Chevron

**Chevron Products Company**
6001 Bollinger Canyon Road
Building L, Room 1102
PO Box 6004
San Ramon, California 94583-0904

**Philip R. Briggs**
Project Manager
Site Assessment & Remediation
Phone [redacted]
Fax 925 842-8370

# facsimile transmittal

To: **Scott Seery** Fax: **510 337-9335**

From: **Phil Briggs** Date: [redacted]

Re: **Soil Analysis Results** Pages: **6**

CC:

Urgent | For Review | Please Comment | Please Reply | Estimate Request

Attached are the results for the soil analysis that were taken at SS# 98139, 16304 Foothill, San Leand[redacted] However, I propose to excavate about 1-2 feet deeper in the area under tank A, 2-3 feet deeper in the area of P4 and P-3 and at UO1. Note that the TPH-g, BTEX, MTBE analyses are in ppb while the 8270 and TOG are in ppm [redacted]nd will be used for backfill into the tank excavation; UO stockpile and Pump Island stockpile will be transported offsite for disposal.

The 8270 results detected Bis(2-ethylhexyl)phthalate at 3420 ppb. This is a plasticizer that is often found as a lab contaminant. Attached is a memo from CRTC noting this analyte and that the PRG is 210,000ppb. Expect removal of soil will be on 11/2. Samples will be taken.

pea gravel!

TPH / BTEX detection limits 7000x too high!

**TRANS TECH CONSULTANTS**
ENVIRONMENTAL AND GEOTECHNICAL SERVICES License No. 697833

# FAX TRANSMITTAL

**DATE:** 11-29-98 **FAX #:** 842 8370

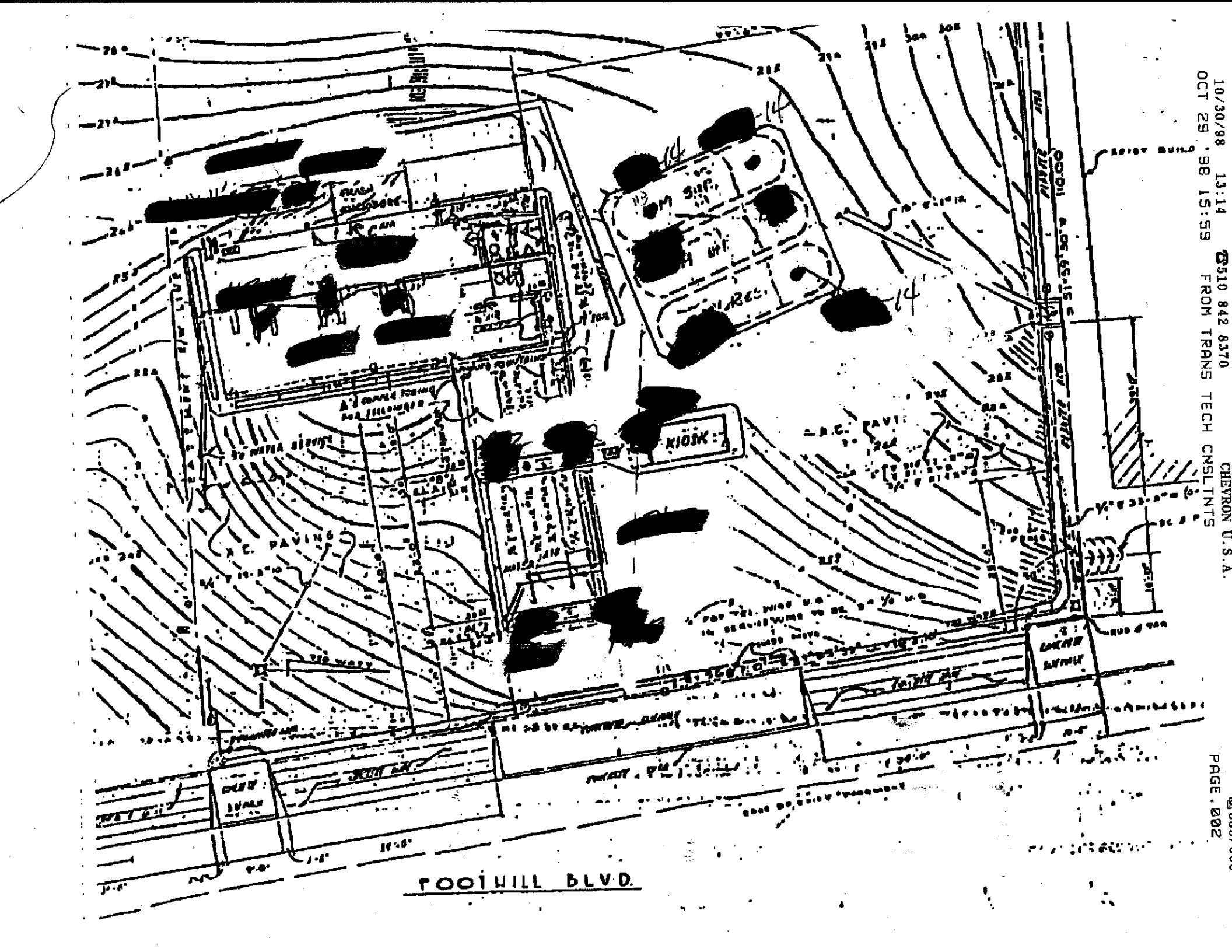
**TO:** Phil Briggs **FROM:** Jeff Monroe

**NO. PAGES TRANSMITTED (including this page):** 4

**WE ARE SENDING YOU THE FOLLOWING ATTACHMENTS:** ie: 9-8159

| Sample ID | Depth (ft) | TPH gas | B | T | E | X | [redacted] | 8270 | TOG |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | ★ Eis (2-ethylhexyl)phthalate 1340ppm | |
| ✓ MO1 | 9 | 3900 | ND | → | | | | ND | ND |
| ✓ MO2 | 9 | ND | → | | | | | ★ | 476 ppm |
| ✓ MO1X | 11 | ND | → | | | | NDK50 | ★ | 44.3 ppm |
| ✓ CLR | 6 | 4720 | NDK10 | → | | | NDK10000 | | |
| [redacted] | 14 | NDK40000 | NDK2000 | → | | | | | |
| [redacted] | 14 | " | " | " | " | 726 | [redacted] | | |
| BN | 14 | 154000 | NDK200 | ND | 875 | 9860 | [redacted] | | |
| BS | 14 | NDK40000 | NDK200 | → | | | [redacted] | | |
| CN | 14 | ND | ND | ND | 6.22 | 17.7 | NDK25 | | |
| CS | 14 | NDK40000 | NDK200 | → | | | [redacted] | | |
| P1 | 2 | 11400 | 434 | 359 | 268 | 1290 | [redacted] | | |
| P2 | 2 | NDK2000 | NDK10 | → | | | [redacted] | | |
| P3 | 2 | NDK40000 | NDK200 | → | | | NDK10000 | | |
| P4 | 2 | 1560000 | " | 5240 | 30600 | 8460 | NDK10000 | | |
| P5 | 3 | 1060 | 28 | NDK5 | 7.49 | NDK10 | [redacted] | | |
| P6 | 3 | 13300 | 372 | 90 | 248 | 1150 | [redacted] | | |

Phil, we can reuse UST Stockpile but not WO or Pump Island


KIOSK
A.C. PAVING
FOOTHILL BLVD.

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

| | | | |
|---|---|---|---|
| Touchstone Development | Project: | Chevron/General | Sampled: 10/26/98 |
| PO Box 2554 | Project Number: | 9-8139 | Received: 10/27/98 |
| Santa Rosa, CA 95403 | Project Manager: | Mr. Jeff Monroe | Reported: 10/29/98 |

## Semivolatile Organic Compounds by EPA Method 8270B
### Sequoia Analytical - Petaluma

| Analyte | Batch Number | Date Prepared | Date Analyzed | Surrogate Limits | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Soil | |
| U01X-11 | | | P9810379-02 | | | | | |
| Acenaphthene | 8100183 | 10/27/98 | 10/27/98 | | 330 | ND | ug/kg | |
| Acenaphthylene | " | " | " | | 330 | ND | " | |
| Anthracene | " | " | " | | 330 | ND | " | |
| Benzoic acid | " | " | " | | 1670 | ND | " | |
| Benzo (a) anthracene | " | " | " | | 330 | ND | " | |
| Benzo (b) fluoranthene | " | " | " | | 330 | ND | " | |
| Benzo (k) fluoranthene | " | " | " | | 330 | ND | " | |
| Benzo (g,h,i) perylene | " | " | " | | 330 | ND | " | |
| Benzo (a) pyrene | " | " | " | | 330 | ND | " | |
| Benzyl alcohol | " | " | " | | 660 | ND | " | |
| Bis(2-chloroethoxy)methane | " | " | " | | 330 | ND | " | |
| Bis(2-chloroethyl)ether | " | " | " | | 330 | ND | " | |
| Bis(2-chloroisopropyl)ether | " | " | " | | 330 | ND | " | |
| Bis(2-ethylhexyl)phthalate | " | " | " | | 330 | 3420 | " | |
| 4-Bromophenyl phenyl ether | " | " | " | | 330 | ND | " | |
| Butyl benzyl phthalate | " | " | " | | 330 | ND | " | |
| 4-Chloroaniline | " | " | " | | 660 | ND | " | |
| 4-Chloro-3-methylphenol | " | " | " | | 660 | ND | " | |
| 2-Chloronaphthalene | " | " | " | | 330 | ND | " | |
| 2-Chlorophenol | " | " | " | | 330 | ND | " | |
| 4-Chlorophenyl phenyl ether | " | " | " | | 330 | ND | " | |
| Chrysene | " | " | " | | 330 | ND | " | |
| Dibenz (a,h) anthracene | " | " | " | | 330 | ND | " | |
| Dibenzofuran | " | " | " | | 330 | ND | " | |
| Di-n-butyl phthalate | " | " | " | | 330 | ND | " | |
| 1,2-Dichlorobenzene | " | " | " | | 330 | ND | " | |
| 1,3-Dichlorobenzene | " | " | " | | 330 | ND | " | |
| 1,4-Dichlorobenzene | " | " | " | | 660 | ND | " | |
| 3,3'-Dichlorobenzidine | " | " | " | | 330 | ND | " | |
| 2,4-Dichlorophenol | " | " | " | | 330 | ND | " | |
| Diethyl phthalate | " | " | " | | 330 | ND | " | |
| 2,4-Dimethylphenol | " | " | " | | 330 | ND | " | |
| Dimethyl phthalate | " | " | " | | 1670 | ND | " | |
| 4,6-Dinitro-2-methylphenol | " | " | " | | 1670 | ND | " | |
| 2,4-Dinitrophenol | " | " | " | | 330 | ND | " | |
| 2,4-Dinitrotoluene | " | " | " | | 330 | ND | " | |
| 2,6-Dinitrotoluene | " | " | " | | 330 | ND | " | |
| Di-n-octyl phthalate | " | " | " | | 330 | ND | " | |
| Fluoranthene | " | " | " | | 330 | ND | " | |
| Fluorene | " | " | " | | 330 | ND | " | |
| Hexachlorobenzene | " | " | " | | 330 | ND | " | |

*Refer to end of report for list of notes and definitions.

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

| | | | |
|---|---|---|---|
| Touchstone Development | Project: Chevron/General | Sampled: | 10/26/98 |
| PO Box 2554 | Project Number: 9-8139 | Received: | 10/27/98 |
| Santa Rosa, CA 95405 | Project Manager: Mr. Jeff Monroe | Reported: | 10/29/98 |

## Semivolatile Organic Compounds by EPA Method 8270B
## Sequoia Analytical - Petaluma

| Analyte | Batch Number | Date Prepared | Date Analyzed | Surrogate Limits | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| L01-9 | | | P810399-01 | | | | Soil | |
| Acenaphthene | 8100483 | 10/27/98 | 10/27/98 | | 330 | ND | ug/kg | |
| Acenaphthylene | " | " | " | | 330 | ND | " | |
| Anthracene | " | " | " | | 330 | ND | " | |
| Benzoic acid | " | " | " | | 1670 | ND | " | |
| Benzo (a) anthracene | " | " | " | | 330 | ND | " | |
| Benzo (b) fluoranthene | " | " | " | | 330 | ND | " | |
| Benzo (k) fluoranthene | " | " | " | | 330 | ND | " | |
| Benzo (g,h,i) perylene | " | " | " | | 330 | ND | " | |
| Benzo (a) pyrene | " | " | " | | 330 | ND | " | |
| Benzyl alcohol | " | " | " | | 660 | ND | " | |
| Bis(2-chloroethoxy)methane | " | " | " | | 330 | ND | " | |
| Bis(2-chloroethyl)ether | " | " | " | | 330 | ND | " | |
| Bis(2-chloroisopropyl)ether | " | " | " | | 330 | ND | " | |
| Bis(2-ethylhexyl)phthalate | " | " | " | | 330 | 533 | " | |
| 4-Bromophenyl phenyl ether | " | " | " | | 330 | ND | " | |
| Butyl benzyl phthalate | " | " | " | | 330 | ND | " | |
| 4-Chloroaniline | " | " | " | | 660 | ND | " | |
| 4-Chloro-3-methylphenol | " | " | " | | 660 | ND | " | |
| 2-Chloronaphthalene | " | " | " | | 330 | ND | " | |
| 2-Chlorophenol | " | " | " | | 330 | ND | " | |
| 4-Chlorophenyl phenyl ether | " | " | " | | 330 | ND | " | |
| Chrysene | " | " | " | | 330 | ND | " | |
| Dibenz (a,h) anthracene | " | " | " | | 330 | ND | " | |
| Dibenzofuran | " | " | " | | 330 | ND | " | |
| Di-n-butyl phthalate | " | " | " | | 330 | ND | " | |
| 1,2-Dichlorobenzene | " | " | " | | 330 | ND | " | |
| 1,3-Dichlorobenzene | " | " | " | | 330 | ND | " | |
| 1,4-Dichlorobenzene | " | " | " | | 330 | ND | " | |
| 3,3'-Dichlorobenzidine | " | " | " | | 660 | ND | " | |
| 2,4-Dichlorophenol | " | " | " | | 330 | ND | " | |
| Diethyl phthalate | " | " | " | | 330 | ND | " | |
| 2,4-Dimethylphenol | " | " | " | | 330 | ND | " | |
| Dimethyl phthalate | " | " | " | | 330 | ND | " | |
| 4,6-Dinitro-2-methylphenol | " | " | " | | 1670 | ND | " | |
| 2,4-Dinitrophenol | " | " | " | | 1670 | ND | " | |
| 2,4-Dinitrotoluene | " | " | " | | 330 | ND | " | |
| 2,6-Dinitrotoluene | " | " | " | | 330 | ND | " | |
| Di-n-octyl phthalate | " | " | " | | 330 | ND | " | |
| Fluoranthene | " | " | " | | 330 | ND | " | |
| Fluorene | " | " | " | | 330 | 379 | " | |
| Hexachlorobenzene | " | " | " | | 330 | ND | " | |

**Briggs, Philip (RBRI)**

**From:** Magaw, Renae (RIMB)
**Sent:** Thursday, July 16, 1998 9:00 AM
**To:** Briggs, Philip (RBRI)
**Cc:** Beatty, Patrick (PWBE); CRTC THRA Team
**Subject:** RE: Determine Toxicity of Analytes Detected in Soil at Service Station Site

Phil,

I have reviewed the list of detected analytes that you sent. Except for bis(2-ethylhexyl)phthalate, the detected compounds are polycyclic aromatic hydrocarbons (PAHs). These are chemicals that are not typically found in gasoline or in gasoline-contaminated soils, but they are normal constituents of heavier products and may be found in soils contaminated with those materials. The bis(2-ethylhexyl)phthalate is not a normal constituent of petroleum products. It is a plasticizer that has often been found as a laboratory contaminant in site investigations. .

The concentrations detected (including that for bis(2-ethylhexyl)phthalate) are all quite low and are unlikely to pose a health threat to workers at the site who may come into contact with contaminated materials. This conclusion is based on a comparison of the soil levels to Preliminary Remediation Goals (PRGs) developed by U.S. EPA. PRGs represent risk-based chemical concentrations in soil (or other media) that are unlikely to pose a health threat to people who may come in contact with the soil under a given set of exposure conditions. They are commonly used as a screening tool in site investigation work to determine whether a particular site may pose a threat to human health. PRGs are available for potential residential and industrial exposure settings. For example, under an industrial exposure setting, it is assumed that a worker may be exposed to contaminated soil 250 days/year for 25 years and that during this time the worker may inhale vapors and/or contaminated particles, ingest a small amount of contaminated soil, and get contaminated soil on their skin. The industrial PRGs for the chemicals detected at your site are as follows:

| | |
|---|---|
| benzo(k)fluoranthene | 36,000 ug/kg |
| benzo(a)pyrene | 360 ug/kg |
| → bis(2-ethylhexyl)phthalate | 210,000 ug/kg |
| chrysene | 360,000 ug/kg |
| fluoranthene | 37,000,000 ug/kg |
| pyrene | 26,000,000 ug/kg |

The detected levels, as described in your message, are well below industrial PRGs, and therefore it is concluded that the detected levels are unlikely to pose a health threat to exposed workers.

PAHs tend to adsorb strongly to soils and thus may pose a threat primarily in situations where people come into direct contact with contaminated soil or through inhaling contaminated particulates. Limiting these types of exposures through the use of institutional controls or safe work practices would add an extra measure of security.

If you have any further questions, please feel free to call me.

***Renae Magaw***
Senior Toxicologist
Chevron Research and Technology Co.

RIMB@chevron.com
(510)242-7235 FAX (510)242-7022