



ChemRisk™
A McLaren Company

980 Atlantic Avenue, Suite 100
Alameda, CA 94501
(415) 521-5200
FAX (415)521-1547

November 7, 1989

Mr. Lowell Miller
Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, CA 94621

SUBJECT: FREE PRODUCT SUBSURFACE INVESTIGATION MARKETPLACE SITE.

Dear Mr. Miller:

Transmitted herewith is a report of investigations to further define the presence of free product and petroleum hydrocarbons at the Marketplace Site in Emeryville, California. The free product investigation report is one of a number of recent reports from McLaren that have summarized data from past investigations and provided further site characterization. The data base is now sufficient to propose a remedial process which can lead to site closure.

I look forward to meeting with Mr. Ed Howell and yourself to discuss moving this process along.

Sincerely,

Patrick Sheehan, Ph.D
Supervising Toxicologist
McLaren
ChemRisk Division

1107LCD5



earth metrics incorporated

File: 10042A

copy
marking

TELEFAX TRANSMITTAL

Date: 10/31/89

Time: 4:52 PM

Please forward to: MR. DENNIS BYRNE
ALAMEDA COUNTY
HAZ MAT UNIT
80 SWAN WAY
OAKLAND, CA 94612

From: M. PAPINEAU

Total no.
of Pages
(including
this page)

3

TELEFAX NUMBER: 1 (415) 578-1942
OFFICE NUMBER: 1 (415) 578-9900



ChemRisk

A McLaren Company

980 Atlantic Ave., Suite 100
Alameda, California 94501
(415) 521-5200

9/7/89

August 30, 1989

Lowell Miller
Alameda County Health Department
80 Swan Way
Oakland, CA 94607

Subject: Human Exposure to Chemicals in soil at the Marketplace/Nielsen Site, Emeryville California.

Dear Mr. Miller:

You have raised the issue of the hazardous characteristics of the asphalt-like material found in soils at isolated locations on the Marketplace/Nielsen Site. This issue has been addressed in regards to the classification of soil containing the asphalt-like substance. This material was self-classified as non-hazardous by the property owner accordance with Title 22 CCR Sections 66680 et. seq. (ATT, 1988). Additional data supporting the non-hazardous classification was submitted to you on June 30, 1989 (ChemRisk, 1989). These materials have been submitted to the Department of Health Services (DHS) for review of the non-hazardous classification. Their review is pending and may not be complete until mid 1990.

The DHS has responded to a request for technical assistance on the issue of classification of PNAs in soils (ChemRisk letter dated July 28, 1989 and DHS response letter dated August 22, 1989). The DHS conclusions are summarized as follows:

- DHS does not currently have fixed or adopted criteria on the classification of waste containing PNAs other than hardened asphalt.
- According to DHS policy hardened asphalt which does contain PNAs in excess of those measured in the asphalt-like substance on the Marketplace/Nielsen Site are considered non-hazardous.
- PNAs are relatively immobile in soil.
- Simply because a waste contains carcinogenic agents (ie. specific PNAs) does not necessarily mean the waste should be considered carcinogenic and managed as hazardous pursuant to Title 22 CCR Section 66696 (a) (b).

Mr. Lowell Miller
August 30, 1989
Page 2

- The concentrations of potentially carcinogenic PNAs in the asphalt-like material in soil from boring EM-4 are less than 10 ppm and suggest that the waste would not be classified as hazardous. DHS can not make a more definitive statement on waste classification without a thorough review of all available data and a specific risk assessment.
- The property owner has self-classified the waste as non-hazardous and remains responsible for the management of soils containing the asphalt-like material.

The above cited reports clearly document that the disposal of excavated soil containing the asphalt-like material has been managed in accordance with the applicable sections Title 22 California Code of Regulations.

A secondary issue which has not been discussed in detail is the potential for human exposure to chemicals remaining in soil at the Marketplace/Nielsen Site. The risks to human health posed by those chemicals, particularly potential carcinogens such as PNAs, is a function of human uptake of the chemical (exposure) and their toxicity (potency).

Risk assessment is defined by the National Academy of Sciences (NAS) as the characterization of the probability of potentially adverse health effects from human exposures to environmental hazards. The exposure assessment portion of a risk assessment often functions as the cornerstone for the process. In this step the assessor must quantitate the amount of the chemical a person might come in contact with and absorb. It is axiomatic that health risks are negligible when either a chemical is non-toxic or no reasonable possibility of present or future exposure exists.

Seven PNAs identified in the asphalt-like material from boring EM-4 are classified by the EPA as probable human carcinogens. However, there is no likely uncontrolled route of human exposure to these chemicals under present or future site conditions. Human uptake of the PNAs could only occur if the asphaltic material was contacted and absorbed through the skin, if the PNAs were to volatilize and be inhaled (which is unlikely due to their low vapor pressure, 5.4×10^{-9} Torr for benzo(a)pyrene) or if the material was ingested and the constituent chemicals were absorbed through the digestive tract. Human exposure to this asphaltic material in the soil at the Marketplace/Nielsen Site is improbable because the site is covered with buildings, landscaping and parking lots. The pertinent subsurface soils are unavailable to be touched, eaten or blown into the air and inhaled. In addition, a deed restriction will require the implementation of a health and safety plan (Earth Metrics, 1988) should any further construction occur on the Marketplace/Nielsen site. Therefore, in our professional opinion the asphalt-like material detected in the soils at the Marketplace/Nielsen Site does not pose a human health hazard as no potential present or future routes of exposure exist.



ChemRisk™
A McLaren Company

Mr. Lowell Miller
August 30, 1989
Page 3

Independent groundwater studies indicate that the PNAs in soil and floating product have not significantly impacted the quality of groundwater at the Marketplace/Nielsen Site (McLaren, 1989). The groundwater below the site is not potable or extracted for any beneficial use. Therefore, there is no potential for human exposures to these chemicals in groundwater.

This brief analysis clearly indicates that under all reasonably foreseeable circumstances the asphalt like material in the soil at the Marketplace/Nielsen Site poses a negligible hazard to individuals using the site at present or in the future.

If you have any questions on this issue, please let me know.

Sincerely,



Patrick Sheehan, Ph.D.
Supervising Toxicologist
ChemRisk Division
McLaren

cc: Walt Kaczmarek, The Martin Group
Rafat Shahid, Alameda County Department of Environmental Health

0829MJG2



ChemRisk™
A McLaren Company

REFERENCES

ChemRisk. 1989. Correspondence from Patrick Sheehan of ChemRisk to Norman Riley of the Department of Health Services requesting waste classification. June 30.

ChemRisk. 1989. Correspondence from Patrick Sheehan of ChemRisk to Norman Riley of the Department of Health Services requesting technical assistance in the classification of PNAs in soil. July 28.

Department of Health Services. Correspondence from Norman Riley of the Department of Health Services to Patrick Sheehan of ChemRisk regarding the classification of PNAs in soil. August 22.

Earth Metrics. 1988. Final Proposal to Remediate The Marketplace and Nielsen Sites in Emeryville, California. May 16.

McLaren. 1989. Results of the Hydrogeologic Investigation Conducted at the Marketplace/Nielson Properties. August 28.