ENVIRON

December 23, 2005

Via E-Mail and U.S. Mail

Rafat Abbasi
Senior Project Manager
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630

Re: Technical Memorandum for Existing HVAC System Adjustment/Modification
Norco High School Science Building in Norco, California
Wyle Laboratories, 1841 Hillside Avenue, Norco, California

Dear Mr. Abbasi:

This Technical Memorandum (TM) has been prepared by ENVIRON International Corporation (ENVIRON) on behalf of Wyle Laboratories, Inc. (Wyle) to describe mitigation measures that will be taken in response to indoor air quality (IAQ) sampling activities previously conducted at Norco High School in Norco, California, specifically, to reduce concentrations of vinyl chloride detected in three rooms of the Science Building. In its November 4, 2005 letter regarding IAQ sampling results for Norco High School, the Department of Toxic Substances Control (DTSC) required Wyle to evaluate and implement mitigation measures to reduce the chemical vapors in two rooms of the Science Building in which low concentrations of vinyl chloride (VC) were detected because of the *"repeated detections of vinyl chloride in the Science Building and the potential long-term exposure to faculty."* Wyle responded to DTSC's concerns in letters dated November 4 and November 9, 2005, and submitted a TM regarding the subject (*Technical Memorandum for Additional IAQ Sampling and Source Identification at Norco High School Science Building*) which was provided to DTSC on November 21, 2005. In the November 21, 2005 TM, Wyle proposed to conduct additional investigations at the Science Building in an effort to identify the currently unknown source of VC inside the building prior to attempting mitigation efforts. On November 23, 2005, the DTSC responded to Wyle that, although it concurred with the plan for additional investigation, *"timely development and implementation of mitigation measures remain necessary."* Wyle responded in a December 7, 2005 letter to DTSC, in which it expressed concerns about conducting mitigation measures without first properly identifying the source(s) and route(s) of entry of VC into the Science Building. Nonetheless, in order to comply with DTSC's order, Wyle proposed to implement measures in the Science Building in an effort to reduce previously detected concentrations of VC; these measures include adjusting and/or modifying the existing heating, ventilation, and air conditioning (HVAC) system inside the Science Building and conducting IAQ sampling to verify the effectiveness of any adjustments or modifications performed. This TM describes the HVAC modification and IAQ sampling work that will be performed in an attempt to mitigate the previously detected VC inside the Science Building.

SITE DESCRIPTION AND BACKGROUND

The Site occupies approximately 429 acres of land in the city of Norco, Riverside County, California. Adjacent properties include residences in all directions, Norco High School to the west, and a golf course to the east. The Norco Elementary School is located approximately 0.5 mile southwest, and the Norco Intermediate School is located approximately 1.2 miles northwest of the Site.

There are two distinct surface drainage areas for the developed portion of the Site. The majority of the Site (approximately 80 percent) lies within a westerly sloping drainage basin. The remaining portion of the Site (approximately 20 percent), the westernmost portion, lies on westward or northward draining slopes and is located topographically downgradient from recognized test areas (designated as Areas A, B, D, D, I, and M).

Wyle first occupied the Site in approximately 1957, starting in the western portion and later expanding in an easterly direction. The various on-site buildings and test areas historically were used for testing aerospace components and systems, and for performing environmental and dynamic simulation tests. Several buildings not used for testing were used for administrative functions, chemicals storage, vehicle maintenance, metal machining/parts fabrication, and photographic developing. Chemical use at the Site included explosives, solid rocket motor fuel, cryogenics, petroleum hydrocarbons, hypergolic fuels, and solvents; use of hypergolic fuels and chlorinated solvents was discontinued in the early 1990s. Wyle ceased operations at the Site in October 2004.

Subsurface environmental investigations, which were undertaken at the Site beginning in the mid-1990s, have encompassed soil, sediment, storm water runoff, surface water, soil gas, and ground water at the Site, and off the Site to the north, west, and south. Beginning in 1999, these investigations were overseen by the Santa Ana Regional Water Quality Control Board (RWQCB). In October of 2003, the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) became the designated lead agency for the Site and a Consent Order was executed (Consent Order HAS-CO 03/04-042). Since that time, all investigative and remedial work conducted at the Site has been overseen and directed by DTSC.

PREVIOUS INVESTIGATIONS RELEVANT TO THIS TM

To date, two IAQ investigations have been conducted at Norco High School. The first investigation was conducted in July 2005; the second investigation was conducted in September 2005. The results of these two investigations (ground water, soil gas, and IAQ sample results) were submitted to DTSC in ENVIRON's *"Data Transmittal, Supplemental Norco High School Sampling,"* dated October 24, 2005.

VOCs (cis-1,2-dichloroethene[DCE], tetrachloroethene [PCE], trichloroethene [TCE], and VC) were detected in certain soil gas samples at trace concentrations. With one exception, these detected concentrations are well below DTSC *"risk-based soil gas concentrations for Wyle-related VOCs that have migrated off site,"* as provided in DTSC's letter to Wyle dated June 2, 2005. PCE was detected in one active soil gas sample, ASG-HS-16, at a concentration of 0.52 micrograms per liter (µg/l); this concentration marginally exceeds the DTSC *"risk-based soil gas concentrations for Wyle-related VOCs that have migrated off site"* for PCE of 0.34 µg/l.
PCE and TCE concentrations detected in IAQ samples at the school generally were consistent with PCE and TCE concentrations detected in ambient outdoor air samples. The exception to this was the concentration of TCE in IAQ-HS-9 (5.1 micrograms per cubic meter [$\mu g/m^3$], which was slightly

elevated when compared to TCE concentrations in ambient outdoor air samples. However, TCE was detected in the duplicate of this sample at a concentration of only 0.60 µg/m^3; therefore, the 5.1 µg/m^3 detection in the primary sample may be unreliable.

VC was detected at low concentrations in three samples in the Science Building (IAQ-HS-6, IAQ-HS-10, and IAQ-HS-11) and was not detected in ambient outdoor air samples. However, its absence in the ambient outdoor air samples could be attributable to elevated detection limits for vinyl chloride in those ambient air samples. In addition, during the first round of sampling, vinyl chloride was detected in sample IAQ-HS-6; however, this detection was not repeated during the second round of sampling at IAQ-HS-9, which was collected from the same room as previous sample IAQ-HS-6 (vinyl chloride was not detected).

The correlation between detected compounds in soil and indoor air is not consistent, indicating potential indoor air sources for all three compounds. Regardless, IAQ sample results did/do not indicate a significant acute or chronic health effect.

As indicated previously, in its November 4, 2005 letter regarding IAQ sampling results for Norco High School, the DTSC required Wyle to evaluate and implement mitigation measures to reduce the chemical vapors in two rooms of the Science Building in which low concentrations of vinyl chloride were detected because of the "*repeated detections of vinyl chloride in the Science Building and the potential long-term exposure to faculty*." In order to comply with DTSC's order, Wyle proposed to implement measures in the Science Building in an effort to reduce concentrations of vinyl chloride detected; these measures will include adjusting and/or modifying the existing HVAC system inside the Science Building and conducting IAQ sampling to verify the effectiveness of any adjustments or modifications performed.

PROPOSED SCOPE OF WORK

It is anticipated that a series of HVAC system adjustments and/or modifications will be necessary in order to achieve the desired mitigation objectives (i.e., to operate the HVAC system in a manner that maintains indoor air quality, specifically, that reduces concentrations of vinyl chloride in indoor air). ENVIRON will retain the services of a professional HVAC contractor (McDonnell Group, working in association with Air Temp, Inc.) to assist with these HVAC system adjustments and/or modifications.

According to as-built drawings provided to ENVIRON for the Science Building (prepared by WLC Architects, Mathaudhu Engineering, Inc., and JDSA Engineers, Inc., and dated September 2000), there are a total of 21 HVAC units on the roof of the Science Building. Ten of the units supply classrooms and laboratories on the first floor of the building, ten units supply classrooms on the second floor of the building, and one unit supplies restrooms located on both the first and second floors of the buildings. All HVAC units are Trane high efficiency packaged rooftop gas/electric units. Outside air enters the building at a rate of 600 cubic feet per minute (ft^3/min); supply air is distributed throughout the building at a rate of 1,600 ft^3/min. Other components of the HVAC system include two exhaust fans located on the roof, four ceiling exhaust fans located inside the building, and one in-line exhaust fan located in the chemistry work room 116.

As part of this scope of work, McDonnell Group will review the as-built drawings and will conduct a site visit to perform a detailed assessment of the HVAC equipment and associated component locations, features, and capabilities, and to collect measurements of air exchange rates and air flow from each HVAC unit. Assuming that the existing equipment can be adjusted and/or modified, the initial test of the

system will involve increasing the air exchange rate into the building; based on McDonnell's experience with similar projects, favorable results have been achieved using an air exchange rate of two complete air exchanges per hour (with the introduction of outside air) during building use hours. After calculating what air flow adjustments need to be made, and after the adjustments/modifications have been made to the HVAC system, confirmatory IAQ sampling will be performed by placing one SUMMA™ canister in each of the classrooms, laboratories, and restrooms on the first floor of the building (12 rooms in all), in addition to adjacent to at least two of the outside air entry points (the HVAC inlets) into the building as background samples, and collecting "grab" IAQ samples after the adjusted/modified HVAC system has been operating for 4 and 8 hours elapsed time, respectively. Based on the results of this sampling, additional adjustments and/or modifications to the HVAC system may become necessary. If such becomes necessary, the same procedure would be repeated; grab IAQ samples would be collected in each of the 12 rooms and from adjacent to the HVAC inlets after 4 and 8 hours elapsed time of the adjustments/modifications to the HVAC system, respectively.

If the HVAC system adjustments/modifications appear to be successful in reducing concentrations of VC inside the Science Building based on the results of the initial sampling, 24-hour IAQ samples will be collected to confirm those results and a second set of 24-hour IAQ samples will be collected approximately one month after the first set. Thereafter, and assuming that the HVAC system adjustment/modification is successful, IAQ sampling will be repeated at the same locations in the Science Building on a quarterly basis to confirm that the HVAC system is functioning properly and maintaining indoor air quality (vinyl chloride concentrations) at acceptable levels.

If the existing equipment cannot be adjusted and/or modified to allow for two complete air exchanges per hour, or if indoor air concentrations of vinyl chloride cannot be reduced following HVAC adjustments/modifications, other mitigation scenarios will be considered. Such scenarios may include replacement of the HVAC system, sealing of vapor intrusion preferential pathways, and/or sub-slab venting. Following implementation of any of these alternate mitigation scenarios, confirmatory IAQ sampling would be performed.

IAQ sampling will be conducted in accordance with ENVIRON's previously approved TM entitled *"Revised Technical Memorandum for Indoor Air Quality (IAQ) Sampling Activities at Residences on Third Street and at Norco High School, Norco Intermediate School, and Norco Elementary School in Norco, California, Wyle Laboratories, 1841 Hillside Avenue, Norco, California"*, dated July 22, 2004, and the Indoor Air Quality Sampling Protocol (Attachment A).

All IAQ and HVAC inlet air samples will be collected using 6-liter pre-cleaned, individually certified, and vacuumed SUMMA™ canisters and transported to a California-certified laboratory, under chain-of-custody protocol for analysis of vinyl chloride using EPA Method TO-15 in selective ion mode (SIM). In addition, ENVIRON will inventory all rooms where IAQ sampling will be conducted prior to sampling, and will interview appropriate school personnel regarding recent cleaning/renovation activities in the Science Building.

ENVIRON will initiate this proposed work upon receipt of DTSC's approval. It is anticipated that McDonnell Group will require approximately one week to complete its initial evaluation of the HVAC system and to make any necessary adjustments and/or modifications.

Quality Control Samples

Quality control samples collected during the performance of the scope of work described herein will include trip blanks and field duplicates. The analytical laboratory will prepare trip blanks and the frequency of analysis will be one per sampling event. Field duplicates will be collected at a frequency of one per sampling event.

REPORTING

Upon completion of the field investigation and receipt of analytical results, all analytical results will undergo internal quality assurance/quality control (QA/QC). Results will be reported to DTSC in a letter report, which will include a description of work conducted in the field, tables summarizing the results (including data qualifiers, if any), figures, laboratory analytical reports, and recommendation for further assessment, if warranted. Because analytical testing will be conducted on an expedited turnaround, sampling results will be reported to DTSC approximately 15 days after completion of all IAQ sampling.

CLOSURE

Please contact Matthew Letany at Wyle at (310) 563-6630 if you have questions regarding this submittal.

Very truly yours,

Rebekah Wale
Manager

Carol L. Serlin, P.G.
Principal

PROFESSIONAL GEOLOGIST
CAROL L. SERLIN
No. 4840
STATE OF CALIFORNIA

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Attachment A: Indoor Air Quality Sampling Protocol

cc: Matthew Letany, Wyle Laboratories (w/enclosure)
Juan Osornio, DTSC (w/enclosure)
Ronald Okuda, DTSC (w/enclosure)
Kim Foreman, DTSC (w/enclosure)
William Bosan, DTSC (w/enclosure)
Theodore Johnson, DTSC (w/enclosure)

A T T A C H M E N T A

Indoor Air Quality Sampling Protocol

INDOOR AIR QUALITY SAMPLING PROTOCOL

1.0 INTRODUCTION

This protocol describes the procedures to be followed during indoor air quality (IAQ) sampling activities.

The procedures presented herein are intended to be of general use and may be supplemented by a work plan and/or health and safety plan. As the work progresses, and if warranted, appropriate revisions may be made by the Project Manager or Project Engineer. Detailed procedures in this protocol may be superseded by applicable regulatory requirements.

2.0 PRE-SAMPLING INVESTIGATION

Prior to IAQ sample collection, a pre-sampling investigation may be conducted, if appropriate (e.g., in the event that IAQ sampling has not been performed previously in a particular residence), to qualitatively evaluate the presence of the factors that may influence indoor air contamination in the building under study. The pre-sampling investigation may include a pre-screening survey and a pre-IAQ sampling inspection.

2.1 Pre-Screening Survey

The pre-screening survey will include an initial home visit, which will be conducted with the building occupants/owners present and using a survey form provided in the State of Massachusetts *Indoor Air Sampling and Evaluation Guidance* (dated April 2002) and included as an attachment to this protocol (BUILDING INVENTORY FORM). During the pre-screening survey, preferential contaminant pathways (i.e., utility corridors, sumps, pipes, visible cracks in the building foundation) will be identified, recorded, and measured for the presence of total organic vapors using a photoionization detector (PID) with a 10.6-electron-volt lamp calibrated against an isobutylene standard. PID readings from each identified preferential pathway will be recorded on the BUILDING INVENTORY FORM.

All readily visible commercial and household products stored within a residence will be inventoried to provide an accurate assessment of their potential contribution to the presence of contaminants in indoor air. The observed products will be listed on the HOUSEHOLD PRODUCT INVENTORY FORM, and PID readings will be measured and recorded near the stored containers.

2.2 Pre-Sampling Inspection

A pre-sampling inspection will be performed two to three days prior to indoor air sampling activities to ensure that home conditions have not changed since the pre-screening survey.

3.0 INDOOR AIR SAMPLING

Indoor air sampling will be conducted in an environment that is representative of normal building use. Heating and air conditioning systems will be operated normally for the season and time of day during sampling.

Sampling Duration: For evaluation of residential receptors, indoor air samples will be collected over a 24-hour period.

Number of Sample Locations: Three indoor air samples will be collected within each identified home. Sample locations will include a contaminant infiltration point, specifically the bathroom, and the primary living areas. Samples will be placed in the breathing zone, approximately 3- to 5-feet off the ground and lower if children occupy the home.

Crawl Space Sampling: If crawl spaces, an attic, or storage areas are identified within the house, an air sample may be collected in one of these spaces, as the possibility of contaminant accumulation might exist in these areas, especially if they are not often opened or used on regular basis and air exchange is limited. If a crawl space or other semi-confined space is selected for sampling, the OVM will be used to measure for the presence of total organic vapors within the space prior to sampling, and then again at the time the sampling canisters are retrieved on completion of sampling. OVM measurements will be recorded on the FIELD INVESTIGATION DAILY LOG. With the exception that OVM measurements will be collected and recorded prior to and on completion of sampling, IAQ samples collected from crawl spaces or other semi-confined areas will be collected, shipped, and analyzed following the same procedures as the other air samples.

Sample Containers: Samples will be collected in 6-L evacuated stainless steel SUMMA™ canisters. The canisters will be fitted with a calibrated flow controller. Once the top valve on a canister is opened, the canister will be set to fill with air slowly, over a 24-hour sampling period.

Ambient (Outdoor) Air Samples: One upwind outdoor air sample will be collected for each home where IAQ sampling (including crawlspace sampling) is conducted. The sampler will be set approximately 5-feet off the ground and upwind of the home. The ambient air sampling will begin one hour before the indoor air samples are set to begin sample collection. The ambient air sampling will end 30 minutes before the end of the indoor air sampling.

Sample Analysis: All collected air samples will be sent to a California State-certified laboratory for volatile organic compounds (VOC) analysis by United States Environmental Protection Agency (USEPA) Method TO-15, and for TCE and benzene by USEPA Method TO-15 in Selective Ion Mode (SIM) to achieve reporting limits less then 1 $\mu g/m^3$ for these two compounds.

4.0 SAMPLE LABELING

Sample containers will be labeled prior to sampling with the following information:

- Company name
- Project name

- Project number
- Sample I.D. number
- Date and time sample was collected
- Initials of sample collector

5.0 FIELD QUALITY CONTROL SAMPLES

The laboratory will use only certified clean sample collection devices. Precautions will be taken to avoid sample interference such as fueling vehicles prior to sampling or the use of permanent marking pens in the field. In order to evaluate the precision and accuracy of analytical data, quality control samples will be prepared as described below. These samples will be collected, or prepared and analyzed by the laboratory, as specified below.

5.1 Trip Blanks

A minimum of one trip blank per IAQ sampling event will be collected and analyzed for the target compound(s). Trip blanks will be prepared to evaluate sample cross-contamination during shipment to and from the analytical laboratory.

5.2. Duplicates

At least one duplicate sample per IAQ sampling event will be collected and shipped to the laboratory for the analysis.

6.0 HANDLING, STORAGE, AND TRANSPORTATION

To protect sample integrity the following steps will be undertaken:

- IAQ samples will not be chilled.

- IAQ samples collected in Summa™ canisters will be analyzed within 72 hours after collection.

7.0 DOCUMENTATION

7.1 Field Data Sheets

A FIELD INVESTIGATION DAILY LOG will be completed for each day of field work. Information recorded on the FIELD INVESTIGATION DAILY LOG will include a description of any deviation from the SAP that was necessitated by field conditions, such as equipment failure, samples that could not be collected, sample locations that were changed, etc. Sample numbers may also be recorded on the FIELD INVESTIGATION DAILY LOG as a means of identifying and tracking the samples. If a pre-screening survey is conducted, BUILDING INVENTORY FORMS will also be completed. Following review by the Project Manager or Project Engineer, the original

records will be kept in the project file. Photographs may also be included in the project file, as appropriate.

7.2 Chain-Of-Custody Procedures

After samples have been collected and labeled they will be maintained under chain-of-custody procedures. These procedures document the transfer of custody of samples from the field to the laboratory. Each sample sent to the laboratory for analysis will be recorded on a CHAIN-OF-CUSTODY form, which will include instructions to the laboratory for analytical services and requested turn-a-round times.

Information contained on the triplicate CHAIN-OF-CUSTODY record will include:

- Project name
- Project number
- Signature of sampler(s)
- Date and time sampled
- Sample I.D.
- Number of sample containers
- Sample matrix (air)
- Analyses required
- Remarks, including special conditions or specific quality control measures
- Turnaround time and person to receive laboratory report
- Release signature of sampler(s), and signatures of all people assuming custody
- Condition of samples, when received by laboratory

Blank spaces on the CHAIN-OF-CUSTODY will be crossed out and initialed by the sampler between the last sample listed and the signatures at the bottom of the sheet.

The field sampler will sign the CHAIN-OF-CUSTODY and will record the time and date at the time of transfer to the laboratory or to an intermediate person. A set of signatures is required for each relinquished/reserved transfer, including internal transfer. The original imprint of the chain-of-custody record will accompany the sample containers. A duplicate copy will be placed in the project file.

Forms Used: Building Inventory Form
Household Products Inventory Form
Field Investigation Daily Log
Chain-of-Custody

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BUILDING INVENTORY FORM

This form must be completed for each building involved in an indoor air investigation.

Preparer's name _____ Date prepared _____

Preparer's affiliation _____

Telephone number _____

1. **OCCUPANT**

Name _____

Address _____

_____

City _____

Home telephone number _____

Office telephone number _____

2. **OWNER OR LANDLORD**

Name _____
(If different than occupant)

Address _____

_____

Telephone number _____

A. <u>Type of Building Construction</u>

Type (circle appropriate responses):

Single Family	Multiple Dwelling	Commercial
Ranch	Two-family	
Raised ranch	Duplex	
Split level	Apartment building:	Number of units _____
Colonial		Number of floors_____
Mobile home	Other	_____
		Building Age _____
		Number of stories_____

General description of building construction materials _____
_____
_____

Is the building insulated? Yes / No How air tight is the building?_____

B. Foundation Characteristics (circle all that apply)

1. Full basement, crawlspace, slab on grade, other _____

2. Basement floor description: concrete, dirt, wood, other _____

   a. The basement is: wet, damp, dry _____

   b. Sump present? yes / no ____Water in sump? yes / no ___

   c. The basement is: finished, unfinished _____

   d. Is the basement well sealed? Provide a description _____
   _____

3. Concrete floor description: unsealed, painted, covered; with _____

4. Foundation walls: poured concrete, block, stone, wood, other _____

5. Identify all potential soil gas entry points and their size (e.g., cracks, voids, pipes, utility ports, sumps, drain holes, etc.). Include these points on the building diagram.

C. Heating, Ventilation, and Air Conditioning (circle all that apply)

1. The type of heating system(s):

Hot Air Circulation	Heat Pump
Hot Water Radiation	Unvented Kerosene Heater
Steam Radiation	Wood Stove
Electric Baseboard	Other (specify) _____

2. The type of fuel used: Natural Gas, Fuel Oil, Electric, Wood, Coal, Solar

   Other (specify) _____

3. Location of heating system: _____

4. Is there air-conditioning? yes / no Central Air or Window Units?

   Specify the location _____

5. Are there air distribution ducts present? yes / no

6. Describe the supply and cold air return duct work including whether there is a cold air return and comment on the tightness of duct joints.
   _____

7. Is there a whole house fan? yes/no _____
   What is the rated size of the fan? _____

8. Temperature settings inside during sampling. Note day and night temperatures.
   a. Daytime temperature(s) _____
   b. Nighttime temperature(s) _____
   (Note times if system cycles during non-occupied hours during the day)

9. Estimate the average time doors and windows are open to allow fresh outside air into the building. Note rooms that frequently have open windows or doors.

D. Potential Indoor Sources of Pollution

1. Is the laundry room located inside the home? yes / no

2. Has the house ever had a fire? yes / no

2. Is there an attached garage? yes / no

3. Is a vehicle normally parked in the garage? yes / no

4. Is there a kerosene heater present? yes / no

5. Is there a workshop, hobby or craft area in the residence? yes / no

6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose.

7. Is there a kitchen exhaust fan? yes / no Where is it vented? _____

8. Is the stove gas or electric? _____ Is the oven gas or electric? _____

9. Is there an automatic dishwasher? yes / no

10. Is smoking allowed in the building? yes / no

11. Has the house ever been fumigated or sprayed for pests? If yes, give date, type and location of treatment.
    _____

E. Water and Sewage (Circle the appropriate response)

Source of Water

Public Water Drilled Well Driven Well Dug Well Other (Specify) _____

Water Well Specifications

Well Diameter _____ Grouted or Ungrouted _____
Well Depth _____ Type of Storage Tank _____

Depth to Bedrock _____ Size of Storage Tank _____

Feet of Casing _____
Describe type(s) of Treatment _____

Water Quality

Taste and/or odor problems with water? yes / no If so, describe _____

Is the water chlorinated, brominated, or ozonated? yes / no _____

How long has the taste and/or odor problem been present? _____

Sewage Disposal: Public Sewer Septic Tank Leach Field Other (Specify)_____

Distance from well to septic system _____ Type of septic tank additives _____

F. Plan View

Sketch each floor and if applicable, indicate air sampling locations, possible indoor air pollution sources, preferential pathways and field instrument readings.

G. Potential Outdoor Sources of Pollution

Draw a diagram of the area surrounding the building being sampled. If applicable, provide information on the spill locations (if known), potential air contamination sources (industries, service stations, repair shops, retail shops, landfills, etc.), outdoor air sampling locations, and field instrument readings.

Also, on the diagram, indicate barometric pressure, weather conditions, ambient and indoor temperatures, compass direction, wind direction and speed during sampling, the locations of the water wells, septic systems, and utility corridors if applicable, and a qualifying statement to help locate the site on a topographical map.

HOUSEHOLD PRODUCTS INVENTORY FORM

Occupant of Building _____

Address _____

City _____

Field Investigator _____ Date _____

Product Description (commercial name, dispenser type, container size, manufacturer, etc.)	**Volatile Ingredients in the Product**	**Field Instrument Reading**

Comments:

_____

_____

ENVIRON
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(949) 261-6202 (FAX)

FIELD INVESTIGATION DAILY LOG

PROJECT NAME: _____ FIELD PERSON: _____

PROJECT NUMBER: _____ PROJECT MANAGER: _____

PROJECT LOCATION: _____ DATE: _____

DAILY SUMMARY: _____

WEATHER CONDITIONS: _____

VISITORS/SUBCONTRACTORS: _____

MILITARY TIME	ACTIVITIES

Prepared By (name/signature): _____ Date: _____

Reviewed By (name/signature): _____ Date: _____

ENVIRON

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(213) 943-6301 (fax)

CHAIN-of-CUSTODY

PAGE ____ of ____

MSA#: _____ WO#: _____

PROJECT NAME / FACILITY ID: _____ FIELD PERSON: _____

PROJECT NUMBER: _____ DATE: _____ PROJECT MANAGER: _____

PROJECT LOCATION: _____ LABORATORY: _____

IS THIS A UST PROJECT OR IS EDF REQUIRED? Y N IF YES, GLOBAL ID #:_____

SAMPLER:

SIGNATURE:

SAMPLE I.D. NUMBER	YEAR / SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH	AIR SAMPLE VOLUME (L)	MATRIX (A) AIR (S) SOIL (G) GAS (W) WATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED										COMMENTS
TOTAL	X	X	X																

RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:
		(COMPANY):	
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:
		(COMPANY):	
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:
		(COMPANY):	

TURNAROUND TIME (CIRCLE ONE): SAMEDAY, 24 HOURS, 48 HOURS, 72 HOURS, 5 DAYS, NORMAL

SAMPLE INTEGRITY

INTACT: Y N Temp_____

IF SEALED, SEAL INTEGRITY

INTACT: Y N

H = HCL; N = HNO_3; S = H_2SO_4; U = UNKNOWN; NO = NONE; O = OTHER

FILE: LOG FORMS\Chain_of_Custody