

1 STATE WATER RESOURCES CONTROL BOARD
2 OF THE STATE OF CALIFORNIA
3

4 In the Matter of)

5 Atlantic Richfield Company)
6 c/o BP Amoco P.L.C.)

7 Petitioner,)

8 For Review of Requirement for Investigation Work)
9 Plan – Former ARCO Bulk Plant, 411 High Street,)
10 Oakland, Alameda County)

PETITION NO.:

PETITION FOR REVIEW AND REQUEST FOR
HEARING AND REQUEST THAT PETITION
BE PLACED IN ABEYANCE AND PETITION
FOR STAY

11
12 Pursuant to California Water Code section 13320 and Title 23 of the California Code of
13 Regulations 2050 *et seq.*, Petitioner Atlantic Richfield Company c/o BP Amoco P.L.C. (“ARCO”) hereby
14 petitions the State Water Resources Control Board (“State Board”) to review and rescind, and
15 immediately stay 13267 Investigative Order No. R2-2014-1029 directing ARCO to prepare and submit an
16 Investigation Work Plan and a Technical Report - Investigation Report with regard to the Former ARCO
17 Bulk Plant, 411 High Street, Oakland, Alameda County (the “Site”) issued by the California Regional
18 Water Quality Control Board, San Francisco Region (“Regional Board”) on October 20, 2014
19 (“Investigative Order”). ARCO may amend this Petition with further evidence, argument, and authorities
20 as appropriate.
21

22 The Site has been used for bulk fuel/chemical operations by several parties that resulted in
23 contaminant plumes from various releases that are commingled. Unocal and ARCO, as former facility
24 operators and property owners, have primary responsibility for investigation and remediation at the Site,
25 and the Regional Board adopted Revised Final Site Cleanup Order R2-2011-0052 (“SCR Order”) to
26 regulate the investigation and cleanup actions at the Site. The SCR Order supersedes a number of prior
27 orders and there is a considerable administrative record of the Petitioner’s efforts concerning investigation
28

1 and remediation at the Site, including but not limited to the documents identified as resources in the
2 included verification and incorporated by reference.

3 I. NAME AND ADDRESS OF PETITIONER

4 Petitioner is Atlantic Richfield Company c/o BP Amoco P.L.C. and the Regional Board has
5 recognized that ARCADIS U.S., Inc. ("ARCADIS") is the managing contractor for ARCO's work at the
6 Site. All correspondence and other written communications regarding this matter should be addressed as
7 follows:
8

- 9 1) Alison Jones, P.E., Ph. D
10 Strategic Program Delivery Director, Senior Vice President
11 ARCADIS U.S., Inc.
12 100 Montgomery Street, Suite 300
13 San Francisco, CA 94104
14 Telephone: (415) 374-2744
15 Email: alison.jones@arcadis-us.com

16 With a copy to:

17 Denise Chamberlain
18 ARCADIS U.S. Inc.
19 5425 Bonnyrigg Court
20 Mechanicsburg, PA 17050
21 Telephone: (717) 761-0554
22 Email: denise.chamberlain@arcadis-us.com

- 23 2) Jim L. Smith
24 Contracts Manager - Remediation Management
25 Atlantic Richfield Company
26 c/o BP Amoco P.L.C.
27 201 Helios Way, Floor 6
28 Houston, TX 77079
Telephone: (713) 323-4153
Email: jim.smith2@bp.com

With a copy to:

Douglas S. Reinhart
BP Legal
150 W. Warrenville Road
Mail Code 200-1W
Naperville, Illinois 60563
Telephone: (630) 420-5457
Email: Douglas.Reinhart@bp.com

1
2 II. ACTION OF THE REGIONAL BOARD BEING PETITIONED

3 The action of the Regional Board being petitioned is the issuance of the Investigative Order that
4 requires an additional Investigation Work Plan and a Technical Report – Investigation Report for the Site.
5 A copy of the Investigative Order is attached as Exhibit “A”.

6 III. DATE THE REGIONAL BOARD ACTED OR FAILED TO ACT

7 The date of the Regional Board’s action which is subject to review is October 20, 2014, the date
8 the Investigative Order was signed by the Assistant Executive Officer of the Regional Board.

9 IV. STATEMENT OF REASONS THE ACTION IS INAPPROPRIATE AND IMPROPER

10 This issuance of the Investigative Order was beyond the authority of the Regional Board,
11 inappropriate, improper, or not supported by the record, for the following reasons:

12
13 A. Pursuant to Water Code Section 13360 the Regional Board is prohibited from specifying
14 methods that may be used to achieve compliance with requirements and orders. The Investigative Order
15 includes findings of fact and conclusions that are not supported by substantial evidence and technical
16 evaluations relating to the Site as further described in the letter dated November 18, 2014 attached as
17 Exhibit “B” hereto. The current level of site characterization is sufficient to support design and
18 implementation of the approved remedy presented in Remedial Design (Rev 4) (May 23, 2014,
19 ARCADIS) which will meet cleanup standards established in the SCR Order.

20
21 B. The Investigative Order is vague, including its failure to provide legally sufficient grounds for
22 requiring Petitioner to engage in additional investigative activities, and to complete and submit reports
23 and plans pursuant to the Investigative Order when considering the overall remedial design planned for
24 the Site. Further, the Investigative Order is improper because the remedial footprint has been adequately
25 delineated and the approved remedial action is appropriate to meet the cleanup goals of the SCR Order.

1 C. Pursuant to Water Code Section 13267 the costs of the Investigative Order imposes on the
2 Petitioner are not reasonably related to the need for, or benefits obtained from the additional work
3 required under the Investigative Order.

4 D. Further, Petitioner should not be forced to implement work at the Site that is economically
5 infeasible, as that term is used in State Board Resolution No. 92-49 (Policies and Procedures for
6 Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304), and is
7 otherwise unwarranted from the standpoint of protecting human health and the environment and
8 achieving the cleanup standards associated with remediation at the Site.

9 E. The Regional Board failed to resolve a number of technical conflicts with the Petitioner and
10 provide Petitioner with a clear path forward in order to comply with the requirements of the SCR Order,
11 notwithstanding the numerous attempts in meetings and writing to confirm that Petitioner's proposed
12 technical approaches and submittals would meet the terms of the SCR Order. As such, Petitioner has
13 been denied its rights to procedural due process, resulting in substantial harm through the imposition of
14 unjustified and inappropriate regulatory requirements and the potential for imposition of civil liability
15 penalties for failure to comply with the Investigative Order.

16
17
18 **V. PETITIONER IS AGGRIEVED**

19 Petitioner is aggrieved for the reasons set for the in section IV. above. Additionally, Petitioner
20 will be forced to incur substantial investigative, characterization, monitoring and other costs, without
21 adequate cause or justification and without a reasonable relationship to the need for the work when
22 considering that the overall remedial design for the Site is appropriate to meet the cleanup goals of the
23 SCR Order.

24 **VI. STATE BOARD ACTION REQUESTED BY PETITIONER**

25 Petitioner reserves the right to request a hearing in this matter and to request an opportunity to
26 present additional evidence that might later come to light.
27
28

1 At this time, Petitioner requests that this Petition be held in abeyance. If it becomes necessary for
2 Petitioner to pursue this appeal, the Petitioner will activate the Petition and amend this Petition to include
3 a more detailed description of the facts and manner in which Petitioner is aggrieved by the Regional
4 Board's actions, and a memorandum of points and authorities in support of the requested relief. If the
5 Petition is activated, the Petitioner requests that the State Board determine that the Regional Board's order
6 that ARCO prepare and submit the Investigation Work Plan for the Site was arbitrary and capricious or
7 otherwise inappropriate and improper, and therefore invalid, and that the State Board void the
8 Investigative Order.
9

10 VII. STATEMENT OF POINTS AND AUTHORITIES IN SUPPORT OF LEGAL ISSUES
11 RAISED IN SUPPORT OF LEGAL ISSUES RAISED IN THE PETITION

12 For purposes of this protective filing, the Statement of Points and Authorities is subsumed in
13 section IV of the Petition. If Petitioner elects to pursue this appeal, it reserves its right to file a
14 Supplemental Statement of Points and Authorities, including references to the complete administrative
15 record, which is not yet available. Petitioner also reserves the right to supplement its request for a hearing
16 to consider testimony, other evidence and argument.

17 VIII. STATEMENT REGARDING SERVICE OF THE PETITION ON THE REGIONAL
18 BOARD

19 A copy of this Petition is being sent to the Regional Board, to the attention of Dyan C Whyte
20 Assistant Executive Officer. Copies are also being sent to the interested parties identified on the attached
21 proof of service. By copy of this Petition, Petitioner is also notifying the Regional Board and identified
22 parties of the Petitioner's request that the State Board hold the Petition in abeyance.

23 IX. STATEMENT REGARDING ISSUES PRESENTED TO THE REGIONAL BOARD

24 Petitioner has made numerous attempts in good faith to resolve disputes informally with staff, and
25 has made its objections known to staff. Further, Petitioner has been working to comply with orders
26 associated with the investigation and remediation of the Site and has been making a written record of the
27 staff's instructions associated with any purported deficiencies with the cleanup actions at the Site in order
28

1 to be in compliance with the Regional Board. All issues raised by this petition have been raised before
2 the Regional Board, except those that could not have reasonably been known at the time or which would
3 have been impossible, impracticable or futile to raise before the Regional Board.

4 X. REQUEST FOR STAY

5 Pursuant to California Code of Regulations, Title 23, Section 2053, Petitioner requests a stay of
6 the Investigative Order pending resolution of the Petition, as well as a hearing. As described above,
7 Petitioner will suffer substantial harm if a stay is not granted in that the Petitioner will be forced to incur
8 substantial investigative, characterization, monitoring and other costs, without adequate cause or
9 justification and without a reasonable relationship to the need for the work when considering that the
10 overall remedial design for the Site is appropriate to meet the cleanup goals of the SCR Order. The
11 public is not harmed nor are interested parties because investigative and remediation efforts are
12 continuing at the Site. As outlined above, substantial questions of law and fact exist with regard to the
13 Investigative Order.
14

15 Petitioner will frame the specific relief it is seeking from the State Board when and if this Petition
16 is activated. For present purposes, Petitioner requests the following relief:

17 A. That the State Board determine that the Regional Board's order that ARCO prepare and submit
18 the Investigation Work Plan for the Site was arbitrary and capricious or otherwise inappropriate and
19 improper and therefore invalid, and that the State Board void the Investigative Order.

20 B. Such other relief as the State Board may deem just and proper.
21

22
23 Dated this 19th of November, 2014
24

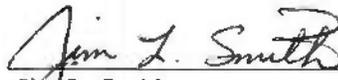
25 
26 _____
27 Jim L. Smith
28 Contracts Manager - Remediation Management
ATLANTIC RICHFIELD COMPANY
c/o BP Amoco P.L.C.

Exhibit A

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

13267 INVESTIGATIVE ORDER NO. R2-2014-1029

**DIRECTING ATLANTIC RICHFIELD COMPANY C/O BP AMOCO P.L.C. (ARCO)
TO SUBMIT A TECHNICAL INVESTIGATION REPORT TO
EVALUATE POTENTIAL SOURCES OF GROUNDWATER CONTAMINATION
AT 411 HIGH STREET, OAKLAND, ALAMEDA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region (Water Board) finds that:

1. **Legal and Regulatory Authority:** This 13267 Investigative Order (Order) conforms to and implements policies and requirements of the Porter-Cologne Water Quality Control Act.
2. **Discharger:** Atlantic Richfield Company c/o BP Amoco P.L.C. (hereafter referred to as ARCO or Discharger) is named as discharger because of substantial evidence that ARCO discharged pollutants to soil and groundwater at the site, and because ARCO owned/operated all or part of the site during or after the time of the activities that resulted in the discharge, had knowledge of the discharge or the activities that caused the discharge, and had the legal ability to prevent the discharge. In addition, ARCO was partial owner of AMSCO-W, which leased the northern portion of the 411 High Street property where releases of pollutants are believed to have occurred.¹
3. **Facility:** Richfield Oil Company owned and operated a petroleum storage facility in the southern portion of the 411 High Street property from 1946 through 1967. The facility included two large buildings, three above ground storage tanks (ASTs) with capacities greater than 50,000 gallons each, six smaller ASTs with capacities less than 50,000 gallons each, a loading rack, and numerous product pipelines and manifolds. Gasoline, diesel, and motor oil were stored in the ASTs. The former tanks and associated aboveground piping were removed from the property by ARCO by 1975.

From 1967 through 1975, the northern parcel of the 411 property was subleased from AMSCO-W, first to Earl Foster, and then in 1972, to Frank Peckett dba the Foster Chemical Company. In 1975, ARCO sold the property to Mr. William Balfrey who immediately sold it to the current owners, the Richard Koch 411 High Street Annuity Trust and Nancy Koch 411 High Street Annuity Trust. From 2000 to the present, the site has been occupied by First Transit Company as a commercial passenger van storage and maintenance facility. During the tenancy of these occupants subsequent to ARCO, there were no USTs or ASTs installed or operated on the property. In 2000, ARCO

¹ On September 18, 2009, ARCO informed the Regional Water Board that it retained Arcadis US Inc. (Arcadis) to manage remediation at the 411 High Street property. In the contract, Arcadis has assumed primary accountability for meeting all applicable regulatory obligations and staff engages with Arcadis accordingly, but ARCO remains the entity that is regulated by the Regional Water Board.

merged with BP Amoco P.L.C. to become a wholly owned subsidiary of British Petroleum. Investigations at the property have revealed that soil and groundwater have been impacted by petroleum constituents associated with the former ARCO operations.

4. **Site Cleanup Order:** In 2011, the Regional Water Board adopted Order No. R2-2011-0052, Revised Final Site Cleanup Requirements (SCR Order), which approved a Remedial Action Plan (RAP) for the subject site. Task 2 of the SCR Order (Prepare Remedial Design, 411 High Street) requires ARCO to submit a report acceptable to the Executive Officer by February 1, 2012, documenting the implementation of the remedial design portion of the RAP in Finding 11.a., including the following elements:
 - a. Results of the helium tracer air distribution test, cone penetrometer tests (CPT) / laser-induced fluorescence (LIF), dual-phase extraction (DPE) and injection testing.
 - b. Final remedial design based on the results above.
 - c. Schedule for all remedial activities.
5. **Background:** Arcadis U.S., Inc. (Arcadis) prepared a May 23, 2014, Remedial Design, "Rev 4" (Remedial Design) to fulfill ARCO's responsibility of Task 2 of the SCR Order. The remedial design targets more permeable stratigraphic zones in the subsurface, designated as Zone A and Zone B, and the treatment will include some shallow portions of an intermediate zone, designated as Zone A/B, which is mostly composed of fine-grained sediments. The technology Arcadis proposed to remediate Zone A and the upper portions of Zone A/B is DPE. The technology proposed for Zone B is in-situ remediation using injection wells to support anaerobic biological oxidation along several transects. Arcadis conducted CPT with LIF on August 18 and 19, 2011, to guide the remedial design. An LIF response indicates the presence of aromatic hydrocarbons, including the presence of a petroleum product or non-aqueous phase liquid (NAPL). In their September 18, 2013, Remedial Design Addendum, Arcadis proposed additional investigation to assess the extent of contamination in Zone A/B across the site by creating a grid of 40 cells and assessing existing soil data. Arcadis acknowledged 5 grid areas without Zone A/B data and a total of 19 of 40 grids that would be sampled.
6. **Residual Source Concerns:** There are potential sources of pollution to groundwater that are not targeted for remediation in the Remedial Design. LIF screening identifies the potential presence of residual NAPL that may be an on-going source of groundwater contamination. There was an LIF response from the CPT/LIF investigation at the following locations and depths (Figure 1): CPT-2 (15 feet), CPT-3 (13-15 feet), CPT-4 (13-16 feet), CPT-5 (3 6 and 16-17 feet), CPT-6 (10-13 feet), CPT-7 (12-15 feet), and CPT-8 (8-11 feet). These depth intervals are primarily in the lower portion of Zone A/B, which is a zone not targeted for remediation in the Remedial Design. To determine whether or not LIF responses are indicative of residual contamination exceeding cleanup standards, confirmation sampling is required, and the results of additional characterization must be included in an updated source evaluation. By not investigating the potential presence of residual NAPL detected by LIF screening or not targeting the zone of concern (lower portion of Zone A/B) for remediation in the Remedial Design, the effectiveness of the Design is questionable. In addition, Water

Board staff have identified the following locations with data that indicate significant contamination outside the remedial footprint: SB-29 (11-16'), AMW-9B (10'), IW-1 (11-16'), AMW-15B (15.5'), AMW-18 (10-17'), AMW-4B (13.5'), AMW-1B (13.5'), GP-4 (16-16.5') and GP-7 (17-17.5').

7. **Technical Report Pursuant to Water Code Section 13267:** This Order requires the Discharger to submit a technical report pursuant to Water Code section 13267. Water Code section 13267 provides that the Water Board may require dischargers, past dischargers, or suspected dischargers to furnish, under penalty of perjury, those technical or monitoring reports as the Water Board may specify, provided that the burden, including costs, of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
8. **California Environmental Quality Act Compliance:** The project is an adoption of a Section 13267 order and actions to be taken by the discharger(s) to comply with this order, namely additional subsurface investigation. This order and the actions it requires are for the protection of the environment. The project will have no potential for significant environmental effects and the activities are intended to support site cleanup. The project is therefore exempt from the provisions of the California Environmental Quality Act (CEQA) (Pub. Res. Code §§ 2100 et seq.) under the general rule that "CEQA applies only to projects that have the potential for causing a significant effect on the environment." (Cal. Code Regs., tit. 14 § 15061, subd. (b)(3).)

IT IS HEREBY ORDERED, pursuant to California Water Code section 13267 that the Discharger shall submit the following technical reports to the San Francisco Bay Regional Water Quality Control Board in response to the above findings:

A. Investigation Work Plan Due December 15, 2014

The Discharger shall submit a work plan acceptable to the Executive Officer to characterize Zone A/B (e.g., continuous core, photo-ionization detector readings) and sample soil and groundwater at the locations and depths described in Finding 6, including at least one location in each of the 19 previously proposed grid areas. Samples shall be collected and analyzed for total petroleum hydrocarbons as gasoline and diesel, benzene, toluene, ethylbenzene, and xylenes at a California-certified laboratory to determine the nature and extent of contamination exceeding site cleanup standards. These confirmation samples shall be co-located as close to the original identified locations and depths as possible. The Work Plan shall propose contingent additional borings and samples as may be required to determine the nature and extent of contamination.

B. Technical Report – Investigation Report Due 90 Days after Executive Officer approval of Task A

The Discharger shall submit an investigation report documenting the results of the Task A investigation. The report shall present the results of soil and groundwater sampling data, evaluate the nature and extent of contamination and on-going sources of

groundwater contamination, and update the site conceptual model (laterally and vertically). The report shall include recommendations, as needed (e.g., additional remediation, revised groundwater monitoring plan), to address threats to beneficial uses and to attain cleanup standards.

IT IS FURTHER ORDERED:

- C. **Enforcement:** Pursuant to California Water Code section 13268, failure to submit the required technical reports described above may result in the imposition of administrative civil liability up to \$1,000 per violation per day. The Regional Water Board reserves its rights to take any further enforcement action authorized by law.
- D. **Report Submission:** The technical reports shall be submitted to:
- Mr. Cleet Carlton
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
- E. **Perjury Statement:** Any report submitted in response to this Order shall include the following perjury statement signed by a responsible corporate official: "I, [Name], do hereby declare, under penalty of perjury under the laws of the State of California, that I am the [Job Title] for [Discharger], that I am authorized to attest that the veracity of the information contained in the reports described herein, and that the information presented in [Name and Date of Report] is true and correct, and that this declaration was executed at [Place], [State], on [Date]."
- F. **Certifications for All Plans and Reports:** All technical and monitoring plans and reports required in conjunction with this Order are required pursuant to Water Code section 13267 and shall include a statement by the Discharger, or an authorized representative of the Discharger, certifying (under penalty of perjury in conformance with the laws of the State of California) that the work plan and/or report is true, complete, and accurate. Hydrogeologic reports and plans shall be prepared or directly supervised by, and signed and stamped by a Professional Geologist or Professional Civil Engineer registered in California.
- G. **No Limitation of Water Board Authority:** This Order in no way limits the authority of this Water Board to institute additional enforcement actions or to require additional investigation and cleanup of the site consistent with the Water Code. This Order may be revised by the Assistant Executive Officer as additional information becomes available.
- H. **Right to Petition:** Any person aggrieved by this action of the San Francisco Bay Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 calendar days after the date of this Order, except that if the thirtieth day following

the date of this Order falls on a Saturday, Sunday, of state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

Date: October 20, 2014

Dyan C. Whyte
Assistant Executive Officer

Attachment: Figure 1 – CPT/LIF Locations and Remedial Design Summary

Exhibit B

State Water Resources Control Board
Office of Chief Counsel
Jeannette L. Bashaw, Legal Analyst
P.O. Box 100
Sacramento, California 95812-0100

Subject:

Exhibit "B" to Petition to Review Investigative Order No. R2-2014-1029
Former Oakland Bulk Terminal, 411 High Street, Oakland, California

Dear Ms. Bashaw:

Pursuant to California Water Code section 13320 and Title 23 of the California Code of Regulations, sections 2050 *et seq.*, Atlantic Richfield Company (ARCO or Petitioner), respectfully petitions the State Water Resources Control Board (State Board) for review of Water Code Section 13267 Investigative Order No. R2-2014-1029 (the Investigative Order), issued by the California Regional Water Quality Control Board – San Francisco Bay Region (Regional Board) on October 20, 2014. The Investigative Order was issued coincident with conditional approval of the *Remedial Design Rev 4* (ARCADIS, 2014) and requests preparation of an additional investigation work plan pursuant to Water Code Section 13267 to perform further characterization activities at the Former Oakland Bulk Terminal at 411 High Street in Oakland, California (the Site).

The Site consists of the property at 411 High Street which was the location of a former ARCO bulk plant and an adjacent property to the east at 441/445 High Street sometimes referred to as "High Street Auto". 411 High Street is owned by 411 High Street LLC (formerly the R&N Koch Trust) and 441/445 High Street is owned by 445 High Street LLC (formerly the R&N Koch Trust). The property to the west at 401 High Street (UNOCAL) owned by another Responsible Party (RP) is included in the Investigative Order but is not part of this petition.

The Regional Board has recognized that ARCADIS U.S., Inc. (ARCADIS) is the managing contractor for ARCO's work at the Site, and ARCADIS is providing this letter as technical support and information to support the Petition. ARCO and ARCADIS have been working diligently to meet the requirements of the Revised Final Site SCR Order R2-2011-0054 (SCR Order).

The Regional Board failed to resolve a number of technical conflicts with the Petitioner and provide Petitioner with a clear path forward in order to comply with the SCR Order, notwithstanding numerous attempts in meetings and writing (Meetings) to confirm that Petitioner's proposed technical approaches and submittals would meet the terms of the SCR Order. Instead, the Regional Board concurred with the technical approaches in Meetings but then rejected the submittal that was prepared based on that concurrence.

Imagine the result

ARCADIS U.S., Inc.
100 Montgomery, Suite 300
San Francisco
California 94104
Tel 415 374 2744
Fax 415 374 2745

ENVIRONMENT

Date:

November 19, 2014

Contact:

Hollis Phillips

Phone:

415.432.6903

Email:

Hollis.Phillips@arcadis-us.com

Our ref:

GP09BPNA.C105

Example of Regional Board Communications

Petitioner has been working in good faith to submit a Remedial Design to meet the requirements of the SCR Order. ARCADIS submitted several versions of the Remedial Design and although ARCADIS prepared these submittals based on the Meetings, it has been challenging to meet the moving target of expectations. The following is an example of recent Regional Board Communications regarding the third version of the Remedial Design that was submitted for approval:

In an effort to reach an agreement between all parties, the proposed contents of a third Remedial Design was discussed with the property owners on August 13, 2013 and September 6, 2013 and with Regional Board on August 20, 2013 and September 13, 2013. ARCADIS understood that ARCADIS had an agreement with Regional Board to delay implementation of Task 4 (installation of the SVE system beneath 441/445 High Street) of the SCR Order until approval of Task 2 was received, to propose a revised technology to address contamination on 411 High Street that the property owner favored, and that the revised remedial technology could be implemented without changes to the SCR Order. In an effort to obtain the property owner's support, ARCADIS agreed to include a proposal to complete additional site characterization in the Remedial Design.

The third Remedial Design was submitted on September 18, 2013 by ARCADIS (Remedial Design Rev 3). The report was rejected by the Regional Board in a Notice of Violation dated April 8, 2014 for the following reasons:

- The report presented a conceptual design and not a final remedial design;
- Remedial Design Rev 2 was approved with respect to Task 4 (implement offsite assessment at 441/445 High Street). However Task 5 (implement offsite remedial action and submit implementation report) was not completed per the schedule in Remedial Design Rev 2.

ARCADIS met with Regional Board representatives on April 22, 2014. Minutes of the meeting are included as Attachment 1. During this meeting, Regional Board staff stated that, while they would accept a proposal to complete an additional site investigation as part of an acceptable Remedial Design, they would not require one if ARCADIS did not believe it to be necessary. Regional Board staff stated that the Board thought there were impacted areas of the Site that were not included in the remedial footprint presented in Remedial Design Rev 3. ARCADIS therefore agreed to expand the remedial footprint to cover the specific areas that were of concern for the Regional Board.

Installation of the SVE system beneath 441/445 High Street started on May 12, 2014 and operation began on June 17, 2014. A startup report was submitted on July 2, 2014, addressing that element of the April 8, 2014 Notice of Violation (NOV) pertaining to Task 5 of the SCR Order.

A fourth revision of the Remedial Design was submitted on May 23, 2014 (Remedial Design Rev 4). The report was approved by the Regional Board in a letter dated October 20, 2014 fulfilling the requirements of Task 2 of the SCR Order. Additionally, the Regional Board issued the Investigative Order requiring an additional site characterization work plan to further delineate soil at the Site due to concerns regarding remedial design effectiveness despite documented direction that an additional site investigation would not be required and the expansion of the remedial footprint to address Regional Board's concerns.

Remedial Design Rev 4 was prepared for the Regional Board by ARCADIS and submitted on May 23, 2014 to meet the requirements of Task 2 of the SCR Order. Task 2 requires the Discharger to "submit a report acceptable to the Executive Officer by February 1, 2012, documenting the implementation of the remedial design portion of the Remedial Action Plan (RAP) (ARCADIS 2010), in Finding 11.a."

Technical Evaluations

As stated in the RAP, the objective of remediation at the Site is to take action to address elevated concentrations of petroleum hydrocarbons in soil, groundwater, and soil vapor. The remedial actions were designed to focus on areas of potential residual non-aqueous phase liquid (NAPL) that could be acting as residual source mass. Addressing residual mass will support further reductions in petroleum hydrocarbon concentrations that will eventually meet target cleanup levels. The basis for groundwater cleanup standards developed in the SCR Order includes provisions for restoration of groundwater quality to background levels or the highest attainable level of water quality at the Site and protection of the beneficial uses established in the Water Quality Control Plan for the San Francisco Bay Basin (Regional Board 1999). ARCADIS is of the opinion that the remedial actions stipulated in the SCR Order, detailed in Remedial Design Rev 4, and recently approved in the Regional Board letter dated October 20, 2014 will be sufficient to meet the cleanup standards established by the Regional Board and thus eliminate risk to current/future receptors and support restoration of the highest attainable water quality at the Site. Additional characterization is not required to meet the objectives of the SCR Order, thus issuance of the subsequent Investigative Order is inappropriate.

Vadose zone soil cleanup standards presented in the SCR Order are based on: protection of potential receptors at the Site, prevention of nuisance conditions, prevention of leaching of contaminants to groundwater, and protection of human health under commercial/industrial indoor air or direct exposure scenario. No cleanup standards were established in the SCR Order for saturated soils. Therefore, when discussing potential residual source mass within Zone A/B, the focus is on preventing the leaching of residual petroleum hydrocarbon to the primary groundwater bearing units (i.e., Zone A that is seasonally saturated and Zone B below). As stated by Regional Board staff at a September 13, 2013 meeting, the scope of soil remediation should focus on reducing contaminant flux to groundwater and reducing potential risk to receptors not on cleaning up every particle of soil.

As indicated in Finding 6 of the Investigative Order, the Regional Board is primarily concerned with residual source mass within Zone A/B that can serve as a continued source to Zone B groundwater and reduce the effectiveness of the remedy. The remedial design incorporates dual-phase extraction in Zone A and shallow Zone A/B soils and sulfate injection to support anaerobic biological oxidation (ABOx) in Zone B groundwater, along with soil vapor extraction below the 441/445 High Street buildings to address soil vapor. Consistent with the RAP, the remedial approach outlined in Remedial Design Rev 4 is expected to reduce COC concentrations at the Site in soil, groundwater, and soil vapor and to position the site to meet target cleanup levels.

Based on interpretation of the SCR Order and previous communications with the Regional Board, protection of groundwater receptors and restoration of groundwater quality in the primary water bearing zones is the dominant remedial objective at the Site. The evolution of A Zone groundwater quality over time at the Site indicates that Zone A/B soil will not serve as a long-term source to groundwater and compromise the effectiveness of the Remedial Design. Implementation of the Remedial Design as approved will meet the objectives of the RAP and SCR Order; therefore, additional investigation activities are not required and issuance of the subsequent Investigative Order is inappropriate.

The Regional Board's primary concern, outlined in Finding 6 of the Investigative Order, is that residual source mass persists within Zone A/B. The Regional Board identifies several sample locations (SB-29, AMW-9B, IW-1, AMW-15B, AMW-18, AMW-4B, AMW-1B, GP-4, and GP-7) where elevated concentrations of TPH have been identified within the lower portion of Zone A/B. Based on the assumed threshold concentration of 1,000 mg/kg indicative of soil likely containing residual NAPL, ARCADIS does not agree that the elevated concentrations at the identified locations are indicative of residual source mass in the A/B zone that requires direct remediation. Characterization data are presented in Attachment 2.

The Regional Board additionally references cone penetrometer (CPT) and laser induced fluorescence (LIF) data collected during 2011 site characterization activities as an indication that residual source mass is present outside of the proposed remedial footprint. ARCADIS agreed in Remedial Design Rev 4 that LIF responses at locations CPT-4 and CPT-7 indicate the presence of residual NAPL in Zone A/B soil. However, the LIF detections are not coincident with physical NAPL observations or elevated COC concentrations in soil indicative of NAPL. Soil data collected from AMW-18B within 10 feet of CPT-7, do not indicate the presence of NAPL (TPH-d = 29 milligrams per kilogram [mg/kg], TPH-g = 120 mg/kg, benzene = 0.45 mg/kg). The Regional Board additionally concluded that LIF responses indicated the presence of contaminants at CPT-2, CPT-3, CPT-4, CPT-5, CPT-6, CPT-7, and CPT-8. ARCADIS does not agree with the Regional Board's conclusion that LIF responses at these locations are indicative of NAPL. LIF responses at these locations are within the range of standard background response for LIF instrumentation, are several orders of magnitude below the pronounced responses observed at CPT-4 and CPT-7, and were not corroborated by either physical or analytical data.

ARCADIS' conclusion from the available data from the A/B Zone is that, although there may be isolated pockets of NAPL (e.g., as observed at locations CPT-4 and CPT-7) physical and analytical data indicate that these pockets are isolated and do not represent a significant source to groundwater that should be addressed through active remediation.

ARCADIS is of the opinion that soil data historically collected at the Site and CPT/LIF adequately characterizes the extent of residual source mass and defines the appropriate remedial footprint. Significant areas of residual source mass within Zone A/B are included within the remedial footprint for Zone A and Zone B treatment. Active treatment of Zone A and Zone B groundwater as specified in Remedial Design Rev 4, coupled with longer-term natural attenuation of remaining petroleum hydrocarbons following active remediation will effectively reduce concentrations of COCs at the Site to meet cleanup targets established in the SCR Order. ARCADIS is of the opinion that the work required in the Investigative Order is inappropriate and an obstruction with proceeding with active remediation.

ARCADIS' technical representatives are prepared to continue discussions with the Regional Board and productively resolve the technical conflicts and establish a clear path forward in order to comply with the SCR Order.

Sincerely,

ARCADIS U.S., Inc.



Hollis Phillips, PG
Certified Project Manager

Attachments:

Attachment 1 – Meeting Minutes – (Long and Synopsis)

Attachment 2 – Characterization Data

References:

ARCADIS U.S., Inc. 2010. *Remedial Action Plan*, 411 High Street, Oakland, California. August 19.

ARCADIS U.S., Inc. 2011. *Third Quarter 2011 Groundwater Monitoring and Operations and Maintenance Report*, 411 High Street, Oakland, California. October 31.

ARCADIS U.S., Inc. 2013. *Remedial Design Addendum. Former Oakland Bulk Terminal, 411 High Street, Oakland, California.* September 18.

ARCADIS U.S, Inc. (ARCADIS), 2014. *Remedial Design Report (Rev 4), Former Oakland Bulk Terminal, 411 High Street, Oakland, California.* May 23.
California Regional Water Quality Control Board, San Francisco Bay Region. 2011. *Board Order R2-2011-0052, Adoption of Revised Final Site Cleanup Requirements Superseding Order Nos. 90-133, 93-025, 98-041, and R2-2006-0084.* July 11.

California Regional Water Quality Control Board, San Francisco Bay Region. 2013. *Water Quality Control Plan for the San Francisco Bay Basin.* July.

Sale, T., and J. Zimbron. 2013. *Natural Losses of LNAPL: Processes and Implications. Presentation at RemTec 2013, Westminster, Colorado.* March 4.

Attachment 1

**Meeting Minutes –
(Long)**



ARCADIS U.S., Inc.
 100 Montgomery Street
 Suite 300
 San Francisco
 California 94104
 Tel 415.374.2744
 Fax 415.374.2745

MEETING MINUTES

Subject: Notice of Violation, Unacceptable Report with Respect to Task 2 and Task 5, Former ARCO Bulk Plant, 411 High Street, Oakland, Alameda County

Date: April 22, 2014

Time: 1:00 p.m.

Location: 1515 Clay Street, Oakland, CA

MEETING CALLED BY:	ARCADIS	
FACILITATED BY:	San Francisco Bay Regional Water Quality Control Board	
MINUTES PREPARED BY:	Rosario Varrella, ARCADIS	
ATTENDEES	San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Cleet Carlton, Engineering Geologist Stephen Hill, Section Chief Cheryl Prowell, Supervisor	ARCADIS U.S. Inc. Kelly Houston, Principal Engineer Alison Jones, Program Manager and Vice President Hollis Phillips, Project Manager Rosario Varrella, Administrator

AGENDA

After introduction of all attendees, ARCADIS provided a copy of the Oakland Bulk Plant Timeline and the Meeting Agenda (attached)

MEETING OBJECTIVES	ARCADIS to obtain additional guidance from RWQCB with respect to the Notice of Violation (NOV) for Task 2 and Task 5; dated April 8, 2014, resulting from the review of ARCADIS September 18, 2013 Remedial Design Addendum.
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Attendee	Comments
Phillips	Addressed the timeline and explained the reason for requesting a meeting
Hill	Noted that RWQCB is not a consultant but a regulatory agency. There are certain things RWQCB requires and RWQCB is required to tell consultants when something is unacceptable not to tell them how to make a submittal acceptable. It is ARCADIS' job to decide how to meet the Order. It's a very slippery slope on providing clarification and providing guidance. It is unusual to have to provide this level of guidance to a consultant to get an acceptable report. If the property owner is becoming an impediment to implementation we will move the property owner from a secondary to a primary position on the Order.

Carlton	I don't think anything was put in our letters because of input from the property owners
Prowell	What RWQCB is trying to do is to follow the process. We want ARCAIS to go back to the Order and comply with the Order.
Jones	Expressed appreciation of RWQCB's position. Recommended walking through the ARCADIS letter of April 11, 2014 letter (<i>addressed to Dyan C. White, Assistant Executive Officer, San Francisco Bay, RWQCB</i>) with a view to getting clarification from RWQCB on certain aspects of the NOV and what should be included in an acceptable Remedial Design Report.
Hill	Directed ARCADIS to refer to the Site Cleanup Requirements (SCR) in the Order for direction on submitting an acceptable report under Task 2.
Jones	Asked for additional guidance than is provided in the Order. ARCADIS has been consulting with RWQCB staff on the proposed contents of upcoming reports, submitting documents as proposed then getting NOVs for unacceptable reports. There is a disconnect between what we hear at consultation meetings and the written review comments. Recommended going through specifics items and documenting RWQCB's response. ARCADIS needs clarification from RWQCB to better understand RWQCB's position.
Hill	This is an unusual situation, and understands RWQCB are not getting acceptable reports. RWQCB is going to do what the SCR requires. Referenced Pier 69 site in San Francisco, which was a recent remediation project where various stakeholders had differing opinions on end points. Reiterated that the requirements of an acceptable report are defined in the SCR and that RWQCB cannot advise on remedial approach.
Jones	Regarding the shift in remedial approach contained in the most recent Remedial Design Report, the property owners first brought up in situ soil stabilization (ISSS) as likely to be required as a soil improvement technique for site redevelopment. We discussed this at the August meeting with RWQCB staff and at other meetings with the property owners and their technical and legal representatives. RWQCB told ARCADIS that this revised remedial approach could likely be implemented under the existing Order and we should include a mini-feasibility study (FS) in the Remedial Design Report to justify method selection. Excavation should be included in the evaluation of potential remedial alternatives.
Jones	Soil cleanup goals as referenced in the Order are for vadose zone soil for the protection of groundwater not for soil below the water table. We have been consistent with our proposed remedial solution. Our strategy is to address residual source mass that is impacting groundwater. We defined the residual source based on a concentration, as defined in the Remedial Design Report.
Jones	ARCADIS feels we have sufficient data to implement a remediation design. The property owners wanted additional characterization and, in an effort to obtain their support, we proposed additional investigation. From NOV it is not clear whether RWQCB will accept a Remedial Design Report that proposes an additional site investigation. Will RWQCB accept a Remedial Design Report that proposes an additional site investigation?
Carlton	Referred to the final Remedial Design Report. RWQCB will allow an additional investigation if it is required; if useful; if needed.
Jones	ARCADIS was under the impression that we were required by RWQCB to do an additional investigation. ARCADIS does not think it necessary to complete additional investigation in order to implement a Remedial Design.
Carlton	It is not traditional to include an additional site investigation in a Remedial Design Report.

	There is a lot of information here (referred to figures showing site data). There are areas of the site with impacts that are not addressed with the proposed Remedial Design.
Prowell	RWQCB will allow an additional site investigation; RWQCB does not require additional site investigation.
Houston	<p>Refers to Page 7/8 of April 8, 2014 RWQCB letter and read the comments made by Cleet Carlton in the letter.</p> <p>RWQCB comment from June 21, 2013 rejection letter:</p> <p><i>Address contamination in Zone A/B between the former loading rack area and the 401 High Street boundary, and beneath the former High Street Auto Center at 441/445 High Street, by expanding the remedial action footprint. Additional investigation may be proposed to assess the extent of contamination in Zone A/B and the remedial design adjusted or expanded as appropriate.</i></p> <p>RWQCB comment from April 8, 2014 rejection letter:</p> <p>Not addressed: <i>Arcadis states its opinion that the currently available soil and groundwater data adequately define the residual source mass that requires active remediation; however, as “suggested by the Board and Kochs” [the site owner], proposed Zone A/B soil investigation to confirm the extent of contamination. Additional data which may be proposed as noted in the above requirement was to adjust what is already known to be an insufficient remedial footprint. The absence of an expanded footprint (as proposed in Figure 7-1) demonstrates this has not been addressed.</i></p> <p>The RWQCB is fairly explicit in their rejection comment that they do not approve of the proposed footprint of active remediation included in the Remedial Design Report, but have not provided specifics on where additional treatment is required based on existing soil data. The direction provided in the June 21, 2013 RWQCB clearly suggests additional soil investigation can be part of an acceptable Remedial Design.</p>
Jones	What we have presented is all the historical data. We went out, under an approved work plan and collected additional data; those data were used to define the residual source not where we exceed cleanup goals for vadose zone soil. These data have been presented in numerous reports. We do not have any data that shows the remedial action footprint should be bigger than shown in the Remedial Design.
Houston	Regarding treatment footprint, we are still in disagreement. We have been requested to expand our footprint without specific recommendations on where and why. We provided in the Remedial Design Report a comprehensive data evaluation that clearly shows the data that we have used to define the footprint of soil containing concentrations representative of residual source mass (i.e., greater than 1,000 milligrams per kilogram (mg/kg) total petroleum hydrocarbons (TPH) . If the RWQCB is still of the opinion that the proposed footprint of remediation is not sufficient, we request that they provide specifics in their comments rather than blanket rejections.
Jones	We are going to use groundwater concentrations to determine if we have adequately addressed the source; we are not going to treat the entire footprint of soil where elevated concentrations of COCs exist. What cleanup goals would we use for saturated zone soils? That is not mentioned in the Order.
Houston	Compares figure showing soil and groundwater data collected from before 2007 and figure showing soil and groundwater data collected after 2007. The comparison clearly shows natural degradation of contaminants is ongoing at the site.
Hill	References the RAP and the proposed remedial footprint presented in the RAP.

Houston	RAP includes as the remedy dual-phase extraction in the A Zone and sulfate injection through a network of injection wells in the B Zone. The RAP does not consider a specific remedy for A/B Zone soils. The logic inherent in the remedial approach is that sufficient treatment of residual source mass will be provided in the A and B Zones so that post-remedial A and B Zone groundwater concentration trends are decreasing at a rate and in a manner that will achieve cleanup goal concentrations in a reasonable timeframe.
Prowell	It is not the format or how it was presented. The Remedial Design is not what we were expecting. References the Order and the schedule in the Order.
Jones	We tried to compromise 1) to do exactly what we were asked to do by RWQCB and property owners and 2) work out some way to do that in a way which meets the Order.
Houston	We have learned additional things about the site since issuance of the RAP through additional data collection.
Carlton	It was included in the RAP. We went ahead and changed the remedy for the final design; now there is a footprint issue.
Jones	We came in to meet with RWQCB under the existing Order. At the last meeting we presented what we were proposing to include in the upcoming report (ISSS) and asked if that would be OK with RWQCB. We provided all the logistics associated with that solution – treatability testing etc. – and the effect it would have on the schedule. It was clear that the Remedial Design would not match the RAP.
Prowell	An aggressive solution sounds like a good technology. What we are proposing is another treatability study, with a new remedy. This is going to significantly extend the schedule which is not compatible with the schedule in the Order.
Houston and Carlton	Mutually took time to look at the figures and discuss supporting data.
Jones	Points out that we are already trending toward groundwater cleanup goals in many wells. Where are the data that show we are not going to meet groundwater cleanup goals in a reasonable time frame?
Houston	Regarding residual source mass definition in and around 441 High Street, we have five recent sets of observations (groundwater well IW-1 and soil boring/hydropunch locations GP-3, 5, 6, and 7) that show the absence of residual source mass based on soil concentrations. References that the soil boring and hydropunch work were completed under a work plan approved by RWQCB. Cheryl walks over to Kelly and observes figures during discussion on why the old (pre-2007) and recent (2007 to current) data are presented as they are on Figures 3-1 and 3-2.
Carlton	Points to a historic groundwater data summary table, non-aqueous phase liquid (NAPL) and high groundwater concentrations are observed at AMW-9B.
Houston	Regarding the NAPL in AMW-9B, this is a B Zone well and has a submerged screen. Well AMW-9B was installed over 20 years ago (1991) and once NAPL has entered the well, there is no means for the NAPL to leave – it is stuck within a well casing approximately 10 feet above the top of screen. The historic and current NAPL observations at AMW-9B have mostly been reported as sheens and the maximum observed NAPL thickness observed throughout the historical record is 0.02 feet. We are not talking about a significant quantity of NAPL in AWM-9B. Well IW-1 was installed in 2011 less than 10 feet from AMW-9B and screened similarly as part of B Zone sulfate injection pre-design field testing. NAPL has not been observed at IW-1 and

	<p>the baseline groundwater concentrations are much lower than are observed at AMW-9B located less than 10 feet away.</p> <p>ARCADIS is of the opinion that the NAPL observations and elevated groundwater concentrations at AMW-9B are a relic of historical conditions in this location and no longer reflect current conditions. The recent soil and groundwater observations at IW-1 and GP-3, 5, 6, and 7 are representative of current site conditions.</p>
Carlton	Bottom line, the design provided to RWQCB does not meet the conditions of the Order.
Jones	This is the third or fourth time that we have had this conversation. We need to have a clear path forward.
Carlton	Points to the figures; we see product throughout the site (referencing cone penetrometer test/laser-induced fluorescence (CPT/LIF) boring locations CPT-4 and CPT-7). Then we have nearby soil data that does not show evidence of NAPL. Based on the LIF response, the NAPL is there and needs to be remediated.
Phillips	Points to the figure and notes the decreasing concentration trends observed in A and B Zone groundwater monitoring wells.
Jones	We need to reach some sort of conclusion. We have presented our interpretation of the data. As stipulated in the RAP and Order, remediation is for protection of groundwater.
Carlton	Reduction in groundwater concentrations based on what? We don't have information to support that trend.
Houston	We have presented in the Remedial Design Report a summary of groundwater concentration trend analysis for select wells (Table 4-1). We understand that you need to see more transparency in the trend analysis and we will include it in the next Remedial Design Report.
Jones	In the absence of saturated zone soil cleanup goals stipulated in the Order, the remedial approach proposed in the RAP and with each Remedial Design Report submitted by ARCADIS is based on providing sufficient remediation such that groundwater will achieve MCLs in a reasonable timeframe. We have addressed this in our discussion already today.
Prowell	We have been using vadose zone soil cleanup goals as a screening level for all soils.
Carlton	To indicate where we have contamination.
Jones	We are running out of time. We need to discuss implementation of SVE beneath High Street Auto and the NOV associated with Task 5. We realize we have approval to move forward with implementation. However, until we have approval from RWQCB on the footprint of remediation of Zone A/B it doesn't make sense to move forward with the SVE. If the footprint of the Zone A/B remediation is expanded we would have to rip out a very expensive SVE system.
Carlton	We did not make accommodations for soil mixing.
Hill	We need to deal with vapor extraction quickly. We have to try to work with the SCR. We have to enforce the SCR. We don't have much choice.
Houston	If we get approval for the remedial footprint we will move forward with the SVE system beneath High Street Auto. We have the data that supports there are no significant soil impacts beneath High Street Auto that are indicative of residual source mass. We can be effective at remediation even if groundwater is affected beneath High Street Auto. Dominant contributor is hydrocarbon mass in the Former Loading Rack Area.

Carlton	There is general contamination at the site. Task 2 is for mitigation. Task 4 has different goals, a different time frame. The two tasks are not connected.
Jones	They are connected. If the remediation footprint for Task 2 is expanded beneath High Street Auto we will have wasted \$250k on a system (Task 4) we have to rip out.
Hill	We are not trying to ask you to spend money. The RAP indicates it.
Jones	If you pick and choose which elements of a design we implement then the whole thing doesn't work.
Houston	How we understand your letter is that we cannot implement the remedial design we are proposing (ISSS) under the existing Order.
Carlton	Saturated soil data may be sufficient, but you don't have enough ground water data in the A/B Zone.
Houston	We have accurate and sufficient groundwater data where groundwater has the capacity to move – in the A and B Zones. This is how the site has been characterized throughout its history.
Carlton	Most of the contaminant mass is in the A/B Zone. That's a data gap. MNA is not a viable option for A/B Zone beneath High Street Auto
Houston	So are we going back to the remedial investigation?
Jones	Why would we propose to collect additional soil data when we have groundwater data?
Houston	Our goal is to protect groundwater.
Jones	After all this, I still have no idea how to provide an acceptable Remedial Design Report to the RWQCB.
Hill	You have to implement what the RAP proposes. Start fresh. The RAP and SCR should be implemented. You have a choice to implement the RAP under the current Order or propose a new RAP and get a revised Order. Suggested Kelly and Cleet meet to discuss the technical data and remedial footprint further.
Houston	Another change since issuing the RAP is that the City of Oakland has approved the redevelopment plan.
Hill	We are not going to be able to resolve that. We propose and approve it. There needs to be a three way discussion here (ARCADIS, RWQCB, property owners). Cleanup needs to be accomplished in a fast enough timeframe.
Jones	What do you want from us by this coming Friday (4/25/2014 referenced as the deadline in the NOV for referral to enforcement)?
Hill	We cannot change due dates of documents already past due. Until conditions of the NOV are addressed, the NOV stands. Under the current Order, you must implement the RAP. If you want to implement alternative technologies you must go through the process. Submit a new RAP, which goes out for public comment, and complete a new Order.
Prowell	That's a lot of work and will take a long time to complete.
Jones	RWQCB staff have categorically stated to us (Mary Rose Casas at August 2013 meeting) that they would not contemplate reopening or revising the Order. We consulted with RWQCB staff

	about the contents of the Remedial Design before we submitted it and were told our proposal (ISSS) could likely be implemented under the existing Order. I think ARCADIS has been misled by RWQCB staff.
Prowell	I thought there was sufficient direction and information in the letters.
Houston	Coming out of previous meetings, we thought we were on the same page as the RWQCB. If we request a change to the RAP, we will still be in violation under the Order. Typically it has taken the RWQCB 9 months to review each of our reports, which has been included in our tally of violation days.
Hill	NOV violation days should not include time it takes Board staff to review a report.
Prowell	The time frame on the schedule, even if we would have approved the proposed Remedial Design, was way further out than was anticipated in the Order.
Hill	I cannot say at this point if Board staff has misled you. If, however, it turns out our staff has misled you, then this will be taken into account in the NOV. I think we have had enough for today. It would be helpful to have a technical meeting. If you are interested please let us know.
Hill	Send us a formal letter ASAP if you intend to submit a new RAP.
Hill	Thank you for coming and the chance to chat.
<i>Meeting adjourn at 3:00pm</i>	

Attachment 1

**Meeting Minutes –
(Synopsis)**



MEETING NOTES

Subject: Notice of Violation, Unacceptable Report with Respect to Task 2 and Task 5, Former ARCO Bulk Plant, 411 High Street, Oakland, Alameda County

Date: April 22, 2014

Time: 1:00 p.m.

Location: 1515 Clay Street, Oakland, CA

ATTENDEES	San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Cleet Carlton, Engineering Geologist Stephen Hill, Section Chief Cheryl Prowell, Supervisor	ARCADIS U.S. Inc. Kelly Houston, Principal Engineer Alison Jones, Program Manager and Vice President Hollis Phillips, Project Manager Rosario Varrella, Administrator
MEETING OBJECTIVES	ARCADIS to obtain additional guidance from RWQCB on the Notice of Violation (NOV) for Task 2 and Task 5; dated April 8, 2014, resulting from the review of ARCADIS September 18, 2013 Remedial Design Addendum.	

Attendee	Meeting Notes
Hill	Noted that RWQCB is not a consultant but a regulatory agency. RWQCB is required to tell consultants when something is unacceptable not to tell them how to make a submittal acceptable. It is ARCADIS' job to decide how to meet the Order. If the property owner becomes an impediment to implementation we will move the property owner from a secondary to a primary position on the Order. Directed ARCADIS to refer to the Site Cleanup Requirements (SCR) in the Order for direction on submitting an acceptable report under Task 2.
Jones	Asked for additional guidance than is provided in the Order. ARCADIS has been consulting with RWQCB staff on the proposed contents of upcoming reports, submitting documents as proposed then getting NOV's for unacceptable reports. There is a disconnect between what we hear at meetings and written review comments.
Jones	Regarding the shift in remedial approach contained in the most recent Remedial Design (RD) Report, the property owners first brought up in situ soil stabilization (ISSS) as likely to be required as a soil improvement technique for site redevelopment. We discussed this at the August meeting with RWQCB staff and at other meetings with property owner's representatives. RWQCB told ARCADIS that this revised remedial approach could likely be implemented under the existing Order and we should include a mini-feasibility study (FS) in the RD Report to justify method selection. Excavation should be included in the evaluation of potential remedial alternatives.
Carlton/ Prowell	Regarding acceptability of an RD Report that proposes an additional site investigation, RWQCB will allow an additional investigation if it is required but does not require one.
Houston	Regarding treatment footprint, we are still in disagreement. We provided in the RD Report a comprehensive data evaluation that clearly shows the data that we have used to define the footprint of soil containing concentrations representative of residual source mass (i.e., greater than 1,000 milligrams per kilogram (mg/kg) total petroleum hydrocarbons (TPH) . If the RWQCB is still of the opinion that the proposed footprint of remediation is not sufficient, we ask that they provide specifics in their comments rather than blanket rejections.
Houston	RAP proposes DPE in the A Zone and sulfate injection in the B Zone; RAP does not consider a specific remedy for A/B Zone soils. The logic inherent in the remedial approach is that sufficient treatment of residual source mass will be provided in the A and B Zones so that post-remedial A and B Zone groundwater concentration trends will decrease at a rate that will achieve cleanup goal concentrations in a reasonable timeframe.

Houston	<p>Regarding NAPL in AMW-9B, this is a B Zone well and has a submerged screen. Well AMW-9B was installed over 20 years ago (1991) and once NAPL has entered the well, there is no means for the NAPL to leave.</p> <p>Well IW-1 was installed in 2011 less than 10 feet from AMW-9B and screened similarly. NAPL has not been observed at IW-1 and the baseline groundwater concentrations are much lower than are observed at AMW-9B.</p> <p>ARCADIS is of the opinion that the NAPL observations and elevated groundwater concentrations at AMW-9B are a relic of historical conditions in this location and no longer reflect current conditions. The recent soil and groundwater observations at IW-1 and GP-3, 5, 6, and 7 are representative of current site conditions.</p>
Houston	<p>Presented in the RD Report is a summary of groundwater concentration trend analysis for select wells (Table 4-1). We will include data for all wells in the next RD Report.</p>
Jones	<p>In the absence of saturated zone soil cleanup goals in the Order (soil cleanup goals in the Order are for vadose zone soils), the remedial approach proposed in the RAP and each Remedial Design Report submitted by ARCADIS is based on remediating groundwater to achieve MCLs in a reasonable timeframe.</p>
Prowell/ Carlton	<p>We have been using vadose zone soil cleanup goals as screening levels for all soils. To indicate where we have contamination.</p>
Jones	<p>Implementation of SVE beneath High Street Auto and the NOV associated with Task 5. We realize we have approval to move forward with implementation. However, until we have approval from RWQCB on the footprint of remediation of Zone A/B it doesn't make sense to move forward with the SVE. If the footprint of the Zone A/B remediation is expanded we would have to rip out a very expensive SVE system.</p>
Carlton	<p>There is general contamination at the site. Task 2 is for mitigation. Task 4 has different goals, a different time frame. The two tasks are not connected. Saturated soil data may be sufficient, but you don't have enough ground water data in the A/B Zone.</p>
Houston	<p>We have accurate and sufficient groundwater data where groundwater has the capacity to move – in the A and B Zones. This is how the site has been characterized throughout its history.</p>
Jones	<p>Asked for clarification on content of 4/25/2014 submittal.</p>
Hill	<p>You have to implement what the RAP proposes. You have a choice to implement the RAP under the current Order or propose a new RAP and get a revised Order. If you want to implement alternative technologies you must go through the process - submit a new RAP and complete a new Order. We cannot change due dates of documents already past due. Until conditions of the NOV are addressed, the NOV stands.</p>
Jones	<p>RWQCB staff have categorically stated to us (Mary Rose Casas at August 2013 meeting) that they would not contemplate reopening or revising the Order. We consulted with RWQCB staff about the contents of the RD before we submitted it and were told our proposal (ISSS) could likely be implemented under the existing Order. I think ARCADIS has been misled by RWQCB staff.</p>
Hill	<p>I cannot say at this point if Board staff has misled you. If, however, it turns out staff has misled you, then this will be taken into account in the NOV. Send us a formal letter ASAP if you intend to submit a new RAP.</p>
<p><i>Meeting adjourn at 3:00pm</i></p>	

Attachment 2

**Characterization
Data**

