October 10, 2016
File: 185703027

Attention: Dilan Roe, PE
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA

Dear Ms. Dilan Roe,

Reference: Environmental Site Summary for the Oakland 2 Site Case Number RO3157

The attached Summary Table is provided by Stantec Consulting Services Inc. (Stantec), on behalf of City Ventures (CV) has been prepared according to the request from Alameda County Department of Environmental Health (ACEH) at the meeting with CV and Stantec on September 7, 2016 regarding the Oakland 2 Site (ACEH Case number R03157). Based on the review of historical documents and soil vapor and soil sampling Stantec has completed, we have concluded that the site conditions do not pose a risk to future residential occupants.

1. In 1996 the ACEH provided closure for this property for commercial/industrial use. The additional testing and work conducted by Stantec has focused on evaluating site conditions and comparing them to residential environmental screening levels. The purpose of the additional sampling has been to evaluate whether current site conditions meet the standards for residential closure.
2. Stantec has compared historical and recent soil, groundwater and soil vapor data to residential Regional Water Quality Control Board-San Francisco Bay Region (Water Board), February 2016 Environmental Screening levels (ESLs), or the United States Environmental Protection Agency (EPA) 2016 Regional Screening Levels (RSLs). In addition, in response to the ACEH comments, Stantec has conducted two soil vapor evaluations, one in May 2014 and one in September 2016, to evaluate for the potential risk of vapor intrusion.
3. Based on an evaluation of the soil vapor data, and historic soil and groundwater data, evaluated against the standards mentioned above, Stantec concludes that concentrations do not pose a risk to residential occupants, and there is sufficient evidence to support closure for residential use.

The attached Table 1 Summary of Analytical Results by Area provides the detailed backup to these conclusions as you requested.

Reference: Environmental Site Summary for the Oakland 2 Site Case Number RO3157

Closing

We look forward to discussing any questions you may have at our meeting on Wednesday.

Regards,

Stantec Consulting Services, Inc.

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Attachment: Table 1 - Summary Analytical Results by Area

c. Andrew Warner, City Ventures
Keith Walker, Cox Castle and Nicholson

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Table 1
Summary of Analytical Results by Area
2240 Filbert Street, Oakland, California

Areas of Concern	Sample Location			Analytes Detected			Adequacy of Characterization			Further Assessment to Address Data Gaps	Stantec Conclusions
	Soil	GW	Soil Vapor	Soil	GW	Soil Vapor	Soil	GW	Soil Vapor		
Former Benzin Room and Former Clarifier Area	B-16, B-17, B-19, B-20, B-41, B-42, B-43, B-44, CR-1, CR-2, CR-3, CR-4, CR-5, CR-6, CR-7, CR-8, SB-1	B-16, B-17, B-19, B-41, B-42, B-43, B-44,	SV-1	TPH B-19, B-20, B-41, B-42, B-43, B-44, TPH/VOCs B-16, B-17, CR-1, SB-1	TPH B-41, B-42, B-43, B-44 TPH/VOCs B-16, B-17, B-19	VOCs SV-1, SV-5, SV-6, SV-8 and SV-14.	- Extent of impacts was adequately characterized. - Contaminants limited to TPH and acetone. - Concentrations below residential ESLs except for benzene and TPHg at depth near groundwater, will be mitigated by 5 ft clean soil zone to mitigate potential for TPH/benzene vapor intrusion. - Excavation adequately removed contaminants. Shallow test pit adjacent to sidewalls was used to evaluate sidewalls except on off-site boundary. - Soil vapor data indicates that there are no soil vapor issues in this area indicating that no additional assessment is warranted in regard to soil.	- Adequate characterization of extent. - Contaminants limited to TPH and acetone. - Concentrations below groundwater to indoor air pathway. - Detection limit elevated above ESLs in B-43 for benzene (10 versus 5 ug/L). Benzene is not an issue in nearby SV-1. - Soil vapor collected from SV-5, SV-6 and SV-8 indicate that benzene concentrations in this northern area are all <u>below</u> residential ESLs. -No further assessment is warranted in regard to groundwater.	- Data from SV-1 is adequate for defining impacts here. Additional delineation now complete for Freon 12 (see below). - Concentrations and detection limits in soil vapor were <u>below</u> residential ESLs with the exception of some CVOCs. CVOCs were "non-detect" in both soil and groundwater, so no further assessment is warranted. - Soil vapor was collected from SV-5, SV-6, SV-7 and SV-14 to further define the Freon 12 at SV-1. The highest concentration was observed in SV-14 which exceeds the residential indoor air RSL only when using the Water Board attenuation factor of 0.002 but is <u>below</u> the residential RSL when using the USEPA recommended factor. Further, concentrations significantly decline to the west and south. - Soil vapor collected from SV-5, SV-6 and SV-8 indicate that benzene concentrations in this northern area are all <u>below</u> residential ESLs. -No further soil vapor assessment is warranted.	Additional delineation for Freon 12 in soil vapor appears to indicate that SV-14 is the main source area of Freon 12 given the attenuation observed north, south, east and west of this location. Although no northern boundary sidewall sample was collected in the clarifier excavation (the northern boundary abuts the property boundary), field observations indicated no impacts on the northern sidewall based on verbal communication with the excavation contractor Nova and therefore Stantec does not recommend further sampling off-site, north of the excavation. No further assessment is warranted.	Conditions in this area do not pose a threat to future residential occupants. No further assessment is warranted.
Former Cleaning & Dying Works	B-45, B-46	B-13, B-15, B-18, B-45, B-46	None	TPHg B-45, B-46	TPH B-13, B-15, B-18, B-45, B-46	VOCs SV-5 and SV-6.	- Two soil samples were centrally located within the potentially-impacted area. - Detected contaminants limited to TPH. - CVOCs analysis was not warranted because CVOCs are not a typical reagent for cleaning and dying operations. - Elevated detection limits for benzene and ethylbenzene in B-45 and B-46 at 9+ feet bgs. - Detected concentrations below residential ESLs except at depth near groundwater. - Free product reported in soil at the groundwater interface. Soil vapor was analyzed for VOCs, methane and oxygen in this area. Soil vapor data did <u>not</u> detect VOCs, and methane and oxygen concentrations indicated that there is a strong aerobic zone for biodegradation and methane concentrations are not at levels that would be a potential hazard. - No Further assessment is warranted in regard to soil.	- Adequate characterization of extent. - Extent of free product characterized by downgradient borings in other areas of concern (B-12, B-39, B-40, B-57). - CVOCs not analyzed but CVOCs are not a typical reagent for cleaning and dying operations. - No further assessment is warranted in regard to groundwater.	- SV-5 was located between B-45 and B-18, and SV-7 was located downgradient. VOCs were not detected at either location except for Freon 12 below residential RSL in SV-7. - Methane was low at both locations with a maximum concentration of 53,000 ppmv (5.3% by volume) in SV-5 and 2,900 ppmv in SV-7. Oxygen was at or near atmospheric concentrations providing a strong aerobic zone for biodegradation in the shallow vadose zone. VOC and methane concentrations do <u>not</u> represent a threat to indoor air. Free product, if still present in groundwater, does not a represent a threat to residential occupants. -No further assessment is warranted in regard to soil vapor.	No further assessment is warranted.	Conditions in this area do not pose a threat to future residential occupants. No further assessment is warranted.

Table 1
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2240 Filbert Street, Oakland, California

Areas of Concern	Sample Location			Analytes Detected			Adequacy of Characterization			Further Assessment to Address Data Gaps	Stantec Conclusions
	Soil	GW	Soil Vapor	Soil	GW	Soil Vapor	Soil	GW	Soil Vapor		
Former Cabinet Shop and Paint Room	B-32, B-33, B-34, B-64	B-32, B-33, B-34, B-64	None	TPH B-34, B-35, B-64 TPH & VOCs B-32, B-33	TPH B-34, B-35, B-64 TPH & VOCs B-32, B-33	VOCs SV-9, SV-10 and SV-11.	- Soil samples were taken within the potentially-affected area, and further sampling was performed to further characterize the potential for soil vapor intrusion (see soil vapor discussion in the following columns). - However, soil detection limits exceed the residential ESL for benzene in B-32 and B-33 (0.005 mg/kg versus 0.001 mg/kg). Soil vapor analysis indicates that soil vapor benzene concentrations are below soil vapor concentrations predicted using ambient air concentrations. - CVOCs were not reported above detection limits with the exception of methylene chloride, which was detected below the residential ESL. - No further assessment is warranted in regard to soil.	- Groundwater was analyzed for VOCs, TPHg,og, with appropriate detection limits. - Benzene and 1,2-DCA exceed the residential ESL for groundwater to indoor air in B-32 and B-64 for benzene and B-32 for 1,2-DCA. Soil vapor analysis in this area indicates that benzene and 1,2-DCA are not a concern for vapor intrusion, however. No further assessment is warranted in regard to groundwater.	- Soil vapor samples SV-9, SV-10 and SV-11 were located in this area. - 1,1,2,2-tetrachloroethane (SV-9) and benzene (SV-10) were detected above their respective residential soil vapor ESLs. The benzene concentration in SV-10 although above the residential soil vapor ESL corresponds to an indoor air concentration that is below the ambient background concentration measured by OEHHA on Filbert Street in Oakland in 2008. - Concentrations of 1,1,2,2-tetrachloroethane are sufficiently close to the residential soil vapor ESL that concentrations will not exceed the acceptable risk levels. - No further assessment is warranted in regard to soil vapor.	Soil vapor benzene concentrations are below soil vapor concentrations predicted using OEHHA ambient air concentrations and the concentration of 1,1,2,2-tetrachloroethane is sufficiently close to the residential ESL to not pose a risk to future residents. The observed concentrations of these two compounds would not warrant installation of a soil vapor barrier. No further assessment is warranted.	Although detected above the residential ESLs, soil vapor concentrations for benzene and 1,1,2,2-tetrachloroethane are either below ambient air concentrations (benzene) or in a range that does not pose a risk to future residential occupants. No further assessment is warranted.
Former Paints Location	CR-8	B-19	None	TPH CR-8	VOCs B-19	VOCs SV-8.	- Soil samples were taken within the potentially-affected area, and then further sampling was performed to further characterize the potential for soil vapor intrusion to indoor air. - Results of soil vapor sampling are discussed in the soil vapor column. -No further assessment is warranted in regard to soil.	- Groundwater was analyzed for VOCs, TPHg,og, with appropriate detection limits. - No detections of VOCs above residential ESLs. - No further assessment is warranted in regard to groundwater.	- Soil vapor was collected near B-9 at SV-8. - Only Freon 12 was detected and all detections and detection limits were below residential sub slab ESLs or RSLs. - No Further assessment is warranted in regard to soil vapor.	No data gaps remain in this area based on the groundwater concentrations in B-19 and the soil vapor results. Excavation in CR-8 within the Former Paints location to 4.5 ft (which is ~9.5 ft below sidewalk grade) exhibited no impacts in this area. Top 5 feet of soil was excavated from this area when the site was redeveloped to install a loading dock and 5 feet of clean fill will be placed in this area which will be protective of overlying occupants. No further assessment is warranted.	Conditions in this area do not pose a threat to future residential occupants. No further assessment is warranted.
Former Elevator #1	B-9, B-33, Floor and Sidewall Sample	B-9, B-33	None	TPHog, PCBs B-9, TPHog Floor and Sidewall	TPHog B-9	None	- Soil samples collected within the area after excavation with appropriate analytes given a hydraulic lift source. - Area was excavated and removed. - TPHog does not pose a threat to groundwater as a result of low solubility. - No further assessment is warranted in regard to soil.	- Groundwater was analyzed for TPHog and does not pose a threat for migration. - Excavation of impacted soil has been completed. - No further assessment is warranted in regard to groundwater.	- Not analyzed. Not applicable for hydraulic oil because it is not volatile. - No further assessment is warranted in regard to soil vapor.	This area was excavated and the shallow soil impacts were completely removed. There do not appear to be any data gaps. No further assessment is warranted.	Conditions in this area do not pose a threat to future residential occupants. No further assessment is warranted.
Former Elevator #2	B-14, B-38, B-39, Floor and Sidewall Sample	B-14, B-38, B-39	None	TPHog, B-14, B-38, B-39, Floor and Sidewall	TPHog B-14, TPHg,og & VOCs B-38, B-39	None	- Soil samples collected within the area after excavation with appropriate analytes given a hydraulic lift source. - Area was excavated and removed. TPHog does not pose a threat to groundwater as a result of low solubility. - No further assessment is warranted in regard to soil.	- Groundwater was analyzed for VOCs, TPH and TPHog. Results were "non-detect" except for TPHog, which does pose a threat for migration. Excavation of impacted soil has been completed. - No further assessment is warranted in regard to groundwater.	- Not analyzed. Not applicable for hydraulic oil because it is not volatile. - No further assessment is warranted in regard to soil vapor.	This area was excavated and the shallow soil impacts were completely removed. There do not appear to be any data gaps. No further assessment is warranted.	Conditions in this area do not pose a threat to future residential occupants. No further assessment is warranted.
Tanks #1 & #3	B-25, B-26, B-47, MW-1, SB-2	B-1, B-24, B-25, B-26, B-27, B-47, MW-1	SV-2	TPHg, TPHms, BTEX B-25, B-26, B-47, MW-1, SB-2	TPHg, TPHms, BTEX B-25, B-26, B-47, MW-1, SB-2	VOCs SV-2	- Extent of characterization was adequate. - Contaminants limited to TPHg and TPHms. - Concentrations below residential ESLs except at depth near groundwater (smear zone). - Elevated detection limits for benzene above residential ESLs in B-47 and MW-1 at 10 and 11.5 ft bgs respectively. This does not represent a potential concern because soil vapor samples collected from SV-2 indicate that benzene is below residential soil vapor ESLs in this area and therefore does not represent a threat to indoor air. - No further assessment is warranted in regard to soil.	- Extent of characterization was adequate. - Contaminants limited to TPHg in one location. - TPHg concentration concentrations were below residential ESLs. - No further assessment is warranted in regard to groundwater.	- SV-2 is an adequate screening sample to assess for impacts from the tanks. - Concentrations and detection limits were below residential soil vapor ESLs except for detection limit for vinyl chloride but this area is not suspected for use of VOCs. - Soil vapor data supports the conclusion that both tanks were used for heating oil because no VOCs were detected in this area. - No further assessment is warranted in regard to soil vapor.	No apparent data gaps. No further assessment is warranted.	Conditions in this area do not pose a threat to future residential occupants. No further assessment is warranted.

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Areas of Concern	Sample Location			Analytes Detected			Adequacy of Characterization			Further Assessment to Address Data Gaps	Stantec Conclusions
	Soil	GW	Soil Vapor	Soil	GW	Soil Vapor	Soil	GW	Soil Vapor		
Tank #2	SB-3, MW-4	B-3, B-4, MW-4	SV-3	TPHg,d,BTEX MW-4 TPH/VOCs SB-3	TPHg,d,BTEX B-14, TPHg,og & VOCs MW-4	VOCs SV-3	- Extent of characterization was adequate. - UST was removed in June 2015. - UST was located immediately below the above ground loading dock and only extended a few feet into soil. - No holes were observed in the tank and no staining or odor was noted in surrounding soil. - No further assessment is warranted in regard to soil.	- Extent of characterization was adequate. - Contaminants limited to TPHg in one location. - Monitoring well MW-4 was installed and indicated no impacts to groundwater above regulatory thresholds. - TPHg concentration were below residential ESL. - No further assessment is warranted in regard to groundwater.	- SV-3 is an adequate screening sample to assess for impacts from the tank. - Detection limit for vinyl chloride was elevated above residential ESLs, but results of soil vapor sampling at SB-3 confirm that CVOCs were "non-detect". - No Additional assessment is warranted in regard to soil vapor.	No apparent data gaps. Tank was removed and had no indications of leaks, therefore, no further assessment is warranted.	Conditions in this area do not pose a threat to future residential occupants. No further assessment is warranted.
Tanks #4 & #5	B-5, B-6, B-30	B-4, B-5, B-6, B-49, B-50, B-51	SV-4	TPH B-6, TPH/VOCs B-30	TPH B-4, B-5, B-6, B-49, B-51, TPH/VOCs B-50, B-30	VOCs SV-4 and SV-13.	- Soil samples collected immediately adjacent to tank cavity. CVOC analysis was not performed for soil boring B-6 but was analyzed in both boring B-30 and in groundwater samples, eliminating that potential data gap. - Contaminants limited to TPH and VOCs. - Concentrations above residential ESLs at depth for benzene in B-6 near groundwater although B-30 was non-detect with detection limits slightly above ESL (0.30 versus 0.25 mg/kg). A clean soil zone above TPH impacts provides a buffer to prevent potential vapor migration. That said, as discussed in the Further Assessment to Address Data Gaps, additional soil vapor analysis was performed to characterize the potential for vapor intrusion. - No further assessment is warranted in regard to soil.	- Adequate characterization of extent of contamination in groundwater. VOC impacts appear to be limited to cis-1,2-DCE below residential ESLs in B-6. - Contaminants limited to TPH and VOCs. - Benzene exceeds residential ESLs for groundwater to indoor air migration in B-5 and B-6 as well as B-30. In order to characterize the potential for soil vapor impacts, further soil vapor sampling and analysis was performed (see “Further Assessment to Address Data Gaps”). - No further assessment is warranted in regard to groundwater.	- Benzene was tentatively detected above residential ESLs in SV-4, but below the predicted soil vapor level for typical ambient air concentrations for Oakland/Filbert Street area (OEHHA, 2008). - SV-13 had elevated detection limits for benzene because of elevated concentrations of n-hexane, cyclohexane and heptane. - None of these analytes exceed their respective residential soil vapor RSLs. - No further assessment is warranted in regard to soil vapor.	Soil vapor concentrations showed n-hexane and cyclohexane are at levels below residential soil vapor RSLs. No further assessment is warranted.	Conditions in this area do not pose a threat to future residential occupants. No further assessment is warranted.
Tank #6	B-11, B-56, B-37	B-8, B-11, B-34, B-37, B-53, B-54, B-55, B-56	None	TPH B-8, B-11, B-56, TPH/VOCs B-37	TPH B-8, TPH/VOCs B-11, B-34, B-37, B-53, B-54, B-55, B-56	VOCs SV-9.	- Soil boring B-56 was collected in the center of the tank cavity. Although VOCs were not analyzed in soil they were analyzed in groundwater at this location. - Detected contaminants were limited to TPH and VOCs. - Concentrations of benzene and cDCE exceeded residential ESLs in B-37 at 2 ft but post demolition surface soil excavation in this likely removed potentially impacted soil. Soil vapor sampling at SV-9 in the immediate area of B-37 did not detect benzene or cDCE. - Concentrations were above residential ESLs in soil at depth for benzene near groundwater. - Delineation of contamination was verified with groundwater samples up and down gradient which indicate limited extent and low concentrations of VOCs. - TPH impacts were observed in groundwater but to a limited extent that was isolated to the immediate area of the tank. - Soil vapor is discussed in the following columns. - No further assessment is warranted in regard to soil.	- Extent of impacts has been adequately characterized. VOC impacts appear to be limited to area of analysis. Complete extent bounded on the downgradient side by B-7, B-8, B-34 and B-49, cross gradient by B-37 to the east and B-53, B-54, and B-55 to the west. - Contaminants limited to TPH and VOCs. - Concentrations above residential ESLs for groundwater to indoor air migration for benzene, vinyl chloride, cis-1,2-DCE, and 1,2-DCA within the area in the immediate vicinity of B-56. Vinyl chloride and benzene typically do not pose a significant concern for vapor intrusion, however, because both attenuate in overlying clean soil. Additionally, neither were detected in soil vapor sample SV-9 and detection limits were below residential ESLs. - Freon 12, Freon 11 and 1,1,2,2-tetrachloroethane were detected in SV-9. See the following column for a discussion of soil vapor. - No further assessment is warranted in regard to groundwater.	- Soil vapor sample SV-9 was collected from within 15 to 20 feet of the off-site location (B-56) and no VOCs were detected above detection limits except for Freon 12, Freon 11 and 1,1,2,2-tetrachloroethane. - Only 1,1,2,2-tetrachloroethane exceeded the residential ESL (37 ug/m3 versus 24 ug/m3). The isolated detection of 1,1,2,2-tetrachloroethane is not repeated in any other samples and represents a deminimus condition that does not pose a risk to future residents. - No further assessment is warranted in regard to soil vapor.	The isolated detection of 1,1,2,2-tetrachloroethane at a concentration slightly above the residential ESL does not pose a significant risk to future residents. Benzene and cDCE exceeded residential ESLs in 2 ft soil sample B-37 but but post demolition soil vapor sampling did not detect either benzene or cDCE in this area. Therefore, no further assessment is warranted.	Conditions in this area do not pose a threat to future residential occupants. No further assessment is warranted.

Note: RED soil sample ID names are in areas that have been excavated. TPH indicates samples analyze for Total Petroleum Hydrocarbons in the gas,oil & grease range, and for Benzene, Toluene, Ethylbenzene and Xylenes (BTEX). TPHg,d,BTEX indicates samples analyzed for TPH in the gas and diesel range and BTEX. VOCs indicates samples analyzed for volatile organic compounds.