

# ENTEK CONSULTING GROUP, INC.

4200 Rocklin Road, Suite 7 Rocklin, CA 95677

Telephone (916) 632-6800

Fax (916) 632-6812

September 5, 2008

Mr. Adam Villacara  
Senior Project Manager  
Roebbelen Contracting, Inc.  
1241 Hawks Flight Court  
El Dorado Hills, CA 95762

Re: Results of Personal Air Sampling for Chlordane at Sacred Heart Parish in Sacramento, CA

Dear Mr. Villacara:

This report presents results of personal air sampling conducted by Entek Consulting Group, Inc. (Entek) on August 29, 2008, at the location referenced above. The sampling was performed at your request to evaluate possible airborne levels of chlordane of which workers may be exposed during excavation of soils and other construction activities at the project site.

## Background

Soil sampling by Wallace-Kuhl & Associates on August 8, 2008, identified chlordane to be present in the soil of the future site of Sacred Heart Parish School in concentrations ranging between less than the detection limit of 100 micrograms per kilogram (ug/kg) and a high of 1,600 ug/kg. Three of the eight soil samples were found to be above the California Human Health Screening Level (CHHSL) for chlordane, which is established at 430 ug/kg. Five of the eight soil samples were found to be less than the CHHSL.

As a result of the above findings, you found it prudent to evaluate workers which have been working on the site for possible exposure to chlordane. As mentioned above, Entek collected air samples on three workers from Rock Morgan Construction Company during various construction activities including impact to the soil which has been identified to contain chlordane.

## Personal Air Sampling Protocol

The air sampling included the collection of three personal air samples for chlordane in addition to one field blank. The three gentleman sampled were Mr. Gary Hogrefe, Mr. Beto Soto, and Mr. Wade Ehrlich. Each individual wore a low volume air sampling pump on their waist with attached tubing and the collection media positioned within their breathing zone, generally recognized at the shirt lapel. The collection media used for this sampling were OSHA versatile sampler tubes containing a glass fiber filter and two sections of XAD-2 adsorbent (OVS-2). Air was drawn through the sampler tubes at average rates of 0.995 liters of air per minute (L/min), 1.0 L/min, and 1.015 L/min. All three samples were collected for 390 minutes for a total volume of air of 388.05 Liters, 390.00 Liters, and 395.85 Liters. The blank tube had no air drawn through it.

At the end of the work shift, the samples were collected, calibrated, capped, and driven to Entek's office in Rocklin, CA where they were then shipped to Data Chem Laboratories, Inc. in Cincinnati, Ohio via Federal Express. The samples were analyzed using the OSHA 67 (modified) Method, by a staff analyst.

The air samples were received by Data Chem Laboratories, Inc. on September 2, 2008, and results were received back on September 4, 2008.



Mr. Villacara  
Senior Project Manager  
September 5, 2008  
Page Two

### Air Sampling Results

#### Chlordane Results

Laboratory analytical results of all three personal air samples for chlordane were reported to be <1.0 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) of air when using the OSHA 67 method of analysis. This is equivalent to <0.001 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ), which is comparable and well below the Cal/OSHA Permissible Exposure Limit (PEL) for chlordane of 0.5  $\text{mg}/\text{m}^3$  of air, which is based on an eight hour work day. Essentially, there were no detectable levels of chlordane found in any of the three samples.

The analytical results of the air samples for chlordane collected on August 29, 2008, are summarized in the following table:

<b>Future Sacred Heart Parish School Air Sample Results for Chlordane August 29, 2008</b>					
<b>Air Sample #</b>	<b>Worker Involved in Excavation Activities</b>	<b>Results Chlordane (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Results Chlordane (<math>\text{mg}/\text{m}^3</math>)</b>	<b>Cal/OSHA PEL Chlordane (<math>\text{mg}/\text{m}^3</math>)</b>	<b>ACGIH TLV® Chlordane (<math>\text{mg}/\text{m}^3</math>)</b>
ECG-08-994-01	Gary Hogrefe	<1.0	<0.001	0.5	0.5
ECG-08-994-02	Beto Soto	< 1.0	<0.001	0.5	0.5
ECG-08-994-03	Wade Ehrlich	<1.0	<0.001	0.5	0.5
ECG-08-994-04 (Blank)	N/A	N/A	N/A	N/A	N/A

Work activities on the project site included earthmoving, trenching, backfilling, and other construction related activities. Throughout the day, heavy equipment was used to perform the work and there was considerable traffic entering and exiting the project site. During the course of the work, a water truck was utilized to apply water to the site as a way of minimizing airborne dust emissions. Although the outside temperatures were very hot on the day of sampling, the application of water was very effective at controlling dust emissions.



Mr. Villacara  
Senior Project Manager  
September 5, 2008  
Page Three

### **Conclusions and Recommendations**

Analytical results of the three personal air samples for chlordane collected on August 29, 2008, indicate airborne levels of chlordane were well below the Cal/OSHA PEL of 0.5 mg/m<sup>3</sup> for the three gentleman sampled. The air sample results were also well below the Threshold Limit Value (TLV) of 0.5 mg/m<sup>3</sup> which is a guideline for worker exposure developed by The American Conference of Governmental Industrial Hygienists (ACGIH).

The primary concern for possible exposure to chlordane is by inhalation and skin contact. Therefore, the primary protection of the worker would be by minimizing skin contact by means of impermeable gloves, and by the use of good engineering controls on the job site including controls such as water spray to minimize dust emissions. Additionally, personal hygiene practices are important and should be employed which include hand washing with water and soap before a rest or meal break, and at the end of the day.

It has been our pleasure working with you on this investigation. Please call me at (916) 632-6800 if you have any questions regarding this report.

Sincerely,

A handwritten signature in black ink, appearing to read "Cory Sanders".

Cory Sanders  
Project Manager  
Entek Consulting Group, Inc.

Reviewed by:

A handwritten signature in black ink, appearing to read "Richard A. Beall".

Richard A. Beall, CIH, CSP  
President  
Entek Consulting Group, Inc.

Enclosures



CHLORDANE  
AIR SAMPLING RESULTS  
(OSHA 67)



9/4/08

Submitted To:  
Rick Beall  
Entek  
4200 Rocklin Rd, Suite 7  
Rocklin, CA  
95677

Reference Data: **Chlordane**  
Sample Location: Roebbelen Contracting,  
Sacred Heart Parish 39th Street  
Sacramento, CA; Job No.: 08-994  
Sample Type: OVS tube  
Client Sample No.: ECG-08-994-01 through ECG-08-994-04  
PO #: Not Available  
Method Reference: OSHA 67(modified)  
Sample Set ID#: 08-C-4565  
DATACHEM Lab No.: 08-25636 through 08-25639  
Sample Receipt Date: 9/2/2008  
Preparation Date: 9/3/2008  
Analysis Date: 9/3/2008

The samples were prepared for analysis by desorption in toluene.

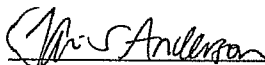
The sample condition upon receipt was acceptable except where noted.

The analysis was performed using a HP 6890 Plus gas chromatograph equipped with electron capture detectors. The analysis was performed on a 30 meter DB-5 fused capillary column. The confirmation analysis was performed on a 30 meter DB-1701 fused capillary column.


Compound identification is based upon retention time matching and pattern recognition. Any compound with a similar retention time will interfere.

The results are in the enclosed data table. Results relate only to the items tested and are not blank corrected except when clearly indicated.

This report shall not be reproduced except in full, without the written approval of the laboratory.

  
Tami S. Anderson

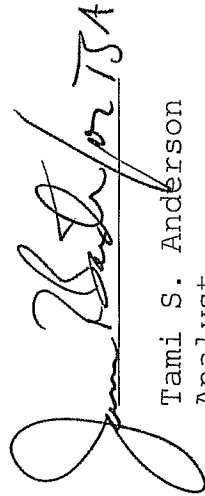
Analyst  
CINCINNATI OFFICE  
4388 GLENDALE-MILFORD ROAD  
CINCINNATI, OHIO 45242-3706  
513 733-5336, FAX 513 733-5347

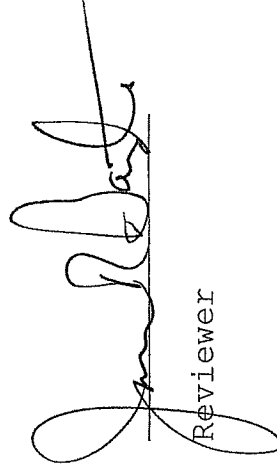
  
Reviewer

WEST COAST OFFICE  
11 SANTA YORMA COURT  
NOVATO, CALIFORNIA 94945  
800 280-8071, FAX 415 893-9469

**DATA TABLE**  
**Chlordane**

Client #	DCL #	Air volume (L)	µg/sample	µg/m <sup>3</sup>
ECG-08-994-01	08-25636	395.85	ND	<1.0
ECG-08-994-02	08-25637	390	ND	<1.0
ECG-08-994-03	08-25638	388.05	ND	<1.0
ECG-08-994-04	08-25639	0	ND	-
	EQL		.40	

  
 Tami S. Anderson  
 Analyst

  
 Reviewer

**AIRBORNE PARTICULATE** Analysis Request Form for **ENTEK CONSULTING GROUP, INC.**

4200 Rocklin Road, Suite 7  
 ROCKLIN, CA 95677  
 (916) 632-6800  
 FAX (916) 632-6812

**Date of Sampling:** 08-29-08

**Lab:** Data Chem - Cincinnati, Ohio

**Job Number:** 08-994

**Analysis Requested:** OSHA 67

**Client:** Roebbelen Contracting

**Collected By:** Cory Sanders

**Job Site:** Sacred Heart Parish  
 39<sup>th</sup> Street  
 Sacramento, CA

**Turnaround Time:** 72 Hour

08-C-4565

08-

Sample #	Location/Activity	Rotameter	LPM Avg.	On/Off Total	Volume Liters	Results mg/m <sup>3</sup>
ECG-08-994-01 25636	Personal Air Sample - Gary Hogrefe - Earth Work/ Backfill	Dry-Cal	1.04	0750 Hour	395.85	
			0.99	1420 Hour		
			1.015	390 Min.		
ECG-08-994-02 25637	Personal Air Sample - Beto Soto - Earth Work/ Backfill	Dry-Cal	1.03	0750 Hour	390.00	
			0.97	1420 Hour		
			1.0	390 Min.		
ECG-08-994-03 25638	Personal Air Sample - Wade Ehrlich Earth Work/ Backfill	Dry-Cal	1.03	0750 Hour	388.05	
			0.96	1420 Hour		
			0.995	390 Min.		
ECG-08-994-04 Blank 25639	Blank Tube Lot 4633 SKC-226-30-16	N/A	N/A	N/A	N/A	N/A
			N/A	N/A		
			N/A	N/A		

Z:\Clients\Roebbelen\08-994 Sacred Heart Parrish\Personal Airs\AirborneParticulate.wpd

Delivered by: [Signature] via fed exp Date: 8/29/08 Time: 3:30 PM  
 Received by: [Signature] Date: 9/2/08 Time: 10:38