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119028

February 3, 2021

State of Hawaii Department of Health
Hazard Evaluation and Emergency Response Office
2385 Waimano Home Road, #100
Pearl City, Hawaii 96782

Attention: Mr. Sven Lindstrom

Subject: VRP-34 Task 4 – Site Characterization, Iwilei Center, 866 Iwilei Road, 414 Kuwili Street, 418 Kuwili Street, 420 Kuwili Street, 505 Kaaahi Street, 850 Iwilei Road, and 860 Iwilei Road, Honolulu, Hawaii 96817.

References:
1. HDOH, 2020, Letter from Mr. Sven Lindstrom (HDOH HEER Office) to Mr. Bryan Li (Iwilei Center, LLC), HDOH Reference 176736 SL, October 1, 2020.
2. ESI, 2020, VRP Task 4 – Site Characterization, Iwilei Center, 866 Iwilei Road, 414 Kuwili Street, 418 Kuwili Street, 420 Kuwili Street, 505 Kaaahi Street, 850 Iwilei Road, and 860 Iwilei Road, Honolulu, Hawaii 96817. August 21, 2020.

Dear Mr. Lindstrom,

Environmental Science International, Inc. [ESI], has revised the Iwilei Center VRP Task 4 – Site Characterization based on the comments in the letter referenced above (HDOH, 2020). The HDOH comments are provided below followed by our responses in bold.

General Comments

1. The observation of free product in monitoring well MW-9 and contaminant concentrations of oil and diesel in soil samples collected in DU-11 indicate a release that should be reported to the HEER Office following the process described at https://health.hawaii.gov/heer/how-to-report-a-release-spill/#step?reportspill and in accordance with HRS 128D. Please complete a written release notification and submit it to the HEER Office.

Furthermore, additional investigation is warranted to determine whether this release may extend off-site and whether a source (such as a previously unidentified UST) exists that requires remediation. Please plan to conduct additional sampling to delineate and further characterize this release.

ESI Response –
<u>Release Reporting</u>
In regards to your request for a written release report, the observation of free product in monitoring well MW-9 and contaminant concentrations of diesel and oil in soil samples collected in DU-11 is exempt from the reporting requirements in Hawaii Revised Statues (HRS) Chapter 128D-3 and Hawaii Administrative Rules (HAR) Chapter 11-451, Section 7:

- ***Per HRS Chapter 128D-3, releases which occurred prior to July 1, 1990 are excluded from reporting requirements. We suspect that this release is not ongoing, and occurred before this date for several reasons which are discussed in detail for Comment #5a (see below).***

- ***Per HAR 11-451-7(b)(1), reporting is only for amounts exceeding reportable quantities. At this time, based on field observations and COPC concentrations, we have no reason to believe that a reportable quantity has been exceeded.***

<u>Offsite Investigation</u>
During a meeting on October 2, 2020, between Goodsill Anderson Quinn and Stifel (Lisa Bail) and the HDOH HEER Office (Kathy Ho, Sven Lindstrom, and Fenix Grange) it was agreed that the scope of VRP obligations stops at the property boundary. Therefore, no additional investigation off-site will be pursued as part of this VRP.

Regarding the possibility of an unidentified existing source, see response to Comment #2 below.

2. It is unfortunate that the project Work Plan did not include a contingency to separately sample and characterize observed subsurface layers of potential contamination. Several DUs included significant numbers of borings where such observations were made, which could indicate the presence of uncharacterized layers of contamination in those areas. The report did not specify whether or not sample increments were collected from the bands of observed suspect contamination and included in the overall MI sample; nor did it discuss how such increments could skew the samples' analytical results [see discussion of data failures in replicate samples in Comment #9 below].
    a. Please include a more detailed assessment of what these observations may mean about the presence of layers of gross contamination in the subsurface at

the site, including figures showing the locations of boreholes where observations were made.

ESI Response – Figures showing observed odor and staining have been added to the Site Characterization report, and are evaluated further in Section 5.8 for the presence of gross contamination in the subsurface at the Site. The figures are attached for reference. The following text has been added to Section 5.8:

"Contours of observed contamination (odor and staining) at the following depths: 0.5 – 2 ft bgs, 2-4 ft bgs, 4-6 ft bgs, 6-8 ft bgs, and 8-10 ft bgs (Figures 15 through 19) were generated with Surfer®, Version 18.0.160, by Golden Software.

An ashy charcoal colored material with a petroleum odor was observed throughout much of the Site between 2 and 4 feet bgs, except for the northwest portion (DUs 9 and 11). Within DUs 9 and 11, dark staining with a petroleum odor was mainly observed at depths between 4 feet and 10 feet bgs. Gross contamination was not observed in any of the other DUs below 4 feet, except for a couple of anomalies in individual borings for DU 4 and DU 7. These anomalies are discussed under the respective DU.

Due to the presence of free product and gross contamination at deeper depths in DU 11, additional subsurface scanning was performed in the area of the former auto repair shop on November 24, 2020 to identify potential existing subsurface source(s) (e.g., sumps, UST, petroleum pipelines). Ground penetrating radar and Passive and Inductive Radio Detection was used to search for potential existing subsurface sources. Features that appeared to be shallow piping (less than 2 foot bgs) were observed. No suspect UST or sump was observed. The survey figure is provided in Appendix J of the report. Previously, this area of the Property was an auto repair shop and railroad storage area. An oil fuel tank was present in this area prior to construction of the current building, but as-builts show that it was removed. In addition, as-builts show the presence of storm drains that previously ran underground in the area of DU 11. The piping observed during subsurface scanning does not appear to be connected or tied into any system and may be remnants of the storm drainage piping or sewer system. This piping has not been in use for many years and therefore is presumed not to be a current ongoing source. A description of the subsurface scanning has been added to Section 5.10.

b. Please also describe how sample results for DUs where observations were made may have been affected by increments collected (or not collected) in the bands of observed suspect contamination (for example, DU-2 had a band of contamination at about 2-3 feet bgs in 1 of 8 soil cores [including one core at 4' bgs with a PID measurement of 64.5], but the MI sample for DU-2b included increments from 1.5 to 6 feet bgs; this may have resulted in increments from the narrower band contaminating the larger sample volume and/or the dilution of contaminants from the narrower band [it is also notable that RSD calculations for replicate sample results for DU 2b exceeded project parameters]).

ESI Response – The following sentence has been added at the end of the first paragraph of Section 5.2.1.2: "When stained soil or soil with an odor was observed, increments were collected from the soil and included as part of the MI VOC sample, the wedge collected for the non-VOC samples included the stained soil. This approach provides a representative non-VOC MI sample for the DU and a biased high VOC sample for the DU."

The evaluation of observed areas of contamination will be included as part of the discussion of MI samples and sampling theory. Since MI sampling design is focused on mean concentrations of COCs across each DU, it is difficult to capture small-scale variability of contaminant concentrations within the DU. The DUs were defined for this investigation in the WP and were designated at the scale of interest for each source area and for current and projected future Property use. Decisions for the Site (e.g. choosing the remedial solution based on the remedial alternatives analysis) will be completed based on the concentration of each DU (and conservatively the highest concentration if replicates were collected), and remedial actions will be focused on the entire DU. Therefore additional evaluation at the smaller scale of these "hot spots" within a DU is not necessary for evaluating and determining remedies. A discussion of MI sampling theory in relation to the DU concentrations and the observed staining and odors will be included in the EHE.

More detailed discussions of the observed contamination and the relationship to analytical results is discussed for each DU in Section 5.8. Additional text is provided under responses to specific comments below.

3. Based on the data presented, it is likely that contamination identified in this report extends off-site to adjoining properties. This is of particular concern at DU-11 and DU-1 where groundwater contamination is significant and likely extends off-site. Please describe what responsibility, if any, the current property owner has to characterize and address contamination off-site from historic on-site releases.

   ESI Response – See response to comment #1.

Specific Comments

4. In Section 5.7 please include a description of the failure to meet Data Quality Objectives (DQOs) for multiple COPCs as determined by Relative Standard Deviation (RSD) calculations for replicate samples. Since replicate field samples are representative of the sampling method used in all DUs, please include an explanation of how reliable the data for each COPC and DU may be, particularly when interpreted together with the field

observations at the site. In general, a data failure casts doubt on the reliability of all results, however, by looking at all the information together a reasonable interpretation of the data may be presented.

ESI Response – The data quality assessment and quality control is discussed in Section 7. RSDs for field replicate samples which exceeded DQOs could be due to errors introduced through sampling methods as well as heterogeneity of contaminant concentrations and matrix. The evaluation of QC results in relation to sampling errors or contaminant and matrix heterogeneity are further discussed in Section 7 to clarify and address HDOH concerns. RPDs for intra-boring duplicate samples also exceeded data quality criteria. High RSDs and RPDs were primarily observed for non-VOCs. Since VOCs were mostly non-detect, RSDs or RPDs were not calculated for most VOC analytes. The sampling method for non-VOCs involved collecting a wedge from the entire length of the boring, which would minimize variability due to sampling method since the entire length of the core (vertical increment) is collected. Therefore it is more likely that the source of variability is due to spatial heterogeneity in either the contaminant distribution or matrix (i.e. between borings). In addition, other assessments within the Iwilei district have also observed similar heterogeneity (i.e. high RPDs) further indicating that the source of variability is likely due to spatial heterogeneity. Therefore, we conclude that the data is usable and reliable for the purpose of evaluating the presence or absence of COPCs and potential exposure based on current and projected land use. While certain DQOs were not achieved (e.g., RSDs and RPDs for non-VOC replicates), the laboratory results are fairly consistent with field observations in that there was substantial spatial heterogeneity observed.

The following sentence is added to Section 5.7, "The usability and reliability of the data is discussed in Section 7."

5. Section 5.8:

   a. The first paragraph states that there are no identified ongoing release sources at the property and concludes that "due to the depth of the observed contamination and lack of current identified sources, it is likely the observed contamination is a result of former releases or contaminated fill, (i.e., pre 1960s)." [A similar statement is made in the first paragraph on Page 5-12], But there is another alternative, that an unidentified source is still present at the site (e.g., a waste oil UST). Shallow subsurface TPH-o contamination is present across the site and extends into the deeper vadose zone at concentrations above the PAL in several DUs, but it is only present in the capillary fringe/smear zone at such concentrations in DU-11, where it is accompanied by TPH-d and free product. Notably, TPH-d is not identified in concentrations exceeding the PAL anywhere else at the site or in shallower soil layers. Added together, this could indicate a localized source that warrants further evaluation of the data and likely additional investigation. Please revise your analysis as appropriate.

ESI Response – The possibility of an unidentified source that is still present at the site has been addressed as follows:

i. ***The statement "there are no identified ongoing release sources at the Property that are currently contributing to the observed contamination" has been removed from Section 5.8. Section 5.10 has been added to describe the subsurface scanning for an unidentified source, such as a UST. See response to Comment #2.***

ii. ***Based on the historical activities at the Property, it is possible that previous practices might have resulted in localized sources, i.e. solvent and/or waste oil disposed of improperly. Within Layer A (0.5-1.5 ft bgs), TPH-RRO concentrations (300-1500 mg/kg) were above the PAL across the site, including DUs 13 and 14, where no source areas were identified. Therefore, it is possible that the TPH-RRO could be due to contaminated fill used when constructing the building, rather than a specific source, either current or previous. This has been included in the summary and conclusions and the hazard will be discussed in the EHE. Since the entire Property is paved, there is no current exposure pathway, therefore no current hazard.***

TPH-RRO concentrations exceeded the Tier 1 EAL in Layer B of DU 2, DU 7, DU 9 and DU 11. Concentrations of TPH-DRO and TPH-RRO were detected in Layer C of DU 11 only. Observed staining and odor was also noted only at deeper depths in DU 9 and DU 11, indicating that there was release source in areas DU-9 and DU-11. See response to comment #2a. Another possibility is an off-site source to the northwest.

Irregardless of the historical source of the TPH-RRO in DU 11 and surrounding areas, additional investigation will be needed to determine if this contamination is increasing or decreasing. Quarterly groundwater monitoring will be added as a recommendation in Section 10.

Further discussion has been added to Section 10.2 to clarify these points.

iii. ***Free product was only observed on groundwater in DU 11. TPH-RRO in groundwater exceeded its PAL only in DU 11. Other than DU 11, TPH-DRO was only detected at elevated concentrations in Layer A of DU 10, but was below the PAL.***

iv. ***No records of any USTs were found for the Site.***

b. As previously stated, it is unfortunate that the Work Plan did not provide for separate sampling and analysis of the subsurface layers of "observed" contamination described in this section at DUs 1 through 13 (almost all of the DUs). Without further data, the soil in these observed layers should be classified as presumed-contaminated when considering human health and environmental risks and when assessing remediation alternatives. Please provide additional information about the locations of these layers as requested in Comment #2 (i.e., in a Figure) and provide an opinion about what contaminants may be present in those bands based on the analytical data.

ESI Response – See responses to Comments #2a and #2b.

c. In DU-4, the band of contamination appears to be at the 2- to 3-foot bgs interval, except in Boring B-4 where it is at 8-feet bgs. Please explain this anomaly.

ESI Response – The observed contamination at 8 ft bgs was a thin layer (less than 1-inch thick) of a black tar-like substance with no odor (see boring logs, descriptions were also added to Section 5.8), whereas the observed contamination at around 2 ft bgs was an ash-like charcoal layer with a petroleum odor, ranging between 3-6 inches thick. Since increments were collected from the areas of observed contamination for Layer B in DU 4, the analytical results should be representative of the DU including the observed contamination. Arsenic was detected slightly above the PAL in Layer B of DU 4. The source of this could be the charcoal ash-like layer.

The paragraph above has been added to Section 5.8 under DU 4.

d. Only one boring in DU-5 (Boring B-7) had observable contamination, however it extends more than 6 feet. Please provide more details and an explanation for this anomaly (i.e., based on its location, could it be associated with observed contamination in DU-4 or possibly with off-site contamination on the adjoining property?

ESI Response – This is a typo. Please see boring log for DU 5, B7. Stained layer and odor was observed between 0.5" and 1'. The text has been corrected.

e. DU-7 also has an anomalous contamination layer at 7-feet bgs, please explain and provide further details.

ESI Response – The observed contamination at 7 ft bgs was a layer (2-inches thick) of stained silty sand, whereas the observed contamination at around 3-4 ft bgs was an ash-like gray charcoal-like layer (6-inches thick) with a petroleum odor. The ash-like layer appears to be more widespread, whereas the stained silty sand layer is confined to B7 (and possibly the area around it, but not observed in any other borings).

The above paragraph was added to Section 5.8 under DU 7. The presence of isolated areas of observed contamination at deeper depths will be considered in the EHE.

f. Significant contamination was observed in more than half of the boreholes in the capillary fringe region of DU-9 but analytical results for COPCs did not exceed the PALs, please explain this apparent contradiction.

ESI Response – The text under DU 9 in Section 5.8 has been revised as follows:

"The subsurface in DU 9 consisted primarily of concrete, silty clay, well graded sand, gravel and organic silt. Either a slight petroleum odor or a slight sewer odor was observed mostly between 5 and 10 feet bgs. "

- ***B3 at 5 to 10 feet bgs. (Dark brown silty sand, faint sewer odor)***
- ***B5 at 5 to 10 feet bgs. (Dark brown silty sand, faint petroleum odor)***
- ***B6 at 7 to 10 feet bgs. (Dark brown silty sand, slight petroleum odor)***
- ***B7 at 5 to 6.5 feet bgs. (Dark brown silty sand, faint sewer odor)***
- ***B8 at 6.5 to 10 feet bgs. (Dark gray sandy, faint sewer odor)***
- ***B9 at 7 to 10 feet bgs (Dark gray clayey silt, faint sewer odor)***
- ***B10 at 3.5 to 3.8 feet bgs. (Black asphalt, faint petroleum odor)***

Since analytes were detected only at low concentrations and nothing exceeded the PAL in Layer C, it is possible that the odor and staining is due to some other off-site release, possibly sewer line related, rather than the same source as DU 11, which would explain why the COPCs were not detected above the PAL.

g. Please explain the anomalous observation at 3.8- to 4.5-feet bgs in Boring B-10 of DU-12.

ESI Response – It appears to be an isolated observation at this depth and unrelated to the observed contamination at 0.5 to 1.5 feet bgs. The headspace PID reading for the stained soil was 0.7 ppm, therefore it does not appear to be associated with the observed contamination at 0.5 to 1.5 feet, which in some cases had slightly higher PID readings. TPH-RRO concentrations for DU 12 and DU 13 exceeded the PAL in Layer A where other staining and odor was observed,

but was well below the PAL in Layer B where staining in this isolated boring was observed.

The text above was added under DU 12 in Section 5.8.

6. In Section 5.9, please elaborate on how the PID readings correspond (or fail to correspond) to the observations described in Section 5.8 and Table 5.6. [For example, does the PID reading of 64.5 in the "southwest comer of DU" correspond to Boring "B7" at DU-2 where contamination was observed between 2 to 4 feet bgs"?]

ESI Response –The 3rd paragraph of Section 5.9 was revised as follows:
"When free product or evidence of suspect contamination (i.e., odors or staining) was encountered during drilling, a PID measurement was collected. Most of the PID readings did not correlate with evidence of staining or odors observed. The highest PID measurement was 64.5 ppm collected from the southwest corner of DU 2 at approximately 4 feet bgs where the petroleum odor was strong, but low PID readings were recorded from DU 4, DU 5, DU 9, and DU 12 where strong petroleum odors were also observed. This may indicate that the staining was not due to VOCs for which the PID is able to detect, or any other target COPC."

7. Section 6.3:
   a. Free product should not damage an interface probe, it is designed to measure depths to both oil and water. Please provide an estimate of how much free product is present and note that, due to the proximity of the ocean, tidal influence on the depth to groundwater may affect the amount of observed free product.

ESI Response –Text in Section 6.3 referring to MW 9 was revised as follows:

"… The free product on the water column was not thick enough for an interface probe to measure in temporary well MW 9. A low-flow pump was used to purge each temporary well and to collect the VOC groundwater samples, except for MW-9 due to observed free product. A bailer was used to purge and collect the sample from MW 9. Attempts to remove free product from the sample were made using a pipette prior to capping the sample."

   b. Please explain how a sample was collected from MW-9 with a bailer without contaminating the sample with free product.

ESI Response –The following sentence was added to Section 6.3: "Attempts to remove free product from the sample were made using a pipette prior to capping the sample."

8. In Section 6.7, please explain the very high concentration of arsenic in the groundwater which does not correspond to the relatively low concentration of arsenic in the saturated

layer of soil in DU-Ic. Is this contamination in the groundwater likely associated with the former termite eradicating kiln and might the groundwater contamination extend off-site?

ESI Response – It is difficult to determine the source of contamination with the current data, but it is assumed that this arsenic contamination could be from the former termite eradicating kiln in DU 1.

9. Section 7.2 states that "'Precision and accuracy were qualitative parameters that directly determine the acceptability of chemical data.' However, Section 7.3 discusses DQOs that were not met for many COPCs. It goes on to state with regards to TPH, VOCs, and metals in soil that "in accordance with MI sampling theory, all MI samples (including primary samples, field replicates, laboratory replicates) data for a DU are considered representative of the DU and will be used when performing the risk assessment and remedial alternatives analysis, rather than just the primary data." The deviations listed in Table 7.1 are significant and should call into question whether the data is even acceptable rather than simply agree to include all the results in the risk assessment. Particularly since the question is whether to accept the data for all DUs at the site, not just for those DUs where replicates were collected, since the same sampling methods were used across the site.
    a. Since DQOs were not met, please provide a justification why the chemical data should be determined "acceptable." If the data is not acceptable, then additional site characterization should be conducted.

ESI Response – It is our understanding that DQOs are not meant to be criteria above which the data is determined not usable but rather criteria above which the uncertainty in the precision and accuracy of the data should be assessed and the impact of the uncertainty on project decisions determined. DQO issues are addressed in the response to Comment #4 above. Additional site characterization is not needed because the data is considered acceptable.

    b. With regards to the soil COPC concentrations in DU-2 and DU-5 where DQOs were not met (and presuming the data are "acceptable"), please use the maximum replicate concentration measured for those DUs for those [this is in accordance with new HDOH guidance currently being developed by our Risk Assessor, Dr. Roger Brewer].

ESI Response –All replicate concentrations are reported in the results tables in Section 5.7, including the maximum replicate concentration.

    c. Please explain what the data failure for these COPCs indicated for the reliability and acceptability of the data from the other DUs for all COPCs. Our recommendation is to collect new samples incorporating the site observations or, at a minimum, adjust the data for DUs without specific replicate results upwards by the replicate data RSD (e.g., if the RSD for TPH-o is 110%, increase the TPH-o data across the site by 110%, so a lab result of 100 mg/kg becomes 210 mg/kg). [This is also in accordance with new DU-MIS Data Quality Evaluation guidance currently being developed].

ESI Response – Guidance for data quality assessment (e.g. EPA, Guidance for Data Quality Assessment, Practical Methods for Data Analysis, EPA QA/G-9, July 2000) suggest that environmental data be evaluated in order to determine if they meet the requirements for intended use, such as project decisions. Limitations of the data and impact on decisions should be discussed, but failure to meet QC criteria does not determine that data is unusable. Most of the laboratory QC results were within criteria. See response to Comment #4. High variability (e.g. high RSDs in replicates) suggests higher uncertainty in the precision and accuracy of the results. A discussion of the probability that this higher uncertainty could affect project decisions is included in Section 7 for each of these analytes and will be considered in the EHE. The discussion of uncertainty in Section 7 will be expanded as follows in order to address HDOH concerns about uncertainty:

"The heterogeneity of the observed contamination suggests that releases may not be uniform, but instead may have resulted in spatial heterogeneity of contaminant concentrations. In addition, the boring logs indicate a heterogeneous matrix, and therefore the transport of contaminants within the matrix, and the extraction efficiency of the analytes from the matrix may vary. For TPH-d, TPH-o and PAHs, the results for DUs where no replicates were collected will be considered as minimum concentrations."

d. Ultimately, due to the heterogeneity observed in the vadose zone, a decision must be made whether the data collected is adequate to make decisions about the amount of contamination at the site, its location, and the health and environmental risk posed. Please be clear in stating whether the data is adequate and provide the reason.

ESI Response – See response to comment #4.

10. Table 8.1 states that leaching hazards for arsenic, cadmium, and lead must be assessed using batch testing. Please state whether batch testing will be used to assess these COPCs or justify why not.

ESI Response – Groundwater concentration of arsenic was high in DU1 where a high concentration of arsenic was also detected in the soil. It is likely that continued groundwater monitoring will be needed in this DU. An SPLP extraction was performed for arsenic in the soil sample from DU6A, where the total arsenic concentration in soil was 325 mg/kg, but the arsenic concentration in groundwater was low (7.3 µg/L). The SPLP concentration is 3,150 µg/L (attached) and the batch test leaching model was applied. The calculated Kd is 89, greater than 20

indicating that arsenic is not significantly mobile in the surface soil of this DU. This summary will be included in the report.

The concentrations of cadmium and lead in soil were just slightly above the PAL, and concentrations in groundwater were well below the PAL, suggesting that leaching concern for these metals are minimal.

11. Table 3.4 on Page 8-3 may be mislabeled [should be Table 8,2?]. Please correct as appropriate.

ESI Response – Corrected as stated.

12. On Page 8-3, Gross Contamination:
    a. Gross contamination is only identified in Layer C of DU-11, however, after adjusting the analytical results to account for the failure to meet the DQOs as described in Comment #9c above, several other DUs will also exceed the Site-specific GC EALs, Additionally, layers of observed gross contamination were documented in the Field Observations and those layers must be presumed contaminated in the absence of direct, repeatable sampling results. Please revise this section to include those areas of identified gross contamination.

ESI Response –See response to comment #4.

    b. The last paragraph of this section states that "TPH-d and TPH-o contaminated soil could pose a gross contamination hazard if TPH-d and TPH-o contaminated soil is exposed and not managed properly." This statement should also apply to all soil and groundwater with contamination that exceeds the most stringent, unrestricted Tier 1 EALs because if that media is not properly managed and is transported off- site then it could constitute a hazardous waste and off-site re-use could constitute illegal dumping [dewatering permits may be required for dewatering into storm and/or sanitary sewer systems].

ESI Response – The sentence is revised to "Contaminated soil could pose a hazard if exposed and not managed properly."

13. In the first full paragraph at the top of Page 8-4, similar to Comment #12b above, please state that all media with contaminants at concentrations that exceed the unrestricted Tier 1 EALs, in addition to Site-specific DE EALs, must be properly managed in the event it leaves the site,

ESI Response – Specific hazards will be identified in the EHE. Similar to response to Comment #12b, the following sentence is added, "Contaminated soil could pose a hazard if exposed and not managed properly."

14. Page 8-4, Soil Vapor: Although the soil vapor screening assessment in the area of DU-11 included only two samples, the TPH-d concentrations were significantly below the HDOH unrestricted Tier 1 EAL, therefore additional soil vapor sampling does not appear necessary. Nonetheless, since additional investigative work is recommended in DU-11, please consider collecting a large volume purge soil vapor sample in that area to confirm that no significant soil vapor contaminants are present. Since methane is a by-product of petroleum degradation, particularly in low oxygen environments, if additional soil vapor samples are collected then methane should be included in the analysis. Although methane has no EAL and is not included in the VRP Agreement, it could pose an explosive hazard and therefore must be considered in assessing the environmental hazards at the site.

    ESI Response – Thank you for acknowledging that additional soil vapor sampling does not appear necessary. PID readings from soil borings indicated little to no VOCs. No VOCs were detected above the PAL in DU 11 and therefore additional soil vapor investigation is not warranted.

15. Page 8-4, Leaching, states that none of the COPCs were detected at concentrations above the Site-Specific HDOH Leaching Soil EAL, however, this is not the case after adjusting the results due to the data failure as described in Comment #9c. Please revise this section after re-calculating soil concentrations to account for the RSD.

    ESI Response – see response to comment #4. No change.

16. Section 10.2, Page 10-3, first bullet, states that “there are no identified ongoing or current releases.” While this is a true statement, there may be an unidentified source in DU-11 to account for the significant TPH-d and TPH-o contamination in the groundwater and deep soil layer. This possibility warrants further investigation of DU-11 and the associated contaminant plume which may extend off-site. Please report this release as requested in Comment #1 and revise this statement accordingly.

    ESI Response – see response to comment #2a.

17. Section 10.2, Page 10-3, fourth bullet states that additional sampling is not warranted. HDOH disagrees, additional sampling should be conducted to investigate the source of contamination in DU-11 and to assess whether contamination is migrating off-site in the groundwater.

    ESI Response – see response to comment #2a.

18. Section 10.2, Page 10-3, fifth bullet; Please include a statement about whether there is a potential hazard to users and the public at adjoining properties and public roadways that may be impacted by historic on-site soil and groundwater contamination sources where the contamination may extend off-site.

ESI Response – see response to comment #2a.

19. Section 10,2, Page 10-3, last bullet: please clarify that this statement applies to contamination on-site and on adjoining properties where contamination may extend off-site.

    ESI Response – see response to comment #1.

20. Section 10.2, Page 10-4, last bullet, please revise the statement “Develop Options for Alternatives to Mitigate and Manage. ..”to “Develop an appropriate number of alternative remedial measures to Mitigate and Manage.to clarify that at least some of the proposed alternatives shall include actual remediation of the contamination at the site.

    ESI Response – revised as suggested.

21. Please include analytical results for replicate samples in the Appendices.

    ESI Response – analytical results for replicate samples added to Appendix F and G.

22. In Appendix H, Graphical Conceptual Site Model, please include hypothetical future residential land use at the site and hypothetical off-site re-use of soil.

    ESI Response – The EHE will address potential hazards to future users. If future land use would include residential use or if soil is to be re-used off-site, approval would need to be obtained from HDOH. Text will be added in EHE.

If you have questions or need additional information, please contact us at (808) 285-1795 (Traci cellular) or (808) 479-5217 (Robert cellular) or (808) 261-0740 (ESI office).

Mahalo,

Traci Sylva

Traci Sylva
Deputy Project Manager
Environmental Science International

Robert Chong
Program Manager
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Attachment: Revised Final VRP Task 4 Site Characterization, February 3, 2021.