

Prevention of Significant Deterioration (PSD) - 40 CFR Part 52, §52.21

This plant is not subject to PSD because it is not a major stationary source as defined as one of the twenty-eight (28) sources in the 40 CFR §52.21 and HAR, Title 11, Chapter 60.1, Subchapter 7, under source list (§11-60.1-131) and the plant's PM emissions do not exceed 250 tons per year.

Compliance Assurance Monitoring (CAM) - 40 CFR Part 64

This plant not subject to CAM because the facility is not a major source. The purpose of CAM is to provide a reasonable assurance that compliance is being achieved with large emissions units that rely on air pollution control device equipment to meet an emissions limit or standard. Pursuant to 40 CFR Part 64, for CAM to be applicable, the emissions unit must:

- (1) Be located at a major source
- (2) Be subject to an emissions limit or standard
- (3) Use a control device to achieve compliance
- (4) Have potential pre-control emissions that are 100% of the major source level
- (5) Not otherwise be exempt from CAM.

Standard of Performance for New Stationary Sources (NSPS), 40 CFR Part 60

Subpart 000 – Standards of Performance for Nonmetallic Mineral Processing Plants is applicable to the crushing plant and screening (manufactured in 2014) because the maximum capacity of the facility is greater than 150 tons/hour, and the crushing plant was manufactured after August 31, 1983.

Standard of Performance for New Stationary Sources (NSPS), 40 CFR Part 60

Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (ICE) is not applicable to these diesel engines, or the Jaw Crusher and the Scalper, because they are considered nonroad engines as defined in 40 CFR §1068.30, and in HAR §11-60.1-82 (d) (4). Subpart IIII applies to stationary internal combustion engines that are not nonroad engines.

National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61

This source is not subject to NESHAP as there are no standards in 40 CFR Part 61 applicable to this facility.

NESHAPs for Source Categories (Maximum Achievable Control Technology (MACT)), 40 CFR Part 63

Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) is not applicable to these diesel engines because the engine is considered a nonroad engine as defined in 40 CFR §1068.30. Subpart ZZZZ applies to stationary internal combustion engines that are not nonroad engines.

Air Emissions Reporting Rule (AERR), 40 CFR Part 51

Subpart A - AERR is not applicable because emissions from the facility do not exceed AERR triggering levels.

Total Facility Emissions and Trigger Levels (TPY) for 248 TPH Crusher 385 and TPH Scalper						
Pollutant	Emissions (no Limits)	BACT Significant Levels	AERR Thresholds	DOH Levels	Wind Erosion	Vehicle Travel on Unpaved Road
CO	0	100	1000	250	0	0
NO_x	0	40	100	25	0	0
SO₂	0	40	100	25	0	0
PM-2.5	0.50	10	100	.	0.62	0.29
PM-10	2.92	15	100	25	0.62	2.63
PM	7.97	25	.	25	1.28	10.77
VOC	0	40	100	25	0	0
HAPs	0	.	.	5	0	0

DOH In-house Annual Emissions Reporting

The Clean Air Branch requests annual emissions reporting from those facilities that have facility wide emissions exceeding in-house reporting levels and for all covered sources. Annual emissions reporting is required because this facility is a covered source.

Best Available Control Technology (BACT).

This source is not subject to BACT analysis with operational limitations because potential emissions do not exceed BACT trigger levels. BACT analysis is required for new sources or modifications to sources that have the potential to emit or increase emissions above significant levels considering any limitations as defined in HAR, §11-60.1-1.

Synthetic Minor Source

A synthetic minor source is a facility that is potentially major, as defined in HAR, §11-60.1-1, but is made non-major through federally enforceable permit conditions. This facility is not a synthetic minor source because potential emissions do not exceed major source thresholds (100 TPY) when the facility is operated without limitations for 8,760 hours/year.

INSIGNIFICANT ACTIVITIES / EXEMPTIONS

The 225 hp diesel engine powering the 248 TPH crusher is exempt in accordance with HAR §11-60.1-82(d)(4) because the engine is used to propel the crusher.

The 100 hp diesel engine powering the 385 TPH Scalper is exempt in accordance with HAR §11-60.1-82(d)(4) because the engine is used to propel the scalper screen.

ALTERNATIVE OPERATING SCENARIOS

The applicant did not propose any alternate operating scenarios.

PROJECT EMISSIONS

Crushing and Screening Plants

The maximum capacities of the crusher and screen were used to calculate emissions. Water sprays will be used to control PM emissions. Emissions were based on emission factors from AP-42 Section 11.19.2 (8/04) – Crushed Stone Processing and Pulverized Mineral Processing.

Project Emissions		
Pollutant	248 TPH Crushing Plant Emissions (TPY)	385 TPH Scalper Plant Emissions (TPY)
		8,760 hr/yr
PM-2.5	0.23	0.27
PM-10	1.01	1.91
PM	2.46	5.51

Wind Erosion Emissions

Storage pile emissions were based on emission factors from AP-42 (4th Edition) Table 8.19.1- Uncontrolled Particulate Emission Factors for Sand and Gravel Processing Plants.

Wind Erosion Emissions		
Pollutant	248 TPH Crushing Plant Emissions (TPY)	385 TPH Scalper Plant Emissions (TPY)
		8,760 hr/yr
PM-2.5	0.31	0.31
PM-10	0.31	0.31
PM	0.64	0.64

Vehicle Travel on Unpaved Roads

The maximum capacities of the crusher and scalper were used to calculate emissions. A 70% control efficiency was assumed for water suppression to control fugitive dust. Emissions were based on emission factors from AP-42 Section 13.2.2 (11/06) – Unpaved Roads.

Vehicle Travel on Unpaved Roads Emissions		
Pollutant	248 TPH Crushing Plant Emissions (TPY)	385 TPH Scalper Plant Emissions (TPY)
	8,760 hr/yr	8760 hr/yr
PM-2.5	0.11	0.18
PM-10	1.03	1.60
PM	4.22	6.55

AIR QUALITY ASSESSMENT

An ambient air quality impact analysis (AAQIA) is not required for the proposed screening plant because emissions are fugitive in nature. The Department of Health air modeling guidance generally does not require an ambient air quality impact analysis for fugitive emissions.

SIGNIFICANT PERMIT CONDITIONS

1. Fugitive Emission Limits
 - a. The permittee shall not cause to be discharged into the atmosphere from any crusher, fugitive emissions which exhibit greater than twelve (12) percent opacity.
 - b. The permittee shall not cause to be discharged into the atmosphere from any transfer point on the belt conveyors, screening operation, or from any other affected facility, fugitive emissions which exhibit greater than seven (7) percent opacity.

Reason: 40 CFR 60, Subpart OOO, Table 3, provisions.

CONCLUSION

Liana Construction LLC has submitted an application for a temporary covered source permit to operate without limitations. Liana Construction LLC is proposing to operate a 248 TPH Sandvik QJ241 mobile tracked jaw crusher powered by a 225 hp diesel engine, and a 385 TPH Sandvik QE341 Scalper powered by a 100 hp diesel engine. The diesel engines are not included in the permit since it propels the crusher and screen, and is exempt pursuant to HAR §11-60.1-82(d), which exempts internal combustion engines propelling mobile sources. Potential emissions were based on the maximum rated capacities of the equipment.

Recommend issuance of the covered source permit subject to the incorporation of the significant permit conditions, a thirty-day (30-day) public comment period, and forty-five-day (45-day) Environmental Protection Agency review period.

Jensen I. Kennedy
 April 8, 2015