

January 31, 2020

Dan Orodener, Executive Officer  
State of Hawaii  
State Land Use Commission  
P.O. Box 2359  
Honolulu, Hawai'i 96804

Michele McLean, Director  
County of Maui  
**Attention: Paul Fasi**  
Department of Planning  
2200 Main Street, Suite 315  
Wailuku, Hawai'i 96793

SUBJECT: State Special Use Permit for Puunene Rock Quarry, TMK: (2)3-8-004:001(por.), and 002(por.), (2)3-8-008:001(por.) and 031(por.),  
Pulehunui, Wailuku, Hawai'i (SP 92-380) (SUP1 91-0013)

Dear Mr. Orodener and Ms. McLean:

The State Land Use Commission (SLUC) at a regularly scheduled meeting on November 20, 2014, voted to approve a time extension request and amendments to the existing State Special Use Permit (SUP) (SP92-380) for the Puunene Quarry. The SUP time extension was granted through July 21, 2032. The approval of the time extension request was subject to 11 conditions. See **Exhibit "A"**.

Condition Number 11 of the SUP approval stated:

*"An annual progress report shall be submitted to the Planning Director and the State Land Use Commission prior to the anniversary date of the approval of the permit. The report shall include, but not be limited to, the status of the development and to what extent the conditions of approval are being complied with. This condition shall remain in effect until all conditions of approval have been complied with and the Planning Director acknowledges that further reports are not required."*

On behalf of the SUP permit holder, Hawaiian Cement, we are submitting this compliance report to meet Condition No. 11 of the SUP. No changes in the operations have occurred since 2013.

**Condition No. 1**

***That the State Land Use Commission Special Use Permit shall be valid to July 21, 2032, subject to further extensions by the Land Use Commission upon a timely request for extension filed at least one-hundred twenty (120) days prior to its expiration. The appropriate Planning Commission shall make a recommendation to the Land Use Commission and may require a public hearing on the time extension.***

**Response:** The permittee concurs with the condition and will comply with the extension request procedures. We note that the SUP for the Puunene Quarry would expire in July 2032.

**Condition No. 2**

***That the conditions of this Land Use Commission Special Use Permit shall be enforced pursuant to Sections 205-12 and 205-13, Hawaii Revised Statutes. Failure to comply with one or more of the conditions herein shall result in a notice of violation issued by the appropriate enforcement agency, notifying the permit holder of the violation and providing the permit holder no more than sixty (60) days to cure the violation. If the permit holder fails to cure the violation within sixty (60) days of said notice, the appropriate enforcement agency shall issue an order which may require one or more of the following: that the violative activity cease; that the violative development be removed; that a civil fine be paid not to exceed ONE THOUSAND AND NO/100 DOLLARS (\$1,000.00) per violation; that a civil fine not to exceed FIVE THOUSAND AND NO/100 DOLLARS (\$5,000.00) shall be issued if violation not cured within six months of the issuance of the order. The order shall become final thirty (30) days after the date of its mailing or hand-delivery unless written request for a hearing is mailed or delivered to the planning department within said (30) days. Upon receipt of a request for a hearing, the Planning Department shall specify a time and place for the permit holder to appear and be heard. The hearing shall be conducted by the Planning Director or the Director's designee in accordance with the provisions of Chapter 91, HRS, as amended.***

**Response:** The permittee concurs with this condition.

**Condition No. 3**

*That the subject State Land Use Commission Special Use Permit shall not be transferred without the prior written approval of the Land Use Commission. The appropriate Planning Commission shall make a recommendation to the Land Use Commission. However, in the event that a contested case hearing preceded issuance of said State Land Use Commission Special Use Permit, a public hearing shall be held by the appropriate Planning Commission upon due published notice, including actual written notice to the last known addresses of parties to said contested case and their counsel.*

**Response:** The permittee concurs with this condition. No permit transfer request is anticipated for the SUP.

**Condition No. 4**

*That the applicant, its successors and permitted assigns shall exercise reasonable due care as to third parties with respect to all areas affected by subject State Land Use Commission Special Use Permit and shall procure at its own cost and expense, and shall maintain during the entire period of this State Land Use Commission Special Use Permit, a policy or policies of comprehensive liability insurance in the minimum amount of ONE MILLION AND NO/100 DOLLARS (\$1,000,000.00) naming the County of Maui and State of Hawaii as an additional named insured, insuring and defending the applicant, County of Maui and State of Hawaii against any and all claims or demands for property damage, personal injury and/or death arising out of this permit, including but not limited to: (1) claims from any accident in connection with the permitted use, or occasioned by any act or nuisance made or suffered in connection with the permitted use in the exercise by the applicant of said rights; and (2) all actions, suits, damages and claims by whomsoever brought or made by reason of the nonobservance or nonperformance of any of the terms and conditions of this permit. A copy of a policy naming County of Maui as an additional named insured shall be submitted to the Department within ninety (90) calendar days from the date of transmittal of the decision and order.*

**Response:** Please find attached, as Exhibit "B", current Certificate of Insurance for the Puunene Quarry, naming the State of Hawai'i as an additional insured.



**Condition No. 5**

***That full compliance with all applicable governmental requirements shall be rendered.***

**Response:** The permittee concurs with the condition.

**Condition No. 6**

***That a restoration plan be submitted, showing upon termination of operations, depleted and excavated areas shall be graded to blend with the surrounding natural contours and that appropriate vegetative cover consisting of trees, shrubs, and ground cover shall be established.***

**Response:** The permittee understands this condition. A restoration plan, approved by the landowner, has previously been submitted to the SLUC upon termination of the quarry operations. See **Exhibit "C"**.

**Condition No. 7**

***That a detailed drainage plan be submitted to the Department of Public Works and Department of Transportation for their review and approval.***

**Response:** A detailed drainage plan was submitted and approved by the Department of Public Works (DPW). Said plan approvals have been previously submitted by the applicant.

**Condition No. 8**

***That a detailed solid waste management plan be submitted to the Public Works for their review and approval.***

**Response:** A solid waste management plan was submitted to the DPW for their review and approval. Said plan approval has been previously submitted by the applicant.

**Condition No. 9**

***That a regular maintenance program for the access road be submitted to Department of Transportation Highways Division and Department of Public Works for review and approval to ensure that loose aggregate, which may have fallen from trucks coming from the quarry site, shall be removed.***



**Response:** A maintenance program was for the access road and was submitted to the SDOT, Highway Division and DPW for review and approval. The SDOT approved said plan. See **Exhibit "D"**.

**Condition No. 10**

***That the applicant shall continue to comply with air pollution control and all other permits for rock crushing, asphalt batching, and all other operations, including the restoration of the site.***

**Response:** The permittee understands this condition and is continuing to comply with air pollution control and other related permits for the quarry operation. Copies of the Covered Source Permit (which expired on April 19, 2016) and an acceptance letter from the Department of Health for a renewal application are attached as **Exhibit "E"**. It is noted that approval of the renewal application is pending.

**Condition No. 11**

***An annual progress report shall be submitted to the Planning Director and the State Land Use Commission prior to the anniversary date of the approval of the permit. The report shall include, but not be limited to the status of the development and to what extent the conditions of approval are being complied with. This condition shall remain in effect until all of the conditions of approval have been complied with and the Planning Director acknowledges that further reports are not required.***

**Response:** This report is being submitted to satisfy this condition for the years 2014, 2015, 2016, 2017, 2018, and 2019.

To date, approximately 77 percent of the acres in the permitted area have been quarried for use.

**Condition No. 12**

***That prior to commencement of quarry operations into the Expansion Areas, the applicant shall provide evidence of approval from the State Department of Transportation regarding a maintenance program for the driveway and surrounding roadway.***

**Response:** As previously noted in the response to Condition No. 9, the SDOT has approved the maintenance program for the Puunene Quarry. Refer to **Exhibit "D"**.

**Condition No. 13**

***That prior to commencement of quarry operations into the Expansion Areas, the applicant shall provide evidence of approval from the State Department of Health regarding modifications to the Clean Air Branch permit.***

**Response:** The permittee understands this condition. As noted, a Covered Source Permit renewal application has been filed and an approval is pending. Refer to **Exhibit "E"**.

**Condition No. 14**

***That prior to commencement of quarry operations into the Expansion Areas, the applicant shall submit an archaeological inventory survey to the State Historic Preservation Division for their review; and shall comply with their subsequent comments.***

**Response:** The permittee had an archaeological inventory survey report prepared for the expansion area at the Puunene Quarry. The report was submitted to the State Historic Preservation Division (SHPD) for review and approval on January 24, 2011. SHPD approved said report via letter dated August 8, 2012. See **Exhibit "F"**. The SHPD concurred that no further archaeological work is required for the site.

**Condition No. 15**

***That the new quarry operations shall be confined to the areas depicted on Exhibit 2 of the Planning Department staff report as "24.476 Acres" and "41.968 Acres" (attached as "Proposed Quarry Mining Site" map, dated July 7, 2005).***

**Response:** The permittee understands this condition. New quarry activities are limited to the expansion area identified on the "Proposed Quarry Mining Site" map that was attached to the SLUC Decision and Order.

It is noted that a request to amend the SUP to add approximately 51.67 acres to the quarry operation was approved by the SLUC in December 2014.

**Condition No. 16**

***That prior to commencement of quarry operations on Quarry Site "C," the Applicant shall submit an archaeological inventory survey of Quarry Site "C" to the State Historic Preservation Division for their review and shall comply with their subsequent comments.***

**Response:** The Applicant had an Archaeological Assessment prepared for Quarry Site "C" and the document was submitted to the State Historic Preservation Division (SHPD) in October 2014. The SHPD provided comments on the report via letter in May 2015. See **Exhibit "G"**. A revised report was revised and re-submitted to SHPD by the Applicant's consultant in July 2015. See **Exhibit "H"**. The Applicant is continuing to coordinate with SHPD on their review of the aforementioned reports.

**Condition No. 17**

***That the new quarry operations on Quarry Site "C" shall be confined to the area identified as Quarry Site "C" on the attached Exhibit "A" entitled Plan Showing Hawaiian Cement Quarry Mining Sites (Revised December 13, 2013).***

**Response:** The Applicant concurs with this condition and has confined the Quarry Site "C" operations as illustrated in the map attached to the December 2014 Decision and Order document. Refer to **Exhibit "A"**.



Dan Orodenker and Michele McLean  
January 31, 2020  
Page 8

Should you have any further questions regarding this report, please do not hesitate to contact me at (808) 983-1233.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Bryan Esmeralda', with a long horizontal flourish extending to the right.

Bryan Esmeralda, AICP  
Senior Associate

BE:la  
Enclosures

cc: Dave Gomes, Hawaiian Cement (w/enclosures)  
K:\DATA\HawnCemt\PuuneneQuarry\SUP Compliance Report\SUP Compliance Report 2020.docx

# **EXHIBIT A.**

## **Decision and Order Approving a Time Extension to a Special Use Permit**



LAND USE COMMISSION  
STATE OF HAWAII

2014 DEC -3 P 12:05

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAII

In The Matter Of The Application Of	)	DOCKET NO. SP92-380
	)	
HAWAIIAN CEMENT	)	DECISION AND ORDER
	)	APPROVING AN
For An Amendment To Special Use Permit	)	AMENDMENT TO SPECIAL
That Established A Rock Quarrying/Crushing	)	USE PERMIT; AND
Operation And Related Uses On	)	CERTIFICATE OF SERVICE
Approximately 172.401 Acres Of Land Situated	)	
Within The State Land Use Agricultural	)	
District At Pulehunui, Wailuku, Maui,	)	
Hawai'i, Tax Map Keys: 3-8-04: Portion Of 1	)	
And 3-8-08: Portion Of 1 And Portion Of 31	)	
_____	)	

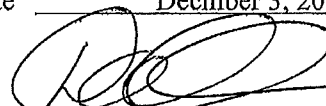
DECISION AND ORDER APPROVING AN AMENDMENT  
TO SPECIAL USE PERMIT

AND

CERTIFICATE OF SERVICE

THIS IS TO CERTIFY THAT THIS IS A TRUE AND CORRECT  
COPY OF THE DOCUMENT ON FILE IN THE OFFICE OF THE  
STATE LAND USE COMMISSION, HONOLULU, HAWAII.

Date December 3, 2014

BY   
Executive Officer





LAND USE COMMISSION  
STATE OF HAWAII

2014 DEC -3 P 12: 05

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAII

In The Matter Of The Application Of	)	DOCKET NO. SP92-380
	)	
HAWAIIAN CEMENT	)	DECISION AND ORDER
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For An Amendment To Special Use Permit	)	AMENDMENT TO SPECIAL
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Hawai'i, Tax Map Keys: 3-8-04: Portion Of 1	)	
And 3-8-08: Portion Of 1 And Portion Of 31	)	
_____	)	

DECISION AND ORDER APPROVING AN AMENDMENT  
TO SPECIAL USE PERMIT

AND

CERTIFICATE OF SERVICE



LAND USE COMMISSION  
STATE OF HAWAII

2014 DEC -3 P 12:05

BEFORE THE LAND USE COMMISSION  
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HAWAIIAN CEMENT	)	DECISION AND ORDER
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District At Pulehunui, Wailuku, Maui,	)	
Hawai'i, Tax Map Keys: 3-8-04: Portion Of 1	)	
And 3-8-08: Portion Of 1 And Portion Of 31	)	
_____	)	

DECISION AND ORDER APPROVING AN AMENDMENT  
TO SPECIAL USE PERMIT

On February 20, 2013, Hawaiian Cement ("Applicant") filed a request with the County of Maui Department of Planning ("DP") to amend the special use permit issued in the above-entitled docket pursuant to section 205-6, Hawai'i Revised Statutes ("HRS"), and sections 15-15-95 and 15-15-96, Hawai'i Administrative Rules ("HAR") by (1) expanding the existing Pu'unēnē Quarry by an additional 41.968 acres of land identified as Tax Map Key ("TMK"): 3-8-04: por. 1 ("Quarry Site 'C'"); (2) including 9.697 acres of land identified as TMK: 3-8-04: por. 1 within the existing quarry operation as part of the permitted area; (3) deleting Condition Number 16 of the

Decision and Order Approving Amendment to Special Permit filed December 18, 2006; and (4) extending the life of the special use permit by 15 years (collectively "Request").

On May 27, 2014, the County of Maui Planning Commission ("Planning Commission") considered the Applicant's Request. There was no public testimony received by the Planning Commission. After due deliberation, at its meeting on May 27, 2014, the Planning Commission recommended approval of the Request to the State of Hawai'i Land Use Commission ("LUC").

On July 30, 2014, the LUC received a copy of the decision and a portion of the record of the Planning Commission's proceedings on the Applicant's Request. On October 15, 2014, the LUC received the remaining portion of the record.

The LUC has jurisdiction over the Applicant's Request. Section 205-6, HRS, and sections 15-15-95 and 15-15-96, HAR, authorize the LUC to approve special use permits and amendments thereto for areas greater than 15 acres.

On November 20, 2014, the LUC met in Kahului, Maui, Hawai'i, to consider the Applicant's Request. Karlynn Fukuda and Dave Gomes appeared on behalf of the Applicant. Kristin Tarnstrom, Esq., and Paul Fasi appeared on behalf of the DP. Bryan C. Yee, Esq., and Rodney Funakoshi also were present on behalf of the State of Hawai'i Office of Planning ("OP").



At the meeting, the Commission heard public testimony from Wil Cambra, Keoni Gomes, Clare Apana, and Johanna Kamaunu. Following the receipt of public testimony, the Applicant provided a presentation on its Request.

As part of its testimony, the DP noted that it had thoroughly reviewed the Applicant's Request and affirmed the Planning Commission's recommendation on the matter. Upon questioning, the DP acknowledged receipt of the December 10, 2007, revised map of the boundaries of the then 105.957-acre Pu'unēnē Quarry approved pursuant to the Findings of Fact, Conclusions of Law, and Decision and Order filed November 25, 1996.

The OP stated that it had no objections to the Applicant's Request.

Following discussion, a motion was made and seconded to approve the Applicant's Request, subject to the following amendment to Condition Number 1 and additional Condition Numbers 16 and 17 as follows:

1. That the State Land Use Commission Special Use Permit shall be valid to July 21, 2032, subject to further extension by the Land Use Commission upon a timely request for extension filed at least one-hundred twenty (120) days prior to its expiration. The appropriate Planning Commission shall make a recommendation to the Land Use Commission and may require a public hearing on the time extension.
16. That prior to commencement of quarry operations on Quarry Site "C," the Applicant shall submit an archaeological inventory survey of Quarry Site "C" to the State Historic Preservation Division for their review and shall comply with their subsequent comments.

17. That the new quarry operations on Quarry Site "C" shall be confined to the area identified as Quarry Site "C" on the attached Exhibit "A" entitled *Plan Showing Hawaiian Cement Quarry Mining Sites* (Revised December 13, 2013).

Following deliberation by the Commissioners, a vote was taken on the motion. There being a vote tally of 7 ayes, 0 nays, and 1 excused, the motion carried.

#### ORDER

The LUC, having duly considered the complete record of the Applicant's Request and the oral arguments presented by the Applicant, OP, and the DP, and a motion having been made at a meeting on November 20, 2014, in Kahului, Maui, Hawai'i, and the motion having received the affirmative votes required by section 15-15-13, HAR, and there being good cause for the motion,

HEREBY ORDERS that the Applicant's Request to (1) expand the existing Pu'unēnē Quarry by an additional 41.968 acres of land identified as TMK: 3-8-04: por. 1 and further identified as Quarry Site "C"; (2) include 9.697 acres of land identified as TMK: 3-8-04: por. 1 within the existing quarry operation as part of the permitted area; (3) delete Condition Number 16 of the Decision and Order Approving Amendment to Special Permit filed December 18, 2006; and (4) extend the life of the special use permit by 15 years be APPROVED, subject to the following amendment to Condition Number 1:

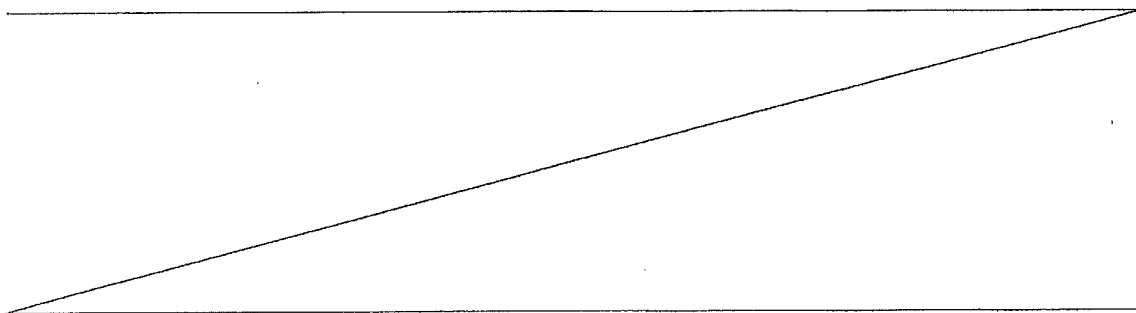
1. That the State Land Use Commission Special Use Permit shall be valid to July 21, 2032, subject to further extension by the Land Use

Commission upon a timely request for extension filed at least one-hundred twenty (120) days prior to its expiration. The appropriate Planning Commission shall make a recommendation to the Land Use Commission and may require a public hearing on the time extension.

IT IS FURTHER ORDERED that the Applicant's Request be APPROVED, subject to the following additional Condition Numbers 16 and 17:

- 16.<sup>1</sup> That prior to commencement of quarry operations on Quarry Site "C," the Applicant shall submit an archaeological inventory survey of Quarry Site "C" to the State Historic Preservation Division for their review and shall comply with their subsequent comments.
17. That the new quarry operations on Quarry Site "C" shall be confined to the area identified as Quarry Site "C" on the attached Exhibit "A" entitled *Plan Showing Hawaiian Cement Quarry Mining Sites* (Revised December 13, 2013).

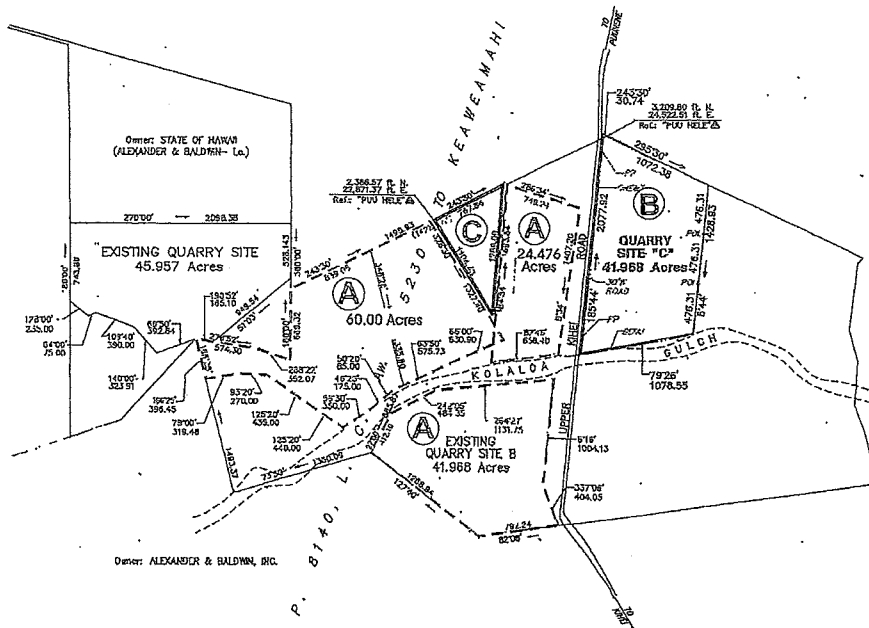
IT IS FURTHER ORDERED that all other conditions to the Decision and Order Approving a Time Extension filed July 15, 2005, and the Decision and Order Approving Amendment to Special Use Permit filed December 18, 2006, shall remain in full force and effect.



<sup>1</sup> This new condition replaces the previous Condition No. 16 of the Decision and Order Approving Amendment to Special Permit filed December 18, 2006, which is deleted with this Decision and Order.



TRUE NORTH  
SCALE 1 in. = 600 ft.



- KEY**
- (A) Area included in SUP and CUP approvals for Quarry
  - (B) Proposed 41.9-acre expansion location for quarry
  - (C) 9.7-acre site that was previously quarried

Prepared for:  
HAWAIIAN CEMENT  
220 SOUTH KING STREET  
HONOLULU, HAWAII 96813

**PLAN SHOWING  
HAWAIIAN CEMENT QUARRY MINING SITES  
AT PULEHUNUI, WAILUKU (KULA), MAUI, HAWAII**

Tax Map Key (2) 3-8-04: 01 (Portion)  
871 KOLU STREET, SUITE 201  
WAILUKU, MAUI, HAWAII 96793

GRAPHIC SCALE IN FEET  
R. T. TANAKA ENGINEERS, INC.  
LAND SURVEYORS - CIVIL & STRUCTURAL ENGINEERS

REVISED: DECEMBER 13, 2013  
REVISED: OCTOBER 18, 2012  
REVISED: JUNE 14, 2012  
DECEMBER 10, 2007

**EXHIBIT "A"**

ADOPTION OF ORDER

This ORDER shall take effect upon the date this ORDER is certified by this Commission.

Done at Honolulu, Hawai'i, this 3rd, day of December, 2014, per motion on November 20, 2014.

LAND USE COMMISSION

APPROVED AS TO FORM

STATE OF HAWAII

Diane Jackson  
Deputy Attorney General

By Chad McDonald  
Chad McDonald  
Chairperson and Commissioner

Filed and effective on:

12/3/14

Certified by:

Daniel Orodanker  
DANIEL ORODENKER  
Executive Officer



LAND USE COMMISSION  
STATE OF HAWAII

2014 DEC -3 P 12:05

BEFORE THE LAND USE COMMISSION  
OF THE STATE OF HAWAII

In The Matter Of The Application Of	)	DOCKET NO. SP92-380
	)	
HAWAIIAN CEMENT	)	CERTIFICATE OF SERVICE
	)	
For An Amendment To Special Use Permit	)	
That Established A Rock Quarrying/Crushing	)	
Operation And Related Uses On	)	
Approximately 172.401 Acres Of Land Situated	)	
Within The State Land Use Agricultural	)	
District At Pulehunui, Wailuku, Maui,	)	
Hawai'i, Tax Map Keys: 3-8-04: Portion Of 1	)	
And 3-8-08: Portion Of 1 And Portion Of 31	)	
_____	)	

CERTIFICATE OF SERVICE

I hereby certify that a DECISION AND ORDER APPROVING AN AMENDMENT TO SPECIAL USE PERMIT was served upon the following by either hand delivery or depositing the same in the U.S. Postal Service by regular or certified mail as noted:

CERTIFIED KARLYNN FUKUDA  
MAIL: Munekiyo & Hiraga Inc.  
305 S. High Street  
Wailuku, Hawai'i 96793  
Petitioner Representative

DEL.: LEO ASUNCION, Acting Director  
State Office of Planning  
P. O. Box 2359  
Honolulu, Hawai'i 96804-2359

REGULAR BRYAN C. YEE, Esq.  
MAIL: Deputy Attorney General  
425 Queen Street  
Honolulu, Hawai'i 96813  
Attorney for State Office of Planning

REGULAR KRISTIN TARNSTROM, Esq.  
MAIL: Department of the Corporation Counsel  
County of Maui  
200 South High Street  
Wailuku, Hawai'i 96793  
Attorney for the County of Maui

REGULAR WILLIAM SPENCE, Director  
MAIL: Department of Planning  
County of Maui  
200 South High Street  
Wailuku, Hawai'i 96793

Dated: Honolulu, Hawai'i, December 3, 2014

A handwritten signature in black ink, appearing to read 'D. Orodenger', written over a horizontal line.

DANIEL ORODENKER

Executive Officer

# **EXHIBIT B.**

## **Certificates of Insurance**





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
12/19/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Marsh USA Inc. 333 South 7th Street, Suite 1400 Minneapolis, MN 55402-2400 Attn: MDU.CertRequest@marsh.com		<b>CONTACT</b> NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL: ADDRESS:	
CN102299309-HAWAC-GAWX-20- 2010 2037 HAWCE AI Y		<b>INSURER(S) AFFORDING COVERAGE</b>	
<b>INSURED</b> HAWAIIAN CEMENT 99-1300 HALAWA VALLEY STREET AIEA, HI 96701		<b>NAIC #</b>	
		INSURER A : Liberty Mutual Fire Ins Co 23035	
		INSURER B : Associated Electric & Gas Ins Services Ltd 3190004	
		INSURER C : Liberty Insurance Corporation 42404	
		INSURER D :	
		INSURER E :	
		INSURER F :	

**COVERAGES** **CERTIFICATE NUMBER:** CHI-007164517-56 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDITIONAL INSURED	SUBROGATION	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:			TB2-641-005097-040	01/01/2020	01/01/2021	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			A12-641-005097-050	01/01/2020	01/01/2021	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
B	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> EXCESS LIAB DED RETENTION \$			XL5063409P	01/01/2020	01/01/2021	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	WA7-64D-005097-020 (Regulated) WA7-64D-005097-010 (AOS) "INCLUDES *STOP-GAP"	01/01/2020 01/01/2020	01/01/2021 01/01/2021	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
Re: Puunene Quarry and the TMKs (TMK 3-8-004: 001 and 002; TMKs 3-8-008: 001 and 031)  
County of Maui is included as an additional insured as required by permits SP92-380, SUP1 91/0013 and CUP 2006/0002 as respects the General Liability and Auto Liability. Blanket Additional Insured for General Liability is included per attached CG 2010 and CG 2037 Endorsements and does not include professional liability coverage. Blanket Additional Insured for Automobile Liability is included per attached designated Insured Endorsement CA 20 48. Excess liability applies to general liability, products and completed operations, automobile liability, and employers liability.

<b>CERTIFICATE HOLDER</b> County of Maui Department of Planning 200 S. High Street Wailuku, Maui, HI 96793	<b>CANCELLATION</b>  SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE of Marsh USA Inc. Manashi Mukherjee <i>Manashi Mukherjee</i>
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# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
12/19/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Marsh USA Inc. 333 South 7th Street, Suite 1400 Minneapolis, MN 55402-2400 Attn: MDU.CertRequest@marsh.com		<b>CONTACT</b> NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL: ADDRESS:	
CN102299309-HAWAC-GAWX-20- 2010 2037 HAWCE AI Y		<b>INSURER(S) AFFORDING COVERAGE</b>	
<b>INSURED</b> HAWAIIAN CEMENT 99-1300 HALAWA VALLEY STREET AIEA, HI 98701		<b>INSURER A:</b> Liberty Mutual Fire Ins Co <b>INSURER B:</b> Associated Electric & Gas Ins Services Ltd <b>INSURER C:</b> Liberty Insurance Corporation <b>INSURER D:</b> <b>INSURER E:</b> <b>INSURER F:</b>	
		<b>NAIC #</b> 23035 3190004 42404	

<b>COVERAGES</b>	<b>CERTIFICATE NUMBER:</b> CHI-007164668-53	<b>REVISION NUMBER:</b>
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.		

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:		TB2-641-005097-040	01/01/2020	01/01/2021	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY		A12-641-005097-050	01/01/2020	01/01/2021	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
B	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> EXCESS LIAB DED RETENTION \$	<input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE	XL5063409P	01/01/2020	01/01/2021	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000
C	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N N/A	WA7-64D-005097-020 (Regulated) WA7-64D-005097-010 (AOS) "INCLUDES *STOP-GAP"	01/01/2020 01/01/2020	01/01/2021 01/01/2021	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
Re: Puunene Quarry and the TMKs (TMK 3-8-004: 001 and 002; TMKs 3-8-008: 001 and 031)  
The State of Hawaii is included as an additional insured as required by permits SP92-380 and SUP1 91/0013 as respects the General Liability and Auto Liability. Blanket Additional Insured for General Liability is included per attached CG 2010 and CG 2037 Endorsements and does not include professional liability coverage. Blanket Additional Insured for Automobile Liability is included per attached designated Insured Endorsement CA 20 48. Excess liability applies to general liability, products and completed operations, automobile liability, and employers liability.

<b>CERTIFICATE HOLDER</b> State of Hawaii Land Use Commission P.O. Box 2357 Honolulu, HI 96804-2359	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE of Marsh USA Inc. Manashi Mukherjee <i>Manashi Mukherjee</i>
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**EXHIBIT C.**

**Restoration Plan**

## RECLAMATION PLAN

### EXHIBIT "C"

#### 1. Objective

To reclaim, for sugar cane cultivation, all areas quarried under subject licenses.

#### 2. Specifications

The reclaimed areas shall be prepared as per specifications issued by HC&S Co. from time to time. Initially, these specifications shall be as follows:

- a. Overburden (soil) shall be placed over the quarry floor at a depth not less than 18" and no deeper than the original overburden existing in the general area prior to quarrying. No rocks over 6" diameter shall be utilized. It is the intent to provide 18" of rock-free soil if at all possible, given the nature of the overburden.
- b. The overburden shall be spread over the quarry floor as evenly as possible with crawler equipped bulldozers. The surface slope should not exceed 5% and should be considered ready for harrowing without further leveling operations.
- c. Where the overburden depth permits, the topsoil shall be removed and stored separately from the underlying subsoil. During reclamation, the subsoil shall be spread first and the final layer spread shall consist of topsoil.

#### 3. Methodology

- a. As soon as the open area at the quarry face exceeds 15 acres in size, reclamation activities shall be initiated. Reclamation shall proceed at a pace equal to or exceeding the pace of quarrying.
  - b. Reclaimed land shall be turned over to the Planation within six months of initiation of reclamation activities.
  - c. Cane shall be taken to avoid drainage problems in areas to be reclaimed. Berms and cut-off ditches shall be used to prevent unwanted drainage into low lying reclaimed canefield areas.
-

Reclamation Plan - Exhibit "C"  
Page Two

- d. Annually, the Licensee shall submit to the Planation, on or before December 31st of each year, a specific reclamation plan for their review and approval. The area selected for reclamation shall be selected after careful consideration of the following factors:
    - (1) location, relative to Licensee's quarrying operations to minimize interference between Planation and Licensee activities
    - (2) location, relative to availability of irrigation water, access to haul cane roads, etc.
    - (3) relationship of area chosen to adjoining field configurations, etc.
    - (4) other factors that may relate to early utilization of land for cane
  - e. All costs of the reclamation plan shall be borne by the Licensee. This shall include the cost of installing irrigation mains and sub-mains required for drip irrigation. The Plantation shall assume the costs involved in harrowing, planting and drip tubing installation.
4. Disputes relative to the reclamation plan or activities therein shall be subject to arbitration is otherwise provided in the basic agreement.
-

# **EXHIBIT D.**

## **State Department of Transportation Approval of Maintenance Plan**

**Gomes, David**

---

**From:** Karlynn Kawahara [karlynn@mhincnline.com]  
**Sent:** Wednesday, October 31, 2007 10:59 AM  
**To:** Gomes, David  
**Subject:** FW: Hawaiian Cement Maintenance Plan

**Attachments:** 081506 Transmittal to DOT Regarding Letter from Hawaiian Cement.pdf



081506  
mittal to DOT R  
Hi Dave,

Got your message. I am researching the original permit and will try to e-mail to you soon. This is the DOT message on the maintenance plan.

Thank you,  
Karlynn

Karlynn Kawahara  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793  
Telephone: (808) 244-2015  
Facsimile: (808) 244-8729  
Email: karlynn@mhincnline.com

CONFIDENTIAL COMMUNICATION: This message is intended for the use of the designated recipient(s) named above. If you have received this message in error, kindly notify us immediately by email or telephone. Thank you.

-----Original Message-----

**From:** Douglas.Meller@hawaii.gov [mailto:Douglas.Meller@hawaii.gov]  
**Sent:** Wednesday, November 15, 2006 3:18 PM  
**To:** Karlynn Kawahara  
**Subject:** Hawaiian Cement Maintenance Plan

Here are Freddie's comments on the proposed maintenance plan.

----- Forwarded by Douglas Meller/HWY/HIDOT on 11/15/2006 03:01 PM -----

Ferdinand

Cajigal/HWY/HIDOT

**To** 11/15/2006 12:34 Antonie Wurster/HWY/HIDOT@HIDOT

PM

**cc** Ronald Tsuzuki/HWY/HIDOT@HIDOT,  
Douglas Meller/HWY/HIDOT@HIDOT,  
David Shimokawa/ADMIN/HIDOT@HIDOT

**Subject**

Hawaiian Cement Maintenance Plan

Toni: I understand that the matter will be heard by State Land Use Commission tomorrow. The maintenance plans is acceptable to us --- therefore recommend approval of the special use permit. My understanding is that the Maui Planning Commission granted the applicant a 3 year extension, thus, we recommend the same. Fifteen years would be too long for uss..... fred

----- Forwarded by Ferdinand Cajigal/HWY/HIDOT on 11/15/2006 12:29 PM  
-----

"Karlynn  
Kawahara"  
<karlynn@mhincorl  
To ine.com> <ferdinand.cajigal@hawaii.gov>  
  
cc 11/15/2006 12:01 "David Gomes"  
PM <Dave.Gomes@hawaiiancement.com>  
  
Subject Hawaiian Cement Maintenance Plan

Hi, Freddie,

Per your request, please see attached transmittal and maintenance plan for



Hawaiian Cement. Please let me know if you have trouble opening the file or if you have questions.

Thank you,  
Karlynn

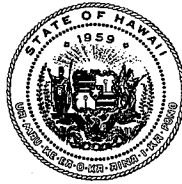
Karlynn Kawahara  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793  
Telephone: (808) 244-2015  
Facsimile: (808) 244-8729  
Email: karlynn@mhincnline.com

CONFIDENTIAL COMMUNICATION: This message is intended for the use of the designated recipient(s) named above. If you have received this message in error, kindly notify us immediately by email or telephone. Thank you.  
(See attached file: 081506 Transmittal to DOT Regarding Letter from Hawaiian Cement.pdf)

# **EXHIBIT E.**

## **Current Permits**

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



LORETTA J. FUDDY, A.C.S.W., M.P.H.  
DIRECTOR OF HEALTH

**STATE OF HAWAII**  
**DEPARTMENT OF HEALTH**  
P. O. BOX 3378  
HONOLULU, HI 96801-3378

In reply, please refer to:  
File:

April 20, 2011

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**  
(7009 0960 0000 3848 6299)

11-251E CAB  
File No. 0252-01

Mr. John DeLong  
President  
Hawaiian Cement  
99-1300 Halawa Valley Street  
Aiea, Hawaii 96701

Dear Mr. DeLong:

**Subject: Covered Source Permit (CSP) No. 0252-01-C**  
**Application for Renewal and Significant Modification No. 0252-06**  
**Hawaiian Cement**  
**653 TPH Aggregate Processing Facility**  
**Located at: Camp 6, Puunene, Maui**  
**Date of Expiration: April 19, 2016**

The subject covered source permit is issued in accordance with Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1. The issuance of this permit is based on the plans, specifications, and information that you submitted as part of your application received on February 26, 2008 and the additional information that you submitted as part of your application received on June 19, August 2, September 10 and 27, 2010, and February 11, 2011. The permit supersedes in its entirety covered Source Permit No. 0252-01-C issued on September 23, 2003.

The covered source permit is issued subject to the conditions/requirements set forth in the following attachments:

- Attachment I: Standard Conditions
- Attachment II: Special Conditions
- Attachment II – INSIG: Special Conditions – Insignificant Activities
- Attachment III: Annual Fee Requirements
- Attachment IV: Annual Emissions Reporting Requirements

Mr. John DeLong  
April 20, 2011  
Page 2

The following forms are enclosed for your use and submittal as required:

Compliance Certification Form  
Annual Emissions Report Form: Diesel Engine Generator and  
Stone Processing Plant  
Monitoring Report Form: Diesel Engine Generator  
Monitoring Report Form: Facility Production  
Monitoring Report Form: Opacity Exceedances

The following forms are enclosed for your use and submittal as required:

Visible Emissions Form Requirements, State of Hawaii  
Visible Emissions Form

This permit: (a) shall not in any manner affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to personal injury or property damage caused by, resulting from or arising out of the design, installation, maintenance, or operation of the equipment; and (c) in no manner implies or suggests that the Hawaii Department of Health, or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to personal injury or property damage caused by, resulting from or arising out of the design, installation, maintenance, or operation of the equipment.

Sincerely,



STUART YAMADA, P.E., CHIEF  
Environmental Management Division

CL:smk

Enclosures

c: Blake Shiigi, EHS – Maui  
CAB Monitoring Section

**ATTACHMENT I: STANDARD CONDITIONS  
COVERED SOURCE PERMIT NO. 0252-01-C**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

This permit is granted in accordance with the Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1, Air Pollution Control, and is subject to the following standard conditions:

1. Unless specifically identified, the terms and conditions contained in this permit are consistent with the applicable requirement, including form, on which each term or condition is based.  
  
(Auth.: HAR §11-60.1-90)
2. This permit, or a copy thereof, shall be maintained at or near the source and shall be made available for inspection upon request. The permit shall not be willfully defaced, altered, forged, counterfeited, or falsified.  
  
(Auth.: HAR §11-60.1-6; SIP §11-60-11)<sup>2</sup>
3. This permit is not transferable whether by operation of law or otherwise, from person to person, from place to place, or from one piece of equipment to another without the approval of the Department of Health, except as provided in HAR, Section 11-60.1-91.  
  
(Auth.: HAR §11-60.1-7; SIP §11-60-9)<sup>2</sup>
4. A request for transfer from person to person shall be made on forms furnished by the Department of Health.  
  
(Auth.: HAR §11-60.1-7)
5. In the event of any changes in control or ownership of the facilities to be constructed or modified, this permit shall be binding on all subsequent owners and operators. The permittee shall notify the succeeding owner and operator of the existence of this permit and its conditions by letter, copies of which will be forwarded to the Department of Health and the U.S. Environmental Protection Agency (EPA), Region 9.  
  
(Auth.: HAR §11-60.1-5, §11-60.1-7, §11-60.1-94)
6. The facility covered by this permit shall be constructed and operated in accordance with the application, and any information submitted as part of the application, for the Covered Source Permit. There shall be no deviation unless additional or revised plans are submitted to and approved by the Department of Health, and the permit is amended to allow such deviation.  
  
(Auth.: HAR §11-60.1-2, §11-60.1-4, §11-60.1-82, §11-60.1-84, §11-60.1-90)

7. This permit (a) does not release the permittee from compliance with other applicable statutes of the State of Hawaii, or with applicable local laws, regulations, or ordinances, and (b) shall not constitute, nor be construed to be an approval of the design of the covered source.

(Auth.: HAR §11-60.1-5, §11-60.1-82)

8. The permittee shall comply with all the terms and conditions of this permit. Any permit noncompliance constitutes a violation of HAR, Chapter 11-60.1 and the Clean Air Act and is grounds for enforcement action; for permit termination, suspension, reopening, or amendment; or for denial of a permit renewal application.

(Auth.: HAR §11-60.1-3, §11-60.1-10, §11-60.1-19, §11-60.1-90)

9. If any term or condition of this permit becomes invalid as a result of a challenge to a portion of this permit, the other terms and conditions of this permit shall not be affected and shall remain valid.

(Auth.: HAR §11-60.1-90)

10. The permittee shall not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the terms and conditions of this permit.

(Auth.: HAR §11-60.1-90)

11. This permit may be terminated, suspended, reopened, or amended for cause pursuant to HAR, Sections, 11-60.1-10 and 11-60.1-98, and Hawaii Revised Statutes (HRS), Chapter 342B-27, after affording the permittee an opportunity for a hearing in accordance with HRS, Chapter 91.

(Auth.: HAR §11-60.1-3, §11-60.1-10, §11-60.1-90, §11-60.1-98)

12. The filing of a request by the permittee for the termination, suspension, reopening, or amendment of this permit, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(Auth.: HAR §11-60.1-90)

13. This permit does not convey any property rights of any sort, or any exclusive privilege.

(Auth.: HAR §11-60.1-90)

14. The permittee shall notify the Department of Health and U.S. EPA, Region 9, in writing of the following dates:

- a. The **anticipated date of initial start-up** for each emission unit of a new source or significant modification not more than sixty (60) days or less than thirty (30) days prior to such date;
- b. The **actual date of construction commencement** within fifteen (15) days after such date; and
- c. The **actual date of start-up** within fifteen (15) days after such date.

(Auth.: HAR §11-60.1-90)

15. The permittee shall furnish, in a timely manner, any information or records requested in writing by the Department of Health to determine whether cause exists for terminating, suspending, reopening, or amending this permit, or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Department of Health copies of records required to be kept by the permittee. For information claimed to be confidential, the Director of Health may require the permittee to furnish such records not only to the Department of Health but also directly to the U.S. EPA, Region 9, along with a claim of confidentiality.

(Auth.: HAR §11-60.1-14, §11-60.1-90)

16. The permittee shall notify the Department of Health in writing, of the **intent to shut down air pollution control equipment for necessary scheduled maintenance** at least twenty-four (24) hours prior to the planned shutdown. The submittal of this notice shall not be a defense to an enforcement action. The notice shall include the following:
  - a. Identification of the specific equipment to be taken out of service, as well as its location and permit number;
  - b. The expected length of time that the air pollution control equipment will be out of service;
  - c. The nature and quantity of emissions of air pollutants likely to be emitted during the shutdown period;
  - d. Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period; and
  - e. The reasons why it would be impossible or impractical to shut down the source operation during the maintenance period.

(Auth.: HAR §11-60.1-15; SIP §11-60-16)<sup>2</sup>

17. **Except for emergencies which result in noncompliance with any technology-based emission limitation in accordance with HAR, Section 11-60.1-16.5, in the event any emission unit, air pollution control equipment, or related equipment malfunctions or breaks down in such a manner as to cause the emission of air pollutants in violation of HAR, Chapter 11-60.1 or this permit, the permittee shall immediately notify the Department of Health of the malfunction or breakdown, unless the protection of personnel or public health or safety demands immediate attention to the malfunction or breakdown and makes such notification infeasible. In the latter case, the notice shall be provided as**

soon as practicable. Within five (5) working days of this initial notification, the permittee shall also submit, in writing, the following information:

- a. Identification of each affected emission point and each emission limit exceeded;
- b. Magnitude of each excess emission;
- c. Time and duration of each excess emission;
- d. Identity of the process or control equipment causing the excess emission;
- e. Cause and nature of each excess emission;
- f. Description of the steps taken to remedy the situation, prevent a recurrence, limit the excessive emissions, and assure that the malfunction or breakdown does not interfere with the attainment and maintenance of the National Ambient Air Quality Standards and state ambient air quality standards;
- g. Documentation that the equipment or process was at all times maintained and operated in a manner consistent with good practice for minimizing emissions; and
- h. A statement that the excess emissions are not part of a recurring pattern indicative of inadequate design, operation, or maintenance.

The submittal of these notices shall not be a defense to an enforcement action.

(Auth.: HAR §11-60.1-16; SIP §11-60-16)<sup>2</sup>

18. The permittee may request confidential treatment of any records in accordance with HAR, Section 11-60.1-14.

(Auth.: HAR §11-60.1-14, §11-60.1-90)

19. This permit shall become invalid with respect to the authorized construction if construction is not commenced as follows:
  - a. Within eighteen (18) months after the permit takes effect, is discontinued for a period of eighteen (18) months or more, or is not completed within a reasonable time.
  - b. For phased construction projects, each phase shall commence construction within eighteen (18) months of the projected and approved commencement dates in the permit. This provision shall be applicable only if the projected and approved commencement dates of each construction phase are defined in Attachment II, Special Conditions, of this permit.

(Auth.: HAR §11-60.1-9, §11-60.1-90)

20. The Department of Health may extend the time periods specified in Standard Condition No. 19 upon a satisfactory showing that an extension is justified. Requests for an extension shall be submitted in writing to the Department of Health.

(Auth.: HAR §11-60.1-9, §11-60.1-90)



21. The permittee shall submit fees in accordance with HAR, Chapter 11-60.1, Subchapter 6.

(Auth.: HAR §11-60.1-90)

22. All certifications shall be in accordance with HAR, section 11-60.1-4.

(Auth.: HAR §11-60.1-4, HAR §11-60.1-90)

23. The permittee shall allow the Director of Health, the Regional Administrator for the U.S. EPA and/or an authorized representative, upon presentation of credentials or other documents required by law:

- a. To enter the premises where a source is located or emission-related activity is conducted, or where records must be kept under the conditions of this permit and inspect at reasonable times all facilities, equipment, including monitoring and air pollution control equipment, practices, operations, or records covered under the terms and conditions of this permit and request copies of records or copy records required by this permit; and
- b. To sample or monitor at reasonable times substances or parameters to ensure compliance with this permit or applicable requirements of HAR, Chapter 11-60.1.

(Auth.: HAR §11-60.1-11, §11-60.1-90)

24. Within thirty (30) days of **permanent discontinuance of the construction, modification, relocation, or operation of a stationary source covered by this permit**, the discontinuance shall be reported in writing to the Department of Health by a responsible official of the source.

(Auth.: HAR §11-60.1-8; SIP §11-60-10)<sup>2</sup>

25. Each permit renewal application shall be submitted to the Department of Health and the U.S. EPA, Region 9, no less than twelve (12) months and no more than eighteen (18) months prior to the permit expiration date. The Director may allow a permit renewal application to be submitted no less than six (6) months prior to the permit expiration date, if the Director determines that there is reasonable justification.

(Auth.: HAR §11-60.1-101, 40 CFR §70.5(a)(1)(iii))<sup>1</sup>

26. The terms and conditions included in this permit, including any provision designed to limit a source's potential to emit, are federally enforceable unless such terms, conditions, or requirements are specifically designated as not federally enforceable.

(Auth.: HAR §11-60.1-93)

27. The compliance plan and compliance certification submittal requirements shall be in accordance with HAR, Sections 11-60.1-85 and 11-60.1-86. As specified in HAR,

Section 11-60.1-86, the compliance certification shall be submitted to the Department of Health and the U.S. EPA, Region 9, once per year, or more frequently as set by any applicable requirement.

(Auth.: HAR §11-60.1-90)

28. Any document (including reports) required to be submitted by this permit shall be certified as being true, accurate, and complete by a responsible official in accordance with HAR, Sections 11-60.1-1 and 11-60.1-4, and shall be mailed to the following address:

Clean Air Branch  
Environmental Management Division  
Hawaii Department of Health  
919 Ala Moana Boulevard, Room 203  
Honolulu, HI 96814

Upon request and as required by this permit, all correspondence to the State of Hawaii Department of Health associated with this Covered Source Permit shall have duplicate copies forwarded to:

Chief  
Permits Office, (Attention: Air-3)  
Air Division  
U.S. Environmental Protection Agency  
Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

(Auth.: HAR §11-60.1-4, §11-60.1-90)

29. To determine compliance with submittal deadlines for time-sensitive documents, the postmark date of the document shall be used. If the document was hand-delivered, the date received ("stamped") at the Clean Air Branch shall be used to determine the submittal date.

(Auth.: HAR §11-60.1-5, §11-60.1-90)

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<sup>1</sup>The citations to the Code of Federal Regulations (CFR) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the CFR. Due to the integration of the preconstruction and operating permit requirements, permit conditions may incorporate more stringent requirements than those set forth in the CFR.

<sup>2</sup>The citations to the State Implementation Plan (SIP) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the SIP.

**ATTACHMENT II: SPECIAL CONDITIONS  
COVERED SOURCE PERMIT NO. 0252-01-C**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

In addition to the standard conditions of the covered source permit, the following special conditions shall apply to the permitted facility:

**Section A. Equipment Description**

1. This permit encompasses the following equipment and associated appurtenances for the 653 TPH Stone Processing Plant:
  - a. One 720 TPH Pioneer Grizzly Feeder, Model 50x24, Serial No. 408532.
  - b. One 653 TPH Pioneer (Primary) Jaw Crusher, Model 4450, Serial No. 408531.
  - c. One 840 TPH JCI 3-Deck Screen, Model JCI620332LP, Serial No. 00LP12132.
  - d. One 525 TPH Deister 2-Deck Screen, Model 5x14, Serial No. 2001169.
  - e. One 645 TPH Cedarapids (Secondary) Rollercone Crusher, Model MVP450.
  - f. One 400 TPH Canica (Tertiary No. 1) Impact Crusher, Model 100VSI, Serial No. 125120-87.
  - g. One 600 TPH Canica (Tertiary No. 2) Impact Crusher, Model 125VSI, Serial No. 125140-92.
  - h. Two Simplicity 8' x 20' Triple Deck Tertiary Screens, Serial Nos. 3820-M160A-3887 and 3820-M160A-3886.
  - i. 150 TPH Fisher Industries Stationary Air Classifier, Serial No. AS-67-607347.
  - j. 525 TPH Syntron Feeder, Model F-480, Serial No. T102615.
  - k. Two Jeffrey Feeders, Model 250, Serial Nos. 884516 and 884517.
  - l. One Surge Rock Feeder.
  - m. Various Conveyors;
  - n. Enclosures; and
  - o. Water spray system.
  - p. One 950 HP Caterpillar Diesel Engine Generator, CAT C27 ATAAC Diesel Engine and CAT SR4B Generator, Diesel Engine Serial No. MJE00535.

**Backup Equipment:**

- q. One 700 TPH Cedarapids Apron Feeder with Hopper, Model VGF4220-15, Serial No. 50058 (backup for 720 TPH Pioneer Grizzly Feeder).
- r. One 800 TPH Pioneer Jaw Crusher, Model 3042, Serial No. UH-3769 (backup for 653 TPH Pioneer Jaw Crusher).
- s. One 600 TPH Metso Minerals 4' x 8' Double Deck Scalping Screen, Model HRVX-9, Serial No. C001061401 (backup for 840 TPH JCI 3-Deck Screen).

(Auth.: HAR §11-60.1-3)

2. An identification tag or name plate shall be displayed on each crusher, screen, feeder, and diesel engine generator listed above to show model no., serial/identification no., and manufacturer. The identification tag or name plate shall be permanently attached to the equipment in a conspicuous location.

(Auth.: HAR §11-60.1-5, §11-60.1-90)

**Section B. Applicable Federal Regulations**

1. The stone processing plant, excluding the 800 TPH Pioneer Jaw Crusher, Model 3042, is subject to the provisions of the following federal regulations:
  - a. 40 CFR Part 60, Standards of Performance for New Stationary Sources, Subpart A, General Provisions; and
  - b. 40 CFR Part 60, Standards of Performance for New Stationary Sources, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.1, §60.670)<sup>1</sup>

2. The diesel engine generator is subject to the provisions of the following federal regulations:
  - a. 40 CFR Part 60, Standards of Performance for New Stationary Sources, Subpart A, General Provisions;
  - b. 40 CFR Part 60, Standards of Performance for New Stationary Sources, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines;
  - c. 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart A, General Provisions; and
  - d. 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR § 60.1, § 60.4200, § 63.1, § 63.6585)<sup>1</sup>

3. The permittee shall comply with all of the applicable provisions of these standards, including all emission limits, notification, testing, monitoring, and reporting requirements. The major requirements of these standards are detailed in the special conditions of this permit.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR Part 60)<sup>1</sup>

**Section C. Operational and Emission Limitations**

**1. Operating Limits Diesel Engine Generator**

- a. The total operating hours of the diesel engine generator shall not exceed 4,380 hours in any rolling twelve-month (12-month) period.
- b. The diesel engine generator shall be fired only on fuel oil no. 2 with:
  - i. A maximum sulfur content not to exceed 0.0015% by weight; and
  - ii. A cetane index or aromatic content as follows:
    - 1) Minimum cetane index of forty (40); or
    - 2) Maximum aromatic content of thirty-five (35) volume percent.
- c. For any six (6) minute averaging period, the diesel engine generator shall not exhibit visible emissions of twenty (20) percent opacity or greater, except as follows: during start-up, shutdown, or equipment breakdown, the diesel engine generator may exhibit visible emissions greater than twenty (20) percent opacity but not exceeding sixty (60) percent opacity for a period aggregating not more than six (6) minutes in any sixty (60) minutes.

(Auth.: HAR §11-60.1-3, §11-60.1-32, §11-60.1-38, §11-60.1-90; SIP §60.1-24)<sup>2</sup>

**2. Minimum Stack Height Diesel Engine Generator**

The stack height for the diesel engine generator shall be at least twenty-four (24) feet above base elevation.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

**3. Operating Limits Stone Processing Plant**

- a. The maximum production of material from the facility shall not exceed 1,000,000 tons in any rolling twelve-month (12-month) period.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

- b. The permittee shall not cause to be discharged into the atmosphere from the 653 TPH Pioneer (Primary) Jaw Crusher, fugitive emissions which exhibit greater than twelve (12) percent opacity.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.672)

- c. The permittee shall not cause to be discharged into the atmosphere, fugitive emissions which exhibit greater than seven (7) percent opacity, from the:

- i. 840 TPH JCI 3-Deck Screen;
- ii. 525 TPH Deister 2-Deck Screen;
- iii. Any transfer point on the belt conveyors (starting from the 720 TPH Pioneer Grizzly Feeder up to and including conveyor C9 and the conveyor transfer points from the Canica tertiary crushers to the Simplicity tertiary screens of application 0252-06 rev 100618); or
- iv. Any other affected facility (as defined in § 60.670 and 60.671).

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.672)

- d. The permittee shall not cause to be discharged into the atmosphere, fugitive emissions which exhibit greater than fifteen (15) percent opacity, from the:

- i. 645 TPH Cedarapids (Secondary) Rollercone Crusher;
- ii. 400 TPH Canica (Tertiary No. 1) Impact Crusher; and
- iii. 600 TPH Canica (Tertiary No. 2) Impact Crusher.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.672)

- e. The permittee shall not cause to be discharged into the atmosphere from the two (2) Simplicity 8' x 20' Triple Deck Tertiary Screens, any transfer point on the belt conveyors (beginning with conveyor C6 of application 0252-06 rev 100617 and all conveyor transfer points following conveyor C6 in the process line, excluding the conveyor transfer points from the Canica tertiary crushers to the Simplicity tertiary screens) or from any other affected facility (as defined in § 60.670 and 60.671), fugitive emissions which exhibit greater than ten (10) percent opacity.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.672)

- f. Backup Equipment

- i. The permittee shall not cause to be discharged into the atmosphere from the 600 TPH Metso Minerals 4' x 8' Double Deck Scalping Screen and all associated conveyor transfer points, fugitive emissions which exhibit greater than ten (10) percent opacity.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR §60.672)

- g. The stone processing plant shall be configured to the layout identified in the covered source permit application, or to an alternate configuration meeting the following:

- i. The permittee shall not operate the stone processing plant in a configuration that would result in an increase in the number of emission points, such as the addition of more transfer or stacking conveyors; and
- ii. The permittee shall not operate the stone processing plant in a configuration that would cause an increase in the capacity of the process flow.

iii. The permittee shall not operate the backup equipment at the same time as the equipment it replaces. The permittee may replace the:

- 1) 720 TPH Pioneer Grizzly Feeder with the 700 TPH Cedarapids Apron Feeder with Hopper;
- 2) 653 TPH Pioneer Jaw Crusher with the 800 TPH Pioneer Jaw Crusher; and
- 3) 840 TPH JCI 3-Deck Screen with the 600 TPH Metso Minerals 4' x 8' Double Deck Scalping Screen.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

4. Fugitive Emission Control

a. The permittee shall take measures to control fugitive dust (e.g., wet suppression, enclosures, dust screens, etc.) at the crushers, screens, material transfer points, stockpiles, and throughout the facility. The Department of Health may at any time require the permittee to further abate fugitive dust emissions if an inspection indicates poor or insufficient control.

(Auth.: HAR §11-60.1-3, §11-60.1-33, §11-60.1-90)

b. The permittee shall not cause or permit fugitive dust to become airborne without taking reasonable precautions and shall not cause or permit the discharge of visible emissions of fugitive dust beyond the lot line of the property boundary on which the emissions originate.

(Auth.: HAR §11-60.1-3, §11-60.1-33, §11-60.1-90)

c. Water spray bars shall be installed, maintained, and utilized as needed during operation of the plant to minimize fugitive dust at the following material drop off points:

- i. Exit of the Primary Crusher;
- ii. Exit of Secondary Crusher to Secondary Screen Exit Conveyor;
- iii. Entrance and Exit of the Tertiary Crushers;
- iv. Entrance to Tertiary Screens;
- v. Entrance to Tertiary Crushing Bin from Secondary Screen Exit Conveyor and Recirculating Conveyor;
- vi. Secondary Screen Exit Conveyor to Tertiary Screens Feed Conveyor;
- vii. Tertiary Crushers Exit Conveyor to Tertiary Screens Feed Conveyor;
- viii. Tertiary Screens Feed Conveyor to Tertiary Screens;
- ix. Conveyor Transfer Points (P)C2 to (P)C4 and (P)C3 to (P)C4; and
- x. Conveyor discharge to all stockpiles.

The Department of Health at any time may require additional water sprays, manual water spraying, and/or enclosures at pertinent locations if an inspection indicates that more fugitive dust control is needed.

(Auth.: HAR §11-60.1-3, §11-60.1-33, §11-60.1-90)

- d. The stone processing plant shall not be operated if observation, or the routine inspection required in Special Condition D.3.b indicates a significant drop in water pressure and/or flow rate, plugged nozzle(s), leak in the piping system, or other problems which affect the efficiency of its water spray system. The permittee shall investigate and correct the problem before resuming operations. The normal operating flow rate (gal/min) for the water spray system shall be established in the performance test conducted pursuant to this Attachment, Section F, and may be incorporated into the permit.

(Auth.: HAR §11-60.1-3, §11-60.1-33, §11-60.1-90)

- e. A water spray system and/or an on-site water truck shall be maintained and utilized during the facility's operating hours and at other times as necessary to minimize fugitive dust on haul roads, facility grounds, and storage piles.

(Auth.: HAR §11-60.1-3, §11-60.1-33, §11-60.1-90)

## 5. Maintenance

The stone processing plant, including the water spray system and enclosures, shall be maintained in good operating condition at all times with scheduled inspections and maintenance as recommended by the manufacturer, or as needed.

(Auth.: HAR §11-60.1-3, §11-60.1-33, §11-60.1-90)

## 6. Alternate Operating Scenario

- a. The permittee may replace the diesel engine generator with a temporary replacement unit if any repair reasonably warrants the removal of the diesel engine generator from its site (i.e., equipment failure, engine overhaul, or any major equipment problems requiring maintenance for efficient operation), permit requirements for the permitted diesel engine generator do not conflict with those required for the replacement unit, and the following provisions are adhered to:
  - i. The installation/operation of the temporary replacement diesel engine generator shall not exceed twelve (12) consecutive months.
  - ii. A request for replacing the diesel engine generator with a temporary replacement unit shall be submitted in accordance with Special Condition E.8.a.
  - iii. The temporary replacement unit must be similar in size to the diesel engine generator being replaced with equal or lesser emissions.



- iv. The temporary replacement unit shall comply with all applicable conditions required for the primary unit including all air pollution control equipment requirements, operating restrictions, and emission limits.
  - v. The diesel engine generator shall be repaired and returned to service at the same location in a timely manner.
  - vi. Removal and return information shall be submitted as required by Special Condition E.8.b.
- b. The Department of Health may require an ambient air quality assessment of the temporary unit, and/or provide a conditional approval to impose additional monitoring, testing, recordkeeping, and reporting requirements to ensure the temporary unit is in compliance with the applicable requirements of the permitted unit being temporarily replaced.
- c. Records shall be maintained in accordance with Special Condition D.10.
- d. The terms and conditions under each operating scenario shall meet all applicable requirements, including the special conditions of this permit.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

#### **Section D. Monitoring and Recordkeeping Requirements**

##### **1. Records**

All records, including support information, shall be maintained for at least five (5) years from the date of the monitoring sample, measurement, test, report, or application. Support information includes all maintenance, inspection, and repair records, and copies of all reports required by this permit. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department of Health or its representative(s) upon request.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-81, §11-60.1-90)

##### **2. Production**

Invoice and inventory records shall be maintained to document the total amount of product produced from the facility on a monthly and twelve-month (12-month) rolling basis for the purpose of the limitation specified in Special Condition C.3.a and for annual emissions reporting. Monthly records shall include the type (e.g., cinder, gravel, fines, etc.) and the amount of material (tons) processed.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

### 3. Water Spray System

- a. A non-resetting water meter shall be installed, operated and maintained for the water spray system of the 653 TPH stone processing plant to determine the cumulative gallons of water used for fugitive dust control and gallon per minute flow rate of the water spray system for the plant.
- b. The water spray system, to include the water pump, piping system, spray nozzles and any gauges (i.e., water pressure, water flow meter, etc.) shall be checked routinely or at least once per week to insure proper operation of the water spray system.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

### 4. Visible Emissions (VE)

- a. The permittee shall conduct **monthly** (calendar month) VE observations of the diesel engine generator by a certified reader in accordance with 40 CFR Part 60, Appendix A, Method 9. For each month, two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals. For the VE observations of the diesel engine generator, the observer shall comply with the following additional requirements:
  - i. The distance between the observer and the emission source shall be at least three (3) stack heights, but not more than 402 meters (0.25 miles); and
  - ii. The observer shall, when possible, select a position that minimizes interference from other sources of visible emissions. The required observer position relative to the sun (Method 9, 40 CFR Part 60, Appendix A-4, Section 2.1) shall be followed.
- b. Except in those months where a performance test is conducted pursuant to Special Condition D.5 below, the permittee shall conduct **monthly** (calendar month) VE observations for the stone processing plant. Observations shall be made at emission points subject to an opacity limit, and shall be performed by a certified reader in accordance with 40 CFR Part 60, Appendix A, Method 9. For the monthly observation, two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals for each emission point. The observer shall comply with the following additional requirements:
  - i. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet);
  - ii. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources. The required observer position relative to the sun (Method 9; Section 2.1) shall be followed; and
  - iii. The observer shall record the operating capacity (ton/hr) of the plant at the time the observations were made.

The Department of Health may allow observation of a portion of the total emission points at the stone processing plant, if it can be demonstrated that operations have been in compliance with the permit. At a minimum, at least three (3) emission points

from the stone processing plant shall be observed each month. At a minimum, the three (3) selected points from the plant shall include one (1) crusher, one (1) screen, and one (1) transfer point or those points as specified by the Department of Health. The points observed shall be rotated so that each crusher, screen, and transfer point is eventually observed. The Department may require additional emission points to be observed. Allowance to observe a portion of the total required emission points shall be obtained in writing from the Department of Health.

- c. Records shall be completed and maintained in accordance with the **Visible Emissions Form Requirements**.

(Auth.: HAR §11-60.1-3, §11-60.1-32, §11-60.1-90)

#### 5. Performance Test

Source performance tests shall be conducted on the stone processing plant pursuant to this Attachment, Section F. Test plans, summaries and results shall be maintained in accordance with the requirements of this section.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

#### 6. Operating Hours

A non-resetting hour meter shall be installed, operated, and maintained on the diesel engine generator for the permanent recording of the total hours operated. The non-resetting meter shall not allow the manual resetting or other manual adjustments of the meter readings. The installation of any new non-resetting meters or the replacement of any existing non-resetting meters shall be designed to accommodate a minimum of five (5) years of equipment operation, considering any operational limitations, before the meter returns to a zero reading.

The meter shall permanently record the total hours of operation for the purpose of the hour limitations specified in Special Condition C.1.a. The following information shall be recorded for the diesel engine:

- a. Date of meter readings;
- b. Beginning and ending meter readings for each month;
- c. Total hours of operation for each month; and
- d. Total hours of operation on a rolling twelve-month (12-month) basis.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

#### 7. Fuel Specification

Fuel purchase receipts, showing the fuel type, sulfur content (percent by weight), minimum cetane index or maximum aromatic content (volume percent), date of delivery, and amount

(gallons) of fuel delivered for the diesel engine generator shall be maintained for purposes of the fuel limits specified in Special Condition C.1.b, and annual emissions reporting. Fuel sulfur content, cetane index, and aromatic content may be demonstrated by providing the supplier's fuel specification sheet for the type of fuel purchased and received.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90)

#### 8. Inspection, Maintenance, and Repair Log

Equipment inspection, maintenance, and repair work. An inspection, maintenance and repair log shall be maintained for the equipment covered under this permit. Inspection of, and replacement of parts and repairs to the diesel engine generator, crushers, screens, conveyors, and water spray system, shall be well documented. At a minimum, the following records shall be maintained:

- a. The date of the inspection/maintenance/repair work;
- b. A description of the part(s) inspected or repaired;
- c. A description of the findings and any maintenance or repair work performed; and
- d. The name and title of the personnel performing inspection/work.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

#### 9. Operation of Backup Equipment

The permittee shall record the following information for each period of time the Backup Equipment is operated:

- a. The date the Backup Equipment begins operating;
- b. The date the Backup Equipment stops operating; and
- c. All periods of time during which the Backup Equipment and the equipment it is allowed to replace, as specified in Special Condition C.3.g.iii, are operated simultaneously. Record the start date and end date of simultaneous operation.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

#### 10. Alternate Operating Scenario

The permittee shall contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility, the scenario under which it is operating.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

## **Section E. Notification and Reporting Requirements**

### **1. Standard Conditions Reporting**

Notification and reporting pertaining to the following events shall be done in accordance with Attachment I, Standard Condition Nos. 14, 16, 17, and 24, respectively:

- a. Anticipated date of initial start-up, actual date of construction commencement, and actual date of start-up;
- b. Intent to shut down air pollution control equipment for necessary scheduled maintenance;
- c. Emissions of air pollutants in violation of HAR, Chapter 11-60.1 or this permit (excluding technology-based emission exceedances due to emergencies); and
- d. Permanent discontinuance of construction, modification, relocation, or operation of the facility covered by this permit.

(Auth.: HAR §11-60.1-8, §11-60.1-15, §11-60.1-16, §11-60.1-90; SIP §11-60-10, §11-60-16)<sup>2</sup>

### **2. Deviations**

The permittee shall report (in writing) **within five (5) working days** any deviations from permit requirements, including those attributable to upset conditions, the probable cause of such deviations and any corrective actions or preventive measures taken. Corrective actions may include a requirement for additional testing, or more frequent monitoring, or could trigger implementation of a corrective action plan.

(Auth.: HAR §11-60.1-3, §11-60.1-15, §11-60.1-16, §11-60.1-90)

### **3. Notification of Constructed Stack Height**

The permittee shall submit to the Department of Health written notification of the final constructed stack height of the diesel engine generator within **fifteen (15) days** following receipt of this covered source permit.

### **4. Annual Emissions Reports**

- a. As required by Attachment IV and in conjunction with the requirements of Attachment III, Annual Fee Requirements, the permittee shall report **annually** the total tons per year emitted of each regulated pollutant, including hazardous air pollutants. The report is due **within sixty (60) days** following the end of each calendar year. The following enclosed forms shall be used for reporting:

**Annual Emissions Report Form: Diesel Engine Generator and  
Stone Processing Plant**

- b. Upon the permittee's written request, the deadline for annual emissions reporting may be extended, if the Department of Health determines that reasonable justification exists for the extension.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

## 5. Monitoring Reports

The permittee shall submit **semi-annually** the following reports to the Department of Health. The reports shall be submitted **within sixty (60) days** after the end of each semi-annual calendar period (January 1 - June 30 and July 1 - December 31), shall be signed and dated by a responsible official, and shall include the following:

- a. The total production (tons) of the stone processing plant on a monthly and twelve-month (12-month) rolling basis;
- b. The total operating hours of the diesel engine generator on a monthly and twelve-month (12-month) rolling basis;
- c. Identification of the type of fuel fired in the 950 HP Diesel Engine Generator. Including:
  - i. The maximum sulfur content (percent by weight) of the fuel; and
  - ii. The minimum cetane index or maximum aromatic content of the fuel.
- d. All periods of time during which the Backup Equipment and the equipment it is allowed to replace, as specified in Special Condition C.3.g.iii, are operated at the same time; and
- e. Identification of any opacity exceedances as determined by the required VE monitoring of the stone processing plant. Each exceedance reported shall include the date, six (6) minute average opacity reading, possible reason for exceedance, duration of exceedance, and corrective actions taken. If there were no exceedances, the permittee shall submit in writing a statement indicating that for each equipment there were no exceedances for that semi-annual period for the stone processing plant.

The following enclosed **Monitoring Report Forms: Diesel Engine Generator; Facility Production; and Opacity Exceedances** shall be used.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

## 6. Performance Testing

- a. At least **thirty (30) days prior** to conducting a source performance test pursuant to Attachment II, Section F, the permittee shall submit a written performance test plan to the Department of Health in accordance with Special Condition F.4.

- b. Written reports of the results of the performance tests conducted to demonstrate compliance shall be submitted to the Department of Health **within sixty (60) days** after the completion of the performance test, and shall be in conformance with Special Condition F.6.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR § 60.676)<sup>1</sup>

## 7. Compliance Certification

During the permit term, the permittee shall submit at least **annually** to the Department of Health and U.S. EPA, Region 9, the attached **Compliance Certification Form** pursuant to HAR, §11-60.1-86. The permittee shall indicate whether or not compliance is being met with each term or condition of this permit. The compliance certification shall be submitted **within ninety (90) days after the end of each calendar year**, and shall be signed and dated by a responsible official. The compliance certification shall include, at a minimum, the following information:

- a. The identification of each term or condition of the permit that is the basis of the certification;
- b. The compliance status;
- c. Whether compliance was continuous or intermittent;
- d. The methods used for determining the compliance status of the source currently and over the reporting period;
- e. Any additional information indicating the source's compliance status with any applicable enhanced monitoring and compliance certification including the requirements of Section 114(a)(3) of the Clean Air Act or any applicable monitoring and analysis provisions of Section 504(b) of the Clean Air Act; and
- f. Any additional information as required by the Department of Health including information to determine compliance. Upon written request of the permittee, the deadline for submitting the compliance certification may be extended, if the Department of Health determines that reasonable justification exists for the extension.

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90)

## 8. Alternate Operating Scenario

- a. The permittee shall submit a written request and receive prior written approval from the Department of Health before exchanging a permitted diesel engine generator with a temporary replacement unit. The written request shall identify, at a minimum, the reasons for the replacement of the diesel engine generator from the site of operation and the estimated time period/dates for the temporary replacement, type, size, and manufacturing date of the temporary unit, emissions data, and stack parameters.

- b. Prior to the removal and return of the permitted diesel engine generator, the permittee shall submit to the Department of Health written documentation on the removal and return dates and on the make, size, model, and serial numbers for both the temporary replacement unit and the installed unit.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

## **Section F. Testing Requirements**

### **1. Performance Testing**

#### **a. Initial and Annual Testing**

Within sixty (60) days after achieving the maximum production rate at which the equipment will be operated but not later than one-hundred eighty (180) days after the initial startup of the equipment, and annually thereafter the permittee shall conduct or cause to be conducted, performance tests on the equipment subject to the opacity limits of Special Condition C.3.b. and C.3.c.

#### **b. Annual Testing**

On an annual basis the permittee shall conduct or cause to be conducted, performance tests on the equipment subject to the opacity limits of Special Condition C.3.d, C.3.e, and C.3.f.

- c. The Department of Health may require testing at other points in the facility if an inspection indicates poor or insufficient controls.
- d. Source performance testing is not required for a specific calendar year, for the following equipment, under the following circumstances:
  - i. The 600 TPH Metso Minerals 4' x 8' Double Deck Scalping Screen is not operated at any time during the specific calendar year;
  - ii. The 653 TPH Pioneer Jaw Crusher is not operated at any time during the specific calendar year; and
  - iii. The 840 TPH JCI 3-Deck Screen is not operated at any time during the specific calendar year.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; §11-60.1-161, 40 CFR §60.675, SIP §11-60.15)<sup>1,2</sup>



## 2. Performance Test Methods

- a. The performance tests for the stone processing plant shall be conducted by a certified reader using Method 9 of 40 CFR Part 60, Appendix A-4, and the procedures in 40 CFR §60.11 with the following additions for the fugitive emissions observations:
  - i. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet);
  - ii. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, 40 CFR Part 60, Appendix A-4, Section 2.1) shall be followed; and
  - iii. The observer shall record the operating capacity (tons/hr) of the crushing plant at the time observations were made.
- b. When determining compliance with the fugitive emissions standards of Special Condition C.3.b, C.3.c, C.3.d, C.3.e, and C.3.f, the duration of Method 9 observations must be thirty (30) minutes (five (5) 6-minutes averages). Compliance with the applicable fugitive emission limits specified in Special Condition C.3.b, C.3.c, C.3.d, C.3.e, and C.3.f must be based on the average of the five (5) 6-minute averages.
- c. When determining compliance with the fugitive emissions standards of Special Condition C.3.b, C.3.c, C.3.d, C.3.e, and C.3.f, if emissions from two (2) or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:
  - i. Use for the combined emission stream, the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream; or
  - ii. Separate the emissions so that the opacity of emissions from each affected facility can be read.
- d. When determining compliance with the fugitive emissions standard of Special Condition C.3.b, C.3.c, C.3.d, C.3.e, and C.3.f, a single visible emission observer may conduct visible emission observations for up to three (3) fugitive emission points within a fifteen-second (15-second) interval if the following conditions are met:
  - i. No more than three (3) emission points may be read concurrently;
  - ii. All three (3) emission points must be within a seventy (70) degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three (3) points; and
  - iii. If an opacity reading for any one (1) of the three (3) emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two (2) points and continue reading just that single point.

- e. If, after **thirty (30) days** notice for an initially scheduled performance test, there is a delay, for example, due to operational problems, in conducting any rescheduled performance test required by Section F, the permittee shall submit a notice to the Department of Health at least **seven (7) days prior** to any rescheduled performance test.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90, §11-60.1-161; 40 CFR §60.675)<sup>1</sup>

### 3. Performance Test Expense and Monitoring

The performance tests shall be made at the expense of the permittee and shall be conducted at the maximum expected operating capacity of the stone processing plant. All performance tests may be monitored by the Department of Health.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; §11-60.1-161, 40 CFR §60.675)<sup>1</sup>

### 4. Performance Test Plan

**At least thirty (30) days prior** to conducting the performance test, the permittee shall submit a written performance test plan to the Department of Health and U.S. EPA, Region 9, that includes date(s) of the test, test duration, test locations, test methods, source operation, locations of visible emissions readings, and other parameters that may affect the test results. Such a plan shall conform to U.S. EPA guidelines including quality assurance procedures. A test plan or quality assurance plan that does not have the approval of the Department of Health may be grounds to invalidate any test and require a retest.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90; 40 CFR 60.8, SIP §11-60.1-15)<sup>1,2</sup>

### 5. Deviations

Any deviations from these conditions, test methods, or procedures may be cause for rejection of the test results unless such deviations are approved by the Department of Health before the tests are performed.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

### 6. Performance Test Report

**Within sixty (60) days after** completion of the performance test, the permittee shall submit to the Department of Health and U.S. EPA, Region 9, the test report which shall include the operating conditions of the facility at the time of the test (e.g., operating rate in tons/hr, water meter flow rate in gal/min, etc.), locations where the visible emissions were read, visible emission readings, location of water sprays, summarized test results, comparative

results with the permit emission limits, other pertinent support calculations, and field/laboratory data. The results shall be recorded and reported in accordance with 40 CFR Part 60, Appendix A, and §60.8.

The normal operating water flow rate (gal/min) of the water spray system shall be determined by the water flow rate used during the performance test that demonstrates compliance with the opacity limits of this permit.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90, §11-60.1-161; 40 CFR §60.675; SIP §11-60-15)<sup>1,2</sup>

#### **7. Performance Test Waiver**

Upon written request and justification, the Department of Health may waive the requirement for, or a portion of, a specific source performance test. The waiver request is to be submitted prior to the required test and must include documentation justifying such action. Documentation should include, but is not limited to, the results of the prior performance test indicating compliance by a wide margin, documentation of continuing compliance, and further that operations of the source have not changed since the previous source test.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

#### **Section G. Agency Notification**

Any document (including reports) required to be submitted by this covered source permit shall be done in accordance with Attachment I, Standard Condition No. 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

<sup>1</sup> The citations to the Code of Federal Regulations (CFR) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the CFR. Due to the integration of the preconstruction and operating permit requirements, permit conditions may incorporate more stringent requirements than those set forth in the CFR.

<sup>2</sup> The citations to the State Implementation Plan (SIP) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the SIP.

**ATTACHMENT II - INSIG  
SPECIAL CONDITIONS - INSIGNIFICANT ACTIVITIES  
COVERED SOURCE PERMIT NO. 0252-01-C**

**Issuance Date: April 20, 2011**

**Expiration Date: April 19, 2016**

In addition to the Standard Conditions of the Covered Source Permit, the following Special Conditions shall apply to the permitted facility:

**Section A. Equipment Description**

This attachment encompasses insignificant activities listed in HAR, §11-60.1-82(f) and (g) for which provisions of this permit and HAR, Subchapter 2, General Prohibitions, apply.

(Auth.: HAR §11-60.1-3)

**Section B. Operational Limitations**

1. The permittee shall take measures to operate applicable insignificant activities in accordance with the provisions of HAR, Subchapter 2 for visible emissions, fugitive dust, incineration, process industries, sulfur oxides from fuel combustion, storage of volatile organic compounds, volatile organic compound water separation, pump and compressor requirements, and waste gas disposal.

(Auth.: HAR §11-60.1-3, §11-60.1-82, §11-60.1-90)

2. The Department of Health may at any time require the permittee to further abate emissions if an inspection indicates poor or insufficient controls.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-82, §11-60.1-90)

**Section C. Monitoring and Recordkeeping Requirements**

1. The Department of Health reserves the right to require monitoring, recordkeeping, or testing of any insignificant activity to determine compliance with the applicable requirements.

(Auth.: HAR §11-60.1-3, §11-60.1-90)

2. All records shall be maintained for at least five (5) years from the date of any required monitoring, recordkeeping, testing, or reporting. These records shall be true, accurate, and maintained in a permanent form suitable for inspection and made available to the Department of Health or its authorized representative upon request.

(Auth.: HAR §11-60.1-3, §11-60.1-11, §11-60.1-90)

#### **Section D. Notification and Reporting**

##### Compliance Certification

During the permit term, the permittee shall submit at least **annually** to the Department of Health and U.S. EPA, Region 9, the attached *Compliance Certification Form* pursuant to HAR, Subsection 11-60.1-86. The permittee shall indicate whether or not compliance is being met with each term or condition of this permit. The compliance certification shall include, at a minimum, the following information:

1. The identification of each term or condition of the permit that is the basis of the certification;
2. The compliance status;
3. Whether compliance was continuous or intermittent;
4. The methods used for determining the compliance status of the source currently and over the reporting period;
5. Any additional information indicating the source's compliance status with any applicable enhanced monitoring and compliance certification including the requirements of Section 114(a)(3) of the Clean Air Act or any applicable monitoring and analysis provisions of Section 504(b) of the Clean Air Act; and
6. Any additional information as required by the Department of Health including information to determine compliance.

The compliance certification shall be submitted **within ninety (90) days** after the end of each calendar year, and shall be signed and dated by a responsible official.

Upon written request of the permittee, the deadline for submitting the compliance certification may be extended, if the Department of Health determines that reasonable justification exists for the extension.

In lieu of addressing each emission unit as specified in *Compliance Certification Form*, the permittee may address insignificant activities as a single unit provided compliance is met with all applicable requirements. If compliance is not totally attained, the permittee shall identify the specific insignificant activity and provide the details associated with the noncompliance.

(Auth.: HAR §11-60.1-4, §11-60.1-86, §11-60.1-90)

#### **Section E. Agency Notification**

Any document (including reports) required to be submitted by this Covered Source Permit shall be done in accordance with Attachment I, Standard Condition No. 28.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

**ATTACHMENT III: ANNUAL FEE REQUIREMENTS  
COVERED SOURCE PERMIT NO. 0252-01-C**

**Issuance Date: April 20, 2011**

**Expiration Date: April 19, 2016**

The following requirements for the submittal of annual fees are established pursuant to Hawaii Administrative Rules (HAR), Title 11, Chapter 60.1, Air Pollution Control. Should HAR, Chapter 60.1 be revised such that the following requirements are in conflict with the provisions of HAR, Chapter 60.1, the permittee shall comply with the provisions of HAR, Chapter 60.1:

1. Annual fees shall be paid in full:
  - a. Within **sixty (60) days** after the end of each calendar year; and
  - b. Within **thirty (30) days** after the permanent discontinuance of the covered source.
2. The annual fees shall be determined and submitted in accordance with Hawaii Administrative Rules, Chapter 11-60.1, Subchapter 6.
3. The annual emissions data for which the annual fees are based shall accompany the submittal of any annual fees and be submitted on forms furnished by the Department of Health.
4. The annual fees and the emission data shall be mailed to:

**Clean Air Branch  
Environmental Management Division  
Hawaii Department of Health  
919 Ala Moana Boulevard, Room 203  
Honolulu, HI 96814**

**ATTACHMENT IV: ANNUAL EMISSIONS REPORTING REQUIREMENTS  
COVERED SOURCE PERMIT NO. 0252-01-C**

**Issuance Date: April 20, 2011**

**Expiration Date: April 19, 2016**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions.

1. Complete the attached form(s):

Annual Emissions Report Form: Diesel Engine Generator and Stone Processing Plant

2. The reporting period shall be from January 1 to December 31 of each year. All reports shall be submitted to the Department of Health within **sixty (60) days** after the end of each calendar year and shall be mailed to the following address:

**Clean Air Branch  
Environmental Management Division  
Hawaii Department of Health  
919 Ala Moana Boulevard, Room 203  
Honolulu, HI 96814**

3. The permittee shall retain the information submitted, including all emission calculations. These records shall be in a permanent form suitable for inspection, retained for a minimum of five (5) years, and made available to the Department of Health upon request.
4. Any information submitted to the Department of Health without a request for confidentiality shall be considered public record.
5. In accordance with HAR, Section 11-60.1-14, the permittee may request confidential treatment of specific information, including information concerning secret processes or methods of manufacture, by submitting a written request to the Director and clearly identifying the specific information that is to be accorded confidential treatment.

**COMPLIANCE CERTIFICATION FORM  
COVERED SOURCE PERMIT NO. 0252-01-C**

**PAGE 1 OF \_\_\_\_**

**Issuance Date: April 20, 2011**

**Expiration Date: April 19, 2016**

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the following certification at least annually, or more frequently as requested by the Department.

(Make Copies of the Compliance Certification Form for Future Use)

For Period: \_\_\_\_\_ Date: \_\_\_\_\_

Company/Facility Name: \_\_\_\_\_

Responsible Official (Print): \_\_\_\_\_

Title: \_\_\_\_\_

Responsible Official (Signature): \_\_\_\_\_

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by Department of Health as public record. I further state that I will assume responsibility for the construction, modification, or operation of the source in accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, and any permit issued thereof.



**COMPLIANCE CERTIFICATION FORM**  
**COVERED SOURCE PERMIT NO. 0252-01-C**  
**(CONTINUED, PAGE 2 OF \_\_\_\_)**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

The purpose of this form is to evaluate whether or not the facility was in compliance with the permit terms and conditions during the covered period. If there were any deviations to the permit terms and conditions during the covered period, the deviation(s) shall be certified as *intermittent compliance* for the particular permit term(s) or condition(s). Deviations include failure to monitor, record, report, or collect the minimum data required by the permit to show compliance. In the absence of any deviation, the particular permit term(s) or condition(s) may be certified as *continuous compliance*.

**Instructions:**

Please certify Sections A, B, and C below for continuous or intermittent compliance. Sections A and B are to be certified as a group of permit conditions. Section C shall be certified individually for each operational and emissions limit condition as listed in the Special Conditions section of the permit (list all applicable equipment for each condition). Any deviations shall also be listed individually and described in Section D. The facility may substitute its own generated form in verbatim for Sections C and D.

**A. Attachment I, Standard Conditions**

<u>Permit term/condition</u>	<u>Equipment</u>	<u>Compliance</u>
All standard conditions	All Equipment listed in the permit	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

**B. Special Conditions - Monitoring, Recordkeeping, Reporting, Testing, and INSIG**

<u>Permit term/condition</u>	<u>Equipment</u>	<u>Compliance</u>
All monitoring conditions	All Equipment listed in the permit	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
<u>Permit term/condition</u> All recordkeeping conditions	<u>Equipment</u> All Equipment listed in the permit	<u>Compliance</u> <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
<u>Permit term/condition</u> All reporting conditions	<u>Equipment</u> All Equipment listed in the permit	<u>Compliance</u> <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
<u>Permit term/condition</u> All testing conditions	<u>Equipment</u> All Equipment listed in the permit	<u>Compliance</u> <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
<u>Permit term/condition</u> All INSIG conditions	<u>Equipment</u> All Equipment listed in the permit	<u>Compliance</u> <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

**COMPLIANCE CERTIFICATION FORM**  
**COVERED SOURCE PERMIT NO. 0252-01-C**  
**(CONTINUED, PAGE \_\_\_\_ OF \_\_\_\_)**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

**C. Special Conditions - Operational and Emissions Limitations**

Each permit term/condition shall be identified in chronological order using attachment and section numbers (e.g., Attachment II, B.1, Attachment IIA, Special Condition No. B.1.f, etc.). Each equipment shall be identified using the description stated in Section A of the Special Conditions (e.g., unit no., model no., serial no., etc.). Check all methods (as required by permit) used to determine the compliance status of the respective permit term/condition.

<u>Permit term/condition</u>	<u>Equipment</u>	<u>Method</u>	<u>Compliance</u>
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		<input type="checkbox"/> monitoring <input type="checkbox"/> recordkeeping <input type="checkbox"/> reporting <input type="checkbox"/> testing <input type="checkbox"/> none of the above	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

**(Make Additional Copies if Needed)**

**COMPLIANCE CERTIFICATION FORM**  
**COVERED SOURCE PERMIT NO. 0252-01-C**  
**(CONTINUED, PAGE \_\_\_\_ OF \_\_\_\_)**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

**D. Deviations**

<u>Permit Term/ Condition</u>	<u>Equipment / Brief Summary of Deviation</u>	<u>Deviation Period time (am/pm) &amp; date (mo/day/yr)</u>	<u>Date of Written Deviation Report to DOH (mo/day/yr)</u>
		Beginning:  Ending:	
		Beginning:  Ending:	
		Beginning:  Ending:	
		Beginning:  Ending:	
		Beginning:  Ending:	
		Beginning:  Ending:	
		Beginning:  Ending:	

**(Make Additional Copies if Needed)**

**ANNUAL EMISSIONS REPORT FORM  
DIESEL ENGINE GENERATOR AND STONE PROCESSING PLANT  
COVERED SOURCE PERMIT NO. 0252-01-C  
(PAGE 1 of 2)**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions:

(Make Copies for Future Use)

For Period: \_\_\_\_\_ Date: \_\_\_\_\_

Company name: \_\_\_\_\_

Facility name: \_\_\_\_\_

Equipment location: \_\_\_\_\_

Equipment description: \_\_\_\_\_

Serial/ID Number: \_\_\_\_\_

Serial/ID Number: \_\_\_\_\_

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print): \_\_\_\_\_

Title: \_\_\_\_\_

Responsible Official (Signature): \_\_\_\_\_

For the reporting period: \_\_\_\_\_

1. Report the diesel engine fuel consumption as follows:

Model	Capacity	Maximum % Sulfur Content by Weight	Total Fuel Oil No. 2 Consumption (gal/yr)

**ANNUAL EMISSIONS REPORT FORM**  
**DIESEL ENGINE GENERATOR AND STONE PROCESSING PLANT**  
**COVERED SOURCE PERMIT NO. 0252-01-C**  
**(PAGE 2 of 2)**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions:

**2. Report the quantity of material processed:**

Type of Operation	Maximum Tons/hour of Material Entering (Tons/hr)	Materials Processed: Type (cinder, gravel, fines, etc.) and Amount (tons/yr)	Air Pollution Control Measures in Use	Control Efficiency (% Reduction)
Pioneer Grizzly Feeder (Special Condition A.1.a.)				
Pioneer Primary Jaw Crusher (Special Condition A.1.b.)				
JCI 3-Deck Screen (Special Condition A.1.c.)				
Deister 2-Deck Screen (Special Condition A.1.d.)				
Cedarapids Secondary Crusher (Special Condition A.1.e.)				
Canica Tertiary Crusher #1 (Special Condition A.1.f.)				
Canica Tertiary Crusher #2 (Special Condition A.1.g.)				
Two Simplicity Tertiary Screens (Special Condition A.1.h.)				
Fisher Stationary Air Classifier (Special Condition A.1.i.)				
Syntron Feeder (Special Condition A.1.j.)				
Two Jeffrey Feeders (Special Condition A.1.k.)				
Surge Rock Feeder (Special Condition A.1.l.)				
Conveyor Transfer (Special Condition A.1.m.)				
Backup: Cedarapids Apron Feeder (Special Condition A.1.q.)				
Backup: Pioneer Jaw Crusher (Special Condition A.1.r.)				
Backup: Metso Minerals Screen (Special Condition A.1.s.)				
Active Stockpiles	NA			
Truck Loading	NA			

Note: Control measures include water sprays, housing and duct work to baghouses.

Use the following Control Efficiencies, unless documentation is available to show otherwise:

Water sprays, or Enclosure: 70%      Subsequent transfer points of water sprayed material:  $70 - (5 \cdot n)\%$   
Efficiency factors may be reduced by the Department of Health, if there are any indications that a source's air pollution control device is not operating at the specified efficiency.

**MONITORING REPORT FORM  
DIESEL ENGINE GENERATOR  
COVERED SOURCE PERMIT NO. 0252-01-C  
(Page 1 of 2)**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions:

(Make Copies for Future Use)

For Period: \_\_\_\_\_ Date: \_\_\_\_\_

Company name: \_\_\_\_\_

Facility name: \_\_\_\_\_

Equipment location: \_\_\_\_\_

Equipment description: \_\_\_\_\_

Serial/ID Number: \_\_\_\_\_

Serial/ID Number: \_\_\_\_\_

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print): \_\_\_\_\_

Title: \_\_\_\_\_

Responsible Official (Signature): \_\_\_\_\_

For the reporting period:

1. Report the total operating hours of the 950 HP diesel engine generator for the reporting period:

Month	Total Operating Hours Monthly Basis	Total Operating Hours 12-Month Rolling Basis	Notes
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

**MONITORING REPORT FORM  
DIESEL ENGINE GENERATOR  
COVERED SOURCE PERMIT NO. 0252-01-C  
(Page 2 of 2)**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions:

2. Report the maximum fuel sulfur content (% by weight) of fuel oil no. 2, cetane index (or aromatic content) for the reporting period:

Equipment Description	Types of Fuel Fired	Maximum Sulfur Content (% by Weight)	Cetane Index (or Aromatic Content in Volume %)
950 HP Diesel Engine Generator			

If not already on file at the Department of Health, provide the supplier's fuel specification sheet for the type of fuel indicated in the above table. The fuel specification sheet shall indicate the percent sulfur content by weight.

**MONITORING REPORT FORM**  
**FACILITY PRODUCTION**  
**COVERED SOURCE PERMIT NO. 0252-01-C**  
**(Page 1 of 1)**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

In accordance with the Hawaii Administrative Rules, Title 11, Chapter 60.1, Air Pollution Control, the permittee shall report to the Department of Health the nature and amounts of emissions:

(Make Copies for Future Use)

For Period: \_\_\_\_\_ Date: \_\_\_\_\_

Company name: \_\_\_\_\_

Facility name: \_\_\_\_\_

Equipment location: \_\_\_\_\_

Equipment description: \_\_\_\_\_

Serial/ID Number: \_\_\_\_\_

Serial/ID Number: \_\_\_\_\_

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Department of Health as public record.

Responsible Official (Print): \_\_\_\_\_

Title: \_\_\_\_\_

Responsible Official (Signature): \_\_\_\_\_

For the reporting period: \_\_\_\_\_

1. Report production on a monthly and 12-month rolling basis for the reporting period:

Month	Monthly Production (Tons)	Total Production (Tons) on a 12-Month Rolling Basis	Notes
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			



[illegible]

**VISIBLE EMISSIONS FORM REQUIREMENTS**  
**STATE OF HAWAII**  
**COVERED SOURCE PERMIT NO. 0252-01-C**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

The **Visible Emissions (VE) Form** shall be completed **monthly** (*each calendar month*) for each equipment subject to opacity limits in accordance with 40 CFR Part 60, Appendix A, Method 9. At least **annually** (*calendar year*), VE observation shall be conducted for each equipment subject to opacity limits by a certified reader in accordance with Method 9. The VE Form shall be completed as follows:

1. VE observations shall take place during the day only. The opacity shall be noted in five (5) percent increments (e.g., 25%).
2. Orient the sun within a 140 degree sector to your back. Provide a source layout sketch on the VE Form using the symbols as shown.
3. For VE observations of stacks, stand at least three (3) stack heights but not more than a quarter mile from the stack.
4. For VE observations of fugitive emissions from crushing and screening plants, stand at least 4.57 meters (15 feet) from the visible emissions source, but not more than a quarter mile from the visible emission source.
5. Two (2) consecutive six (6) minute observations shall be taken at fifteen (15) second intervals for each stack or emission point.
6. The six (6) minute average opacity reading shall be calculated for each observation.
7. If possible, the observations shall be performed as follows:
  - a. Read from where the line of sight is at right angles to the wind direction.
  - b. The line of sight shall not include more than one (1) plume at a time.
  - c. Read at the point in the plume with the greatest opacity (without condensed water vapor), ideally while the plume is no wider than the stack diameter.
  - d. Read the plume at fifteen (15) second intervals only. Do not read continuously.
  - e. The equipment shall be operating at the maximum permitted capacity.
8. If the equipment was shut-down for that period, briefly explain the reason for shut-down in the comment column.

The permittee shall retain the completed VE Forms for recordkeeping. These records shall be in a permanent form suitable for inspection, retained for a minimum of five (5) years, and made available to the Department of Health, or their representative upon request.

Any required initial and annual performance test performed in accordance with Method 9 by a certified reader shall satisfy the respective equipment's VE monitoring requirements for the month the performance test is performed.

**VISIBLE EMISSIONS FORM  
COVERED SOURCE PERMIT NO. 0252-01-C**

**Issuance Date:** April 20, 2011

**Expiration Date:** April 19, 2016

(Make Copies for Future Use for Each Stack or Emission Point)

**Company Name:** \_\_\_\_\_


**For stacks, describe equipment and fuel:** \_\_\_\_\_

**For fugitive emissions from crushers and screens, describe:**

**Fugitive emission point:** \_\_\_\_\_

**Plant Production (tons/hr):** \_\_\_\_\_

(During observation)

Stack **X**  
Sun   
Wind 

Draw North Arrow

**Site Conditions:**

Emission point or stack height above ground (ft): \_\_\_\_\_

Emission point or stack distance from observer (ft): \_\_\_\_\_

Emission color (black or white): \_\_\_\_\_

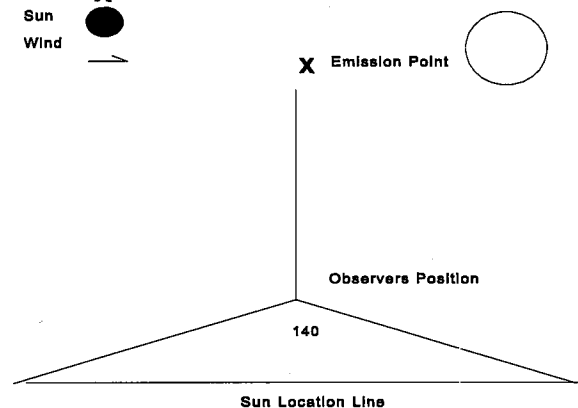
Sky conditions (% cloud cover): \_\_\_\_\_

Wind speed (mph): \_\_\_\_\_

Temperature (°F): \_\_\_\_\_

Observer Name: \_\_\_\_\_

Certified? (Yes/No): \_\_\_\_\_



**Observation Date and Start Time:** \_\_\_\_\_

**Method of observation (Method 9):** \_\_\_\_\_

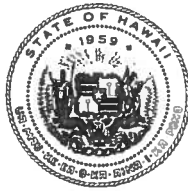
MINUTES	Seconds				COMMENTS
	0	15	30	45	
1					
2					
3					
4					
5					
6					
Six (6) Minute Average Opacity Reading (%):					

**Observation Date and Start Time:** \_\_\_\_\_

**Method of observation (Method 9):** \_\_\_\_\_

MINUTES	Seconds				COMMENTS
	0	15	30	45	
1					
2					
3					
4					
5					
6					
Six (6) Minute Average Opacity Reading (%):					

DAVID Y. IGE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. Box 3378  
HONOLULU, HAWAII 96801-3378

VIRGINIA PRESSLER, M.D.  
DIRECTOR OF HEALTH

In reply, please refer to  
File:

15-303E CAB  
File No. 0252

May 19, 2015

Mr. John DeLong  
President  
Hawaiian Cement  
99-1300 Halawa Valley Street  
Aiea, Hawaii 96701

Dear Mr. DeLong:

**SUBJECT:   Renewal Application No. 0252-10  
              Covered Source Permit No. 0252-01-C  
              653 TPH Aggregate Processing Facility  
              Located At: Camp 6, Puunene, Maui**

The Department of Health, Clean Air Branch (CAB), acknowledges receipt of your renewal application for the subject permit on April 21, 2015. Your renewal application has been assigned **No. 0252-10**. Please reference this number in future correspondence. A receipt for the application filing fee of \$500.00 is enclosed.

The CAB completed a preliminary review of your permit application and has determined the application to be complete. Please note that pursuant to Hawaii Administrative Rules, Chapter 11-60.1, during the processing of an application that has been deemed complete, if it is determined that additional information is necessary to evaluate or take final action on the application, the CAB may request for additional information.

If there are any questions regarding this matter, please contact Mr. Jensen I. Kennedy of my staff at (808) 586-4200.

Sincerely,

A handwritten signature in black ink, appearing to read "N. S. Hirai".

NOLAN S. HIRAI, P.E.  
Manager, Clean Air Branch

JK:dh  
Enclosure

c: CAB Monitoring Section

# **EXHIBIT F.**

**State Historic Preservation  
Division Approval Letter,  
Dated August 8, 2012**

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
601 KAMOKILA BOULEVARD, ROOM 355  
KAPOLEI, HAWAII 96707

WILLIAM J. AILA  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

PAUL CONRY  
INTERIM FIRST DEPUTY

WILLIAM M. TAM  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

August 8, 2012

Mr. Jeffrey Pantaleo, Principal Investigator  
C/O Ms. Lisa Rutunno-Hazuka  
Archaeological Services Hawai'i  
Via Email: [lisa@ashMaui.com](mailto:lisa@ashMaui.com)

LOG NO: 2011.0298  
LOG NO: 2011.0340  
DOC NO: 1208JP01

Aloha Ms. Rotunno-Hazuka:

**SUBJECT: Chapter 6E-42 Historic Preservation Review-  
Archaeological Assessment Report for the Hawaiian Cement Quarry Expansion Project  
Pulehunui Ahupua'a, Wailuku District, Island of Maui  
TMK (2) 3-8-004:001 (por.)**

Thank you for the opportunity to review the report titled *Draft Archaeological Assessment Report for Hawaiian Cement Quarry Expansion Located at TMK [2] 3-8-04:001 por.*, Pulehunui Ahupua'a, Kula Moku, Wailuku District, Island of Maui by Rotunno-Hazuka, Fuentes, O'Claray and Pantaleo (January 2011). The report was originally received on January 26, 2011. We apologize for the delayed response.

The archaeological survey with negative findings was conducted for the 24.476-acre proposed rock quarry expansion site. A surface investigation occurred along with twenty excavated mechanical backhoe test trenches. Over the years, the project area has been disturbed continuously by intensive agricultural propagation and rock mining. Approximately 9.5 acres are active sugarcane fields. No further archaeological work is recommended for the project area, we concur with this recommendation.

The report contains information as required for assessment reports, pursuant to Hawaii Administrative Rule (HAR) 13-284 and 13-276-5; it is accepted as final. We request that a few corrections to be included in the final report (see attachment). Please send one hardcopy of the corrected final document, clearly marked **FINAL**, along with a copy of this review letter and a text-searchable PDF version on CD to the Kapolei SHPD office, attention SHPD Library. Please send a corrected final report to the Maui SHPD office as well. For questions about this letter, please contact Jenny at (808) 243-5169 or [Jenny.L.Pickett@Hawaii.gov](mailto:Jenny.L.Pickett@Hawaii.gov).

Mahalo,

Theresa K. Donham  
Archaeology Branch Chief

cc: County of Maui, Planning fax: (808) 270-7634  
County of Maui DSA fax: (808) 270-7972

**ATTACHMENT**

Requested corrections for: *Draft Archaeological Assessment Report for Hawaiian Cement Quarry Expansion Located at TMK [2] 3-8-04:001 pors., Pulehunui Ahupua'a, Kula Moku, Wailuku District, Island of Maui* by Rotunno-Hazuka, Fuentes, O'Claray and Pantaleo (January 2011).

**Previous Archaeological Studies**

- 1) Please add the recent Cultural Surveys Hawaii archaeological surveys (2007 etc) to the map (Figure 9) and to the previous archaeology background text.

**Lab Work**

- 2) Please edit this section to indicate nothing was identified, collected, or being curated.

**Trench Descriptions**

- 3) Please correct the associated trench Figures to correspond with the accurate text references.

**Additional Comment**

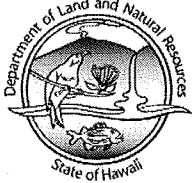
- 4) Please adjust the contents regarding archaeological recommendations for adjacent areas accordingly. In the final copy of the report, please adjust the associated contents accordingly. As we recently discussed in meeting regarding the project report, individual projects are usually treated separately so each project needs to be evaluated on a case-by-case basis. We hope to continue evaluating and providing recommendations regarding future proposed projects for the surrounding areas.

# **EXHIBIT G.**

**Letter from State Historic  
Preservation Division  
Dated May 12, 2015**



DAVID Y. IGE  
GOVERNOR OF HAWAII



**STATE OF HAWAII**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**

STATE HISTORIC PRESERVATION DIVISION  
KAKUHIHEWA BUILDING  
601 KAMOKILA BLVD, STE 555  
KAPOLEI, HAWAII 96707

SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA  
FIRST DEPUTY

W. ROY HARDY  
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

May 12, 2015

Jeffrey Pantaleo, M.A.  
c/o Lisa Rotunno-Hazuka  
Archaeological Services Hawaii, LLC  
PO Box 1015  
Puunene, Hawaii 96784  
Via email to: [lisa@ashmaui.com](mailto:lisa@ashmaui.com)

LOG NO: 2014.04654  
DOC NO: 1505MD19  
Archaeology

Aloha Mr. Pantaleo:

**SUBJECT: Chapter 6E-42 Historic Preservation Review–  
Draft Archaeological Assessment for the Hawaiian Cement Quarry  
Pūlehu Nui Ahupua‘a, Wailuku District, Island of Maui  
TMK (2) 3-8-004:001 (por.)**

Thank you for the opportunity to review the submittal titled *Draft Archaeological Assessment Report for Hawaiian Cement Quarry Expansion Located at TMK: [2] 3-8-0047:001 pors., Pūlehu Nui Ahupua'a, Wailuku District, Island of Maui* by Fuentes, Rotunno-Hazuka, O'Claray-Nu and Pantaleo (October 2014). We received the submitted report on October 13, 2014 and apologize for the delay in our reply.

An archaeological survey was conducted prior to planned expansion of the existing Hawaiian Cement Quarry at the request of Mr. Gomes for the owner. This report documents an archaeological inventory survey of 41.968 acres, a portion of the 2,008 acres contained in parcel 001. Fieldwork occurred on the 14<sup>th</sup> and 28<sup>th</sup> of June and the 3<sup>rd</sup> and 12<sup>th</sup> of July in 2014. 33.168 acre were cultivated in sugarcane at that time, while 8.8 acres were cleared following harvest. Pedestrian survey was performed by one archaeologist and was followed by 19 mechanical excavations, including 17 backhoe trenches and two bulldozer cuts. No historic properties were identified in any of the excavations or above ground.

We are requesting revisions to the report as detailed in the attachment to this letter. Please contact me at (808) 243-4641 or [Morgan.E.Davis@hawaii.gov](mailto:Morgan.E.Davis@hawaii.gov) if you have any questions or concerns about this letter.

Mahalo,

A handwritten signature in black ink, appearing to read "Morgan E. Davis".

Morgan E. Davis  
Lead Archaeologist, Maui Section

Attachment

*Draft Archaeological Assessment Report for Hawaiian Cement Quarry Expansion Located at  
TMK: [2] 3-8-0047:001 pors., Pūlehu Nui Ahupua'a, Wailuku District, Island of Maui  
by Fuentes, Rotunno-Hazuka, O'Claray-Nu and Pantaleo (October 2014)*

1. Executive Summary, page 2, first paragraph: please replace "As detailed in" for "The" before 'background research.'
  - a. Fifth paragraph: please delete everything after the second paragraph, beginning with the sentence beginning "Similarly" – these statements regarding areas outside of the survey area are out of scope for this report.
2. Introduction, page 9, first paragraph: please include a citation for the prior AA work in the nearby 42 acres mentioned here.
3. Figure 2, page 11: please provide a more detailed/closeup view (or a second map showing a portion, not all, of parcel 001) of the APE including the boundaries of Camps 3 and 13.
4. Existing Conditions, page 12, Environmental Setting first paragraph, first sentence: please replace "piece of land district" with "section of land."
  - a. Second to last sentence, same page: please replace "Kula District" with either "Makawao District" or "Kula Moku."
  - b. Last sentence: please clarify which "this" *ahupua'a* is referring to, as two were mentioned above.
5. Previous Archaeology, page 17, second entry: please note that Sinoto and Pantaleo 1991 does not appear on figure 8; please include.
  - a. Page 18, ASH 2010 AA, end of page: please provide a citation for the information about adding marine shells as a soil conditioner to provide phosphorous.
  - b. Page 19, final sentence: please replace lead-in "Unfortunately" with "However."
6. Field Work, page 21, second paragraph: please indicate the transect spacing used in pedestrian survey.
  - a. Third paragraph, second sentence: please revise – testing was not "systematic random" because it was worked around actively-farmed acreage, approximately 70% of the parcel was farmed in sugarcane at the time.
7. Results of Survey, page 22, third sentence: please revise as necessary, the sentence appears to have been cut off/incomplete after the number 17.
  - a. Somewhere in here, the inconsistency of excavation results needs to be addressed. Some trenches contained only a single layer, while others were up to five deep; yet all this was within a generally consistent depth. Please revise as necessary.
8. Table 1, pages 24-25: please continue the header on both pages.
  - a. Please provide a key for the null (?) value appearing first in the entry of Layer V, Trench #1.
9. Discussion and Recommendations, page 54, paragraph 2: please revise to include an explanation for variety observed in the findings and questioned in item 7a above.

- a. Fourth paragraph, sentence beginning “Similarly” and below – delete text between this word and the final sentence, these statements regarding areas outside of the survey area are out of scope for this report.
10. Appendix A, beginning on page 60: please review and revise. There are too many trench profiles labelled “TR 3” to be accurate; and only TRs 1-6 appear to be present. Also, specifically anomalous trenches like TR 9 are missing.

# **EXHIBIT H.**

## **Archaeological Assessment Report Revised July 2015**

**ARCHAEOLOGICAL ASSESSMENT REPORT FOR HAWAIIAN  
CEMENT QUARRY EXPANSION**

**LOCATED AT TMK: [2] 3-8-004:001 pors.,**

**PŪLEHU NUI *AHUPUA*'A, KULA *MOKU*;**

**WAILUKU DISTRICT**

**ISLAND OF MAUI**

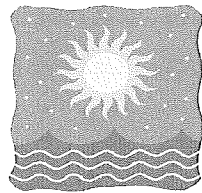
**FOR: Mr. Dave Gomes Hawaiian Cement**

**BY: Mr. Nico Fuentes (B.A.), Ms. Lisa J. Rotunno-Hazuka, (B.A.),**

**Ms. Jenny O'Claray-Nu (B.A.) and Jeffrey Pantaleo (M.A.)**

**REVISED JULY 2015**

**OCTOBER 2014**



***ARCHAEOLOGICAL SERVICES HAWAII, LLC.***

***POB 1015; PU'UNĒNĒ, HI 96784***

***"Protecting, Preserving, Interpreting the Past While Planning the Future"***

## EXECUTIVE SUMMARY

Under contract to Mr. David Gomes of Hawaiian Cement, and pursuant to recommendations by the State Historic Preservation Division-SHPD (Doc. No. 0603JP55), Archaeological Services Hawaii, LLC (ASH) conducted an archaeological assessment of the proposed rock quarry expansion site comprised of 41.968 acres. The subject parcel is located within a larger 2008-acre parcel, Parcel 1, situated along the isthmus of Maui, Pūlehu Nui *ahupua'a*, Wailuku District, Kula *Moku*, TMK [2] 3-8-004:001 pors.

Pūlehu Nui was actively settled during both the pre-Contact and historic periods and most of the population appeared to be centered within the *mauka* and *makai* areas. However during the historic period, these marginal or intermediate zones were utilized for commercial sugar and or ranching and contained Plantation Camps dispersed across the landscape.

The subject parcel is presently under various stages of cultivation, 8.8 acres in the southwest corner was recently harvested of sugarcane and the remaining 33.168 acres is actively cultivated. The inventory level procedures consisted of background research, a pedestrian survey and subsurface testing. The 8.8 acres The fieldwork procedures were performed on the 14th & 28th of June 2014 and the 3rd & 12th of July 2014 by Mr. Reynaldo N. Fuentes (B.A.). Overall coordination was executed by Ms. Lisa Rotunno-Hazuka (B.A.) and Mr. Jeffrey Pantaleo (M.A.), was the Principal Investigator.

A total of 17 backhoe trenches and 2 dozer cuts were executed within the approximate 42 acre parcel and all were negative for cultural remains. Documentation of the soil profiles indicated agricultural disturbances and alluvial deposits in the upper layers. Five test trenches (TR's 1-5) and two bulldozer cuts (BD 1-2) were placed in this 8.8 acre section and all trenching was devoid of cultural remains. The remaining 33.168 acres was cultivated in sugarcane and TR's 6-17 were executed in the cane haul roads of this section. The seventeen trenches averaged 4.0 m long by 1.00 m wide with a depth varying between 1.0 m-3.0 m. The two bulldozer cuts ranged from 12.0 to 15.0 m long by 5.0 m wide with an overall depth of 1.6 m.

The negative results of the current investigation were anticipated as the pedestrian survey and archival research indicated that no surface architectural or cultural remains were extant and no former Plantation Camps were located within the boundaries of the subject parcel. Pursuant to Chapter §13-284-7 (1) "no historic properties affected" and due to the negative findings, the project will have no effect on historic properties and no further work including monitoring appears warranted for the subject parcel.

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## INTRODUCTION

Under contract to Mr. David Gomes of Hawaiian Cement located at Mokulele Hwy, Pu'unēnē, HI 96753 and pursuant to recommendations by the State Historic Preservation Division-SHPD (Log. No. and Doc. No. 0603JP55), Archaeological Services Hawaii, LLC. (ASH) conducted an archaeological assessment (AA) of the proposed 41.968 acre rock quarry expansion site situated in Pūlehu Nui *ahupua'a*, Wailuku District, Kula *Moku*, TMK [2] 3-8-004:001 por (Figures 1-4). This revised AA report was prepared according to recommendations by SHPD (Log. No. 2014.04654 and Doc. No. 1505MD19) and the rules and regulations set forth in the Hawaii Administrative Rules (HAR) §13-284-5 (5) (A) and 276-5 (a) (c).

The proposed activity encompasses a long-term project comprised of rock mining within fallow and cultivated sugarcane fields. Due to a lack of surface structural remains during the pedestrian survey, inventory level testing through mechanical excavations was deemed appropriate. A total of 19 trench and bulldozer excavations (TR1-19) were conducted to determine presence/absence, extent and significance (if applicable) of subsurface historic properties including burial features. All mechanical test excavations were negative for buried cultural remains.

## PROJECT AREA

The project area, comprised of 41.968 acres, is situated within a larger 2008.69 acre parcel on the isthmus of Maui approximately 5.6 km (3.5 mi) to 6.0 km (4.0 mi) inland from the Mā`alaea coastline and 0.75 km (.5 miles) east (*mauka*) of the intersection Mokulele Highway and Meha Meha Loop (road to Hawaiian Cement and the Animal Shelter). The subject parcel area is bounded to the west by a prior archaeological assessment (Rotunno-Hazuka et. al. 2011) and a paved access road designated Upper Kihei Road, to the south by Kolaloa Gulch, to the north by an irrigation ditch and active sugar cane fields, and east by active sugar cane. As exhibited on Figures 2 and 3, two former historic plantation camps, Kihei Camp 3 and Camp 13. Kihei Camp 3 appeared to be located approximately 2500 ft. (762 m) SE and across Kolaloa Gulch. Camp 13 was approximately 7500 ft. (2286 m) north from the current project area.

The entire parcel (2008-acres) including the 41.968-acre project area has been altered through compounded disturbances from sugar cane cultivation and prior rock mining. The subject parcel is comprised of two sections. One section contains 8.8 acres and is located within the southwestern portion of the project area and the remaining section consists of over 33.0 acres (Figure 4).

This intermittent zone has been actively utilized for sugar cane (*Saccharum officinarum*) and in the more recent past, for rock mining activities. Portions of the central isthmus area contain relatively shallow soil layers overlying decomposing basalt and or bedrock. Due to this depositional environment, this area, like the Central Maui landfill locality is utilized for rock mining and or rock quarries. The project area was subjected to a walk-through reconnaissance survey over two decades ago in 1990 by Archaeological Consultants of Hawaii (ACH). During this investigation, no historic properties were identified and ACH opined that no further archaeological work was necessary (Kennedy 1990: 2).

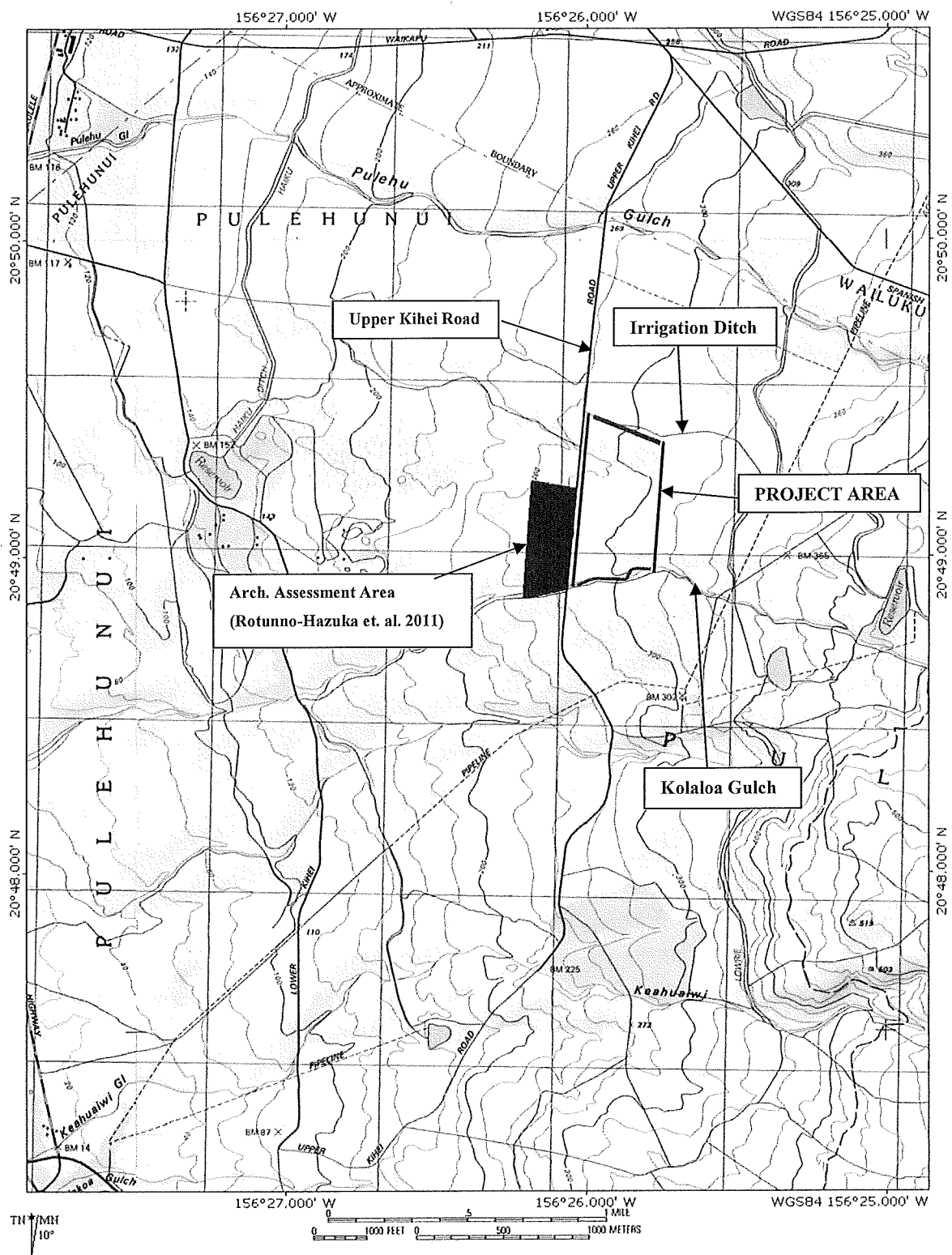
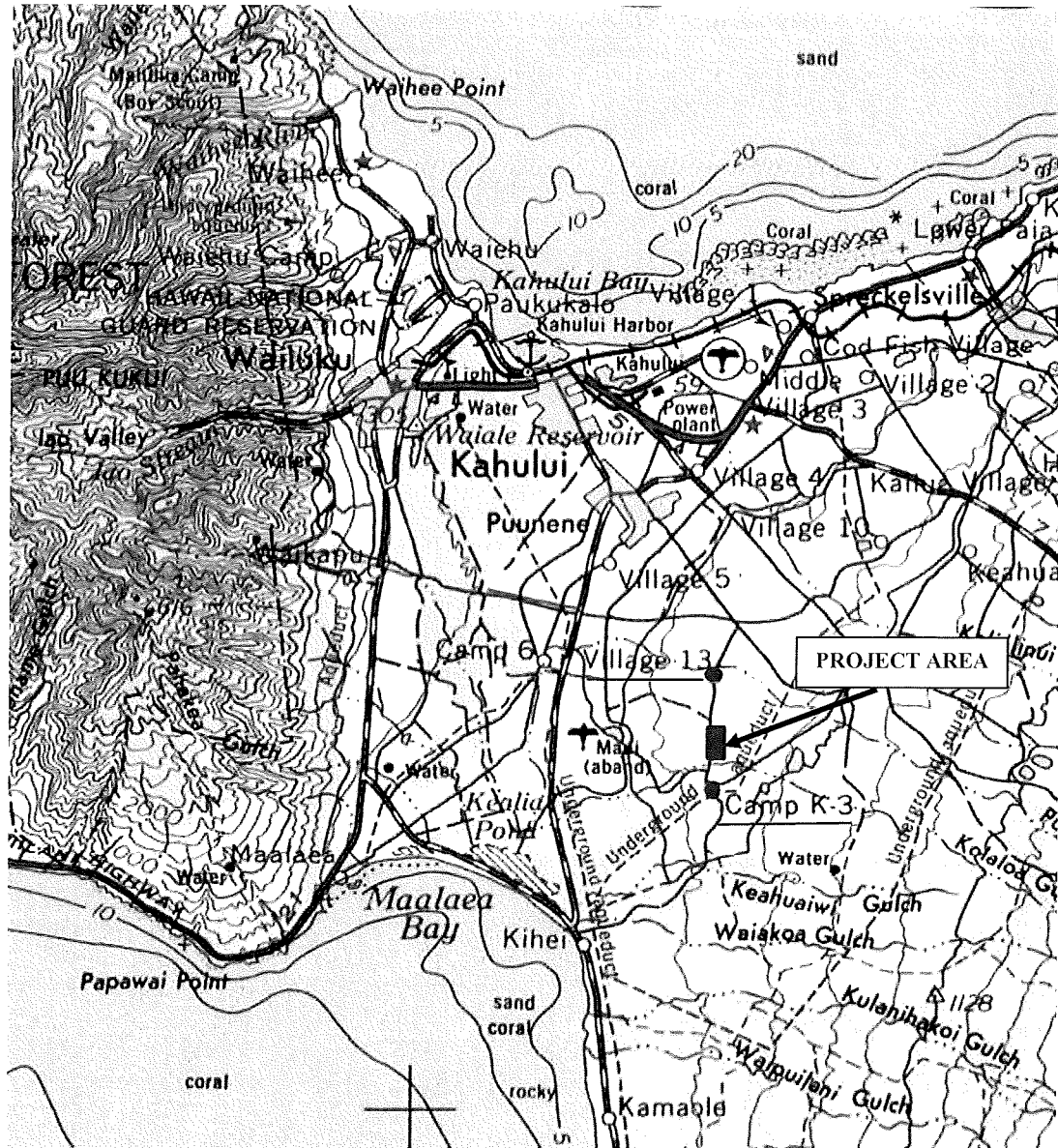
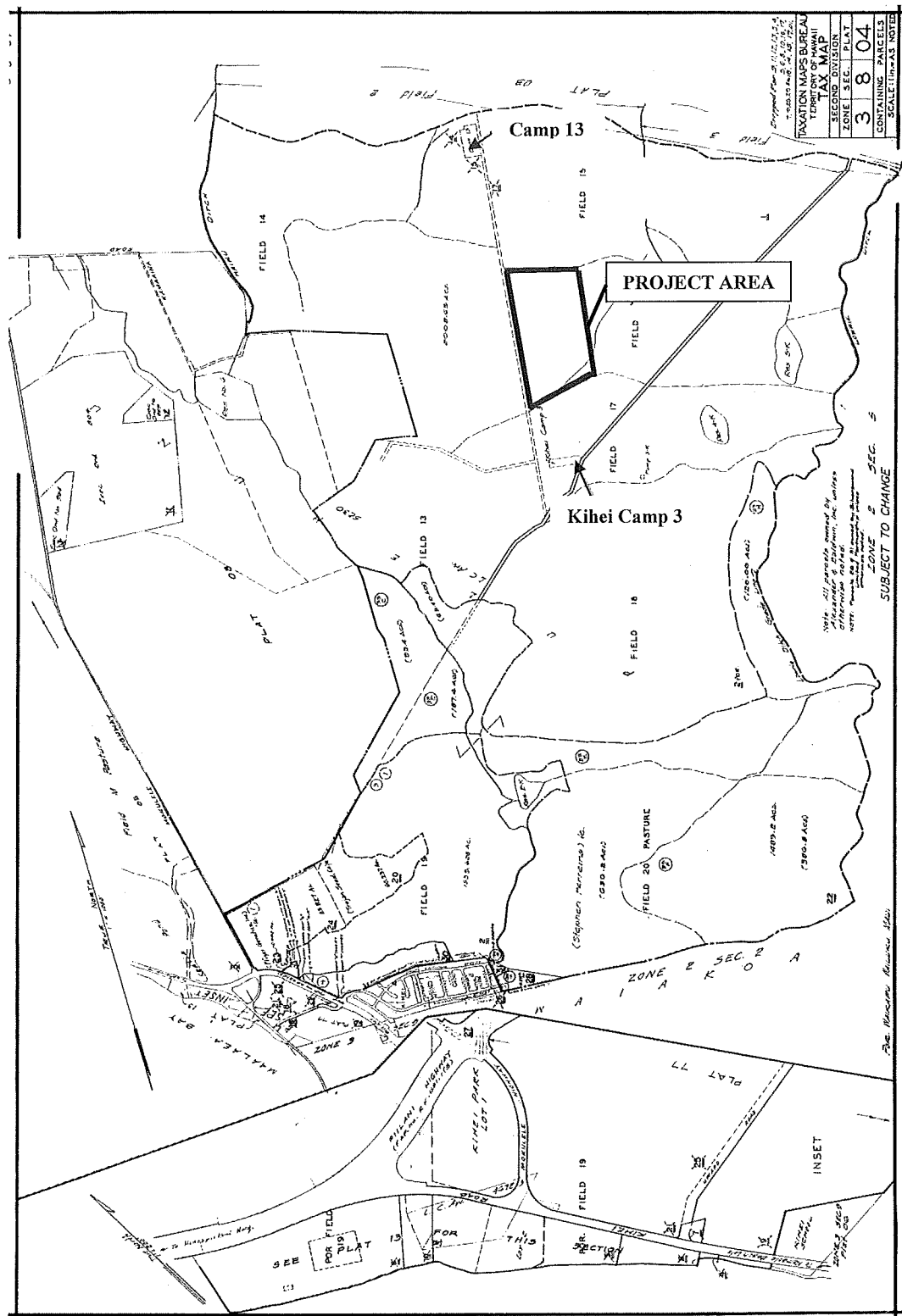


Figure 1. Location of Current Project Area (purple) and Previous Archaeological Assessment (red)





## EXISTING PROJECT CONDITIONS

The subject parcel is presently under various stages of cultivation. The first test area comprised an 8.8 acre section located in the southwest corner of the project area. This portion was previously harvested and a drainage basin was constructed. The area adjacent to the drainage contains large linear stockpiles for safety purposes, to prevent vehicular and pedestrian traffic from entering the drainage area. The remaining acreage of the project area was cultivated in sugar cane.



Figure 4. Overview from the south of 8.8 acre portion of Project Area

## ENVIRONMENTAL SETTING

The subject parcel is within the *ahupua`a* of Pūlehu Nui, a narrow triangular shaped section of land that stretches 15 miles at its base on the sand plains of central Maui, abutting and east of Waikapū *ahupua`a*, to a point at the peak of Kilohana on the rim of Haleakala (Tuggle 2001:12). Pūlehu Nui was part of the traditional *moku* Kula but is now part of the modern district Wailuku (Figure 5). As exhibited on Figure 5, Pūlehu Nui is bounded by Waikapū *ahupua`a* to the west, Wailuku *ahupua`a* to the north and is encompassed by Kula Moku on all sides except the west. Only a small portion of Pūlehu Nui appears to have been adjacent to the coast.



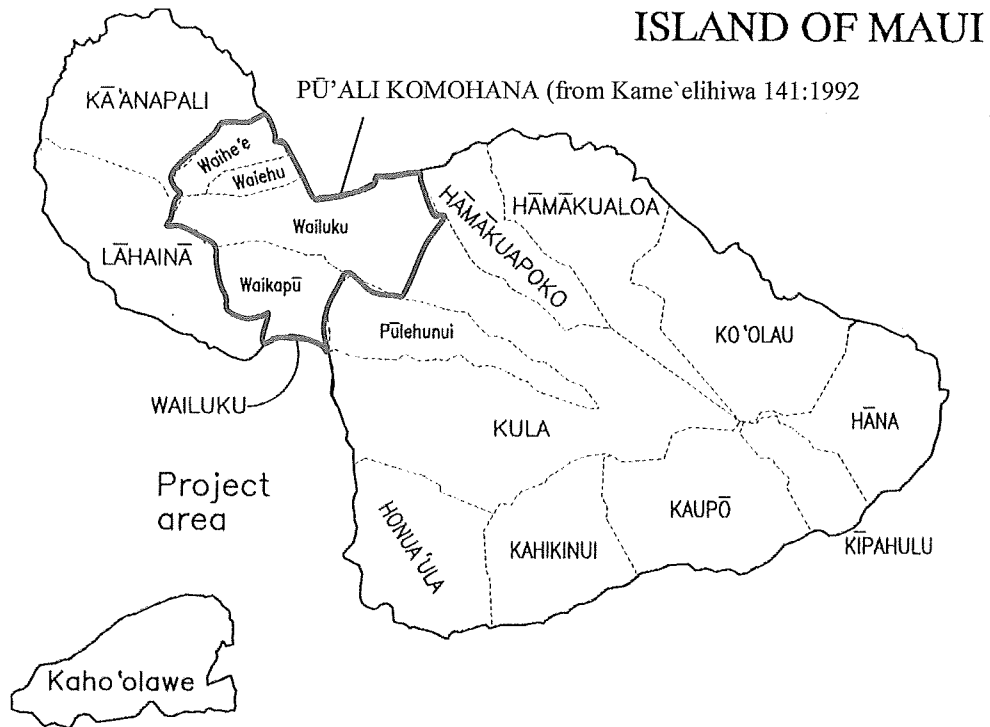
Soils of the project area according to the USDA and Soil Survey Maps shows six soil zones within the project area; Alae cobbly sandy loam(AcA) 0 to 3% slope, Pulehu silt loam (PpB) 3 to 7%, Pulehu cobbly silt loam (PrB) 3 to 7%, Pulehu clay loam (PsA) 0 to 3% slope, and Waiakoa very stony silty clay loam (WgB) 3 to 7% slope, and Waiakoa extremely stony silty clay loam (WhB) 3 to 7% slope (Figure 6). The total area is occupied by 4.8% AcA, 10.8% PpB, 52.9% PrB, 6.5% PsA, 24.3% WgB, and 0.7% WhB. The Pulehu series consist of well-drained soils on alluvial fans and stream terraces around Maui. They developed in alluvium washed from basic igneous rock. The soils are nearly level to moderately sloping. Elevations range from nearly sea level to 300 feet. The Waiakoa series consist of well-drained soils on uplands of Maui. These soils developed in material weathered from basic igneous rock. The upper part of profile is influenced by volcanic ash. These soils are gently sloping to moderately steep. Elevations range from 100 to 1,000 feet.

Both of the aforementioned soils can be utilized in multiple ways; truck crops, pasture lands, home sites and wildlife habitats, however in this instance the primary use was sugarcane cultivation and a rock quarry plant (Figure 7).

Test trenches were placed across the project area to obtain a representative sample of the subsurface conditions and indicate that soils generally consist of dark reddish brown to light brownish gray with moderate variability due to burning episodes associated with sugarcane (Figure 8). Soils contain high frequencies of cobbles, and the surface lacks humic layer components. Trenches near the southern boundary exhibit lenses of black cinders and is consistent with what mining operations have encountered while drilling and blasting (pers. Comm. with Mr. Gomes).

The climate for these two zones is typically dry, in particular the low elevation areas of which the current project are falls. Annual rainfall is less than 35 inches and occurs primarily in winter months; additionally mean annual air temperature falls between 73 and 75 degrees. Surface streams are absent however the large Kolaloa Gulch bounding the project area to the south may run under time of heavy rain.

Vegetation within the project area consists of the cultivated sugarcane (*Saccharum officinarum*) and various other unidentified weeds and grasses. It was observed that concentrations of these unidentified weeds and grass were present within Kolaloa Gulch (see Figure 7).



**Figure 5. Map of Maui Showing Traditional Districts and Waikapū, Wailuku, Waiehu, Waihe'e and Pūlehu Nui Ahupua`a (from Tomonari-Tuggle-2001)**



Figure 6. Location of Project Area on Web Soil Survey Map (outlined in blue)



Figure 7. Aerial Photograph of Project Area (purple outline)



## BACKGROUND

As this report is an archaeological assessment, a brief background of the subject parcel and its surroundings is presented here. For a detailed background study of the Pulehu Nui and Waikapu *ahupua`a*, the reader is referred to Tomonari-Tuggle et al. (2001) and Hill et al. (2007).

Based on the background research, it appears that Pūlehu Nui was actively settled during both the pre-Contact and historic period era's and that most of the population appeared to be centered within the *mauka* and *makai* areas. After the Plantation Camps were razed, cultivation of sugarcane continued and ranching also became a dominant activity within this intermittent zone.

## LAND TENURE

The project area is situated within LCA 5230 which is comprised of approximately 1668 acres and was awarded to Keawemahi by the King in 1843 (see red arrows Figure 3). This grant was subsequently assigned Royal Patent 8140 but unfortunately no land use was ascribed to Keawemahi's land grant (Waihona `Aina 2000). As exhibited on Figure 3, no other LCA or Grants are within the immediate vicinity; however thirteen land commission awards were applied for within the *ahupua`a* of Pulehu Nui, most of which were more inland and comprised of *kula* lands (Hill et. al. 2007:26). These *kula* lands were utilized for the cultivation of sweet potato and Irish potato. Hill also stated that one LCA was situated along the coast and referred to fishing rights.

## PREVIOUS ARCHAEOLOGY

Few studies have been conducted within this central isthmus, intermittent area. The most notable investigations closest to the project area are presented below in Figures 9 and 10. A more comprehensive background section is presented in the Tomonari-Tuggle et. al. (2001) and Hill et al. (2007).

The project area was subjected to a walk-through reconnaissance survey over two decades ago in 1990 by Archaeological Consultants of Hawaii (ACH). During this investigation, no historic properties were identified and ACH opined that no further archaeological work was necessary (Kennedy 1990: 2).

In 1991, Sinoto and Pantaleo conducted an archaeological inventory survey for the Proposed Kihei Gateway Complex in North Kihei and identified the footings of a bridge, Site 50-50-09-31, that was probably related to a cane railroad and Kihei Camp 1 (Sinoto and Pantaleo 1991) (see Figure 10).

In August of 1995 an inventory survey was conducted by Scientific Consultant Services for the Puunene Bypass/ Mokulele Highway. The pedestrian survey covered a portion of the Pūlehu nui and Wailuku *ahupua'a*. The area covered was approximately 10 miles and consisted primarily of active sugar cane fields. Survey expectations suggested that minimal to no archaeological evidence would be identified. Reasons for the lack of archaeological evidence were provided in the original report and are cited below: "Several factors may account for the lack of archaeological remains: extensive disturbance associated with prior sugarcane cultivation, highway and private construction activities...and/or little or no prehistoric occupation or use of the area." (Burgett and Spear 1997: 7).

In 1999 an AIS was conducted of The Naval Air Station Pu'unene (NASP) which was comprised of 1875 acres. The survey identified five sites composed of 180 features. The five sites are State Inventory of Historic Places 50-50-09-4164, Sugarcane plantation features Site 4800, Post-war ranching features, Site 4801, Old Kihei railroad bed Site 4802, and the Haiku Ditch and reservoir 4803 (Tuggle 2001:70). The NASP dates to just prior to WWII and was composed of multiple facilities, of which the "Hot Mix Plant" appears to be within the current project area (field 13). When the 1999 survey was conducted the proposed quarry location (current project area) was known and is shown in the eastern most portion of the NASP (Tuggle 2001:71). Features in the sugarcane plantation of Site 4800 consist of canals, roadbeds, and miscellaneous glass and porcelain fragments from Camp 6. Features interpreted as Post-war ranching elements from Site 4801 consist of corrals, watering troughs and fence post. The Old Kihei railroad bed, Site 4802 was identified as a concentration railway spikes and berm consistent with railroad berm forms.

The field inspection of 81.50 acres by Cultural Surveys Hawaii, Inc. (Hill et. al. in 2007) produced negative findings.

In 2010, ASH performed an Archaeological Assessment (AA) of 24.476 acres. During the procedures, a total of 20 backhoe trenches were executed across the project area that were negative for intact cultural remains. The excavations revealed that the project area had been disturbed by continuous agricultural activities and recent grading for rock mining. During the initial pedestrian surface survey, isolated marine shells, recent glass shards and concrete fragments along with agricultural materials consisting of plastic sheeting, irrigation tubing, PVC pipes and etc. were observed and scattered within the S-1 and S-2 areas (Rotunno-Hazuka et. al 2011). Documentation of the soil profiles exhibited that all trenches contained upper layers of the agricultural till zone within Layers I and II and these layers contained gravel, the above agricultural materials, fragments

of glass and metal bolts for machinery. Most trenches contained about 3.0 ft. of soil overlying decomposing bedrock and or dense bedrock, Layers III and IV. The thickest soil deposits within the project area were noted along Kolaloa Gulch, and appeared to be from episodic flooding and or intentional buildup of the road for flood control purposes. The marine shells noted on the surface likely originated from imported sand (Grade B) material which is utilized as a soil conditioner providing nutrients (phosphorus) for the sugarcane (personal communication with Hawaiian Cement personnel).

The AA further recommended that,

“..As no intact deposits of cultural materials were noted during the survey, no further archaeological work including monitoring is warranted for the subject parcel. Similarly, it appears that future archaeological investigations in the adjoining areas may be unwarranted unless historic plantation camps are situated within the subject parcels, and or significant deposits are discovered in the future. In those parcels which contain plantation camps, subsurface testing should be concentrated around the camp unless scattered cultural deposits or surface structural remains are noted elsewhere during the pedestrian sweep (Rotunno-Hazuka et. al 2011:63).

However, SHPD recommended that inventory survey procedures should be conducted prior to rock mining activities.







## **SITE EXPECTABILITY**

Based on the aforementioned information, the project area lies within the intermittent zone which was marginally occupied. It may have contained pre-Contact temporary habitation with small agricultural features, *mauka-makai* trails and possibly ceremonial structures such as *koa*.

Traditional settlement patterns would have centered around the shoreline and near the several fishponds within the area as well as along the lower and upper slopes of Haleakala. Historically, this same settlement pattern would have occurred but with the addition of Plantation Camps positioned along old access roads and railroads. Lastly, ranching era sites consisting of walled enclosures constructed from rock walls or barbed wire, cattle troughs, loading chutes and etc., may have been extant; however due to the extensive grading activities from sugar cane cultivation these historic properties may not have survived.

## **METHODS AND PROCEDURES**

Prior to the commencement of field work, archaeological, historical and geographical archival researches were conducted at the SHPD and ASH libraries.

## **FIELD WORK**

Fieldwork was conducted on the 14<sup>th</sup> & 28<sup>th</sup> of June 2014 and the 3<sup>rd</sup> & 12<sup>th</sup> of July 2014 by Mr. Reynaldo N. Fuentes (B.A.) and Ms. Lisa Rotunno-Hazuka for a total of 55 person hours. Overall coordination and supervision of the project was executed by Ms. Lisa Rotunno-Hazuka (B.A.) and Mr. Jeffrey Pantaleo (M.A.) was the Principal Investigator. Drafting was performed by Ms. Mia Watson.

The parameters of the project area were verified by comparing current landmarks (Upper Kihei Rd, Kolaloa Gulch, sugarcane fields) and natural features along with information provided on TMK maps and aerial photographs provided by the client. Field methods consisted of a pedestrian survey with 5.0 m transect intervals across the entire project area, with the exception of the sugarcane fields where only the cane roads were traversed. The purpose of this walk-through survey was two-fold; to ascertain if any cultural materials were present on the surface and to determine the placement of the backhoe trenches.

Due to an absence of surface structural remains, subsurface testing through backhoe test trenches was first performed. The testing method employed was systematic random sampling, where the areas to be analyzed are chosen at random with a subsequent pre-determined strategy (Hester et. al. 2009). “Use of this sample technique guarantees more uniform coverage of an area than would likely occur with simple random sampling” (Hester et. al. 2009:29). As defined by Hester et. al.,

“simple random sampling means each sample unit has an equal chance to be selected (Hester et. al. 2009:29),” and could result in all, or the majority of the sample units located within one section. With systematic random sampling, the sample units are chosen by a random procedure, such as every 50 m, utilizing a pre-determined strategy, for example, the un-cultivated zones at 8.8 acres and the cane haul roads.

Backhoe trenches were excavated utilizing a 3’ wide bucket. At all times during the excavations soil profiles were visually inspected by an archaeologist for any cultural material. A total of 17 excavator test trenches (TR) and 2 bulldozer cuts were placed within the subject parcel. Cultural materials if present would be collected with associated trench proveniences. If a significant amount of cultural materials were present during the backhoe trenching, controlled manual test units would be executed adjacent to the trench to further document the soil horizons and context of cultural remains. Trenches were plotted utilizing tape and compass to a known surveyed point.

After the trench excavations were conducted stratigraphic profiles (Appendix A) were drawn and soil color and texture were recorded utilizing the Munsell color system. Additionally, an overview photograph and profile of each trench was recorded.

#### **LAB WORK**

All soil samples collected during the undertaking will be accessioned and analyzed for color and texture utilizing the Munsell color system and the USDA textural classification system. No charcoal samples, midden and or artifacts were collected during the current course of work. All recovered samples, field notes, maps, and photographs generated in connection with the current project are the property of ASH, LLC and will be curated at Archaeological Services Hawaii, LLC, in Wailuku, Maui.

## RESULTS

A total of 17 backhoe trenches (TR 1-17) and 2 bulldozer cuts (BD 1-2) were performed within the project area and averaged 4.0 m long by 1.00 m wide and ranged in depth from 0.80 m to 3.0 m (see Figures 8 and 11 and Table I). As previously discussed, the project area was divided into two sections, the 8.8 acre portion in the southwest corner and the remaining section comprised of over 33.0 acres. Trenches 1-5 and BD 1-2 were placed within the 8.8 acre section and TR's 6-17 were positioned in the 33.0 acres. The field survey observed agricultural materials scattered throughout all sections which consisted of black plastic, PVC pipe fragments, black irrigation lines.

All test trenches were negative for buried cultural remains and contained either a tripartite stratigraphic sequence or a four layer stratigraphic sequence. The four layer soil profile was comprised of two soil layers (Layers I and II), overlying a silty loam decomposing "saprolitic" basalt (Layer III) and bedrock (Layer IV). The three strata sequence consisted of Layers I-III where bedrock was absent. The project wide stratigraphic was as follows:

**Layer I** is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".

**Layer IV** is a gray (10yr 5/1), basalt layer, non-plastic, non-sticky, massive, indurated. This layer is the bedrock layer.

Trenches which exhibited the overall project stratigraphy comprised of four strata were TR's 1, 2, 4, 5 and BD1-2 and the tripartite soil profile was encountered at TR's 6, 10, 11, 15 and 17. The remaining trenches, with the exception of TR9, contained the above strata; however the overall sequence was interrupted by environmental or geological events such as alluvial deposition comprised of water worn pebbles and silt lenses, cinder (pyroclastic) lenses and coarse gravel lenses. TR9 contained a single disturbed layer overlying basalt bedrock (LIV). The stratum, identified at TR9 was Layer III of the overall stratigraphic record and therefore indicated the past disturbances of the area where Layers I and II were removed. Decomposing basalt and or bedrock was observed from 0.46 m (TR2) to 2.90 mbs (TR13) but averaged 0.80 m deep. Trenches 1-17 and BD1-2 are discussed below and stratigraphic profiles are presented in Appendix A.

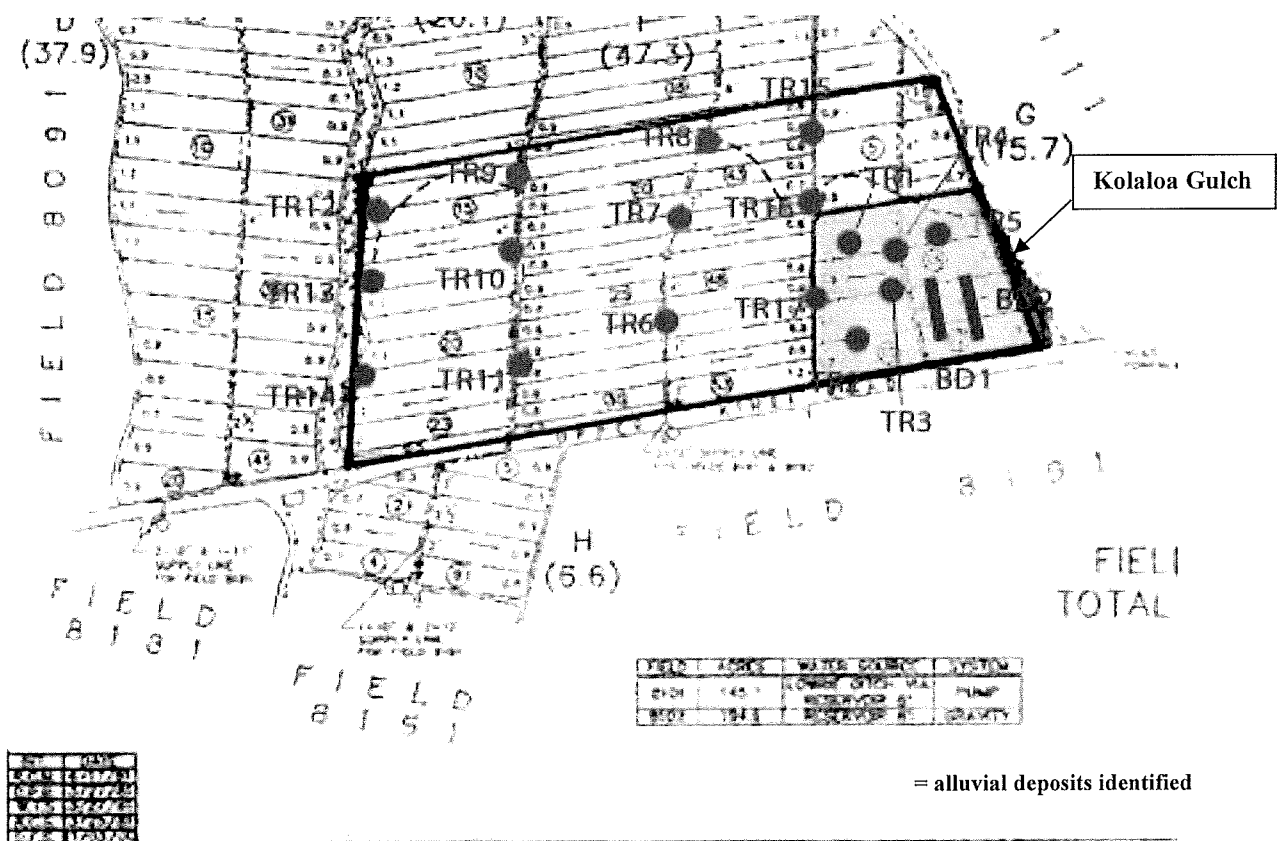


Figure 11. Enlarged Map Showing Location of TR's 1-17 and BD 1-2

**Table I. Summary of Backhoe Trenches 1-17 and BD's 1 and 2**

TRENCH	LENGTH (m)	WIDTH (m)	DEPTH (m)	ORIENT TR / Profile	LAYER I	LAYER II	LAYER III	LAYER IV	LAYER V	LENS	COMMENTS
1	8	1.5	1.6	360° 90°	7.5YR 3/3	5YR 3/4	10YR 5/4	10yr 5/1	n/a	NO	sterile
2	7	1.5	1.6	360° 90°	7.5YR 3/3	5YR 3/4	10YR 5/4	10yr 5/1	n/a	NO	sterile
3	9	1.5	2	360° 270°	7.5YR 3/3	5YR 3/4	10YR 5/4	10yr 5/4	10yr5/1	gravel	sterile
4	5	1.5	2	340° 70°	7.5YR 3/3	5YR 3/4	10YR 5/4	10yr 5/1	n/a	NO	irrigation
5	9	1.5	2	360° 90°	7.5YR 3/3	5YR 3/4	10YR 5/4	10yr 5/1	n/a	NO	sterile
BD 1	12	5	1.4	270° 180°	7.5YR 3/3	5YR 3/4	10YR 5/4	10yr 5/1	n/a	NO	irrigation
BD2	15	5	1.6	270° 180°	7.5YR 3/3	5YR 3/4	10YR 5/4	10yr 5/1	n/a	NO	irrigation
6	4.1	1.5	1.6	270° 360°	7.5YR 3/3	5YR 3/4	10YR 5/4	n/a	n/a	NO	Sterile
7	3.9	1.5	2	270° 360°	7.5YR 3/3	5YR 3/4	7.5yr 2.5/1	n/a	n/a	NO	Sterile
8	4	1.5	1.8	270° 360°	7.5YR 3/3	7.5yr 3/1	5YR 3/4	7.5yr 3/1	10yr5/4	alluvial	Sterile
9	3.9	1.5	0.8	270° 360°	10YR 5/4	n/a	n/a	n/a	n/a	NO	Sterile
10	4	1.5	2	270° 360°	7.5YR 3/3	5YR 3/4	10YR 5/4	n/a	n/a	NO	Sterile
11	4	1.5	2.2	270° 360°	7.5YR 3/3	5YR 3/4	10YR 5/4	n/a	n/a	NO	sterile
12	4	1.5	2.6	270° 360°	7.5YR 3/3	5YR 3/4	10YR 5/4	7.5yr 2.5/1	10yr5/1	gravel/alluvial cinder	sterile
13	4	1.5	3	270° 360°	7.5YR 3/3	5YR 3/4	10YR 5/1	n/a	n/a	NO	Sterile
14	4	1.5	2.05	270° 360°	7.5YR 3/3	5YR 3/4	5YR 4/6	5YR 3/4	10YR 5/4	alluvial /gravel	Sterile
15	4	1.5	1.2	270° 360°	7.5YR 3/3	5YR 3/4	10YR 5/4	n/a	n/a	NO	sterile
16	4	1.5	1.45	270° 360°	7.5YR 3/3	5YR 3/4	7.5yr 2.5/1	n/a	n/a	NO	sterile
17	4	1.5	1	270° 360°	7.5YR 3/3	5YR 3/4	10YR 5/4	n/a	n/a	NO	sterile

## TRENCH 1

TR-1 was placed within the 8.8 acre area in the NE corner of the project area (see Figure 11, Table I and Appendix A). It measured 8.0 m long by 1.5 m wide by 1.60 m deep and was oriented 360° degrees. This section had been previously grubbed during the harvesting of the sugar cane. Testing revealed a four layer stratigraphic sequence (Figures 12 and 13). No cultural materials were observed.

**Layer I** (0-40cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (39-70cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (68-140cmbs) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".

**Layer IV** (136-160cmbs+) is a gray (10yr 5/1), basalt layer, non-plastic, non-sticky, massive, indurated. This layer is the bedrock layer.

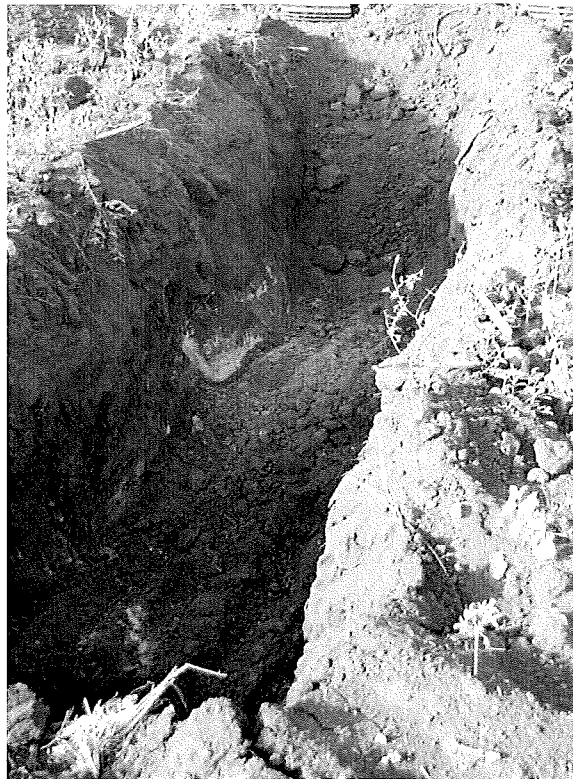


Figure 12. Overview Photograph of Trench 1 (View to North)



**Figure 13. Photograph of Trench 1 West Wall**

## **TRENCH 2**

TR-2 was placed within the 8.8acre area in the NW corner of the project area (see Figure 11, Table I and Appendix A). It measured 7.0 m long by 1.5 m wide by 1.60 m deep and was oriented 360° degrees. This section had been previously grubbed during the harvesting of the sugar cane. Testing revealed a four layer stratigraphic sequence (Figure 14). No cultural materials were observed.

**Layer I** (0-38cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone"..

**Layer II** (38-40cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer appears to be disturbed.

**Layer III** (46-100cmbs) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".

**Layer IV** (100-160cmbs+) is a gray (10yr 5/1), basalt layer, non plastic, non sticky, massive, indurated. This layer is the bedrock layer.





**Figure 14. Photograph of Trench 2 East Wall**

### **TRENCH 3**

TR-3 was placed within the 8.8acre area in the central portion of the project area (see Figure 11, Table I and Appendix A). It measured 9.0 m long by 1.5 m wide by 2.0 m deep and was oriented 360° degrees. This section had been previously grubbed during the harvesting of the sugar cane. Testing revealed a five layer stratigraphic sequence (Figures 15 and 16). No cultural materials were observed.

**Layer I** (0-40cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (38-84cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer appears to be disturbed.

**Layer III** (82-160cmbs) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".

**Lens/Layer IV** (159-200cmbs+) is a yellowish brown (10yr 5/4), gravelly sub-angular layer, non plastic, non sticky, medium grain, firm. This layer occurs in pockets and in some cases as lenses throughout the region.

**Layer V** (160-200cmbs+) is a gray (10yr 5/1), basalt layer, non plastic, non sticky, massive, indurated. This layer is the bedrock layer and is the target material for the mining operations.



**Figure 15. Overview Photograph of Trench 3 (View to East)**



**Figure 16. Photograph of TR-3 North Wall**

#### TRENCH 4

TR-4 was placed within the 8.8acre area in the central portion of the project area (see Figure 11, Table I and Appendix A). It measured 5.0 m long by 1.5 m wide by 2.0 m deep and was oriented 340° degrees (Figure 17). This section had been previously grubbed during the harvesting of the sugar cane. Testing revealed a four layer stratigraphic sequence (Figure 18). No cultural materials were observed.

**Layer I** (0-58cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone"..

**Layer II** (40-100cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer appears to be disturbed.

**Layer III** (98-142cmbs) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".

**Layer IV** (138-200cmbs+) is a gray (10yr 5/1), basalt layer, non plastic, non sticky, massive, indurated. This is the bedrock layer.



Figure 17. Overview Photograph of Trench 4 (View to North)



**Figure 18. Photograph of Trench 4 West Wall**

## **TRENCH 5**

TR-5 was placed within the 8.8 acre area in the SE portion of the project area (see Figure 11, Table I and Appendix A). It measured 9.0 m long by 1.5 m wide by 2.0 m deep and was oriented 360° degrees. This section had been previously grubbed during the harvesting of the sugar cane. Testing revealed a four layer stratigraphic sequence (Figures 19 and 20). No cultural materials were observed.

**Layer I** (0-42cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (38-45/102cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (98-184cmbs) is a greyish brown (10YR5/1) and yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".

**Layer IV** (180-200cmbs+) is a gray (10yr 5/1), basalt bedrock, non-plastic, non-sticky, massive, indurated. This layer is the bedrock layer and is the target material for the mining operations.



**Figure 19. Overview Photograph of Trench 5 (View to North)**



**Figure 20. Photograph of Trench 5 West Wall**

### **BULLDOZER CUT 1**

BD-1 was placed within the 8.8 acre area in the SW portion of the project area (see Figure 11, Table I and Appendix A). It measured 12.0 m long by 1.5 m wide by 1.4 m deep and was oriented 270° degrees (Figure 21). This section had been previously grubbed during the harvesting of the sugar cane. Testing revealed a four layer stratigraphic sequence (Figure 22). No cultural materials were observed.

**Layer I** (0-32cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (30-50cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (50-136cmbs) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".

**Layer IV** (136-140cmbs+) is a gray (10yr 5/1), basalt layer, non-plastic, non-sticky, massive, indurated. This layer is the bedrock layer and is the target material for the mining operations.





**Figure 21. Overview Photograph of Bulldozer Cut 1 (View to West)**



**Figure 22. Photograph of Bulldozer Cut 1 North Wall**

## **BULLDOZER CUT 2**

BD-2 was placed within the 8.8 acre area in the SW portion of the project area (see Figure 11, Table I and Appendix A). It measured 15.0 m long by 1.5 m wide by 1.6 m deep and was oriented 270° degrees. This section had been previously grubbed during the harvesting of the sugar cane. Testing revealed a four layer stratigraphic sequence (Figures 23 and 24). No cultural materials were observed.

**Layer I** (0-38cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (36-100cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (98-139cmbs) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".

**Layer IV** (136-160cmbs+) is a gray (10yr 5/1), basalt layer, non-plastic, non-sticky, massive, indurated. This layer is the bedrock layer and is the target material for the mining operations.



**Figure 23. Overview Photograph of Bulldozer Cut 2 (View to West)**





**Figure 24. Photograph of Bulldozer Cut 2 North Wall**

#### **TRENCH 6**

TR-6 was placed within the 33.0 acre area in the central portion of the project area (see Figure 11, Table I and Appendix A). It measured 4.1 m long by 1.5 m wide by 1.6 m deep and was oriented 270° degrees (Figure 25 and Table I). This section was an active cane fields and therefore the location of this trench was along a known haul rd. Testing revealed a three layer stratigraphic sequence (Figure 26). No cultural materials were observed.

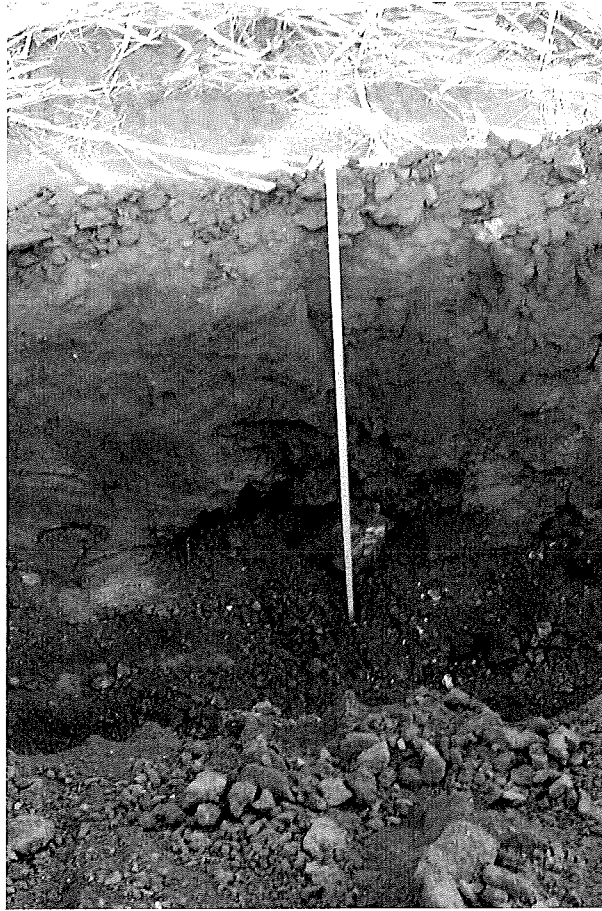
**Layer I** (0-20cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone"..

**Layer II** (18-90cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (86-160+cmbs) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".



**Figure 25. Overview Photograph of Trench 6 (View to West)**



**Figure 26. Photograph of Trench 6 South Wall**

### **TRENCH 7**

TR-7 was placed within the 33acre area in the central portion of the project area (see Figure 11, Table I and Appendix A). It measured 3.9 m long by 1.5 m wide by 2.0 m deep and was oriented 270° degrees (Figure 27 and Table I). This section was an active cane fields and therefore the location of this trench was along a known haul rd. Testing revealed a three layer stratigraphic sequence (Figure 28). No cultural materials were observed.

**Layer I** (0-20cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone"..

**Layer II** (18-170cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (168-200cmbs+) is a black (7.5yr 2.5/1) cinder and greyish black silty clay, moist, non-plastic, non-sticky, medium grain, firm. This layer/lens was also observed in TR16.



**Figure 27. Overview Photograph of Trench 7 (View to North)**



**Figure 28. Photograph of Trench 7 North Wall**

## TRENCH 8

TR-8 was placed within the haul road in the central portion of the 33.0 acre area (see Figure 11, Table I and Appendix A). It measured 4.0 m long by 1.5 m wide by 1.8 m deep and oriented 270° degrees. TR-8 contained a five layer stratigraphic sequence indicative of alluvial and or flood plain deposits (Figures 29 and 30). No cultural materials were observed.

**Layer I** (0-24cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Lens/Layer II** (21-80cmbs) is a very dark gray (7.5yr 3/1), gravelly silt, non-plastic, non-sticky, crumb, firm. This layer contained low frequencies of water worn igneous basalt pebbles most likely associated with a former stream. Similar to stream deposits.

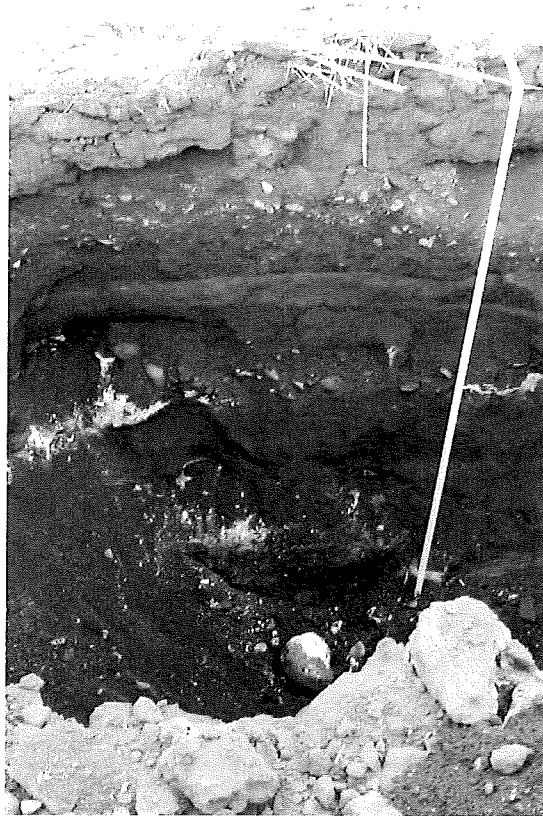
**Lens/Layer III** (79-110cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer/Lens IV** (110-146cmbs) is a very dark gray (7.5yr 3/1), gravelly silt, non-plastic, non-sticky, crumb, firm. This layer contained low frequencies of water worn igneous basalt pebbles most likely associated with a former stream. Similar to stream deposits.

**Layer V** (142-180cmbs+) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".



Figure 29. Overview Photograph of Trench 8 (View to East)



**Figure 30. Photograph of Trench 8 North Wall**

## **TRENCH 9**

TR-9 was placed within the 33.0 acre area in the eastern portion of the project area (see Figure 11, Table I and Appendix A). It measured 3.9 m long by 1.5 m wide by 0.8 m deep and was oriented 270° degrees (Figures 31 and 32). Testing revealed a single stratum that was negative for cultural materials and terminated on decomposing bedrock, Layer II.

**Layer I (0-80cmbs)** is a yellowish brown (10yr 5/4), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone". The bedrock was encountered at base.

**Layer II (80cmbs+)** is yellowish brown (10yr5/4), gravelly, silt loam, slightly plastic, slightly sticky, crumb, friable, with decomposing basalt.



**Figure 31. Overview Photograph of Trench 9 (View to East)**



**Figure 32. Photograph of Trench 9 North Wall**



## TRENCH 10

TR-10 was placed within the 33.0 acre area in the central portion of the project area (see Figure 11, Table I and Appendix A). It measured 4.0 m long by 1.5 m wide by 1.5 m deep, oriented 270° degrees and placed in the cane haul road. Testing revealed a three layer stratigraphic sequence (Figures 33 and 34). No cultural materials were observed.

**Layer I** (0-20cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone"..

**Layer II** (18-74cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (60-200+cmbs) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".

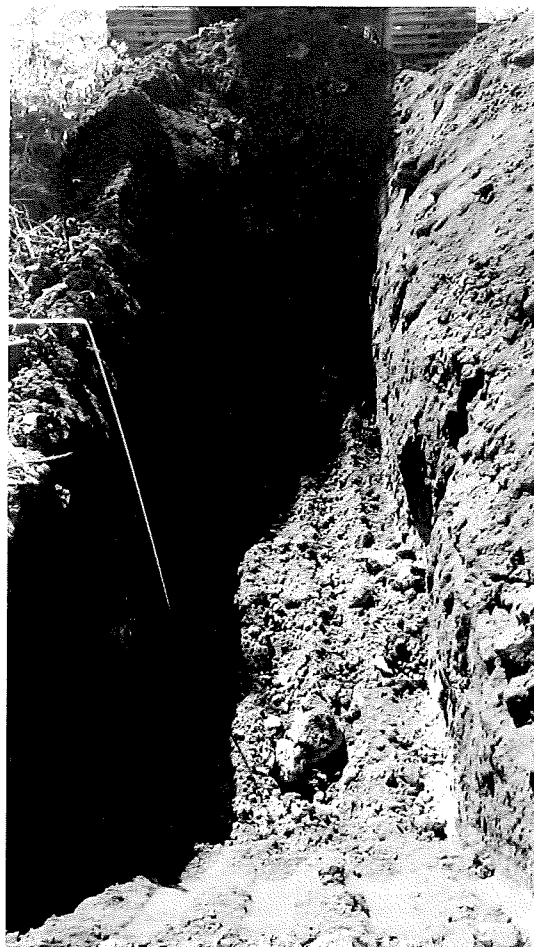


Figure 33. Overview Photograph of Trench 10 (View to East)



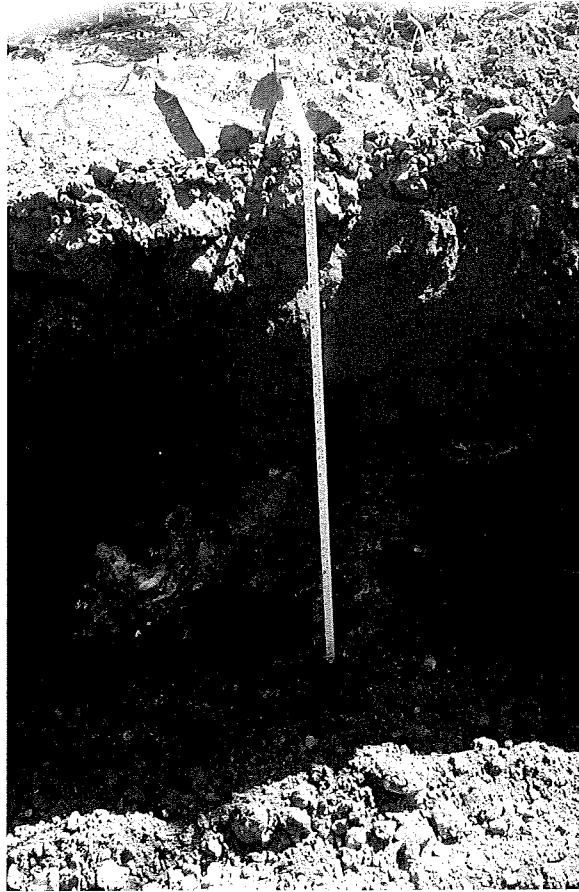


Figure 34. Photograph of Trench 10 North Wall

### TRENCH 11

TR-11 was placed within the western portion of the 33.0 acre area within a cane haul road (see Figure 11, Table I and Appendix A). It measured 4.0 m long by 1.5 m wide by 1.2 m deep and was oriented 270° degrees. Testing revealed the same three layer stratigraphic sequence as observed within TR-10 (see Figure 34). No cultural materials were observed.

**Layer I** (0-20cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (16-80cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (72-120+cmbs) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".

## **TRENCH 12**

TR-12 was placed within the 33.0 acre area in the NE portion of the project area (see Figure 11, Table I and Appendix A). It measured 4.0 m long by 1.5 m wide by 2.6 m deep, oriented 270° degrees and situated within a haul road (Figures 35 and 36). TR-12 contained a five layer stratigraphic sequence that was devoid of cultural materials.

**Layer I** (0-20cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (18-160cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (158-186+cmbs) is a yellowish brown (10yr 5/4), gravelly silt loam, non-plastic, non-sticky, crumb, firm. This layer contained low frequencies of water worn basalt pebbles possibly associated with alluvial deposition.

**Layer IV** (182-190cmbs) is a black cinder (7.5yr 2.5/1), gravelly silt layer, non-plastic, non-sticky, medium grain, firm. This layer occurs in pockets and in some cases as lenses throughout the region.

**Layer V** (189-260cmbs) is a gray (10yr 5/1), basalt layer, non-plastic, non-sticky, massive, indurated. This layer bedrock.



**Figure 35. Overview Photograph of Trench 12 (View to West)**



**Figure 36. Photograph of Trench 12 North Wall**

### TRENCH 13

TR-13 was placed within the 33acre area in the north central portion of the project area (see Figure 11, Table I and Appendix A). It measured 4.0 m long by 1.5 m wide by 3.0 m deep and was oriented 270° degrees. This section was an active cane fields and therefore the location of this trench was along a known haul rd. Testing revealed a three layer stratigraphic sequence (Figures 37 and 38). No cultural materials were observed.

**Layer I** (0-18cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (16-295cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (295-300cmbs+) is a gray (10yr 5/1), basalt bedrock layer, non-plastic, non-sticky, massive, indurated.



Figure 37. Overview Photograph of Trench 13 (View to East)



**Figure 38. Photograph of Trench 13 North Wall**

#### **TRENCH 14**

TR-14 was placed along haul road within the 33.0 acre area in the north central portion of the project area (see Figure 11, Table I and Appendix A). It measured 4.0 m long by 1.5 m wide by 2.05 m deep and was oriented 270° degrees. TR-14 contained a five layer stratigraphic sequence and no cultural materials were observed (Figure 39).

**Layer I** (0-9cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (8-160cmbs+) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Lens/Layer III** (160-1.85cmbs+) is a reddish brown (5yr4/6), pebbly silt loam, non-plastic, non-sticky, crumb, firm. This layer contained low frequencies of water worn igneous basalt pebbles most likely associated with a former stream.

**Layer IV** (185-195cmbs+) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer V** (195-205cmbs+) is a dark yellowish brown (10yr5/4), gravelly silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.



**Figure 39. Overview Photograph of Trench 14 (View to West) (Left); and Photograph of North Wall Trench 14**

### **TRENCH 15**

TR-15 was placed within the 33.0 acre area within the cane haul road located in the eastern portion of the project area (see Figure 11, Table I and Appendix A). It measured 4.0 m long by 1.5 m wide by 1.2 m deep, oriented 270° degrees and contained a three layer stratigraphic sequence that was negative for cultural materials (Figure 40).

**Layer I** (0-20cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (18-81cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (81-120cmbs+) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".



**Figure 40. Photographs of TR-15 Overview (View to West) (left); and South Wall (right)**

## **TRENCH 16**

TR-16 was placed within the 33.0 acre area in the south central portion of the project area (see Figure 11, Table I and Appendix A). It measured 4.0 m long by 1.5 m wide by 1.45 m deep, oriented 270° degrees and situated within a haul road. Trench-16 contained a three layer stratigraphic sequence (Figures 41 and 42). No cultural materials were observed.

**Layer I** (0-20cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (20-78cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer does not appear to be disturbed.

**Layer III** (68-150cmbs+) is a (7.5yr 2.5/1), greyish black silty clay, non-plastic, non-sticky, medium grain, firm. This layer occurs in pockets and in some cases as lenses throughout the layer (similar to Layer III TR7).



**Figure 41. Overview Photograph of Trench 16 (View to West)**



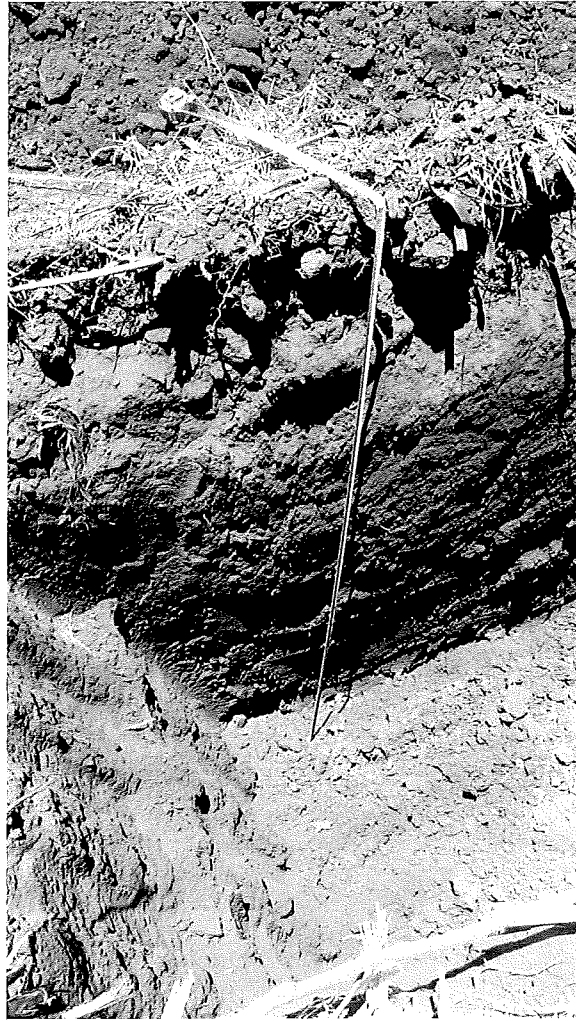


Figure 42. Photograph of Trench 16 North Wall

### TRENCH 17

TR-17 was placed along the haul road within the 33.0 acre area in the south central portion of the project area (see Figure 11, Table I and Appendix A). It measured 4.0 m long by 1.5 m wide by 1.0 m deep and was oriented 270° degrees. Testing revealed a three layer stratigraphic sequence (Figures 43 and 44). No cultural materials were observed.

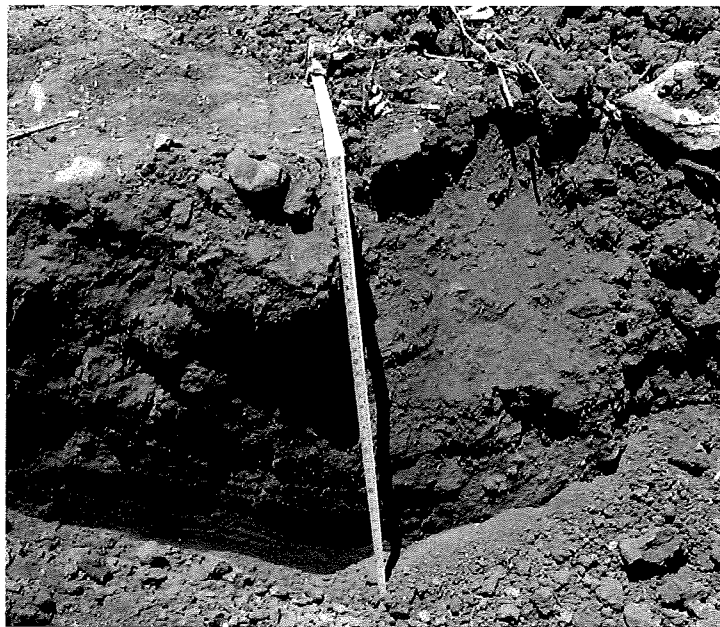
**Layer I** (0-13cmbs) is a dark brown (7.5yr 3/3), silty loam, slightly plastic, slightly sticky, crumb, friable, with moderate frequency of roots and rootlets. Inclusions consisted of black plastic irrigation. This heavily disturbed layer is commonly referred to as the "till zone".

**Layer II** (10-90cmbs) is a dark reddish brown (5yr3/4), silt loam, slightly plastic, slightly sticky, crumb, friable. This layer appears to be disturbed

**Layer III** (85-105cmbs+) is a yellowish brown (10yr5/4), silt loam, slightly plastic, slightly sticky, crumb, friable, with a high frequency of decomposing basalt. This layer is undisturbed and referred to as the "saprolitic layer".



**Figure 43. Overview Photograph of Trench 17 (View to West)**



**Figure 44. Photograph of Trench 17 South Wall**

## **DISCUSSIONS AND RECOMMENDATIONS**

To ascertain the presence absence of historic properties that could be adversely affected by proposed rock mining activities, inventory level procedures comprised of a pedestrian survey and subsurface testing was performed at the subject parcel. During the survey, no surface structural remains were recorded; however irrigation materials consisting of plastic sheeting, black irrigation tubing, PVC pipes and etc. were observed and scattered and due to the compounded disturbances from sugar cane cultivation. Similarly, subsurface testing comprised of 17 backhoe trenches (TR's 1-17) and 2 bulldozer cuts (BD's 1 and 2) was executed across the subject parcel and negative for buried cultural remains. The excavations revealed that the 41.968 acre project area had been disturbed by continuous agricultural activities where the agricultural till zone (Layer I) extended from 0.10 m to 0.80 mbs, and averaged 0.40 m deep and the saprolytic (decomposing) basalt was identified was observed from 0.46 m to 2.90 mbs and averaged 0.80 m deep.

Documentation of the soil profiles exhibited a predominant three to four layer stratigraphic sequence comprised of two soil layers overlying one or two rock layers. Layer I was the disturbed agricultural till zone, Layer II was generally undisturbed and consisted of a dark reddish brown silt loam, Layer III was decomposing bedrock and Layer IV the basalt bedrock. This soil sequence was recorded at eleven of the excavations. The remaining eight trenches contained a similar stratigraphic record; however the overall sequence was interrupted by prior disturbances, alluvial deposits and geologic events. TR9 contained a single disturbed layer comprised of Layer III from the project wide stratigraphic sequence. The presence of Layer III at the surface indicated that Layers I and II were removed by prior grading activities. TR's 8, 12 and 14 contained water worn pebbles indicative of alluvial events; however the deposition within TR's 12 and 14 was marginal and the water worn pebbles were mixed within a gravelly silt loam. TR8 contained a thick gravelly silt layer with few pebble inclusions contained a thick alluvial layer, approximately 90 cm similar to flood plain deposits. Within TR's 7 and 12, cinder lenses comprised of small cobble sized pyroclastic material were noted near the base of excavations. Pockets of imported sand were also observed and is utilized as a soil conditioner providing nutrients (phosphorus) for the sugarcane.

The subject parcel and other localities such as the Central Maui Landfill (off Pūlehu Road by Pu'unene Sugar Mill) have exhibited similar depositional environments with relatively shallow soils overlying dense bedrock. The geology of these areas is one of the main reasons for establishing rock quarries and subsequent landfills (if applicable).

Although the background research, exemplified that Pūlehu Nui was populated during the traditional and historic periods within the *mauka* and *makai* sections of the *ahupua`a*; no evidence of habitation was observed during the subsurface investigations. It is important to note, that two Plantation Camps (Kihei Camp 3 and Camp 13) were formerly located to the south and north of the subject parcel; however they were positioned 2500 to 7500 ft. away. The negative findings documented during this survey and the 2011 investigations (Rotunno-Hazuka et. al) was anticipated within this marginal zone and no further archaeological work including monitoring is warranted. Nonetheless, SHPD is the historic preservation regulatory agency and shall be afforded the opportunity to review all permits for these proposed expansion areas.

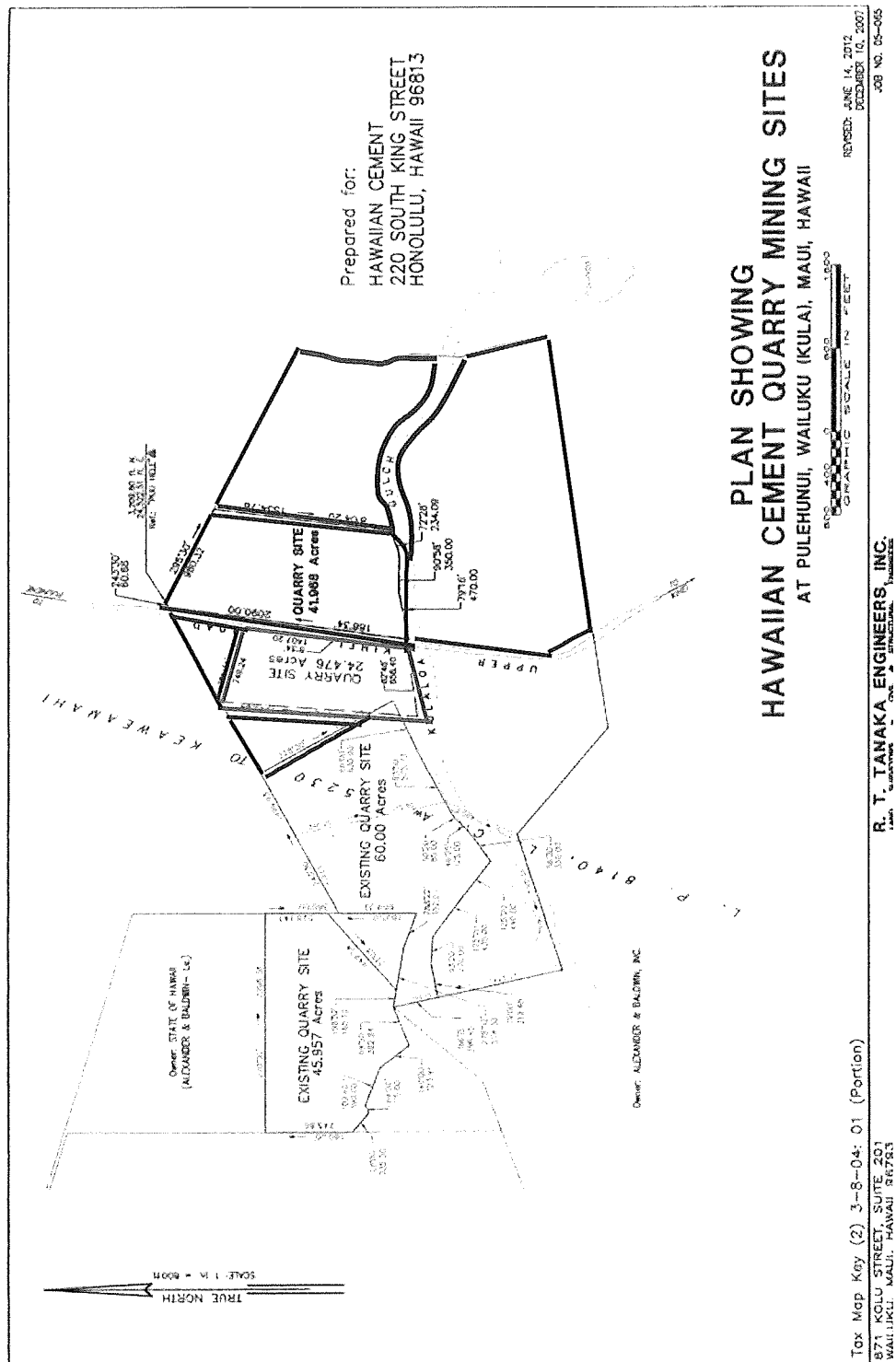


Figure 45. Development Map Showing Project Area (Red), Former A.A. Parcel (Green) and Possible Future Expansion Areas (Purple)

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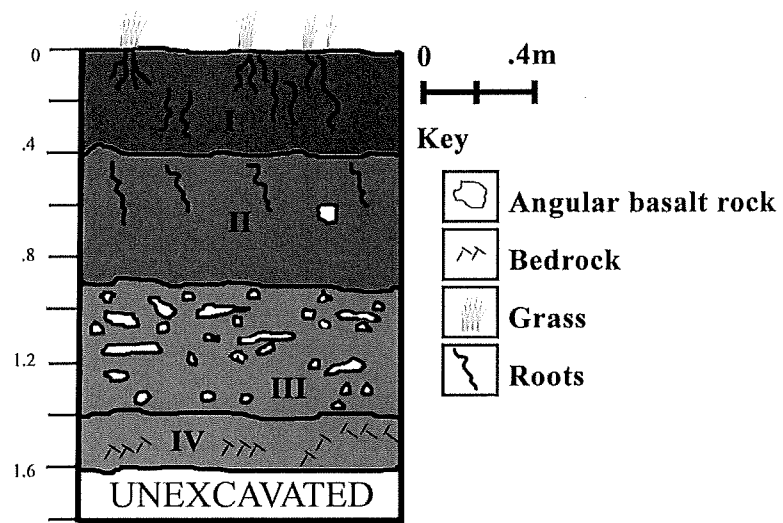
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Waihona Aina Corp

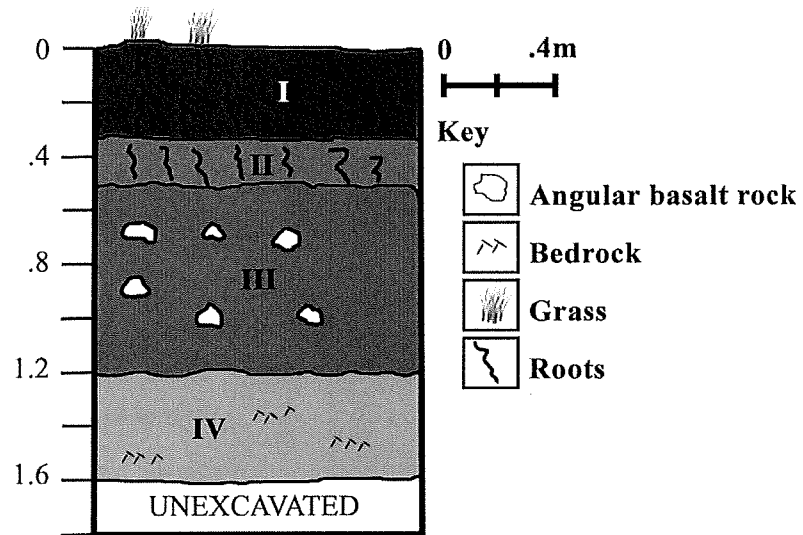
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## ***APPENDIX A***

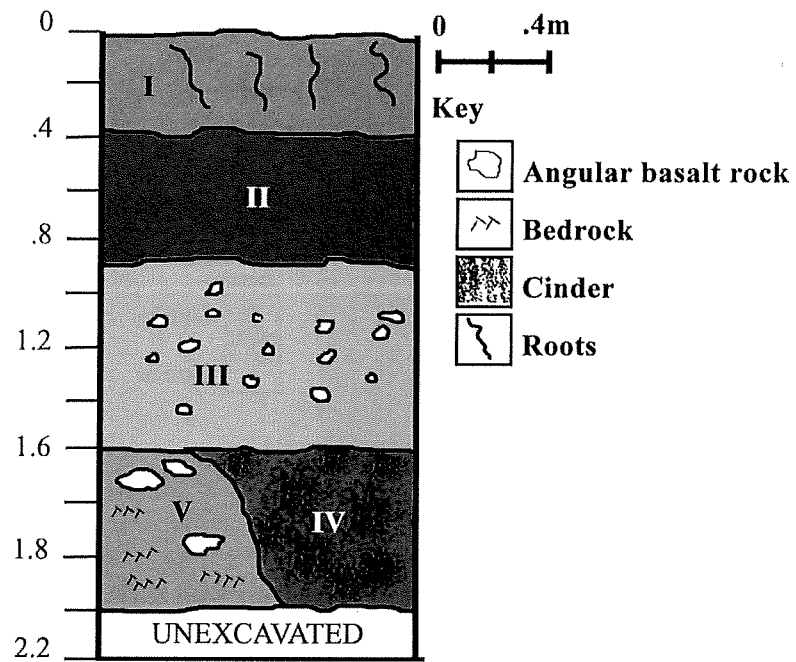




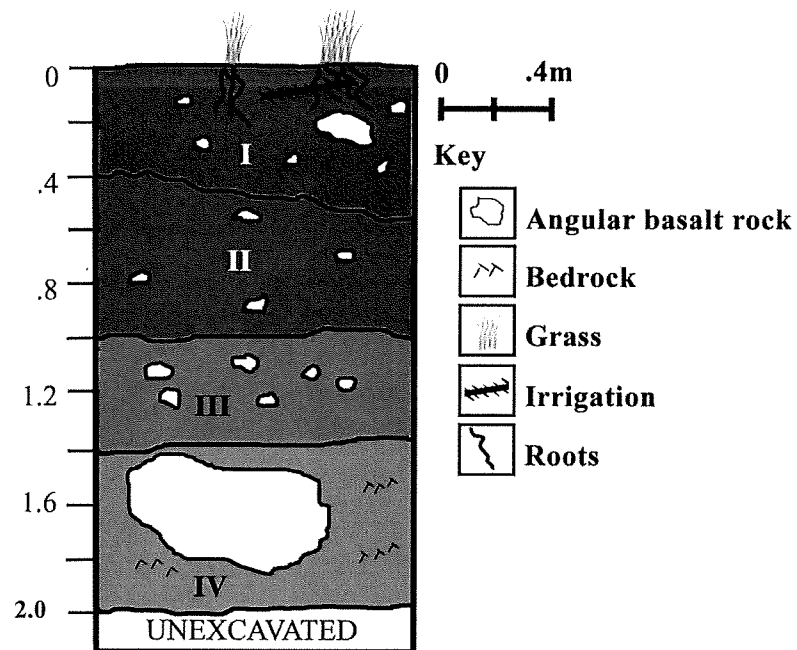
Stratigraphic Profile of West Wall at TR1



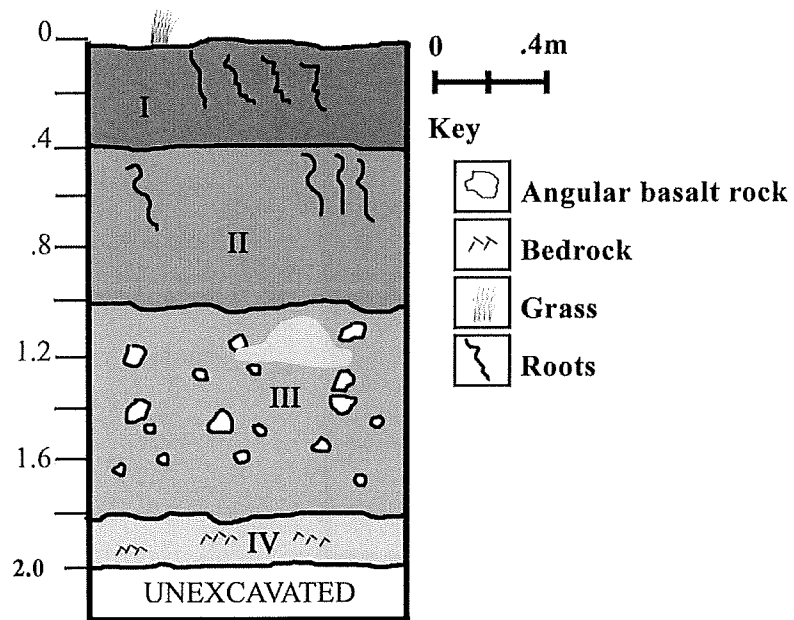
Stratigraphic Profile of East Wall at TR2



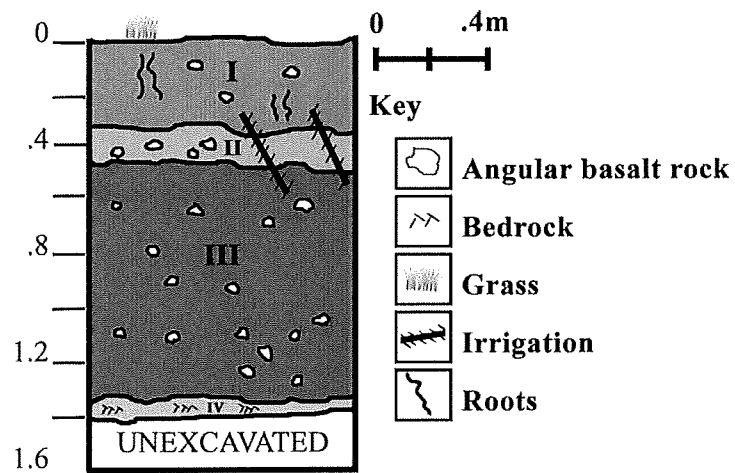
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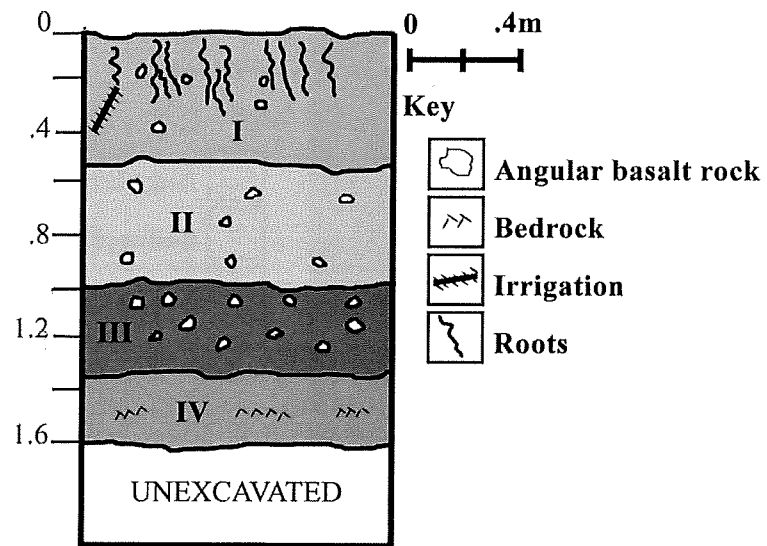
Stratigraphic Profile of West Wall at TR4



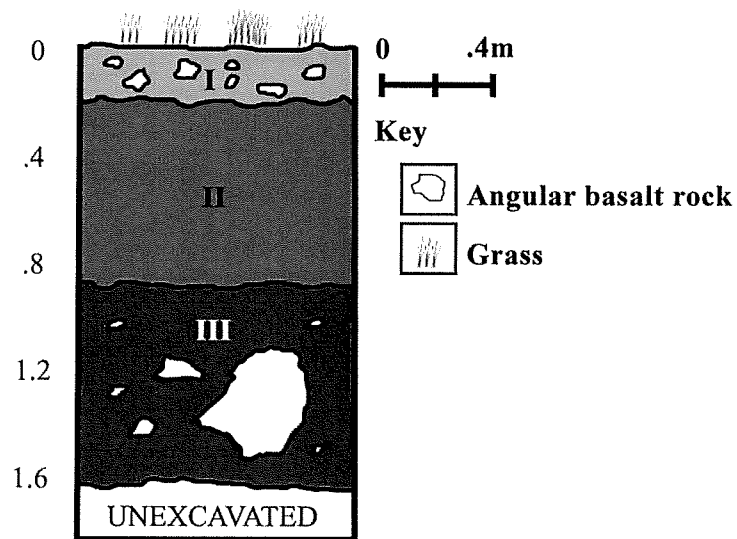
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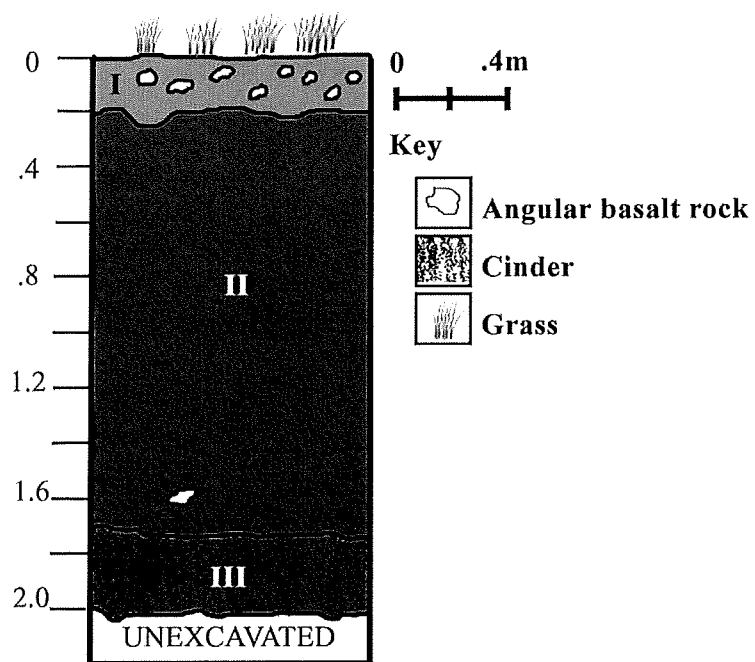
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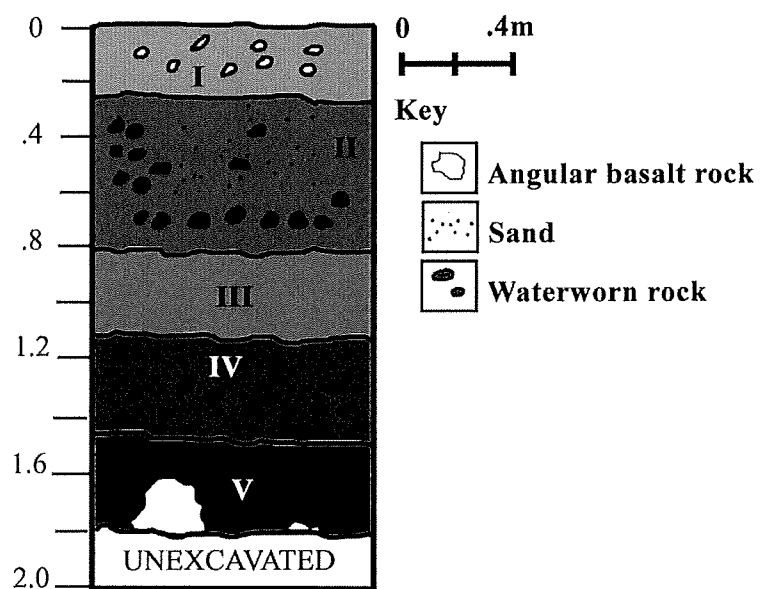
Stratigraphic Profile of North Wall at BD2



Stratigraphic Profile of South Wall at TR6

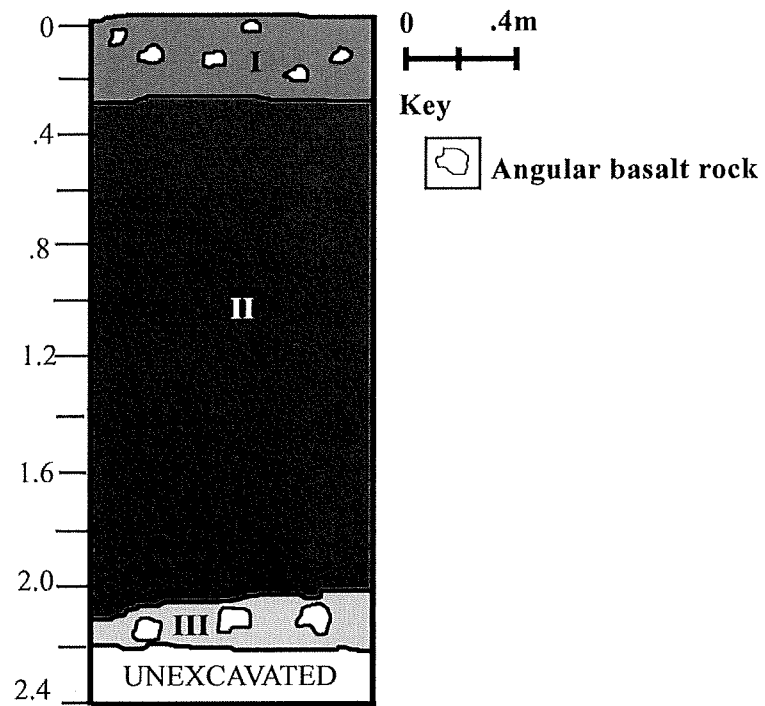


Stratigraphic Profile of North Wall at TR7

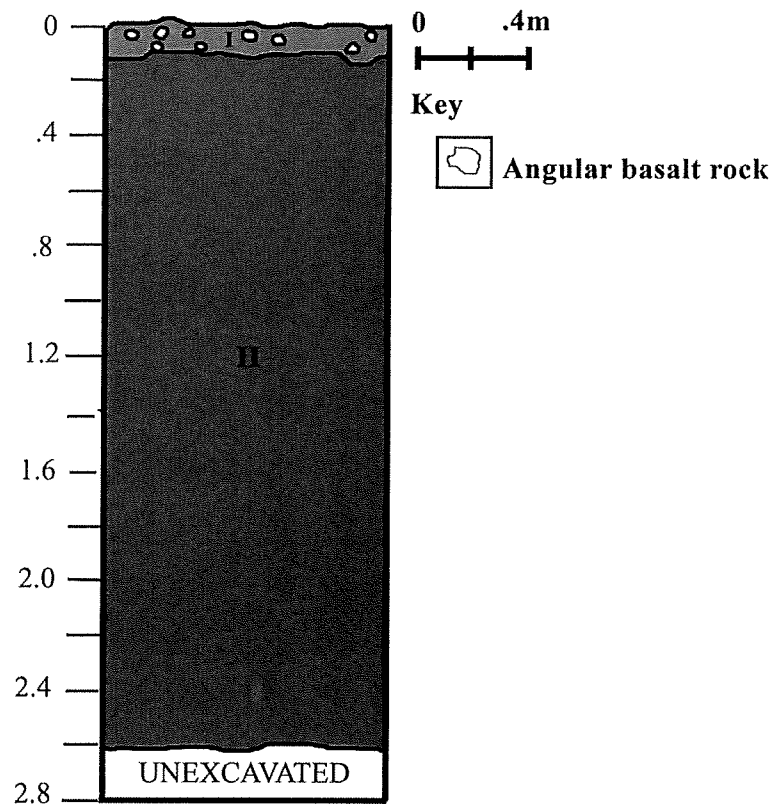


Stratigraphic Profile of North Wall at TR8



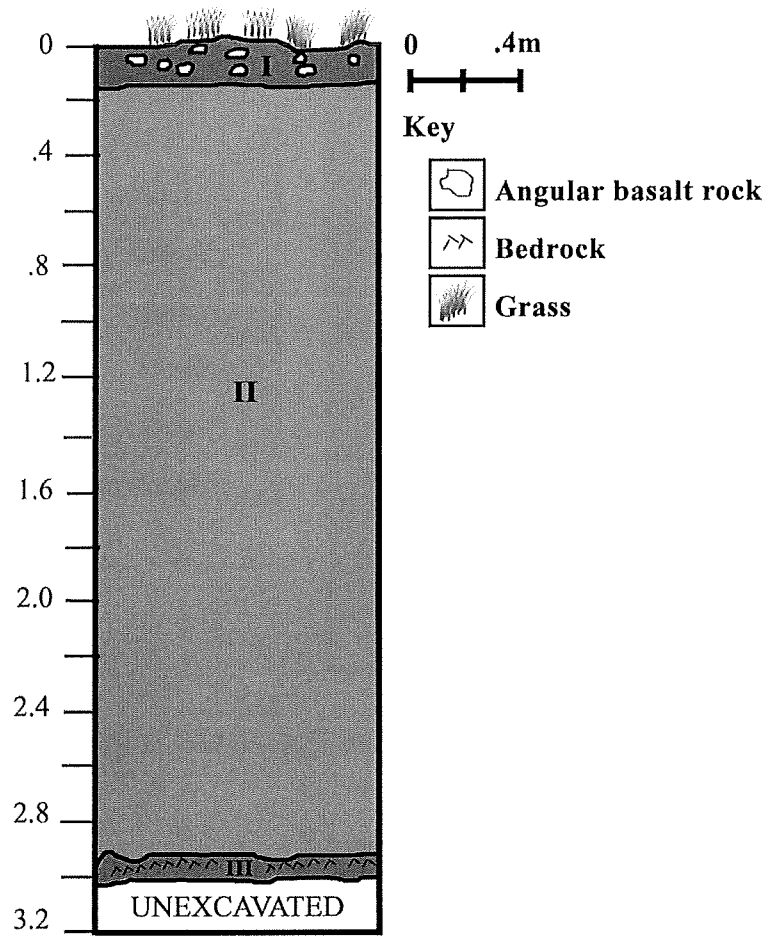


Stratigraphic Profile of North Wall at TR11

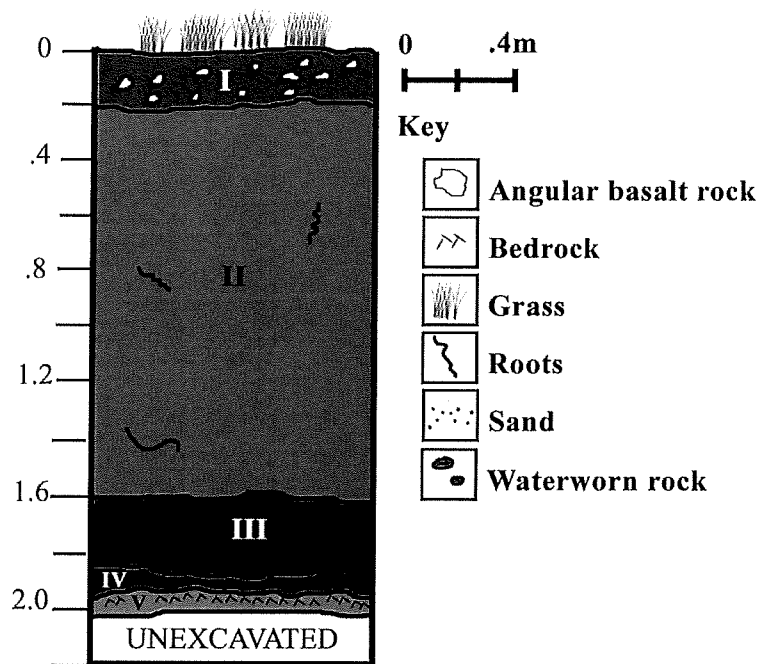


Stratigraphic Profile of North Wall at TR12

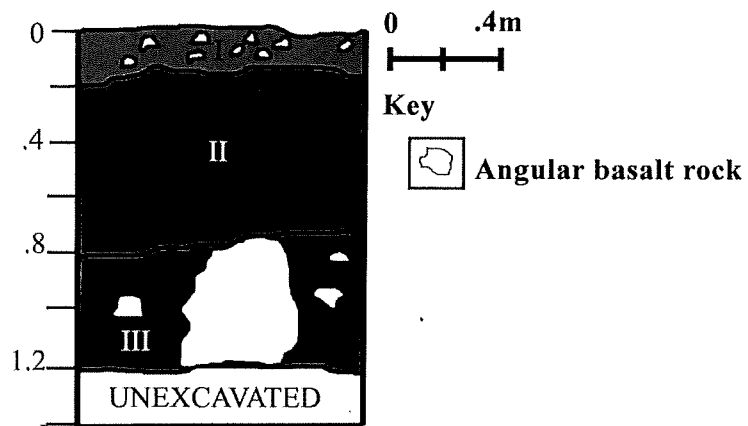




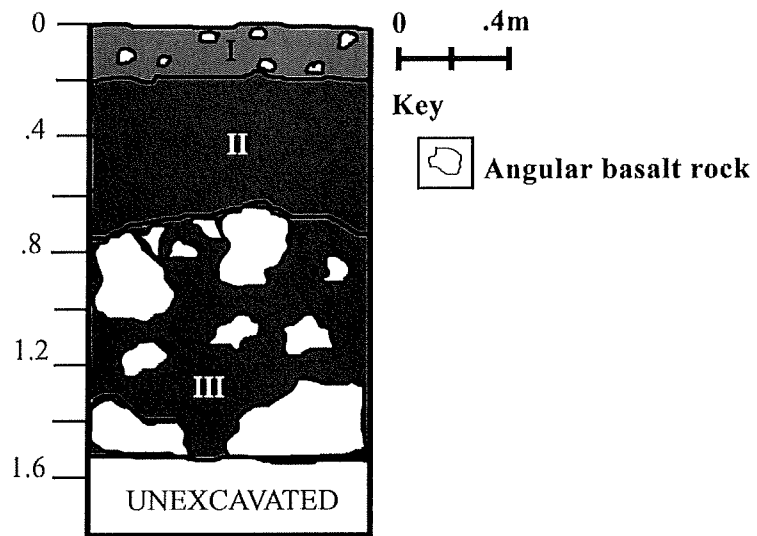
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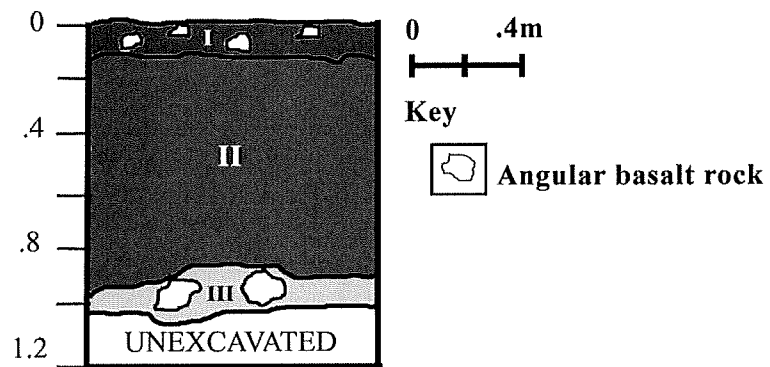
Stratigraphic Profile of North Wall at TR14



Stratigraphic Profile of North Wall at TR15



Stratigraphic Profile of North Wall at TR16



Stratigraphic Profile of South Wall at TR17