

ARTESIAN ENVIRONMENTAL

General Engineering Contracting License 622461: A, B, C-57, Haz., Asb.
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Phase I Environmental Assessments • Limited Access Drilling • Asbestos and Lead Inspections
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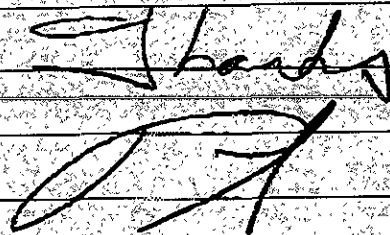
TO: Ms. Eva Chu FAX: (510) 337-9335

DATE: 5/19/99 JOB #: 378-002-02

FROM: Paul Jones TOTAL SHEETS: 7

MESSAGE: RE: Risk Management Plan
603 Key Route Blvd.
Albany

Hard copy will follow. Please call
me at (510) 307-9943, ext. 230 if you
have questions or comments.



NOTES: If you did not receive the complete transmission, please call. This fax is privileged and confidential. If you are not an intended recipient, you are notified that any disclosure, dissemination or duplication of this fax is not authorized, and no waiver of any privilege or confidentiality is intended by your receipt of this transmission

ARTESIAN ENVIRONMENTAL

May 19, 1999



Ms. Eva Chu
Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Re: **Risk Management Plan**
Albany High School Site
603 Key Route Boulevard
Albany, California
Artesian Project 378-002-02

Dear Ms. Chu:

Please find enclosed a copy of a Risk Management Plan for the referenced site. Artesian prepared this plan as a separate document from the (PSA). The enclosed plan was taken from pages 8 and 9 of a May 3, 1999 Preliminary Site Assessment (PSA) without significant changes to the content. However, to make this document simpler to use during construction field activities, a risk management matrix has been prepared which summarizes the Risk Management Plan in a tabular format.

If you have questions or comments, please contact me at (510) 307-9943, extension 230.

Sincerely,
Artesian Environmental

Paul E. Jones
Project Manager/ Geologist

enclosure

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May 19, 1999



Mr. Richard Vila
Vila Construction Company
590 South 33rd Street
Richmond, CA 94804

Re: **Risk Management Plan**
Albany Unified School District
603 Key Route Boulevard
Albany, California
SID # 4602

Dear Mr. Vila:

Artesian Environmental (Artesian) was retained by Vila Construction Company (Vila) on behalf of the Albany Unified School District (AUSD) to prepare a Risk Management Plan for 603 Key Route Boulevard (site) in Albany, California. The AUSD is the current owner of the site. This document contains information regarding the specific contaminants, their concentrations in site soil and groundwater, and situations where workers or occupants may be exposed to these media. This document provides a Risk Management Plan which shall be followed to reduce the risks of worker and site occupant exposure to acceptable levels in future situations or site conditions which may present increased potential for human exposure.

BACKGROUND

In October, 1998, Artesian removed one 2,000 gallon heating oil Underground Storage Tank (UST) and subsequently conducted exploration trenching to determine the extent of soil contamination. Analyzed soil samples collected from the vicinity of the UST excavation indicated that petroleum hydrocarbons were released into the subsurface. In response to the confirmed release of petroleum, the Alameda County Health Services Agency, Department of Environmental Health Services (ACDEH), required that the extent of petroleum impacted soil and groundwater be assessed. Artesian then conducted a Preliminary Site Assessment (PSA) to delineate the extent of petroleum in site soil and groundwater.

Results of the PSA indicated that human health risks associated with regulated petroleum constituents in site soils and groundwater are well within acceptable levels if left undisturbed. Concentrations of benzene, methyl tertiary butyl ether (MTBE), and polyaromatic hydrocarbons (PAH) are below laboratory detection limits in all soil and groundwater samples collected at the site. Concentrations of toluene, ethylbenzene, and xylenes were well below their respective Maximum Contaminant Levels (MCL's) for drinking water set by the California Department of Health Services as updated April 25, 1996. Concentrations of toluene, ethylbenzene, and xylenes in all soils analyzed were well below Tier 1 Risk Based Screening Levels (RBSL's) for direct contact and leaching to groundwater. The Tier 1 Lookup Table for Residential Land Use (prepared by The Michigan Department of Natural Resources in accordance with the ASTM Emergency Standard Guide for Risk-Based Corrective Action (RBCA), ES 38-94) was used in this evaluation.

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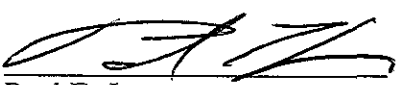
placed below all building floor slabs as a precaution to prevent potentially present vapors from entering site structures.

Groundwater at the site is unsuitable for human consumption and may present an increased risk of human exposure to potentially contained petroleum if used for small scale irrigation or other uses. Onsite groundwater may be suitable for some uses in the future, however, onsite groundwater should not be utilized for any purpose without prior assessment of water quality.

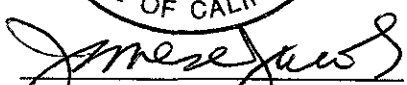
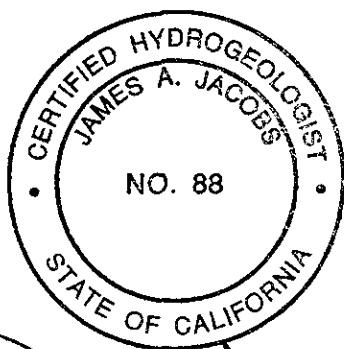
This plan is summarized in a Risk Management Matrix (Matrix), contained in Attachment A. The Risk Management Matrix summarizes the Risk Management Plan in a quick-reference format for on-the-job use. The Matrix lists each type of environmental medium which may contain petroleum, contaminants and their maximum detected levels at the site, modes of human exposure to contaminants, and most importantly exposure mitigation measures to be taken to avoid exposure.

Copies of this Risk Management Plan shall be kept at the AUSD, at the ACDEH, onsite during any construction activities, and onsite during permanent occupancy. If you have any questions or comments regarding this site, please do not hesitate to contact me at (510) 307-9943, extension 230.

Sincerely,
Artesian Environmental



Paul E. Jones
Project Geologist



James A. Jacobs CHG #88
Principal Hydrogeologist

attachment

cc: Ms. Eva Chu, ACDEH

Attachment A
Risk Management Matrix

Risk Management Matrix

New Albany High School
 603 Key Route Boulevard
 Albany, California
 StID 4602

Environmental Medium	Contaminant	Max. Contaminant Concentration	Mode of Exposure	Exposure Mitigation Measures
Soil	TPHg TPHd TOG Benzene Toluene Ethylbenzene Xylenes MTBE PAH	74 mg/Kg 2,500 mg/Kg 14,000 mg/Kg Not Detected 67 µg/Kg 37 µg/Kg 790 µg/Kg Not Detected None Detected	Direct Contact with Skin (dermal)	Avoid contact with soils which exhibit petroleum odors Workers shall wear nitrile or equivalent gloves when contact with impacted soils is unavoidable Soils exhibiting petroleum odors or discoloration should be kept at the site between plastic sheeting
			Ingestion	Anyone working in the vicinity of impacted soil should not eat or drink within 50 feet of the soil Anyone working near impacted soil should thoroughly wash their hands before eating
Vapor	TPHg TPHd TOG Benzene Toluene Ethylbenzene Xylenes MTBE PAH	Not Available	Inhalation	Workers should work down-wind from any impacted stockpiles if possible Exposed soil should be paved before building occupancy Workers should monitor breathing air for organic vapors and upgrade PPE if concentrations exceed 15 parts per million A 10 mil vapor barrier should be placed below the new onsite building to prevent vapors entering

Risk Management Matrix

New Albany High School
 603 Key Route Boulevard
 Albany, California
 StID 4602

Environmental Medium	Contaminant	Max. Contaminant Concentration	Mode of Exposure	Exposure Mitigation Measures
Groundwater	TPHg TPHd TOG Benzene Toluene Ethylbenzene Xylenes MTBE PAH	100 µg/L 920 µg/L Not Detected Not Detected 1.1 µg/L 67 µg/L 6.3 µg/L Not Detected None Detected	Direct Contact with Skin (dermal)	Avoid contact with site groundwater
			Ingestion	Workers shall wear nitrile or equivalent gloves when contact with impacted groundwater is unavoidable
				Anyone working in the vicinity of impacted groundwater should not eat or drink near equipment exposed to site groundwater
				Anyone working near impacted groundwater should wear splash proof clothing and rubber boots
				Site groundwater shall not be used for any purpose without first investigating water quality
				Anyone working near site groundwater shall thoroughly wash their hands before eating

Notes			
TPHg	Total Petroleum Hydrocarbons as gasoline	PAH	Polyaromatic Hydrocarbons
TPHd	Total Petroleum Hydrocarbons as diesel	MTBE	Methyl Tertiary Butyl Ether
TOG	Total Oil and Grease	mg/Kg	milligrams per Kilogram (ppm)
ppb	parts per billion	µg/Kg	micrograms per Kilogram (ppb)
ppm	parts per million	µg/L	micrograms per Liter (ppb)