

**APPENDIX I-7**  
*2007 Groundwater Monitoring Report*



January 14, 2008

Misty Kaltreider, PG, CEG  
Solano County  
Department of Resource Management  
675 Texas Street, Suite 5500  
Fairfield, CA 94553

**Re: Transmittal of Fourth Quarter 2007 Groundwater Monitoring Report  
Leasehold Property, Former Flour Mill Facility  
800 Derr Street, Vallejo**

Dear Ms. Kaltreider:

Attached is the *Fourth Quarter 2007 Groundwater Monitoring Report* for the referenced site. The attached report is being submitted for your review, in accordance with the requirements set forth in Solano County Department of Resource Management's June 28, 2007 letter to General Mills Operations, Inc.

Please call me at (510) 735-3014 or email me at [tmiller@pirnie.com](mailto:tmiller@pirnie.com) with questions or comments.

Sincerely,

**MALCOLM PIRNIE, INC.**



Todd Miller, CHG  
Project Manager

Attachment: Report

c: Alan Leavitt, Northgate Environmental, Inc.  
Devin Hassett, Brooks Street  
Paul Zattoni, General Mills Operations, Inc.  
File  
P:\2626\013\letters\Report Transmittal letter (2).doc



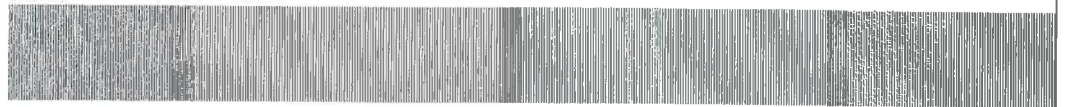
**General Mills Operations, Inc.**

Leasehold Property, Former Flour Mill Facility • 800 Derr Street • Vallejo, California

---

# Fourth Quarter 2007 Groundwater Monitoring Report

January 2008



Report Prepared By:

**Malcolm Pirnie, Inc.**

2000 Powell Street, Suite 1180  
Emeryville, California 94608  
(510) 596-3060

2626013

**MALCOLM  
PIRNIÉ**

Contents

<b>1. Introduction</b>	<b>1-1</b>
<b>2. Groundwater Monitoring Field Activities and Methods</b>	<b>2-1</b>
2.1. November 2007 Groundwater Sampling Event .....	2-1
2.2. Laboratory Analyses .....	2-3
2.3. Groundwater Sampling Derived Waste .....	2-4
<b>3. Results</b>	<b>3-1</b>
3.1. Groundwater Flow .....	3-1
3.2. Field Groundwater Quality Measurement .....	3-1
3.3. Groundwater Analytical Results .....	3-1
<b>4. Conclusions and Recommendations</b>	<b>4-1</b>
4.1. Comparison of Groundwater Results to ESLs .....	4-1
4.2. Conclusions and Recommendations .....	4-2

List of Tables

Table 1	Groundwater Monitoring Well Construction Data
Table 2	SCDRM-Approved Groundwater Sample Analyses
Table 3	Groundwater Elevation Data
Table 4	Groundwater Quality Measurements
Table 5	Groundwater Analytical Results

List of Figures

Figure 1	Site Location Map
Figure 2	Facility Plan, Monitoring Well Locations
Figure 3	Shallow Groundwater Surface Elevation Contour Map – November 2007
Figure 4	Detectable Constituents of Concern in Groundwater

Appendices

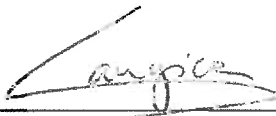
Appendix A	Field Activity Reports and Water Level Datasheets
Appendix B	Groundwater Analytical Reports



SIGNATURE PAGE

FOURTH QUARTER 2007 GROUNDWATER MONITORING REPORT  
LEASEHOLD PROPERTY, FORMER FLOUR MILL FACILITY  
800 DERR STREET  
VALLEJO, CALIFORNIA

Prepared by:

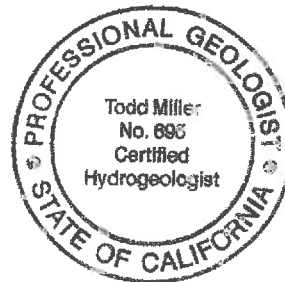


Maryline Laugier, PE, LEED AP  
Project Geologist/Engineer  
MALCOLM PIRNIE, INC.  
2000 Powell Street, Suite 1180  
Emeryville, California 94608

Reviewed by:



Todd Miller, CHG  
Project Manager  
MALCOLM PIRNIE, INC.  
2000 Powell Street, Suite 1180  
Emeryville, California 94608



# 1. Introduction

---

This Fourth Quarter 2007 Groundwater Monitoring Report (Report) was prepared on behalf of General Mills Operations, Inc. (General Mills) for the Leasehold Property portion of the Former Flour Mill Facility (Site) located at 800 Derr Street in Vallejo, California (Figure 1). This Report is being submitted per the requirements of Solano County Department of Resources Management (SCDRM) as set forth in their June 28, 2007 letter to General Mills. The purpose of this Report is to document the procedures used to sample shallow groundwater monitoring wells on the Leasehold Property and report the field and laboratory results of the most recent groundwater sampling event. This Report presents a brief historical summary of the Site and Leasehold Property; describes the methods and procedures used to collect the groundwater samples; presents field and laboratory results of the sampling event; and provides recommendations for future monitoring activities.

The Former Flour Mill Facility is a 38-acre site located within an industrial area of Vallejo, California that was used as a flour processing mill between 1869 and 2004. The Site is located along the southeast side of Mare Island Strait, a tributary to the San Pablo Bay, which is the northern extent of the San Francisco Bay. The Leasehold Property is a 10-acre parcel within the larger 38-acre site. Figures 1 and 2 provide a Site Location Map and Facility Plan, respectively. Operations historically conducted on-Site included receiving (via ship and rail) and storing of raw grain, and the cleaning, processing, bleaching, and packaging of flour and other General Mills products. General Mills ceased operations in October 2004, in preparation for divestiture of the Site. The Residential Property portion of the Site was purchased by Brooks Street (developer) in May 2007. Brooks Street maintains security to protect the Site, and employs one full-time plant technician to take care of Site maintenance.

The City of Vallejo was granted title to the Leasehold Property under a legislative grant from the State Lands Commission, and acts on their behalf as the executor of the property. The City of Vallejo formerly leased the 10-acre parcel to General Mills under a long-term lease agreement. As of June 1, 2007, the City of Vallejo re-assigned the lease to Brooks Street as part of the overall purchase agreement with General Mills for the Former Flour Mill Facility. Future land use for the Leasehold Property is currently restricted by the legislative grant to commercial/industrial and activities associated with maritime commerce, as well as access by the general public (e.g., open space). No other uses are currently permitted.

Malcolm Pirnie submitted a Well Installation and Groundwater Monitoring Plan (GWMP) to SCDRM on June 15, 2007 per the requirements as set forth in SCDRM's April 16, 2007 and May 16, 2007 letters to General Mills. The purpose of the GWMP was to establish the procedures to assess and monitor shallow groundwater quality beneath the Leasehold Property following the completion of the soil remediation activities. Water quality is to be evaluated relative to site-specific environmental screening levels (ESLs) that have previously been developed for the Leasehold Property. ESLs, and the basis for their development, were presented in two separate documents: (1) Revised Site-Specific Environmental Screening Level Report dated March 31, 2006 (approved by SCDRM in a letter dated April 4, 2006); and (2) Human Health and Ecological Exposure Analysis dated March 29, 2007 (approved by SCDRM in a letter dated May 16, 2007). The ESLs are considered to be conservative for the allowable future use of the Leasehold Property. Within the limitations described in these two reports, the presence of a chemical in soil or groundwater at concentrations below its ESL is presumed not to pose a significant, short- or long-term threat to human health or the environment, and will not require further corrective action.

Malcolm Pirnie implemented the GWMP in July 2007, and submitted the Well Installation and Third Quarter 2007 Groundwater Monitoring Report to SCDRM on October 10, 2007 in accordance with the requirements set forth in SCDRM's June 28, 2007 letter to General Mills.

Sections 2 and 3 of this Report describe the sampling activities and present the field and laboratory results, respectively. Section 4 provides conclusions based on the results, and presents recommendations for future groundwater monitoring activities.



## 2. Groundwater Monitoring Field Activities and Methods

---

The following sections summarize the methods and procedures followed during the implementation of groundwater monitoring activities at the Leasehold Property in accordance with the GWMP.

### 2.1. November 2007 Groundwater Sampling Event

Environmental Sampling Services (ESS) collected depth-to-water measurements on November 15, 2007 from nine shallow monitoring wells (MP-1R, MP-2, MP-6R, MP-8, MP-9, MP-10, MP-11, MP-12, and MP-14) and the well pair MP-13A/B prior to purging and sampling. Groundwater monitoring well construction information is summarized in Table 1. ESS then purged and collected samples from the monitoring wells on November 15-16, 2007 using the low-flow sampling methodology. Water quality parameters (dissolved oxygen (DO), pH, temperature, oxidation-reduction potential (ORP), and specific conductance (SC)) were monitored during purging using a flow-through cell. ESS submitted the groundwater samples to Curtis & Tompkins, a California-certified laboratory, for analysis.

Low flow groundwater purging and sampling presents a standard method for collecting groundwater samples that are representative of the formation from which they are being withdrawn. Low flow groundwater sampling requires traditional groundwater sampling equipment in addition to: a multi-parameter water quality monitoring system (e.g., Horiba U-22 or equivalent) equipped with a flow through cell; an adjustable rate, positive displacement, groundwater pump (e.g., centrifugal, submersible, or bladder pump) constructed of stainless steel or Teflon capable of achieving low flow pumping rates (i.e., 100 to 500 milliliters per minute (ml/min)); polyethylene tubing or equivalent; a flow measurement device (e.g., a graduated container and stop watch); and a water level probe or oil/water interface probe.

The procedure for collecting groundwater samples using low flow is as follows:

- **Pump Installation:** Install the pump by slowly lowering the pump assembly and tubing into the well. The pump should be set to the appropriate depth with the intake being a minimum of two feet above the bottom of the well to prevent disturbing and re-suspending any sediment at the bottom of the well.
- **Water Level Measurement:** Measure the depth to groundwater from the top of the well casing using a water level probe. Leave the probe in the well for subsequent water level measurements.

- **Purging:** Begin purging the well at a rate of 200 to 500 ml/min and measure the water level. If excessive drawdown is observed in the well (i.e., greater than 0.3 feet), reduce the flow rate until the water level stabilizes. When the water level has stabilized, subsequent measurements should be made in five minute intervals. The flow rate and any flow rate adjustments should be recorded on a field purge log.
  
- **Field Parameter Monitoring:** Field parameters (pH, conductivity, reduction/oxidation potential, DO, and turbidity) should be recorded every few minutes along with water level measurements. The well is considered stable and ready to be sampled once the field parameters are stable over three consecutive readings<sup>1</sup>. The following criteria identify stabilized field parameters:
  - $\pm 0.1$  for pH
  - $\pm 3.0$  percent for conductivity
  - $\pm 10.0$  mV for redox potential
  - $\pm 10.0$  percent for DO and turbidity

The pump should not be removed or shut off between purging and sampling.

- **Sample Collection:** If necessary, reduce the flow rate to 100 to 250 ml/min to reduce turbulence while filling sample containers during sample collection. Where wells are purged at a flow rate less than 100 ml/min, maintain the same flow rate during sample collection. Disconnect the inflow line from the flow through cell and collect the groundwater sample. All sample containers should be filled directly from the tubing. Allow water to flow from the tubing gently down the inside of the containers to minimize turbulence during sample collection. Groundwater samples should be collected in order of importance, according to the project requirements.
  
- **Pump Removal:** Once sampling is complete, slowly remove the pump assembly and tubing from the well. If the tubing is dedicated to the well, disconnect the tubing from the pump, re-insert the tubing into the well, and secure the tubing so it is easily accessible.
  
- **Secure Well:** Secure the top of the well casing with a locking cap or expansion plug and close the well. In the case of a stick-up protective well cover, lock the outer casing.

Dedicated or “single use” groundwater sampling equipment was disposed of in accordance with applicable local and federal regulations. The decontamination (decon)

---

<sup>1</sup> United States Environmental Protection Agency (USEPA) Region II, 1998, Ground Water Sampling Procedure, Low Stress (low flow) Purging and Sampling, GW Sampling SOP, March 16<sup>th</sup>.

procedure for non-dedicated low flow groundwater sampling equipment includes: (1) pre-rinse – operating the pump and flushing equipment thoroughly with deionized water or distilled water for approximately five minutes; (2) wash – operating the pump and flushing equipment thoroughly with Alconox or other non-phosphate detergent solution for approximately five minutes; and (3) rinse – operating the pump and flushing equipment thoroughly with deionized or distilled water for approximately five minutes or until the detergent has been removed from the equipment (whichever is longer).

In addition to collecting groundwater samples from the monitoring wells, ESS collected a water sample from Mare Island Strait from the Site's Static Monitoring Point (SMP), located on the Leasehold Property. ESS submitted the sample to Curtis & Tompkins for analysis. Mare Island Strait water was also monitored in the field for general water parameters, including temperature, SC, and pH.

Historic tide height information at Mare Island Strait for the duration of the groundwater level sampling on November 15, 2007 was obtained from the National Oceanic and Atmospheric Administration (NOAA) Tides and Currents website<sup>2</sup>. MLLW (Mean Lower-Low Water) tide heights were obtained for two times encompassing the sampling duration. Tide height data were given in Greenwich Mean Time (GMT), which was eight hours ahead of local Pacific Standard Time (PST) on November 15, 2007. Consequently, time conversions to PST were performed to report applicable tide heights.

## 2.2. Laboratory Analyses

Curtis & Tompkins analyzed the samples collected from the eleven groundwater monitoring wells and one SMP for the parameters described below and summarized in Table 2.

The groundwater samples collected in November 2007 were analyzed for the following parameters:

- Total petroleum hydrocarbons (TPH) in the gasoline (TPH-G) ranges, diesel fuel (TPH-D), and motor oil (TPH-MO) ranges using USEPA Method 8015B. Silica gel cleanup (USEPA Method 3630C) was included as a laboratory preparation protocol for all groundwater samples for TPH-D and TPH-MO, per SCDRM approval.
- Volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, and total xylenes (BTEX), using USEPA Method 8260B
- Polynuclear aromatics (PNAs) using USEPA Method 8270C-SIM

---

<sup>2</sup> NOAA / National Ocean Service. Tides and Currents. Revised June 4, 2007.  
<<http://www.tidesandcurrents.noaa.gov/>> Accessed December 11, 2007.

- Total dissolved solids (TDS) using Standard Method (SM)2540C (which is equivalent to the USEPA Method 160.1)

The one SMP sample collected in November 2007 was analyzed for TDS using SM2540C.

### **2.3. Groundwater Sampling Derived Waste**

Decon and purge water was discharged to an on-Site sanitary sewer under a temporary industrial discharge permit.

## 3. Results

---

This section summarizes the field and laboratory results from the November 2007 sampling event.

### 3.1. Groundwater Flow

Depth-to-water measurements and calculated groundwater elevations collected on November 15, 2007 are summarized on Table 3. The shallow groundwater surface beneath the Site was measured at depths ranging from 1.11 to 6.65 feet below ground surface. Depth-to-water measurements collected in November 2007 were recorded on the groundwater sample log sheets included in Appendix A.

Based on the November 2007 depth-to-water measurements and calculated groundwater elevations, the groundwater flow direction beneath the Site was assessed to be generally south-southwest during the sampling event. The groundwater elevation contour map, based on the calculated groundwater elevation data for November 2007, is included as Figure 3.

MLLW tide height data for Mare Island Strait on November 15, 2007 were recorded in six-minute increments on NOAA's Tides and Currents website. Groundwater level measurements started at 09:35 PST and ended at 09:55 PST. The subsequent tide heights at the start and end of sampling were 3.05 feet (09:30 PST, static) and 3.05 feet (10:00 PST, flood), respectively.

### 3.2. Field Groundwater Quality Measurement

Groundwater quality measurements collected during the November 2007 sampling event are summarized in Table 4. DO was less than 1 milligram per liter (mg/L) in the eleven wells sampled, indicating predominantly anaerobic conditions. In the monitoring wells, the pH ranged from 6.63 to 8.82 and temperatures varied from 18.49°C to 22.12°C. ORP ranged from -221.9 millivolts (mV) to -30.2 mV. SC was above 1,000 microSiemens ( $\mu$ S) for nine of the 11 wells (exceptions were MP-11 and MP-12). The pH, temperature, and SC measured at the SMP were 7.64, 15.38°C, and 26,932  $\mu$ S, respectively.

### 3.3. Groundwater Analytical Results

Laboratory results for the groundwater samples collected in November 2007 are described below and summarized in Table 5. Figure 4 illustrates the detectable constituents of concern reported in the groundwater samples collected from the monitoring wells during the November 2007 event. The certified analytical laboratory reports are included in Appendix B.

---

Reporting



General Mills Operations, Inc.  
Fourth Quarter 2007 Groundwater Monitoring Report  
2626013



3-1

### **TPH**

TPH-G was reported above its method reporting limit in the sample collected from monitoring well MP-6R at a concentration of 180 micrograms per liter ( $\mu\text{g/L}$ ).

TPH-D was reported above its method reporting limit in the samples collected from monitoring wells MP-6R and MP-13A at concentrations of 1,700  $\mu\text{g/L}$  and 52  $\mu\text{g/L}$ , respectively.

TPH-MO was not detected in any of the samples collected during this sampling event.

### **BTEX and Other VOCs**

Toluene and total xylenes were reported above their respective method reporting limits in the sample collected from well MP-8, at concentrations of 0.5  $\mu\text{g/L}$  and 0.8  $\mu\text{g/L}$ , respectively.

Other VOCs reported above their respective method reporting limits in the groundwater samples include:

- Tetrachloroethene (PCE) at a concentration of 9.3  $\mu\text{g/L}$  in the sample collected from well MP-14;
- Trichloroethene (TCE) at concentrations of 1  $\mu\text{g/L}$  and 3.7  $\mu\text{g/L}$  in the samples collected from wells MP-1R and MP-14, respectively;
- Cis-1,2-dichloroethene (cis-1,2-DCE) at concentrations of 1.7  $\mu\text{g/L}$  and 1.5  $\mu\text{g/L}$  in the samples collected from wells MP-13A and MP-14, respectively
- Trans-1,2-DCE at a concentration of 1.1  $\mu\text{g/L}$  in the sample collected from well MP-13A
- 1,2-Dichloroethane (1,2-DCA) at a concentration of 0.9  $\mu\text{g/L}$  in the sample collected from well MP-1R
- Sec-Butylbenzene and n-Butylbenzene were each reported at a concentration of 0.7  $\mu\text{g/L}$  in the sample collected from well MP-6R

### **PNAs**

Select PNAs were reported above their respective reporting limits in the samples collected from wells MP-1R, MP-6R, MP-8, MP-9, MP-10, MP-13A, and MP-13B. Reported concentrations are summarized in Table 5.

**TDS**

TDS concentrations were reported to be between 380 mg/L and 1,850 mg/L for wells located in the Inland Groundwater Zone (MP-2, MP-6R, MP-9, MP-10, and MP-11) and between 850 mg/L and 18,400 mg/L for wells located in the Buffer Zone (MP-1R, MP-8, MP-12, MP13A, MP-13B, and MP-14). The TDS concentration in the Mare Island Strait water sample collected at the SMP was reported to be 24,400 mg/L.

## 4. Conclusions and Recommendations

---

Malcolm Pirnie provides the following evaluation of the field and laboratory results reported in Section 3 and makes recommendations for augmenting the SCDRM-approved monitoring activities..

### 4.1. Comparison of Groundwater Results to ESLs

As indicated previously, wells MP-2, MP-6R (formerly MP-6), MP-9, MP-10, and MP-11 monitor groundwater quality in the Inland Groundwater Zone (previously established), whereas wells MP-1R (formerly MP-1), MP-8, MP-12, MP-13A, and MP-14 monitor groundwater quality in the Buffer Zone (previously established). Well MP-13B monitors groundwater flowing through the underlying Bay Mud, west of the excavation. A comparison of the November 2007 groundwater sample results to SCDRM-approved ESLs indicates:

- TPH-D and TPH-MO concentrations were not reported to exceed the ESL of 640 µg/L in the samples collected from the six Buffer Zone wells; and were not reported to exceed the ESL of 2,500 µg/L in the samples collected from the five Inland Groundwater Zone wells
- TPH-G concentrations were not reported to exceed either the Buffer Zone ESL (500 µg/L) or the Inland Groundwater Zone ESL (500 µg/L) in any of the samples collected.
- Detectable concentrations of PNAs were reported in samples collected from three of the five Inland Groundwater Zone wells and four of the six Buffer Zone wells. Phenanthrene was reported in the sample collected from monitoring well MP-1R at a concentration of 4.7 µg/L, which is nearly equivalent to its Buffer Zone ESL of 4.6 µg/L. The remaining detectable concentrations were below their respective ESLs
- Detectable concentrations of VOCs were not reported above method reporting limits in the samples collected from the five Inland Groundwater Zone wells. Detectable concentrations were reported in the samples collected from four of the six Buffer Zone wells. Reported concentrations did not exceed their respective Buffer Zone ESLs.



## 4.2. Conclusions and Recommendations

Based on the above results and historical characterization information, Malcolm Pirnie offers the following conclusions and recommendations:

- Constituents of concern have been detected in the groundwater samples collected from beneath the site at concentrations equal to or below their respective ESLs.
- Laboratory results from the third and fourth quarter groundwater monitoring events indicate that PNAs are not of concern in shallow groundwater, except for well MP-1R, where select constituent concentrations have been reported at or near their respective ESLs. Malcolm Pirnie recommends that the seven wells containing detectable concentrations of PNAs be monitored for these constituents in February 2008 and that PNA analysis be eliminated from the monitoring program for the remaining five wells. In the event similar concentrations are reported in February 2008, Malcolm Pirnie recommends eliminating PNA analysis from the program entirely.
- Laboratory results indicate that VOC are not of concern in shallow groundwater. Malcolm Pirnie recommends that the four wells containing detectable concentrations of VOC be monitored for these constituents in February 2008 and that VOC analysis be eliminated from the monitoring program for the remaining seven wells. In the event similar concentrations are reported in February 2008, Malcolm Pirnie recommends eliminating VOC analysis from the program entirely.
- Laboratory results indicate that TPH-G is not a constituent of concern in shallow groundwater. Malcolm Pirnie recommends that this analysis be eliminated from the monitoring program entirely.

Future groundwater monitoring events will be conducted in February 2008 and May 2008, per the June 2007 Well Installation and Groundwater Monitoring Plan. Quarterly monitoring reports will be submitted to the SCDRM by the 15<sup>th</sup> of the month following the end of each calendar quarter. The report prepared following the May 2008 monitoring event will summarize the activities completed on-Site during the previous four quarters, provide an assessment of the groundwater data collected during the four monitoring events, and make recommendations for future monitoring or Site closure, as warranted.

# **Environmental Audit Summary**

**Cherokee Brooks Street Vallejo  
(Former General Mills Facility)  
Vallejo, California  
October 27, 2008**

*Prepared For*



**Raleigh, North Carolina**

*Prepared By*

**Duncklee & Dunham, P.C.  
Cary, North Carolina**



DUNCKLEE & DUNHAM, P.C.



ENVIRONMENTAL CONSULTANTS  
511 KEISLER DRIVE – SUITE 102  
CARY, NORTH CAROLINA 27518  
OFFICE: (919) 858 – 9898  
FACSIMILE: (919) 858 – 9899

October 27, 2008

Mr. Oliver Pau  
Cherokee Investment Services, Inc.  
311 E. Hargett Street, Suite 300  
Raleigh, North Carolina 27601

Reference: Environmental Audit Summary Report  
Cherokee Brooks Street Vallejo  
Duncklee & Dunham Project No. 200815F

Dear Mr. Pau:

As requested by Cherokee Investment Services, LLC (CIS), Duncklee & Dunham, PC is pleased to present this Environmental Audit Summary for the former General Mills – Vallejo, California site. The findings in the attached report were derived from information collected from several sources including data posted on the Cherokee intranet, interviews, and a July 9, 2008, on-site field reconnaissance. The site reconnaissance was attended by Daphne Olszewski of Duncklee & Dunham, Alan Leavitt of Northgate Environmental and Floyd Miller, a former General Mills employee and current on-site property caretaker.

If you have any questions or require additional information, please contact Ms. Olszewski at (919) 858-9898 extension 207 or at [daphne@dunckleedunham.com](mailto:daphne@dunckleedunham.com).

Sincerely,

DUNCKLEE & DUNHAM, P.C.

Daphne J. Olszewski  
Brownfields Program Manager

*Senior Peer Review:*

David L. Duncklee, P.G.  
Senior Hydrogeologist/President

P:\Cherokee\2008 ISO 14001 Audit Sites - 200815\Uptown\_Childrens CO 200815D\Reports - Correspondence\DRAFT Cherokee Environmental Audit Summary - Vallejo - 08151.doc

## Table of Contents

<b>1</b>	<b>Background Information</b>	<b>1</b>
1.1	Property Location and Description	1
1.2	Historical Use of the Site and Vicinity	2
1.3	Redevelopment Plan	2
1.4	Environmental Issues	2
1.5	Environmental Management Team	4
1.6	Cleanup Approach and Current Status	5
<b>2</b>	<b>Audit Findings</b>	<b>5</b>
<b>3</b>	<b>Recommended Actions</b>	<b>5</b>
<b>4</b>	<b>Notable Management Practices</b>	<b>5</b>

## Figures

<u>Figure</u>	<u>Title</u>
1	Vallejo Site Map

## Appendices

<u>Appendix</u>	<u>Title</u>
A	Multimedia Inspection Checklist for Field Audit
B	Site Photographs



**Environmental Audit Summary Report  
Cherokee Brooks Street Vallejo  
Vallejo, California  
October 27, 2008**

**1 Background Information**

An environmental compliance audit was conducted for the Cherokee Brooks Street Vallejo (CBSV) property (the Site), which fronts the Mare Island Strait. Mare Island Strait is the waterway connecting the mouth of the Napa River and San Pablo Bay, approximately 30 miles north of San Francisco, California. The Site is the location of a former General Mills Inc. (General Mills) plant and is approximately 38 acres of land (see Figure 1) located southeast of the intersection of Derr and Lemon Streets in Vallejo, California.

The Site was used as a flour processing mill between 1869 and 2004. The buildings consist of an eight-story former flour mill (see Photo 1) and related facilities including packaging facilities (a bag factory and print shop), grain elevators and warehouses. Operations historically conducted at the facility included the cleaning, processing, bleaching, and packaging of flour and other General Mills products.

Of the 38 acres, approximately 28 acres were owned by General Mills, known as the Fee Lands. This portion of the property was transferred fee simple to CBSV on May 30, 2007. The balance of the Site, approximately 10 acres, is known as the Leasehold. This land is owned by the City of Vallejo and was leased to General Mills. As a result of the transaction between General Mills and CBSV, the lease on this land was transferred from General Mills to CBSV. The attached Figure 1 Site map identifies these two parcels. The Leasehold will be suitable for commercial/industrial or open-space/park development and is the along the waterfront (see Photo 2). The remaining Fee Lands include the higher elevations at the back of the Site (see Photo 3) which are suitable for residential development.

Cherokee Investment Services, LLC (CIS) retained Duncklee & Dunham, P.C. (Duncklee & Dunham) to conduct an audit to evaluate the Site's compliance status with relevant environmental laws and regulations, and to evaluate conformity with certain provisions of CIS's ISO 14001 certified environmental management system (EMS). Daphne Olszewski of Duncklee & Dunham, along with Alan Leavitt of Northgate Environmental Management, Inc. (Northgate), CBSV's environmental consultant, and Floyd Miller (current property caretaker and former General Mills employee) conducted the Site visit on July 9, 2008. A completed CIS audit checklist for the Site, including EMS questions, is included as Appendix A. Site photographs collected during our Site reconnaissance are included in Appendix B.

***1.1 Property Location and Description***

The Site's location affords a spectacular view of Mare Island and the San Pablo Bay (see Photos 4 and 5). It is located along the Baylink ferry route (see Photo 6) between the Vallejo Ferry Terminal, about 1.5 miles north of the Site, also on the east side of Mare Island Strait, and the historic 1903 Ferry Building located on San Francisco's Embarcadero. The Site is also located near two commuter corridors, Interstates 80 and 780 (see Photo 7), and is approximately a 45-minute drive to downtown San Francisco. The Site consists of the relatively flat Leasehold acreage, with the Fee Lands varying from flat to steep topography going inland from Mare Island Strait.



## **1.2 Historical Use of the Site and Vicinity**

In 1869, Abraham Starr convinced the Southern Pacific Railroad to extend tracks to the current Site, on which Starr then constructed a flour mill, dock, and warehouse. The railroad extension connected the Site to the newly completed transcontinental railroad, which, in turn, connected the mill to all points along that route, from the Pacific to the Atlantic. Only portions of the dock remain of the Starr Mill (see Photo 8), but the Site was occupied continuously until 2004 by successive owners as one of the most important flour mills in California. Port Costa Flour Company bought the property in 1895, followed by Sperry Flour Company in 1910. Sperry built four of the historically significant buildings at the Site - the Flour Mill, Grain Silos, Administration Building, and Garage - during World War I, when demand for flour increased significantly. General Mills acquired Sperry Company and the Vallejo Site in 1929 and made only minor changes to it. Apart from a few very brief stoppages, mills at the Site continuously produced flour and feed for 135 years.

## **1.3 Redevelopment Plan**

CBSV's business objective is to redevelop the Fee Lands as residential town homes, convert the Mill Building to lofts and redevelop the waterfront area (Leasehold) as a park/open space. The redevelopment project will be known as Sperry Landing, and will consist of a diverse mix of about 370 residential units. The redevelopment will integrate existing structures with progressive new construction to create a live-work area and will potentially have ancillary commercial and retail uses.

In the historic mill building, potential unit types will range from open-plan studios for young professionals, to spacious two-bedroom units. New condominiums will provide a contrast to the mill building for those who prefer more modern amenities and private outdoor living space. The live/work loft units, located in the central core of the Site, provide opportunities for shop owners, artists, and other professionals to eliminate their commute and live where they work. Each townhouse neighborhood has something unique to offer, from private townhouses nestled in the hills to the beachfront townhouses that open out to the Bay. Finally, single-family lots on the north and south ends of the Site provide ample space for unique single-family houses with private yards.

The vision is for a mixed-use sustainable urban village that provides amenities and services within walking distance as well as having public access and connections to the surrounding community. Sustainability principles and concepts will guide all stages of the project from planning and community involvement to construction. CBSV will pursue entitlements and then sell the property to a residential developer. The anticipated sale is expected to occur in 2009-2010.

## **1.4 Environmental Issues**

### **1.4.1 Soil and Groundwater Impacts**

Throughout its history, the Site has encountered relatively few environmental concerns, other than petroleum-impacted soil. Site operations included the use and storage of various grades of petroleum hydrocarbons, from gasoline and diesel fuels for vehicle operations to heating oil for facility operation. Petroleum products were stored in a combination of aboveground storage tanks (ASTs) and underground storage tanks (USTs). Most of the ASTs were removed from operation in the early 1950's to the late



1960's. The USTs remained in operation until the mid-1980's to early 1990's. By 1996 all known USTs were removed from service and closed in accordance with local and State regulations.

In 2005, a Phase I Environmental Site Assessment (ESA) and a Phase II ESA, performed by Clayton Group Services, Inc. (CGS) for a potential buyer, revealed that soil and groundwater beneath the Site were impacted by petroleum hydrocarbons at concentrations that could potentially impact or limit future use of the property. As a consequence, General Mills decided to further evaluate the nature and extent of the environmental impacts to the Site from historical operations.

General Mills contracted with Malcolm Pirnie to further assess/verify the potential presence of former USTs reported by CGS. Following the review of historical Sanborn maps available for the Site, Malcolm Pirnie identified the potential presence of five historic USTs on the 1938 Sanborn map. Malcolm Pirnie confirmed the presence of these five USTs using a backhoe on January 5, 2006.

As a result of newly discovered USTs and impacted soil and groundwater, the Solano County Department of Resource Management (SCDRM) issued a "Notice of Corrective Action and Responsibility" to General Mills in a letter dated January 27, 2006 when they determined an unauthorized release of hazardous substance occurred from the UST system at the Site. SCDRM oversees the Corrective Action via an agreement with the State of California Regional Water Quality Control Board (RWQCB). General Mills retained environmental liability of the Site in the sale to CBSV, and have worked towards remediation and closure of the environmentally impacted portions of the Site.

Since January 2006, General Mills has conducted environmental investigations of the property. Soil borings were drilled in an effort to define the extent of soil and groundwater contamination and to determine clean-up options. General Mills' investigations focused on the former USTs and areas impacted by petroleum hydrocarbons. To date, 13 USTs and seven ASTs are known to have been used at the Site. With the exception of one UST that was abandoned in place, all identified USTs and ASTs have been removed.

A relatively large area of petroleum hydrocarbon-impacted soil was identified in 2005-2006 on the Leasehold property at the western area of the Site (see Figure 1). While the specific source(s) of this contamination have not been confirmed, the impacted area appears to be associated with several former USTs and a part of the Site that was previously used to dispose of debris and other fill materials. The petroleum hydrocarbons consist primarily of diesel fuel and motor oil. Various polynuclear aromatic hydrocarbons (PAHs) also have been detected in the same general areas as the petroleum hydrocarbons. General Mills remediated this area by excavation, in accordance with a work plan approved by SCDRM to meet the Site-specific approved cleanup goals for commercial/industrial use in the Leasehold parcel (see Photo 9). Further information on the status of this work is provided in Section 1.6 of this report.

Due to interest in the property, Brooks Street retained the services of Northgate to conduct a Phase I ESA and Phase II Soil and Groundwater Quality Investigation at three areas of the Site that had not been sufficiently characterized and available information indicated the potential presence of contamination. Northgate's Phase II investigation did not identify significant soil or groundwater impacts associated with VOCs, SVOCs, or petroleum hydrocarbons. Sampling results for arsenic were generally in the range of 5 to 10 mg/kg but arsenic was detected in one soil sample above the range in background values (up to 19 mg/kg as reported by Malcolm Pirnie) at 23 mg/kg. There was also one sample that had arsenic higher than the remainder of the samples but lower than the background level (12 mg/kg). The one arsenic



sample above the background level is probably not indicative of a release and SCDRM is not requiring any remediation of soil containing arsenic at this time. However, surficial arsenic concentrations may need to be further evaluated prior to Site development. If arsenic concentrations in localized areas exceed regional background values, it may be necessary to contain affected soil below future building footprints or paved areas in non-residential portions of the Site.

#### *1.4.2 Wetlands/Habitat Considerations*

Additional non-remediation surveys and studies will need to be completed for the California Environmental Quality Act (CEQA) review and regulatory permitting associated with environmental impacts that may occur related to the redevelopment of the Site. Most importantly these include:

- A small area of wetlands (about 4,000 square feet) at the base of the steep cliffs that may fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE);
- The potential for monarch butterflies to winter roost in the eucalyptus stand on the Site (tracked through the California Department of Fish and Game although there is no official status as protected species);
- Tidal waters of San Pablo Bay and Mare Island Strait to the high-tide line are considered Waters of the U.S. and are under the jurisdiction of the USACE;
- About 300 square feet of Northern coastal salt marsh located along the shore line and likely within USACE's jurisdiction; and
- Determination if there is a potentially suitable habitat for special-status plants.

Brooks Street has experience navigating through the CEQA process from their other California development projects and will spearhead this effort.

#### *1.4.3 Bona Fide Prospective Purchaser Obligations*

A draft bona fide prospective purchaser (BFPP) checklist was available for review on the intranet, dated July 3, 2008. CBSV is not affiliated with any previous owner potentially liable for response costs through contractual, corporate, familial, and/or financial relationships and there should be no problem establishing the BFPP exception to CERCLA liability. However, the checklist has not had legal review and needs to be finalized once this review is complete.

#### *1.5 Environmental Management Team*

Doug Mosteller of CIS Denver is the environmental engineer/project manager. Alan Leavitt of Northgate Environmental is the environmental consultant contact for CBSV. Todd Miller of Malcolm Pirnie is General Mills' environmental consultant contact. Malcolm Pirnie is responsible for the environmental work that needs to be conducted in order to receive a No Further Action determination on the Leasehold. Northgate Environmental conducted Phase I and Phase II Environmental Site Assessments on behalf of CBSV, and has been the contact between CBSV and Malcolm Pirnie on environmental issues.





## **1.6 Cleanup Approach and Current Status**

Under contractual agreement, General Mills is responsible for the remediation of the Site to residential levels in the Fee Lands and commercial/industrial levels in the Leasehold. General Mills recently finished conducting four quarters of groundwater monitoring. When CBSV closed on the property, SCDRM issued a notice of work completion on the Leasehold and a No Further Action (NFA) letter for the Fee Lands. An NFA request for the Leasehold was submitted to SCDRM in early September 2008 after General Mills completed a year of quarterly groundwater monitoring where all results were less than established, site-specific criteria. NFA approval is expected later this year.

## **2 Audit Findings**

*Each sub-section below corresponds to the same sub-section in Section 3.*

General Mills is responsible for the environmental remediation work being conducted at the Site, and appear to be in compliance with the regulatory schedule for obtaining a No Further Action determination on the Leasehold property.

- 2.1** Investigation Derived Waste (soil cuttings and purge water) was noted during the audit dating back to installation of wells over a year ago.
- 2.2** The BFPP checklist has been drafted, but has not had legal review so it can be finalized. CIS has utilized Bill Lane of Kilpatrick Stockton for these services, but a local environmental attorney used by Brooks Street is also a possibility.
- 2.3** There are a few key environmental documents that Malcolm Pirnie produced missing from Cherokee intranet site for this asset.
- 2.4** The Environmental Management Plan is dated August 7, 2008 and does not reflect current conditions. However, it appears that General Mills has conducted the environmental work on schedule. Other than asbestos abatement, the environmental budget is geared towards contingencies that to date are not yet needed so the environmental portion of the project is well within budget. Asbestos abatement was performed on the General Mills office building that was renovated for Brooks Street's offices, but further asbestos abatement won't be conducted until entitlements are obtained.

## **3 Recommended Actions**

A conference call is scheduled for October 29 2008 to discuss the findings of this audit. The conference call invitation was extended to Cherokee Brooks Street Vallejo's deal side (Scott Goldie and Devin Hassett of Brooks Street) as well environmental staff (Doug Mosteller, Environmental Engineer/CIS Project Manager; John Gallagher, Environmental Managing Director; Oliver Pau as EMS Coordinator; and Daphne Olszewski, External Auditor).

Once each of the following recommended actions is completed, the environmental manager should notify Oliver Pau and Daphne Olszewski by email that it has been completed. Any of these items that are



subsequently included in a corrective and preventative action report (CPAR) will have the completion date for the item added in order to close out that particular recommended action.

- 3.1 The draft BFPP checklist would benefit from legal review. It should then be *finalized on legal counsel's letterhead and uploaded to the intranet by December 15, 2008.*
- 3.2 General Mills, not CBSV, is in charge of the environmental work at the Site. Northgate Environmental contacted Malcolm Pirnie, who stated that they would take care of the well cuttings generated from well installation on the Site in 2007 later this fall, during the well abandonment after the NFA request is approved by SCDRM. *If CIS wants others to handle waste materials according to their own guidelines, they will need to address these issues upfront in the contractual agreement. No action is necessary for this finding.*
- 3.3 One of purposes of having documents readily available on the intranet is so that prospective purchasers can easily obtain information during their own due diligence periods. Some of the General Mills documents generated by Malcolm Pirnie (the last three quarterly groundwater monitoring reports, the letter requesting NFA and the final approval for NFA from SCDRM (when available later this year) are important environmental documents that will need to be made available to prospective purchasers. *Upload this environmental information to the intranet by December 31, 2008.*
- 3.4 Once the No Further Action approval has been granted for the Leasehold, the EMP should be revised and uploaded on the intranet. It is *recommended that the EMP be updated within sixty days after the NFA is issued.* From an environmental standpoint, this revision of the EMP should be the last substantive change that needs to be made to the document, which will then be current and readily available as needed.

#### 4 Notable Management Practices

Brooks Streets offices will be moved into the renovated office building (see Photo 10) on the Site. Having their presence on the Site will undoubtedly prove to be useful during the CEQA process and any due diligence periods by prospective redevelopers of the Site.

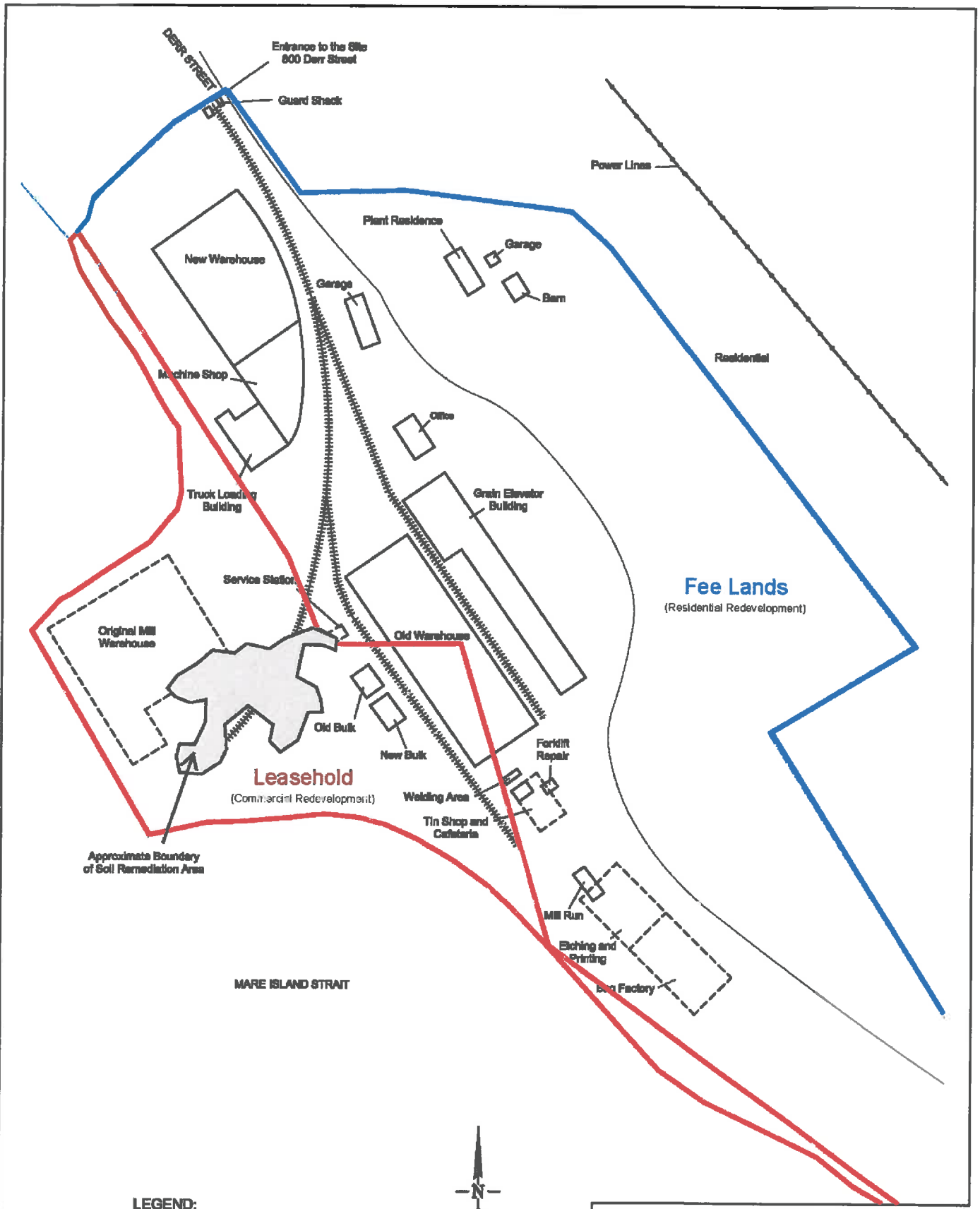
The entire concept behind the redevelopment is incorporating all facets of sustainability - from the Site being a reclaimed brownfields property, the adaptive reuse of exiting historic structures, pedestrian, bicycle and transit connections within the community, and the goals of water conservation, water quality and energy efficiency in the design of the redevelopment to name a few illustrates a partnership that truly mirrors the goals Cherokee desires to see in their brownfields redevelopment projects.



**FIGURE 1**

**Site Map**

**Cherokee Brooks Street Vallejo – Former General Mills Site  
Vallejo, California**



G:\Projects\1164\1164\_03\_General Mills\1164\_02 Phase II Report\Fig 1.1 Figures\Figure 2 - Site Plan.dwg Layout: Site Plan.dwg Date: Feb 07, 2007 - 4:57pm

**LEGEND:**

- Extent of Fee Lands/Site Boundary
- Extent of Leasehold
- Existing building
- Former building



0 100 200

Approximate Scale (Feet)

**FIGURE 1  
Site Plan**

General Mills Facility  
 Phase II Soil and Groundwater Quality Investigation  
 Vallejo, California

**northgate**  
 environmental management, Inc.

Project No. 1164.02

Source: Malcolm Pirnie, Site Investigation Report, 809 Derr Street, Vallejo, California  
 Duncklee & Dunham, P.C. modified this figure for October 2008 Environmental Audit Summary Report