Phase I Environmental Site Assessment

Hakalau Sugar Mill
Hakalau, Hawaii

July 2007

Prepared for:
Department of Environmental Management
County of Hawaii

Delivering sustainable solutions in a more competitive world

ERM

DRAFT REPORT

EPA Brownfields Countywide Site Assessment

Phase I
Environmental Site Assessment

Former Hakalau Sugar Mill
29-2306 Old Mamalahoa Hwy
Hakalau, HI 96710

TMK: 2-9-002:080

July 2007

Project Number 0050398

Prepared For:

The County of Hawaii
Department of Environmental
Management

Environmental Resources Management
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LIST OF ACRONYMS

AAI	All Appropriate Inquiries
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
EAL	Environmental Action Level
EDR	Environmental Data Resources
EPA	Environmental Protection Agency
ERM	Environmental Resources Management
ESA	Environmental Site Assessment
FINDS	Facility Index System
FOIA	Freedom of Information Act
HDOH	Hawaii Department of Health
HEER	Hazard Evaluation and Emergency Response
HSDP	Hakalau Seed Dipping Plant
LUST	Leaking Underground Storage Tank
MKA	Mauna Kea Agribusiness Company, Inc.
PACM	Presummed Asbestos Containing Material
PCB	Polychlorinated Biphenyl
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
SHWS	State Hazardous Waste Sites
SPCC	Spill Prevention Control and Countermeasures
SQG	Small Quantity Generator
UST	Underground Storage Tank

Environmental Resources Management (ERM) Inc., conducted a Phase I Environmental Site Assessment (ESA) and a limited regulatory compliance review of the former Hakalau Sugar Mill site located at 29-2306 Old Mamalahoa Highway in Hakalau, Hawaii. The Phase I ESA was conducted in accordance with the scope and limitations of American Society for Testing and Materials (ASTM) Standard E 1527-05 Standard Practice for ESA: Phase I ESA Process and EPA's All Appropriate Inquiries (AAI). The regulatory compliance review was conducted in accordance with general industry standards.

A site visit was conducted on 19 April 2006 by Mr. Achie Reyes and Ms. Ashley Kerr of ERM. The subject property is a 3.182 acres parcel and the site of the former Hakalau Sugar Mill located at the bottom of the Hakalau Gulch along the Pacific Ocean shoreline at Hakalau Bay. The former Hakalau Sugar Mill was built in 1890 and was operational until 1974. The mill buildings were demolished in 1979 when all sugar mill operations were transferred to Pepeekeo. The area surrounding the subject property is densely vegetated and unpopulated.

The subject property was bought by Continental Pacific, LLC. in September 2003 from Mauna Kea Agribusiness Company, Inc. (MKA) and donated the property to the County of Hawaii last May 2006 to provide public access to the shore of Hakalau Bay.

Based on information obtained during the site visit, the environmental database review, and interviews with people familiar with the site and its history, there were no Recognized Environmental Conditions (RECs) at the subject property identified by ERM.

A REC, as defined in ASTM E 1527-05, is "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property, excluding de minimis conditions."

Other conditions at the subject property that may pose a potential health concern include the following:

- Excessive amounts of metal debris were found throughout the former Hakalau Sugar Mill site, stretching from the densely vegetated inland areas to the coastline.
- An old crane, formerly used in the sugar operations, is still present in the thick vegetation in the southeast corner of the site.
- The concrete sea wall protecting the subject property from the constant battering of ocean waves is deteriorating which could eventually lead to collapse if not reinforced.
- Based on 84 years of use as an industrial agricultural facility with known operations involving fuel oil storage and combustion, known asbestos (transite) construction materials, and probable lead paint; and based on findings at other similar sugar mill facilities in Hawaii, it is possible that soils under and around the former mill may be impacted by hydrocarbons, asbestos and/or lead.

1.0 INTRODUCTION AND BACKGROUND

1.1 PURPOSE AND AUDITORS

ERM, in collaboration with the County of Hawaii Department of Environmental Management, completed a Phase I ESA and AAI of the former Hakalau Sugar Mill site, with address at 29-2306 Old Mamalahoa Highway, Hakalau, HI (the "subject property"). The Phase I ESA was performed as part of the Countywide EPA Brownfields Assessment Project for the County of Hawaii and in anticipation of a planned redevelopment of the subject property into a beach park by the County of Hawaii Department of Parks and Recreation.

The site visit was performed on April 19, 2007 by ERM assessors Achie Reyes and Ashley Kerr. ERM was accompanied on the site visit by Mr. James Komata, Park Planner for the County of Hawaii Department of Parks and Recreation.

1.2 SCOPE OF WORK

This environmental assessment was conducted in conformance with the requirements of American Society for Testing and Materials (ASTM) Standard E 1527-05; Standard Practice for Environmental Site Assessments: Phase I ESA Process and the standards for conducting an AAI set forth by the United States EPA under 40 Code of Federal Regulations Part 312.

The assessment was conducted to evaluate and identify conditions indicative of releases and threatened releases of hazardous substances and petroleum products on, at, in or to the subject property. The Phase I ESA sought to gather information regarding: (1) current and past property users and occupancies; (2) current and past users of hazardous substances and petroleum products; (3) waste management and disposal activities that could have caused a release or threatened release of hazardous substances; (4) current and past corrective actions and response activities to address past and on-going releases of hazardous substances; (5) engineering controls; (6) institutional controls; and (7) properties adjoining or located near the subject property that have environmental

conditions that could have resulted in conditions indicative of releases or threatened releases of hazardous substances to the subject property.

The Phase I ESA included:

- An on-site inspection of the subject property to evaluate current conditions and identify areas of potential concern;
- A review of property history through interviews, aerial photographs, city directories, ownership records, Sanborn maps and topographic maps of the subject property;
- Observation of adjacent properties and the local area to evaluate the potential for adverse environmental impact to the subject property;
- Interviews/research of local city/county, tribal, state, and federal records, including contracting of Environmental Data Resources, Inc. (EDR) to identify sites of concern as required in the regulatory records review section of the ASTM standards for a Phase I ESA, where available;
- Interviews with prospective owner or owner-representative;
- Interviews with persons familiar with the former site operations; and
- A preliminary asbestos assessment that included visible observations of readily accessible areas (no sampling was done).

Photographs of the site and surrounding areas were taken during the site visit to document current conditions, and are included in Appendix A. The EDR Database Search Results for the subject property can be found in Appendix B. Property environmental records or permits, reasonably obtainable at the time of the site visit were reviewed, and copies are included in this report, in Appendix C. Copies of questionnaires completed by Mr. John Cross (former site operator) and Mr. James Komata (property owner representative) are also presented in Appendix C. Copies of the Sanborn fire insurance maps, topographic maps, government records, and historic photographs are presented in Appendix D. The qualificatios of environmental professionals conducting this Phase I ESA are presented in Appendix F.

1.3 LIMITING AND SPECIAL CONDITIONS

1.3.1 Limiting Conditions during the Site Visit

The weather during the site visit was partly cloudy with occasional showers and the temperature approximately 80 degrees Fahrenheit. Thick vegetation and hazardous terrain, as well as debris such as protruding metal bars and other objects made it impossible to view all portions of the subject property.

1.3.2 Significant Assumptions

Based on 84 years of use as an industrial agricultural facility with known operations involving fuel oil storage and combustion, known asbestos (transite) construction materials, and probable lead paint; and based on findings at other similar sugar mill facilities in Hawaii, it is possible that soils under and around the former mill may be impacted by hydrocarbons, asbestos and/or lead.

2.0 SITE SETTING

2.1 LOCATION

The former Hakalau Sugar Mill is located below the Hakalau Gulch just south of the boundary of the North and South Hilo districts along the Pacific Ocean shoreline at Hakalau Bay on the island of Hawaii. The site is adjacent to the outfall of the Waawaa Stream into the Hakalau Bay, which flows underneath Hawaii Belt Road. The site is located at 19°53'58.6" N latitude and 155°7'43" W longitude. The general location of the property and the physiographic features of the surrounding area are shown on Figure 1, developed from the United States Geological Survey (USGS) 250K quadrangle for Hilo, Hawaii, dated 2005.

2.2 NEIGHBORING PROPERTIES

Land use in the area of the subject property is zoned industrial, with most of the nearby property currently vacant. Figure 2 shows a site map of the property and the adjacent properties. The abutting properties and nearby land use are described below:

- North: Directly to the north of the subject property is Hakalau Bay, a popular site for fishermen and surfers. The outfall of the Waawaa Stream to Hakalau Bay borders the northwest edge of the subject property while the Papaaloa National Wetland Reserve, , encompasses part of the stream and the adjacent land to the north.
- South: Immediately to the south of the former sugar mill is a 150 foot high cliff. Remnants of the mill smoke stack and flue are located on the edge of the cliff along the Old Mamalahoa Highway . The Old Mamalahoa Highway serve as the main access road to the subject property.
- East: Hakalau Bay of the Pacific Ocean lies directly to the east of the subject property. The former Hakalau Mill seed dipping facility is located southeast of the subject property, on land above the 150 foot high cliff.
- West: Directly west of the subject property is Waawaa Stream, flowing down from a densely vegetated forest. A bridge of the

Hawaii Belt Road span the stream and towers above the subject property to the west.

Based on ERM's observations, the closest residential area is ½ mile to the south on high ground above the 150 foot cliff, while the nearest school is the Hakalau Elementary School located ½ mile to the south.

2.3 TOPOGRAPHY AND HYDROLOGY

The property is located at the bottom of the Hakalau Gulch at an elevation of approximately 12 feet above mean sea level, and is generally flat. The overall topographic trend of the surrounding area is sloping from the southwest toward the northeast. Although the subject property is not located within a 100 or 500-year flood plain, there is a high risk of flooding in the area of the subject property, due to its proximity to Waawaa Stream and Hakalau Bay, with rainfall averaging 140 inches per year at the coast (Mink and Lau, 1993). The area is also subject to tsunami and hurricane storm surges as indicated on the Tsunami Evacuation Map of North Hilo (Appendix D).

2.4 GEOLOGY AND HYDROGEOLOGY

Geologically, the subject property is located on young, igneous rock. Volcanism formed the Hawaiian Islands, with land still growing on the island of Hawaii due to its active volcano, Kilauea. The bedrock, which is found between 15 and 60 inches below ground surface (bgs), is of the Hamakua (the majority) and Laupahoehoe volcanic series. Early Hamakua lava flows are tholeitic, with later flows being alkalic. The Lauapahoehoe flows are alkalic. Pahala ash beds are common, however sediment is restricted to alluvium (Mink and Lau, 1993). Soils found at the subject property are silty clay loam, with slow infiltration rates, and are present at the ground's surface to a depth of 30 inches. Below the silty clay loam, lay 30 inches of weathered bedrock, before reaching the more undisturbed layers of ash and bedrock.

The aquifers beneath the subject property are in the East Mauna Kea Aquifer Sector and are part of the Hakalau Aquifer System (Mink and Lau, 1993). Water perched on ash beds is common, however the largest water resource comes from the basal aquifer, which is confined and found more than 200 feet bgs.

Groundwater flow in the area is to the north, following the general surface topography. However, groundwater flow directions can be highly variable, and no definite statement can be made regarding groundwater flow direction in the absence of accurate water level measurements from groundwater wells.

There are two water wells found within a ½ mile radius of the subject property. Both wells are at higher elevations (not within the gulch), located southeast of the subject property. One of the wells is owned and operated by the Hakalau School, is 317 feet deep and is utilized for municipal water use. The second well is the Wailea – McCully well, owned by J.W. McCully for agricultural purposes, with a depth of 182 feet bgs.

3.0 SITE AND OPERATIONS INFORMATION

3.1 GENERAL SITE DESCRIPTION

The subject property is a 3.182 acre parcel of land (TMK: 2-9-002:080) zoned for industrial use (Figure 3). Continental Pacific, LLC who acquired the property from MKA in September 2003, donated the subject property to the County of Hawaii in May 2006 to provide public access to Hakalau Bay. Access to the site is through the Old Mamalahoa Highway down a steep, windy road, under the Hakalau Bridge to the mill.

The former Hakalau sugar mill was built in 1890 and was operational until 1974. The mill was damaged by a 1946 tsunami and was rebuilt the same year. The mill above ground structures were dismantled in 1979. Large concrete slabs, partial walls and a metal doorway still remain at the site. Remnants of the old cart rail and water flume, located on the south side of the mill along the cliff, are still discernable amidst heavy vegetation. There were no signs of the former water flume coming in from the north that transported sugar cane stalks from the fields to the mill. The support facilities for the mill, including a seed dipping facility, boiler house, and diesel fuel tanks, are all located immediately southeast and above the mill site.

Scattered metal debris was observed all over the area. The concrete sea wall that protects the shoreline is deteriorating. Remnants of an old crane was observed at the southeast corner of the mill structure buried in thick vegetation. Minor scattered litter was observed across the site. Several surfers, fishermen and an apparently homeless man were seen at the site during the site visit.

3.2 UTILITIES

No utilities are known to exist at the site at this time.

3.3 PROCESSES AND MATERIAL USE

3.3.1 Current Operations

There are no current operations at the subject property, and none are known to have occured since the dismantling of the sugar mill in 1979.

3.3.2 Discontinued Operations

Some of the discontinued operations at the site include cane grinding/milling and molasses processing. The Hakalau Sugar Mill worked simultaneously with the Hakalau Seed Dipping Plant (HSDP), located at the top of the cliff southeast of the mill. The HSDP was closed in 1994, the year in which MKA planted its last sugar cane crop (Palmer, 2003).

3.4 CHEMICAL USE AND STORAGE

There is currently no chemical use or storage at the subject property. There are no closure records of the fuel storage facilities at the mill proper that would have fueled the boilers, vehicles and other machineries at the mill (Palmer, 2003).

3.4.1 Underground Storage Tanks (USTs)

There are no records of any USTs at the subject property. A Closure Report from HDOH indicated the use of a 2,500 gallon UST at the HSDP. The UST was removed and backfilled in 30 October 2002 (Walker, 2003).

3.4.2 Aboveground Tanks (ASTs)

An oil tank is shown in a 1919 Sanborn map on the west end of the property (see Appendix D). The tank is not present in a 1946 photograph nor in other documents.

3.5 HAZARDOUS AND NON-HAZARDOUS WASTE MANAGEMENT

3.5.1 Hazardous Waste

There are no records of hazardous waste generation at the site and no visual evidence of such was observed by ERM at the time of the site visit.

3.5.2 Non-Hazardous Waste

ERM did not observe any solid waste disposal or any illegal dumping at the subject property during the site visit, other than the metal debris previously described.

3.6 WATER, WASTEWATER AND STORMWATER

3.6.1 Water

The subject property has an existing but idle 5/8-inch water line and meter located approximately 500 feet away along the Old Mamalahoa Highway.

3.6.2 Wastewater

There is no wastewater being generated at the subject property. The State of Hawaii Department of Environmental Health has no record of any cesspool on the property.

3.6.3 Stormwater

Precipitation that falls on the subject property either infiltrates or flows directly to the Waawaa Stream and Hakalau Bay.

3.7 AIR EMISSIONS

There are no air emission sources on the subject property.

3.8 POLYCHLORINATED BIPHENYLS (PCBS)

ERM inspected the property for types of equipment that have been historically associated with the use of PCBs as a dielectric fluid coolant

and stabilizer. This included posts-mounted and pad-mounted electrical transformers. ERM did not observe any electrical transformers at the subject property.

3.9 VISUAL INDICATIONS OF ON-SITE IMPACTS

No visual indications of on-site impacts were noted during the site inspection. However, the scattered metal debris observed across the entire site could potentially pose as a health and safety hazard.

3.10 ASBESTOS-CONTAINING MATERIALS

Asbestos was banned in most friable building materials (sprayed applied surfacing materials and thermal system insulation) in 1978, but the Occupational Safety and Health Administration deems spray applied surfacing materials, thermal system insulation materials, and vinyl flooring materials as "presumed asbestos-containing materials" (PACMs) if they are present in pre-1981 buildings (Title 29 of the Code of Federal Regulations, Parts 1910.1001 and 1926.1101).

No PACM was observed on readily-accessible areas of the subject property.

4.0 ASSESSMENT OF PAST LAND USE AND OPERATIONS

4.1 GENERAL INFORMATION

ERM contracted with Environmental Data Resources, Inc., (EDR) to obtain historical Sanborn fire insurance maps for the subject property. Sanborn maps contain information regarding facilities and past land use. EDR provided 1919 and 1966 Sanborn maps of the subject property.

The Hakalau Sugar Mill was built in 1890 by Hakalau Plantation Company and was in operation until 1974. In 1906, the Hawaii Consolidated Railway Line was built just *mauka* (mountain side) of the sugar mill. Hakalau Bay was a busy shipping port in the 1930s during the days of inter-island sailing ships (Okimoto, 2005). The mill was dismantled in 1979 and property was acquired by Continental Pacific, LLC from MKA in September 2003 and was donated to the County of Hawaii in May 2006.

ERM interviewed Mr. John Cross, of MKA regarding historical land use of the subject property. Mr. Cross is a long time resident of Hilo and was working for MKA from 1984 until 2005. He has contact and knowledge of the the Halakau Sugar Mill prior to its closure. Mr. Cross reported that the subject property was used mainly for sugar cane processing and he is not aware of any environmental liens or any environmental violations for the subject property. Mr. Cross also stated that he is not aware of any Activity/Use Limitation on the property.

4.2 PREVIOUS ENVIRONMENTAL REPORTS

No Phase I ESA have been performed for the subject property although a Site Reconnaissance Report was conducted by the HEER office on 06 February 2003. The site reconnaissance report did not indicate any significant environmental issues at the subject property.

4.3 EVALUATION OF HISTORIC INFORMATION SOURCES

To determine past uses of the subject property and surrounding properties, ERM reviewed historical sources of information as outlined below. ERM conducted a land title search of the subject property at the Bureau of Conveyances in Honolulu on 25 June 2007 but was told that the records for the subject property were not available at the time. Mr. John Cross, however, provided the following information regarding transfer of title for the subject property. Copies of historical topographic maps and Sandborn maps are presented in Appendix D.

Table 1 Summary of Historical Records Reviewed

	Name/Years Reviewed	
Source of Information	**Subject Property**	**Adjacent Properties**
Interview(s) with current occupant and/or owner	John Cross, Mauna Kea Agribusiness; James Komata, County of Hawaii Division of Parks and Recreation	John Cross, Mauna Kea Agribusiness
USGS Topographic Maps	1966, 1980, 1992	1966, 1980, 1992
Sanborn Fire Maps	1919, 1966	1919, 1966
Aerial Photographs	2007	2007
Archival Photos	1935, 1946, 2003	None
50-year Chain-of-Title	1890 to 1956 - Hakalau Plantation Company 1956 to 1962 – Hakalau Sugar Company 1962 to 1973 - Pepeekeo Sugar Company 1973 to 1984 - Mauna Kea Sugar Company 1984 to 2003 - Mauna Kea Agribusiness Company 2003 to 2006 – Continenal Pacific, LLC	1890 to 1956 - Hakalau Plantation Company 1956 to 1962 – Hakalau Sugar Company 1962 to 1973 - Pepeekeo Sugar Company 1973 to 1984 - Mauna Kea Sugar Company 1984 to 2003 - Mauna Kea Agribusiness Company 2003 to 2006 – Continenal Pacific, LLC

	2006 to present – County of Hawaii	2006 to present – Shropshire Group, LLC

4.3.1 Subject Property

The Hakalau Plantation Company was formed in 1890 and the sugar mill was built at the water edge on the south side of the Hakalau Bay at the bottom of Hakalau Gulch approximately 150 feet below Hakalau town. An undated postcard of the Hakalau Sugar Mill is shown in Figure 4. The mill was damaged during the 1946 tsunami and was rebuilt within the same year (Figure 5a and 5b). In 1956 it became Hakalau Sugar Company and in 1962 merged with Pepeekeo Sugar Company. In 1973, Pepeekeo Sugar Company merged with Mauna Kea Sugar to form the Mauna Kea Sugar Company. The Hakalau Sugar Mill ceased operation in 1974 and the mill was dismantled in 1979. In 1984, the Mauna Kea Sugar Company became Mauna Kea Agribusiness Company (MKA). The subject property was acquired by Continental Pacific, LLC in September 2003 who later donated the parcel to the County of Hawaii in May 2006.

A comparison of the 1919 and 1966 Sanborn maps of the mill site show minimal variation in the mill layout, which consisted of the Mill and Washer Area, Boiler and Fuel Room, Evaporator and Crystalizer Room, General Supply Warehouse, and a Machine Shop. Figure 6 and 7 shows the 1919 and 1966 Sanborn maps of the project site and the support facility. Some of the relevant differences are the installation of a Sugar Hopper on the west end of the mill and a steel crane on the southeast corner of the mill, where the water flumes from the field entered the mill. The General Supply Warehouse located on the southwest corner of the subject property as seen from the 1919 Sanborn map, was replaced by a Carpenter Shop in the 1966 Sanborn map. Another addition shown in the 1966 Sanborn map is the water flume coming from the east side of the mill.

The 1919 Sanborn map shows an oil tank on the west end of the subject property that is missing in the 1966 Sanborn map. The oil tank was missing in a 1946 photo taken after the mill was rebuilt from the tsunami destruction. Mr. John Cross, of Mauna Kea Agribusiness Company is not aware of the oil tank shown in the 1919 Sanborn map. There were also no indications of any support structure at the location of the oil tank and no sign of spill that might have occurred from the oil tank.

4.3.2 Adjacent Properties and Surrounding Area

The only adjacent property with any sort of development is that of the former HSDP located approximately 150 feet above the mill to the southeast. An aerial photo of the site and surrounding area is shown as Figure 8. The former HSDP was built in 1890, after the formation of the Hakalau Plantation Company. Its operations lasted until 1994, when MKA planted its last sugarcane crop.

A review of the 1919 and 1966 Sanborn maps of the adjacent property (Appendix D) reveals the following facilities:

- The 1966 Sanborn map of the Hakalau Sugar Mill indicated the use of "Transite" on steel trusses at the Machine Shop and Evaporator Room;
- Both the 1919 and 1966 Sanborn maps shows the Water Flume from the north sugar cane field traversing the northeast edge of the mill;
- The 1966 Sanborn map shows the Water Flume from the south sugar cane field (not shown in the 1919 map), merging with the existing Water Flume before entering the mill;
- A Poison Mixing Plant along the edge of the cliff northeast of the Molasses Steel Tank, both which were built after 1919 and appear in the 1966 map;
- The Sugar Warehouse present in 1919 was converted into a Salvage Parts Storage by 1966;
- The small Fertilizer Storage Room in 1919 was replaced with a Fertilizer Warehouse adjacent to the Molasses Steel Tank by 1966;
- An Oil Drum Storage Shed was built adjacent to the Poison Mixing Plant by 1966;
- The Sugar Warehouse located on the eastern edge of the property in 1919 was converted to a Stable and a Feed Storage Room by 1966; and

- The east portion of the Cable Transway was cut off from the Scale House by 1966.

A 2,500-gallon UST was installed at the former Seed Dipping Plant in December 1976 and was removed on 29 October 2002. No visual contamination was observed during tank removal according to a Closure Report dated 14 January 2003 filed by MKA. Analysis of the soil in the area showed a total petroleum hydrocarbon (TPH) level of 47 mg/kg which is below the current Hawaii DOH Environmental Action Level (EAL) of 500 mg/kg and therefore is not considered an environmental concern (Palmer, 2003). The supporting structure of the UST, as well as the old seed treatment tank, have been demolished and filled with gravel.

4.3.3 Non-Regulatory Interviews

Information obtained from the previous site operator, Mr. John Cross, and the new owner's representative, Mr. James Komata, are discussed throughout this report. ERM's interview with Mr. James Komata, from the County of Hawaii Department of Parks and Recreation, representative of the current owner of the property, indicated that he has little knowledge about the site and its former operations. The Hawaii Department of Health has no known records or reports regarding the mill's operations and demolition. The current owner is not aware of any USTs, hazardous waste, waste burial areas, spills, or other environmental problems at the subject property.

Mr. John Cross, President of the MKA, indicated that he has no knowledge of any environmental issues at the subject property.

5.0 DATABASE AND GOVERNMENT RECORDS REVIEW

ERM reviewed agency records to determine if current or historical activities on the subject property or surrounding properties presented potential environmental liabilities. A summary of ERM's findings from the records review is described in the following sections.

5.1 ENVIRONMENTAL DATABASE SEARCH

ERM contracted EDR to conduct a database search for agency records. The database report, presented in Appendix B, defines and summarizes the databases reviewed in the EDR report and notes if any sites (including the subject property) were identified in the specified radius. The site locations identified in the EDR report were considered in relation to distance from the subject property, and only those sites within the ASTM specified radii are discussed below.

It should be noted that the computerized geocoding technology used in the database search is based on available census data and is only accurate to approximately ±300 feet. The EDR report provides a list of unmapped sites for which inadequate location information was provided. ERM has reviewed the list of "unmapped" sites to determine if these sites are within the study radius. If the "unmapped" sites appeared likely to be within the search radius for a specific database, they are discussed in the sections that follow.

Sites identified within the study radii were evaluated to determine if they are likely to have adversely impacted the subject property. The criteria used to evaluate the potential for adverse impact to the subject property include:

- distance from the subject property,
- expected depth and direction of groundwater and surface water flow,
- expected stormwater flow direction, and
- the presence/absence of documented contaminant releases at the identified sites that have not been remedied to the satisfaction of regulators.

The identification of a site as potentially upgradient or downgradient is based on the expected direction of groundwater flow to the northeast.

5.1.1 Subject Property

The subject property was not identified in any of the databases searched. The absence of the identification of the subject property indicates that there is no documented regulatory activity at the site for the databases searched.

5.1.2 Surrounding Properties

The EDR report was not able to identify any surrounding properties with documented regulatory activity. However, it identified seven "orphaned" sites that are shown on databases, but for which there are no available records. The listings involved minor spills, small quantity generator and UST's. ERM recognized some of the orphaned sites to be within half mile of the subject property. A list of the unmapped sites and their classifications is shown in Table 2.

Others sites on the list do not present an environmental liability to the subject property based on their distance from the subject property, location with respect to predicted groundwater flow direction, and/or reported conditions at the site (i.e., no releases reported, no corrective actions required).

Table 2 EDR Unmapped Surrounding Properties

Site	Databases	Distance	Direction	Location
Mauna Kea Agribusiness Company	UST	< 1/8 mile	Southeast	Up-gradient
Hakalau Seed Plant	FINDS, INST CONTROL, SHWS, SPILLS	< 1/8 mile	Southeast	Up-gradient
Hakalau Bridge DOT Highways Division	HAZNET, RCRA-SQG, FINDS	< 1/8 mile	West	Up-gradient
Hakalau Forest	FINDS	< 1/8 mile	West	Up-gradient
Hakalau Plantation Village	FINDS	< 1/2 mile	South	Up-gradient
Former Chevron	UST, LUST	< 1 mile	Unknown	Unknown
Estate of Mary Helela	UST	< 1 mile	Unknown	Unknown

5.2 GOVERNMENT RECORDS REVIEW/INTERVIEWS

ERM sent a formal letter of request for information to the County of Hawaii Fire Department and the Department of Environmental Services regarding documentation of spills or other potential environmental incidents on the subject property. On May 3, 2007, Nelson Ho, Deputy Director of the Department of Environmental Services, stated that their office has no records of any spill related to the subject property. Fire Chief, Darryl Oliveira, also confirmed that their office has no records of any spills or environmental incidents at the former Hakalau Sugar Mill.

On 27 April 2007, Mr. Milton Pavao , Manager of the Department of Water Supply, was contacted for information regarding possible water contamination near or attributed to the subject property. A response letter was received on 22 May 2007, stating that there is no ground water contamination in the water aquifer within the area of the former Hakalau Sugar Mill. A 5/8-inch water line and meter assigned to the subject property was located approximately 500 feet away along the Old Mamalahoa Highway. The water line and meter are not currently connected to the subject property.

The State of Hawaii Department of Environmental Health was contacted on 23 May 2007, regarding any possible cesspools present on the subject

property. A response was received on 29 May 2007 stating that there is no cesspool information available for the subject property.

The EPA Freedom of Information Officer was also contacted on 27 April 2007 to request any record pertaining to the subject property. Ivry I. Johnson, Freedom of Information Act (FOIA) Officer for EPA Region 9 Office, formally responded on 14 May 2007 stating that EPA has no records for the subject property.

Engineer Michael Dworsky, of the County of Hawaii Department of Environmental Management, Solid Waste Division, confirmed that his office has no records concerning solid waste disposal at the subject property. The HDOH HEER Office was contacted regarding possible information or incidents associated with the subject property. A site reconnaissance report and correspondence between the previous mill operator, Mauna Kea Agribusiness indicated that there was no REC at the subject property. A UST closure report for a 2,500-gallon diesel tank at the adjacent HSDP is included in Appendix D.

6.0 DATA GAPS

The following table summarizes the data gaps identified during the site assessment. The significance of the data gaps with respect to the conclusions of this assessment is presented in Section 7.

Table 3 Data Gap Summary

Data Gap	**Sources Consulted to Address Data Gap**	**Significance**
Location of all the sites identified in the EDR report.	Not all orphaned sites in the EDR report were located with respect to the subject property. The only site identified with the potential of affecting the subject property is the former HSDP. Records from the DOH provide the necessary information to confirm that there is no threat to the subject property regarding this site.	Low

7.0 USER PROVIDED INFORMATION

ERM contacted Mr. John Cross with the MKA and Mr. James Komata of the County of Hawaii Department of Parks and Recreation with respect to the following information:

- An evaluation of the presence of Environmental Cleanup Liens for the subject property;
- Activity and Use Limitations such as engineering controls (e.g., slurry walls, caps) and land use restrictions or institutional controls (e.g., deed restrictions, covenants) that may be in place for the subject property;
- Specialized Knowledge that includes personal knowledge or experience related to the subject property or nearby properties based on professional experience or knowledge of the subject property;
- Fair Market Value to evaluate whether a purchase price is significantly below Fair Market Value;
- Obvious Indicators that involve past or present spills, stains, releases, cleanups on or near the subject property; and
- Common Knowledge about specific chemicals, possible contamination, or past use of the subject property and surrounding area.

The User Questionnaire for Phase I ESA (User Questionnaire) was completed by Mr. James Komata while the Site Manager questionnaire was completed by Mr. John Cross of MKA. Responses to the User Questionnaire and Owner/site manager questionnaire are addressed in the following sections. A copy of the questionnaires is presented in Appendix C.

7.1 TITLE RECORDS

Land title record for the subject property was not available at the Bureau of Conveyances. However, Mr. John Cross provided information regarding transfer of title for the subject property. Summary of the title historical record is shown in Table 1.

7.2 ENVIRONMENTAL LIENS

Mr. James Komata (User) and Mr. John Cross (Previous Operator), did not identify any environmental liens, land use restrictions or Activity and Use Limitations recorded against the subject property.

7.3 SPECIALIZED KNOWLEDGE

The Previous Operator has specialized knowledge regarding former and current activities associated with the subject property. This specialized knowledge was provided to ERM prior to the performance of the site visit and is presented throughout this report in the relevant report sections.

7.4 REASONABLY ASCERTAINABLE INFORMATION

The Previous Operator and User has access to commonly known and reasonably ascertainable information associated with the subject property. The information and documentation, including previous site reconnaissance was provided to ERM prior to the performance of the site visit and is presented throughout this report in the relevant report sections and appendices.

7.5 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

The current owner acquired the subject property as a donation with the aim of providing public access to Hakalau Bay. No evaluation of the purchase price or fair market value has been conducted.

7.6 OWNER/OPERATOR AND OCCUPANT INFORMATION

The site is currently vacant and is under the jurisdiction of the County of Hawaii Department of Parks and Recreation.

7.7 REASON FOR PERFORMING PHASE I

This Phase I ESA was performed to identify potential environmental liability issues of the subject property and to provide technical assistance

to the County of Hawaii on their plan to redevelop the site as a public park.

8.0 CONCLUSIONS

ERM conducted a Phase I ESA at the subject property. Our conclusions and opinions are based on a scope of work that followed the requirements set forth in ASTM Standard E 1527-05 and 40 CFR 312. A summary of ERM's conclusions and opinions are presented below.

Based on the information obtained during the site visit, the environmental database review, historical sources reviewed, and interviews with people familiar with the site and its history, there were no RECs associated with the Subject Property identified by ERM.

A REC, as defined in ASTM E 1527-05, is "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property, excluding de minimis conditions."

De Minimis or Other Potential Issues

- Excessive amounts of metal debris were found through out the former Hakalau Sugar Mill site, stretching from the densely vegetated areas to the coastline.
- An old crane, formerly used in the sugar operations, is still present in the thick vegetation in the southeast corner of the site.
- The concrete sea wall protecting the subject property from the constant battering of the ocean wave is deteriorating and might need reinforcement.
- Based on 84 years of use as an industrial agricultural facility with known operations involving fuel oil storage and combustion, known asbestos (transite) construction materials, and probable lead paint; and based on findings at other similar sugar mill facilities in Hawaii, it is possible that soils under and around the former mill may be impacted by hydrocarbons, asbestos and/or lead.

9.0 ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS

This assessment was conducted by Achie Reyes and Ashley Kerr of ERM. Mr. Bill Cutler of ERM reviewed the content of this report. The professional qualifications for Mr. Reyes, Ms. Kerr and Mr. Cutler are included in Appendix E.

The signatures for Mr. Reyes and Mr. Cutler are affixed onto the cover of this report. Both are designated Environmental Professionals and prepared the following declaration.

- We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

- We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

10.0 LIMITATIONS

The innocent landowner, contiguous owner, and prospective purchaser defenses to liability under CERCLA require that a person acquiring property conduct an all appropriate inquiry with respect to the subject property. ERM has conducted this environmental assessment in accordance with the standards for conducting an all appropriate inquiry set forth at 40 CFR. Part 312. Those standards require the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations and exercise of discretion. Professional judgments expressed herein are based on the facts currently available within the limits of the existing data, and data gaps identified herein, scope of work, budget, and schedule. Those standards also require that the client undertake certain additional inquiries. In addition, the liability defenses under CERCLA require, among several other things, that the client after the acquisition stop any continuing releases, prevent any future threatened releases and prevent or limit human, environmental or natural resource exposure to any hazardous substance released at the subject property. Therefore, ERM makes no warranties, expressed or implied, including, without limitation, warranties as to merchantability or fitness for a particular purpose, including any warranty that this Phase I assessment will in fact qualify client for the innocent landowner, contiguous property owner or prospective purchaser defense to liability under CERCLA. ERM's assessment is limited strictly to identifying RECs associated with the subject property. Results of this assessment are based upon the visual site inspection of readily accessible areas of the subject property conducted by ERM personnel, information from interviews with knowledgeable persons regarding the site, information reviewed regarding historical uses, information provided by contacted regulatory agencies, and review of publicly available and practically reviewable information identifying current and historical uses of the property and surrounding properties. All conclusions and recommendations regarding the subject property represent the professional opinions of the ERM personnel involved with the project, and the results of this report should not be considered a legal interpretation of existing environmental regulations. ERM assumes no responsibility or liability for errors in the public data utilized, statements from sources outside of ERM, or developments resulting from situations outside the scope of this project. We make no warranties, expressed or implied, including, without

limitation, warranties as to merchantability or fitness for a particular purpose.

11.0 REFERENCES

Palmer, et al., 2003. *Site Reconnaissance, Interview, and Observation Report: Former Hakalau Mill Site.* Hawaii Department of Health, HEER Office, February 6, 2003.

Mink, J.F., and L.S. Lau. 1993. *Aquifer Identification and Classification for the Island of Hawaii: Groundwater Protection Strategy for Hawaii.* Water Resources Research Center, University of Hawaii-Manoa. Technical Report Number 191.

Okimoto, Ken. 2005. Exploring the Hamakua Coast: A Pictorial Guide to the Plantation Era. Honolulu, Hawaii: Watermark Publishing.

Walker, Duncan. 2003. Notification for Underground Storage Tanks: Former Hakalau Treating Seed Plant. DOH Facility ID 9-602731, Hakalau, Hawaii.