Santa Ana Regional Water Quality Control Board

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

May 11, 2022

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APPROVAL OF WORK PLANS WITH EXECUTIVE OFFICER REVISIONS UNDER CLEANUP AND ABATEMENT ORDER R8-2021-0006; 6020 AND 6160 ARLINGTON AVENUE, RIVERSIDE, CALIFORNIA (GLOBAL ID# 0606500004 & 0606535975; RB CASES 083300039T & 083304005T)

Dear Mr. Gilmartin,

Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) staff have reviewed the following submittals from United El Segundo, Inc. (United), Rapid Gas, Inc. (Rapid Gas) and CF United PropCo LLC (CF PropCo) (collectively, United Parties), as prepared by their consultant, Frey Environmental, Inc. (Frey):

- Groundwater Monitoring and Sampling Workplan – Rapid Gas #37 (August 17, 2021)
- Groundwater Monitoring and Sampling Workplan – Commingled Plume Area (August 17, 2021)
- Interim Remedial Action Plan for Free Product Removal – Commingled Plume Area (August 17, 2021)
- Workplan for Soil Vapor Probe Sampling – Rapid Gas #37 (August 17, 2021)
- Workplan for Soil Vapor Probe Sampling – Commingled Plume Area (August 17, 2021)
- Workplan for Installation of Two Additional Groundwater Monitoring Wells – Commingled Plume Area (September 16, 2021)

- Remedial Action Plan – Rapid Gas #37 (October 16, 2021)
- Request for Time Extension for Submittal of Remedial Action Plan – Commingled Plume Area (October 6, 2021)

BACKGROUND

On June 18, 2021, the Santa Ana Water Board adopted Cleanup and Abatement Order R8-2021-0006 (CAO), directing the United Parties (i.e., United, Rapid Gas and CF PropCo), as well as Restructure Petroleum Marketing Services of California, Inc. (RPMS) and My Montecito Inc SH (My Montecito) (collectively, Responsible Parties), to take corrective action in response to unauthorized releases and abate the effects of waste discharges emanating from retail fueling operations at 6020 Arlington Avenue (United Source Property) and 6160 Arlington Avenue (E-Z Serve Source Property), in the City of Riverside, California. In particular, the CAO requires the Responsible Parties (including the United Parties) to conduct investigations and remediate soil and groundwater contamination attributed to the respective source properties. The CAO imposes joint and several liability against all Responsible Parties with respect to releases and discharges that have migrated beyond the respective site boundaries and commingled beneath adjacent properties and rights-of-way (ROW).

Upon adoption by the Santa Ana Water Board, a compliance schedule was established for performing certain tasks required by the CAO, including: (1) groundwater monitoring and reporting; (2) interim corrective action; (3) site assessment and delineation of contaminant plume; (4) remedial action plans; (5) soil gas investigations; and (6) quarterly remediation and status reports.

GROUNDWATER MONITORING AND SAMPLING WORK PLANS

CAO Required Actions 1(a) and 1(c)

In accordance with CAO Required Actions 1(a) and 1(c), the United Parties, through their consultant Frey,[1] have submitted work plans to outline the data collection protocols and standard operating procedures (SOPs), as well as the quality assurance/quality control (QA/QC) methods for sample collection, preservation, transport and laboratory analysis, that are to be employed in conjunction with monitoring activities performed for all the corresponding wells listed in

[1] For simplicity, this letter discusses the United Parties' proposals as having been made by Frey, though it should be noted that Frey is only making such proposals on the United Parties' behalf.

CAO Attachment A, specifically Table 1 (United Site - Area of Responsibility) and Table 3 (Commingled Plume - Area of Responsibility).

Proposed Work Plan

Frey proposes that groundwater monitoring and sampling activities be conducted *semi-annually* during the 2nd and 4th Quarter. According to Frey, the proposed scope and frequency for monitoring/sampling was developed based on each well's location relative to the historical petroleum hydrocarbon releases, historical groundwater flow direction/gradient, previous groundwater monitoring results, and liquid-phase hydrocarbons (LPH)/free product removal activities performed to date.

Frey proposes that groundwater monitoring and sampling activities associated with wells located in on-site/near-source areas include a network of 28 wells.[2] With the exception of MW-12 (separately discussed below), each of the above identified wells would be gauged to determine depth to groundwater and measure free product thickness (where present). However, only a smaller subset of 10 wells[3] would be sampled to obtain *dissolved-phase* water quality data, either *semi-annually* or annually, as outlined in Appendix A (Proposed Groundwater Monitoring and Sampling Schedule – Rapid Gas #37) to the work plan.

Similarly, Frey has proposed that groundwater monitoring activities conducted in off-site/downgradient areas associated with the commingled plume include a well set consisting of MW-15, MW-16, MW-17, MW-22, EZ-6, EZ-7, EZ-8, EZ-9, EZ-10, EZ-12, EZ-13, EZ-14, JT-1 and JT-2. Again, the above-identified wells would be gauged to determine depth to groundwater and measure free product thicknesses, where present. Each well would then be sampled to obtain dissolved-phase water quality data, as outlined in Work Plan Appendix A (Groundwater Monitoring and Sampling Schedule – Commingled Plume Area).

Prior to field activities, Frey will obtain a lane closure and encroachment permit from the City of Riverside, as required to monitor wells located in the public ROW. Additionally, Frey will secure an access agreement with the Riverside Unified School

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[2] The current groundwater monitoring network includes the following wells: MW-1R, MW-2R, MW-3A, MW-6, MW-8 through MW-12, MW-18 through MW-21, MW-23, RW-1A, RW-2, RW-3R, and RW-4 through RW-14.

[3] The only wells proposed for dissolved-phase monitoring are MW-1R, MW-2R, MW-3A, MW-6, MW-10, MW-20, MW-21, RW-2, RW-3R and RW-4. The remaining 17 wells (excluding MW-12) will only be gauged to measure depth to groundwater and free product thickness.

District (RUSD), as needed to access the three off-site groundwater monitoring wells (EZ-8, EZ-9 and EZ-10) located on Adams Elementary School.

According to Frey, all monitoring activities will be completed in accordance with the SOPs for data collection and groundwater sampling and analysis outlined in Work Plan Appendix B to the respective work plans. Groundwater samples will be labeled, preserved and transported under chain of custody control to a state-certified laboratory and will be analyzed for total purgeable petroleum hydrocarbons (TPPH) and volatile organic compounds (VOCs) by USEPA Method 8260B. Waste liquids generated in conjunction with monitoring and sampling activities will be containerized on-site, pending manifesting and off-site disposal/recycling.

Upon completion of the field activities, Frey will prepare a report of findings to compile available site data, including tabulated monitoring and laboratory results, and figures showing groundwater elevations, estimated groundwater flow direction, concentrations of constituents of concern, and free product thicknesses.

Discussion and Required Revisions

Per Required Action 1 of the CAO, the Responsible Parties are required to perform coordinated groundwater monitoring and sampling activities, as necessary to characterize the full expanse of groundwater impacts attributed to the site releases, inclusive of LPH (i.e., free product) and dissolved-phase hydrocarbons, VOCs and fuel additives observed beneath the respective source properties and the numerous downgradient or surrounding properties and ROW and evaluate data trends across the monitoring well network. To reiterate, the Responsible Parties must collect sufficient monitoring data to adequately characterize site releases attributed to both source properties and the commingled plume.

Santa Ana Water Board staff have determined that several modifications to the proposed monitoring and sampling program will be necessary to ensure that sufficient water quality data is generated to meet site monitoring objectives, as follows:

1. **Increased Monitoring Frequencies:** With respect to the United Source Property, Frey has proposed that monitoring wells MW-1R, MW-2R, MW-3A, MW-6, MW-20, RW-1A, RW-2, RW-3R and RW-4 be gauged, purged and sampled on an annual basis. Similarly, as it relates to the Commingled Plume Area, Frey has proposed that monitoring wells MW-15, MW-16, MW-17, MW-22, EZ-7 through EZ-14 and JT-1 and JT-2 be gauged, purged and sampled on an annual basis. These wells must instead be monitored on a *semi-annual* basis; annual monitoring is insufficient to provide an adequate data set to evaluate trends across the entire monitoring network. Monitoring frequencies may be reevaluated, if warranted, after the completion of at least two additional monitoring events.

2. **Expanded Monitoring for Dissolved-Phase Hydrocarbons:** To date, many of the groundwater monitoring wells, particularly those located within the core of the Commingled Plume Area, have historically contained measurable quantities of free product, which has prevented routine sampling and quantification of dissolved-phase constituents. Moving forward, more effort must be made to obtain the water quality data that is needed to characterize the distribution of petroleum hydrocarbons and fuel additives attributable to the commingled site releases. Accordingly, all wells observed to contain less than 0.5 inches of free product shall be purged and sampled to quantify dissolved-phase impacts in groundwater.

3. **Analysis for Lead:** As outlined in the CAO, additional monitoring data is needed to determine the distribution and concentration of lead (i.e., as a fuel additive) in groundwater beneath both source properties and within the Commingled Plume Area. Accordingly, for a period of one year, at least six groundwater samples collected from wells located on the United Source Property, and within the Commingled Plume Area, respectively, shall be analyzed for lead.

Approval of Groundwater Monitoring and Sampling Plans with Revisions

In consideration of the above, the work plans are approved, subject to the following revisions, which shall be implemented in accordance with the CAO:

1. In lieu of the schedules attached as “Appendix A” to each Groundwater Monitoring and Sampling Plan, the United Parties shall instead implement the revised schedules provided in Tables 1 and 2 (below).

2. All wells that are identified in CAO Attachment A, specifically Table 1 (United Site - Area of Responsibility) and Table 3 (Commingled Plume - Area of Responsibility), shall be gauged *semiannually*, and any wells that are observed to contain less than 0.5 inches of free product (i.e., “Measurable Free Product”) shall be purged and sampled to quantify dissolved-phase impacts in groundwater. Groundwater samples shall be analyzed for TPPH and VOCs, as well as total lead, by USEPA Methods 8260B and 6020.

3. Currently, routine groundwater monitoring and sampling activities are not proposed for peripheral well MW-12. Nevertheless, a lane closure and encroachment permit shall still be obtained for each of the corresponding ROW (including Arlington Avenue), as necessary to allow for routine well inspections and maintenance required pursuant to California Well Standards (Dept. of Water Resources Bulletins 74-81 and 74-90, or any updated requirements) and/or local ordinances.

4. All site figures and iso-concentration contour maps provided in reports must depict groundwater elevations and contaminant concentration data across the expanse of the project area, including data generated for the adjacent source property and commingled plume.

Pursuant to the CAO, Responsible Parties shall implement the approved monitoring program in accordance with Table 1 and Table 2 below (including revisions specified herein). Consistent with that requirement, monitoring activities associated with the adjacent source properties and commingled plume must be performed semi-annually during the 2nd and 4th Quarters. Additionally, the resulting monitoring and sampling data and relevant findings must be presented in reports submitted to the Santa Ana Water Board in accordance with Required Action 6.

At a minimum, all groundwater monitoring and sampling activities shall be coordinated to generate a comprehensive data set across the expanse of groundwater impacts attributed to both site releases, inclusive of LPH and dissolved-phase hydrocarbons, VOCs and fuel additives being observed beneath the respective source properties and numerous downgradient or surrounding properties and ROW.

Per Required Action 6, groundwater monitoring data shall be compiled in remedial progress reports due on April 30, July 30, October 30 and January 30, of each year.

Table 1. Revised Groundwater Monitoring and Sampling Schedule for Wells in United Parties' Area of Responsibility (Rapid Gas #37; 6020 Arlington Avenue)

Well ID	Quarter 2			Quarter 4		
	G	P	S	G	P	S
MW-1R	X	X	X	X	X	X
MW-2R	X	X	X	X	X	X
MW-3A	X	X	X	X	X	X
MW-6	X	X	X	X	X	X
MW-8	X	--	--	X	--	--
MW-9	X	--	--	X	--	--
MW-10	X	X	X	X	X	X
MW-11	X	--	--	X	--	--
MW-12	Inspect / Maintain Only			Inspect / Maintain Only		
MW-18	X	--	--	X	--	--
MW-19	X	--	--	X	--	--
MW-20	X	X	X	X	X	X
MW-21	X	X	X	X	X	X
MW-23	X	--	--	X	--	--
RW-1A	X	X	X	X	X	X
RW-2	X	X	X	X	X	X
RW-3R	X	X	X	X	X	X
RW-4	X	X	X	X	X	X
RW-5	X	--	--	X	--	--
RW-6	X	--	--	X	--	--
RW-7	X	--	--	X	--	--
RW-8	X	--	--	X	--	--
RW-9	X	--	--	X	--	--
RW-10	X	--	--	X	--	--
RW-11	X	--	--	X	--	--
RW-12	X	--	--	X	--	--
RW-13	X	--	--	X	--	--
RW-14	X	--	--	X	--	--

Table 2. Revised Groundwater Monitoring and Sampling Schedule for Wells in Commingled Plume Area (6020 and 6160 Arlington Avenue)

Well ID	Quarter 2			Quarter 4		
	G	P	S	G	P	S
MW-15	X	X	X	X	X	X
MW-16	X	X	X	X	X	X
MW-17	X	X	X	X	X	X
MW-22	X	X	X	X	X	X
EZ-6	X	X	X	X	X	X
EZ-7	X	X	X	X	X	X
EZ-8	X	X	X	X	X	X
EZ-9	X	X	X	X	X	X
EZ-10	X	X	X	X	X	X
EZ-12	X	X	X	X	X	X
EZ-13	X	X	X	X	X	X
EZ-14	X	X	X	X	X	X
JT-1	X	X	X	X	X	X
JT-2	X	X	X	X	X	X
JT-3	X	X	X	X	X	X
JT-4	X	X	X	X	X	X

Table Notes:

X Activity Required

G Gauge Well and Remove Any Measurable Free Product

P Purge Well if Measurable Free Product Not Detected

S Sample Well, if Measurable Free Product Not Detected; Analyze for TPPH, VOCs (full suite) and Total Lead[4]; Measure temperature, pH and electrical conductivity

Note: For purposes of Tables 1 and 2 (above), “Measurable Free Product” means free product thicknesses of at least 0.5 inches.

[4] For a period of one year, at least six groundwater samples collected from monitoring wells on the United Source Property, and within the Commingled Plume Area, respectively, shall be analyzed for total lead by USEPA Method 6020.

INTERIM CORRECTIVE ACTION WORK PLAN

CAO Required Action 2(c)

Per Required Action 2(c) of the CAO, the Responsible Parties are required to, among other things, implement interim corrective action to remove free product (where present) from any wells in the downgradient/Commingled Plume Area.[5]

Proposed Work Plan

Frey identified 14 wells in off-site/downgradient areas associated with the Commingled Plume Area.[6] According to Frey, existing monitoring data suggest that free product is most likely to be observed in only six wells (MW-15, MW-16, EZ-6, EZ-12, EZ-13, EZ-14). Thus, Frey is proposing to limit the scope of removal activities in the Commingled Plume Area to these six wells; no removal activities would be conducted for the other eight wells (EZ-7, EZ-8, EZ-9, EZ-10, MW-17, MW-22, JT-1, JT-2).

According to Frey's proposal, the wells will be monitored on a monthly basis and wells containing free product at thicknesses of greater than 0.1 foot will be purged with a vacuum truck until measurable free product is no longer observed. The removal events will be conducted for a period of one year, at which point the program will be evaluated for efficacy.

Again, prior to initiating corrective action measures, Frey will secure lane closure and encroachment permits from the City of Riverside, as required to access wells located in the public ROW. All waste liquids removed during the vacuum truck extraction activities will be transported off-site for appropriate disposal/recycling after each event.

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[5] Pursuant to Required Action 2(a), existing free product removal activities on the United Source Property were determined substantially compliant with interim corrective action requirements established under the CAO. As a result, a work plan for interim corrective action on the United Source Property was not required and Frey's proposed scope is limited to off-site areas associated with the Commingled Plume Area, per Required Action 2(c).

[6] Monitoring wells associated with the downgradient/Commingled Plume Area include: EZ-6, EZ-7, EZ-8, EZ-9, EZ-10, EZ-12, EZ-13, EZ-14, MW-15, MW-16, MW-17, MW-22, JT-1 and JT-2 (and JT-3 and JT-4).

Discussion and Required Revisions

Santa Ana Water Board staff have determined that several modifications to the proposed scope are necessary, and other auxiliary wells may still need to be incorporated into the corrective action program, if warranted by site conditions.

As discussed above, Frey is only proposing monthly monitoring and free product removal activities for six of the 14 wells associated with the Commingled Plume Area. Given the available data set, it cannot be said with reasonable certainty that free product will not be present in monitoring wells EZ-7, EZ-8, EZ-9, EZ-10, MW-17, MW-22, JT-1 and JT-2 at any given point in time. Historically, the presence of free product has been noted to be influenced by water table fluctuations. In fact, free product has previously been observed in several of these monitoring wells in the past. As a result, the proposal to exclude several of these wells from monthly inspection is unacceptable at this time. The following changes to the interim corrective action program are required:

1. **Add Well MW-17:** Based on site monitoring data, free product has routinely been observed in well MW-17 (in San Vicente Avenue) and the well must therefore be incorporated into monthly monitoring activities and included in the interim corrective action program, as appropriate.

2. **Add Wells JT-1 and JT-2:** Existing monitoring data also indicate that free product sheen has been observed on several occasions in off-site wells JT-1 and JT-2, and measurable free product was recently observed in JT-1 (0.02 feet) during the 4th Quarter 2021. As a result, wells JT-1 and JT-2 must also be incorporated into the monthly monitoring program and added to free product removal activities, as appropriate.

3. **Add Well EZ-9:** Free product was also historically observed in well EZ-9 (Adams Elementary School) between May 2012 and June 2015; however, the well has only been monitored on a periodic basis since. Under the circumstances, monthly monitoring for the presence of free product is warranted.

4. **Conditionally Add Wells EZ-7, EZ-8 and EZ-10:** Auxiliary wells EZ-7, EZ-8 and EZ-10 are currently serving as delineation wells. Although the Santa Ana Water Board will conditionally accept their exclusion from the monthly inspection program, these wells will need to be added to the corrective action program if free product reappears in either well EZ-6 or well EZ-9 (see above).

Approval of Interim Corrective Action Plan with Revisions

The above-outlined proposal is approved, subject to the following additional requirements:

1. Wells MW-17, JT-1, JT-2 and EZ-9 shall be added to the monthly monitoring and free product removal program;

2. Wells EZ-7, EZ-8 and EZ-10 shall be conditionally added to the monthly monitoring and free product removal program, immediately, upon the first detection of free product in wells EZ-6 or EZ-9.

Pursuant to Required Action 6 of the CAO, all technical information generated in conjunction with the interim remedial action measures shall be summarized in quarterly reports submitted to the Santa Ana Water Board by no later than April 30th, July 30th, October 30th and January 30th of each year.

Per CAO Required Action 2, Responsible Parties shall initiate interim corrective action measures, in accordance with the approved plan (including specified changes) within 30 days of the date of this letter (**June 10, 2022**), and shall continue to implement interim corrective action activities until such time as the Executive Officer determines that adequate full scale remedial responses for on-site and off-site groundwater remediation have been approved and implemented pursuant to Required Action 4.

SOIL GAS INVESTIGATION WORK PLANS

CAO Required Actions 5(a) and 5(c)

Per Required Action 5, the Responsible Parties are required to conduct additional soil gas testing as necessary to provide an updated survey of the distribution of site contaminants in the subsurface, and to generate the necessary analytical data required to thoroughly evaluate the potential vapor exposure risk posed to occupants of residential and/or commercial structures that overlie petroleum hydrocarbon-impacted soil and groundwater attributed to the source properties. Soil gas testing associated with existing probes, as well as that conducted in conjunction with the installation and testing of subsequent soil gas investigations (including those required by the CAO) are to be completed as outlined in CAO Attachment A.

CAO Attachment A (Table 1) identifies 12 soil vapor probe locations within the United Parties' assigned area of responsibility under the CAO. Similarly, CAO Attachment A (Table 3) identifies seven soil vapor probe locations associated with the Commingled

Plume Area of responsibility under the CAO.[7] The CAO requires that soil gas sampling be conducted at each of these locations.

Proposed Work Plan

Pursuant to CAO Required Action 5, Frey submitted work plans outlining soil gas investigations proposed in conjunction with the United Source Property and Commingled Plume Area.

Although 12 probe locations are nominally identified for sampling in conjunction with Frey's work scope for the United Source Property, *the majority of these would not initially be sampled at all*. Alternatively, Frey proposes that soil gas data initially be collected from a smaller group of existing probes, including only the five and ten-foot probes and an abbreviated well set comprised of: VP-1 and VP-2 (6000 Arlington Avenue); VP-7 (San Vicente Avenue) and VP-9 (residential property at 8293 San Vicente Avenue).

Under Frey's proposal, the results generated from VP-1, VP-2, VP-7 and VP-9 would be evaluated to determine whether any further soil gas sampling at other locations was warranted. Additional soil gas sampling would only be recommended if data from the initial screening indicated elevated vapor concentrations in the shallow subsurface (5-10 feet below ground surface, or bgs). This additional sampling would include either the resampling of other existing soil gas probes (VP-8, VP-10, VP-14 through VP-18) or the installation and testing of any new probe location (VP-19; required under the CAO). Further, in the event that such a contingency scope was to be completed, Frey proposes that VP-19 be installed at a location northwest of the 8273 Arlington Avenue parcel, rather than being installed on the property itself (adjacent to residential structure).

Similarly, for the Commingled Plume Area, Required Action 5(c) and CAO Attachment A (Table 3) identified existing vapor probes VP-11 and VP-12, as well as locations on several other surrounding properties (not previously sampled) for additional soil gas testing associated with areas overlying the commingled plume. Once again, Frey's proposal outlines an abbreviated scope of testing, which would include collecting soil

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[7] The 12 soil vapor probe locations associated with the United Parties' assigned area of responsibility are: VP-1, VP-2, VP-7, VP-8, VP-9, VP-10, VP-14, VP-15, VP-16, VP-17, VP-18 and VP-19 (required by the CAO), while the soil gas probe locations identified within the Commingled Plume Area of responsibility include: VP-11 and VP-12, and five new probe locations (VP-20 through VP-24; required by the CAO) on the Adams Elementary School and nearby residences (8284 San Vicente Avenue; 8282 and 8293 Brunswick Avenue), respectively.

gas data from the five and ten-foot probes at a single location (VP-11), but proposes that the remainder of the testing required under the CAO be implemented only as a contingency, at some uncertain future date.

According to Frey, any new soil vapor probes (completed only as a part of the contingency scopes) will be installed via hand auger and constructed of 0.25-inch diameter nylon tubing, outfitted with depth-discrete sample ports set at approximately 5 and 10 feet below grade. During installation, soil cuttings will be examined for lithologic classification and screened for VOCs by photo-ionization detector (PID).

All probe installations, as well as purging and sampling activities, will be conducted in accordance with the Department of Toxic Substances Control (DTSC) guidance, *Active Soil Gas Investigations Advisory*, dated December 2015. Soil gas samples will be collected in Summa cannisters by a Frey technician, or in gas-tight syringes by a mobile laboratory technician a mobile testing laboratory under contract to Frey. Soil gas samples collected during this phase of testing will be analyzed for VOCs (including fuel oxygenates) by USEPA Method TO-15 (for Summa cannister samples) or EPA Method 8260B (for gas syringe samples), as applicable. Oxygen content will also be measured and recorded for each soil gas sample using a Horiba Mexa 334J infrared detector.

Upon completion of the above soil gas investigations, Frey will prepare a report of findings, to present analytical results and data interpretations, along with their recommendations and conclusions.

Pursuant to the Gantt charts provided in their work plans, Frey has estimated that that the time needed to complete the soil gas investigations and associated reporting will be similar for both the source property and commingled plume scopes, approximately 11 weeks.

Discussion and Required Revisions

Per Required Action 5(a) and CAO Attachment A (Table 1), 12 nested soil vapor probe locations are identified within the United Parties' assigned area of responsibility (see fn. 7). Additionally, Required Action 5(c) and CAO Attachment A (Table 3) requires resampling of existing probe locations VP-11 and VP-12, as well as the installation and testing of new probe locations on several other surrounding properties (not previously tested), as necessary to characterize the distribution of subsurface impacts and evaluate potential vapor exposure risk to occupants of residential and/or commercial structures overlying contamination attributed to the commingled plume.

Based on available monitoring data, free product attributed to the source properties (e.g., 6020 and 6160 Arlington Avenue) extends off-site beneath surrounding ROW along Arlington Avenue, Colorado Avenue, and Adams Street. Free product also continues to be reported in MW-17, situated in the residential neighborhood along San

Vicente Avenue. Historically, free product was also detected in off-site well EZ-9 (school property; between May 2012 and June 2015), which has only been monitored infrequently in the years since. Additionally, pursuant to findings set forth in the CAO, the extent of commingled groundwater impacts stemming from the sites has not yet been adequately characterized, pending additional assessment (required under the CAO). As such, while the extent of groundwater impacts remains undefined (and un-remediated), and water table fluctuations indicate dynamic or changing site conditions, continued soil gas testing must be performed to characterize the distribution of hydrocarbons in the subsurface and evaluate potential vapor intrusion risk to occupants of residential and commercial properties situated in close proximity to or immediately adjacent to monitoring wells that have historically contained free product, or those located along the anticipated migration path of the groundwater plume.

To the extent that they involve completion of a major portion of required activities as a mere contingency (i.e., undertaken at a later unspecified date), Frey's proposed soil gas investigations for the United Source Property and the Commingled Plume Area are inadequate to meet the CAO's minimum scope and objectives for soil gas testing. Accordingly, the proposed contingencies are rejected. The United Parties will therefore be required to complete all proposed soil gas investigations without further delays or conditions.

Rather than requiring the United Parties to submit revised work plans, the Executive Officer will approve the existing work plans as revised (i.e., with the phased approach eliminated).

Additional rounds of soil gas investigations may still be required until the Executive Officer determines that the site releases are adequately characterized, present no exposure risk to occupants of overlying structures, and further testing is no longer warranted. The need for any future soil gas testing will be evaluated, pending receipt of the data generated from this phase of assessment.

Approval of Soil Gas Investigation Work Plans with Revisions

Based on the foregoing, the United Parties' soil gas investigation work plans are approved with the following revisions:

1. All existing nested vapor probes shall be resampled to provide an updated survey of the lateral and vertical distribution of site contaminants in the subsurface and evaluate potential vapor intrusion risk posed under current site conditions.

2. Proposed soil gas probes VP-19 (United Source Property) and VP- 20 through VP-24 (Commingled Plume Area) shall be installed and tested to determine the distribution of petroleum hydrocarbon constituents in the subsurface and evaluate vapor risk to occupants of residential and commercial structures not

previously tested. Construction for each new probe shall be consistent with previously installed soil gas probes, with depth-discrete sampling ports designed to characterize the vertical distribution of hydrocarbons within the subsurface, at 5, 10, 15 and 20 feet bgs, respectively.

3. All soil gas samples shall be analyzed for both gasoline-range petroleum hydrocarbons and VOCs, as well as the relevant tracer gas compound. Confirmation sampling for naphthalene shall also be performed by USEPA Method TO-17.

4. Data generated in conjunction with this scope shall be summarized in a tabulated format that compares sample results to applicable screening levels, including the San Francisco Regional Water Quality Control Board's Environmental Screening Levels (ESLs) and the State Water Resources Control Board's Low-Threat Closure Policy vapor intrusion criteria, respectively.

Based on Frey's time estimates (discussed above), the United Parties shall complete all soil gas investigation activities identified in the respective work plans (i.e., subject to the revisions identified above), and the required report of findings shall be submitted no later than **July 27, 2022.**

ADDITIONAL GROUNDWATER ASSESSMENT WORK PLAN

CAO Required Action 3(c)

Per Required Action 3, the Responsible Parties are required to conduct additional soil and groundwater investigations needed to: (1) adequately characterize hydrocarbon-impacted soil and groundwater present beneath their respective source properties; and (2) delineate the full extent of groundwater contamination emanating therefrom. Subsequent phases of site characterization are required to be performed by the Responsible Parties, as directed by the Executive Officer, until the full expanse of the groundwater impacts attributed to both site releases, inclusive of LPH (free product) and dissolved-phase hydrocarbon, VOCs and fuel additives, have been fully defined. As outlined in the CAO, the Santa Ana Water Board determined that no further groundwater assessment was needed, at present, as it pertains to the United Source Property. For this reason, Frey's groundwater assessment work plan is limited to characterization of the Commingled Plume Area.

Proposed Work Plan

Consistent with the CAO, Frey's work plan for additional groundwater assessment proposes the installation of two additional monitoring wells at locations approximately 120 feet and 240 feet downgradient of MW-17, in Adams Street and Brunswick Avenue, respectively.

However, Frey again proposes that the additional groundwater assessment only be completed as a contingency scope. More specifically, only if the results of future groundwater monitoring indicated a significant increase in dissolved-phase constituents in existing wells located within the Commingled Plume Area would the installation of one or both of the proposed monitoring wells (JT-3 and JT-4) be recommended.

According to Frey, each boring would be advanced to approximately 45 feet bgs and would subsequently be completed as a four 4-inch diameter well, constructed with a screen interval from 25 feet bgs to terminal depth. During drilling, soil samples would be collected at five-foot intervals, in order to determine soil lithology and perform field screening for potential VOCs by PID. Upon completion, each well would be developed, surveyed to determine surface elevation and well coordinates in accordance with State requirements, and sampled during the next round of routine groundwater monitoring activities.

Pursuant to the Gantt chart provided in Frey's work plan indicates that up to 14 weeks may be needed to complete the above groundwater investigation and submit the associated report of findings.

Discussion and Required Revisions

Pursuant to CAO Required Action 3(c), additional groundwater assessment is required to further characterize the commingled plume, as necessary to eliminate data gaps in the monitoring well network identified between wells MW-17 and EZ-7 and EZ-7 and MW-22, respectively.

Based on available monitoring data, LPH (free product) has been routinely observed in MW-17, situated in the residential neighborhood along San Vicente Avenue, since 2009. While groundwater data from existing monitoring wells EZ-7 (Adams Street) and MW-22 (Brunswick Avenue) serve to define the lateral extent of dissolved-phase impacts along the periphery of the groundwater plume east and west of Adams Street, these wells are located at a distance of no less than 250 feet from MW-17 and are 200 feet apart. As a result, existing monitoring wells do not generate adequate data along the anticipated migration pathway of the groundwater plume parallel to Adams Street. As such, additional groundwater assessment must be completed to adequately characterize the distribution of groundwater impacts, inclusive of LPH and dissolved-phase hydrocarbons, VOCs and fuel additives, and eliminate data gaps in the monitoring well network.

Frey's work plan outlines the installation of two additional groundwater monitoring wells, per CAO Required Action 3(c), but proposes that the entire scope be postponed, indefinitely. The proposal will not resolve existing data gaps identified within the

Commingle Plume Area under the CAO. Additionally, it is noted that complete site characterization and plume delineation will not occur until some unspecified date in the future, which is not a reasonable time frame under State Water Resources Control Board Resolution 92-49. Consequently, the proposed contingency for delayed implementation is rejected and the United Parties will be required to complete the necessary well installations without further delays or conditions.

Rather than requiring another submittal, the United Parties' existing work plan will be approved with certain revisions addressing the issues discussed above.

Approval of Work Plan with Revisions

The United Parties' groundwater assessment work plan is hereby approved for implementation under the CAO, subject to the following revisions:

1. Monitoring wells JT-3 and JT-4, as proposed for installation, shall be scheduled for completion and installed without further delay.

2. For a minimum of one year, groundwater samples collected from the newly installed wells (e.g., JT-3 and JT-4) shall be analyzed for total lead by USEPA Method 6020.

3. Monitoring wells JT-3 and JT-4 shall be sampled in accordance with CAO Attachment A and Tables 1 and 2 herein.[8]

Pursuant to Required Action 3(c), the Responsible Parties are required to complete the necessary investigations and submit the relevant technical report, with conclusions and recommendations for additional phases of characterization (as warranted), in accordance with a schedule approved by the Executive Officer.

Based on Frey's time estimates (discussed above), the compliance deadline for report submission under Required Action 3(c) will be **August 17, 2022**.

[8] Per Required Action 1, any additional monitoring wells installed in connection with subsequent phases of site investigations shall be incorporated into ongoing monitoring activities conducted in accordance with the assignments in CAO Attachment A.

REMEDIAL ACTION PLANS

CAO Required Action 4

Pursuant to Required Action 4, the Responsible Parties are required to take corrective action in response to unauthorized releases and abate the effects of waste discharges from retail fueling operations at 6020 Arlington Avenue and 6160 Arlington Avenue, in Riverside, California.

Upon adoption by the Santa Ana Water Board, compliance schedules were established for performing certain tasks required by the CAO, including: (1) groundwater monitoring and reporting; (2) interim corrective action; (3) site assessment and delineation of contaminant plume; (4) remedial action plans (RAPs); (5) soil gas investigations; and (6) quarterly remediation and status reports.

Per Required Action 4, the Responsible Parties were required to develop and implement corrective action measures that are sufficiently scaled to (1) mitigate source-area soil and groundwater contamination beneath their respective properties and (2) prevent further off-site migration of contaminants via groundwater transport. Additionally, the Responsible Parties were required to develop and implement a comprehensive remedial response, designed to mitigate the full extent of groundwater impacts, inclusive of LPH and dissolved-phase hydrocarbons, VOCs and fuel additives, which have migrated beyond site boundaries and commingled beneath numerous downgradient properties and ROW. In accordance with Required Actions 4(a) and 4(c), RAPs for cleanup associated with the respective United Source Property and Commingled Plume Area were to be submitted within 120 days of CAO adoption.

On behalf of the United Parties, Frey submitted a RAP to outline their proposed cleanup strategy for the United Source Property, and has requested a time extension for RAP submission associated with the Commingled Plume Area. More detail regarding the proposed remedy and scope for the source property is outlined below, while additional discussion regarding Frey's rationale and justification for the requested extension (as it pertains to the Commingled Plume Area), is addressed in a later section of this correspondence.

Proposed RAP for United Source Property

According to Frey, the existing soil vapor extraction (SVE) system continues to operate in a pulsed mode (one week "on"/one week "off"), in order to recover petroleum hydrocarbons in vadose zone soils beneath former source areas, and the SVE operations appear to have contributed to a reduction in the presence of measurable free product being observed in groundwater wells across the source property. In fact, Frey notes that measurable free product has not been observed in any of the on-site monitoring wells during the last two reporting periods. Nevertheless, groundwater monitoring data continue to indicate the presence of elevated concentrations of

dissolved-phase hydrocarbons beneath the site. Frey therefore recommends that an expanded remedial strategy be employed to further mitigate soil and groundwater impacts beneath the site and help prevent further off-site migration of site contamination via groundwater transport, as required by the CAO. Frey proposes that air sparging (AS) activities be allowed to resume at the site, concurrent with ongoing SVE operations. Frey contends that the combination of SVE and AS would be effective at mitigating remaining soil impacts located within the capillary fringe, and would simultaneously facilitate a reduction in hydrocarbon-impacted groundwater via volatilization and enhanced biodegradation. The resulting vapor-phase hydrocarbons generated by the sparging activities would then be recovered and treated by the operating SVE system.

According to Frey, the SVE system and many of the necessary AS components and infrastructure are already in place, or can be retrofitted from existing equipment, such that RAP implementation can be accomplished in a relatively quick time frame using existing sparge wells AS-1A, AS-2, AS-3R, and AS-4 through AS-13. Frey estimates that the time required to retrofit the AS well network and remediation equipment/infrastructure will be approximately five weeks.

First, each of the existing sparge wells would be re-developed, in order to remove any sediment that may have accumulated during the past years of inactivity. Following well re-development, the remediation piping would be inspected and retrofitted, by installing dedicated injection hoses between the system compound and each AS wellhead through the existing SVE remediation piping network. Frey recommends that the AS activities initially be conducted using select wells, including AS-1A, AS-2, AS-3R, AS-4, AS-5, AS-6, AS-12 and AS-13, which are generally situated in on-site source areas that correspond to monitoring wells exhibiting persistent groundwater impacts. However, if necessary, the system could be operated by cycling between wells or banks of wells, in order to maximize AS operational efficiency. Frey indicates that the AS system would only be operated concurrently with the SVE system, with nearby SVE wells incorporated for active extraction, as necessary to ensure that hydrocarbon vapors produced by the sparging activities are adequately captured.

Following start-up, Frey would optimize the SVE and AS operations by adjusting the injection and extraction rates, and opening or closing existing SVE/AS well sets, as needed to maximize system efficiency. According to Frey, routine operation and maintenance (O&M) visits will be conducted in accordance with the system’s manufacturer recommendations or as site conditions warrant, in order to record SVE/AS operating data, including system operating temperatures, system and wellhead flow, pressure and vacuums measurements, SVE influent and extraction well field vapor concentrations (as measured by an organic vapor analyzer), AS injection rates and observation well monitoring parameters (e.g. dissolved oxygen and vacuum measurements), elapsed hours of operation, effluent stack emissions, and current SVE/AS well configuration (open versus closed wells). The remediation system O&M data will be reported in quarterly remediation progress reports, and will include relevant conclusions regarding remedial effectiveness.

Again, Frey estimates that the time required to retrofit the well network and remediation infrastructure will be approximately five weeks.

Discussion and Required Revisions to United Source Property RAP

Frey has recommended that AS activities resume at the site, concurrent with ongoing SVE operations. Although AS activities were previously terminated at the site, due to the appearance of free product and a concern for the potential uncontrolled volatilization of hydrocarbon vapors into overlying buildings and adjacent residences, as mentioned, measurable free product has not observed in any of the on-site groundwater wells during the last two monitoring periods. As a result, Frey asserts that the combination of AS and SVE is anticipated to be an effective strategy for mitigating remaining soil and groundwater impacts beneath the site.

Santa Ana Water Board staff have several concerns with Frey's proposal. The corrective action scope does not include any active SVE/AS in the immediate vicinity of MW-1R, which is where some of the most notably elevated dissolved-phase hydrocarbon concentrations continue to be observed during routine monitoring. Although there are several vapor wells in the vicinity of groundwater well MW-1R that could potentially be retrofitted for active remediation (specifically, VMP-1, VMP-2, VW-1, VW-2, VW-3), there are no corresponding sparge wells suitable for AS activities in the area. In fact, the closest well sets that could be used for active remediation (SVE-4/AS-4 and SVE-5/AS-5) are 40-50 feet south and east of MW-1R. Without active SVE/AS operations in the site's northwest corner, the proposed remedy may not provide sufficient coverage to adequately mitigate soil and groundwater impacts remaining directly beneath this former source area. In the event future monitoring data indicate that residual soil and/or groundwater impacts are not being positively affected by the remedial scheme, additional SVE and/or AS wells will need to be installed and incorporated into the remediation infrastructure, as necessary to ensure comprehensive cleanup.

As discussed, Frey plans to redevelop each of the existing AS wells as part of their system retrofit. Based on existing data, staff note that the AS well network has not been sampled during routine monitoring activities. Accordingly, each of the AS wells must be sampled to obtain baseline water quality data, prior to commencement of active AS remediation. Additionally, each AS well must be sampled during the first semi-annual monitoring event following remedial start-up, in order to quantify dissolved-phase hydrocarbons, VOCs and fuel additives; and to evaluate remedial success. The need and frequency for additional sampling of all (or some) AS wells will be determined based on a review of the results generated from these first two rounds of groundwater monitoring.

According to Frey's proposal, remediation system maintenance will be conducted in accordance with manufacturer specifications, and per specific site needs; however, the actual schedule and frequency for these activities was not specified. Accordingly, an

appropriate frequency for such monitoring activities must be established. Routine O&M visits shall be conducted on a weekly basis, in order to collect system operating data and quantify field vapor measurements, as needed to ensure SVE/AS optimization efforts. Additionally, SVE total system influent and wellhead vapor samples must be collected and analyzed for laboratory quantification of petroleum hydrocarbons and VOCs, on a monthly basis for the first 3 months after startup of SVE/AS operations, and on a quarterly frequency thereafter.

Approval of United Source Property RAP

Based on the concerns identified above, the United Parties' RAP for the United Source Property is hereby approved with the following revisions:

1. If the Executive Officer determines in writing that the proposed corrective action measures (as implemented) are inadequate to provide coverage in the northwest corner of the site, the Responsible Parties shall, within 60 days of notification, submit a revised RAP proposing a revised corrective action strategy that is capable of achieving the cleanup objectives per CAO Required Action 4.

2. Prior to commencing active AS remediation, each of the AS wells shall be sampled to obtain baseline water quality data with respect to dissolved-phase hydrocarbons, VOCs and fuel additives.

3. During the first semi-annual monitoring event following commencement of the SVE/AS remediation, each of the wells shall be sampled again, to quantify dissolved-phase hydrocarbons, VOCs and fuel additives, and to evaluate remedial success.[9]

4. Remediation system maintenance activities shall be conducted in accordance with the schedule and frequency outlined in the previous section of this letter, and shall be summarized in the quarterly remediation and progress status reports submitted per CAO Required Action 6.

Based on Frey's estimated time schedule (discussed above), the compliance deadline for initiating SVE/AS activities will be **June 15, 2022**.

[9] The Executive Officer may require additional sampling based on the results from initial rounds of groundwater monitoring.

Extension for Commingled Plume Area RAP

Per Required Action 4(c), a RAP for cleanup activities associated with the Commingled Plume Area was to be submitted within 120 days of the CAO's adoption. Like My Montecito, the United Parties' have requested an extension for the RAP submittal, pending data collection associated with the various phases of investigation and testing discussed herein.

According to Frey, preparation and implementation of a RAP for the Commingled Plume Area is premature at this time because, while interim corrective action measures (e.g., free product removal) have been proposed (and are approved herein with certain revisions), such measures have not yet been implemented. Frey opines that interim free product removal activities could positively impact dissolved-phase hydrocarbon plumes and vapor phase constituents in off-site areas, obviating the need for full-scale remediation in some or all areas associated with the Commingled Plume Area. Frey therefore requests that the deadline for submittal of the Commingled Plume Area RAP be postponed to allow for completion of the additional soil gas investigations per Required Action 5(c), and for any subsequent follow-up testing (if warranted), and pending additional data generated from interim corrective action activities conducted for a period of six months. According to Frey, the additional data obtained from completing these investigations could then be used to develop an appropriate full-scale remedy for the Commingled Plume Area. Additionally, Frey suggests the need to confirm the status of project participation and coordination with the other Responsible Parties (namely My Montecito) is a relevant justification for further postponement, as necessary to formalize a cost sharing agreement and avoid duplication of efforts.

Pursuant to the CAO, the Responsible Parties are jointly and severally liable for all tasks associated with the Commingled Plume Area. Accordingly, additional testing, site characterization and corrective action measures performed within the commingled Plume Area should be a cooperative effort whereby the associated scope of work is implemented by the collective group to minimize duplicative effort and costs. While Santa Ana Water Board staff strongly encourage Responsible Parties to work collaboratively to complete these joint tasks, their inability to work collaboratively does not itself justify a postponement of deadlines.

Nevertheless, after further consideration of the data that will be gained by completing the site characterization and testing scopes required pursuant to Required Actions 1(c), 2(c), 3(c) and 5(c), and with the understanding that portions of the approved work scopes will require securing access to off-site areas associated with the surrounding private properties and City ROW, an extension of the Required Action 4(c) RAP

submittal date appears justified. Accordingly, the deadline for RAP submission associated with the Commingled Plume Area is extended to **September 28, 2022**.[10]

REVISIONS TO WORK PLANS

To the extent that any of the Executive Officer revisions in this document impose new obligations, or expand the scope of existing obligations under the CAO, such revisions are within the Executive Officer's delegated authority under the Water Code, which includes the issuance of orders under Water Code sections 13267 and 13304. (Wat. Code, § 13223, subd. (a); Resolution R8-2019-0056.)

Revisions to the United Parties work plans are necessary for the reasons already stated in the CAO (incorporated herein), as well as to ensure that the United Parties' work plans are capable of fully achieving investigative and remedial objectives in a reasonable time frame, as provided for under applicable laws and policies.

The costs and other burdens of complying with specified revisions to investigation-work plans and other technical reports were previously considered in the issuance of the CAO. (See CAO Finding 9, pp. 22-26.) However, even if the specified revisions were to theoretically result in a 25 to 50 percent increase in the United Parties' overall cost of compliance (i.e., above amounts specified in CAO), such costs are nevertheless reasonable relative to the needs discussed above.

PARTIES STRONGLY ENCOURAGED TO WORK COOPERATIVELY

Santa Ana Water Board staff are informed that neither My Montecito nor RPMS shared the costs associated with compliance with the CAO provisions related to the Commingled Plume Area. The United Parties' representatives state that they intend to solicit a cost sharing agreement with My Montecito and RPMS. The Responsible Parties are jointly and severally liable for completing the necessary tasks associated with the Commingled Plume Area, including further site characterization, monitoring and remediation. As a result, activities conducted within the Commingled Plume Area should be a cooperative effort, implemented by the collective group, to minimize duplicative effort and costs. **Santa Ana Water Board staff strongly encourage the Responsible Parties to work collaboratively.**

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[10] Any additional request for an extension will only be considered when accompanied by substantial demonstration of progress by the Responsible Parties with respect to timely implementation of the various other CAO requirements.

FAILURE TO COMPLY WITH CAO

Please be advised that any failure to comply with requirements of the CAO may subject the Responsible Party to further enforcement action, including but not limited to the following:

- Civil penalty of not more than $10,000 for each day of violation of any corrective action established by, or issued pursuant to, California Health and Safety Code section 25296.10 (Health and Safety Code) for each underground storage tank as provided in Health and Safety Code section 25299, subdivision (d)(1);

- Administrative civil liability, pursuant to California Water Code sections (Water Code) 13268 and 13350, in an amount not to exceed $1,000 and $5,000, respectively, for each day in which the violation occurs under Water Code sections 13267 or 13304; and/or

- Referral of the matter to the Attorney General to seek injunctive relief and/or civil liability in superior court pursuant to the Water Code and Health and Safety Code, including Water Code sections 13268, 13304, and 13350 and Health and Safety Code sections 25299 and 25299.01.

The Santa Ana Water Board also has authority to take further enforcement actions as necessary and to the full extent of the law.

If you have technical questions, please contact Valerie Jahn-Bull at (951)782-4903 or via email at Valerie.Jahn-Bull@waterboards.ca.gov, or myself, at (951)782-3284 or Jayne.Joy@waterboards,ca,gov, respectively. For legal concerns, please contact David Lancaster at (916) 341-5195 or David.Lancaster@waterboards.ca.gov.

Sincerely,

[Signed Letter Posted on GeoTracker]
Jayne Joy, P.E.
Executive Officer
Santa Ana Regional Water Quality Control Board

cc: Ed Rands – Frey Environmental, Inc. (EdRands@Freyinc.com)

David Lancaster – State Water Resources Control Board, Office of Chief Counsel (David.Lancaster@Waterboards.ca.gov)

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