EnviroServices & Training Center, LLC

December 11, 2007
Castle & Cooke Resorts, LLC
P.O. Box 603310
Lahaina, Hawaii 96765-0310

Attention: Mr. Angel Alias

Reference: Subsurface Soil Sampling Report
Former Emulsion Plant
Lahaina City, Hawaii
Facility ID 9-402424, Release ID 900128

EnviroServices & Training Center, LLC (ETC) has completed subsurface soil sampling activities at the above referenced facility to determine vertical delineation of 1,2-dichloropropane (DCP) in support of the June 2005 Exposure Prevention Management Plan (EPMF). Sampling activities described herein were requested by the Hawaii Department of Health (DOH), Solid & Hazardous Waste Branch (SHWB) in a May 11, 2007 letter to Castle & Cooke Resorts, LLC.

1.0 BACKGROUND

As described in a July 13, 1993 “Further Phase II Site Characterization Report, Dole Packaged Foods Company Emulsion Plant Facility, 750 Fraser Avenue” prepared by Brewer Environmental Services (BES), Unitek Environmental Consultants (UEC) removed two 10,000-gallon underground storage tanks (USTs) from the facility in 1989. The USTs were used to store diesel fuel from 1947 through 1978 or 1979 and Telone II (1,2-dichloropropane) from 1978 or 1979 through the mid-1980s. During removal, UEC observed numerous holes along the base of both USTs. Soil samples collected from beneath the USTs contained total petroleum hydrocarbons as gasoline (TPH-G), total petroleum hydrocarbons as diesel (TPH-D), benzene, and ethylbenzene concentrations that exceeded Hawaii Department of Health (DOH) Cleanup Goals at the time. In addition, DCP and 1,3-dichloropropane were detected. These results suggested that a release occurred from the USTs and therefore UEC recommended that additional site characterization be performed.

UEC advanced two borings near the south end of the former USTs to depths of approximately 46.5 feet below ground surface (bgs). Eight soil samples were collected from each boring. Laboratory analysis of the soil samples indicated that TPH-D, benzene, toluene, and ethylbenzene concentrations exceeded DOH Cleanup Goals at the time. In addition, DCP was detected at concentrations ranging from 0.222 mg/kg to 1.6 mg/kg and 1,3-dichloropropane concentrations were below method detection limits. Various organochlorine pesticides and HVOCs were also detected, suggesting either the chemicals were there through application or due to a release. UEC subsequently recommended further investigation.

Between December 1991 and March 1992, BES advanced nine borings surrounding the former USTs, up to depths of 140 feet bgs. Soil encountered from 0 to 55 feet bgs was classified as silty clay and unweathered, unfractured basalt rock was encountered from 55 to 60 feet bgs and deeper. Soil samples collected from these borings had detectable concentrations of TPH-D, benzene, toluene, and ethylbenzene, halogenated volatile organic compounds, and organochlorine pesticides. At the time, there was no DOH recommended cleanup criteria for TPH-D and benzene, toluene, and ethylbenzene concentrations were below their respective DOH recommended cleanup criteria: Concentrations of 1,3-dichloropropane were below method detection limits in all samples and DCP concentrations, detected in four borings (B9-B12), ranged from 0.005 mg/kg to 0.18 mg/kg.
Based on site characterization activities performed by both UEC and BES, BES recommended that:

- An exposure prevention management and monitoring program be prepared to address residual petroleum impacts and 1,3-dichloro propane impacted soil associated with the USE systems, and
- No further action be required for constituents unrelated to the former contents of the USTs (pesticides and HVOCs), since a reportable quantity release of these constituents had not occurred.

Subsequently, the DOH SWWB sent a letter dated September 17, 2001 to Dole Food Company Hawaii. The letter stated that the DOH SWWB reviewed BES' Further Site Characterization Report, Dole Packaged Foods Company Emulsion Plant Facility, 750 Fraser Avenue, Laea City, Lanai, Hawaii dated July 13, 1994. The DOH indicated that, since petroleum contaminated soil still exists at the property, the DOH could not issue a letter requiring no further action and that additional work should be performed.

In December 2002, ETC excavated test pits and collected subsurface soil samples to determine existing concentrations of former UST contents in the subsurface soil. A total of six soil samples were collected and analyzed for TPH-D, benzene, toluene, ethylbenzene, xylenes, polynuclear aromatic hydrocarbons (PAHs), DCP, and 1,3-dichloropropane. With the exception of DCP, all constituent concentrations were either below practical quantitation limits or below DOH Tier 1 Action Levels. DCP concentrations were compared to its EPA Region 9 Preliminary Remediation Goal (PRG) for industrial soil of 0.74 mg/kg. The soil sample collected from test pit 6 at a depth of 15 feet bgs (TP6.15) had a DCP concentration of 230 mg/kg.

- Based on data from previous environmental investigations and from recent test pit soil sampling activities, ETC concluded that all residual contaminants (TPH-D, DCP, 1,3-DHT, heptachlor, and toxaphene) existing in the subsurface soil at concentrations exceeding DOH Tier 1 Action Levels or EPA Region 9 PRGs for industrial soil should be cumulatively managed through an exposure prevention management program. ETC recommended that an Exposure Prevention Management Plan be prepared to address long-term management for future use of the property and potential exposure risks associated with construction activities.

In June 2005, ETC completed the Exposure Prevention Management Plan (EPMP). On September 7, 2006, the DOH sent a letter to Castle & Cooke Resorts, LLC (Castle & Cooke) with concerns regarding the EPMP. The DOH requested that an Exposure Pathway Assessment Report be prepared for the release and a site-specific Tier 2 risk assessment be prepared for the elevated concentration of DCP in a soil sample collected at a depth of 15 feet from Test Pit 6 (documented in ETC's April 16, 2003 Soil Sampling Report - Former Emulsion Plant).

On March 19, 2007, ETC sent a Response and Clarification Letter to the DOH in regards to the September 7, 2006 letter. ETC provided the DOH with additional information and requested a finding of "no further action" for the site.

- On May 11, 2007, the DOH sent a letter to Castle & Cooke requesting vertical delineation of soil contaminated by DCP by advancing two soil borings within the former location of Test Pit 6 to a minimum depth of 60 to 80 feet bgs, where the basal layer was encountered during previous subsurface investigations. The DOH requested that soil samples be taken from the borings at consistent intervals of 5 feet and analyzed for DCP. Based on the DOH SWWB recommendations, ETC performed subsurface soil sampling activities at the project site. Specifically, ETC completed the following tasks:

  - Notified the Hawaii Oil Clean Center (HOCC) to locate underground facilities at boring locations
  - Contracted Hirata & Associates, Inc. (Hirata) to assist with the collection of subsurface soil samples;
  - Observed and documented the advancement of two (2) soil borings at the site;
  - Examined sample soils for visual or olfactory signs of contamination;
  - Selectively monitored the organic vapor concentration in the soil headspace using a photoionization detector (PID); and
  - Collected four samples from each boring at depths ranging from 30 feet bgs to 60 feet bgs.

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- Preserved, labeled, and submitted eight (8) soil samples to TestAmerica-Honolulu (TA-HI) in Aina, Hawaii for analysis of DCP via EPA Method 8260 on a 10-15 working day turn around time; and
- Prepared this letter report documenting the field activities and the results of the investigation including maps and analytical results.

2.0 FIELD ACTIVITIES

On October 18, 2007, ETC notified the HOCC to locate underground facilities at the boring locations and subsequently received clearance of underground facilities on October 23, 2007. On October 25, 2007 ETC met Hirata personnel at the project site.

Hirata personnel commenced subsurface soil sampling activities at the direction of ETC within the former Test Pit 6. Hirata personnel drilled down directly to 30 feet bgs in each of the two borings (TP6.1 and TP6.2), using a Foremost Model 8-80 mobile drill rig. ETC screened soil at depths between 30 and 60 feet bgs using visual/olfactory observations and RAE Systems MiniRAE 2000 Portable VOC Monitor (Model PGM-7600) photoionization detector (PID). Field screening results are presented in Table 1.

Table 1: Field Screening Results

<table>
<thead>
<tr>
<th>Location</th>
<th>Depth</th>
<th>PID</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>TP6.1</td>
<td>30'</td>
<td>19.9</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.1</td>
<td>35'</td>
<td>22.3</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.1</td>
<td>45'</td>
<td>15.6</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.2</td>
<td>45'</td>
<td>19.7</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.1</td>
<td>55'</td>
<td>20.1</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.1</td>
<td>60'</td>
<td>17.7</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.2</td>
<td>60'</td>
<td>23.5</td>
<td>No staining, very slight odor</td>
</tr>
<tr>
<td>TP6.1</td>
<td>35'</td>
<td>16.8</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.2</td>
<td>45'</td>
<td>19.8</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.2</td>
<td>45'</td>
<td>24.2</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.2</td>
<td>50'</td>
<td>21.1</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.2</td>
<td>55'</td>
<td>31.5</td>
<td>No staining, no odor</td>
</tr>
<tr>
<td>TP6.2</td>
<td>59'</td>
<td>22.2</td>
<td>No staining, very slight odor</td>
</tr>
</tbody>
</table>

Soil samples were collected between 30 feet bgs, at 10 foot intervals, until the basal layer was encountered at approximately 60 feet bgs. Four samples were collected from each boring location. Soil samples were collected directly from the 3-foot split spoon sampler into laboratory provided glass jars. The sample containers were then sealed with a Teflon-lined plastic screw cap and labeled with the sample name, date, time, and analyze. Samples were then placed into a designated sample cooler with ice pending delivery to TestAmerica-Honolulu (TA-HI) in Honolulu, Hawaii. ETC requested that the samples be analyzed for DCP on a 10-15 working day turn around time. Following sample collection, the borings were backfilled using the excavated soil to prevent accident and/or injury.

Results were received from the laboratory on November 26, 2007 via electronic mail. Table 2 summarizes the analytical results. As shown, the U.S. Environmental Protection Agency (EPA) Region 9 Preliminary Remediation Goals (PRG) for industrial soil was used as a comparison.
Table 2: Analytical Results (mg/kg)

<table>
<thead>
<tr>
<th>Constituent</th>
<th>1,2</th>
<th>Dichloropropane</th>
<th>Practical Quantitation Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPH 1.30</td>
<td>nd</td>
<td>0.0096</td>
<td></td>
</tr>
<tr>
<td>TPH 1.40</td>
<td>nd</td>
<td>0.0010</td>
<td></td>
</tr>
<tr>
<td>TPH 1.50</td>
<td>0.0466</td>
<td>0.0010</td>
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</tr>
<tr>
<td>TPH 1.60</td>
<td>0.240</td>
<td>0.0010</td>
<td></td>
</tr>
<tr>
<td>TPH 2.50</td>
<td>nd</td>
<td>0.00977</td>
<td></td>
</tr>
<tr>
<td>TPH 2.40</td>
<td>nd</td>
<td>0.00977</td>
<td></td>
</tr>
<tr>
<td>TPH 2.50</td>
<td>0.0108</td>
<td>0.00967</td>
<td></td>
</tr>
<tr>
<td>TPH 3.50</td>
<td>0.0099</td>
<td>0.0010</td>
<td></td>
</tr>
<tr>
<td>Tier I Action Level</td>
<td>0.74*</td>
<td>0.005</td>
<td></td>
</tr>
</tbody>
</table>

Notes: nd = not detected above practical quantitation limit

EPA Region 9 FRG for industrial soil

3.0 CONCLUSIONS

Analytical results indicate DCP concentrations within the former Test Pit 6 (between 30 feet bgs and the basin) layer are either below the laboratory method detection limits or EPA Region 9 FRG for industrial soil.

Regarding the DOH SHWB's request to prepare a site-specific Tier II risk-based assessment, various sheets were completed, including a Tier II Site-Specific Leachate Dilution Ammonia Factor (DAF) sheet, a Tier II Direct Exposure Risk Assessment Model sheet (DETIERI), and a Tier II Simplified Model for Groundwater Protection Soil Action Levels sheet (QUIKSOIL). These sheets are attached to this letter report.

For the DAF sheet, the default DAF of 1.0 was produced since the aquifer beneath the site is high-level aquifer. This DAF is contrary to the US EPA's default DAF of 20 described in the May 2001 Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites and used as the default DAF by the DOH HEER Office.

The DETIERI2 sheet appears to be inappropriate for this site since 1) it assumes residential exposure; and 2) it assumes impacted soil is not potentially exposed at the surface. Use of the DOH HEER Office's August 2006 Tier II Direct Exposure Risk Assessment Model sheet produces a Tier II Direct Exposure Screening Level of 240 mg/kg for contaminants in deep soils (depth greater than 1 meter for commercial/industrial sites) specific to commercial/industrial sites.

The QUIKSOIL sheet appears to be inappropriate for the contaminant of concern and the site since it is stated on the top of the sheet that the SESOIL computer application should be used for highly volatile or biodegradable contaminants or for sites where the base of the impacted soil is more than 10 meters from the groundwater.

As stated in previous correspondence, ETC does not believe the site-specific Tier II risk-based assessment approach is applicable to this project given the anticipated commercial/industrial use. The direct exposure model assumes that a reasonable exposure pathway to the contaminant of concern exists. In this specific case, ETC believes that the direct exposure pathway is broken, since there was only one sample with DCP concentrations exceeding the default industrial FRG and this sample was collected at a depth of 12 feet bgs (Test Pit 6). A sample collected immediately above this sample at a depth of 12 feet bgs (Test Pit 6) indicates DCP concentrations at an order of magnitude below the industrial FRG. All other samples collected in the vicinity indicate DCP concentrations well below the industrial FRG. Therefore, any potential transport of DCP in the vapor phase through the soil pore space would originate from a very limited area. Since there are no structures on the site that could collect

such vapor (and since there are no plans to build such structures), ETC considers the upward migration of DCP in the vapor phase a broken direct exposure pathway.

The leaching (QUIKSOIL) model does not seem appropriate for this particular site since 1) leachate was encountered at depths of approximately 60 to 75 feet in previous investigations; 2) the DAF does not take into account the basin layer nor the depth to groundwater (only the elevation of the groundwater); and 3) the model is considered inappropriate for sites where the base of impacted soils are greater than 10 meters in groundwater. Although leaching of DCP to the underlying groundwater formation is a possibility, such occurrence would be improbable based on the basin layer situated at depths most recently encountered at 60 feet bgs. Furthermore, recent data shows that DCP concentrations drop off significantly (three orders of magnitude) in soil at depths ranging from 30 to 60 feet bgs.

Of all the data gathered to-date, which includes 47 soil samples submitted to a laboratory for analysis, there is only one instance where DCP concentrations exceeded the EPA Region 9 Industrial FRG. All surrounding samples (both laterally and vertically) indicate DCP concentrations below the Industrial FRG. In essence, the data indicates that there is a hot spot of DCP existing at a depth of approximately 15 feet bgs. Conservative estimates indicate that the lateral area impacted by this hot spot would be approximately 10 feet by 25 feet. Impacted depth ranges from 15 feet to no deeper than 30 feet bgs. The total volume of impacted soil is estimated at 140 cubic yards.

Based on the data obtained from this site, ETC recommends that so far action be performed at this site due to a lack of complete exposure pathways. Any future use of the property should comply with the June 2005 Exposure Prevention Management Plan prepared for this site.

If there are any questions, please contact me at 839-7222.

Respectfully,

ENVIROSERVICES & TRAINING CENTER, LLC

Kyle Lagoe
Environmental Scientist

Attachments: Figure 1: Site Location Map
Figure 2: Site Layout
Laboratory Report
DAF Sheet
DETIERI Sheet
QUIKSOIL Sheet

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Former Emulsion Plant
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ETC Project No. 02-6011

Subsurface Soil Sampling Report
Former Emulsion Plant
December 11, 2007
ETC Project No. 02-6011
LABORATORY REPORT

Client: David Services & Training Center
505 Ward Avenue, Suite 300
Honolulu, HI 96814

Anita: Kylee Luke

Work Order: HQ0155
Project Name: Enbridge Plant
Project Number: 02-0911
Date Received: 10/26/07

The results found within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses mentioned in this report were performed in accordance with the applicable specifications as stated. All data and samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its clients. This report shall not be reproduced, except in full, without written permission from TestAmerica.

TestAmerica Analytical Testing Corporation certifies that the analytical results contained herein apply only to the specific sample(s) analyzed.

The Chain of Custody 1 page, is included and is an integral part of this report. This entire report was reviewed and approved for release.

If you have any questions relating to this analytical report, please contact your laboratory project manager at (1-800) 346-5327.

Samples were received into laboratory at a temperature of 3°C.

NELAC states that samples which require thermal preservation shall be considered acceptable if the arrival temperature is within 2 degrees C of the required temperature or the method specified range. For samples with a temperature requirement of 4 degrees C, an arrival temperature from 0 degrees C to 6 degrees C meets specifications. Samples that are delivered to the laboratory on the same day that they are collected may not meet these criteria. In these cases, the samples are considered acceptable if there is evidence that the chilling process has begun, such as arrival on ice.

The reported results were obtained in compliance with the 2003 NELAC standards unless otherwise noted.

Approved By:

NELAC Certification #: 817907

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