Chevron

Global Gas

Jeff Cosgray
Sr. Site Remediation Specialist

Health, Environmental & Safety
Chevron Pipe Line Company
4800 Fournace, E320C
Bellaire, Texas 77401-2324
Tel 713 432 3335
Fax 866 653 0301
JCOS@Chevron.com

July 7, 2006

Mr. Jerry Wickham
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Dear Mr. Wickham:

I declare, under penalty of perjury, that the information contained in URS' response letter titled "SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Rd, Sunol, CA, Response to ACEH June 5, 2006 Letter - Technical Comment 1. Gravel Layer as Preferential Pathway" is true and correct to the best of my knowledge at the present time.

Submitted by:

Jeff Cosgray

URS

DISCLOSURE

This letter ("SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Rd, Sunol, CA, **Response to ACEH June 5, 2006 Letter - Technical Comment 1. Gravel Layer as Preferential Pathway**") was prepared under my direct supervision. The information presented in this letter is based on our review of available data obtained during our previous subsurface investigation efforts. To the best of our knowledge, we have incorporated into our discussion all relevant data pertaining to the Chevron Pipeline Release site in Sunol, California.

The response to the Alameda County Environmental Health staff comments discussed herein was developed in accordance with the standard of care used to develop this type of response letter. The assumptions and recommendations that were made are based on our professional experience and protocols reported in the literature for similar investigations.

URS Corporation
Approved by:

George Muehleck, P.G.

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612-1924
Tel: 510.893.3600
Fax: 510.874.3268

URS

July 10, 2006

Mr. Jerry Wickham
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Rd, Sunol, CA
Response to ACEH June 5, 2006 Letter - Technical Comment 1. Gravel Layer as Preferential Pathway

Dear Mr. Wickham:

In the Alameda County Environmental Health (ACEH) letter dated June 5, 2006, you requested that additional groundwater monitoring wells be installed within the gravel layer along Calaveras Road. Specifically, these wells were requested to monitor the potential contaminant migration pathway through the gravel zone that runs downslope from the source area to the MW-1 area west of Calaveras Road.

On behalf of Chevron Pipe Line Company (Chevron), URS Corporation (URS) has prepared this letter to initiate a discussion as to the technical merits of this specific request prior to submitting a workplan for the next phase of field work on this project. Specifically, URS believes that any monitoring well installed in the MW-5 through MW-7 area gravel layer would encounter little to no groundwater nor, if groundwater were ever present in quantities that would yield a sample, would it improve our current understanding of contaminant migration from the source area to the MW-1 area west of Calaveras Road.

ACEH Technical Comment 1 states that the existing three wells (MW-5 through MW-7) along Calaveras Road do not monitor the gravel zone. This is true because MW-5 through MW-7 were installed in first encountered groundwater, which is a confined to semi-confined layer below the gravel zone. Groundwater was not encountered in the gravel zone when these borings were drilled (in January 2006 during a period of particularly high precipitation). URS' concern is that if groundwater was not present in the gravel zone during this past winter, it would not be present in the future where sufficient water would be available to collect a representative sample.

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Based on boring logs from the previous investigation activities, the conceptual site hydrogeologic model indicates the rainfall infiltration (i.e., recharge) and contaminant migration is influenced by the gravel zone, its dip, and the dip or trend of the bedrock surface which has an average grade of 25 percent to the west. Note that the approximate bedrock elevation at the Calaveras Road wells (MW-5 through MW-7) is approximately 20 feet higher than the bedrock elevation at MW-1, 80 feet to the west (Figure 1). While the gravel zone is considered a migration pathway from the source area to the MW-1 unconfined water-bearing zone area, it is also part of the unsaturated zone where groundwater appears to be only present for very limited periods of time, if at all. As such, URS believes that the recommended monitoring wells, screened adjacent to the gravel zone, would be dry.

URS is also unclear about how MW-5 through MW-7 gravel zone area data, if obtainable through additional monitoring wells, would be helpful in further characterizing the extent of contamination at the site. URS and the ACEH already agree that the gravel layer acts as a preferential pathway from the release location to the MW-1 area. The connection between the release location on the hillside and Total Petroleum Hydrocarbon (TPH) detections at MW-1 has already been verified by elevated PID readings measured within the gravel layer during drilling at MW-5. Because the locations of the requested borings/wells are between the source area and MW-1 (located approximately 80 feet to the west), it is unclear if any benefit would be gained in monitoring a zone that lies in the middle of the impacted area.

URS believes that well MW-1 is already monitoring TPH migration through the gravel layer from the release location. As indicated on the boring log for monitoring well MW-7 (the northernmost well along Calaveras Road) the gravel layer is limited in extent to the north. Although the gravel layer was encountered at MW-6 (the southernmost well along Calaveras Road) elevated PID readings were not observed. Elevated PID readings within the gravel zone were only observed while advancing the middle MW-5 boring/well. MW-6 and MW-7 are located approximately 55 feet to the south and 40 feet to the north MW-5, respectively (Figure 1). Accordingly, TPH migration within the gravel layer appears to be limited to a westerly direction (from the release location towards MW-1) within a fairly thin north/south lateral zone (less than 95 feet wide). As a result, TPH migration through the gravel layer at the MW-5 location would eventually be monitored at MW-1.

To summarize, URS believes that installing new shallow gravel zone wells along Calaveras Road may not be viable for sampling groundwater, because the gravel zone in this area is part of an unsaturated zone rather than a saturated zone migration pathway, nor would wells in this location aid in further understanding TPH migration or extent because it is in middle of the impacted and migration pathway area that has already been investigated. As such, URS and Chevron, request further consideration and dialog, prior to including it into the work plan.

We remain available to discuss our concerns at any time. Please do not hesitate to contact us at (510) 874-3201 or (510) 874-3080.

Sincerely,

URS CORPORATION

Joe Morgan
Project Manager

George Muehleck, P.G.
Senior Hydrogeologist / Manager

Attachment: Figure 1 Site Map
cc: Jeffrey Cosgray, Chevron

LEGEND:

- SURFACE WATER SAMPLE
- SOIL BORING
- MONITORING WELL
- SVE WELL
- FENCE
- PIPELINE
- HILL SLOPE 80–90% GRADE

NORTH

SB–27
UNNAMED CREEK
SW–CREEK1
UNNAMED CREEK
SB–26
PROPERTY LINE/FENCE
CALAVERAS RD.
PIPELINE
DIRT ROAD
SB–14
SB–13R
SB–13
SB–15
SB–16
HILL SLOPE
HILL SLOPE
SB–1
SB–10
SB–12
SVE–1D
MW–4
SB–17
SB–11
SVE–2S
SB–18
HSA–2
SB–2
SB–9
MW–7
SB–24
SB–19
RELEASE LOCATION
SVE–3S
SB–22
MW–3
SB–3
MW–1
MW–5
SB–8
SB–23
SVE–4D
SB–20
HILL SLOPE
HSA–1
SB–4
SB–7
HILL SLOPE AND DENSE VEGETATION
AR–2
SB–21
MW–2
MW–6
SB–5
SB–6
SB–25

40’ 0 40’
SCALE 1”= 40’

URS	CHEVRON PIPELINE COMPANY Project No. 26815217	SITE MAP	Figure 1

Jul 06, 2006 – 11:07am
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