

Barney,

Attached are my responses to your comments on the Baseline 1/2001 Site History and Characterization Report. Please call me if you need clarification on my comments. I will set up a meeting with all parties following your review and comment.

Joseph, (510) 238-6259

1.

The two interior linear track drains within Bld. 5 were described as concrete-lined trenches without any bottom other than a layer of gravel. Doesn't this allow for contamination to move both towards the collection pits and down-gradient within the building? There is a lack of information of subsurface conditions beneath Bld. 5.

There is a potential for liquid in the trenches to move down vertically beneath the gravel. Once this has occurred there is also a potential for the liquids to migrate horizontally down gradient. Information is not available on the permeability of the soil beneath the gravel bottom, thus estimates of infiltration rates or seepage rates of liquids cannot be calculated.

It is my understanding that this system was used for a short period of time, and was only activated a few times. Also analytical data from soil and groundwater samples collected from borings and wells installed along the perimeter of Building 5 suggests that the extent of contamination (if present) in the area is localized and isolated beneath Building 5. Existing data also suggests that releases that may have originated from this trench system has not contributed to groundwater contamination and free-product found further down gradient in the vicinity of MW-6 and MW-16. *The potential presence of contamination beneath Bld 5 should be noted, perhaps in a RMP for potential SS work.*

2.

Most of the contaminants of concern are assumed to have come from the former USTs (except that from the drains in Bld. 5). Are there any historic surface releases, which could contribute to the contaminants, being found in soil and GW?

No. Not to my knowledge. *Old bone yard cannot be ruled out as a source of large boilers & TPH.*

3.

The fill material seemed to be discounted as a preferential pathway because it is not reasonable to expect a large continuous layer of coarse-grained material in the fill, however, the fill material itself is likely more permeable than the native soils and therefore acts as a preferential zone ie the area beyond the original site boundary.

It is true that fill material may not have the degree of compaction associated with native soils, which may affect the permeability and influence the rate of infiltration or lateral migration of contaminants. However, the fill material at the site is also, for the most part, fine-grained in nature and believed to be derived from the native fine-grained soils in the area. It appears that the difference in permeability between the native and fill is not significant (on the site) and the fill material as a homogeneous unit would not constitute a preferential zone of migration. Higher permeable materials do exist along the western boundary of the property and off-site to the west. However, it is believed that no releases from City operations originated in this area. *The City*

releases are upgradient of these areas, however, & if the City releases reach the property boundary, they might encounter a more permeable zone.

4.

Both diesel and gasoline ranged hydrocarbons are found near former UST 6, gasoline and jet fuel ranged hydrocarbons were found in both TBW-5 and MW-16 and gasoline, diesel and motor oil found in soil samples down-gradient of MW-6. The point is that these mixtures of hydrocarbons, though unexplainable by historic records, represents on-site mixture of contaminants. Therefore, the argument for different sources of contaminants due to differences in contamination or no history of use is not strong.

The multiple source hypotheses comes from the fact that:

- Contamination was detected in off-site soil samples increased with depth beneath the water suggesting that THPmo was present in fill during fill emplacement at the site. The distribution of TPHmo detected in off-site soil is not indicative of a surface spill or groundwater transport.
- Trace amounts (less than 1%) of oil was detected in product samples collected from MW-6 and significant quantities of oil were found offsite in the product sample collected from MW-16. It appears that, if the source of this oil is from an area on-site and near MW-6, you would expect to encounter more than trace amounts of oil in GW at the proposed source. This is further strengthened by the fact that oil adheres very stubbornly to soil particles at or near the source of a release. Also, if the source came from on-site you would expect to see the distribution of oil much different than what is currently observed (significant at the source and trace or lesser amounts downgradient). This is also seen with gasoline when we have 10% gasoline detected in MW-6 (suspected source by some) and 50 % gasoline in MW-16 located 3000 feet downgradient).
- New filtered GW data collected from perimeter wells further support my claims made in the first two bullets. Unfiltered samples have TPH concentrations orders of magnitude higher than filtered samples, suggesting TPH is present in significant quantities in saturated soil beneath the water table.

Agree to disagree, could be commingling.

5.

What is the likely source of the SVOCs found in soil samples 10S-10W, collected in the vicinity of former UST 6?

The origin of the SVOCs detected in soil samples collected from 10S and 10W is not known, but the concentrations do not appear to be significant. New data suggests that the SVOCs may have been present in fill during fill emplacement.

6.

The storm drainpipe appears up-gradient not down-gradient of the former UST 6 location. Does the free product plume extend this far east of the former tank?

Yes, the storm drainpipe near Bldg. 5 is up-gradient, not down-gradient of the former UST 6 location. I don't agree with my consultant's recommendations that additional work needs to be conducted in this area. I feel that no additional investigation should be required in this section of the site.

Does this mean no trench backfill sampling / nothing?

7.

To account for not testing samples for VOCs, metals and semi-VOCs from the removal of USTs 12 and 13, these analytes should be tested in a down-gradient well at least once.

O.K., we will sample for VOCs, metals, and SVOCs in MW-17 or MW-11, at least once.

- Why not MW-6, when possible.

8.

I understand that the sanitary and storm drains may have been modified to prevent them acting as preferential pathways. Please describe where and what modifications have been done.

A CIPP liner was installed in the storm drain along the segments recommended by Baseline and shown on Figure 15 of the report. The liner seals (watertight) the storm pipe from infiltration of groundwater and release of storm water from pipe to groundwater. A product recovery well and check dam will be installed as a secondary check to recover fugitive product that may be migrating in the storm pipe trench. *(Near the 911 center only?)*

9.

Instead of testing water samples for turbidity and selectively filtering and silica gel treating these samples, you should filter and treat all TPH extractable water samples. The broad "humps" and lack of discrete peaks in chromatograms is not indicative of sediments or emulsions. It is a result of volatilization and degradation of specific compounds.

We will filter and silica gel treat all TPH extractable water samples at the site for now on. Only treated and filtered samples will be reported. *Be sure to include sample spike data to verify no negative bias.*

10.

The report states that generally the wells furthest from the shore are least impacted while those on the shore are greater impacted. While this may be true, really those areas down-gradient of releases are the most impacted (free product). In addition to this, the near shoreline wells are impacted with high boiling hydrocarbons.

This is a moot point that has been resolved by new filtered and treated gw data that further implicates fill soil as source of TPH in shoreline wells and indicates that dissolved phase gw concentrations are orders of magnitudes less than previous gw sample results. See attached memo from Bob Clark-Riddell (Cambria)

11.

The Water Board's RBSLs would be applicable, specifically the eco RBSLs. *(ie SWRCB) ?*
We will review Water Boards eco-risks numbers and determine if we will use the State eco RBSLs or develop site-specific eco RBSLs.

12.

Some confusion appears to exist as to when the interim measures proposed to treat free product areas will be done. The report states that if the free product plume is expanding, these measures will be done. This is not acceptable. Free product must be remediated regardless of its migration.

We have been implementing (for over 1 year) and are currently implementing interim remedial measures by conducting product skimming at TBW-5 and using absorbent socks to absorb product in the remaining impacted wells. We plan on doing more aggressive active free product removal in the area of TBW-5 and MW-6/MW-16 where we feel it is warranted, and equally aggressive bio-remediation in areas of TBW-3 where the thin films of free-product is not recoverable. We just wanted to make sure we had the full extent of product defined so we could determine the most effective (from a cost and technical basis) method of removal.

We also plan on conducting free-product and dissolved-phase plume migration and product mobility modeling. This information will be incorporated into the eco-risk assessment and used to establish appropriate cleanup goals for the site.

To ensure that our limited remediation budget is used efficiently and cleanup goals that we establish are attainable, we have decided to conduct feasibility studies for dissolved-phase and free-product remedial alternatives. I anticipate that feasibility studies will be completed and a final method for GW and product remediation will be selected by June 2001.

13.

The report states that the City may request the County to discontinue monitoring the shoreline wells except MW16 & MW17. This is not acceptable as long as contaminant sources are immediately up-gradient of the other perimeter wells.

The consideration for discontinuing of monitoring of off-site shoreline wells was in lieu of replacing those wells with property boundary wells. This idea was proposed because of the high levels of contaminants that were detected in fill soil beneath the water table at areas outside the property line and attributed to contaminated fill. We believe that the contaminants detected in saturated soil off-site were skewing groundwater results and producing results not representative of on-site groundwater quality. The main issue was that we were concerned that we were detecting contamination not associated with on-site operations, but rather contamination associated with off-site fill emplacement that were being mistaken to have resulted from on-site operations. Refer to question 4.

14.

Although you have stated that you are working on a feasibility study and risk assessment, the report does not mention this. Clean-up levels should also be discussed in either of these reports. Please clarify when these reports will be prepared.

The report was intended to provide detailed information on the nature and extent of contamination for the purpose of determining appropriate remedial options and to better understand the extent of remedial efforts. See response to question 13. Conclusions and recommendations in the report inferred that groundwater remediation and product removal would be required at certain areas of the site.

To ensure that our limited remediation budget is used efficiently and the cleanup goals that we establish are attainable, we have decided to conduct feasibility studies for dissolved-phase and free-product remedial alternatives. I anticipate that feasibility studies will be completed and a final method for GW and product remediation will be selected by June 2001 and cleanup goals will be established by July 2001.

Joseph:

I have the following comments/questions regarding the submitted Baseline 1/2001 Site History and Characterization Report. Please review these and give me a call to either discuss them or set up a meeting to discuss them.

Thanks,

Barney Chan, (510) 567-6765

- The two interior linear track drains within Bld 5 were described as concrete-lined trenches without any bottom other than a layer of gravel. Doesn't this allow for contamination to move both towards the collection pits and down-gradient within the building? There is a lack of information of subsurface conditions beneath Bld 5.
- Most of the contaminants of concern are assumed to have come from the former USTs (except that from the drains in Bld 5). Are there any historic surface releases, which could contribute to the contaminants being found in soil and gw?
- The fill material seemed to be discounted as a preferential pathway because it is not reasonable to expect a large continuous layer of coarse-grained material in the fill, however, the fill material itself is likely more permeable than the native soils and therefore acts as a preferential zone ie the area beyond the original site boundary.
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- What is the likely source of the SVOCs found in soil samples 10S-10W, collected in the vicinity of former UST 6?
- The storm drain pipe appears up-gradient not down-gradient of the former UST6 location. Does the free product plume extend this far east of the former tank?
- To account for not testing samples for VOCs, metals and semi-VOCs from the removal of USTs 12 and 13, these analytes should be tested in a down-gradient well at least once.
- I understand that the sanitary and storm drains may have been modified to prevent them acting as preferential pathways. Please describe where and what modifications have been done.
- Instead of testing water samples for turbidity and selectively filtering and silica gel treating these samples, you should filter and treat all TPH extractable water samples. The broad "humps" and lack of discrete peaks in chromatograms is not indicative of sediments or emulsions. It is a result of volatilization and degradation of specific compounds.
- The report states that generally the wells furthest from the shore are least impacted while those on the shore are greater impacted. While this may be true, really those areas down-gradient of releases are the most impacted (free product). In addition to this, the near shoreline wells are impacted with high boiling hydrocarbons.
- The Water Board's RBSLs would be applicable, specifically the eco RBSLs.
- Some confusion appears to exist as to when the interim measures proposed to treat free product areas will be done. The report states that if the free product plume is expanding, these measures will be done. This is not acceptable. Free product must be remediated regardless of its migration.

- The report states that the City may request the County to discontinue monitoring the shoreline wells except MW16 & MW17. This is not acceptable as long as contaminant sources are immediately up-gradient of the other perimeter wells.
- Although you have stated that you are working on a feasibility study and risk assessment, the report does not mention this. Clean-up levels should also be discussed in either of these reports. Please clarify when these reports will be prepared.

- Are there other buried channels besides that referenced in Fig 11 where top of channel is approx. 13' bgs (7' below groundwater table)?
- Please explain (again) how FP made its way into the storm drain & to the surface. Could it be from the former tank pit (AST 1, 2 & 3) fill & discharge into storm sewer, which fills during rainy season?
- Please explain why the dike is not acting as a barrier any longer (I know it is shown empirically).
- Was a gw sample taken & tested for VOCs from Lewis 6W? Report recommends reusing MW-5 for VOCs based on 6W results. (Soil detected only acetone in soil (all other VOCs are TPHg / d constituents).
- Where is the figure showing the location of check dams? (Not on Figure 9a)
- Was fill material used inward from the former dike location? ^{Yes} Was there fill on the original site? Yes.

7/30

mtg w/ M. Hersch & D. Elias

- 800 cyd budget
- immuno assay test kit
- 3 stage removal of piping

8/11 Mon 7³⁹: Jack Peabody 714443-3126 S-Calif

United 23 & 24 →
Airlines 25 & 26 →
2x8700

Waste Consultants Inc.

D. Elias:

re: MSC

#3978

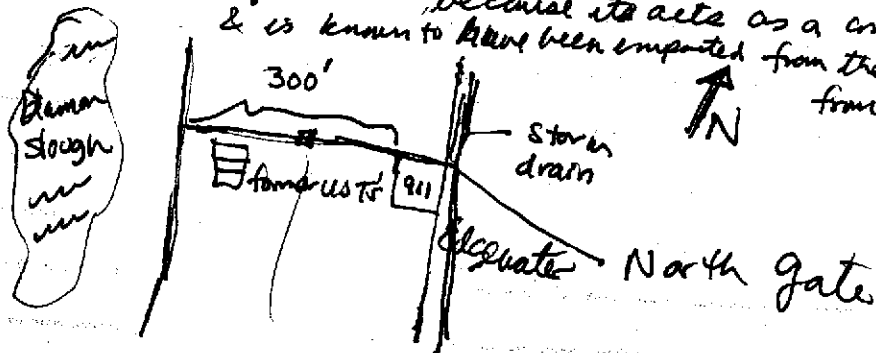
M. Hersch / L. Chambers

- cannot do 8260 MTBE only 8020
will run if ticketed by 8020
- for TEL changed amplitude every 4 spl.

11/6

Con M. Herabr. : (lines)

Finished all 3 portions of northern section
- ^{would like to} replace storm drain from former
USFS towards the Street - Edgewater Dr.
up to 300' because it acts as a conduit
& is known to have been emptied from the release
from the former
USFS.



catch basin: where FP observed during
last winter rains.

