ENVIRONMENTAL COST MANAGEMENT, INC. Managing Cost <u>and</u> Liability

> 660 Baker Street, Suite 253 Costa Mesa, California 92626 Main: (714) 662-2758 www.ecostmanage.com

March 7, 2008

2:19 pm, Mar 10, 2008

RECEIVED

Jerry Wickham, PG Alameda County Health Care Services Agency Environmental Health Services 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

Alameda County Environmental Health

Re: Supplemental Soil, Soil Gas, and Groundwater Investigation Workplan, CARNATION DAIRY, 1310 14th Street, OAKLAND, CA Fuel Leak Case No. RO0000018 and Geotracker Global ID T0600100262

Dear Mr. Wickham:

On behalf of Nestlé USA, Inc. (Nestlé), Environmental Cost Management, Inc. (ECM) has prepared this workplan proposing a supplemental soil, soil gas, and groundwater investigation at the site located at 1310 14th Street in Oakland, California.

This workplan is submitted, in part, to respond to comments contained in to the September 28, 2007, directive from the Alameda County Health Care Services Agency to Nestlé and Encinal 14th Street, LLC. This workplan is also intended to provide Nestlé with data for consideration in the upcoming revised Risk Assessment, and help determine the extent of any soil excavation activities that may be considered as a potential remedial approach in the future.

Should you have any questions, please call me at (510) 433-0669.

Perjury Statement

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Brent Searcy, P.E. Senior Engineer Environmental Cost Management, Inc.

Enclosure: Supplemental Soil, Soil Gas, and Groundwater Investigation Cc: Mike Desso, Nestlé USA Jennifer Costanza, Nestlé USA, Legal Nestlé USA, File ECM, File

Report to: Nestlé USA, Inc. 800 North Brand Boulevard Glendale, California 91203

Supplemental Soil, Soil Gas, and Groundwater Investigation Workplan Former Nestlé USA, Inc. Facility 1310 14th Street, Oakland, CA

March 7, 2008

Prepared By:

ENVIRONMENTAL COST MANAGEMENT, INC. Managing Cost <u>and</u> Liability

> 660 Baker Street, Suite 253 Costa Mesa, California 92626 Main: (714) 662-2759 Fax: (714) 662-2758 www.ecostmanage.com

inayan Act

Binayak Acharya Program Manager

Date: 3/7/08

Brent Searcy, P.E(Senior Engineer

Date: 3/7/08





Contents

Introduction	. 1
Sampling Locations	. 1
Field Procedures	. 2
Soil Gas Samples	3
Soil Samples	4
Sample Handling and QA/QC	
Schedule and Application of Results to Revised Site Conceptual Model and Risk Assessmen	nt
	. 6
	Sampling Locations Field Procedures Soil Gas Samples Grab Groundwater Samples Sample Handling and QA/QC Schedule and Application of Results to Revised Site Conceptual Model and Risk Assessmen

Figures

Figure 1: Site Location Map Figure 2: Proposed Soil Boring Locations

Tables

Table 1: Boring Locations and RationalesTable 2: COPCs, Detection Limits, and Preliminary Risk Screening Levels

1 INTRODUCTION

On behalf of Nestlé USA, Inc. (Nestlé), Environmental Cost Management, Inc. (ECM) has prepared this Supplemental Soil, Soil Gas, and Groundwater Investigation Workplan (workplan) for subsurface sampling at the former Nestlé facility in Oakland, California (Figure 1). This workplan is intended to provide additional field data to address areas of concern noted in the Alameda County Health Care Service's (ACHS) directive dated September 28, 2007. The proposed soil borings and laboratory analysis of samples is intended to: (1) address several data gaps identified in the development of a Site Conceptual Model (SCM) for the site, (2) provide more current data for consideration in the upcoming revised Risk Assessment, and (3) help determine the extent of any soil excavation activities which may be considered as a potential remedial approach in the future.

In reference to the ACHS' September 28, 2007 directive, the data collected from this investigation will be used, in combination with available historical data, to address technical comments #2, #4, #5, #7, #8, and #9 within the directive. ACHS' directive comment #10 (related to historical PCB sampling data for the site) has been addressed through the submission to the ACHS of the October 31, 2007 *Workplan for Supplemental Groundwater Sampling for Polychlorinated Biphenyls* (PCBs). Comments have been received from the ACHS on the October 21, 2007 workplan. These comments are currently being addressed by Nestlé, with the goal of performing the field work proposed both in the October 31, 2007 PCB workplan and within this workplan simultaneously following the receipt of regulatory approval for both workplans.

This workplan proposes to drill 12 sampling Geoprobe® sampling points, collecting a soil, soil gas, and groundwater sample at each location (Figure 2). Samples will be analyzed for Total Petroleum Hydrocarbons as gasoline, diesel, and motor oil (TPH-g, TPH-d, and TPH-mo) and BTEX components via appropriate EPA methods. Samples will also be analyzed for the full suite of purgeable VOC analytes. Soil samples (only) will be analyzed for lead, in order to provide guidance for off-site disposal in order to comply with regulatory requirements during any future excavation activities. The following sections detail the locations, sample depths, and field procedures for the proposed drilling and sampling of soil, soil gas, and groundwater at twelve sampling locations within the northwestern portion of the site.

2 SAMPLING LOCATIONS

The ACHS directive dated September 28, 2007 notes concerns regarding the temporal and spatial coverage associated with previous soil gas samples on the northwest portion of the property and hydrocarbon impacts in soil and groundwater at various locations across the site (beneath the currently exiting building at the northwestern corner of the site, near former soil boring PR12, etc.). The sampling locations proposed in Figure 2 are designed to address these concerns, and provide necessary data for development of a revised SCM and revised Risk Assessment. The data collected in this investigation, combined with data collected during previous investigations, is intended to be a complete and comprehensive data summary for use in the revised Risk Assessment. Barring an unusual discovery during this proposed investigation, no additional data would be collected for use in the upcoming Risk Assessment. Moreover, the analytical results will also aid in refining the extent of impacted soils and groundwater in consideration of possible additional soil excavation activities at the site.

To address these concerns, this workplan proposes twelve sampling locations (Figure 2) which will allow for the collection of soil gas samples at a depth of 5 ft below ground surface (ft bgs), soil samples just above the depth of first encountered groundwater (estimated at 7 to 9 ft bgs), and a grab groundwater sample from first encountered groundwater. Soil gas samples will be analyzed using a certified on-site laboratory, while soil and groundwater samples will be analyzed at a conventional off-site certified laboratory. Details of the sampling procedures for soil gas, soil, and groundwater are discussed Section 3.1.

Table 1 provides a summary of the rational for each of the selected sampling locations. Table 2 provides a summary of the COPCs, media to be sampled, laboratory method detection limits, and levels of concern in terms of preliminary risk screening levels. These preliminary screening levels are presented to ensure that anticipated sampling method detection limits are adequate for each matrix to be sampled (soil vapor, soil, and groundwater). Analytical results from this investigation will be used in assessing risks for relevant exposure pathways as determined in the upcoming Risk Assessment and in light of the Deed Restriction, which currently applies to the northwest portion of the property.

3 FIELD PROCEDURES

Each sampling location proposed in Figure 2 will involve the use of a standard Geoprobe® or similar direct push drilling rig. Soil, soil gas, and groundwater samples will be will be collected as described below. These sampling procedures follow *the Los Angeles Regional Water Quality Control Board (LARWQCB)/California Department of Toxic Substances Control (DTSC) Advisory for Active Soil Gas Investigations* (LARWQCB/DTSC, January, 2003). The data collected during this investigation is intended to serve, in conjunction with exiting historical sampling data from the site, as characterization data for eventual use in a revised Risk Assessment for the northwestern portion of the site. The future revised Risk Assessment for the site will follow guidance and procedures provided by the California EPA's *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties* (California EPA, January, 2005).

Soil borings will be advanced using a 2-inch diameter direct-push Geoprobe® coring method. All borings will be logged during drilling and lithologic logs will be prepared for each boring. At each boring, a soil gas sample will first be collected at a depth of 5 ft bgs, a soil sample will then be collected from approximately 6 to 8 feet bgs (immediately above static groundwater elevation), and then a grab groundwater sample will be collected from just below the elevation of first-encountered groundwater. If groundwater is encountered at a depth shallower than 5 ft bgs, the depth of the soil gas sample will be adjusted to the maximum depth possible, while still ensuring that the soil gas sample is collected above the static groundwater elevation.

Before advancing any mechanized probes, all boring locations will be marked, and cleared for the presence any on-site utilities by Underground Service Alert (USA) and a private utility clearance service. The driller will then extend each boring using direct-push methods.

3.1 Soil Gas Samples

Soil gas sampling procedures are designed to comply with the recommendations of the Los *Angeles Regional Water Quality Control Board (LARWQCB)/California Department of Toxic Substances Control (DTSC) Advisory for Active Soil Gas Investigations* (LARWQCB/DTSC, January, 2003). A California-licensed driller will extend a drive rod to the 5 ft. bgs depth and retract its outer housing to expose the inlets of the soil gas probe. Clean, dry, 1/8 to 1/4 inch-diameter disposable polyethylene sampling tubes will be inserted through the drive rod to collect the soil gas sample. The inner soil gas pathway from probe tip to the surface will be continuously sealed using a sampling tube attached to a screw adapter fitted with an o-ring and connected to the probe tip to prevent infiltration. A hydrated bentonite seal will be placed around the drive rod at ground surface to prevent ambient air intrusion from occurring.

A purge volume or "dead space volume" will estimated based through a summation of the volume of the internal volume of tubing used and annular space around the probe tip. Purge tests of various volumes will be conducted in order to establish the necessary purge volume to be applied at all sampling locations. The selected purge volume will be based on the highest concentration for the COPCs detected during the step purge tests. If COPCs are not detected during the preliminary purge tests, a default of three (3) purge volumes will be extracted prior to sampling.

Leak tests will be conducted at every soil gas probe. A tracer compound known to be not detected at the site will be used as a leak check compound to determine the potential presence of tracer compounds above the California-EPA recommended limit of 10 ug/L using the on-site laboratory. Just prior to sampling, this leak detection compound will be used to coat sampling equipment surfaces where ambient air could enter the sampling system or where cross contamination may occur. If a detection of the tracer compound occurs, the cause of the leak will be evaluated and corrected, and the correction will then be verified through confirmation sampling.

The LARWQCB/DTSC-recommended purging and sampling rates of 100 to 200 milliliters per minute (ml/min) be observed to limit stripping, prevent ambient air from diluting the soil gas samples, and to reduce the variability of purging rates (LARWQCB/DTSC, January, 2003). The low flow purge rate increases the likelihood that representative samples may be collected.

After leak testing and purging, soil gas samples will be collected in 6 liter Summa[™] canisters. A flow regulator will be placed between the probe and the Summa[™] canister to ensure the Summa[™] canister is filled at the recommended flow rate.

Soil gas samples collected from each boring will be analyzed for gasoline and diesel range organics, BTEX components, and VOC analytes via EPA method 8260B (or an equivalent and approved method). Table 2 indicates the COPCs, associated method detection limit, and relevant levels of concern in terms of the eventual Risk Assessment to be developed using these data.

3.2 Soil Samples

This investigation will involve the collection of a soil sample from each boring at a depth of approximately 6-8 feet bgs (just above static groundwater elevation in the boring). After collection of a soil gas sample from 5 ft bgs, soil vapor tubing and apparatus will be removed from the drive rods and the probe will be extended until first groundwater is encountered. The geologist will retain one soil sample from each boring area for laboratory analysis. The field geologist will obtain soil samples for chemical analyses from the opened acetate liners using disposable EnCore® samplers, which can extract and seal 5 grams or 25 grams of soil each, depending on the sampler size. When sampling intact acetate liners, the field geologist will cut a 6-inch section and cover its ends with Teflon® squares and plastic end caps.

Sample identification numbers will incorporate the borehole number and the sample depth. The geologist will label the soil sample, store it inside a chilled ice chest, and record the sample number on a chain-of-custody form along with the date and time of sampling, project name, and requested analyses.

Soil samples collected from each boring will be analyzed for Total Petroleum Hydrocarbons as gasoline, diesel, and motor oil (TPH-g, TPH-d, and TPH-mo) and BTEX components via EPA method 8015/8020-modified. Samples will also be analyzed for the full suite of purgeable VOC analytes via EPA method 8260. Soil samples (only) will be analyzed for lead via atomic adsorption (AA), in order to provide guidance for off-site disposal quantities and requirements during any future excavation activities.

3.3 Grab Groundwater Samples

Following the collection of a soil sample from the boring, the Geoprobe® driving rod will be fitted with a steel-tipped probe attached to a screened casing covered by a retractable casing. The driller will advance this Hydropunch®-style sampler to approximately 1 foot below first encountered groundwater (anticipated at 7 to 9 ft bgs). At the desired depth, the driller will then retract the outer casing to expose the screened interval and allow it to fill under hydrostatic pressure.

The groundwater collected in the screened interval will be sampled using new, dedicated Teflon® tubing and a low-flow peristaltic pump. The use of new, disposable tubing will eliminate the need for decontamination of this tubing. The analytical laboratory will provide pre-preserved containers for collection of all groundwater samples. Labels, applied at the time of collection and documented on chain-of-custody forms, will identify the sample's borehole of origin, depth, date, and the project name. This information will be transferred to the chain-of-custody form along with the desired laboratory analyses.

Groundwater samples collected from each boring will be analyzed for Total Petroleum Hydrocarbons as gasoline, diesel, and motor oil (TPH-g, TPH-d, and TPH-mo) and BTEX components via EPA method 8015/8020m. Samples will also be analyzed for the full suite of purgeable VOC analytes via EPA method 8260. At any sampling points where groundwater samples are found (through visual observation) to contain substantial hydrocarbon free product,

these observations will be noted, and laboratory analyses of groundwater will not be performed for that location.

3.4 Sample Handling and QA/QC

Field staff will collect the following information and will document it in field notes to the extent possible under field conditions:

- project name;
- location;
- boring type;
- date;
- sample depth;
- significant penetration resistance during boring;
- sample identification;
- sample depth;
- purge time with vacuum pump for soil gas samples (equal to the lag time between equilibration and sample collection per standard sampling methods);
- sample canister vacuum pressure before and after sampling for soil gas samples.
- depth of water table, if encountered;
- visual soil classification, if available; and
- any additional relevant field observations.

Field QC samples will be collected, stored, transported and analyzed in a manner consistent with investigation samples. The following QC samples will be collected to support the sampling activity:

- One field blank for each matrix (soil gas, soil, and groundwater) per sampling day will be sent to the laboratory for analysis (on-site laboratory for soil gas samples; off-site laboratory for soil and groundwater) to verify the effectiveness of decontamination procedures and to detect any possible interference from ambient sources.
- A sufficient number of duplicate field samples will be collected to provide duplicates for 10% of the intended soil boring samples per day for each sampling matrix. The duplicate sample will be collected in a separate sample container at the same location and depth immediately after the original sample.

After each boring, drive rods and other reusable components will be properly decontaminated to prevent cross contamination. All sampling equipment that contacts soil will undergo either a three-stage wash and rinse (e.g., wash equipment with a nonphosphate detergent, rinse with tap water, and final rinse with distilled water) or a steam-cleaning process. Soil cuttings and decontamination water will be drummed on-site, characterized and profiled, and disposed of off-site at a licensed waste handling facility.

Either new sample containers or recycled/reused canisters that have been properly decontaminated by appropriate EPA analytical methods will be used to collect samples. The supplier shall assure that sample containers are free of contaminants. The laboratory will supply the SummaTM canisters. ECM will ensure that all canisters are cleaned and certified using GC/MS 8260B protocols (or equivalent protocols).

4 SCHEDULE AND APPLICATION OF RESULTS TO REVISED SITE CONCEPTUAL MODEL AND RISK ASSESSMENT

Nestlé will submit a Report of Investigation to ACHS including all laboratory analyses resulting from this investigation within 30 days of the receipt of all analytical results.

Results from this investigation will then be used to (1) provide further delineation and address areas of concern in the development of the revised SCM under development for the site (per the ACHS' September 28, 2007 directive for the site); (2) provide additional characterization and input data for exposure pathways identified as applicable in the revised Risk Assessment planned for the site, and (3) provide additional site characterization data for any future soil excavation activities at the site.

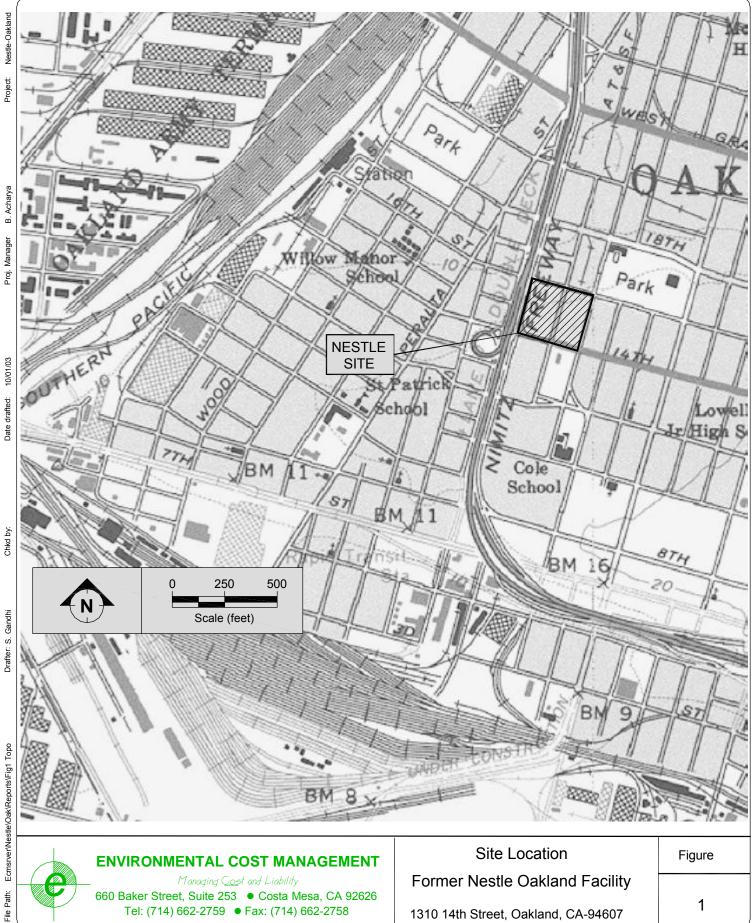
After submittal of the Report of Investigation and prior to the submittal of the revised SCM and Risk Assessment Reports, Nestlé proposes to meet with ACHS staff to discuss the data collected from this proposed investigation, and ensure that all parties are in agreement as to the adequacy of the data available for use in the development of a revised SCM Report and a revised Risk Assessment for the site.

Following these discussions, Nestlé proposes to incorporate the results of this investigation into the revised SCM and submit a Revised Site Conceptual Model Report 60 days after the receipt of any written comments and/or meetings with ACHA regarding the findings from this proposed supplemental investigation. This report will be designed to provide an integrated, comprehensive conceptual understanding of the subsurface geology, historical releases, contaminant transport, remediation activities, and residual concentrations remaining at the site, based on all available historical data and the additional data to be provided by this proposed supplemental soil boring investigation

Subsequent to the submittal of the revised SCM, any comments from ACHS on the revised SCM will be received and discussed via written correspondence or meetings. Once any ACHS comments regarding the revised SCM have been addressed, the cumulative site characterization data presented in the revised SCM report will serve as the input for identified Constituents of Potential Concern (COPC) to be assessed in the revised Risk Assessment for the site.

Nestlé proposes to submit this revised Risk Assessment report within 60 days of the receipt of approval for the Revised SCM report from the ACHS. The revised Risk Assessment is intended to provide an understanding of any exposure risks associated with current COPC residual concentrations identified within the subsurface.

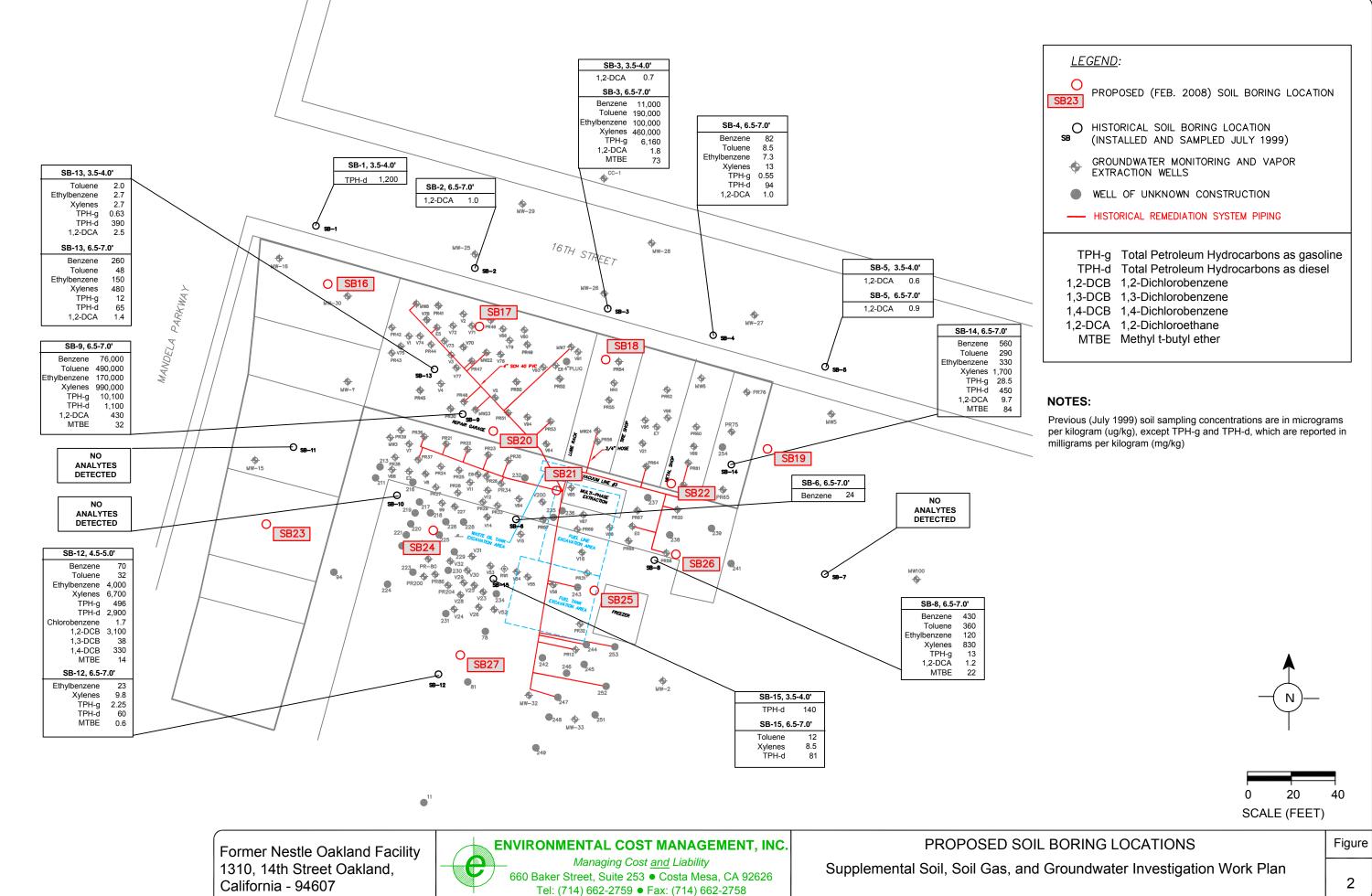
Figures Figure 1: Site Location Map Figure 2: Proposed Soil Boring Locations



660 Baker Street, Suite 253 • Costa Mesa, CA 92626 Tel: (714) 662-2759 • Fax: (714) 662-2758

1310 14th Street, Oakland, CA-94607

1



TablesTable 1: Boring Locations and RationaleTable 2: COPCs, Detection Limits, and Preliminary Risk Screening Levels

TABLE 1 Supplemental Soil, Soil Gas, and Groundwater Investigation Former Nestlé USA, Inc. Facility-Oakland, CA Soil Boring Locations and Rationales

Well / Boring Name	Sampling Depth (feet below ground surface)	Primary Purpose of Sampling Point				
SB16	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Soil gas and indoor air pathway data for risk assessment; Further definition of residual COPC concentrations in downgradient direction				
SB17	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Soil gas and indoor air pathway data for risk assessment; Further definition of residual COPC concentrations in downgradient direction; Additional delineation of area of highest historical LPH measurements				
SB18	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Soil gas and indoor air pathway data for risk assessment; Further definition of residual COPC concentrations in downgradient direction; Additional delineation of area of highest historical LPH measurements				
SB19	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Further definition of residual COPC concentrations in downgradient direction; Additional definition of residual soil and groundwater concentrations in support of potential future excavation activities				
SB20	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Soil gas and indoor air pathway data for risk assessment; Further definition of residual COPC concentrations in downgradient direction; Additional delineation of area of highest historical LPH measurements				
SB21	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Further definition of residual COPC concentrations in downgradient direction; Additional delineation of area of highest historical LPH measurements				
SB22	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Soil gas and indoor air pathway data for risk assessment; Further definition of residual COPC concentrations in downgradient direction; Additional delineation of area of highest historical LPH measurements				
SB23	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Soil gas and indoor air pathway data for risk assessment; Further definition of residual COPC concentrations in crossgradient direction				
SB24	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Further definition of residual COPC concentrations in crossgradient direction; Additional definition of residual soil and groundwater concentrations in support of potential future excavation activities				
SB25	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Further definition of residual COPC concentrations near primary source area; Additional definition of residual soil and groundwater concentrations in support of potential future excavation activities				
SB26	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Further definition of residual COPC concentrations in crossgradient direction; Additional definition of residual soil and groundwater concentrations in support of potential future excavation activities				
SB27	5 ft bgs (soil gas) Above water table (est. 6 - 8 ft bgs) (soil) Below water table (est. 8 - 10 ft bgs) (groundwater)	Definition of residual COPC concentrations near historically impacted area of SB12; Additional definition of residual soil and groundwater concentrations in support of potential future excavation activities				

TABLE 2

Supplemental Soil, Soil Gas, and Groundwater Investigation Former Nestlé USA, Inc. Facility-Oakland, CA COPCs, Detection Limits, and Preliminary Risk Screening Levels

COPC	Soil Gas		Soil			Groundwater			
	Method Detection Limit (EPA 8260B) (μg/L)	Preliminary Risk Screening Level (μg/L)	Ref.	Method Detection Limit (EPA 8015/8020m/8260) (mg/kg)	Preliminary Risk Screening Level (mg/kg)	Ref.	Method Detection Limit (EPA 8015/8020m/8260) (µg/kg)	Preliminary Risk Screening Level (µg/kg)	Ref.
Benzene	0.1	0.122	CHHSL	0.005	1.41	PRG	0.50	540	ESL
Toluene	0.2	378	CHHSL	0.005	520	PRG	0.50	400	ESL
Ethylbenzene	0.1	580	ESL	0.005	395	PRG	0.50	300	ESL
Total Xylenes	0.2	879	CHHSL	0.010	420	PRG	1.0	5,300	ESL
TPH-g	0.1	29	ESL	0.25	450	ESL	50	5,000	ESL
TPH-d	0.1	29	ESL	0.25	150	ESL	50	2,500	ESL
TPH-mo	0.1	NA	CHHSL	0.25	2,500	ESL	50	2,500	ESL
1,2-DCA	0.1	0.167	CHHSL	0.05	0.60	PRG	0.50	200	ESL

References

CHHSLs: San Francisco Bay Regional Water Quality Control Board (RWQCB). 2005. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties. Environmental Concerns at Sites With Contaminated Soil and Groundwater. Interim Final. January

PRGs: USEPA. 2004. Preliminary Remediation Goals: U.S. Environmental Protection Agency, Region IX. 2004

ESLs: San Francisco Bay Regional Water Quality Control Board (RWQCB). 2007. Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater. Interim Final. November