

RE: Former Beacon Station #574
22315 Redwood Rd., Castro Valley CA 94546

Madhulla- *Please review attached RA - here are my comments.*

After an initial review of the RA presented on behalf of Ultramar, Inc., I have the following comments and questions:

- 1) The site is currently under commercial use -- sounds like a mini-strip mall. The gasoline station has been removed. Adjoining properties include downgradient (southwest) residential development. The nearest water well is located 400 feet southeast.
- 2) The following exposure pathways seem appropriate to evaluate for risk:

Commercial (on site)

- Indoor worker exposure to vapors from contamination to soil and groundwater
- Construction worker exposure to soil and groundwater contamination ✓ *Tier 1*

Residential (off site)

-Indoor residential exp. to vapors from groundwater contamination. (Note, however, that groundwater data to date indicates that groundwater off site has not been significantly impacted.)

- onsite ingestion - pg 14*
- Drinking water 400 feet from the site

Do you agree with these pathways?

In the map, there is a house inside the property boundary!

- 3) The RA uses maximum benzene groundwater conc. as 3,200 ppb and max. benzene soil conc. as 0.73 ppm. These values may not be representative enough for this site. The highest benzene concentration in groundwater at the site in the last 4 quarters of sampling was 7,000 ppb and there is no evidence of attenuation occurring in groundwater. The RA used an average of soil conc. from samples collected during the installation of monitoring wells MW-1 through MW-4. The source area (tank pit) had much higher concentrations after overex. than the monitoring well boring samples; however, BTEX analyses were not performed on the confirmation samples - *no*

Based on our conversation regarding this, I calculated the avg. percentage of benzene concentrations in the confirmation samples based on the initial samples collected from the tank pit. Therefore, the avg. percentage of benzene per sample is 3.2% and the max. concentration of benzene left in the pit was 63.7 ppm. *see my comments*

Site-specific parameters for soil porosity, soil bulk density, moisture content, and foc were not used. Also, RA used default values for building volume. Is this appropriate/conservative enough?

- 5) Max. MTBE conc. on site is 1,400 ppb; downgradient off site MTBE conc. are in the 100 ppb range. Since we know there is a water well 400 feet away, should we consider delineating the MTBE plume? *or calculating the dilution factor*
- 6) Although the RA proposed to evaluate the construction worker pathway and off site indoor residential exposure to vapors from contamination to soil and groundwater, I could not find the results of these assessments in the report. Can you find them, or are they missing?

If you need the file, it's on my table in my office.

Army

Amey,
X

not common part

①

when you calculate the percentage, did you just include those of in the gasoline tanks since they have both diesel & gasoline tanks on-site. But 1989 ppm happens to be gasoline according to the closure summary. I am bringing this up because % of benzene in diesel & % of benzene in gasoline differ.

✓ 2. For geo, they have to average the level of quarters for all wells & then average the average come from all wells — ~~based~~ based on site use & building locations.

Taco Bell Stand

MW-1 — 5100 ppb
MW-7 — 0.25 ppb (detection limit)
Average = 2550 125

Rept partial water for comp

MW-1 = 5100 ppb
MW-6 = 0.25 ppb
Average = 2550 125

or they can

~~Station building~~

MW-1 — 0.25
~~MW-7 — 5125~~
MW-7 — 3,400
Average = ~~135125~~ 1700.125

→ There is no station building.

Stores-house

0.25 — MW-4

House:

(2)

For house, they don't have any wells upgradient at a reasonable distance. Hence they should use cone from MW-2 or calculate the dilution factor based on distance. For MW-2, the average is 3400 ppb.

So they have to evaluate the correct scenario, based on the location of the buildings. So the most conservative scenario will be evaluating indoors - 3400 ppb benzene.
- residential

3. From what Kevin has told me (maybe it's changed now) any MTBE above 200ppb should be investigated. If they pass, then at least they should evaluate the dilution factor.

4. The worksheets say Tier 1 - 6.2 + 6.3 - Must be Tier 2? Worksheet 6.2 mentions soil volatilization to indoor air as 3400ppb (10^{-5}) but table says (Tier 1 table) - 5.37×10^{-2} ppm. So I am not sure what they did.

5. The default values used are pretty conservative.

Construction Workers.

6. In the RA, I think they compared the max - 0.73 to Tier 1 values for ^{for soil} and they passed. because Tier 1 values are 100ppm (10^{-5}) $\times 29 = 29$ ppm. But they will not pass 63.7 ppm - (calculated value for benzene). Since GW is 22 ft contact with water during construction, seems improbable.

(3)

7. The worksheets 6.3, & 6.2, should be redone. I am not sure why they keep choosing MCL standards. ~~Based on my~~ ~~guardian~~ L? ~~Wouldn't that be~~ Please Dave

8. Also the worksheets do not include groundwater to indoor pathway for residential, even though this does not pass Tier 1 - I found it!

9. Based on my Review:

✓ a. They have to use the new soil concentrations. They could use an average, if they want (with 95% UCL).

? b. Indicate in text of report whether they need to mention in worksheet if all they are using 10^{-5} or 10^{-6} for commercial or Residential they could use carcinogen? ~~with~~ ~~severities~~
 between 10^{-5} - 10^{-6} .
 class A carcinogen?
 in Output 9.1 to 9.3

✓ c. All worksheets should be re-done & all pathways (not passed Tier 1) should be included in worksheet.

✓ d. With the new soil conc, (63.7 ppm), the ~~construction~~ ^{surface soil} pathway for construction workers may also have to be included in Tier 2.

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✓ ③ For Gr. W, they have to divide the site based on building locations & then take averages (as I have shown).

Why, if they use org soil concentrations?

④ ~~you have mentioned that there are no buildings near source area.~~ If this is right, they still need to do a deed restriction for future use.
 Deed restriction will be required.
 NO GO to indoor future work management

⑤ They have to evaluate MTBE or ?
 do calculate dilution factor.
 what model?
 we just need to be different
 provided in the report

⑥ Their output tables for Tier 1 + Tier 2 are the same. Does not make sense.
 Please provide appropriate worksheets showing different parameters used.
 ✓ ⑦ Their summary on p 20 does not make any sense. They have to re-do it.

11. Let's talk about the
 a. % from gasoline or diesel tank
 b. effluents resident or onsite

12. i. Show property boundaries