

OAKLAND INTERNATIONAL HOUSING PARTNERS, L.P.

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**RECEIVED**

By Alameda County Environmental Health 8:50 am, Mar 15, 2017

March 14, 2017

Alameda County Office of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, CA 94502

RE: Case #R0003202

To Whom It May Concern:

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

Sincerely,



Colby Northridge  
Authorized Representative  
Oakland International Housing Partners, L.P.  
Responsible Party

March 9, 2017



Mr. Nicholas T. Loizeaux, P.G.  
Principal  
RPS Iris Environmental  
1438 Webster Street, Suite 302  
Oakland, CA 94612

**Subject: Review of “Determination of Ambient Arsenic Concentrations”**

Dear Mr. Loizeaux:

At your request, Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) has reviewed the document, *Determination of Ambient Arsenic Concentrations* (Attachment A), prepared by RPS Iris Environmental as an attachment to a Response to Comments Letter regarding the *Excavation Report Addendum* for the property located at 9400-9500 International Boulevard in Oakland, California.

We have reviewed the evaluation performed in the context of consistency with Cal/EPA Department of Toxic Substances (DTSC) guidance on defining background populations of metals, including arsenic (DTSC, 1997<sup>1</sup> and 2009<sup>2</sup>). The U.S. Environmental Protection Agency (U.S. EPA, 2002<sup>3</sup>) guidance describing the methods to be used to determine site-specific chemical background concentrations was also considered, as appropriate.

**Analysis of the Data**

Amec Foster Wheeler has reviewed Attachment A and its corresponding exhibits in addition to independently confirming RPS Iris Environmental’s results in ProUCL. The data population analysis objective is to determine whether the data set consists of a single population. Amec Foster Wheeler agrees with the findings of the data population analysis as summarized below:

1. Underlying Data Distribution – Amec Foster Wheeler agrees that a lognormal distribution is the best fit for this data set. This determination provides the basis for the next steps of the population analysis.
2. Graphical Assessment and Outlier Test - Amec Foster Wheeler agrees that there are no apparent outliers in the data set. Given the underlying lognormal data distribution, it was

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<sup>1</sup> California Department of Toxic Substances Control (DTSC), 1997, Selecting Inorganic Constituents as Chemicals of Potential Concern at Risk Assessments at Hazardous Waste Sites and Permitted Facilities, Final Policy: DTSC, Human and Ecological Risk Division, Sacramento, California.

<sup>2</sup> DTSC, 2009, Arsenic Strategies: Determination of Arsenic Remediation – Development of Arsenic Cleanup Goals, January 16.

<sup>3</sup> U.S. Environmental Protection Agency (EPA), 2002, Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites: EPA, Office of Emergency and Remedial Response, EPA 540-R-01-003, Washington, D.C.

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appropriate to log-transform the data for the probability plot and the outlier test. Because of the sample size of 35, ProUCL performed the Rosner's outlier test. The outlier test assumes that the population fits a normal distribution; therefore, it was appropriate to log-transform the data to conduct the test because performing the test on lognormally distributed data could potentially lead to misidentification of high values as outliers. As presented, no outliers were identified at both a 5 and 1 percent significance level.

3. Summary Statistics – This analysis included the examination of statistical measures of variance (coefficient of variation [CV] and range of detections) for arsenic. The range of detected concentrations is less than two orders of magnitude and the CV is well below 100 percent, suggesting that the arsenic data set represents one population, consistent with DTSC (1997) guidance.

In summary, Amec Foster Wheeler has reviewed the information provided in *Determination of Ambient Arsenic Concentrations* (Attachment A), prepared by RPS Iris Environmental and agrees with the findings that the arsenic soil data set described appears to be represented by one background population.

If you have any questions or comments, please contact Caryn Kelly (telephone and email address below).

Sincerely yours,  
Amec Foster Wheeler  
Environment & Infrastructure, Inc.



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