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(Continued on following page)

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF CALIFORNIA  
FRESNO DIVISION

UNITED STATES OF AMERICA, THE  
STATE OF CALIFORNIA DEPARTMENT  
OF TOXIC SUBSTANCES CONTROL, and  
THE STATE OF CALIFORNIA TOXIC  
SUBSTANCES CONTROL ACCOUNT,

Plaintiffs,

v.

VALLEY WOOD PRESERVING, INC., et al.,

Defendants.

Civil Act. No. 1:94-CV-5984 AWI SMS

CONSENT DECREE

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## I. BACKGROUND

A. In 1994, the United States of America (“United States”), on behalf of the Administrator of the United States Environmental Protection Agency (“EPA”), filed a complaint in this litigation against Valley Wood Preserving, Inc. (“Performing Settling Defendant”); Joyce Logsdon; and Michael Logsdon and other individuals and entities not named in this Consent Decree (“Consent Decree”) pursuant to Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), 42 U.S.C. § 9607.

B. The United States in its complaint sought, *inter alia*, reimbursement of costs incurred by EPA and the Department of Justice (“DOJ”) for response actions at the Valley Wood Preserving, Inc. Superfund Site in Turlock, California (“Site”) consistent with the National Contingency Plan (“NCP”), 40 C.F.R. Part 300.

C. On October 13, 1994, the Attorney General of the State of California, on behalf of the State of California Department of Toxic Substances Control (“DTSC”) and the State of California Toxic Substances Control Account also filed a complaint against Performing Settling Defendant, Joyce Logsdon, Michael Logsdon and other individuals and entities not named in this Consent Decree (originally designated Case No. 94-6055 and subsequently reassigned and consolidated with the instant Case No. 94-5984) alleging that the named defendants are liable to DTSC under Section 107 of CERCLA, 42 U.S.C. § 9607, for response costs incurred by DTSC. DTSC has since settled their claims against all of the named defendants by Consent Judgment entered by this Court on November 9, 1995.



D. In an Order Granting United States' Motion For Partial Summary Judgment Re: Owners/Operators' Liability in this litigation dated February 5, 1996 [Docket No. 130], this Court found Performing Settling Defendant and the individuals Joyce Logsdon, Harold Logsdon (now deceased) and Michael H. Logsdon (now deceased), liable under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), for costs associated with the Site.

E. On March 26, 1997, the Court entered a partial consent decree in this litigation [Docket No. 145], pursuant to which Michael H. Logsdon and an entity not named in this Consent Decree paid for a portion of past response costs incurred by the United States through June 30, 1996. In exchange, Michael H. Logsdon received a covenant not to sue for past and future response costs, provided that Performing Settling Defendant and other entities satisfactorily perform all future response actions at the Site.

F. On August 26, 1998, the Court entered a second partial consent decree in this litigation [Docket No. 150], pursuant to which Performing Settling Defendant paid for past response costs incurred by the United States through September 30, 1997, at or in connection with the Site in exchange for covenants not to sue for those costs.

G. This Court entered a third partial consent decree on June 20, 2008 in this litigation [Docket No. 162], pursuant to which Performing Settling Defendant paid for past response costs incurred by the United States through September 30, 2007, at or in connection with the Site in exchange for covenants not to sue for those costs.

H. EPA and DTSC have billed Performing Settling Defendant on an annual basis for response costs incurred by the United States and DTSC at or in connection with

the Site after September 30, 2007. Performing Settling Defendant has timely paid EPA for its response costs billed through September 30, 2015, and has timely paid DTSC for its response costs billed through March 31, 2017.

I. In accordance with the NCP and Section 121(f)(1)(F) of CERCLA, 42 U.S.C. § 9621(f)(1)(F), EPA notified the State of California (“State”) on May 29, 2007, of negotiations with potentially responsible parties (“PRPs”) regarding the implementation of the remedial design and remedial action for the Site, and EPA has provided the State with an opportunity to participate in such negotiations. EPA is the regulatory authority under CERCLA regarding the Work under this Consent Decree, in consultation with the State.

J. Performing Settling Defendant does not admit any liability to Plaintiffs arising out of the transactions or occurrences alleged in the complaints, nor does it acknowledge that the release or threatened release of hazardous substance(s) at or from the Site constitutes an imminent and substantial endangerment to the public health or welfare or the environment.

K. Certain individuals and personal estates associated with the Site through past involvement with Valley Wood Preserving, Inc., including without limitation as shareholders, project coordinators, owners, operators and/or employees (collectively “Settling Individuals”), are also signatories to this Consent Decree. Joyce Logsdon and the Estate of Michael Logsdon, who are among the Settling Individuals, have previously been found liable under Section 107(a) of CERCLA in this litigation. The opportunity to participate in this Consent Decree and to receive the full benefit of Section XXII (Covenants by Plaintiffs for Settling Individuals) provided incentive for Settling

Individuals to transfer 100% of the shares of the corporate stock of Valley Wood Preserving, Inc. to new owners, under whose ownership Valley Wood Preserving, Inc. is willing and able to enter into this Consent Decree and assume obligations set forth herein, including completion of the remaining Work necessary at the Site (Section VI (Performance of the Work by Performing Settling Defendant)) and provision of necessary financial assurances for that Work (Section XIII (Performance Guarantee)).

L. Settling Individuals that have entered into this Consent Decree do not admit any liability to Plaintiffs arising out of the transactions or occurrences alleged in the complaints, nor do they acknowledge that the release or threatened release of hazardous substance(s) at or from the Site constitutes an imminent and substantial endangerment to the public health or welfare or the environment.

M. Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the National Priorities List (“NPL”), set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on March 31, 1989, at 54 Fed. Reg. 13,296.

N. In response to a release or a substantial threat of a release of hazardous substances at or from the Site, from about May 1990 to about June 1991, Performing Settling Defendant, under EPA’s oversight, undertook a Remedial Investigation and Feasibility Study (“RI/FS”) for the Site pursuant to 40 C.F.R. § 300.430. In June 1991, Performing Settling Defendant completed the RI/FS Report.

O. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the completion of the Feasibility Study and of the proposed plan for remedial

action on June 17, 1991 in a major local newspaper of general circulation. EPA provided an opportunity for written and oral comments from the public on the proposed plan for remedial action. EPA signed the Record of Decision ("ROD") on September 27, 1991.

P. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published an Explanation of Significant Differences ("ESD") in December 1994 to document significant changes it made to the final remedial action plan as originally provided in the 1991 ROD. The ESD provided for the performance of a one-year site-wide pilot study to evaluate the efficacy of *in situ* groundwater treatment, and contingent upon the success of the pilot study, the addition of the tested *in situ* technology as a component of the groundwater remedy at the Site. The *in situ* treatment consisted of re-injecting treated groundwater into the aquifer and saturated soil in order to reduce hexavalent chromium concentrations in subsurface soil and groundwater.

Q. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published the proposed plan for the first amendment to the selected remedial action in April 2000, and provided opportunity for public comment on the proposed amendment to the remedial action. The proposed amendment impacted the soil remedy by requiring excavation and off-site disposal of contaminated soil, backfilling of excavated areas with clean soil, and implementation of institutional controls to bar residential use of the Site. EPA signed ROD Amendment #1 on September 29, 2003.

R. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published the proposed plan for the second amendment to the selected remedial action in February 2007, and provided opportunity for public comment on the proposed amendment to the remedial

action. The proposed amendment impacted the groundwater remedy by requiring: “a) *in-situ* groundwater treatment to address residual levels of arsenic in groundwater beneath and downgradient of the Site; b) monitored natural attenuation to address residual hexavalent chromium, any remaining levels of arsenic following the *in-situ* treatment, and secondary contaminants generated by the *in-situ* treatment; and c) a revised cleanup goal of 10 micrograms per liter (µg/L) for arsenic in groundwater impacted by Site activities.”

EPA signed ROD Amendment #2 on March 30, 2007.

S. The decision by EPA on the remedial action to be implemented at the Site is embodied in a final ROD executed on September 27, 1991, as modified by the December 9, 1994 ESD, the September 29, 2003 ROD Amendment #1, and the March 30, 2007 ROD Amendment #2, on which DTSC and the Central Valley Regional Water Quality Control Board have given their concurrence. The ROD, ESD, and ROD Amendments are supported by an administrative record that contains the documents and information upon which EPA based the selection of the response action. The ROD and ROD Amendments each include a responsiveness summary to the public comments. Notice of the final plan was published in accordance with Section 117(b) of CERCLA, 42 U.S.C. § 9617(b).

T. ROD Amendment #2, signed by EPA on March 30, 2007, modified the groundwater remedy selected in the 1991 ROD for the Site, which had been previously modified by a 1994 Explanation of Significant Differences and ROD Amendment #1. The final phase of groundwater cleanup pursuant to ROD Amendment #2 consists of *in situ* treatment followed by monitored natural attenuation (“MNA”). Performing Settling Defendant has implemented and completed all of the selected remedial action at this Site

with the exception of the MNA phase of the final groundwater remedy. A Preliminary Closeout Report was approved by EPA on August 21, 2008, to document that all construction activities for the Site had been completed in accordance with Closeout Procedures for National Priorities List Sites (OSWER Directive 9320.2-09A, January 2000). An Interim Remedial Action Report was approved by EPA on September 29, 2009, to document the groundwater cleanup activities that took place at the Site.

U. On August 24, 2014, EPA issued the Second Five-Year Review for the Site as required by Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), which included the recommendation that “an Explanation of Significant Differences should be issued to select the new State MCL (of 10ug/L for hexavalent chromium) as a groundwater cleanup standard for the Site.” (Second Five-Year Review at page iii.) The referenced “new MCL” of 10 ug/L is no longer applicable, due to the May 5, 2017 ruling in *California Manufacturer’s & Technology Ass’n., et al. v. State Water Resources Control Board*, Sacramento County Superior Court Case No. 34-2014-80001850. Nevertheless, EPA, after consultation with DTSC, currently believes that (i) the current remedy at the Site would be fully protective of human health and the environment in both the short and long term if the Performance Standards were modified to incorporate cleanup levels of 10 ug/L for hexavalent chromium, and (ii) changes to the remedy design and remedy implementation will not be needed in order to achieve groundwater cleanup levels of 10 ug/L for hexavalent chromium.

V. Based on the information presently available to EPA and DTSC, EPA and DTSC believe that the Work will be properly and promptly conducted by Performing

Settling Defendant if conducted in accordance with the requirements of this Consent Decree and its appendices.

W. Solely for the purposes of Section 113(j) of CERCLA, 42 U.S.C. § 9613(j), the remedy set forth in ROD Amendment #2 and the Work to be performed by Performing Settling Defendant shall constitute a response action taken or ordered by the President for which judicial review shall be limited to the administrative record.

X. The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and implementation of this Consent Decree will expedite the cleanup of the Site and will avoid prolonged and complicated litigation between the Parties, and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, it is hereby Ordered, Adjudged, and Decreed:

## II. JURISDICTION

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1345, and 42 U.S.C. §§ 9606, 9607, and 9613(b). This Court also has personal jurisdiction over Performing Settling Defendant and Settling Individuals. Solely for the purposes of this Consent Decree and the underlying complaints, Performing Settling Defendant and Settling Individuals waive all objections and defenses that they may have to jurisdiction of the Court or to venue in this District. Performing Settling Defendant and Settling Individuals shall not challenge the terms of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree.

### III. PARTIES BOUND

2. This Consent Decree applies to and is binding upon the Plaintiffs and upon Performing Settling Defendant and its successors and assigns. Any change in ownership or corporate status of Performing Settling Defendant including, but not limited to, any transfer of assets or real or personal property, shall in no way alter Performing Settling Defendant's responsibilities under this Consent Decree.

3. Performing Settling Defendant shall provide a copy of this Consent Decree to each contractor hired to perform the Work required by this Consent Decree and to each person representing Performing Settling Defendant with respect to the Site or the Work, and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Consent Decree. Performing Settling Defendant or its contractors shall provide written notice of the Consent Decree to all subcontractors hired to perform any portion of the Work required by this Consent Decree. Performing Settling Defendant shall nonetheless be responsible for ensuring that its contractors and subcontractors perform the Work in accordance with the terms of this Consent Decree. With regard to the activities undertaken pursuant to this Consent Decree, each contractor and subcontractor shall be deemed to be in a contractual relationship with Performing Settling Defendant within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3).

4. Certain Sections and Paragraphs of this Consent Decree address the specific obligations and covenants applicable to Settling Individuals, and accordingly only the following Sections and Paragraphs apply to and are binding upon Settling Individuals: (a)



Section I (Background); (b) Section II (Jurisdiction) (c) Section IV (Definitions); (d) Section XXII (Covenants by Plaintiffs for Settling Individuals); (e) Section XXIII (Covenants by Performing Settling Defendant and Settling Individuals); (f) Section XXIV (Effect of Settlement; Contribution); (g) Paragraph 110 (Surrender of Site-related Records by Settling Individuals); (h) Section XXVIII (Retention of Jurisdiction); (i) Section XXXI (Modification); (j) Section XXXII (Lodging and Opportunity for Public Comment); and (k) Section XXXIII (Signatories/Service).

#### IV. DEFINITIONS

5. Unless otherwise expressly provided in this Consent Decree, terms used in this Consent Decree that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Consent Decree or its appendices, the following definitions shall apply solely for purposes of this Consent Decree:

“CERCLA” shall mean the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675.

“Consent Decree” shall mean this Consent Decree and all appendices attached hereto (listed in Section XXIX). In the event of conflict between this Consent Decree and any appendix, this Consent Decree shall control.

“Day” or “day” shall mean a calendar day unless expressly stated to be a working day. The term “working day” shall mean a day other than a Saturday, Sunday, or federal or state holiday. In computing any period of time under this Consent Decree, where the

last day would fall on a Saturday, Sunday, or federal or state holiday, the period shall run until the close of business of the next working day.

“DOJ” shall mean the United States Department of Justice and its successor departments, agencies, or instrumentalities.

“DTSC” shall mean the State of California Department of Toxic Substances Control and any successor departments or agencies of the State of California.

“DTSC Future Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that DTSC incurs, after the Effective Date, in reviewing or developing plans, reports, and other deliverables submitted pursuant to this Consent Decree, in overseeing implementation of the Work, or otherwise implementing, overseeing, or enforcing this Consent Decree, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 10 (Notice to Successors-in-Title and Transfers of Real Property), Section VII (Remedy Review), Section IX (Access and Institutional Controls) (including, but not limited to, the cost of attorney time and any monies paid to secure access and/or to secure, implement, monitor, maintain, or enforce Institutional Controls including, but not limited to, the amount of just compensation), Section XV (Emergency Response), Paragraph 49 (Funding for Work Takeover), and Section XXX (Community Involvement). DTSC Future Response Costs shall also include all DTSC Interim Response Costs.

“DTSC Interim Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, (a) paid by DTSC in connection with the Site between April 1,

2017, and the Effective Date, or (b) incurred prior to the Effective Date but paid after that date.

“Effective Date” shall mean the later of: (1) the date upon which this Consent Decree is entered by the Court as recorded on the Court docket, or, if the Court instead issues an order approving the Consent Decree, the date such order is recorded on the Court docket; or (2) the date upon which a consent decree resolving the claims of the United States and DTSC in the related case State of California v. Coast Wood Preserving, Inc., et. al., Civil Action No. 96-6055, is entered by the Court as recorded on the Court docket, or if the Court instead issues an order approving the consent decree, the date such order is recorded in the Court docket.

“EPA” shall mean the United States Environmental Protection Agency and its successor departments, agencies, or instrumentalities.

“EPA Hazardous Substance Superfund” shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

“Future Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports, and other deliverables submitted pursuant to this Consent Decree, in overseeing implementation of the Work, or otherwise implementing, overseeing, or enforcing this Consent Decree, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 10 (Notice to Successors-in-Title and Transfers of Real Property), Section VII (Remedy Review), Section IX (Access and

Institutional Controls) (including, but not limited to, the cost of attorney time and any monies paid to secure access and/or to secure, implement, monitor, maintain, or enforce Institutional Controls including, but not limited to, the amount of just compensation), Section XV (Emergency Response), Paragraph 49 (Funding for Work Takeover), and Section XXX (Community Involvement). Future Response Costs shall also include all Interim Response Costs.

“Groundwater Monitoring Plan” shall mean Final Remedial Design Part 2: MNA - Revised Groundwater Monitoring Plan dated December 5, 2008.

“Institutional Controls” or “ICs” shall mean Proprietary Controls and state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices that: (a) limit land, water, and/or resource use to minimize the potential for human exposure to Waste Material at or in connection with the Site; (b) limit land, water, and/or resource use to implement, ensure non-interference with, or ensure the protectiveness of the Remedial Action; and/or (c) provide information intended to modify or guide human behavior at or in connection with the Site.

“Interim Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, (a) paid by the United States in connection with the Site between October 1, 2015, and the Effective Date, or (b) incurred prior to the Effective Date but paid after that date.

“Interest” for EPA shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507,

compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a).

The applicable rate of interest shall be the rate in effect at the time the interest accrues.

The rate of interest is subject to change on October 1 of each year. Interest for DTSC shall mean the interest at the rate specified in California Health and Safety Code § 25360.1.

“National Contingency Plan” or “NCP” shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

“Operation and Maintenance” or “O&M” shall mean all activities required to maintain the effectiveness of the Remedial Action as required under the Groundwater Monitoring Plan. Given the nature of the Remedial Action, the Groundwater Monitoring Plan sets forth the operation and maintenance requirements to be followed both before and after Certification of Completion of the Remedial Action, and Performing Settling Defendant is therefore not required to develop a separate operation and maintenance plan.

“Paragraph” shall mean a portion of this Consent Decree identified by an Arabic numeral or an upper or lower case letter.

“Parties” shall mean the Plaintiffs, Performing Settling Defendant and Settling Individuals.

“Performing Settling Defendant” shall mean Valley Wood Preserving, Inc.

“Performance Standards” shall mean the cleanup standards and other measures of achievement of the goals of the Remedial Action, set forth in ROD Amendment #2 and the SOW and any modified standards established pursuant to this Consent Decree.

“Plaintiffs” shall mean the United States, DTSC and the California Toxic Substances Control Account.

“Proprietary Controls” shall mean easements or covenants running with the land that (a) limit land, water, or resource use and/or provide access rights and (b) are created pursuant to common law or statutory law by an instrument that is recorded by the owner in the appropriate land records office.

“RCRA” shall mean the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992 (also known as the Resource Conservation and Recovery Act).

“Record of Decision Amendment #2” or “ROD Amendment #2” shall mean Amendment #2 to the EPA Record of Decision relating to the Site signed on March 30, 2007, by the Regional Administrator, EPA Region IX, or his/her delegate, and all attachments thereto. ROD Amendment #2 is attached as Appendix A.

“Remedial Action” shall mean all activities Performing Settling Defendant is required to perform under the Consent Decree to implement ROD Amendment #2, in accordance with the SOW, the final approved remedial design submission, the approved RD/RA Work Plan, and other plans approved by EPA, including implementation of Institutional Controls, until the Performance Standards are met, and excluding performance of O&M and the activities required under Section XXVI (Retention of Records).

“RD/RA Work Plan” shall mean the Remedial Design and Remedial Action Work Plan dated September 13, 2007 and approved by EPA, as further discussed in Paragraph 13

(Remedial Design and Remedial Action), and any modifications thereto. The RD/RA Work Plan is attached as Appendix E.

“Section” shall mean a portion of this Consent Decree identified by a Roman numeral.

“Settling Individuals” shall mean Lynn Shurtliff, Edgar J. Langley, Cordes J. Langley, Catherine E.L. Elawadly, Edith E. Langley, Joyce Logsdon, the Estate of Michael H. Logsdon, and the Marie J. Langley Revocable Trust, all of whom hold, or have previously held, shares in Valley Wood Preserving, Inc., and Robert Schmidt, who was formerly the designated Project Coordinator for the Valley Wood Preserving, Inc. Site.

“Site” shall mean the Valley Wood Preserving, Inc. facility located at 2119 and 2237 South Golden State Boulevard, in the unincorporated area of Stanislaus County, California, which includes approximately 13.1 acres and is generally identified as Stanislaus County Assessor Parcel Numbers 044-031-004 and 044-031-005. The Site includes all areas, including those areas outside the described parcels, where hazardous substances disposed of at the Valley Wood Preserving, Inc. facility or released from the Valley Wood Preserving, Inc. facility have come to be located. The Site is depicted generally on the map attached as Appendix C.

“State” shall mean the State of California.

“Statement of Work” or “SOW” shall mean the statement of work for implementation of the Remedial Design, Remedial Action, and O&M at the Site, as set

forth in Appendix B to this Consent Decree and any modifications made in accordance with this Consent Decree.

“Supervising Contractor” shall mean the principal contractor retained by Performing Settling Defendant to supervise and direct the implementation of the Work under this Consent Decree.

“Toxic Substances Control Account” shall mean the account within the State of California General Fund, established by California Health and Safety Code § 25173.6. and administered by the director of DTSC, which, under California Health and Safety Code § 25361(a), is a party in any action for recovery of response costs or expenditures incurred from the account under Chapter 6.8 of Division 20 of the California Health and Safety Code.

“Transfer” shall mean to sell, assign, convey, lease, mortgage, or grant a security interest in, or where used as a noun, a sale, assignment, conveyance, or other disposition of any interest by operation of law or otherwise.

“United States” shall mean the United States of America and each department, agency, and instrumentality of the United States, including EPA.

“Waste Material” shall mean (1) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (3) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and (4) any California Non-RCRA hazardous waste, pursuant to the California Code of Regulations (CCR) Title 22, Section 66261.



“Work” shall mean all activities and obligations Performing Settling Defendant is required to perform under this Consent Decree, except the activities required under Section XXVI (Retention of Records).

## V. GENERAL PROVISIONS

6. Objectives of the Parties. The objectives of the Parties in entering into this Consent Decree are: (1) to protect public health or welfare or the environment by the design and implementation of response actions at the Site by Performing Settling Defendant; (2) to resolve the claims of Plaintiffs against Performing Settling Defendant as provided in this Consent Decree; and (3) to resolve the claims or potential claims of Plaintiffs against Settling Individuals as provided in this Consent Decree.

7. Commitments by Performing Settling Defendant. Performing Settling Defendant shall finance and perform the Work in accordance with this Consent Decree, ROD Amendment #2, the SOW, and all work plans and other plans, standards, specifications, and schedules set forth in this Consent Decree or developed by Performing Settling Defendant and approved by EPA pursuant to this Consent Decree. Performing Settling Defendant shall pay for Future Response Costs and DTSC Future Response Costs as provided in this Consent Decree.

8. Compliance With Applicable Law. All activities undertaken by Performing Settling Defendant pursuant to this Consent Decree shall be performed in accordance with the requirements of all applicable federal, state and local laws and regulations. Performing Settling Defendant must also comply with all applicable or relevant and appropriate requirements of all federal and state environmental laws as set

forth in ROD Amendment #2 and the SOW. The activities conducted pursuant to this Consent Decree, if approved by EPA, shall be deemed to be consistent with the NCP.

9. Permits.

a. As provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and Section 300.400(e) of the NCP, no permit shall be required for any portion of the Work conducted entirely on-Site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work). Where any portion of the Work that is not on-Site requires a federal, state or local permit or approval, Performing Settling Defendant shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

b. Performing Settling Defendant may seek relief under the provisions of Section XVIII (Force Majeure) for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit or approval referenced in Paragraph 9.a and required for the Work, provided that it has submitted timely and complete applications and taken all other actions necessary to obtain all such permits or approvals.

c. This Consent Decree is not, and shall not be construed to be, a permit issued pursuant to any federal, state or local statute or regulation.

d. DTSC agrees that any DTSC Permit relating to the Work shall be conformed to the requirements of this Consent Decree, and that to the extent such conformance does not occur (or for any period during which such conformance has not

occurred) and relates to Work that is on-Site, such permit shall be inapplicable to the Work pursuant to Section 121(e) of CERCLA, 42 U.S.C. § 9621(e).

10. Notice to Successors-in-Title and Transfers of Real Property.

a. Performing Settling Defendant shall, at least 60 days prior to any Transfer of any real property located at the Site, give written notice: (1) to the transferee regarding the Consent Decree and any Institutional Controls regarding the real property; and (2) to EPA and DTSC regarding the proposed Transfer, including the name and address of the transferee and the date on which the transferee was notified of the Consent Decree and any Institutional Controls.

b. Performing Settling Defendant has already recorded the Institutional Control (Land Use Covenant) required by the ROD as amended. The Land Use Covenant is attached as Appendix G.

c. In the event of any Transfer of real property located at the Site, unless the United States otherwise consents in writing after reasonable opportunity for review and comment by DTSC, Performing Settling Defendant shall continue to comply with its obligations under the Consent Decree, including, but not limited to, its obligation to provide and/or secure access; to implement, maintain, monitor, and report on Institutional Controls; and to abide by such Institutional Controls.

11. Effect of this Consent Decree on Prior Consent Decrees. The obligations, liabilities and duties of Performing Settling Defendant contained in this Consent Decree supersede and replace any obligations, liabilities and duties of Performing Settling

Defendant set forth in the partial consent decrees that were entered by the Court on March 26, 1997 [Docket No. 145], August 26, 1998 [Docket No. 150], and June 20, 2008 [Docket No. 162].

VI. PERFORMANCE OF THE WORK BY PERFORMING SETTTLING  
DEFENDANT

12. Selection of Supervising Contractor.

a. All aspects of the Work to be performed by Performing Settling Defendant pursuant to Sections VI (Performance of the Work by Performing Settling Defendant), VIII (Quality Assurance, Sampling, and Data Analysis), IX (Access and Institutional Controls), and XV (Emergency Response) shall be under the direction and supervision of the Supervising Contractor. Performing Settling Defendant selected and, after reasonable opportunity for review and comment by DTSC, EPA approved hiring of the following person as Supervising Contractor: Mark Underwood of EnvironAnalytics Group, LLC. If at any time hereafter, Performing Settling Defendant proposes to change this Supervising Contractor, Performing Settling Defendant shall give such notice to EPA and DTSC and must obtain an authorization to proceed from EPA, after a reasonable opportunity for review and comment by DTSC, before the new Supervising Contractor performs, directs, or supervises any Work under this Consent Decree. Performing Settling Defendant shall demonstrate that the proposed replacement contractor has a quality assurance system that complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), by submitting a

copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001, reissued May 2006) or equivalent documentation as determined by EPA.

b. If EPA disapproves a replacement Supervising Contractor, EPA will notify Performing Settling Defendant in writing. Performing Settling Defendant shall submit to EPA and DTSC a list of contractors, including the qualifications of each contractor, that would be acceptable to it within 30 days after receipt of EPA's disapproval of the contractor previously proposed. EPA will provide written notice of the names of any contractor(s) that it disapproves and an authorization to proceed with respect to any of the other contractors. Performing Settling Defendant may select any contractor from that list that is not disapproved and shall notify EPA and DTSC of the name of the contractor selected within 21 days after EPA's authorization to proceed.

c. If EPA fails to provide written notice of its authorization to proceed or disapproval as provided in this Paragraph and this failure prevents Performing Settling Defendant from meeting one or more deadlines in a plan approved by EPA pursuant to this Consent Decree, Performing Settling Defendant may seek relief under Section XVIII (Force Majeure).

13. Remedial Design and Remedial Action

a. Performing Settling Defendant shall conduct the following remedial action for the MNA phase: continued groundwater sampling for MNA until Performance Standards have been met in all Site wells.

b. Performing Settling Defendant has already submitted the following documents for the Work: RD/RA Work Plan (Appendix E to this Consent Decree); Revised Results of Treatability Study and In Situ Treatment Work Plan (Appendix F to this Consent Decree); and the Groundwater Monitoring Plan. EPA has approved each of these plans and they are incorporated into and are enforceable parts of this Consent Decree.

c. Performing Settling Defendant has already submitted a Site Health and Safety Plan for field activities required by the RD/RA Work Plan that EPA has reviewed and that conforms to the applicable Occupational Safety and Health Administration and EPA requirements including, but not limited to, 29 C.F.R. § 1910.120.

d. Performing Settling Defendant shall conduct activities and submit deliverables to EPA and DTSC for completion of the MNA phase of groundwater remediation as set forth in the SOW.

e. In the event Performing Settling Defendant elects, in its sole discretion, to implement *in situ* groundwater treatment as outlined in ROD Amendment #2 and the SOW, Performing Settling Defendant shall conduct the following additional Work:

(1) Performing Settling Defendant shall submit to EPA and DTSC updates to the approved RD/RA Work Plan and the Groundwater

Monitoring Plan as set forth in the SOW. The updates shall describe the work to be done, and the methodologies and schedule for conducting the work.

(2) Performing Settling Defendant shall submit to EPA and DTSC an update to the approved Site Health and Safety Plan that conforms to the applicable Occupational Safety and Health Administration and EPA requirements including, but not limited to, 29 C.F.R. § 1910.120.

(3) Upon approval of the updated RD/RA Work Plan by EPA, after a reasonable opportunity for review and comment by DTSC, Performing Settling Defendant shall implement the activities required under the updated RD/RA Work Plan. Performing Settling Defendant shall submit to EPA and DTSC all reports and other deliverables required under the approved updated RD/RA Work Plan in accordance with the approved schedule for review and approval pursuant to Section XI (EPA Approval of Plans, Reports, and Other Deliverables). Unless otherwise directed by EPA, Performing Settling Defendant shall not commence physical Remedial Action activities called for under the updated RD/RA Work Plan prior to approval of the updated RD/RA Work Plan by EPA.

f. Performing Settling Defendant shall continue to implement the Remedial Action until the Performance Standards are achieved. Performing Settling Defendant shall implement O&M for so long thereafter as is required by the Groundwater Management Plan, the SOW, or any other portion of this Consent Decree.

14. Modification of SOW or Related Work Plans.

a. If EPA determines that it is necessary to modify the work specified in the SOW and/or in work plans already submitted to and approved by EPA or developed pursuant the SOW, in order to achieve and maintain the Performance Standards or to carry out and maintain the effectiveness of the remedy set forth in ROD Amendment #2, and such modification is consistent with the scope of the remedy set forth in ROD Amendment #2, then EPA may issue such modification in writing and shall notify Performing Settling Defendant of such modification. For the purposes of this Paragraph and Paragraphs 51 (Completion of the Remedial Action) and 52 (Completion of the Work) only, the “scope of the remedy set forth in ROD Amendment #2” is: *in situ* groundwater treatment followed by monitored natural attenuation. If Performing Settling Defendant objects to the modification it may, within 30 days after EPA’s notification, seek dispute resolution under Paragraph 68 (Record Review).

b. The SOW and/or related work plans shall be modified: (1) in accordance with the modification issued by EPA; or (2) if Performing Settling Defendant invokes dispute resolution, in accordance with the final resolution of the dispute. The modification shall be incorporated into and enforceable under this Consent Decree, and Performing Settling Defendant shall implement all work required by such modification. Performing Settling Defendant shall incorporate the modification into the RD/RA Work Plan under Paragraph 13 (Remedial Design and Remedial Action).



c. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions as otherwise provided in this Consent Decree.

15. Nothing in this Consent Decree, the SOW, or the RD/RA Work Plan constitutes a warranty or representation of any kind by Plaintiffs that compliance with the work requirements set forth in the SOW and the work plans will achieve the Performance Standards.

16. Off-Site Shipment of Waste Material.

a. Performing Settling Defendant may ship Waste Material from the Site pursuant to this Consent Decree to an off-Site facility only if it verifies, prior to any shipment, that the off-Site facility is operating in compliance with the requirements of Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440, by obtaining a determination from EPA that the proposed receiving facility is operating in compliance with 42 U.S.C. § 9621(d)(3) and 40 C.F.R. § 300.440.

b. Performing Settling Defendant may ship Waste Material from the Site pursuant to this Consent Decree to an out-of-state waste management facility only if, prior to any shipment, it provides written notice to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator. This notice requirement shall not apply to any off-Site shipments when the total quantity of all such shipments will not exceed ten cubic yards. The written notice shall include the following information, if available: (1) the name and location of the receiving facility; (2) the type

and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Performing Settling Defendant shall also notify the state environmental official referenced above and the EPA Project Coordinator of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Performing Settling Defendant shall provide the written notice after the award of the contract for Remedial Action construction and before the Waste Material is shipped.

## VII. REMEDY REVIEW

17. Periodic Review. Performing Settling Defendant shall conduct any studies and investigations that EPA requests in order to permit EPA to conduct reviews of whether the Remedial Action is protective of human health and the environment at least every five years as required by Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any applicable regulations.

18. EPA Selection of Further Response Actions. If EPA determines, at any time, that the Remedial Action is not protective of human health and the environment, EPA may select further response actions for the Site in accordance with the requirements of CERCLA and the NCP.

19. Opportunity To Comment. Performing Settling Defendant and, if required by Sections 113(k)(2) or 117 of CERCLA, 42 U.S.C. § 9613(k)(2) or 9617, the public, will be provided with an opportunity to comment on any further response actions proposed by EPA as a result of the review conducted pursuant to Section 121(c) of CERCLA and to submit written comments for the record during the comment period.

20. Performing Settling Defendant's Obligation To Perform Further Response Actions. If EPA selects further response actions relating to the Site, EPA may require Performing Settling Defendant to perform such further response actions, but only to the extent that the reopener conditions in Paragraph 83 or Paragraph 84 (United States' Pre- and Post-Certification Reservations) are satisfied. Performing Settling Defendant may invoke the procedures set forth in Section XIX (Dispute Resolution) to dispute (a) EPA's determination that the reopener conditions of Paragraph 83 or Paragraph 84 are satisfied, (b) EPA's determination that the Remedial Action is not protective of human health and the environment, or (c) EPA's selection of the further response actions. Disputes pertaining to whether the Remedial Action is protective or to EPA's selection of further response actions shall be resolved pursuant to Paragraph 68 (Record Review). For purposes of satisfying the reopener conditions in Paragraph 83 or Paragraph 84 (EPA's Pre- and Post-Certification Reservations), establishment of a new California MCL for hexavalent chromium will constitute "information, previously unknown" to EPA and DTSC.

21. Submission of Plans. If Performing Settling Defendant is required to perform further response actions pursuant to Paragraph 20, it shall submit a plan for such response action to EPA for approval in accordance with the procedures of Section VI (Performance of the Work by Performing Settling Defendant). Performing Settling Defendant shall implement the approved plan in accordance with this Consent Decree.

VIII. QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS

22. Quality Assurance.

a. Performing Settling Defendant shall use quality assurance, quality control, and chain of custody procedures that have been previously approved, as modified in the future as appropriate, for all samples in accordance with “EPA Requirements for Quality Assurance Project Plans (QA/R5)” (EPA/240/B-01/003, March 2001, reissued May 2006), “Guidance for Quality Assurance Project Plans (QA/G-5)” (EPA/240/R-02/009, December 2002), and subsequent amendments to such guidelines upon notification by EPA to Performing Settling Defendant of such amendment. Amended guidelines shall apply only to procedures conducted after such notification.

b. The previously approved Quality Assurance Project Plan (“QAPP”), as modified in the future as appropriate, is incorporated into the Groundwater Monitoring Plan. If relevant to the proceeding, Plaintiffs and Performing Settling Defendant agree that validated sampling data generated in accordance with the QAPP and reviewed and approved by EPA shall be admissible as evidence, without objection, in any proceeding under this Consent Decree. Performing Settling Defendant shall ensure that EPA and DTSC personnel and their authorized representatives are allowed access at reasonable times to all laboratories utilized by Performing Settling Defendant in implementing this Consent Decree. In addition, Performing Settling Defendant shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance monitoring. Performing Settling Defendant shall ensure that the laboratories it utilizes for the analysis of samples taken pursuant to this Consent Decree

perform all analyses according to accepted EPA methods. Accepted EPA methods consist of those methods that are documented in the “USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, ILM05.4,” and the “USEPA Contract Laboratory Program Statement of Work for Organic Analysis, SOM01.2,” and any amendments made thereto during the course of the implementation of this Consent Decree; however, upon approval by EPA, after opportunity for review and comment by DTSC, Performing Settling Defendant may use other analytical methods that are as stringent as or more stringent than the CLP-approved methods. Performing Settling Defendant shall ensure that all laboratories it uses for analysis of samples taken pursuant to this Consent Decree participate in an EPA or EPA-equivalent quality assurance/quality control (“QA/QC”) program. Performing Settling Defendant shall use only laboratories that have a documented Quality System that complies with ANSI/ASQC E4-1994, “Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs” (American National Standard, January 5, 1995), and “EPA Requirements for Quality Management Plans (QA/R-2)” (EPA/240/B-01/002, March 2001, reissued May 2006) or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (“NELAP”) as meeting the Quality System requirements. Performing Settling Defendant shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Consent Decree are conducted in accordance with the procedures set forth in the QAPP approved by EPA.

23. Upon request, Performing Settling Defendant shall allow split or duplicate samples to be taken by EPA and DTSC or their authorized representatives. Performing Settling Defendant shall notify EPA and DTSC not less than 28 days in advance of any sample collection activity unless shorter notice is agreed to by EPA. In addition, EPA and DTSC shall have the right to take any additional samples that EPA and DTSC deem necessary. Upon request, EPA and DTSC shall allow Performing Settling Defendant to take split or duplicate samples of any samples they take as part of Plaintiffs' oversight of Performing Settling Defendant's implementation of the Work.

24. Performing Settling Defendant shall submit to EPA and DTSC electronic copies of the results of all sampling and/or tests or other data obtained or generated by or on behalf of Performing Settling Defendant with respect to the Site and/or the implementation of this Consent Decree unless EPA agrees otherwise.

25. Notwithstanding any provision of this Consent Decree, the United States and DTSC retain all of their information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

#### IX. ACCESS AND INSTITUTIONAL CONTROLS

26. If the Site, or any other real property where access or land/water use restrictions are needed, is owned or controlled by Performing Settling Defendant:

a. Performing Settling Defendant shall, commencing on the date of lodging of the Consent Decree, provide the United States and DTSC with access at all

reasonable times to the Site, or such other real property, to conduct any activity regarding the Consent Decree including, but not limited to, the following activities:

- (1) Monitoring the Work;
- (2) Verifying any data or information submitted to the United States or DTSC;
- (3) Conducting investigations regarding contamination at or near the Site;
- (4) Obtaining samples;
- (5) Assessing the need for, planning, or implementing additional response actions at or near the Site;
- (6) Assessing implementation of quality assurance and quality control practices as defined in the approved CQAP;
- (7) Implementing the Work pursuant to the conditions set forth in Paragraph 90 (Work Takeover);
- (8) Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Performing Settling Defendant or its agents, consistent with Section XXV (Access to Information);
- (9) Assessing Performing Settling Defendant's compliance with the Consent Decree;

(10) Determining whether the Site or other real property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted under the Consent Decree; and

(11) Implementing, monitoring, maintaining, reporting on, and enforcing any Institutional Controls.

b. Commencing on the date of lodging of the Consent Decree, Performing Settling Defendant shall not use the Site, or such other real property, in any manner that EPA determines will pose an unacceptable risk to human health or to the environment due to exposure to Waste Material or interfere with or adversely affect the implementation, integrity, or protectiveness of the Remedial Action or O&M.

27. As required by ROD Amendment #1, in 2005 the Site property was rezoned to “planned industrial” use after Performing Settling Defendant submitted an application for re-zoning in 2003. This rezoning prevents construction of residences on the Site and requires local zoning input on future industrial use of the Site. As also required by ROD Amendment #1, Performing Settling Defendant recorded the Land Use Covenant on June 22, 2007.

28. If the Site, or any other real property where access and/or land/water use restrictions are needed, is owned or controlled by persons other than Performing Settling Defendant, Performing Settling Defendant shall use best efforts to secure from such persons:



a. An agreement substantially in the form of the access agreement exemplar attached as Appendix H to provide access thereto for the United States, DTSC, and Performing Settling Defendant, and their representatives, contractors, and subcontractors, to conduct any activity regarding the Consent Decree including, but not limited to, the activities listed in Paragraph 26.a; and

b. An agreement, enforceable by Performing Settling Defendant and the United States, to refrain from using the Site, or such other real property, in any manner that EPA determines will pose an unacceptable risk to human health or to the environment due to exposure to Waste Material or interfere with or adversely affect the implementation, integrity, or protectiveness of the Remedial Action. The agreement shall include, but not be limited to, the land/water use restrictions listed in Paragraph 26.b.

29. As used in this Section, “best efforts” means the efforts that a reasonable person in the position of Performing Settling Defendant would use so as to achieve the goal in a timely manner, including the cost of employing professional assistance and the payment of reasonable sums of money to obtain access or agreement to restrict property use as describe in Paragraph 28. If Performing Settling Defendant is unable to accomplish what is required under Paragraph 28 through “best efforts” in a timely manner, Performing Settling Defendant shall notify the United States, and include a description of the steps that Performing Settling Defendant has taken to comply with Paragraph 28. If the United States deems it appropriate, it may assist Performing Settling Defendant, or take independent action, in obtaining access or agreements to restrict property use. All costs incurred by the United States and DTSC in providing such assistance or taking such action,

including the cost of attorney time and the amount of monetary consideration or just compensation paid, constitute Future Response Costs (if incurred by the United States) or DTSC Future Response Costs (if incurred by DTSC) to be reimbursed under Section XVI (Payments for Response Costs).

30. If EPA determines in a decision document prepared in accordance with the NCP that additional Institutional Controls in the form of state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls are needed at or in connection with the Site, Performing Settling Defendant shall cooperate with EPA's and DTSC's efforts to secure and ensure compliance with such Institutional Controls.

31. Notwithstanding any provision of the Consent Decree, the United States and DTSC retain all of their access authorities and rights, as well as all of their rights to require Institutional Controls, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statute or regulations.

#### X. REPORTING REQUIREMENTS

32. In addition to any other requirement of this Consent Decree, Performing Settling Defendant shall submit to EPA and DTSC electronic copies of Annual Groundwater Monitoring Reports that: (a) describe the actions that have been taken toward achieving compliance with this Consent Decree during the previous twelve months; (b) include a summary of all results of sampling and tests and all other data received or generated by Performing Settling Defendant or its contractors or agents in the previous twelve months; (c) identify all plans, reports, and other deliverables required by this Consent Decree completed and submitted during the previous twelve months; (d) describe

all actions, including, but not limited to, data collection and implementation of work plans, that are scheduled for the next twelve months and provide other information relating to the progress of the remediation; (e) include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays; and (f) include any modifications to the work plans or other schedules that Performing Settling Defendant has proposed to EPA or that have been approved by EPA. Performing Settling Defendant shall submit these Annual Groundwater Monitoring Reports to EPA and DTSC by the fifteenth day of March following the lodging of this Consent Decree until EPA notifies Performing Settling Defendant pursuant to Paragraph 52 (Completion of the Work). If requested by EPA or DTSC, Performing Settling Defendant shall also provide briefings for EPA and DTSC to discuss the progress of the Work.

33. Performing Settling Defendant shall notify EPA and DTSC of any change in the schedule described in the Annual Groundwater Monitoring Report for the performance of any activity, including, but not limited to, data collection and implementation of work plans, no later than seven days prior to the performance of the activity.

34. Upon the occurrence of any event during performance of the Work that Performing Settling Defendant are required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-to-know Act (“EPCRA”), 42 U.S.C. § 11004, Performing Settling Defendant shall

within 24 hours of the onset of such event orally notify the EPA Project Coordinator or the Alternate EPA Project Coordinator (in the event of the unavailability of the EPA Project Coordinator), or, in the event that neither the EPA Project Coordinator nor Alternate EPA Project Coordinator is available, the Emergency Response Section, Region IX, United States Environmental Protection Agency. These reporting requirements are in addition to the reporting required by CERCLA Section 103 or EPCRA Section 304.

35. Within 20 days after the onset of such an event, Performing Settling Defendant shall furnish to EPA and DTSC a written report, signed by Performing Settling Defendant's Project Coordinator, setting forth the events that occurred and the measures taken, and to be taken, in response thereto. Within 30 days after the conclusion of such an event, Performing Settling Defendant shall submit a report setting forth all actions taken in response thereto.

36. Performing Settling Defendant shall submit electronic copies of all plans, reports, data, and other deliverables required by the SOW, the RD/RA Work Plan, or any other approved plans to EPA and DTSC in accordance with the schedules set forth in such plans.

37. All deliverables submitted by Performing Settling Defendant to EPA and DTSC that purport to document Performing Settling Defendant's compliance with the terms of this Consent Decree shall be signed by an authorized representative of Performing Settling Defendant.

XI. EPA APPROVAL OF PLANS, REPORTS, AND OTHER DELIVERABLES

38. Initial Submissions.

a. After review of any plan, report, or other deliverable that is required to be submitted for approval pursuant to this Consent Decree, EPA, after reasonable opportunity for review and comment by DTSC, shall: (1) approve, in whole or in part, the submission; (2) approve the submission upon specified conditions; (3) disapprove, in whole or in part, the submission; or (4) any combination of the foregoing.

b. EPA also may modify the initial submission to cure deficiencies in the submission if: (1) EPA determines that disapproving the submission and awaiting a resubmission would cause substantial disruption to the Work; or (2) previous submission(s) have been disapproved due to material defects and the deficiencies in the initial submission under consideration indicate a bad faith lack of effort to submit an acceptable plan, report, or deliverable.

39. Resubmissions. Upon receipt of a notice of disapproval under Paragraph 38.a.(3) or (4), or if required by a notice of approval upon specified conditions under Paragraph 38.a.(2), Performing Settling Defendant shall, within 10 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other deliverable for approval. After review of the resubmitted plan, report, or other deliverable, EPA may: (a) approve, in whole or in part, the resubmission; (b) approve the resubmission upon specified conditions; (c) modify the resubmission; (d) disapprove, in whole or in part, the resubmission, requiring Performing Settling Defendant to correct the deficiencies; or (e) any combination of the foregoing.

40. Material Defects. If an initially submitted or resubmitted plan, report, or other deliverable contains a material defect, and the plan, report, or other deliverable is

disapproved or modified by EPA under Paragraph 38.b.(2) or 39 due to such material defect, then the material defect shall constitute a lack of compliance for purposes of Paragraph 71. The provisions of Section XIX (Dispute Resolution) and Section XX (Stipulated Penalties) shall govern the accrual and payment of any stipulated penalties regarding Performing Settling Defendant's submissions under this Section.

41. Implementation. Upon approval, approval upon conditions, or modification by EPA under Paragraph 38 (Initial Submissions) or Paragraph 39 (Resubmissions), of any plan, report, or other deliverable, or any portion thereof: (a) such plan, report, or other deliverable, or portion thereof, shall be incorporated into and enforceable under this Consent Decree; and (b) Performing Settling Defendant shall take any action required by such plan, report, or other deliverable, or portion thereof, subject only to its right to invoke the Dispute Resolution procedures set forth in Section XIX (Dispute Resolution) with respect to the modifications or conditions made by EPA. The implementation of any non-deficient portion of a plan, report, or other deliverable submitted or resubmitted under Paragraph 38 or 39 shall not relieve Performing Settling Defendant of any liability for stipulated penalties under Section XX (Stipulated Penalties).

## XII. PROJECT COORDINATORS

42. Within 20 days after lodging this Consent Decree, Performing Settling Defendant, DTSC and EPA will notify each other, in writing, of the name, address, telephone number, and email address of their respective designated Project Coordinators and Alternate Project Coordinators. If a Project Coordinator or Alternate Project Coordinator initially designated is changed, the identity of the successor will be given to

the other Parties, excluding Settling Individuals, at least five working days before the change occurs, unless impracticable, but in no event later than the actual day the change is made. Performing Settling Defendant's Project Coordinator shall be subject to disapproval by EPA and shall have the technical expertise sufficient to adequately oversee all aspects of the Work. Performing Settling Defendant's Project Coordinator shall not be an attorney for Performing Settling Defendant in this matter. He or she may assign other representatives, including other contractors, to serve as a Site representative for oversight of performance of daily operations during remedial activities.

43. Plaintiffs may designate other representatives, including, but not limited to, EPA and DTSC employees, and federal and DTSC contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this Consent Decree. EPA's Project Coordinator and Alternate Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager ("RPM") and an On-Scene Coordinator ("OSC") by the NCP, 40 C.F.R. Part 300. EPA's Project Coordinator or Alternate Project Coordinator shall have authority, consistent with the NCP, to halt any Work required by this Consent Decree and to take any necessary response action when he or she determines that conditions at the Site constitute an emergency situation or may present an immediate threat to public health or welfare or the environment due to release or threatened release of Waste Material.

44. EPA's Project Coordinator and Performing Settling Defendant's Project Coordinator will meet at such times as required by EPA.

### XIII. PERFORMANCE GUARANTEE

45. In order to ensure the full and final completion of the Work, Performing Settling Defendant shall establish and maintain a performance guarantee, initially in the amount of \$303,940, for the benefit of EPA and DTSC (hereinafter “Estimated Cost of the Work”). The Estimated Cost of Work includes an estimate of DTSC’s oversight costs for the benefit of DTSC, and EPA has provided DTSC a reasonable opportunity for review and comment on the Estimated Cost of Work. The performance guarantee, which must be satisfactory in form and substance to EPA, shall be in the form of one or more of the following mechanisms (provided that, if Performing Settling Defendant intend to use multiple mechanisms, such multiple mechanisms shall be limited to surety bonds guaranteeing payment, letters of credit, trust funds, and insurance policies):

a. A surety bond unconditionally guaranteeing payment and/or performance of the Work that is issued by a surety company among those listed as acceptable sureties on federal bonds as set forth in Circular 570 of the U.S. Department of the Treasury;

b. One or more irrevocable letters of credit, payable to or at the direction of EPA, that is issued by one or more financial institution(s) (1) that has the authority to issue letters of credit and (2) whose letter-of-credit operations are regulated and examined by a federal or state agency;

c. A trust fund established for the benefit of EPA that is administered by a trustee (1) that has the authority to act as a trustee and (2) whose trust operations are regulated and examined by a federal or state agency;



d. A policy of insurance that (1) provides EPA with acceptable rights as a beneficiary thereof; and (2) is issued by an insurance carrier (i) that has the authority to issue insurance policies in the applicable jurisdiction(s) and (ii) whose insurance operations are regulated and examined by a federal or state agency;

e. A demonstration by Performing Settling Defendant that it meets the relevant financial test criteria of 40 C.F.R. § 264.143(f) and reporting requirements of this Section for the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; or

f. A written guarantee to fund or perform the Work executed in favor of EPA by one or more of the following: (1) a direct or indirect parent company of Performing Settling Defendant, or (2) a company that has a “substantial business relationship” (as defined in 40 C.F.R. § 264.141(h)) with Performing Settling Defendant; provided, however, that any company providing such a guarantee must demonstrate to the satisfaction of EPA that it satisfies the financial test and reporting requirements for owners and operators set forth in subparagraphs (1) through (8) of 40 C.F.R. § 264.143(f) with respect to the Estimated Cost of the Work (plus the amount(s) of any other federal or any state environmental obligations financially assured through the use of a financial test or guarantee) that it proposes to guarantee hereunder.

46. Performing Settling Defendant has selected, and EPA has found satisfactory, as an initial performance guarantee a trust fund pursuant to Paragraph 45.c, in the form attached hereto as Appendix D. Within ten days after the Effective Date,

Performing Settling Defendant shall execute or otherwise finalize all instruments or other documents required in order to make the selected performance guarantee(s) legally binding in a form substantially identical to the documents attached hereto as Appendix D, and such performance guarantee(s) shall thereupon be fully effective. Within 30 days after the Effective Date, Performing Settling Defendant shall submit copies of all executed and/or otherwise finalized instruments or other documents required in order to make the selected performance guarantee(s) legally binding to the EPA Regional Financial Management Officer in accordance with Section XXVII (Notices and Submissions), with a copy to the United States and EPA and DTSC as specified in Section XXVII.

47. If, at any time after the Effective Date and before issuance of the Certification of Completion of the Work pursuant to Paragraph 52, Performing Settling Defendant provides a performance guarantee for completion of the Work by means of a demonstration or guarantee pursuant to Paragraph 45.e or 45.f, Performing Settling Defendant shall also comply with the other relevant requirements of 40 C.F.R. § 264.143(f) relating to these mechanisms unless otherwise provided in this Consent Decree, including but not limited to: (a) the initial submission of required financial reports and statements from the relevant entity's chief financial officer ("CFO") and independent certified public accountant ("CPA"), in the form prescribed by EPA in its financial test sample CFO letters and CPA reports available at: <http://www.epa.gov/compliance/resources/policies/cleanup/superfund/fa-test-samples.pdf>; (b) the annual resubmission of such reports and statements within 90 days after the close of each such entity's fiscal year; and (c) the prompt notification of EPA after each such

entity determines that it no longer satisfies the financial test requirements set forth at 40 C.F.R. § 264.143(f)(1) and in any event within 90 days after the close of any fiscal year in which such entity no longer satisfies such financial test requirements. For purposes of the performance guarantee mechanisms specified in this Section XIII, references in 40 C.F.R. Part 264, Subpart H, to “closure,” “post-closure,” and “plugging and abandonment” shall be deemed to include the Work; the terms “current closure cost estimate,” “current post-closure cost estimate,” and “current plugging and abandonment cost estimate” shall be deemed to include the Estimated Cost of the Work; the terms “owner” and “operator” shall be deemed to refer to Performing Settling Defendant; and the terms “facility” and “hazardous waste facility” shall be deemed to include the Site.

48. In the event that EPA, after reasonable opportunity for review and comment by DTSC, determines at any time that a performance guarantee provided by Performing Settling Defendant pursuant to this Section is inadequate or otherwise no longer satisfies the requirements set forth in this Section, whether due to an increase in the estimated cost of completing the Work or for any other reason, or in the event that Performing Settling Defendant becomes aware of information indicating that a performance guarantee provided pursuant to this Section is inadequate or otherwise no longer satisfies the requirements set forth in this Section, whether due to an increase in the estimated cost of completing the Work or for any other reason, Performing Settling Defendant, within 30 days after receipt of notice of EPA’s determination or, as the case may be, within 30 days after Performing Settling Defendant became aware of such information, shall obtain and present to EPA for approval a proposal for a revised or alternative form of performance

guarantee listed in Paragraph 45 that satisfies all requirements set forth in this Section XIII; provided, however, that if Performing Settling Defendant cannot obtain such revised or alternative form of performance guarantee within such 30-day period, and provided further that Performing Settling Defendant shall have commenced to obtain such revised or alternative form of performance guarantee within such 30-day period, and thereafter diligently proceeds to obtain the same, EPA shall extend such period for such time as is reasonably necessary for Performing Settling Defendant in the exercise of due diligence to obtain such revised or alternative form of performance guarantee, such additional period not to exceed 60 days. On day 30, Performing Settling Defendant shall provide to EPA a status report on its efforts to obtain the revised or alternative form of guarantee. In seeking approval for a revised or alternative form of performance guarantee, Performing Settling Defendant shall follow the procedures set forth in Paragraph 49.b.(1). Performing Settling Defendant's inability to post a performance guarantee for completion of the Work shall in no way excuse performance of any other requirements of this Consent Decree, including, without limitation, the obligation of Performing Settling Defendant to complete the Work in strict accordance with the terms of this Consent Decree.

49. Funding for Work Takeover. The commencement of any Work Takeover pursuant to Paragraph 90 shall trigger EPA's right to receive the benefit of any performance guarantee(s) provided pursuant to Paragraphs 45.a., 45.b., 45.c., 45.d., or 45.f., and at such time EPA shall have immediate access to resources guaranteed under any such performance guarantee(s), whether in cash or in kind, as needed to continue and complete the Work assumed by EPA under the Work Takeover. Upon the

commencement of any Work Takeover, if (a) for any reason EPA is unable to promptly secure the resources guaranteed under any such performance guarantee(s), whether in cash or in kind, necessary to continue and complete the Work assumed by EPA under the Work Takeover, or (b) in the event that the performance guarantee involves a demonstration of satisfaction of the financial test criteria pursuant to Paragraph 45.e. or Paragraph 45.f.(2), Performing Settling Defendant (or in the case of Paragraph 45.f.(2), the guarantor) shall immediately upon written demand from EPA deposit into a special account within the EPA Hazardous Substance Superfund or such other account as EPA may specify, in immediately available funds and without setoff, counterclaim, or condition of any kind, a cash amount up to but not exceeding the estimated cost of completing the Work as of such date, as determined by EPA. In addition, if at any time EPA is notified by the issuer of a performance guarantee that such issuer intends to cancel the performance guarantee mechanism it has issued, then, unless Performing Settling Defendant provide a substitute performance guarantee mechanism in accordance with this Section XIII no later than 30 days prior to the impending cancellation date, EPA shall be entitled (as of and after the date that is 30 days prior to the impending cancellation) to draw fully on the funds guaranteed under the then-existing performance guarantee. All EPA Work Takeover costs not reimbursed under this Paragraph shall be reimbursed under Section XVI (Payments for Response Costs).

50. Modification of Amount and/or Form of Performance Guarantee.

a. Reduction of Amount of Performance Guarantee. Except as set forth in Exhibit D for payment from the Fund for Work performed, if Performing Settling

Defendant believes that the estimated cost of completing the Work has diminished below the amount set forth in Paragraph 45., Performing Settling Defendant may, no more than once during each calendar year following the first anniversary of the Effective Date, or at any other time agreed to by EPA and Performing Settling Defendant, petition EPA in writing to request a reduction in the amount of the performance guarantee provided pursuant to this Section so that the amount of the performance guarantee is equal to the estimated cost of completing the Work. Performing Settling Defendant shall submit a written proposal for such reduction to EPA that shall specify, at a minimum, the estimated cost of completing the Work and the basis upon which such cost was calculated. In seeking approval for a reduction in the amount of the performance guarantee, Performing Settling Defendant shall follow the procedures set forth in Paragraph 50.b(1) for requesting a revised or alternative form of performance guarantee, except as specifically provided in this Paragraph 50.a. If EPA, after reasonable opportunity for review and comment by DTSC, decides to accept Performing Settling Defendant's proposal for a reduction in the amount of the performance guarantee, either to the amount set forth in Performing Settling Defendant's written proposal or to some other amount as selected by EPA, EPA will notify Performing Settling Defendant of such decision in writing. Upon EPA's acceptance of a reduction in the amount of the performance guarantee, the Estimated Cost of the Work shall be deemed to be the estimated cost of completing the Work set forth in EPA's written decision. After receiving EPA's written decision, Performing Settling Defendant may reduce the amount of the performance guarantee in accordance with and to the extent permitted by such written acceptance and shall submit copies of all executed and/or

otherwise finalized instruments or other documents required in order to make the selected performance guarantee(s) legally binding in accordance with Paragraph 50.b(1). In the event of a dispute, Performing Settling Defendant may reduce the amount of the performance guarantee required hereunder only in accordance with a final administrative or judicial decision resolving such dispute pursuant to Section XIX (Dispute Resolution). No change to the form or terms of any performance guarantee provided under this Section, other than a reduction in amount, is authorized except as provided in Paragraphs 48 and 50.b.

b. Change of Form of Performance Guarantee.

(1) If, after the Effective Date, Performing Settling Defendant desires to change the form or terms of any performance guarantee(s) provided pursuant to this Section, Performing Settling Defendant may, on any anniversary of the Effective Date, or at any other time agreed to by EPA and Performing Settling Defendant, petition EPA in writing to request a change in the form or terms of the performance guarantee provided hereunder. The submission of such proposed revised or alternative performance guarantee shall be as provided in Paragraph 50.b.(2). Any decision made by EPA on a petition submitted under this Paragraph shall be made in EPA's sole and unreviewable discretion, and such decision shall not be subject to challenge by Performing Settling Defendant pursuant to the dispute resolution provisions of this Consent Decree or in any other forum.

(2) Performing Settling Defendant shall submit a written proposal for a revised or alternative performance guarantee to EPA that shall specify, at a minimum, the estimated cost of completing the Work, the basis upon which such cost was calculated, and the proposed revised performance guarantee, including all proposed instruments or other documents required in order to make the proposed performance guarantee legally binding. The proposed revised or alternative performance guarantee must satisfy all requirements set forth or incorporated by reference in this Section. Performing Settling Defendant shall submit such proposed revised or alternative performance guarantee to the EPA Regional Financial Management Officer in accordance with Section XXVII (Notices and Submissions). EPA, after reasonable opportunity for review and comment by DTSC, will notify Performing Settling Defendant in writing of its decision to accept or reject a revised or alternative performance guarantee submitted pursuant to this Paragraph. Within ten days after receiving a written decision approving the proposed revised or alternative performance guarantee, Performing Settling Defendant shall execute and/or otherwise finalize all instruments or other documents required in order to make the selected performance guarantee(s) legally binding in a form substantially identical to the documents submitted to EPA as part of the proposal, and such performance guarantee(s) shall thereupon be fully effective. Performing Settling Defendant shall submit copies of all executed and/or otherwise finalized instruments or other documents required in order to make the selected performance guarantee(s)



legally binding to the EPA Regional Financial Management Officer within 30 days after receiving a written decision approving the proposed revised or alternative performance guarantee in accordance with Section XXVII (Notices and Submissions) and to the United States and EPA and DTSC as specified in Section XXVII.

c. Release of Performance Guarantee. Performing Settling Defendant shall not release, cancel, or discontinue any performance guarantee provided pursuant to this Section except as provided in this Paragraph. If Performing Settling Defendant receive written notice from EPA in accordance with Paragraph 52 (Completion of the Work) that the Work has been fully and finally completed in accordance with the terms of this Consent Decree, or if EPA otherwise so notifies Performing Settling Defendant in writing, Performing Settling Defendant may thereafter release, cancel, or discontinue the performance guarantee(s) provided pursuant to this Section. In the event of a dispute, Performing Settling Defendant may release, cancel, or discontinue the performance guarantee(s) required hereunder only in accordance with a final administrative or judicial decision resolving such dispute pursuant to Section XIX (Dispute Resolution).

#### XIV. CERTIFICATION OF COMPLETION

51. Completion of the Remedial Action.

a. Within 90 days after Performing Settling Defendant concludes that the Remedial Action has been fully performed and the Performance Standards have been achieved, Performing Settling Defendant shall schedule and conduct a pre-certification inspection to be attended by Performing Settling Defendant, EPA and DTSC. If, after the

pre-certification inspection, Performing Settling Defendant still believes that the Remedial Action has been fully performed and the Performance Standards have been achieved, it shall submit a written report requesting certification to EPA for approval, with a copy to DTSC, pursuant to Section XI (EPA Approval of Plans, Reports, and Other Deliverables) within 30 days after the inspection. In the report, a registered professional engineer or a California-registered professional geologist and Performing Settling Defendant's Project Coordinator shall state that the Remedial Action has been completed in full satisfaction of the requirements of this Consent Decree. The written report shall include as-built drawings signed and stamped by a professional engineer or a professional geologist. The report shall contain the following statement, signed by a responsible corporate official of Performing Settling Defendant or Performing Settling Defendant's Project Coordinator:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If, after completion of the pre-certification inspection and receipt and review of the written report, EPA, after reasonable opportunity for review and comment by DTSC, determines that the Remedial Action or any portion thereof has not been completed in accordance with

this Consent Decree or that the Performance Standards have not been achieved, EPA will notify Performing Settling Defendant in writing of the activities that must be undertaken by Performing Settling Defendant pursuant to this Consent Decree to complete the Remedial Action and achieve the Performance Standards, provided, however, that EPA may only require Performing Settling Defendant to perform such activities pursuant to this Paragraph to the extent that such activities are consistent with the “scope of the remedy set forth in ROD Amendment #2,” as that term is defined in Paragraph 14.a. EPA will set forth in the notice a schedule for performance of such activities consistent with the Consent Decree and the SOW or require Performing Settling Defendant to submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans, Reports, and Other Deliverables). Performing Settling Defendant shall perform all activities described in the notice in accordance with the specifications and schedules established pursuant to this Paragraph, subject to its right to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent report requesting Certification of Completion of the Remedial Action and after a reasonable opportunity for review and comment by DTSC, that the Remedial Action has been performed in accordance with this Consent Decree and that the Performance Standards have been achieved, EPA will so certify in writing to Performing Settling Defendant. This certification shall constitute the Certification of Completion of the Remedial Action for purposes of this Consent Decree, including, but not limited to, Section XXI (Covenants by Plaintiffs for Performing Settling Defendant). Certification of Completion of the

Remedial Action shall not affect Performing Settling Defendant's remaining obligations under this Consent Decree.

52. Completion of the Work.

a. Within 90 days after Performing Settling Defendant concludes that all phases of the Work, other than any remaining activities required under Section VII (Remedy Review), have been fully performed, Performing Settling Defendant shall schedule and conduct a pre-certification inspection to be attended by Performing Settling Defendant, EPA and DTSC. If, after the pre-certification inspection, Performing Settling Defendant still believes that the Work has been fully performed, Performing Settling Defendant shall submit a written report by a registered professional engineer or a California-registered professional geologist stating that the Work has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the statement set forth in Paragraph 51.a, signed by a responsible corporate official of Performing Settling Defendant or Performing Settling Defendant's Project Coordinator. If, after review of the written report, EPA, after reasonable opportunity for review and comment by DTSC, determines that any portion of the Work has not been completed in accordance with this Consent Decree, EPA will notify Performing Settling Defendant in writing of the activities that must be undertaken by Performing Settling Defendant pursuant to this Consent Decree to complete the Work, provided, however, that EPA may only require Performing Settling Defendant to perform such activities pursuant to this Paragraph to the extent that such activities are consistent with the "scope of the remedy set forth in ROD Amendment #2," as that term is defined in Paragraph 14.a. EPA will set

forth in the notice a schedule for performance of such activities consistent with the Consent Decree and the SOW or require Performing Settling Defendant to submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans, Reports, and Other Deliverables). Performing Settling Defendant shall perform all activities described in the notice in accordance with the specifications and schedules established therein, subject to its right to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent request for Certification of Completion of the Work by Performing Settling Defendant and after a reasonable opportunity for review and comment by DTSC, that the Work has been performed in accordance with this Consent Decree, EPA will so notify Performing Settling Defendant in writing.

#### XV. EMERGENCY RESPONSE

53. If any event occurs during performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from the Site and that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Performing Settling Defendant shall, subject to Paragraph 54, immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify the EPA's Project Coordinator, or, if the Project Coordinator is unavailable, EPA's Alternate Project Coordinator. If neither of these persons is available, Performing Settling Defendant shall notify the EPA Emergency Response Section, Region IX. Performing Settling Defendant shall take such actions in

consultation with EPA's Project Coordinator or other available authorized EPA officer and in accordance with all applicable provisions of the Health and Safety Plans, the Contingency Plans, and any other applicable plans or documents developed pursuant to the SOW. In the event that Performing Settling Defendant fail to take appropriate response action as required by this Section, and EPA or, as appropriate, DTSC, take such action instead, Performing Settling Defendant shall reimburse EPA and DTSC all costs of the response action under Section XVI (Payments for Response Costs).

54. Subject to Sections XXI (Covenants by Plaintiffs for Performing Settling Defendant) and XXII (Covenants by Plaintiffs for Settling Individuals), nothing in the preceding Paragraph or in this Consent Decree shall be deemed to limit any authority of the United States, or DTSC, (a) to take all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site, or (b) to direct or order such action, or seek an order from the Court, to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site.

#### XVI. PAYMENTS FOR RESPONSE COSTS

55. Payments by Performing Settling Defendant for Future Response Costs and DTSC Future Response Costs.

a. Payment of Future Response Costs. Performing Settling Defendant shall pay to EPA all Future Response Costs not inconsistent with the NCP. On a periodic basis, EPA will send Performing Settling Defendant a bill requiring payment that includes a SCORPIOS cost summary report which includes direct and indirect costs

incurred by EPA, its contractors, and DOJ. Performing Settling Defendant shall make all payments within 30 days after Performing Settling Defendant's receipt of each bill requiring payment, except as otherwise provided in Paragraph 57, in accordance with Paragraph 56.a. The total amount to be paid by Performing Settling Defendant to EPA pursuant to Paragraph 55.a shall be deposited by EPA in the Valley Wood Preserving, Inc. Special Account to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

b. Payment of DTSC Future Response Costs. Performing Settling Defendant shall pay to DTSC all DTSC Future Response Costs not inconsistent with the NCP. DTSC will send Performing Settling Defendant a bill requiring payment that includes a DTSC-prepared cost summary, which includes direct and indirect costs incurred by DTSC and its contractors and subcontractors on a periodic basis. Performing Settling Defendant shall make all payments within 60 days after its receipt of each bill requiring payment, except as otherwise provide in Paragraph 57.

56. Payment Instructions for Performing Settling Defendant.

a. Payments to EPA. All payments required to EPA under this Consent Decree shall be made by Fedwire EFT to:

Federal Reserve Bank of New York  
ABA = 021030004  
Account = 68010727  
SWIFT address = FRNYUS33  
33 Liberty Street  
New York NY 10045

Field Tag 4200 of the Fedwire message should read “D 68010727  
Environmental Protection Agency”

and shall reference the CDCS Number, Site/Spill ID Number 09K5, and DOJ Case Number 90-11-3-835/2. At the time of any payment required to be made to EPA under this Consent Decree, Performing Settling Defendant shall send notice that payment has been made to the United States, and to EPA, in accordance with Section XXVII (Notices and Submissions), and to the EPA Cincinnati Finance Office by email at [acctsreceivable.cinwd@epa.gov](mailto:acctsreceivable.cinwd@epa.gov), or by mail at 26 Martin Luther King Drive, Cincinnati, Ohio 45268. Such notice shall also reference the CDCS Number, Site/Spill ID Number, and DOJ Case Number.

b. Payments to DTSC. All payments required to DTSC under this Consent Decree shall be made payable to:

Cashier  
Department of Toxic Substances Control  
Accounting Office, MS-21A  
1001 I Street  
P.O. Box 806  
Sacramento, CA 95812-0806

and shall bear on its fact both the docket number of this action, and the phrase “Site Code”

[100153]. A copy of each payment to DTSC shall be mailed to:

Lynn Goldman  
Office of Legal Counsel  
California Department of Toxic Substances Control  
1001 I Street, 23<sup>rd</sup> Floor  
P.O. Box 806  
Sacramento, CA 95812-0806

Or e-mailed to [Lynn.Goldman@dtsc.ca.gov](mailto:Lynn.Goldman@dtsc.ca.gov) in .pdf or .jpg format.



57. Contested Future Response Costs and DTSC Future Response Costs.

a. Procedure for Contesting Future Response Costs. Performing Settling Defendant may contest any Future Response Costs that are billed by EPA under Paragraph 55 (Payments by Performing Settling Defendant for Future Response Costs) if it determines that EPA has made a mathematical error or included a cost item that is not within the definition of Future Response Costs, or if it believes EPA incurred excess costs as a direct result of an EPA action that was inconsistent with a specific provision or provisions of the NCP. Such objection shall be made in writing within 30 days after receipt of the bill and must be sent to the United States pursuant to Section XXVII (Notices and Submissions). Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, Performing Settling Defendant shall pay all uncontested Future Response Costs to the United States within 30 days after Performing Settling Defendant's receipt of the bill requiring payment. Simultaneously, Performing Settling Defendant shall establish, in a duly chartered bank or trust company, an interest-bearing escrow account that is insured by the Federal Deposit Insurance Corporation ("FDIC"), and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Performing Settling Defendant shall send to the United States, as provided in Section XXVII (Notices and Submissions), a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial

balance of the escrow account. Simultaneously with establishment of the escrow account, Performing Settling Defendant shall initiate the Dispute Resolution procedures in Section XIX (Dispute Resolution). If the United States prevails in the dispute, Performing Settling Defendant shall pay the sums due (with accrued interest) to the United States within five working days after the resolution of the dispute. If Performing Settling Defendant prevails concerning any aspect of the contested costs, Performing Settling Defendant shall pay that portion of the costs (plus associated accrued interest) for which it did not prevail to the United States within five working days after the resolution of the dispute. Performing Settling Defendant shall be disbursed any balance of the escrow account. All payments to the United States under this Paragraph shall be made in accordance with Paragraph 56.a.

b. Procedure for Contesting DTSC Future Response Costs. If Performing Settling Defendant disputes a DTSC billing, or any part thereof, Performing Settling Defendant shall notify DTSC's assigned project manager and attempt to informally resolve the dispute with DTSC's project coordinator and branch chief. If Performing Settling Defendant desires to formally request dispute resolution with regard to the billing, Performing Settling Defendant shall file a request for dispute resolution in writing within 45 days of receipt of the billing in dispute. The written request shall describe all issues in dispute and shall set forth the reasons for the dispute, both factual and legal. If the dispute pertains only to a portion of the costs included in the invoice, Performing Settling Defendant shall pay all costs which are undisputed in accordance with Paragraph 55.b. The filing of a notice of dispute pursuant to this Paragraph shall not stay

the accrual of interest on any unpaid costs pending resolution of the dispute. The written request shall be sent to:

Chief, Collections and Resolution Unit  
Department of Toxic Substances Control  
PO Box 806  
Sacramento, CA 96812-0806

A copy of the written request for dispute resolution shall also be sent to the person designated by DTSC to receive submittals under this Consent Decree. A decision on the billing dispute will be rendered by the Chief, Collections and Resolution Unit, or other DTSC designee.

c. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XIX (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Performing Settling Defendant's obligation to reimburse the United States for its Future Response Costs or DTSC for its DTSC Future Response Costs.

#### XVII. INDEMNIFICATION AND INSURANCE

58. Performing Settling Defendant's Indemnification of the United States and DTSC.

a. The United States and DTSC do not assume any liability by entering into this Consent Decree or by virtue of any designation of Performing Settling Defendant as EPA's authorized representative under Section 104(e) of CERCLA, 42 U.S.C. § 9604(e). Performing Settling Defendant shall indemnify, save and hold harmless the United States, DTSC, and their officials, agents, employees, contractors, subcontractors,

and representatives for or from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Performing Settling Defendant, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Consent Decree, including, but not limited to, any claims arising from any designation of Performing Settling Defendant as EPA's authorized representatives under Section 104(e) of CERCLA. Further, Performing Settling Defendant agrees to pay the United States and DTSC all costs they incur including, but not limited to, attorneys' fees and other expenses of litigation and settlement arising from, or on account of, claims made against the United States or DTSC based on negligent or other wrongful acts or omissions of Performing Settling Defendant, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Consent Decree. Neither the United States nor DTSC shall be held out as a party to any contract entered into by or on behalf of Performing Settling Defendant in carrying out activities pursuant to this Consent Decree. Neither Performing Settling Defendant nor any such contractor shall be considered an agent of the United States or DTSC.

b. The United States and DTSC shall give Performing Settling Defendant notice of any claim for which the United States or DTSC plans to seek indemnification pursuant to this Paragraph, and shall consult with Performing Settling Defendant prior to settling such claim.

59. Performing Settling Defendant covenants not to sue and agrees not to assert any claims or causes of action against the United States and DTSC for damages or

reimbursement or for set-off of any payments made or to be made to the United States or DTSC, arising from or on account of any contract, agreement, or arrangement between Performing Settling Defendant and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Performing Settling Defendant shall indemnify and hold harmless the United States and DTSC with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Performing Settling Defendant and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

60. No later than 15 days before commencing any on-Site Work, Performing Settling Defendant shall secure, and shall maintain until the first anniversary after issuance of the Certification of Completion of the Remedial Action pursuant to Paragraph 51 of Section XIV (Certification of Completion), commercial general liability insurance with limits of \$1 million, for any one occurrence, and automobile liability insurance with limits of \$1 million, combined single limit, naming the United States and DTSC as additional insureds with respect to all liability arising out of the activities performed by or on behalf of Performing Settling Defendant pursuant to this Consent Decree. In addition, for the duration of this Consent Decree, Performing Settling Defendant shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Performing Settling Defendant in furtherance of this Consent Decree. Prior to commencement of the Work under this Consent Decree, Performing Settling

Defendant shall provide to EPA and DTSC certificates of such insurance and a copy of each insurance policy. Performing Settling Defendant shall resubmit such certificates and copies of policies each year on the anniversary of the Effective Date. If Performing Settling Defendant demonstrates by evidence satisfactory to EPA, with reasonable opportunity for review and comment by DTSC, that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Performing Settling Defendant need provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor.

#### XVIII. FORCE MAJEURE

61. “Force majeure,” for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Performing Settling Defendant, of any entity controlled by Performing Settling Defendant, or of Performing Settling Defendant’s contractors that delays or prevents the performance of any obligation under this Consent Decree despite Performing Settling Defendant’s best efforts to fulfill the obligation. The requirement that Performing Settling Defendant exercise “best efforts to fulfill the obligation” includes using best efforts to anticipate any potential force majeure and best efforts to address the effects of any potential force majeure (a) as it is occurring and (b) following the potential force majeure such that the delay and any adverse effects of the delay are minimized to the greatest extent possible. “Force majeure” does not include financial inability to complete the Work or a failure to achieve the Performance Standards.

62. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree for which Performing Settling Defendant intends or may intend to assert a claim of force majeure, Performing Settling Defendant shall notify EPA's Project Coordinator orally or, in his or her absence, EPA's Alternate Project Coordinator or, in the event both of EPA's designated representatives are unavailable, the Director of the Superfund Division, EPA Region IX, within 24 hours of when Performing Settling Defendant first knew that the event might cause a delay. Within seven days thereafter, Performing Settling Defendant shall provide in writing to EPA and DTSC an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Performing Settling Defendant's rationale for attributing such delay to a force majeure; and a statement as to whether, in the opinion of Performing Settling Defendant, such event may cause or contribute to an endangerment to public health or welfare, or the environment. Performing Settling Defendant shall include with any notice all available documentation supporting its claim that the delay was attributable to a force majeure. Performing Settling Defendant shall be deemed to know of any circumstance of which Performing Settling Defendant, any entity controlled by Performing Settling Defendant, or Performing Settling Defendant's contractors knew or should have known. Failure to comply with the above requirements regarding an event shall preclude Performing Settling Defendant from asserting any claim of force majeure regarding that event, provided, however, that if EPA, despite the late notice, is able to assess to its satisfaction whether the

event is a force majeure under Paragraph 61 and whether Performing Settling Defendant have exercised their best efforts under Paragraph 61, EPA may, in its unreviewable discretion, excuse in writing Performing Settling Defendant's failure to submit timely notices under this Paragraph.

63. If EPA, after a reasonable opportunity for review and comment by DTSC, agrees that the delay or anticipated delay is attributable to a force majeure, the time for performance of the obligations under this Consent Decree that are affected by the force majeure will be extended by EPA, after a reasonable opportunity for review and comment by DTSC, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure shall not, of itself, extend the time for performance of any other obligation. If EPA, after a reasonable opportunity for review and comment by DTSC, does not agree that the delay or anticipated delay has been or will be caused by a force majeure, EPA will notify Performing Settling Defendant in writing of its decision. If EPA, after a reasonable opportunity for review and comment by DTSC, agrees that the delay is attributable to a force majeure, EPA will notify Performing Settling Defendant in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure.

64. If Performing Settling Defendant elects to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution), it shall do so no later than 15 days after receipt of EPA's notice. In any such proceeding, Performing Settling Defendant shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure, that the



duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Performing Settling Defendant complied with the requirements of Paragraphs 61 and 62. If Performing Settling Defendant carries this burden, the delay at issue shall be deemed not to be a violation by Performing Settling Defendant of the affected obligation of this Consent Decree identified to EPA and the Court.

#### XIX. DISPUTE RESOLUTION

65. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes regarding this Consent Decree. However, the procedures set forth in this Section shall not apply to actions by the United States to enforce obligations of Performing Settling Defendant that have not been disputed in accordance with this Section.

66. Any dispute regarding this Consent Decree shall in the first instance be the subject of informal negotiations between the parties to the dispute. The period for informal negotiations shall not exceed 20 days from the time the dispute arises, unless it is modified by written agreement of the parties to the dispute. The dispute shall be considered to have arisen when one party sends the other parties a written Notice of Dispute.

67. Statements of Position.

a. In the event that the parties cannot resolve a dispute by informal negotiations under the preceding Paragraph, then the position advanced by EPA shall be considered binding unless, within 30 days after the conclusion of the informal negotiation

period, Performing Settling Defendant invoke the formal dispute resolution procedures of this Section by serving on the United States and DTSC a written Statement of Position on the matter in dispute, including, but not limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by Performing Settling Defendant. The Statement of Position shall specify Performing Settling Defendant's position as to whether formal dispute resolution should proceed under Paragraph 68 (Record Review) or 69.

b. Within 30 days after receipt of Performing Settling Defendant's Statement of Position, EPA will serve on Performing Settling Defendant its Statement of Position, including, but not limited to, any factual data, analysis, or opinion supporting that position and all supporting documentation relied upon by EPA. EPA's Statement of Position shall include a statement as to whether formal dispute resolution should proceed under Paragraph 68 (Record Review) or Paragraph 69. Within 15 days after receipt of EPA's Statement of Position, Performing Settling Defendant may submit a Reply.

c. If there is disagreement between EPA and Performing Settling Defendant as to whether dispute resolution should proceed under Paragraph 68 (Record Review) or 69, the parties to the dispute shall follow the procedures set forth in the paragraph determined by EPA to be applicable. However, if Performing Settling Defendant ultimately appeals to the Court to resolve the dispute, the Court shall determine which paragraph is applicable in accordance with the standards of applicability set forth in Paragraphs 68 and 69.

68. Record Review. Formal dispute resolution for disputes pertaining to the selection or adequacy of any response action and all other disputes that are accorded review on the administrative record under applicable principles of administrative law shall be conducted pursuant to the procedures set forth in this Paragraph. For purposes of this Paragraph, the adequacy of any response action includes, without limitation, the adequacy or appropriateness of plans, procedures to implement plans, or any other items requiring approval by EPA under this Consent Decree, and the adequacy of the performance of response actions taken pursuant to this Consent Decree. Nothing in this Consent Decree shall be construed to allow any dispute by Performing Settling Defendant regarding the validity of ROD Amendment #2's provisions.

a. An administrative record of the dispute shall be maintained by EPA and shall contain all statements of position, including supporting documentation, submitted pursuant to this Section. Where appropriate, EPA may allow submission of supplemental statements of position by the parties to the dispute.

b. The Director of the Superfund Division, EPA Region IX, will issue a final administrative decision resolving the dispute based on the administrative record described in Paragraph 68.a. This decision shall be binding upon Performing Settling Defendant, subject only to the right to seek judicial review pursuant to Paragraphs 68.c and 68.d.

c. Any administrative decision made by EPA pursuant to Paragraph 68.b shall be reviewable by this Court, provided that a motion for judicial review of the decision is filed by Performing Settling Defendant with the Court and served on the United

States and EPA within ten days after receipt of EPA's decision. The motion shall include a description of the matter in dispute, the efforts made by the parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of this Consent Decree. The United States may file a response to Performing Settling Defendant's motion.

d. In proceedings on any dispute governed by this Paragraph, Performing Settling Defendant shall have the burden of demonstrating that the decision of the Superfund Division Director is arbitrary and capricious or otherwise not in accordance with law. Judicial review of EPA's decision shall be on the administrative record compiled pursuant to Paragraph 68.a.

69. Formal dispute resolution for disputes that neither pertain to the selection or adequacy of any response action nor are otherwise accorded review on the administrative record under applicable principles of administrative law, shall be governed by this Paragraph.

a. Following receipt of Performing Settling Defendant's Statement of Position submitted pursuant to Paragraph 67, the Director of the Superfund Division, EPA Region IX, will issue a final decision resolving the dispute. The Superfund Division Director's decision shall be binding on Performing Settling Defendant unless, within ten days after receipt of the decision, Performing Settling Defendant files with the Court and serve on the parties a motion for judicial review of the decision setting forth the matter in dispute, the efforts made by the parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of the

Consent Decree. The United States may file a response to Performing Settling Defendant's motion.

b. Notwithstanding Paragraph M (CERCLA Section 113(j) Record Review of ROD Amendment #2 and Work) of Section I (Background), judicial review of any dispute governed by this Paragraph shall be governed by applicable principles of law.

70. The invocation of formal dispute resolution procedures under this Section shall not extend, postpone, or affect in any way any obligation of Performing Settling Defendant under this Consent Decree, not directly in dispute, unless EPA agrees or the Court orders otherwise. Stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute as provided in Paragraph 76. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Consent Decree. In the event that Performing Settling Defendant does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XX (Stipulated Penalties).

#### XX. STIPULATED PENALTIES

71. Stipulated Penalties for Failure to Comply with Consent Decree. Performing Settling Defendant shall be liable for stipulated penalties to the United States in the amounts set forth below for failure to comply with the requirements of this Consent Decree, unless excused under Section XVIII (Force Majeure). "Compliance" by Performing Settling Defendant shall include completion of all payments and activities required under this Consent Decree, or any plan, report, or other deliverable approved

under this Consent Decree, in accordance with all applicable requirements of law, this Consent Decree, the SOW, and any plans, reports, or other deliverables approved under this Consent Decree and within the specified time schedules established by and approved under this Consent Decree. The following stipulated penalties shall accrue per violation per day for any failure to comply with the requirements of this Consent Decree:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$100	1st through 14th day
\$250	15th through 30th day
\$500	31st day and beyond

72. Stipulated Penalty for Work Takeover. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 90 (Work Takeover), Performing Settling Defendant shall be liable for a stipulated penalty in the amount of \$20,000. Stipulated penalties under this Paragraph are in addition to the remedies available under Paragraphs 49 (Funding for Work Takeover) and 90 (Work Takeover).

73. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (a) with respect to a deficient submission under Section XI (EPA Approval of Plans, Reports, and Other Deliverables), during the period, if any, beginning on the 31st day after EPA’s receipt of such submission until the date that EPA notifies Performing Settling Defendant of any deficiency; (b) with respect to a decision by the Director of the Superfund Division, EPA Region IX, under Paragraph 68.b

or 69.a of Section XIX (Dispute Resolution), during the period, if any, beginning on the 21st day after the date that Performing Settling Defendant's reply to EPA's Statement of Position is received until the date that the Director issues a final decision regarding such dispute; or (c) with respect to judicial review by this Court of any dispute under Section XIX (Dispute Resolution), during the period, if any, beginning on the 31st day after the Court's receipt of the final submission regarding the dispute until the date that the Court issues a final decision regarding such dispute. Nothing in this Consent Decree shall prevent the simultaneous accrual of separate penalties for separate violations of this Consent Decree.

74. Following EPA's determination that Performing Settling Defendant has failed to comply with a requirement of this Consent Decree, EPA may give Performing Settling Defendant written notification of the same and describe the noncompliance. EPA may send Performing Settling Defendant a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Performing Settling Defendant of a violation.

75. All penalties accruing under this Section shall be due and payable to the United States within 30 days after Performing Settling Defendant's receipt from EPA of a demand for payment of the penalties, unless Performing Settling Defendant invokes the Dispute Resolution procedures under Section XIX (Dispute Resolution) within the 30-day period. All payments to the United States under this Section shall indicate that the payment is for stipulated penalties and shall be made in accordance with Paragraph 56.a.

76. Penalties shall continue to accrue as provided in Paragraph 73 during any dispute resolution period, but need not be paid until the following:

a. If the dispute is resolved by agreement of the parties or by a decision of EPA that is not appealed to this Court, accrued penalties determined to be owed shall be paid to EPA within 15 days after the agreement or the receipt of EPA's decision or order;

b. If the dispute is appealed to this Court and the United States prevails in whole or in part, Performing Settling Defendant shall pay all accrued penalties determined by the Court to be owed to EPA within 60 days after receipt of the Court's decision or order, except as provided in Paragraph 76.c;

c. If the District Court's decision is appealed by any Party, Performing Settling Defendant shall pay all accrued penalties determined by the District Court to be owed to the United States into an interest-bearing escrow account, established at a duly chartered bank or trust company that is insured by the FDIC, within 60 days after receipt of the Court's decision or order. Penalties shall be paid into this account as they continue to accrue, at least every 60 days. Within 15 days after receipt of the final appellate court decision, the escrow agent shall pay the balance of the account to EPA or to Performing Settling Defendant to the extent that they prevail.

77. If Performing Settling Defendant fails to pay stipulated penalties when due, Performing Settling Defendant shall pay Interest on the unpaid stipulated penalties as follows: (a) if Performing Settling Defendant has timely invoked dispute resolution such that the obligation to pay stipulated penalties has been stayed pending the outcome of



dispute resolution, Interest shall accrue from the date stipulated penalties are due pursuant to Paragraph 76 until the date of payment; and (b) if Performing Settling Defendant fails to timely invoke dispute resolution, Interest shall accrue from the date of demand under Paragraph 75 until the date of payment. If Performing Settling Defendant fails to pay stipulated penalties and Interest when due, the United States may institute proceedings to collect the penalties and Interest.

78. The payment of penalties and Interest, if any, shall not alter in any way Performing Settling Defendant's obligation to complete the performance of the Work required under this Consent Decree.

79. Nothing in this Consent Decree shall be construed as prohibiting, altering, or in any way limiting the ability of the United States or DTSC to seek any other remedies or sanctions available by virtue of Performing Settling Defendant's violation of this Consent Decree or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(l) of CERCLA, 42 U.S.C. § 9622(l), provided, however, that the United States shall not seek civil penalties pursuant to Section 122(l) of CERCLA, and DTSC shall not seek civil penalties, for any violation for which a stipulated penalty is provided in this Consent Decree, except in the case of a willful violation of this Consent Decree.

80. Notwithstanding any other provision of this Section, the United States may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Consent Decree.

XXI. COVENANTS BY PLAINTIFFS FOR PERFORMING SETTLING  
DEFENDANT

81. Covenants for Performing Settling Defendant by the United States. In consideration of the actions that will be performed and the payments that will be made by Performing Settling Defendant under this Consent Decree, and except as specifically provided in Paragraphs 83, 84 (United States' Pre- and Post-Certification Reservations), and 89 (General Reservations of Rights), the United States covenants not to sue or to take administrative action against Performing Settling Defendant pursuant to Sections 106 and 107(a) of CERCLA and 7003 of RCRA relating to the Site. Except with respect to future liability, these covenants shall take effect upon the Effective Date of this Consent Decree. With respect to future liability, these covenants shall take effect upon Certification of Completion of the Remedial Action by EPA pursuant to Paragraph 51 of Section XIV (Certification of Completion). These covenants are conditioned upon the satisfactory performance by Performing Settling Defendant of its obligations under this Consent Decree. These covenants extend only to Performing Settling Defendant and do not extend to any other person.

82. Covenants for Performing Settling Defendant by DTSC and the California Toxic Substances Control Account. In consideration of the actions that will be performed and the payments that will be made by Performing Settling Defendant under this Consent Decree, and except as specifically provided in Paragraphs 86, 87 (United States' Pre- and Post-Certification Reservations), and 89 (General Reservations of Rights), DTSC and the California Toxic Substances Control Account covenant not to sue or to take administrative action against Performing Settling Defendant pursuant to Section 107(a) of CERCLA,

7002 of RCRA, California Health and Safety Code §§ 25355.5, 25358.3, and 25360 and California statutory and common law, or to seek penalties under California Health and Safety Code § 25359.2 relating to the Site. Except with respect to future liability, these covenants shall take effect upon the Effective Date of this Consent Decree. With respect to future liability, these covenants shall take effect upon Certification of Completion of the Remedial Action by EPA pursuant to Paragraph 51 of Section XIV (Certification of Completion). These covenants are conditioned upon the satisfactory performance by Performing Settling Defendant of its obligations under this Consent Decree. These covenants extend only to Performing Settling Defendant and do not extend to any other person.

83. United States' Pre-Certification Reservations. Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, and/or to issue an administrative order, seeking to compel Performing Settling Defendant to perform further response actions relating to the Site and/or to pay the United States for additional costs of response if, (a) prior to Certification of Completion of the Remedial Action, (1) conditions at the Site, previously unknown to EPA, are discovered, or (2) information, previously unknown to EPA, is received, in whole or in part, and (b) EPA determines that these previously unknown conditions or information together with any other relevant information indicates that the Remedial Action is not protective of human health or the environment.

84. United States' Post-Certification Reservations. Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, and/or to issue an administrative order, seeking to compel Performing Settling Defendant to perform further response actions relating to the Site and/or to pay the United States for additional costs of response if, (a) subsequent to Certification of Completion of the Remedial Action, (1) conditions at the Site, previously unknown to EPA, are discovered, or (2) information, previously unknown to EPA, is received, in whole or in part, and (b) EPA determines that these previously unknown conditions or this information together with other relevant information indicate that the Remedial Action is not protective of human health or the environment.

85. For purposes of Paragraph 83 (United States' Pre-Certification Reservations), the information and the conditions known to EPA will include only that information and those conditions known to EPA as of the date ROD Amendment #2 was signed, and set forth in ROD Amendment #2 or the administrative record supporting ROD Amendment #2. For purposes of Paragraph 84 (United States' Post-Certification Reservations), the information and the conditions known to EPA shall include only that information and those conditions known to EPA as of the date of Certification of Completion of the Remedial Action, and set forth in ROD Amendment #2, the administrative record supporting ROD Amendment #2, the post-ROD administrative record, or in any information received by EPA pursuant to the requirements of this Consent Decree prior to Certification of Completion of the Remedial Action.

86. DTSC's Pre-Certification Reservations. Notwithstanding any other provision of this Consent Decree, DTSC reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, and/or to issue an administrative order, seeking to compel Performing Settling Defendant to perform further response actions relating to the Site and/or to pay DTSC for additional costs of response if, (a) prior to Certification of Completion of the Remedial Action, (1) conditions at the Site, previously unknown to DTSC, are discovered, or (2) information, previously unknown to DTSC, is received, in whole or in part, and (b) DTSC determines that these previously unknown conditions or information together with any other relevant information indicates that the Remedial Action is not protective of human health or the environment.

87. DTSC's Post-Certification Reservations. Notwithstanding any other provision of this Consent Decree, DTSC reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, and/or to issue an administrative order, seeking to compel Performing Settling Defendant to perform further response actions relating to the Site and/or to pay DTSC for additional costs of response if, (a) subsequent to Certification of Completion of the Remedial Action, (1) conditions at the Site, previously unknown to DTSC, are discovered, or (2) information, previously unknown to DTSC, is received, in whole or in part, and (b) DTSC determines that these previously unknown conditions or this information together with other relevant information indicate that the Remedial Action is not protective of human health or the environment.

88. For purposes of Paragraph 86 (DTSC's Pre-Certification Reservations), the information and the conditions known to DTSC will include only that information and those conditions known to DTSC as of the date ROD Amendment #2 was signed, and set forth in ROD Amendment #2 or the administrative record supporting ROD Amendment #2. For purposes of Paragraph 87 (DTSC's Post-Certification Reservations), the information and the conditions known to DTSC shall include only that information and those conditions known to DTSC as of the date of Certification of Completion of the Remedial Action, and set forth in ROD Amendment #2, the administrative record supporting ROD Amendment #2, the post-ROD administrative record, or in any information received by DTSC pursuant to the requirements of this Consent Decree prior to Certification of Completion of the Remedial Action.

89. General Reservations of Rights. The Plaintiffs reserve, and this Consent Decree is without prejudice to, all rights against Performing Settling Defendant with respect to all matters not expressly included within Plaintiff's covenants.

Notwithstanding any other provision of this Consent Decree, the Plaintiffs reserve all rights against Performing Settling Defendant with respect to:

- a. liability for failure by Performing Settling Defendant to meet a requirement of this Consent Decree;
- b. liability arising from the past, present, or future disposal, release, or threat of release of Waste Material outside of the Site;

c. liability based on the ownership of the Site by Performing Settling Defendant when such ownership commences after signature of this Consent Decree by Performing Settling Defendant;

d. liability based on the operation of the Site by Performing Settling Defendant when such operation commences after signature of this Consent Decree by Setting Defendant and does not arise solely from Performing Settling Defendant's performance of the Work;

e. liability based on Performing Settling Defendant's transportation, treatment, storage, or disposal, or arrangement for transportation, treatment, storage, or disposal of Waste Material at or in connection with the Site, other than as provided in ROD Amendment #2, the Work, or otherwise ordered by EPA, after signature of this Consent Decree by Performing Settling Defendant;

f. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

g. criminal liability;

h. liability for violations of federal or state law that occur during or after implementation of the Work; and

i. liability, prior to Certification of Completion of the Remedial Action, for additional response actions that EPA determines are necessary to achieve and maintain Performance Standards or to carry out and maintain the effectiveness of the

remedy set forth in ROD Amendment #2, but that cannot be required pursuant to Paragraph 14 (Modification of SOW or Related Work Plans).

90. Work Takeover.

a. In the event EPA determines that Performing Settling Defendant has (1) ceased implementation of any portion of the Work, (2) is seriously or repeatedly deficient or late in its performance of the Work, or (3) is implementing the Work in a manner that may cause an endangerment to human health or the environment, EPA may issue a written notice (“Work Takeover Notice”) to Performing Settling Defendant. Any Work Takeover Notice issued by EPA will specify the grounds upon which such notice was issued and will provide Performing Settling Defendant a period of ten days within which to remedy the circumstances giving rise to EPA’s issuance of such notice.

b. If, after expiration of the ten-day notice period specified in Paragraph 90.a, Performing Settling Defendant has not remedied to EPA’s satisfaction the circumstances giving rise to EPA’s issuance of the relevant Work Takeover Notice, EPA may at any time thereafter assume the performance of all or any portion(s) of the Work as EPA deems necessary (“Work Takeover”). EPA will notify Performing Settling Defendant in writing (which writing may be electronic) if EPA determines that implementation of a Work Takeover is warranted under this Paragraph 90.b. Funding of Work Takeover costs is addressed under Paragraph 49.

c. Performing Settling Defendant may invoke the dispute resolution procedures set forth in Paragraph 68 (Record Review), to dispute EPA’s implementation of



a Work Takeover under Paragraph 90.b. However, notwithstanding Performing Settling Defendant's invocation of such dispute resolution procedures, and during the pendency of any such dispute, EPA may in its sole discretion commence and continue a Work Takeover under Paragraph 90.b until the earlier of (1) the date that Performing Settling Defendant remedy, to EPA's satisfaction, the circumstances giving rise to EPA's issuance of the relevant Work Takeover Notice, or (2) the date that a final decision is rendered in accordance with Paragraph 68 (Record Review) requiring EPA to terminate such Work Takeover.

91. Notwithstanding any other provision of this Consent Decree, the Plaintiffs retain all authority and reserve all rights to take any and all response actions authorized by law.

## XXII. COVENANTS BY PLAINTIFFS FOR SETTLING INDIVIDUALS

92. Covenants for Settling Individuals by the United States. In consideration of the actions that will be performed by Performing Settling Defendant under this Consent Decree and by Settling Individuals under Paragraph 110 (Surrender of Site-related Records by Settling Individuals), and except as specifically provided in Paragraph 94 (Reservations of Rights as to Settling Individuals), the United States covenant not to sue or to take administrative action against Settling Individuals pursuant to Sections 106 and 107(a) of CERCLA and Section 7003 of RCRA relating to the Site. This covenant shall take effect upon the Effective Date of this Consent Decree.

93. Covenants for Settling Individuals by DTSC and the California Toxic Substances Control Account. In consideration of the actions that will be performed by

Performing Settling Defendant under this Consent Decree and by Settling Individuals under Paragraph 110 (Surrender of Site-related Records by Settling Individuals), and except as specifically provided in Paragraph 94 (Reservations of Rights as to Settling Individuals), DTSC and the California Toxic Substances Control Account covenant not to sue or to take administrative action against Settling Individuals pursuant to Section 107(a) of CERCLA and Section 7003 of RCRA, California Health and Safety Code §§ 25355.5, 25358.3, and 25360 and California statutory and common law or to seek penalties under California Health and Safety Code § Section 25359.2 relating to the Site. This covenant shall take effect upon the Effective Date of this Consent Decree.

94. Reservations of Rights as to Settling Individuals. The Plaintiffs' reserve, and this Consent Decree is without prejudice to, all rights against Settling Individuals with respect to all matters not expressly included within Paragraphs 92 (Covenants for Settling Individuals by the United States) and 93 (Covenants for Settling Individuals by DTSC and the Toxic Substances Control Account). Notwithstanding any other provision of this Consent Decree, the Plaintiffs' reserve all rights against Settling Individuals with respect to:

- a. liability for failure by any Settling Individual to meet a requirement of this Consent Decree;
- b. liability arising from the past, present, or future disposal, release, or threat of release of Waste Material outside of the Site;

c. liability based on the ownership of the Site by any Settling Individual when such ownership commences after signature of this Consent Decree by that Settling Individual.

d. liability based on the operation of the Site by any Settling Individual when such operation commences after signature of this Consent Decree by that Settling Individual and does not arise solely from that Settling Individual's performance of the Work;

e. liability based on any Settling Individual's transportation, treatment, storage, or disposal, or arrangement for transportation, treatment, storage, or disposal of Waste Material at or in connection with the Site, other than as provided in the ROD Amendment #2, the Work, or otherwise ordered by EPA, after signature of this Consent Decree by that Settling Individual.

f. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments; and

g. criminal liability.

### XXIII. COVENANTS BY PERFORMING SETTLING DEFENDANT AND SETTLING INDIVIDUALS

#### 95. Covenants by Performing Settling Defendant and Settling Individuals.

Subject to the reservations in Paragraph 98, Performing Settling Defendant and Settling Individuals covenant not to sue and agree not to assert any claims or causes of action against the United States, DTSC or the California Toxic Substances Account with respect to the Site and this Consent Decree, including, but not limited to:

- a. any direct or indirect claim for reimbursement from the EPA Hazardous Substance Superfund through CERCLA Sections 106(b)(2), 107, 111, 112 or 113, or any other provision of law;
- b. any claims under CERCLA Sections 107 or 113, RCRA Section 7002(a), 42 U.S.C. § 6972(a), or state law regarding the Site and this Consent Decree; or
- c. any claims arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the California Constitution, the Tucker Act, 28 U.S.C. §1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, or at common law.

96. Except as provided in Paragraph 106 (Res Judicata and Other Defenses), the covenants in this Section shall not apply to Performing Settling Defendant if the United States, DTSC or the California Toxic Substances Account brings a cause of action or issues an order pursuant to any of the reservations in Section XXI (Covenants by Plaintiffs for Performing Settling Defendant), other than in Paragraphs 89.a (claims for failure to meet a requirement of the Consent Decree), 89.g (criminal liability), and 89.h (violations of federal/state law during or after implementation of the Work), but only to the extent that Performing Settling Defendant's claims arise from the same response action, response costs, or damages that the United States, DTSC, or the California Toxic Substances Account is seeking pursuant to the applicable reservation.

97. Except as provided in Paragraph 106 (Res Judicata and Other Defenses), the covenants in this Section shall not apply to Settling Individuals if the United States,

DTSC or the California Toxic Substances Account brings a cause of action or issues an order pursuant to any of the reservations in Section XXII (Covenants by Plaintiffs for Settling Individuals), other than in Paragraphs 94.a (claims for failure to meet a requirement of the Consent Decree) and 94.g (criminal liability), but only to the extent that Settling Individuals' claims arise from the same response action, response costs, or damages that the United States, DTSC or the California Toxic Substances Account is seeking pursuant to the applicable reservation.

98. Performing Settling Defendant and Settling Individuals reserve, and this Consent Decree is without prejudice to, claims against the United States, subject to the provisions of Chapter 171 of Title 28 of the United States Code, and brought pursuant to any statute other than CERCLA or RCRA and for which the waiver of sovereign immunity is found in a statute other than CERCLA or RCRA, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States, including as the term "United States" is defined in 28 U.S.C. § 2671, while acting within the scope of his or her office or employment under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred. However, the foregoing shall not include any claim based on EPA's selection of response actions, or the oversight or approval of Performing Settling Defendant's plans, reports, other deliverables or activities.

99. Nothing in this Consent Decree shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

100. Claims Against De Micromis Parties. Performing Settling Defendant and Settling Individuals agree not to assert any claims and to waive all claims or causes of action (including but not limited to claims or causes of action under Sections 107(a) and 113 of CERCLA) that they may have for all matters relating to the Site against any person where the person's liability to Performing Settling Defendant or Settling Individuals with respect to the Site is based solely on having arranged for disposal or treatment, or for transport for disposal or treatment, of hazardous substances at the Site, or having accepted for transport for disposal or treatment of hazardous substances at the Site, if all or part of the disposal, treatment, or transport occurred before April 1, 2001, and the total amount of material containing hazardous substances contributed by such person to the Site was less than 110 gallons of liquid materials or 200 pounds of solid materials.

101. The waiver in Paragraph 100 (Claims Against De Micromis Parties) shall not apply with respect to any defense, claim, or cause of action that Performing Settling Defendant or Settling Individuals may have against any person meeting the criteria in Paragraph 100 if such person asserts a claim or cause of action relating to the Site against Performing Settling Defendant or Settling Individuals. This waiver also shall not apply to any claim or cause of action against any person meeting the criteria in Paragraph 100 if EPA determines:

a. That such person has failed to comply with any EPA requests for information or administrative subpoenas issued pursuant to Section 104(e) or 122(e) of CERCLA, 42 U.S.C. § 9604(e) or 9622(e), or Section 3007 of RCRA, 42 U.S.C. § 6927, or has impeded or is impeding, through action or inaction, the performance of a response action or natural resource restoration with respect to the Site, or has been convicted of a criminal violation for the conduct to which this waiver would apply and that conviction has not been vitiated on appeal or otherwise; or

b. That the materials containing hazardous substances contributed to the Site by such person have contributed significantly, or could contribute significantly, either individually or in the aggregate, to the cost of response action or natural resource restoration at the Site.

#### XXIV. EFFECT OF SETTLEMENT; CONTRIBUTION

102. Nothing in this Consent Decree shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Consent Decree. Each of the Parties expressly reserves any and all rights (including, but not limited to, pursuant to Section 113 of CERCLA, 42 U.S.C. § 9613), defenses, claims, demands, and causes of action that each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto. Nothing in this Consent Decree diminishes the right of the Plaintiffs, pursuant to Section 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

103. The Parties agree, and by entering this Consent Decree this Court finds, that this Consent Decree constitutes a judicially approved settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), and that Performing Settling Defendant and each Settling Individual is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Section 113(f)(2) of CERCLA, or as may be otherwise provided by law, for “matters addressed” in this Consent Decree. The “matters addressed” in this Consent Decree are all response actions taken or to be taken and all response costs incurred or to be incurred, at or in connection with the Site, by the United States, the California Toxic Substances Control Account, DTSC, the Hazardous Substances Account or any other person provided, however, that if the United States, the California Toxic Substances Control Account or DTSC exercises rights under the reservations in Section XXI (Covenants by Plaintiffs for Performing Settling Defendant) or Section XXII (Covenants by Plaintiffs for Settling Individuals), other than in Paragraphs 89.a or 94.a (claims for failure to meet a requirement of the Consent Decree), 89.g or 94.g (criminal liability), or 89.h (violations of federal/state law during or after implementation of the Work), the “matters addressed” in this Consent Decree will no longer include those response costs or response actions.

104. If Performing Settling Defendant or any Settling Individual intends to bring any suit or claim for matters related to this Consent Decree, Performing Settling Defendant or such Settling Individual shall notify the Plaintiffs in writing no later than 60 days prior to the initiation of such suit or claim.



105. If Performing Settling Defendant or any Settling Individual has a suit or claim brought against him/her/it for matters related to this Consent Decree, Performing Settling Defendant or such Settling Individual shall notify the Plaintiffs in writing within ten days after service of the complaint on Performing Settling Defendant or such Settling Individual. In addition, Performing Settling Defendant or such Settling Individual shall notify the Plaintiffs within ten days after service or receipt of any Motion for Summary Judgment and within ten days after receipt of any order from a court setting a case for trial.

106. Res Judicata and Other Defenses. In any subsequent administrative or judicial proceeding initiated by the United States or DTSC for injunctive relief, recovery of response costs, or other appropriate relief relating to the Site, Performing Settling Defendant and Settling Individuals shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or DTSC in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in Sections XXI (Covenants by Plaintiffs for Performing Settling Defendant) and XXII (Covenants by Plaintiffs for Settling Individuals).

#### XXV. ACCESS TO INFORMATION

107. Performing Settling Defendant shall provide to EPA and DTSC, upon request, copies of all records, reports, documents, and other information (including records, reports, documents, and other information in electronic form) (hereinafter referred

to as “Records”) within its possession or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Consent Decree, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information regarding the Work. Performing Settling Defendant shall also make available to EPA and DTSC, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

108. Business Confidential and Privileged Documents.

a. Performing Settling Defendant may assert business confidentiality claims covering part or all of the Records submitted to Plaintiffs under this Consent Decree to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Records determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies Records when they are submitted to EPA and DTSC, or if EPA has notified Performing Settling Defendant that the Records are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such Records without further notice to Performing Settling Defendant. With respect to documents submitted by the Performing Settling Defendant to DTSC under this Consent Decree, Performing Settling Defendant may assert trade secret claims or other claims of privilege or confidentiality under the California Uniform Trade Secrets Act (“UTSA”), Cal. Civil Code § 3426, *et seq.*, or the California Public Records

Act (“PRA”), Cal. Gov’t Code § 6254 *et seq.*, covering all or part of such documents. In the event of a third-party request for production of such documents, DTSC shall, to the extent required by law, determine whether those documents or portions thereof are subject to a claim of confidentiality or other privilege under the PRA or the UTSA, by Performing Settling Defendant. DTSC shall provide any legally-required notice to Performing Settling Defendant that a request for documents claimed confidential or privileged by Performing Settling Defendant has been made. Performing Settling Defendant shall bear the responsibility to justify its asserted privileges or confidentiality claims for the documents requested and to seek judicial relief from disclosure.

b. Performing Settling Defendant may assert that certain Records are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Performing Settling Defendant assert such a privilege in lieu of providing Records, it shall provide Plaintiffs with the following: (1) the title of the Record; (2) the date of the Record; (3) the name, title, affiliation (e.g., company or firm), and address of the author of the Record; (4) the name and title of each addressee and recipient; (5) a description of the contents of the Record; and (6) the privilege asserted by Performing Settling Defendant. If a claim of privilege applies only to a portion of a Record, the Record shall be provided to the Plaintiffs in redacted form to mask the privileged portion only. Performing Settling Defendant shall retain all Records that it claims to be privileged until the Plaintiffs have had a reasonable opportunity to dispute the privilege claim and any such dispute has been resolved in Performing Settling Defendant’s favor.

c. No Records created or generated pursuant to the requirements of this Consent Decree shall be withheld from the Plaintiffs on the grounds that they are privileged or confidential.

109. No claim of confidentiality or privilege shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

#### XXVI. RETENTION OF RECORDS

110. Surrender of Site-Related Records by Settling Individuals. Within 180 days of the Effective Date, each Settling Individual shall make a reasonable effort to locate Records relating to the Site that are within that Settling Individual's possession or control, and shall provide either originals or legible copies of any such Records to Performing Settling Defendant by mailing or otherwise delivering them to the following address:

Mark Underwood  
Performing Settling Defendant's Project Coordinator  
Commercial Development Co.  
Environmental Liability Transfer, Inc.  
EnvironAnalytics Group, LLC  
1650 Des Peres Road – Suite 330  
Saint Louis, MO 63131  
munderwood@cdcco.com

111. Until ten years after Performing Settling Defendant's receipt of EPA's notification pursuant to Paragraph 52 (Completion of the Work), Performing Settling Defendant shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any manner to its liability under CERCLA with respect to the Site, and

all Records that relate to the liability of any other person under CERCLA with respect to the Site. Performing Settling Defendant must also retain, and instruct its contractors and agents to preserve, for the same period of time specified above all non-identical copies of the last draft or final version of any Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any manner to the performance of the Work, provided, however, that Performing Settling Defendant (and its contractors and agents) must retain, in addition, copies of all data generated during the performance of the Work and not contained in the aforementioned Records required to be retained. Each of the above record retention requirements shall apply regardless of any corporate retention policy to the contrary. Performing Settling Defendant shall also retain all non-identical copies of Records relating to the Site provided to it by Settling Individuals, including but not limited to Records provided pursuant to Paragraph 110 (Surrender of Site-Related Records by Settling Individuals).

112. At the conclusion of this record retention period, Performing Settling Defendant shall notify Plaintiffs at least 90 days prior to the destruction of any such Records, and, upon request by Plaintiffs, Performing Settling Defendant shall deliver any such Records to EPA or DTSC. Performing Settling Defendant may assert that certain Records are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Performing Settling Defendant asserts such a privilege, it shall provide Plaintiffs with the following: (a) the title of the Record; (b) the date of the Record; (c) the name, title, affiliation (e.g., company or firm), and address of the author of the Record; (d) the name and title of each addressee and recipient; (e) a description of the subject of the

Record; and (f) the privilege asserted by Performing Settling Defendant. If a claim of privilege applies only to a portion of a Record, the Record shall be provided to Plaintiffs in redacted form to mask the privileged portion only. Performing Settling Defendant shall retain all Records that it claims to be privileged until the Plaintiffs have had a reasonable opportunity to dispute the privilege claim and any such dispute has been resolved in Performing Settling Defendant's favor. However, no Records created or generated pursuant to the requirements of this Consent Decree shall be withheld on the grounds that they are privileged or confidential.

113. Performing Settling Defendant certifies that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed, or otherwise disposed of any Records (other than identical copies) relating to its potential liability regarding the Site since the earlier of notification of potential liability by the United States or DTSC or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA and DTSC requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927, and state law.

#### XXVII. NOTICES AND SUBMISSIONS

114. Whenever, under the terms of this Consent Decree, written notice is required to be given or a report or other document is required to be sent by one Party to another, it shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give written notice of a change to the other Parties in writing. All notices and submissions shall be considered effective upon receipt, unless

otherwise provided. Written notice as specified in this Section shall constitute complete satisfaction of any written notice requirement of the Consent Decree with respect to the Plaintiffs and Performing Settling Defendant, respectively. Notices required to be sent to EPA, and not to the United States, under the terms of this Consent Decree should not be sent to the U.S. Department of Justice. The Parties contemplate that the notices and submissions required under this Consent Decree will generally not affect the obligations of or the protections afforded to Settling Individuals and therefore need not be provided to Settling Individuals.

As to the United States:

Chief, Environmental Enforcement Section  
Environment and Natural Resources Division  
U.S. Department of Justice  
P.O. Box 7611  
Washington, D.C. 20044-7611  
Re: DJ # 90-11-3-835/2

As to EPA:

Director, Superfund Division  
United States Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

and:

Dana Barton  
EPA Project Coordinator  
United States Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

As to the Regional Financial  
Management Officer:

Marie Ortesi  
Regional Financial Management Officer  
75 Hawthorne Street  
San Francisco, CA 94105

As to DTSC and the California Toxic Substances Control Account: Charlie Ridenour  
Branch Chief – Sacramento Office  
Brownfields and Environmental Restoration Program  
California Department of Toxic Substances Control  
8800 Cal Center Drive  
Sacramento, CA 95826

Lynn Goldman  
Office of Legal Counsel  
California Department of Toxic Substances Control  
1001 I Street, 23<sup>rd</sup> Floor  
P.O. Box 806  
Sacramento, CA 95812-0806

As to Performing Settling Defendant: Mark Underwood  
Performing Settling Defendant’s Project Coordinator  
Commercial Development Co.  
Environmental Liability Transfer, Inc.  
EnvironAnalytics Group, LLC  
1650 Des Peres Road – Suite 330  
Saint Louis, MO 63131  
munderwood@cdcco.com

#### XXVIII. RETENTION OF JURISDICTION

115. This Court retains jurisdiction over both the subject matter of this Consent Decree and Performing Settling Defendant for the duration of the performance of the terms and provisions of this Consent Decree for the purpose of enabling any of the Parties to apply to the Court at any time for such further order, direction, and relief as may be necessary or appropriate for the construction or modification of this Consent Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section XIX (Dispute Resolution).

#### XXIX. APPENDICES

116. The following appendices are attached to and incorporated into this Consent Decree:



“Appendix A” is ROD Amendment #2.

“Appendix B” is the SOW.

“Appendix C” is the description and/or map of the Site.

“Appendix D” is the performance guarantee.

“Appendix E” is the RD/RA Work Plan.

“Appendix F” is the Revised Results of Treatability Study and In Situ Treatment  
Work Plan.

“Appendix G” is the Land Use Covenant.

“Appendix H” is the exemplar of an Access Agreement.

### XXX. COMMUNITY INVOLVEMENT

117. If requested by EPA or DTSC, Performing Settling Defendant shall participate in community involvement activities pursuant to the community involvement plan developed by EPA. Performing Settling Defendant shall also cooperate with EPA and DTSC in providing information regarding the Work to the public. As requested by EPA or DTSC, Performing Settling Defendant shall participate in the preparation of such information for dissemination to the public and in public meetings that may be held or sponsored by EPA or DTSC to explain activities at or relating to the Site. Costs incurred by the United States under this Section, including the costs of any technical assistance grant under Section 117(e) of CERCLA, 42 U.S.C. § 9617(e), shall be considered Future Response Costs that Performing Settling Defendant shall pay pursuant to Section XVI (Payments for Response Costs). Costs incurred by DTSC under this Section shall be

considered DTSC Future Response Costs that Performing Settling Defendant shall pay pursuant to Section XVI (Payments for Response Costs).

#### XXXI. MODIFICATION

118. Except as provided in Paragraph 14 (Modification of SOW or Related Work Plans), material modifications to this Consent Decree, including the SOW, shall be in writing, signed by the United States and Performing Settling Defendant, and shall be effective upon approval by the Court. Except as provided in Paragraph 14, non-material modifications to this Consent Decree, including the SOW, shall be in writing and shall be effective when signed by duly authorized representatives of the United States and Performing Settling Defendant. All modifications to the Consent Decree, other than the SOW, also shall be signed by DTSC, or a duly authorized representative of DTSC, as appropriate. A modification to the SOW shall be considered material if it fundamentally alters the basic features of the selected remedy within the meaning of 40 C.F.R. § 300.435(c)(2)(ii). Before providing its approval to any modification to the SOW, the United States will provide DTSC with a reasonable opportunity to review and comment on the proposed modification.

119. Modifications (non-material or material) pursuant to Paragraph 118 that affect the obligations of or the protections afforded to Settling Individuals must be executed by Settling Individuals, in addition to Plaintiffs and Performing Settling Defendant. Modifications (non-material or material) that do not affect the obligations of or the protections afforded to Settling Individuals shall not require the signatures of Settling Individuals.

120. Nothing in this Consent Decree shall be deemed to alter the Court's power to enforce, supervise, or approve modifications to this Consent Decree.

XXXII. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT

121. This Consent Decree shall be lodged with the Court for a period of not less than 30 days for public notice and comment in accordance with Section 122(d)(2) of CERCLA, 42 U.S.C. § 9622(d)(2), and 28 C.F.R. § 50.7. The Plaintiffs each reserve the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations that indicate that the Consent Decree is inappropriate, improper, or inadequate. Performing Settling Defendant and Settling Individuals consent to the entry of this Consent Decree without further notice.

122. If for any reason the Court should decline to approve this Consent Decree in the form presented, this agreement is voidable at the sole discretion of any Party and the terms of the agreement may not be used as evidence in any litigation between the Parties.

XXXIII. SIGNATORIES/SERVICE

123. Each undersigned representative of Performing Settling Defendant, Settling Individuals, the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice, the State of California Attorney General's Office, DTSC and the California Toxic Substances Account certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind such Party to this document.

124. Performing Settling Defendant and Settling Individuals agree not to oppose entry of this Consent Decree by this Court or to challenge any provision of this Consent

Decree unless the United States or DTSC has notified Performing Settling Defendant and Settling Individuals in writing that it no longer supports entry of the Consent Decree.

125. Performing Settling Defendant and Settling Individuals shall identify, on the attached signature page, the name, address, and telephone number of an agent who is authorized to accept service of process by mail on behalf of that Party with respect to all matters arising under or relating to this Consent Decree. Performing Settling Defendant and Settling Individuals agree to accept service in that manner and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including, but not limited to, service of a summons. Performing Settling Defendant need not file an answer to the complaint in this action unless or until the Court expressly declines to enter this Consent Decree.

#### XXXIV. FINAL JUDGMENT

126. This Consent Decree and its appendices constitute the final, complete, and exclusive agreement and understanding among the Parties regarding the settlement embodied in the Consent Decree. The Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Consent Decree.

127. Upon entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment between and among the Plaintiffs, Performing Settling Defendant and Settling Individuals. The Court enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

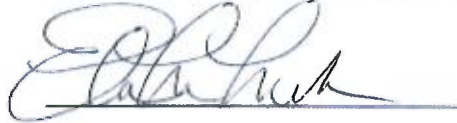
SO ORDERED THIS \_\_ DAY OF \_\_\_\_\_, 2018.

\_\_\_\_\_  
United States District Judge

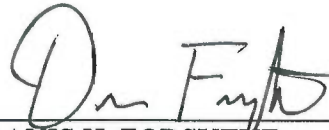
Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

12/19/17  
Date

**FOR THE UNITED STATES OF AMERICA:**



ELLEN M. MAHAN  
Assistant Section Chief  
Environmental Enforcement Section  
Environment and Natural Resources Division  
United States Department of Justice  
Washington, D.C. 20530



DAVIS H. FORSYTHE  
Trial Attorney  
Environmental Enforcement Section  
Environment & Natural Resources Division  
United States Department of Justice  
999 18<sup>th</sup> Street  
South Terrace – Suite 370  
Denver, CO 80202

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR THE UNITED STATES OF AMERICA  
(CONT.):**

 12/5/17

ENRIQUE MANZANILLA  
Superfund Division Director, Region IX  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

 11/22/17

SARA GOLDSMITH  
Assistant Regional Counsel  
U.S. Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR THE CALIFORNIA DEPARTMENT OF  
TOXIC SUBSTANCES CONTROL AND THE  
TOXIC SUBSTANCES CONTROL ACCOUNT:**

11/17/17  
Date

APPROVED AS TO FORM.

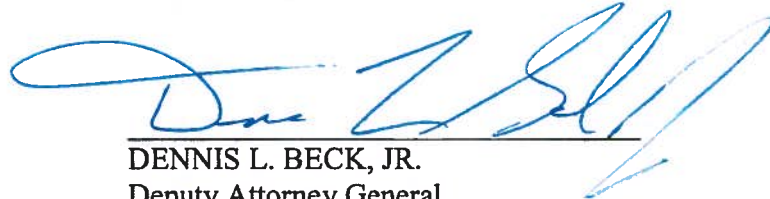


Charlie Ridenour, Branch Chief  
Brownfields and Environmental Restoration Program  
California Department of Toxic Substances Control  
8800 Cal Center Drive

XAVIER BECERRA  
Attorney General of California

MARGARITA PADILLA  
Supervising Deputy Attorney General

11/15/17  
Date



DENNIS L. BECK, JR.  
Deputy Attorney General

Attorneys for Plaintiff People of the State of  
California, ex. rel. Department of Toxic Substances



Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR PERFORMING SETTLING DEFENDANT  
VALLEY WOOD PRESERVING, INC.:**

Nov. 1, 2017  
Date

Joyce Logsdon  
Name (print): Joyce Logsdon  
Title: President  
Address: P.O. Box 740  
Turlock, CA 95381

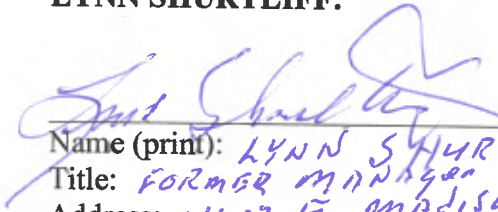
Agent Authorized to Accept Service  
on Behalf of Above-signed Party:

Name (print): Ron Hillberg  
Title: Attorney At Law  
Address: 630 Crane Ave., Suite C Turlock, CA 95380  
Phone: (209) 667-0761  
email: ron@hillberglaw.biz

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR SETTling INDIVIDUAL  
LYNN SHURTLIFF:**

11/3/17  
Date

  
Name (print): LYNN SHURTLIFF  
Title: FORMER MANAGER  
Address: 4617 E. MADISON AVE  
FRESNO, CA 93702

Agent Authorized to Accept Service  
on Behalf of Settling Individuals:

Name (print): Ron Hillberg  
Title: Attorney At Law  
Address: 630 Crane Ave., Suite C, Turlock, CA 95380  
Phone: (209)667-0761  
email: ron@hillberglaw.biz

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR SETTLING INDIVIDUAL  
EDGAR J. LANGLEY:**

Nov. 12, 2017

Date

Name (print):

Title:

Address:

Name (print):

Title:

Address:

Phone:

email:

*Edgar J. Langley*

*Edgar J. Langley*

*Shareholder, Settling Individual*

*9869 Portola Drive, Beverly Hills, CA 90210  
(310) 367-3803*

*James King*

*Attorney - Mannon, King & Johnson*

*P.O. Box 419, Ukiah, CA 95482*

*(707) 468-9151*

*jim@mkjlex.com*

Agent Authorized to Accept Service  
on Behalf of Settling Individuals:

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR SETTling INDIVIDUAL  
CORDES J. LANGLEY:**

11/9/2017  
Date

Cordes J. Langley  
Name (print): CORDES J. LANGLEY  
Title: Seller  
Address: 93 Gibson Rd, Asheville, NC 28804  
(707) 444-8599

Agent Authorized to Accept Service  
on Behalf of Settling Individuals:

Name (print):  
Title:  
Address:  
Phone:  
email:

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR SETTLING INDIVIDUAL  
CATHERINE E. L. ELAWADLY:**

*November 09, 2017*  
Date

*Catherine E. L. Elawadly*  
Name (print): *Catherine E. L. Elawadly*  
Title:  
Address: *785 Walnut Avenue  
Ukiah, CA 95482*

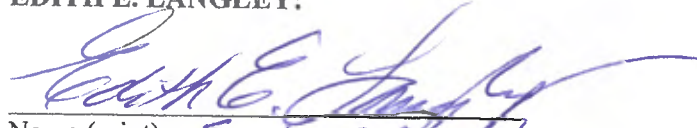
Agent Authorized to Accept Service  
on Behalf of Settling Individuals:

Name (print):  
Title:  
Address:  
Phone:  
email:

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR SETTLING INDIVIDUAL  
EDITH E. LANGLEY:**

11/9/2017  
Date

  
Name (print): Edith E. Langley  
Title: Seller  
Address: 25 JONES PATTON Rd., Leicester, Ne  
(704) 650-9024 28748

Agent Authorized to Accept Service  
on Behalf of Settling Individuals:

Name (print):  
Title:  
Address:  
Phone:  
email:

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR SETTLING INDIVIDUAL  
JOYCE LOGSDON:**

Nov. 1, 2017

Date

Joyce Logsdon

Name (print): Joyce Logsdon

Title:

Address: P.O. Box 740  
Turlock, CA 95381

Agent Authorized to Accept Service  
on Behalf of Settling Individuals:

Name (print): Ron Hillberg

Title: Attorney At Law

Address: 630 Crane Ave, Suite C, Turlock CA 95380


Phone: (209) 667-0761

email: ron@hillberglaw.biz

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR SETTLING INDIVIDUAL  
THE ESTATE OF MICHAEL H. LOGSDON:**

11-01-17  
Date

  
Name (print): Mitch Logsdon  
Title: Executor  
Address: P.O. Box 740  
Turlock, CA 95381

Agent Authorized to Accept Service  
on Behalf of Settling Individuals:

Name (print): Ron Hillberg  
Title: Attorney At Law  
Address: 630 Crane Ave., Suite C Turlock CA 95382  
Phone: (209) 667-0761  
email: ron@hillberglaw.biz



Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR SETTLING INDIVIDUAL  
THE MARIE J. LANGLEY REVOCABLE  
TRUST:**

*Nov. 12, 2017*

Date

*Edgar J. Langley*

Name (print): *Edgar J. Langley*

Title: *Trustee*

Address: *9869 Portola Drive, Beverly Hills, CA 90210  
(310) 367-3803*

Date

Name (print):

Title:

Address:

Agent Authorized to Accept Service  
on Behalf of Settling Individuals:

Name (print): *James King*

Title: *Attorney - Mannon, King & Johnson*

Address: *P.O. Box 419, Ukiah, CA 95482*

Phone: *(707) 468-9151*

email: *jim@mkjlex.com*

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR SETTling INDIVIDUAL  
THE MARIE J. LANGLEY REVOCABLE  
TRUST:**

*November 09, 2017*  
Date

*Catherine E. L. Ellawadky*  
Name (print): *Catherine E. L. Ellawadky*  
Title: *Co-trustee for Marie J. Langley Revocable*  
Address: *785 Walnut Avenue Trust*  
*Ukiah, CA 95482*

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name (print):  
Title:  
Address:

Agent Authorized to Accept Service  
on Behalf of Settling Individuals:

Name (print):  
Title:  
Address:  
Phone:  
email:

Signature Page for Consent Decree regarding the Valley Wood Preserving, Inc. Superfund Site

**FOR SETTLING INDIVIDUAL  
ROBERT SCHMIDT:**

11.1.17  
Date

Robert Schmidt  
Name (print): Robert Schmidt  
Title: Project Coordinator  
Address: P.O. 740  
Turlock, CA 95381

Agent Authorized to Accept Service  
on Behalf of Settling Individuals:

Name (print): Ron Hillberg  
Title: Attorney At Law  
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## **APPENDIX A**

### **ROD Amendment #2**

**Amendment # 2  
to the  
Record of Decision**

**Valley Wood Preserving Superfund Site  
Turlock, CA**

**U.S. Environmental Protection Agency  
Region 9  
San Francisco, California**

**March 2007**

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## **Part 1: Declaration**

### **A. Site Name and Location**

The Valley Wood Preserving, Inc. (VWP) Superfund Site (EPA ID# CAD063020143), a former wood preserving facility, is located at 2237 South Golden State Boulevard on the southeast side of Turlock, Stanislaus County, California (the Site or VWP Site) (see Figure 1). In 1973, VWP began wood preserving operations that involved pressure-treating wood with a water-based solution containing chromium, copper, and arsenic. Wood preserving operations at the Site ceased in 1979 because these activities had resulted in on-site soil and groundwater contamination and off-site groundwater contamination. The contaminants of concern at the Site include hexavalent chromium and arsenic.

### **B. Statement of Basis and Purpose**

This decision document presents the revised groundwater remedial actions selected by the U.S. Environmental Protection Agency (EPA) for the Valley Wood Preserving Superfund Site. These actions have been chosen in accordance with Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. § 9617, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR § 300.435(c)(2)(ii). This decision is based upon the Administrative Record for the Site.

The lead agency for the remedial effort at this Site is EPA; support agencies are the California Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board, Central Valley Region (CVRWQCB). The state agencies concur with the selected Amendment to the groundwater remedy contained in this Record of Decision Amendment (ROD Amendment #2) for the Site.

The response actions selected in the 1991 Record of Decision (ROD), as modified by the 1994 Explanation of Significant Differences (ESD), the 2003 ROD Amendment #1, and this ROD Amendment #2 are necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances, pollutants, and/or contaminants from this Site which may present an imminent and substantial endangerment to public health or welfare.



## C. Assessment of Site

In 1973, VWP began wood preserving operations that involved pressure-treating wood with a water-based solution containing chromium, copper and arsenic. Wood preserving operations at the Site ceased in 1979 because these activities had resulted in on-site soil and groundwater contamination and off-site groundwater contamination. The contaminants of concern at the Site include hexavalent chromium and arsenic.

In 1989, EPA added the Site to the National Priorities List and became the lead regulatory agency for cleanup of the site. On September 27, 1991, EPA issued a Record of Decision (ROD) identifying cleanup remedies for contaminated soil and groundwater. This cleanup plan was updated in 1994 and again in 2003. VWP has implemented soil and groundwater cleanup activities at the Site, including excavation and off-site disposal of contaminated soil. Contaminated soil was cleaned to industrial use levels, thus some contamination remains in soil above levels that allow for unrestricted use. Currently, only residual levels of groundwater contamination remain at the Site.

## D. Description of Selected Remedy

This ROD Amendment modifies the previously selected groundwater remedy for treating contaminated groundwater at the Valley Wood Preserving Superfund Site. These revisions affect both the groundwater cleanup standards and cleanup methodology selected in the 1991 ROD and revisions.

The groundwater remedy outlined in this ROD Amendment provides for: a) *in-situ* treatment to address residual levels of arsenic contamination in groundwater beneath and downgradient of the Site, b) monitored natural attenuation to address residual hexavalent chromium, any remaining levels of arsenic following the *in-situ* treatment, and secondary contaminants generated by the *in-situ* treatment, and c) a revised cleanup goal of 10 micrograms per liter ( $\mu\text{g/L}$ ) for arsenic in groundwater impacted by Site activities.

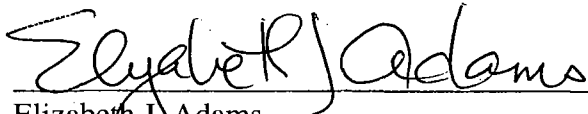
## E. Statutory Determinations

The selected remedy is protective of human health and the environment, complies with all federal and state requirements that are applicable or relevant and appropriate (ARARs), and is cost-effective. This remedy utilizes solutions that are permanent, and satisfies Section 121 of CERCLA, 42 U.S.C. § 9621. This ROD Amendment #2 shall become part of the Administrative Record, as required by 40 C.F.R. § 300.825(a)(2) of the NCP.

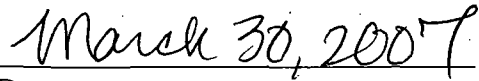
This remedy will result in hazardous substances remaining in soil on-site above health-based levels. Therefore, the Site becomes subject to the five-year review requirement. The five-year review is to provide assurance that the remedy remains

protective of human health and the environment. Reviews will be conducted every five years for as long as hazardous substances are present above health-based cleanup levels. The first review will occur in 2009, which is five years after the start of the recent soil remedial action.

**Authorizing Signature**



Elizabeth J. Adams  
Chief, Site Cleanup Branch  
Superfund Division



Date

## **Part 2: Decision Summary**

### **A. Site Name, Location, and Brief Description**

The Valley Wood Preserving Superfund Site (the Site) is located at 2237 South Golden State Boulevard in an unincorporated area of Stanislaus County, California. The Site is an inactive wood preserving facility, and lies roughly 1.5 miles southeast of the City of Turlock's boundary. The Merced County line is about 0.5 miles southeast of the Site. The Site is located within Section 25 of Township 5 South, Range 10 East, relative to the Mount Diablo base and meridian.

The immediate boundaries of the Site are South Golden State Boulevard to the east; a poultry farm to the south; agricultural/residential lots to the west; and a vineyard to the north. The primary land use in the Site vicinity is for agricultural purposes. The agricultural parcels near the Site are about 10 to 20 acres each, with associated residences. Neighboring properties use groundwater for domestic and agricultural purposes. All nearby domestic wells are screened in the deep water-bearing zone, where there has been no known impact from agricultural or industrial activity. There are approximately 3000 people living within one mile of the VWP Site.

### **B. Site History of Contamination and Prior Remedial Action**

#### **B1. State-lead Activities**

Between 1973 and 1979, Valley Wood Preserving, Inc. (VWP) performed wood preserving activities at the Site. Solutions of 1 to 2 percent chromated-copper-arsenate (CCA) were mixed and stored in tanks on the Site. Lumber in loads of up to 20,000 pounds was placed into one of four pressure treatment cylinders and treated with the solution. After completion of the treatment, the lumber was removed from the cylinder and allowed to drip-dry on paved and unpaved areas on the Site. Known contamination sources at the Site include chemical drippings, chemical spills, leaking tanks, and on-site disposal practices common to that time.

In 1979, the California Regional Water Quality Control Board, Central Valley Region (CVRWQCB) identified the toxic chemicals chromium, copper, and arsenic on Site, within storage ponds, holding tanks, and in soils. These contaminants were also detected in the shallow, unconfined aquifer at the Site. In November 1979, the CVRWQCB issued a cleanup and abatement order to VWP. In 1980, the CVRWQCB obtained a preliminary injunction ordering VWP to perform ground water pump-and-treat actions at the Site. VWP commenced soil and ground water sampling in early 1980; however, remedial actions ceased in 1983 due to alleged financial difficulties.

In March 1987, the California Department of Health Services Division of Toxic Substances Control (now known as the California Department of Toxic Substances

Control, or DTSC) issued a remedial action order (RAO) to VWP. This order required VWP to conduct a remedial investigation and feasibility study and to develop a Remedial Action Plan (RAP).

## **B2. EPA-lead Activities**

### **1991 Record of Decision**

In March 1989, the U.S. Environmental Protection Agency (EPA) added the VWP Site to the National Priorities List (NPL), and soon thereafter became the lead agency for the remedial cleanup. EPA remains the lead agency; the DTSC and CVRWQCB are support agencies, with DTSC acting as the lead state agency.

In December 1989, VWP and EPA entered into an administrative order to perform emergency removal actions at the Site. The order required aquifer testing, an interim groundwater pump-and-treat system, and the design of a plan for alternate water supplies for affected neighboring residents. In January 1990, VWP installed three deep groundwater wells to serve as domestic water supply wells. In May 1990, VWP and EPA entered into a second administrative consent order, requiring VWP to conduct a remedial investigation/feasibility study (RI/FS). This EPA Order superseded the state's 1987 RAO. A baseline risk assessment (part of the RI/FS) indicated that exposure to ground water contaminated by chemicals from VWP could result in significant health risks. No significant ecological risks were identified. In June 1990, a pump-and-treat system began operation in order to control the migration of the contaminant plume.

In June 1991, the RI/FS was completed and concluded that: the contaminants of concern in both soil and ground water were hexavalent chromium and arsenic; the ground water plume was mobile and migrating towards domestic wells; additional investigation of the vertical extent of the groundwater plume was required; and remedial technologies were available for cleanup.

On September 27, 1991, EPA signed a Record of Decision (ROD) for the VWP Site. The ROD identified cleanup remedies for contaminated soil and groundwater. The remedy for the groundwater contamination was electrochemical treatment, in conjunction with the existing pump-and-treat system. Electrochemical treatment involves passing an electrical current through a contaminated solution. Ions that tend to have a positive charge in solution like chromium and arsenic would selectively migrate to the negatively-charged portion of the system, and then be collected and separated. For groundwater, the ROD selected cleanup standards of 50 micrograms per liter ( $\mu\text{g/L}$ ) for total chromium (including hexavalent chromium) and 16  $\mu\text{g/L}$  for arsenic.

To address on-site contaminated soil, the ROD selected a remedy that included excavating contaminated soil, fixing and stabilizing the hazardous substances in the soil with a stabilizing agent, and backfilling the fixed-soils into the excavated areas. Measures such as covers of clean soil or other capping mechanisms would be taken to protect the surface of the fixed soil from physical decomposition. Institutional controls

would be required to ensure that future land-use practices would be compatible with the fixed-soil. Based on information available at the time of the 1991 ROD, it was estimated that 15,000 cubic yards of soil would be subject to remediation.

The 1991 ROD specified cleanup standards for soil based on applicable or relevant and appropriate requirements (ARARs) and health protection criteria. The surface soil cleanup standards were based on potential health risks from inhalation and direct contact, assuming unrestricted Site use (e.g., residential use). The standards were set at 4 milligrams per kilogram (mg/kg) for hexavalent chromium and 2 mg/kg for arsenic, which corresponded to a  $1 \times 10^{-6}$  excess cancer risk. The cleanup standard set at 2 mg/kg for arsenic was at or below background concentrations in soil in the Site vicinity. The subsurface soil cleanup standards were based on the protection of groundwater from contaminated leachate from the soil. The cleanup standards were set at 5 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) for both arsenic and hexavalent chromium as measured in the leachate from the subsurface soil. Those levels were based on the Designated Level Methodology for characterizing wastes in soil prepared by the CVRWQCB in June 1989.

### 1994 Explanation of Significant Differences

EPA modified the groundwater remedial action on December 9, 1994, in an Explanation of Significant Differences (ESD). The ESD modified the groundwater cleanup plan by allowing *in-situ* groundwater treatment through a site-wide pilot study. The ESD also approved adding the technology to the groundwater remedy if the desired results of the pilot study were achieved. The *in-situ* treatment pilot study consisted of re-injecting a mixture of treated groundwater and reductant solution into the aquifer and saturated soil in order to reduce hexavalent chromium concentrations in subsurface soil and groundwater. The groundwater pilot study was developed and implemented in 1998 and was discontinued in 1999.

During the pilot study, VWP continued to operate the pump and treat system for groundwater consistent with the initial cleanup plan, but rather than just discharging the treated water into the infiltration ponds, VWP amended the treated water with calcium polysulfide (an ionic reductant) and also reinjected it into the groundwater through a series of injection wells. The added calcium polysulfide reductant reacted with the hexavalent chromium, *in-situ*, reducing it to trivalent chromium, the less toxic and less soluble form of chromium. Trivalent chromium precipitated out of the groundwater onto subsurface soil particles and remains in the subsurface at the Site, where it no longer poses a threat to groundwater quality.

Residual calcium polysulfide from the *in-situ* treatment mobilized arsenic and manganese, and also generated sulfate, temporarily and locally causing increased concentrations of these contaminants in groundwater beneath the Site and down gradient of the VWP property. These temporary and localized concentration increases were expected as part of the pilot study.

The *in-situ* treatment of hexavalent chromium effectively reduced concentrations in groundwater such that EPA determined in 2004 that the groundwater extraction system could be shut down in order to implement the soil remedial action.

### **2003 ROD Amendment #1**

On September 29, 2003, EPA issued a ROD Amendment modifying the cleanup plan for soil. The soil remedy initially selected in the ROD was to excavate the contaminated soil, fix and stabilize the hazardous substances with a stabilizing agent, and backfill the fixed soils into the excavated areas. The ROD Amendment revised the cleanup standards for soil consistent with the expected future industrial use of the property. It also revised the cleanup plan to require excavation and off-site disposal of contaminated soil that exceeded the revised cleanup standards. ROD Amendment #1 also included requirements for institutional controls to restrict residential use of the VWP property, including a zoning change and recording a restrictive covenant. The zone change was approved by the Stanislaus County Board of Supervisors in 2005 and the Land Use Covenant will be finalized in 2007. The Department of Toxic Substances Control developed the draft Land Use Covenant which is currently undergoing review. The final version of the LUC will be signed by VWP, EPA and DTSC and must be recorded with the Stanislaus County Recorders office.

### **C. Basis for ROD Amendment #2**

Under Section 117 of CERCLA, 42 U.S.C. § 9617, and pursuant to Section 300.435(c)(2)(ii) of the NCP, 40 CFR § 300.435(c)(2)(ii) (55 Fed. Reg. 8666, 8852 (March 1990)), EPA is required to issue a ROD Amendment when fundamental changes are made to a final remedial action plan as described in a ROD. EPA is making these changes to the ROD to: (1) address residual levels of groundwater contaminants; and (2) revise cleanup standards that are appropriate for the Site. Effective February 22, 2002, EPA revised the federal drinking water standard for arsenic from 50  $\mu\text{g/L}$  to 10  $\mu\text{g/L}$ . This ROD Amendment revises the arsenic cleanup goal to be consistent with the revised federal drinking water standard.

Contaminated groundwater represents the primary remaining source of risk at the site. Most of the groundwater contamination and soil contamination has been addressed through prior remedial actions. Hexavalent chromium and arsenic are the two primary constituents of concern that remain in groundwater at the Site. Contamination is confined to the Upper Saturated Zone. Three wells show hexavalent chromium concentrations exceeding the Total Chromium cleanup goal of 50  $\mu\text{g/L}$ . The concentrations in these wells are approximately 70  $\mu\text{g/L}$ . The impacted wells are located in the area immediately adjacent to the former wood treating area (see Figure 3).

Four wells show arsenic concentrations exceeding the current drinking water standard of 10  $\mu\text{g/L}$ . Arsenic concentrations in these wells range from approximately 150  $\mu\text{g/L}$  to



20  $\mu\text{g/L}$ . The four impacted wells are also located in the former wood treating area (two of the wells have both hexavalent chromium and arsenic impact). (See Figure 5).

In 2005, VWP prepared and submitted an arsenic background study titled, "Report on Lithological Implications of Background Concentrations of Arsenic in Groundwater." EPA, the CVRWQCB, and DTSC approved the report and reached general agreement with the conclusions of the report including:

- Background levels of arsenic in the upper oxidized zone and the confined aquifer appear to be below 10 micrograms/liter ( $\mu\text{g/L}$ ), and
- Background arsenic levels in the reduced zone appear to be between 15 and 25  $\mu\text{g/L}$  and that this zone has not been impacted by VWP wood-treating activities.

### C1. Summary of Alternatives

The following remedial alternatives were evaluated in the Focused Feasibility Study to address residual groundwater contamination at the Site (also see Table 1). The Focused Feasibility Study was prepared by Valley Wood Preserving at the direction of EPA. It was approved in March 2007.

1. **No Action** – Under this alternative, no further remedial action would be taken and no groundwater monitoring would be conducted.
2. **Monitored Natural Attenuation** – This alternative relies on natural processes (biological and/or geochemical) to clean up contamination in groundwater. This alternative includes a monitoring program to verify that the natural attenuation is occurring according to predictions and that cleanup standards are achieved.
3. **Additional *In-situ* Treatment and Monitored Natural Attenuation** – This alternative involves *in-situ* treatment of contaminated groundwater to address areas of contamination where concentrations of arsenic remain above cleanup standards. This alternative also relies on natural processes (biological or geochemical) in addition to the *in-situ* treatment to clean up arsenic and hexavalent chromium contamination in groundwater. This alternative includes a monitoring program to assess progress towards cleanup standards.

### D. Selected Remedy

This ROD Amendment #2 selects Alternative 3 - Additional *In-Situ* Treatment and Monitored Natural Attenuation - because it will achieve cleanup standards within the shortest period of time and will cost less than Alternative 2.

The remedial action will meet final Site cleanup standards for groundwater that are consistent with federal and state Maximum Contaminant Levels (MCLs) for drinking

water. The cleanup standard for Total Chromium (including hexavalent chromium) is 50  $\mu\text{g/L}$  (consistent with the California MCL for total chromium in drinking water). This ROD Amendment also revises the site cleanup goal for arsenic to 10  $\mu\text{g/L}$  for shallow groundwater where site impacts have been observed. This is consistent with the current federal MCL for arsenic. The cleanup goal for arsenic will be stricter than the original 1991 cleanup plan (at which time the federal MCL was 50 ppb). There is a deeper groundwater zone where no facility contamination has migrated, but where naturally-occurring arsenic concentrations are higher than the revised federal MCL, in the range of 20 to 25 ppb. This zone is not addressed by the selected cleanup plan because the elevated arsenic levels here are not caused by contamination from the Site. These naturally occurring arsenic levels are confined to a groundwater zone that is not used for drinking water.

In addition, the remedial action will include monitoring two additional constituents, sulfur and manganese, which were released as a by-product to the earlier *in-situ* pilot study. It is expected that the levels of these constituents will decrease to original concentrations within the timeframe of the remedial action.

## E. Remedial Action Objectives

The Remedial Action Objectives (RAOs) describe what the selected Site cleanup is expected to accomplish. The RAO for groundwater is to restore groundwater to its beneficial use within a reasonable time frame. The selected remedial action will address residual hexavalent chromium and arsenic in groundwater beneath the Site. Contaminated soil and most of the off-property contaminated groundwater have been addressed through prior remedial actions.

## F. Evaluation of Alternatives under NCP Criteria

Based on the information presented in the Focused Feasibility Study, EPA considered a limited range of alternatives to reduce the risk from potential exposure to contaminated groundwater. Each of the alternatives was compared against the nine criteria for evaluating alternatives established in the NCP.

### **Alternative 1 – No Action**

**Estimated Cost = \$0**

In this alternative, no further action is taken to clean up the groundwater at the Site and no groundwater monitoring would be conducted. EPA is required to consider a No Action alternative to serve as a baseline for comparison with other remedial alternatives. There is no cost associated with this alternative. It would provide the least overall protection to human health and the environment because EPA would not monitor any natural attenuation of contamination that may or may not occur. The No Action alternative does not meet EPA remedial action objectives and does not comply with either state or federal requirements.



**Alternative 2 – Monitored Natural Attenuation****Estimated Cost** = \$414,995 (Net present value at 8% discount rate)

This remedial alternative relies on natural processes (biological and geochemical) to clean up or attenuate contamination in groundwater. According to 1999 EPA guidance titled, "Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Use" (OSWER Directive 9200.4-17P) there are several requisite conditions that must be in effect for Monitored Natural Attenuation to be effective at the Site. These requisite conditions include: removal of contaminant sources and presence of natural attenuation capabilities in the sub-surface. These requisite conditions have been examined in greater detail in the Focused Feasibility Study and have been met.

VWP implemented the soil remedy in July 2004, which removed the source of arsenic and hexavalent chromium contamination through excavation and off-site disposal of contaminated soil. Natural attenuation capabilities appear to be present at the Site since hexavalent chromium and arsenic concentrations in groundwater have been declining with time (even after the termination of the pump and treat system in 2004).

This alternative requires continued groundwater monitoring to demonstrate that natural attenuation is occurring and to determine when cleanup standards have been achieved. The trend analysis included in the Focused Feasibility Study indicates that this alternative may take decades to achieve cleanup standards. The long time period is associated with reaching arsenic cleanup standards in the western area of the VWP property.

**Alternative 3 - Additional *In-situ* Treatment and Monitored Natural Attenuation****Estimated Costs** = \$299,740 (Net present value at 8% discount rate)

This alternative was the preferred alternative in the January 2007 Proposed Plan. Residual concentrations of arsenic in groundwater would be addressed using an *in-situ* treatment technology, followed by MNA. There are several different *in-situ* treatment options that may be appropriate for addressing arsenic in groundwater at the Site. Specific *in-situ* treatment will be evaluated through a Treatability Study conducted in the Remedial Design phase of the project. *In-situ* treatment options may include introducing oxygen into the aquifer to promote the adsorption of arsenic onto soil particles. Oxygen can also be introduced by air sparging and/or the use of calcium peroxide or sodium persulfate, a time-release form of oxygen addition. Additionally, substances specifically designed for arsenic cleanup can be added to the groundwater to permanently reduce the concentrations of arsenic.

The hexavalent chromium concentrations in groundwater are currently low enough that additional *in-situ* treatment is not necessary to achieve cleanup standards. Based on the evaluation in the Focused Feasibility Study, hexavalent chromium levels should continue to decrease through natural attenuation.

This remedial alternative also relies on monitored natural attenuation (described above) following *in-situ* treatment to meet cleanup standards. The trend analysis included in the Focused Feasibility Study shows that this alternative is expected to take approximately four years to meet cleanup standards.

## G. Nine NCP Criteria

To select a remedy, EPA uses the nine criteria set forth in the NCP and CERCLA Section 121 to evaluate each remediation alternative and compare them against each other. The nine evaluation criteria are:

1. Overall Protection of Human Health and the Environment
2. Compliance with ARARs
3. Long-term Effectiveness and Permanence
4. Reduction of Toxicity, Mobility, or Volume through Treatment
5. Short-term Effectiveness
6. Implementability
7. Cost
8. State Acceptance
9. Community Acceptance

Of the above criteria, numbers 1 and 2 are considered Threshold Criteria, denoting that both criteria must be met for a remedy to be considered. The criteria numbered 3 through 7 above are considered Primary Balancing Criteria, reflecting that they are used for further evaluating the remedial alternatives. The criteria numbered 8 and 9 are considered during the final remedy selection process. With an evaluation based upon these criteria, EPA's selected alternative is Alternative 3 - Additional *In-situ* Treatment and Monitored Natural Attenuation (see Table 1).

The Focused Feasibility Study for the Site dated January 19, 2007 provides a more detailed evaluation of each alternative with respect to seven of the nine criteria (state and community acceptance were not evaluated in the FFS). This ROD Amendment summarizes the detailed discussion covered by the Focused Feasibility Study.

Alternative 1 (No Action) provides the least protection to human health and the environment, does not meet state or federal requirements, and does not meet the remedial action objectives. Thus, Alternative 1 cannot be selected.

Alternative 2 (Monitored Natural Attenuation) and Alternative 3 (Additional *In-situ* Treatment and Monitored Natural Attenuation) can both be implemented to satisfy the Threshold Criteria (Overall Protection of Human Health and the Environment and Compliance with ARARs). Both Alternatives are protective of human health and the environment and both alternatives would comply with the ARARs. The ARARs for this remedial action include applicable provisions of the California Safe Drinking Water Act

and the Porter Cologne Water Quality Control Act (California Water Code), as implemented through the respective state regulations, among others (see Table 2).

Alternative 3 was selected by evaluating the balancing criteria (#3 through #7 above). Alternative 3 fully meets all of the evaluation criteria and is ranked higher than Alternative 2 because it is expected to achieve cleanup standards much sooner than Alternative 2 and is also expected to cost less than Alternative 2. EPA believes the preferred alternative is protective of human health and the environment and would result in meeting the groundwater remedial action objective for the Site, which is to restore groundwater to its beneficial uses within a reasonable time period.

Based on the information currently available, EPA believes that the Preferred Alternative, Alternative 3, meets the Threshold Criteria and meets, or exceeds, the other alternatives in terms of the Balancing Criteria. EPA expects the Preferred Alternative to satisfy the statutory requirements in CERCLA Section 121(b): 1) to be protective of human health and the environment; 2) to comply with state and federal guidelines and regulations; 3) to be cost effective; 4) to utilize permanent solutions and alternative treatment technologies to the maximum extent practicable; and 5) to satisfy the preference for treatment as a principal element.

## **H. Support Agency Acceptance**

EPA has consulted with the State of California regulatory agencies (DTSC and CVRWQCB) on the selected remedial alternative. The State Agencies concur with the selected remedial alternative and document State concurrence in a letter to EPA dated March 30, 2007.

## **I. Public Participation Activities**

EPA issued a Proposed Plan on February 7, 2007, and held a thirty-day public comment period from February 7 to March 8, 2007. A public meeting was held in Turlock on February 13, 2007, where EPA presented all of the alternatives and its preferred alternative. Members of the community had an opportunity to ask questions and comment. EPA provided this opportunity to encourage maximum public participation in the ROD Amendment process for the Site, as required by 40 C.F.R. § 300.435(c)(2)(ii). No comments from the community were received at the meeting or during the public comment period. Ten individuals attended the Public Meeting held on February 13, 2007 and several people asked questions. No one voiced significant concerns or objections to the proposed remedy.

## **J. Statutory Determinations**

EPA believes that the groundwater remedy as modified by this ROD Amendment remains fully protective of human health and the environment, complies with all state and federal requirements that are applicable or relevant and appropriate to this remedial

action, and is cost-effective. In addition, the groundwater remedy satisfies the statutory preference for remedies that employ treatment that permanently and significantly reduce toxicity, mobility, or volume of the hazardous substances located at a Site, consistent with Section 121(b)(1) of CERCLA, 42 U.S.C. § 9621(b)(1) (see Table 2).

## **PART 3: Responsiveness Summary**

A proposal for revising the groundwater cleanup remedy, termed the Valley Wood Preserving Superfund Site Proposed Plan (the Proposed Plan) was issued in February 2007. The Proposed Plan described the alternatives considered by EPA and identified EPA's preferred remedial alternative for residual groundwater cleanup at the Site. In accordance with Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. § 9617(a), EPA announced the public availability of the Proposed Plan in order to solicit input. Public comments were requested in writing from February 7, 2007 through March 8, 2007; however, it was emphasized that comments would also be accepted by mail, fax, or over the phone during that 30-day period. In addition, EPA held a public meeting on February 13, 2007 at the Veterans of Foreign Wars Hall in Turlock, California. The purpose of this public meeting was to discuss the Proposed Plan and answer questions about the alternatives considered, and provide an opportunity for public comments.

### **A. Stakeholder Comments and Responses**

No formal comments were received during the public comment period and no comments were recorded in the formal transcript of the public meeting. However, there were a few questions raised "off the record" during the public meeting, and those are summarized below, including EPA's responses.

Q: When will the site cleanup be complete?

A: Based upon using the groundwater remedy recommended in the Proposed Plan, the groundwater cleanup is expected to take four years and may require an additional year or two to be considered clean.

Q: I have some monitoring wells on my property that were installed as part of the groundwater remedy. When will VWP be able to abandon the wells?

A: VWP will submit a revised groundwater monitoring plan to EPA as a component of implementing the final groundwater remedy. At that time, EPA will evaluate abandoning certain monitoring wells, while keeping others that are necessary to monitor the results of the groundwater remedy.



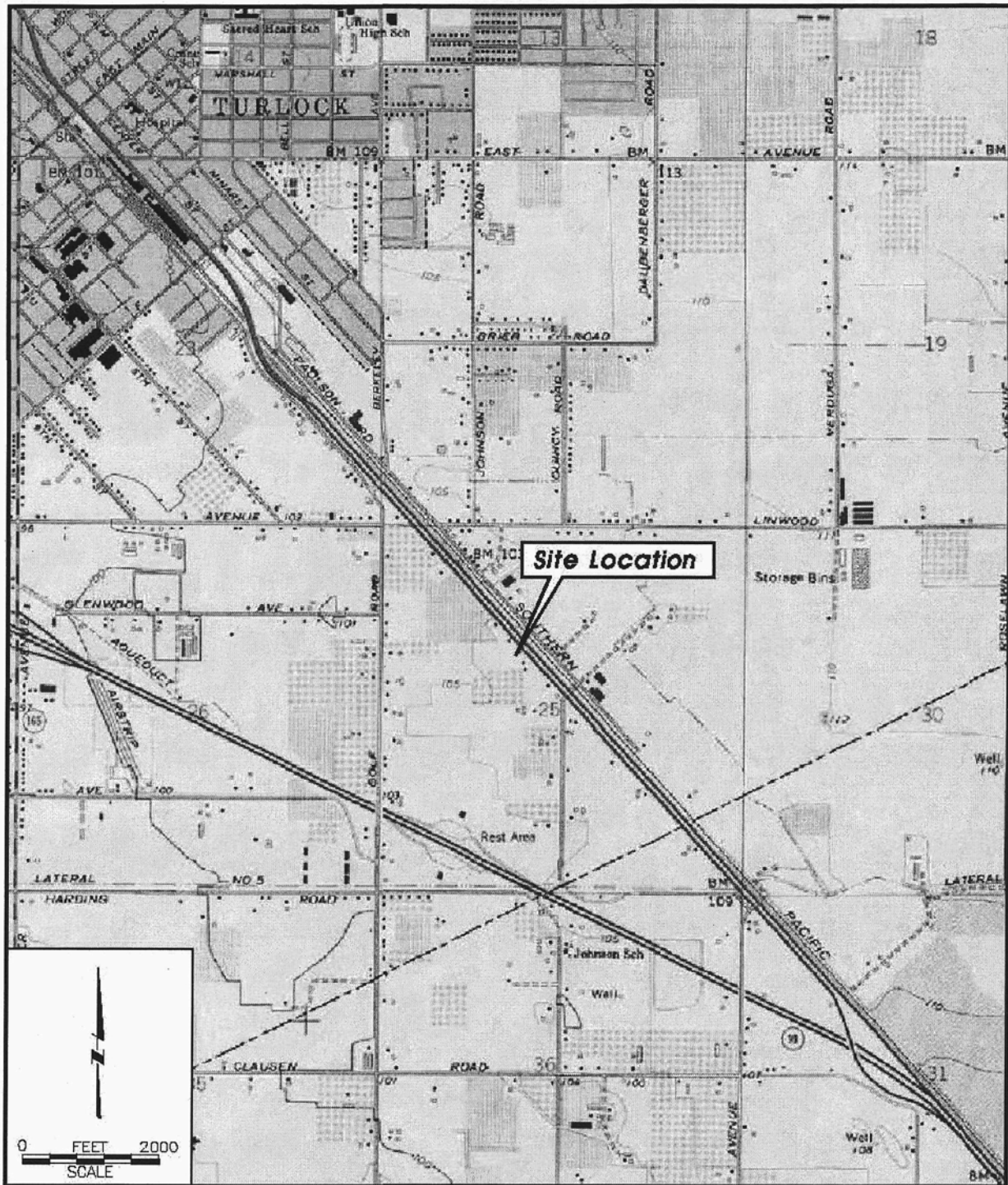
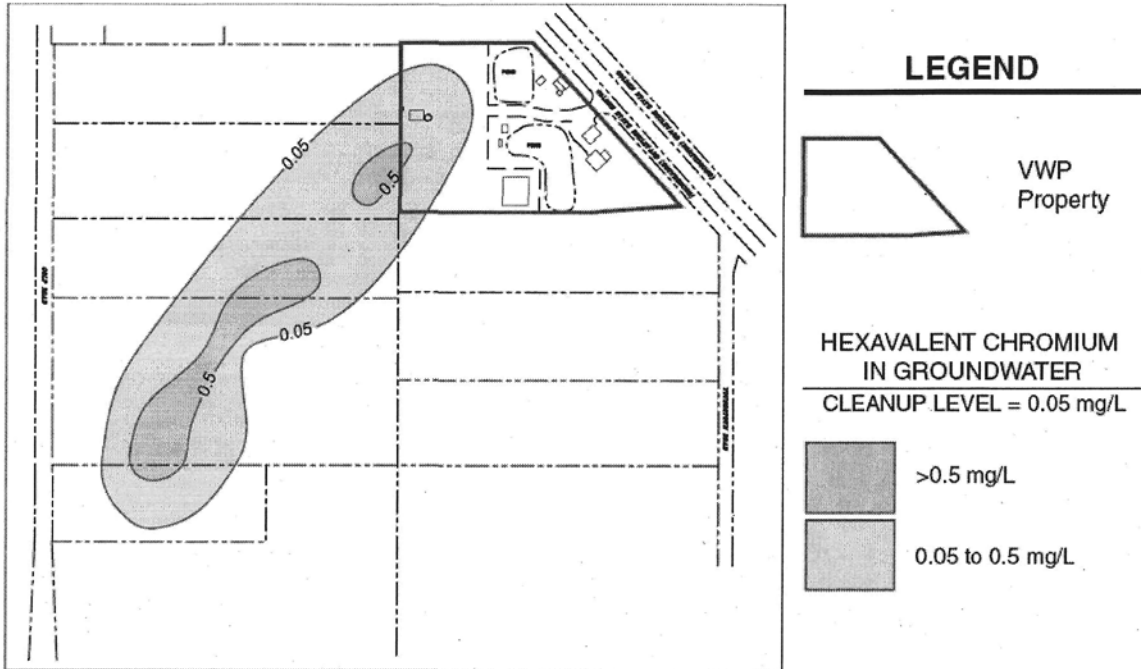


Figure 1: Site Location Map

Figure 2. Past Hexavalent Chromium Plume



Original hexavalent chromium contamination in groundwater  
January 1998

Figure 3. Present Hexavalent Chromium Plume

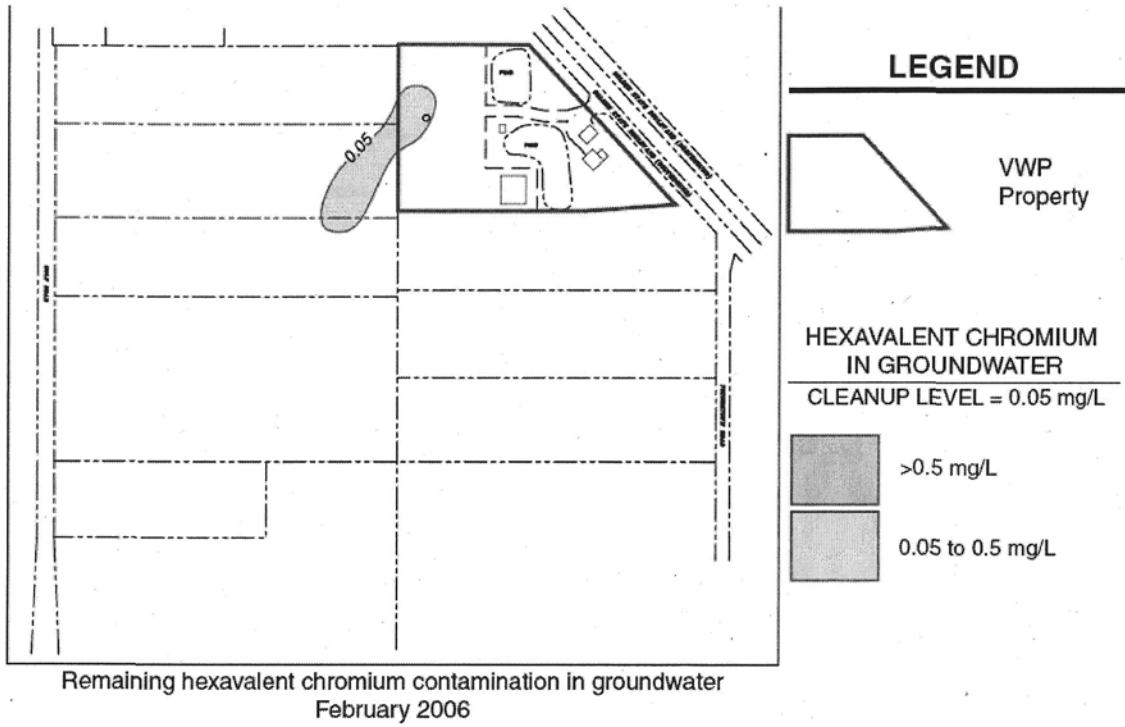




Figure 4. Past Arsenic Plume (Upper Saturated Zone)

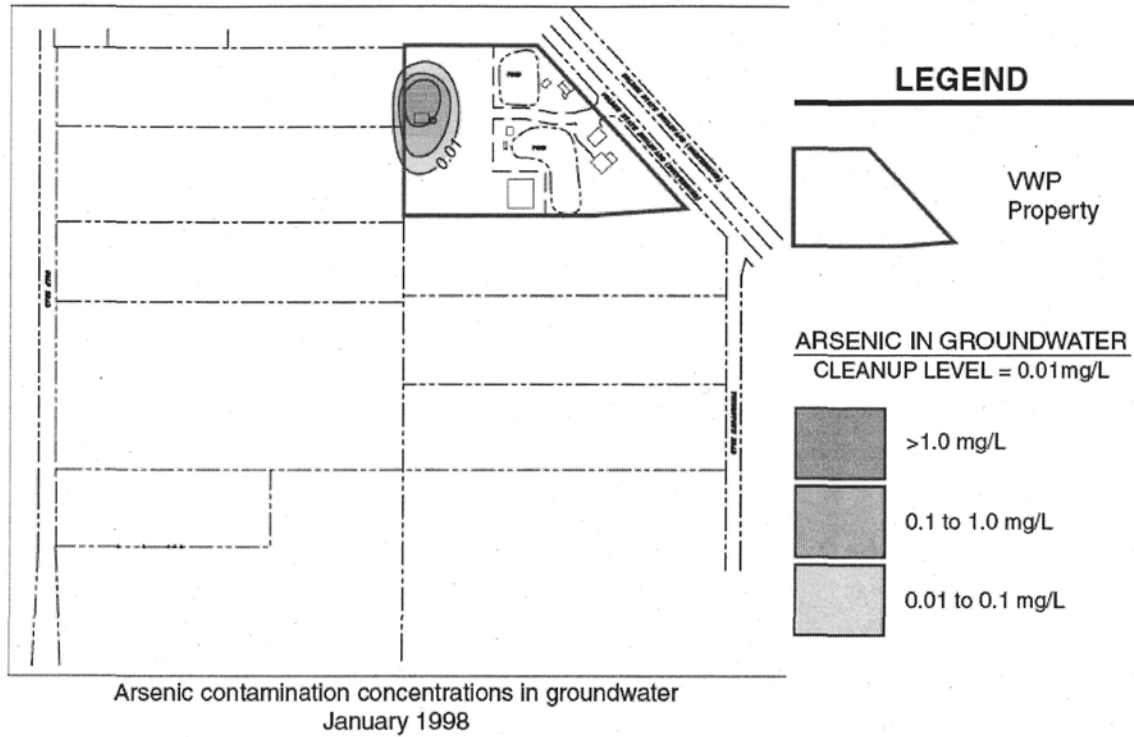
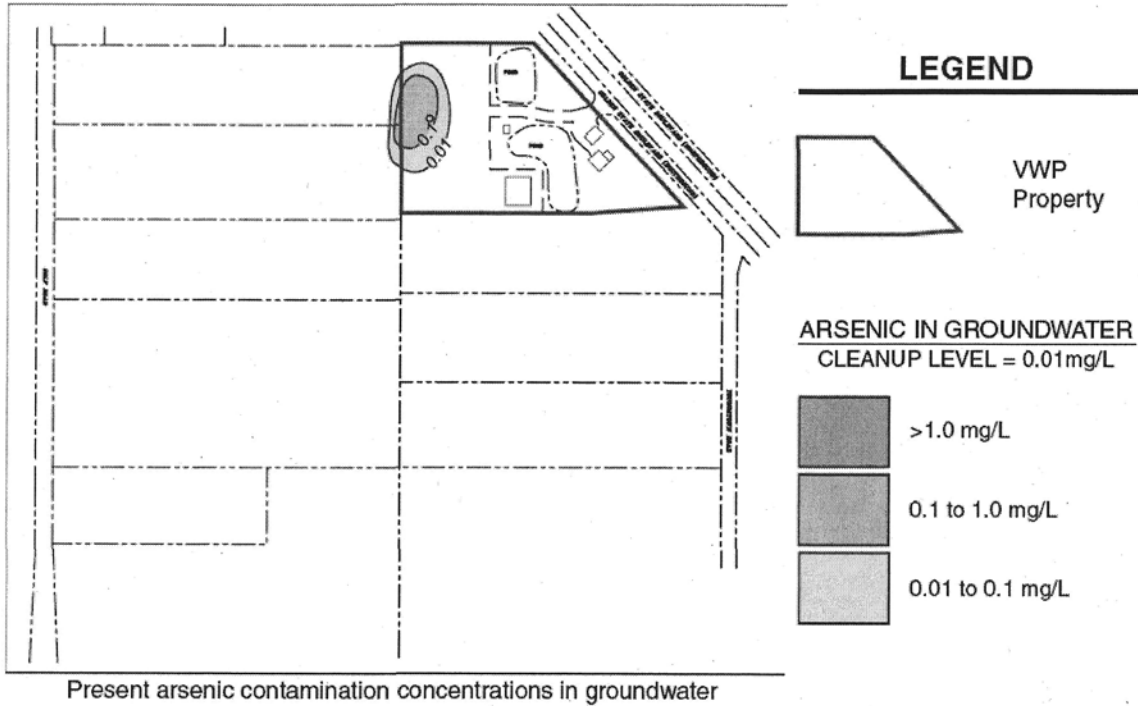


Figure 5. Present Arsenic Plume (Upper Saturated Zone)



**Table 1. Alternative Evaluation Table**

<b>Evaluation Criteria</b>	<b>Alternative 1 No Action</b>	<b>Alternative 2 Monitored Natural Attenuation</b>	<b>Alternative 3 Additional <i>In-situ</i> Treatment and Monitored Natural Attenuation</b>
Overall Protection of Human Health and the Environment	Does not meet criteria	Fully meets criteria	Fully meets criteria
Compliance with ARARs	Does not meet criteria	Fully meets criteria	Fully meets criteria
Long-term Effectiveness and Permanence	Does not meet criteria	Fully meets criteria	Fully meets criteria
Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment	Does not include any treatment	Does not meet criteria as MNA relies on natural processes to reduce toxicity, mobility, and volume, not treatment.	Fully meets criteria – Uses <i>In-situ</i> treatment to reduce mobility of arsenic
Short-term Effectiveness	Does not meet criteria	Partially meets criteria	Fully meets criteria
Implementability	No implementability issues	Fully meets criteria	Fully meets criteria
Cost	\$0	\$414,995	\$299,740
State Acceptance	The State Agencies concur with the selected remedy and submitted a concurrence letter to EPA on March 30, 2007.		
Community Acceptance	No comments were received opposing the proposed remedy during the public comment period. Additionally, no comments were received recommending a different alternative.		

**Table 2. Applicable or Relevant & Appropriate Requirements**

Standard, Requirement, Criteria or Limitation	Citation	Category (Applicable, Relevant & Appropriate)	Description	Comments
California Safe Drinking Water Act, Title 22, CCR 64400 et. Seq.	California Health & Safety Code, Sections 4010 et. Seq.	Relevant & Appropriate	Requirements for public water systems. Includes Maximum Contaminant Level (MCL) for Chromium of 50 ug/L which is more stringent than the federal MCL.	Groundwater sources beneath the site are not statutorily excluded from use as a "public water system" therefore this citation is relevant and appropriate to the groundwater remedies examined in the FFS.
RWQCB, CVR (Basin Plan), "Policy for Investigation and Cleanup of Contaminated Sites."	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Establishes and describes policy for investigation and remediation of contaminated sites. Also includes implementation actions for setting groundwater and soil cleanup levels.	Cleanup levels for chemicals of potential concern should be compared to those that will not exceed applicable groundwater quality objectives
RWQCB, CVR Basin Plan, "Policy for Application of Water Quality Objectives."	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	This policy defines water quality objectives and explains how the RWQCB applies numerical and narrative water quality objectives to ensure the reasonable protection of beneficial uses of water and how the RWQCB applies Resolution No. 68-16 to promote the maintenance of existing high quality waters.	Applicable to cleanups where releases (or discharges) may affect water quality.
State Water Resources Control Board Resolution No. 68-16 ("Antidegradation Policy")	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Requires that high quality surface and groundwater be maintained to the maximum extent possible. Degradation of waters will be allowed (or allowed to remain) only if it is consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality less than that prescribed in RWQCB and SWRCB policies. If degradation is allowed, the discharge must meet best practicable treatment or control, which must prevent pollution or nuisance and result in the highest water quality consistent with the maximum benefit to the people of the state.	Applicable, establishes that the remaining contaminants will not be degrade the quality of the waters of the state of California, unless degradation is consistent with the maximum benefit of the people of the state. In no case may water quality objectives be exceeded. Where degradation is not remedied, the Board may not concur with the ROD.
State Water Resources Control Board Resolution No. 92-49 (As amended April 21, 1994)	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Establishes policies and procedures applicable to all investigations, and cleanup and abatement activities, for all discharges which affect or threaten water quality.	Applies to all cleanups of discharges that may affect water quality.
State Water Resources Control Board Resolution No. 88-63 ("Sources of Drinking Water Policy") (as contained in the RWQCB's Water Quality Control Plan)	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Specifies that, with certain exceptions, all ground and surface waters have the beneficial use of municipal or domestic water supply.	Applies to groundwater response actions as the RWQCB considers all groundwater in the state a potential municipal or drinking water source.
Federal Maximum Contaminant Level for Arsenic	Safe Drinking Water Act and implementing regulations (40CFR Part 141)	Applicable	The Federal MCL for arsenic is 10 micrograms per liter (ug/L)	The Arsenic Rule (66 Fed. Reg. 6976) was published on January 22, 2001

**Table 3. Chemical-Specific Groundwater Cleanup Standards**

<u>Constituent of Concern</u>	<u>Maximum Contaminant Level</u>
Total Chromium (including hexavalent chromium)	50 micrograms per liter ( $\mu\text{g/L}$ ) <sup>1</sup>
Arsenic	10 $\mu\text{g/L}$ <sup>2</sup>

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<sup>1</sup> The chromium cleanup goal of 50  $\mu\text{g/L}$  is the California primary drinking water MCL for total chromium since no specific drinking water standard for hexavalent chromium currently exists.

<sup>2</sup> The cleanup goal for arsenic in the shallow and deeper confined aquifer of 10  $\mu\text{g/L}$  is the new federal drinking water maximum contaminant level (MCL). The 1991 ROD originally specified a cleanup goal of 16  $\mu\text{g/L}$  based on Site background (at that time, the MCL for arsenic was 50  $\mu\text{g/L}$ ). The EPA-approved report *Lithological Implications of Background Concentrations of Arsenic in Groundwater* (MWH, 2005) provides the basis for new background determinations for arsenic depending on the aquifer zone due to natural redox variations. In particular, background for arsenic is in the range of 0.015 to 0.025 mg/L in the naturally-reduced aquitard separating the upper saturated zone, or shallow aquifer, and the deeper confined aquifer.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

MEMORANDUM

**To:** Elizabeth Adams  
Chief, Site Cleanup Branch  
Superfund Division

**From:** Dana Barton *Dana Barton*  
Remedial Project Manager  
*KS*  
Sara Goldsmith  
Staff Attorney

**Date:** March 30, 2007

**Re:** Amendment #2 to the Record of Decision  
Valley Wood Preserving Site  
Turlock, Stanislaus County, California


This memorandum transmits the Amendment #2 to the Record of Decision for the Valley Wood Preserving Superfund Site. This ROD Amendment modifies the previously selected groundwater remedy for treating contaminated groundwater at the Valley Wood Preserving Superfund Site. These revisions affect both the groundwater cleanup standards and cleanup methodology selected in the 1991 ROD and revisions.

The groundwater remedy outlined in this ROD Amendment provides for: a) *in-situ* treatment to address residual levels of arsenic contamination in groundwater beneath and downgradient of the Site, b) monitored natural attenuation to address residual hexavalent chromium, any remaining levels of arsenic following the *in-situ* treatment, and secondary contaminants generated by the *in-situ* treatment, and c) a revised cleanup goal of 10 micrograms per liter ( $\mu\text{g/L}$ ) for arsenic in groundwater impacted by Site activities.

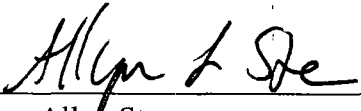
EPA has consulted with the State of California regulatory agencies (DTSC and CVRWQCB) on the selected remedial alternative. The State Agencies concur with the

selected remedial alternative and document State concurrence in a letter to EPA dated March 30, 2007.


EPA issued a Proposed Plan on February 7, 2007, and held a thirty-day public comment period from February 7 to March 8, 2007. A public meeting was held in Turlock on February 13, 2007, where EPA presented all of the alternatives and its preferred alternative. Members of the community had an opportunity to ask questions and comment. EPA provided this opportunity to encourage maximum public participation in the ROD Amendment process for the Site, as required by 40 C.F.R. § 300.435(c)(2)(ii). No comments from the community were received at the meeting or during the public comment period. Ten individuals attended the Public Meeting held on February 13, 2007 and several people asked questions. No one voiced significant concerns or objections to the proposed remedy.

CONCUR:   
Lewis Maldonado  
Section Chief

DATE: 3/30/07

CONCUR:   
Allyn Stern  
Branch Chief

DATE: 3/30/07

CONCUR:   
Frederick Schauffler  
Superfund Section Chief

DATE: 3/30/07

## **APPENDIX B**

### **SOW**



STATEMENT OF WORK  
for  
Remedial Design and Remedial Action (RD/RA)  
Valley Wood Preserving Superfund Site

This Statement of Work (“SOW”) describes Remedial Design and Remedial Action (“RD/RA”) activities to be performed by Settling Defendant at the Valley Wood Preserving Superfund Site (“Site”) pursuant to the Consent Decree. Settling Defendant shall furnish all necessary and appropriate personnel, materials and services needed for, or incidental to, performing and completing the Work.

A Record of Decision (“ROD”) was signed on September 27, 1991 to select soil and groundwater remedies for the Site, and was later amended. ROD Amendment #2, signed on March 30, 2007, modified the original groundwater remedy. Settling Defendant has implemented soil and groundwater cleanup activities at the Site. All remedial actions have been completed with the exception of the monitored natural attenuation (“MNA”) phase of the final groundwater remedy.

The following documents were approved by EPA for the amended groundwater remedy: Groundwater Remedial Design and Remedial Action Work Plan (“RD/RA Work Plan”); Revised Results of Treatability Study and In Situ Treatment Work Plan; and Final Remedial Design Part 2: MNA - Revised Groundwater Monitoring Plan (“GMP”).

Future groundwater remedial action consists of continued groundwater sampling for MNA until cleanup standards have been met in all Site wells. In the event the Settling Defendant elects to implement *in situ* groundwater treatment in selected wells to reduce the MNA timeframe, Settling Defendant shall submit the Contingent Deliverables and conduct the Contingent Activities as specified below. As part of the remedy, Settling Defendant is required to submit an annual Land Use Covenant (LUC) inspection report to the State and EPA.

Settling Defendant shall submit electronic copies of additional reports and other deliverables for EPA and state review, and EPA approval, as specified below. This SOW for future remedial activities at the Site takes into account the nature of the final remedial action and the fact that several deliverables have already been submitted. Limited updates are expected to be needed for existing approved plans.

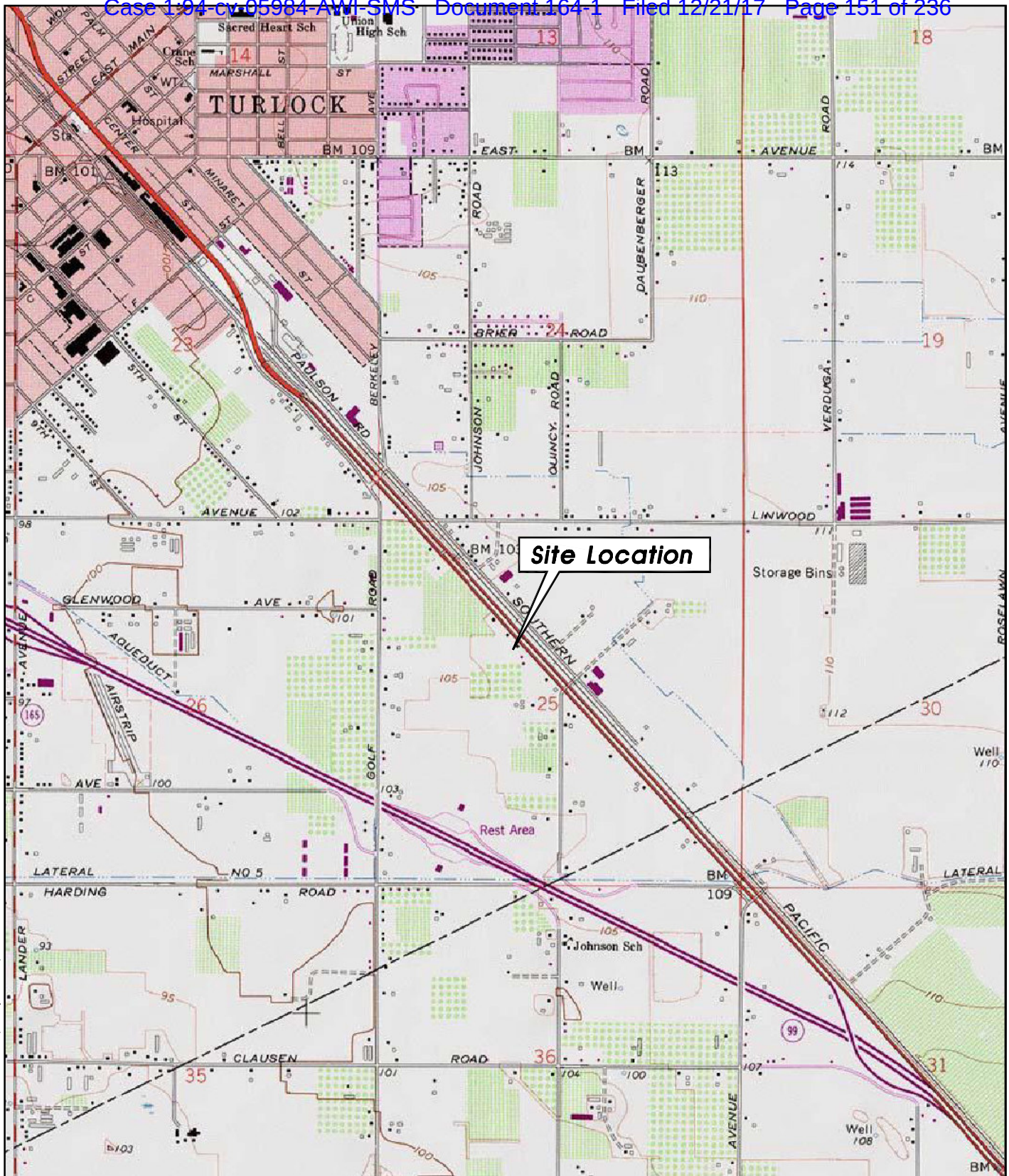
**Major Deliverables or Activities and Schedule**

<b>Deliverable or Activity</b>	<b>Due Date</b>
Conduct Groundwater Monitoring	Per approved GMP, as revised
Bi-Monthly Report of Site Activities	Every two months
Annual Groundwater Monitoring Report	March of each year
Annual Land Use Covenant Inspection and Report	January of each year
Groundwater Monitoring Plan Update (as necessary)	To be determined (TBD)
Health and Safety Plan Update (as necessary)	TBD
Well Abandonment Work Plan	TBD
Conduct Well Abandonment	TBD
Well Abandonment Completion Report	TBD
Final Remedial Action Report	TBD
<b>Contingent Deliverable or Activity for Additional <i>In Situ</i> Groundwater Remediation</b>	
RD/RA Work Plan Update	TBD
Groundwater Monitoring Plan Update	TBD
Health and Safety Plan Update	TBD
Conduct <i>In Situ</i> Groundwater Treatment	TBD
<i>In Situ</i> Groundwater Remediation Completion Report	TBD

## **APPENDIX C**

### **Site Map**

FILE: cod\_mhuebke\_valleywood\_SLMAP\_6\_04  
JOB No.



Site Location



VALLEY WOOD PRESERVING, INC.  
TURLOCK, CA

**SITE LOCATION MAP**

0 FEET 2000  
SCALE



Figure 1: Valley Wood Preserving Site Location.

## **APPENDIX D**

### **Performance Guarantee**



**TRUST AGREEMENT**

Valley Wood Preserving, Inc. Superfund Site

Dated: \_\_\_\_\_, 2016

This Trust Agreement (the “Agreement”) relating to [**insert trustee-provided trust account number**] is entered into as of \_\_\_\_\_, 2016 between Valley Wood Preserving, Inc., a California corporation (the “Grantor”), and [**insert name of trustee**], [**insert as appropriate: “incorporated in the state of [insert name of state]” or “a national bank”**] (the “Trustee”).

**Whereas**, the United States Environmental Protection Agency (EPA) and the Grantor have entered into a Consent Decree dated \_\_\_\_\_, 2016, Civil Action Number 1:94-CV-5984 AWI SMS (hereinafter, the “Settlement Agreement”), pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601-9675;

**Whereas**, the Settlement Agreement provides that the Grantor shall provide assurance that funds will be available as and when needed for performance of the Work required by the Settlement Agreement;

**Whereas**, in order to provide such financial assurance, Grantor has agreed to establish and fund the trust created by this Agreement; and

**Whereas**, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee has agreed to act as trustee hereunder.

**Now, therefore**, the Grantor and the Trustee agree as follows:

**Section 1. Definitions. As used in this Agreement:**

(a) The term “Agreement” shall have the meaning assigned thereto in the first paragraph of this Agreement.

(b) The term “Beneficiary” shall have the meaning assigned thereto in Section 3 of this Agreement.

(c) The term “CERCLA” shall have the meaning assigned thereto in the second paragraph of this Agreement.

(d) The term “Claim Certificate” shall have the meaning assigned thereto in Section 4(a) of this Agreement.

(e) The term “EPA” shall have the meaning assigned thereto in the second paragraph of this Agreement.

(f) The term “Fund” shall have the meaning assigned thereto in Section 3 of this Agreement.

(g) The term “Grantor” shall have the meaning assigned thereto in the first paragraph of this Agreement, along with any successors or assigns of the Grantor.

(h) The term “Objection Notice” shall have the meaning assigned thereto in Section 4(b) of this Agreement.

(i) The term “Settlement Agreement” shall have the meaning assigned thereto in the second paragraph of this Agreement.

(j) The term “Site” shall have the meaning assigned thereto in Section 2 of this Agreement.

(k) The term “Trust” shall have the meaning assigned thereto in Section 3 of this Agreement.

(l) The term “Trustee” shall mean the trustee identified in the first paragraph of this Agreement, along with any successor trustee appointed pursuant to the terms of this Agreement.

(m) The term “Work” shall have the meaning assigned thereto in the Settlement Agreement.

(n) The term “Work Takeover” shall have the meaning assigned thereto in the Settlement Agreement.

**Section 2. Identification of Site and Cost Estimate.** This Agreement pertains to costs for Work required at the Valley Wood Preserving, Inc., Superfund Site in the unincorporated area of Stanislaus County, California, and near the City of Turlock (the “Site”), pursuant to the Settlement Agreement.

**Section 3. Establishment of Trust Fund.** The Grantor and the Trustee hereby establish a trust (the “Trust”), for the benefit of EPA (the “Beneficiary”), to ensure that funds are available to pay for performance of the Work in accordance with the terms of the Settlement Agreement. The Grantor and the Trustee intend that no third party shall have access to monies or other property in the Trust except as expressly provided herein. The Trust is established initially as consisting of cash and/or cash equivalents in the amount of \$303,940.00, which is acceptable to the Trustee and described in Schedule A attached hereto. Such funds, along with any other cash and/or cash equivalents hereafter deposited into the Trust, and together with all earnings and profits thereon, are referred to herein collectively as the “Fund.” The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor,

any payments necessary to discharge any liabilities of the Grantor owed to the United States.

**Section 4. Payment for Work Required Under the Settlement Agreement.**

The Trustee shall make payments from the Fund in accordance with the following procedures.

(a) From time to time, the Grantor and/or its representatives or contractors may request that the Trustee make payment from the Fund for Work performed under the Settlement Agreement by delivering to the Trustee and EPA a written invoice and certificate (together, a “Claim Certificate”) signed by an officer of the Grantor (or the relevant representative or contractor). Any Claim Certificate should be in a form substantially identical to the sample provided in Exhibit A and, at a minimum, should:

- (i) Include a certification that the invoice is for Work performed at the Site in accordance with the Settlement Agreement;
- (ii) Describe the Work that has been performed;
- (iii) Specify the amount of funds requested from the Trust; and
- (iv) Identify the payee(s) of the funds request.

(b) EPA may object to any payment requested in a Claim Certificate submitted by the Grantor (or its representatives or contractors), in whole or in part, by delivering to the Trustee a written notice (an “Objection Notice”) within 30 days after the date of EPA’s receipt of the Claim Certificate as shown on the relevant return receipt. An Objection Notice sent by EPA shall state (i) whether EPA objects to all or only part of the payment requested in the relevant Claim Certificate; (ii) the basis for such objection, (iii) that EPA has sent a copy of such Objection Notice to the Grantor and the date on which such copy was sent; and (iv) the portion of the payment requested in the Claim Certificate, if any, which is not objected to by EPA. EPA may object to a request for payment contained in a Claim Certificate only on the grounds that the requested payment is either (x) not for the costs of Work under the Settlement Agreement or (y) otherwise inconsistent with the terms and conditions of the Settlement Agreement.

(c) If the Trustee receives a Claim Certificate and does not receive an Objection Notice from EPA within the time period specified in Section 4(b) above, the Trustee shall, after the expiration of such time period, promptly make the payment from the Fund requested in such Claim Certificate.

(d) If the Trustee receives a Claim Certificate and also receives an Objection Notice from EPA within the time period specified in Section 4(b) above, but which Objection Notice objects to only a portion of the requested payment, the Trustee shall, after the expiration of such time period, promptly make payment from the Fund of

the uncontested amount as requested in the Claim Certificate. The Trustee shall not make any payment from the Fund for the portion of the requested payment to which EPA has objected in its Objection Notice.

(e) If the Trustee receives a Claim Certificate and also receives an Objection Notice from EPA within the time period specified in Section 4(b) above, which Objection Notice objects to all of the requested payment, the Trustee shall not make any payment from the Fund for amounts requested in such Claim Certificate.

(f) If, at any time during the term of this Agreement, EPA implements a "Work Takeover" pursuant to the terms of the Settlement Agreement and intends to direct payment of monies from the Fund to pay for performance of Work during the period of such Work Takeover, EPA shall notify the Trustee in writing of EPA's commencement of such Work Takeover. Upon receiving such written notice from EPA, the disbursement procedures set forth in Sections 4(a)-(e) above shall immediately be suspended for costs of Work taken over by EPA, and the Trustee shall thereafter make payments from the Fund only to such person(s) as the EPA may direct in writing from time to time for the sole purpose of providing payment for performance of Work required by the Settlement Agreement. Further, after receiving such written notice from EPA, the Trustee shall not make any disbursements to Grantor for costs of Work taken over by EPA from the Fund at the request of the Grantor, including its representatives and/or contractors, or of any other person except at the express written direction of EPA. If EPA ceases such a Work Takeover in accordance with the terms of the Settlement Agreement, EPA may so notify the Trustee in writing and, upon the Trustee's receipt of such notice, the disbursement procedures specified in Sections 4(a)-(e) above shall be reinstated.

(g) While this Agreement is in effect, disbursements from the Fund are governed exclusively by the express terms of this Agreement. Resolution of disputes relative to objections to disbursements shall be governed by the dispute resolution provisions of the Settlement Agreement.

**Section 5. Trustee Management.** The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with directions which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge its duties with respect to the Trust solely in the interest of the Beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(a) securities, notes, and other obligations of any person or entity shall not be acquired or held by the Trustee with monies comprising the Fund, unless they are securities, notes, or other obligations of the United States federal government or any United States state government or as otherwise permitted in writing by EPA;



(b) the Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent such deposits are insured by an agency of the United States federal or any United States state government; and

(c) the Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

**Section 6. Commingling and Investment.** The Trustee is expressly authorized in its discretion to transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions hereof and thereof, to be commingled with the assets of other trusts participating therein.

**Section 7. Express Powers of Trustee.** Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) to make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(b) to register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States federal government or any United States state government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund; and

(c) to deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the United States federal government.

**Section 8. Taxes and Expenses.** All taxes of any kind that may be assessed or levied against or in respect of the Fund shall be paid from the Fund. All other expenses and charges incurred by the Trustee in connection with the administration of the Fund and this Trust shall be paid by the Grantor.

**Section 9. Annual Valuation.** The Trustee shall annually, no more than 30 days after the anniversary date of establishment of the Fund, furnish to the Grantor and to the

Beneficiary a statement confirming the value of the Trust. The annual valuation shall include an accounting of any fees or expenses levied against the Fund. The Trustee shall also provide such information concerning the Fund and this Trust as EPA may request from time to time.

**Section 10. Advice of Counsel.** The Trustee may from time to time consult with counsel with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder; provided, however, that any counsel retained by the Trustee for such purposes may not, during the period of its representation of the Trustee, serve as counsel to the Grantor.

**Section 11. Trustee Compensation.** The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing with the Grantor and as notified in writing to the Beneficiary; provided, however, that the Trustee shall have minimal duties and shall be entitled to minimal compensation, if any, for time periods in which the Trustee does not make payments from the Fund for Work performed under the Settlement Agreement.

**Section 12. Trustee and Successor Trustee.** The Trustee and any replacement Trustee must not be affiliated with the Grantor. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts such appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the cash and/or cash equivalents then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the Fund and the Trust in a writing sent to the Grantor, the Beneficiary, and the present Trustee by certified mail no less than 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 8.

**Section 13. Instructions to the Trustee.** All orders, requests, and instructions to the Trustee shall be in writing, signed by such persons as are empowered to act on behalf of the entity sending such orders, requests, and instructions to the Trustee, including those designated in the attached Exhibit B or such other designees as the Grantor may designate by amendment to Exhibit B. The Trustee shall be fully protected in acting without inquiry on such written instructions given in accordance with the terms of this Agreement. The Trustee shall have no duty to act in the absence of such written instructions, except as expressly provided for herein.

**Section 14. Amendment of Agreement.** This Agreement may be amended by an instrument in writing executed by the Grantor and the Trustee, and with the prior written consent of EPA, or by the Trustee and EPA if the Grantor ceases to exist.

**Section 15. Irrevocability and Termination.** This Trust shall be irrevocable and shall continue until terminated upon the earlier to occur of (a) the written direction of EPA to terminate, consistent with the terms of the Settlement Agreement and (b) the complete exhaustion of the Fund comprising the Trust as certified in writing by the Trustee to EPA and the Grantor. Upon termination of the Trust pursuant to Section 15(a), all remaining Trust property (if any), less final Trust administration expenses, shall be delivered to the Grantor.

**Section 16. Immunity and Indemnification.** The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or EPA issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct made by the Trustee in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

**Section 17. Choice of Law.** This Agreement shall be administered, construed, and enforced according to the laws of the state of California.

**Section 18. Interpretation.** As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

**Section 19. Notices.** All notices and other communications given under this Agreement shall be in writing, identify the Site, provide a contact person (and contact information), and be addressed to the parties as follows or to such other address as the parties shall by written notice designate:

(a) If to the Grantor, to Mr. Thomas Pike, Attorney, C/O Environmental Liability Transfer, Inc., 1650 Des Peres Road, Ste. 303, St. Louis, MO 63131, PH: 314-835-2801, [tpike@cdcco.com](mailto:tpike@cdcco.com).

(b) If to the Trustee, to **[insert name(s), title(s), address(es), and contact information (phone number(s), email address(es), etc.)]**.

(c) If to EPA, to **[insert name(s), title(s), address(es), and contact information (phone number(s), email address(es), etc.) of appropriate EPA official/staff (e.g., Superfund Division Director, Remedial Project Manager, and/or Office of Regional Counsel contact)]**.

**Section 20. Other.** The Grantor shall provide a copy of the Settlement Agreement to the Trustee, and the Grantor shall submit an originally-signed duplicate of the executed Agreement to EPA.

**In Witness Whereof**, the parties hereto have caused this Agreement to be executed by their respective officers duly authorized and attested as of the date first above written:

**FOR THE GRANTOR:**

Date: \_\_\_\_\_ By [signature]: \_\_\_\_\_  
Printed name: \_\_\_\_\_  
Title: \_\_\_\_\_

State of [insert state]  
County of [insert county]

On this [insert date], before me personally came [insert name of PRP/Settling Defendant's signatory] to me known, who, being by me duly sworn, did depose and say that she/he is [insert title] of [insert name of PRP/Settling Defendant], the entity described in and which executed the above instrument; and that she/he signed her/his name thereto.

\_\_\_\_\_  
[Signature of Notary Public]

**FOR THE TRUSTEE:**

Date: \_\_\_\_\_ By [signature]: \_\_\_\_\_  
Printed name: \_\_\_\_\_  
Title: \_\_\_\_\_

State of [insert state]  
County of [insert county]

On this [insert date], before me personally came [insert name of Trustee's signatory] to me known, who, being by me duly sworn, did depose and say that she/he is [insert title] of [insert name of Trustee], the entity described in and which executed the above instrument; and that she/he signed her/his name thereto.

\_\_\_\_\_  
[Signature of Notary Public]

**Schedule A**  
**Initial Trust Funding**

<b>DATE</b>	<b>FUNDING VALUE FOR WORK</b>
[Insert relevant initial date (e.g., within 30 days of the Effective Date of the settlement)]	[Insert initial funding amount]

**Exhibit A**  
**Sample Claim Certificate**

[Insert date]

[Insert Trustee's name pursuant to trust agreement's preamble]

[Insert Trustee's address pursuant to Section [19(b)] of trust agreement]

[Insert authorized EPA official pursuant to Sections [19(c)] of trust agreement]

[Insert address pursuant to Sections [19(c)] of trust agreement]

Re: Request for payment from the Trust **[insert trust account number or other identifying information]** established as financial assurance for the **[insert site name]** Site

Dear **[insert name of Trustee and authorized EPA official]**:

Pursuant to Section [4(a)] of the subject trust, the Grantor (as defined therein) and/or its representatives or contractors are authorized to request that the Trustee (as defined therein) make payment from the trust for Work (as defined therein) performed under the Settlement Agreement (as defined therein) by delivering to the Trustee and EPA (as defined therein) a written request for payment signed by an officer of the requesting entity. By this letter, **[insert requesting entity]** requests payment from the trust. The bases for the payment request are more fully described below.

1. Certification: **[insert certification from officer of requesting entity that the request is submitted for Work performed in accordance with the Settlement Agreement]**.
2. Description of Applicable Work: **[insert description of the Work that has been performed]**.
3. Amount of Payment Request: **[insert amount of funds requested from trust]**.
4. Proposed Payee: **[insert identification of payee(s) of the funds requested]**.

Please let me know if you have any questions. I can be reached at **[insert telephone number and email address]**.

Sincerely,

---

**[insert name of officer of the requesting entity]**  
**[insert address of the requesting entity]**

[cc: **[Insert other EPA staff to receive payment requests pursuant to Section [19(c)] of trust agreement]]**

**Exhibit B**  
**Grantor-Designated Individuals Authorized for Orders, Requests, and  
Instructions**

**[Grantor to insert person(s) (and relevant contact information) designated to provide/make orders, requests, and instructions to the Trustee pursuant to Section [13] of trust agreement]**

## **APPENDIX E**

### **RD/RA Work Plan**



**GROUNDWATER REMEDIAL DESIGN  
and REMEDIAL ACTION (RD/RA) WORK  
PLAN**

**September 13, 2007**

**Final Groundwater Remedy**

**Valley Wood Preserving, Inc.**

**Turlock, California**

## I Introduction

This Groundwater Remedial Design/Remedial Action Work Plan (the “Work Plan”) describes the activities Valley Wood Preserving, Inc. (“VWP”) will perform to implement the Remedial Design, Remedial Action, and Operation and Maintenance at the VWP property located at 2237 South Golden State Boulevard, Turlock, CA (the “Site”), in accordance with the Valley Wood Preserving Record of Decision Amendment #2 (ROD Amendment #2), dated March 30, 2007. This Work Plan is to be implemented pursuant to the Unilateral Administrative Order issued by the U.S. Environmental Protection Agency (EPA) on September 30, 2007 (the “VWP Groundwater UAO”).

The final groundwater remedy to be implemented by this Work Plan addresses residual groundwater contamination beneath and downgradient of the Site. The chemicals of concern in the groundwater are hexavalent chromium and arsenic. See the Focused Feasibility Study (“FFS”), dated January 19, 2007 (MWH 2007a) and the ROD Amendment #2 for more detailed information.

EPA is the lead Agency for the final remedial action. The California Department of Toxic Substances Control (DTSC) is the lead support agency for the State of California.

## II Summary of Previous Site Remedial Actions

EPA selected initial cleanup plans for soil and groundwater for the Site in the Record of Decision dated September 27, 1991. The groundwater cleanup plan involved extracting contaminated groundwater, treating it above-ground with an electrochemical process to reduce the hexavalent chromium to trivalent chromium (a non-toxic, less mobile form of chromium). The treated groundwater was discharged into infiltration ponds on the Site, where the water percolated back into the subsurface.

EPA modified the groundwater remedial action on December 9, 1994, in an Explanation of Significant Differences (ESD). The ESD modified the groundwater cleanup plan by allowing an *in-situ* groundwater treatment through a Site-wide pilot study. The ESD also proposed adding the technology to the groundwater remedy if the desired results of the pilot study were achieved. The *in-situ* treatment pilot study consisted of reinjecting treated groundwater into the aquifer and saturated soil in order to reduce hexavalent chromium concentrations in subsurface soil and groundwater. During the pilot study, VWP continued to operate the pump and treat system for groundwater consistent with the initial cleanup plan, but rather than discharging all of the treated water into the infiltration ponds, VWP amended a portion of the treated water with calcium polysulfide (an ionic reductant) and reinjected that portion into the groundwater through a series of injection wells. The added calcium polysulfide reductant reacted with the hexavalent chromium, *in-situ*, reducing it to trivalent chromium, the less toxic and less soluble form of chromium. Trivalent chromium precipitated out of the groundwater onto subsurface soil particles where it no longer poses a threat to groundwater quality.

During the pilot study, the generation of reducing conditions by calcium polysulfide

injections during the *in-situ* treatment locally mobilized arsenic and manganese from the aquifer soils, and also generated sulfate, temporarily and locally causing increased concentrations of these contaminants in groundwater beneath the site and down gradient of the Site. These temporary and localized concentration increases were expected as part of the pilot study.

The *in-situ* treatment of hexavalent chromium effectively reduced concentrations in groundwater such that EPA determined that the groundwater extraction system could be shut down. The groundwater treatment system has been decommissioned. Currently, low levels of hexavalent chromium and arsenic remain in groundwater at levels above cleanup goals and warrant additional remedial action.

On September 29, 2003, EPA issued ROD Amendment #1 modifying the cleanup plan for soil. The soil remedy initially selected in the ROD was to excavate the contaminated soil, fix and stabilize the hazardous substances with a stabilizing agent and backfill the fixed soils into the excavated areas. ROD Amendment #1 revised the cleanup standards for soil consistent with the expected future industrial use of the Site. It also revised the cleanup plan to require excavation and off-site disposal of contaminated soil that exceeded the revised cleanup standards. A deed restriction was also required to restrict the land use activities on the Site to industrial use. The actions called for by ROD Amendment #1 with respect to soil remediation have been completed.

On March 30, 2007, EPA issued ROD Amendment #2 modifying the cleanup plan for groundwater. The groundwater remedy outlined in the ROD Amendment #2 revises the arsenic in groundwater cleanup goal from 50 micrograms per liter (ppb) (the federal Maximum Contaminant Level (MCL) for arsenic when the 1991 ROD was issued) to 10 ppb, the current federal MCL and provides for: (a) *in-situ* treatment to reduce residual levels of arsenic contamination in groundwater beneath and downgradient of the Site, and (b) monitored natural attenuation until the Performance Standards for hexavalent chromium, arsenic and the two constituents of interest (sulfate and manganese) are achieved.

### III Summary of Final Groundwater Remedial Action

The groundwater remedial actions set forth in this Work Plan are consistent with the ROD Amendment #2 and are the final remedial actions for the Site. The Remedial Action Objective (RAO) for groundwater as specified in the original 1991 ROD remains the same and is to restore groundwater to its beneficial use within a reasonable timeframe. The remedial action will address residual hexavalent chromium and arsenic in groundwater beneath and downgradient of the Site. Contaminated soil and most of the off-Site contaminated groundwater has been addressed through prior remedial actions. A relatively localized area of groundwater in the vicinity of the former wood treating plant exhibits residual concentrations of hexavalent chromium and arsenic above the cleanup goals.

The remedial action will meet final Site cleanup goals for groundwater that are consistent with federal and state Maximum Contaminant Levels (MCL) for drinking water. The cleanup standard for hexavalent chromium is 50 micrograms per liter (ug/L) or parts per billion (ppb), which corresponds to the California MCL for total chromium in water. The cleanup goal for

arsenic has been lowered from the original 1991 cleanup plan. EPA has revised the Site cleanup goal for arsenic to 10 ppb, which is the revised federal MCL for arsenic for Shallow Groundwater where Site impacts have been observed. The background level of arsenic is approximately 8 ppb in the Shallow Groundwater. (See, Geomatrix letter to M. Lau, U.S. EPA, Region XI, *Subject: Groundwater Data Review, Valley Wood Preserving Site, Turlock, California*, dated June 30, 1999, by D. Sore, Project Hydrogeologist.) Background levels for arsenic in deeper groundwater were established in the EPA-approved report titled *Final Revised Report of Lithological Implications on Background Concentrations of Arsenic in Groundwater* (MWH, 2006). The report describes the nature and extent of contamination related to prior operation of the VWP facility, and concludes that the facility only impacted the vadose and Upper Saturated Zone (up to approximately 80 feet below grade, the "Shallow Groundwater").

Underlying the Shallow Groundwater, is the low permeability Reduced Aquitard, with a thickness of 40 to 90 feet (from approximately 80 feet to between 120 to 170 feet below grade), and then the Oxidized Confined Aquifer, beginning at approximately 120 to 170 feet below grade. For the purposes of this Work Plan, all groundwater below the Shallow Groundwater is also referred to as the "Deeper Groundwater". The Reduced Aquitard is characterized by background arsenic at concentrations from 16 to 25 ppb due to naturally-occurring low oxidation-reduction potential (ORP) in this zone. No hexavalent chromium has been detected in this lithological unit, except in one improperly-constructed monitoring well, GW-39D. The original construction of this well by EPA contractor Bechtel allowed inflow from both the Shallow Groundwater and Deeper Groundwater. The well has since been rehabilitated by VWP to prevent it from serving as a vertical pathway for contamination. The well is presently only screened in the Deeper Groundwater. No contamination, from natural or man-made sources is known to be present in the Oxidized Confined Aquifer, which is located below the Reduced Aquitard. The Deeper Groundwater does not require any remedial action and therefore is not addressed in this Work Plan.

As specified in the Focused Feasibility Study and in ROD Amendment #2, the final groundwater remedial action for the Site involves using the *in-situ* treatment technology described in this Work Plan to lower concentrations of arsenic followed by monitored natural attenuation (MNA) for arsenic and hexavalent chromium. The statistical analysis in the Focused Feasibility Study estimated that it would take approximately 40 years to reach cleanup goals using MNA alone. It is anticipated that the MNA period will be significantly reduced by the use of *in-situ* treatment. The *in-situ* treatment involves the use of a remediation reagent developed by Virotec USA Inc. (Virotec), specifically suited for arsenic treatment, and produced under the name ViroBind.<sup>TM</sup>

VWP has completed pre-design bench-scale treatability testing of *in-situ* treatment for the arsenic-impacted groundwater. A final, EPA-approved report, *Revised Results of Treatability Study and In Situ Treatment Work Plan for Remediation of Arsenic in Groundwater at the Valley Wood Preserving Site, Turlock, California*, dated August 6, 2007 (MWH 2007c), provides the results of the completed bench-scale testing.

The bench scale testing has determined that the ViroBind<sup>TM</sup> reagent is capable of immobilizing residual arsenic in a non-leachable form in the area of the former wood treatment facility at the Site where groundwater concentrations exceed the MCL, and has determined the

reagent dose that is required to achieve such remediation. In addition, the test work was performed to determine any increase in concentration of hexavalent chromium, or significant increase (temporary) in concentrations of constituents of interest such as sulfate and manganese result from the reagent addition. The following paragraphs briefly outline the geochemistry involved, discuss prior applications of the ViroBind™ reagent at other similar sites, and discuss the bench-scale testwork approach and results.

## ARSENIC REMEDIATION

The geochemistry of arsenic is complex. It can occur as either the trivalent arsenite or the pentavalent arsenate anion. In general, the arsenite anion is present under reduced conditions and is more mobile in the groundwater environment, while the arsenate anion tends to be less mobile under oxidizing conditions. However, the arsenate anion does reflect equilibrium conditions between solid-phase and dissolved concentrations in source areas of arsenic contamination such as the wood-treating area at the Site. The concentrations detected at the Site are consistent with such equilibrium concentrations at other areas of elevated solid-phase arsenate contamination (Cherry, *et al.*, 1986).

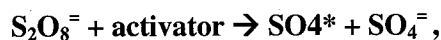
**Prior ViroBind™ Reagent Use at Other Sites** - ViroBind™ is a remediation reagent specifically developed by Virotec to remove dissolved heavy metals and metalloids such as arsenic and to bind the arsenic into a geochemically stable, non-leachable form. It is a very fine mineral powder with a high surface area, and is non-soluble. Removal of dissolved metals and metalloids is initially achieved through a process of sorption, but the sorbed metals in turn are further stabilized through a process of chemisorption, in which the metals are actually incorporated into the crystal structure of the hematite and other iron minerals of the powder. In a test by the US EPA Region VIII at the Gilt Edge Mine in South Dakota, ViroBind™ removed arsenic from an initial concentration of 35 mg/L to less than 0.005 mg/L, and the results have continued for 5 years from a single treatment. Further, no mobilization of other metals or metalloids has been detected (EPA, 2004).

Virotec recently treated two leachate ponds at the Hyne Timber CCA plant in Marysborough, Queensland. The following table illustrates that the ViroBind™ reagent is capable of eliminating both arsenic and chromium in a single treatment.

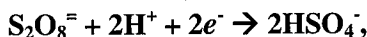
Parameter	Pond No. 1, Before Treatment	Pond No. 1, After Treatment	Pond No. 2, Before Treatment	Pond No. 2, After Treatment
Arsenic	0.276 mg/L	0.014 mg/L	0.851 mg/L	< 0.001 mg/L
Chromium	0.516 mg/L	0.02 mg/L	1.33 mg/L	<0.01 mg/L

As noted above, the arsenate anion tends to be less mobile than the arsenite anion. For that reason, greater success is observed for sites where the arsenic is either originally present as the arsenate anion, or where the arsenite anion is oxidized to the arsenate form. Since the former Groundwater Pilot Study (GPS) for hexavalent chromium removal involved the reduction of the hexavalent chromium to the trivalent form, it is possible that a portion of the arsenic is present in the reduced form. If so, experience at similar sites has shown success by concurrent addition of activated sodium persulfate with the ViroBind™ reagent. Sodium persulfate, under the trade

name Klozur™, has been used at a number of *in-situ* chemical oxidation sites, including a methylene chloride plume in Los Angeles County, California. The action of activated sodium persulfate is achieved by the development of sulfate free radicals under the reaction:



where  $\text{SO}_4^{\bullet}$  is the sulfate free radical, with an oxidation potential of 2.6 volts (Block, Brown and Robinson, 2004) and iron from the ViroBind™ is the activator. Sodium persulfate also is capable of oxidation in the absence of activation by:



with an oxidation potential of 2.1 volts. Thus, the reaction products would be sodium and sulfate, if it were necessary to oxidize the arsenite to arsenate by the use of oxidants such as persulfate. The oxidant potentials of other common oxidants include 2.2 volts for ozone and 1.8 volts for hydrogen peroxide. It should be noted that calcium peroxide was previously added to the bottom of the soil excavation at the Site before backfill, so the area may already be sufficiently oxidized that all arsenic is present as the arsenate.

#### **BENCH SCALE TEST WORK APPROACH**

The VWP Site-specific bench-scale test work was conducted in the Virotec treatability laboratory, located in Westminster, Colorado, using contaminated soil and clean and contaminated groundwater collected from the Site.

The collection of soil and groundwater from the Site was conducted by MWH personnel January 8-9, 2007. Initially, vertical profiling of the arsenic, hexavalent chromium, manganese, and sulfate concentrations of groundwater from existing well GW-12 was conducted by low-flow purge protocol, using a peristaltic pump, carefully lowering the pump intake hose and collecting a filtered sample every 5 feet from the water table to the bottom of the well. At each sample depth, field data was collected on pH, electrical conductivity and oxidation / reduction potential (ORP). Samples were field filtered and transported to GeoAnalytical Laboratories for determination of the concentrations of arsenic, hexavalent chromium, manganese and sulfate. A bulk 5-gallon sample of the contaminated water was then collected and sent to the Virotec treatability laboratory for use in bench-scale tests. A sample of non-contaminated ground water was also obtained from GW-18 for subsequent leaching and mobilization tests.

Contaminated soil was collected by use of a hand auger from two boreholes drilled approximately 5 feet west of bores GW-2 and GW-12. Soil was obtained from the boreholes from 5 to 10 feet below land surface, which is in the capillary fringe and the upper portion of the water table.

Bench scale testing was conducted by forming a 1:1 slurry of contaminated soil and contaminated groundwater from GW-12. The slurry was poured into a series of one-liter beakers and dosed with various doses of ViroBind™. The beakers were stirred for a day, after which the slurry was measured for ORP, pH and electrical conductivity and the liquid was filtered and



analyzed for arsenic, manganese, hexavalent chromium and sulfate concentrations. These data were used to determine the most effective dose of ViroBind™.

Once the treatability testing was concluded, with verification that the ViroBind™ reagent was capable of reducing the hexavalent chromium and immobilizing the soluble arsenic in the contaminated water, the next phase of the testing was to evaluate the possibility of subsequent leaching from the soil by the subsequent influx of clean groundwater. A second purpose was to establish the dose of reagent required for complete fixation of the arsenic.

The testing was conducted by mixing 200 gram samples of the contaminated soil with sufficient contaminated (GW-12) water to form a wet paste, with a total weight of 228 grams. The paste was then dosed with ViroBind™ reagent, and placed into clean one-liter plastic bottles. Clean groundwater (950 ml) from the GW-18 bulk sample was then placed in the bottles and the bottles tumbled to mix the slurry. Two control samples were also prepared, without dosing the soil paste with ViroBind™ reagent. Initially, only one ViroBind™ reagent dose (0.5% dry weight) was added, since the soil testing did not indicate the presence of arsenic in the soil. However, as described below, results of testing showed that detectable arsenic was leached from the slurry, although at a lower concentration than from the control samples. Therefore, higher dose rates were subsequently prepared for analysis, at initial dose rates of 2% and 4% ViroBind™ reagent, and tested after 2 and 4 days. Later testing was conducted at dose rates of 0.5%, 1%, 1.5%, and 2% dose rates, for 2, 4, 6, and 8 weeks of leaching.

Based on the results of the bench-scale treatability testing and subsequent leachability testing, it was concluded that a dose rate of 1% represents the optimum dose to offer significant arsenic removal, while not causing excessive dissolved manganese and sulfate increase in groundwater (MWH, 2007b). This dose rate is proposed to be used for a subsequent field-scale *in-situ* injection as discussed in detail below.

### **IN-SITU GROUNDWATER REMEDIATION**

The bench-scale test work results were used to prepare this Work Plan setting forth the *in-situ* groundwater remediation program for use at the Site (See, the EPA-approved report, *Revised Results of Treatability Study and In-Situ Treatment Work Plan for Remediation of Arsenic Contamination in Groundwater at the Valley Wood Preserving Site, Turlock, California*, dated August 6, 2007. MWH 2007c.)

The *in-situ* remediation of arsenic fixation will be conducted in the area of residual arsenic contamination along the western side of the Site. The remediation will involve the injection of a ViroBind™ slurry on a grid basis, covering an area from near monitoring well GW-24 to approximately 50 feet north of monitoring wells GW-1 and GW-12. (See, Figure 6 from MWH 2007c) The east-west extent of the treatment area is based on results of soil sampling, prior to excavation of contaminated soil, as described in the soil closure report (MWH, 2005). The pre-excavation soil data revealed that arsenic contamination in the northern portion of this area was generally deeper and extended to the saturated zone, while the contamination in the southern portion generally did not extend to the saturated zone. The injection pattern is designed around the existing water-quality data and the prior soil sampling data, to provide coverage for the area of known and suspected contamination of the saturated zone. It includes

four staggered lines of injection points along the entire length of the treatment area: one line with 7 injection points located 10 feet from the concrete berm along the west side, and another line of 6 injection points located 30 feet from the berm. These two overlapping lines of points will thus provide a reactive barrier along the west side of the treatment area. Two additional lines of 11 total additional injection points will be located 50 and 70 feet east of the berm. Thus, the *in-situ* remediation will involve a total of 24 injection points.

Depth profiling shows that the contamination extends from the water table to a depth of approximately 30 feet below ground surface ("bgs"). Therefore, the injection at each injection point will begin approximately at the depth of the water table (approximately 10 feet bgs) and extend to approximately 30 feet bgs. Injection will be through the drill rods of a Geoprobe™ rig, equipped with a slotted rod on the bottom 10 feet of the rod. Injection will be conducted in a downward progression with slurry injected at sufficient pressure to produce hydrofracturing. By injecting in the order from top to bottom, the slurry will be more uniformly distributed than occurs in a bottom up method, which allows the slurry to follow the most permeable zones. Based on prior experience at this Site and other sites, it is assumed that the radius of fracturing will be approximately 20 feet.

As discussed above, treatability testing has demonstrated that 1% ViroBind™ solids, on a dry weight basis, is capable of reducing all the hexavalent chromium and fixation of all the arsenic in the soil, saturated with groundwater similar to that of GW-12. Leachability testing shows that concentration will result in leachate not containing arsenic concentrations much in excess of the site clean-up goals even at worst-case conditions, and, thus, that concentration of ViroBind™ solids will be used. Assuming a dry weight density of 100 pounds per cubic foot, and a radius of influence of 20 feet, each injection point needs approximately 25,000 pounds (12.5 tons) of ViroBind™ solids, pH adjusted using hydrochloric acid. This injection mixture will be distributed from 10 to 30 feet below the land surface, in approximately 10,000 gallons of slurry. Each injection point will be sealed with bentonite slurry at the end of the injection.

The *in-situ* groundwater treatment phase (i.e., injection of the ViroBind™ slurry) will be completed in timely manner.

An increased frequency of groundwater monitoring will be conducted immediately following injection to evaluate the effects of the reagent injection on groundwater in the vicinity of the treatment area. Four shallow zone groundwater monitoring wells are located in the area of the *in-situ* injection: GW-1, GW-2, GW-12 and GW-24. These wells will be used to evaluate the effectiveness of *in-situ* treatment following the injection of ViroBind™. These four wells are a part of the routine groundwater monitoring program, which includes monitoring for hexavalent chromium, arsenic, sulfates, and manganese. In September 2007, VWP collected additional samples to establish a baseline for iron, chloride and Total Dissolves Solids prior to *in-situ* treatment. All of these constituents will be included in the groundwater monitoring program for the four wells following the *in-situ* treatment. The four wells will be sampled weekly for the first month following injection and then monthly for one quarter (3 months), and then revert to quarterly frequency thereafter. Sampling methodology will follow the revised Groundwater Monitoring Plan (GMP) which will be submitted pursuant to the schedule in this Work Plan. Based upon the results, additional sampling may be proposed after the four month period of increased sampling.



Samples will be analyzed in the field for pH, temperature, electrical conductivity, oxidation-reduction potential (ORP) during well purging activities as specified in the GMP. Samples will be sent to GeoAnalytical Laboratory for analyses for dissolved arsenic, hexavalent chromium, dissolved manganese and sulfate.

The results will be evaluated with respect to trends of the concentrations of the two constituents of concern (hexavalent chromium and arsenic) and two constituents of interest (manganese and sulfate) to determine the success of the *in-situ* injection and treatment.

## IV Performance Standards

VWP shall meet all Performance Standards specified in this Work Plan. All monitoring data shall be reported in the Quarterly, Semi-Annual and Annual Compliance Monitoring Reports and Annual Performance Evaluation Reports.

If EPA determines that modifications to the work specified in this Work Plan or in Work Plans developed pursuant to the Work Plan are necessary to achieve and maintain the Performance Standards, EPA may require that such modification be incorporated in the Work Plan .

### A. Performance Standards

This section describes the Performance Standards that VWP will use to demonstrate that the final groundwater remedial action is meeting the ROD-established cleanup objectives. As discussed above, the final groundwater remedial action shall have two parts: 1) *in-situ* treatment to reduce onsite residual arsenic near the former wood treatment facility at the Site and 2) MNA for hexavalent chromium and arsenic. The evaluations performed during the Focused Feasibility Study indicated that MNA alone would be an acceptable final remedial action for the Site groundwater. (The projected timeframe for a localized onsite area of residual arsenic concentrations to reach cleanup objectives through MNA alone was approximately 40 years.) EPA selected a final remedial alternative for groundwater, which was designed to reduce the timeframe to reach the arsenic cleanup objectives. The purpose of the *in-situ* treatment is to lower concentrations of arsenic in groundwater near the former wood treatment plant, to be followed by the MNA monitoring.

It is anticipated that the *in-situ* remediation described in this Work Plan will reduce the concentration of arsenic in the localized area of residual arsenic contamination near the former wood treatment facility at the Site to enhance the MNA remedy. As discussed above, during and immediately following *in-situ* treatment, performance will be evaluated by groundwater monitoring. Four Shallow Zone groundwater monitoring wells are located in the area of the *in situ* treatment field: GW-1, GW-2, GW-12 and GW-24. These wells will be used to evaluate the effectiveness of *in-situ* treatment following the injection of ViroBind™. The results of the groundwater monitoring program will be evaluated with respect to concentration trends of the two constituents of concern (arsenic and hexavalent chromium) and two constituents of interest

(sulfate and manganese). It is anticipated that concentrations of manganese may rise as a result of the *in-situ* treatment; however prior data collected at the Site has demonstrated that concentrations of all constituents will eventually decline.

For several years, groundwater monitoring has been conducted in accordance with the approved Groundwater Monitoring Plan (GMP) (MWH 2004). The GMP will be updated as described in Section V to address MNA monitoring. In particular, the GMP will be updated to reflect groundwater conditions and monitoring needs in the post *in-situ* treatment timeframe and to define the methodology to demonstrate that groundwater through MNA has met final remedial action objectives. It is anticipated that a statistical approach will be used to evaluate groundwater concentration trends for all constituents of concern and constituents of interest and to determine the achievement of Performance Standards.

The Performance Standards for the MNA remediation are:

- The MNA groundwater monitoring program shall demonstrate an overall stable/declining trend for two constituents of concern (arsenic and hexavalent chromium) and the two constituents of interest (sulfate and manganese).
- MNA shall be deemed complete when groundwater monitoring data demonstrates that the ROD Amendment #2-specified Chemical-Specific Groundwater Cleanup Standards for Total Chromium and Arsenic RAOs have been met at the Site using EPA-approved methodology as defined in the updated GMP.

## V List of Deliverables and Other Tasks

VWP shall submit additional reports and other deliverables for EPA and DTSC review and EPA approval, as specified below. One copy of each final written deliverable shall be provided in an unbound format suitable for reproduction; and as a PDF file that includes all figures and tables, additional copies shall be provided as requested. All deliverables will be sent concurrently to DTSC and RWQCB. Information presented in color must be legible and interpretable when reproduced in non-color. VWP shall implement quality control procedures to ensure the quality of all reports and submittals to EPA. These procedures shall include but are not limited to internal technical and editorial review; and documentation of all reviews, problems identified, and corrective actions taken.

EPA may approve, disapprove, or modify each deliverable. Major deliverables described below shall be submitted according to the schedule in Section VI of this RD/RA Work Plan. Because Remedial Action at the VWP site has been underway for many years and is nearing completion, the scope of work for the final groundwater remedial action takes into account that several deliverables have already been submitted and only need updates. In addition, due to the nature of the final remedial action involving *in-situ* treatment followed by MNA, and since no construction-related activities are anticipated, limited updates are needed to existing approved plans to complete this RD/RA Work Plan.

## **A. Updated Groundwater Monitoring Plan and Quality Assurance Plan, and Health and Safety Plan**

This Remedial Design/Remedial Action Work Plan describes the schedule for developing and submitting the following additional elements of the Work Plan: an updated Groundwater Monitoring Plan, including an updated Quality Assurance Project Plan; and an updated Health and Safety Plan.

## **B. Monitoring Plans/Reports**

### **B1. Compliance Monitoring and Performance Evaluation Reports**

VWP shall submit Compliance Monitoring and Performance Evaluation Reports, which shall satisfy the requirement for the submission of Progress Reports under the VWP Groundwater UAO, and shall include: all measured groundwater constituent concentrations at compliance wells; charts showing contaminant concentrations versus time at compliance wells; assessments and statements regarding Performance Standards; relevant preliminary calculations and supporting data used to evaluate compliance; and any other relevant requirements outlined in the updated Groundwater Monitoring Plan. Initially, Quarterly Compliance Monitoring Reports will be due every three months according to the schedule in the approved GMP (MWH 2004). The schedule for final groundwater monitoring as part of the MNA program will be included in the GMP.

VWP shall prepare and submit Performance Evaluation Reports annually, coincident with the fourth quarterly report for the year. Each Performance Evaluation Report shall include summaries of compliance monitoring activities from the previous reporting period (including Compliance Monitoring Reports); updated water level contour maps showing measured water levels; interpreted water level contours; measured contaminant concentrations with contour maps. Performance Evaluation Reports shall also include: measured contaminant concentrations at compliance and sentinel wells, charts showing contaminant concentrations versus time at compliance and sentinel wells; assessments and statements regarding Performance Standards predictions, if appropriate, and any other relevant requirements outlined in the updated Groundwater Monitoring Plan.

## **C. Remedial Action Complete Report**

As specified in the approved schedule included in Section VI of this Work Plan, at the completion of *in-situ* treatment, VWP shall submit an Interim Remedial Action Complete Report. In the report, a registered Professional Engineer or Geologist and VWP's Project Coordinator shall certify that the *in-situ* Remedial Action has been implemented in accordance with the RD/RA Work Plan. The written report shall provide a summary of the results of operational and performance monitoring completed to date and shall provide documentation to substantiate VWP's certification including, but not limited to, relevant data presented in accordance with Section V.B.1 (Compliance Monitoring Reports and Performance Evaluation Reports) of this Work Plan. The report shall contain the following statement, signed by a responsible corporate official of VWP or VWP's Project Coordinator:

“To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations”

## D. Operations and Maintenance

Operation and Maintenance (O&M) shall include routine groundwater monitoring and reporting as described this Work Plan.

### D1. Operation and Maintenance Plan

VWP shall not be required to submit an Operation and Maintenance (O&M) Plan based on the nature of the final groundwater remedial action (*in-situ* treatment followed by MNA). The updated GMP will serve as the document to be followed during the O&M period.

## E. Work Complete Report

As specified in the schedule in Section VI of this Work Plan, after all phases of the Work (including O&M) have been performed, VWP shall submit a Work Complete Report. In the report, a registered Professional Engineer or Geologist and VWP’s Project Coordinator shall state that the Work has been completed. The written report shall provide a synopsis of the work defined in this Work Plan, describe deviations from the Work Plan, and provide a summary of the results of operational and performance monitoring completed. The report shall contain the following statement, signed by a responsible corporate official of VWP or VWP’s Project Coordinator:

“To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

## VI Schedule for Major Deliverables and Other Tasks

ACTIVITY	DUE DATE	Note
Revised Results of Treatability Study and <i>In-Situ</i> Treatment Work Plan for Remediation of Arsenic Contamination in Groundwater at the Valley Wood Preserving Site, Turlock, California	Revised Draft Submitted August 6, 2007. EPA Approved August 9, 2007.	This Document is the Remedial Design document for the <i>in-situ</i> treatment part of the remedy and is also called Remedial Design Part I.
Remedial Design/ Remedial Action Work Plan	Approved by EPA on September 13, 2007	
Updated Groundwater Monitoring Plan –	Draft update shall be	This document is the

<i>describes the monitoring and evaluation approach to MNA.</i>	submitted as an amendment to this RD/RA WP within 60 days following EPA approval of RD/RA WP.	Remedial Design document for the second part of the remedy and is also called Remedial Design Part II.
<b>Quality Assurance Project Plan</b> –to include any additional quality assurance requirements for the MNA sampling and analyses program.	Included in GMP. Update shall be submitted as needed as a part of the updated GMP	
<b>Site Health and Safety Plan</b> – to address additional site hazards analyses associated with use of additional in-situ treatment technology.	Update shall be submitted as needed as an amendment to this RD/RA WP	
<b>Compliance Monitoring Reports</b>	Initially due every three (3) months after commencement of Compliance Monitoring. Schedule may be revised as approved by EPA.	
<b>Performance Evaluation Reports</b>	Due every 12 months after approval of updated Groundwater Monitoring Plan	
<b>Remedial Action Complete Report</b>	Due 30 days after completion of <i>in-situ</i> injection.	
<b>Work Complete Report</b>	Due 90 days after submittal of a Compliance Monitoring or Performance Evaluation Report showing remedial action objectives have been met for the Site.	

## VII References

In addition to references cited in this document, the following list, although not comprehensive, include citations for many of the regulations and guidance documents that apply to the RD/RA process. VWP shall review these guidance documents and shall use the information provided therein in performing the RD/RA and preparing all deliverables under this Work Plan.

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## **APPENDIX F**

### **Revised Results of Treatability Study and In Situ Treatment Work Plan**



**Revised Results of Treatability Study  
and  
*In-Situ* Treatment Work Plan for  
Remediation of Arsenic Contamination in Groundwater  
at the Valley Wood Preserving Site,  
Turlock, California**

**August 6, 2007**

## **INTRODUCTION**

Valley Wood Preserving (VWP) recently completed a Focused Feasibility Study (FFS) (MWH, 2007a) to address residual groundwater contamination in the vicinity of the former VWP wood treating facility in Turlock, California (the Site, Figure 1). The United States Environmental Protection Agency (EPA) approved the FFS and issued a Proposed Plan. The Proposed Plan recommended a preferred remedial alternative for residual contamination consisting of *in-situ* treatment to eliminate a localized area of arsenic contamination of the groundwater under the western portion of the VWP Site. This would be followed by Monitored Natural Attenuation (MNA) for the other remaining Site constituent of concern (hexavalent chromium), as well as the two constituents of interest (sulfate and manganese). In March 2007, EPA issued a Record of Decision (ROD) Amendment No. 2 that selected the preferred alternative (i.e., *in-situ* treatment of residual arsenic, followed by MNA) as the final groundwater remedy.

Laboratory testing has now been completed to evaluate additional *in-situ* treatment of the residual arsenic contamination at the Site. This study supports development of a Remedial Design (RD) - Remedial Action (RA) Work Plan (RD-RA Work Plan) for the EPA-selected remedial alternative. Virotec and MWH conducted the laboratory (bench scale) work using a remediation reagent developed by Virotec, specifically suited for arsenic treatment, and produced under the name ViroBind™. Appendix A includes a detailed summary of the composition, manufacture, uses and prior approvals for ViroBind™ reagent.

This document summarizes the Site-specific laboratory treatability study work that was conducted and provides a work plan for the *in-situ* treatment of arsenic contamination exceeding ROD- specified cleanup objectives in the western portion of the Site. The *in-situ* treatment is the first part of the EPA-selected remedial alternative. The RD-RA Work Plan that will be prepared will further detail the remaining work to be conducted and key deliverables associated with the selected remedial alternative, including the subsequent MNA program for constituents of concern and constituents of interest. This document has been revised from the June 15, 2007 draft to address comments received from EPA and the State of California Department of Toxic Substances Control (DTSC).





## LABORATORY TEST METHODOLOGY AND RESULTS

The laboratory test work was conducted by MWH and Virotec USA Inc., in accordance with the *Work Plan for Conduct of Laboratory Treatability Study, In-Situ Arsenic Remediation at the Valley Wood Preserving Site, Turlock, California* (MWH, 2007b), which was verbally approved by EPA. The purpose of the laboratory treatability testing was to determine if the ViroBind™ reagent is capable of immobilizing (fixing) arsenic in the soil in a non-leachable form, and if so, what reagent dose is required to achieve such remediation. The laboratory treatability test work also evaluated the potential co-use of an oxidant compound (in this case, potassium or sodium persulfate) along with the ViroBind™ reagent. Following treatability testing, a leachability test was conducted to evaluate the longevity of the arsenic fixation and to determine if there is significant mobilization of other contaminants, such as hexavalent chromium, from the reagent addition. The following paragraphs describe the methodology and results of the completed laboratory testing.

### Field Sample Collection

Sampling was conducted January 8 and 9, 2007 at the VWP Site by Messrs. Tony Mikacich and Jim Rouse of MWH. The sampling activities were assisted by Mr. Bob Schmidt of Valley Wood Preserving, and on January 9<sup>th</sup>, 2007, were observed and assisted by Mr. Sam Martinez of the California Department of Toxic Substances Control. Field sample collection activities included three tasks:

#### **Task 1. Groundwater Depth Profiling**

The initial task of the pre-test field investigation was depth profiling of the water quality of groundwater in existing well GW-12, a monitoring well screened from the land surface to the well's total depth, in excess of 52 feet. This vertical profiling of arsenic, manganese, hexavalent chromium and sulfate concentrations of groundwater was conducted by means of low-flow purge protocol, using a peristaltic pump, with the pump intake tube carefully lowered from the top down. A filtered sample was collected, after purging was stabilized, every five feet, beginning at a point 10 feet below the top of casing (BTOC) and ending at 50 feet BTOC, with a duplicate sample taken at 30 feet BTOC, for a total of ten samples. At each sample depth, field data were collected for groundwater pH, electrical conductivity, oxidation/reduction potential (ORP) and dissolved oxygen (DO). Samples were field filtered through disposable 0.45 micron filters and delivered to GeoAnalytical Laboratories for determinations of concentrations of arsenic, manganese, hexavalent chromium and sulfate. The samples were submitted with a request for overnight turnaround, to enable a determination of the vertical variability of arsenic and hexavalent chromium concentrations. Table 1 presents results of the samples collected from well GW-12 as a function of depth.

### **Task 2 – Bulk Groundwater Sampling**

Upon receipt of the analytical data for arsenic and hexavalent chromium concentrations as a function of depth within well GW-12 (Table 1), it was determined that maximum concentration existed at a depth of approximately 22.5 feet below the top of casing. A bulk 5-gallon sample of contaminated water was then collected on January 9, 2007 from well GW-12 with the peristaltic pump intake hose set at 22.5 feet below the casing top. This sample was collected in a flexible plastic container, and sealed with minimum headspace to avoid potential oxidation. In addition, a second bulk 5-gallon sample of groundwater was collected from existing monitoring well GW-18. Based on existing results, it was anticipated that this well would not contain either arsenic or hexavalent chromium. This sample was to be used for subsequent leaching and mobilization tests. Duplicate samples of these bulk water samples were sent to GeoAnalytical Laboratory and Energy Laboratory, for purposes of quality control analysis. These duplicate sample data are also provided on Table 1.

### **Task 3 – Bulk Soil Sample Collection**

Two five-gallon buckets of contaminated soil were collected on January 9, 2007, by means of a hand auger. These samples were collected from two bore holes near existing wells GW-12 and GW-2. The samples were collected by hand augering to a depth of approximately 5 feet below land surface, and discarding soil from this portion, since this is generally above the maximum water table elevation. Samples were then collected by hand augering the holes from 5 to 10 feet below the land surface. This interval is within the capillary fringe and the upper portion of the contaminated groundwater. The 5-gallon buckets of soil and the two 5-gallon samples of water were then packaged and express shipped to the Virotec USA Inc treatability laboratory, located in Westminster, Colorado.

### **Laboratory Treatability Testing**

The samples were received in the Virotec USA Inc, treatability laboratory on January 10, 2007. Soil from the two buckets was then oven dried at 103<sup>0</sup> C to a constant weight and then sieved to passing 1.68 millimeter (12 mesh) screen. The sieving was for the purpose of ensuring that the soil samples to be used in the subsequent testing were representative of the bulk soil. Ten kilograms of dried and sieved soil from each of the two containers was placed into a clean third container and tumbled for two hours to homogenize the soil to be used in the treatability study. A sample of the homogenized soil was submitted for laboratory analysis of the hexavalent chromium and arsenic content. The results showed that the soil contained no detectable hexavalent chromium and no detectable arsenic, at a detection limit of 5 mg/kg for both analytes.

Two hundred (200) gram samples of the homogenized dried soil were then placed into each of nine 1-liter polypropylene bottles. The soil samples were then dosed with various dosages of ViroBind™ reagent, with concentrations ranging from 50% to 200% of the

stoichiometric requirement of ViroBind™. Table 2 provides information on the dosing of the various samples. Sample VWP 1-9, a control sample, did not receive dosage of ViroBind™. To evaluate the potential improved fixation associated with the co-use of an oxidant, samples VWP 1-7 and VWP 1-8 also received oxidant in addition to the dosage of ViroBind™. In the case of sample VWP 1-7, potassium persulfate was used in place of the planned sodium persulfate, due to availability of the reagent. The cation switch of potassium for sodium was not anticipated to discernibly affect the arsenic immobilization or arsenic oxidation. Each of the 9 bottles was then dosed with 950 milliliters of contaminated groundwater from the GW-12 bulk sample. This was a modification from the work plan, since the sample containers were not sufficiently large enough to allow placement of the one liter of groundwater as originally planned.

After the bottles were sealed, they were placed on a tumbler and tumbled for 24 hours. After tumbling, the slurry was filtered through a 0.45 micron filter, field parameters of pH, ORP, and electrical conductivity were determined, and the samples were preserved. The samples were then shipped on ice by overnight express to Energy Laboratory in Rapid City, South Dakota, for determination of the concentration of arsenic, manganese, hexavalent chromium, and sulfate in the filtered water portion of the slurry. In addition, a sample of the soil was transmitted to Energy Laboratory for determination of total-recoverable arsenic, manganese, and hexavalent chromium. Results of this soil sample analysis are provided in Table 1. It should be noted that neither arsenic nor hexavalent chromium were detected in the sample, at a detection limit of 5.0 mg/kg. This illustrates the significantly lower ability to detect elements in solid samples, in comparison to the ability to detect the same parameters in aqueous samples. The relevance of this finding is discussed in more detail in the later section discussing Laboratory Leachability Testing. Manganese was present in the blended soil sample at 40 mg/kg.

Results of the laboratory determinations, as well as the field parameters for the nine slurry samples are provided in Table 2. As shown by the table, none of the samples treated with ViroBind™ F Blend contained any detectable hexavalent chromium, at a detection limit of 0.005 mg/liter. This is despite the fact that the groundwater used for the testing contained approximately 0.5 mg/liter of hexavalent chromium, and the control sample (VWP 1-9) contained 0.48 mg/liter hexavalent chromium. Thus, the ViroBind™ was capable of reducing hexavalent chromium to non-detect values. Samples which were treated with oxidant also did not contain detectable hexavalent chromium, illustrating that the hexavalent chromium did not remobilize to the hexavalent form from the reduced trivalent form.

The control sample contained 0.5 mg/liter of arsenic in the filtered samples sent to Energy Laboratories. This was a result of approximately 0.4 mg/liter arsenic contained in the contaminated groundwater, enhanced by dissolved arsenic leached from the soil. By contrast, the eight samples treated with various dosages of ViroBind™ contained low to non-detectable concentrations of arsenic. Thus, for the samples (VWP 1-1 through VWP 1-6) solely dosed with ViroBind™, the arsenic concentration decreased as the ViroBind™ concentration increased, and a sample (VWP 1-5) treated with 8 grams ViroBind™ F Blend did not contain detectable arsenic, at a detection limit of 0.005 mg/liter, and a

sample treated with 4 grams per liter contained only 0.01 mg/l arsenic. Samples VWP 1-7 and VWP 1-8, dosed with oxidant in the form of either potassium persulfate or calcium peroxide, contained approximately the same concentration as sample VWP 1-3, which was not dosed with oxidant. Thus, it is concluded that oxidant is not required to remove arsenic from solution by dosing with ViroBind™.

As anticipated, the manganese concentrations of the slurries increased, with respect to the control sample. The increased manganese concentrations were as a result of the addition of the various doses of ViroBind™ reagent, which contains ferrous ion as a reductant to reduce hexavalent chromium. This is shown in Figure 2, a semi-log plot of manganese concentrations as a function of ViroBind™ reagent dose. Discussions with ferrous-ion sources document that ferrous reagents contain manganese as a part of the material. The plot shows that the maximum manganese content for likely doses of reagent will be less than 1.5 mg Mn per liter of water. This is less than the manganese concentrations observed in several monitoring wells during the course of the Groundwater Pilot Study (GPS). As is discussed in some detail in, and shown on Figures 6 and 8 of the *Final Focused Feasibility Study, Valley Wood Preserving Site, Turlock, California* (FFS) (MWH, 2007A), time-series plots show that such concentrations decrease over time, forming the basis of the decision that Monitored Natural Attenuation (MNA) will address the residual manganese concentrations.

Similarly, the sulfate concentration increased as a function of ViroBind™ dosage, relative to the control sample. These increases are because the ViroBind™ F Blend used in the test work included ferrous sulfate, to bind the arsenic and also serve as a reductant for residual hexavalent chromium. While past experience has shown the sulfate ion does not tend to migrate and ultimately will decrease, this increase will be avoided by using a ViroBind™ blend which includes ferrous chloride rather than ferrous sulfate. The use of ferrous chloride will slightly decrease the pH; however, the data indicate that the system is so well buffered that the use of ferrous chloride as a component of the ViroBind™ reagent will not significantly reduce the pH. As will be described later, arsenic solubility is at a minimum under slightly acidic conditions, so the slurry pH will be adjusted to approximately 6.0 by the addition of hydrochloric acid prior to injection.

### **Laboratory Leachability Testing**

Once the treatability testing was concluded, with verification that the ViroBind™ reagent was capable of immobilizing the soluble arsenic and reducing the hexavalent chromium in the contaminated water, the next phase of the testing was to evaluate the possibility of subsequent leaching from the soil by the subsequent influx of clean groundwater. A second purpose was to establish the dose of reagent required for complete fixation of the arsenic.

The testing was conducted by mixing 200 gram samples of the contaminated soil with sufficient contaminated (GW-12) water to form a wet paste, with a total weight of 228 grams. The paste was then dosed with ViroBind™ reagent, and placed into clean one-liter plastic bottles. Clean groundwater (950 ml) from the GW-18 bulk sample was then



placed in the bottles and the bottles tumbled to mix the slurry. Two control samples were also prepared, without dosing the soil paste with ViroBind™ reagent. Initially, only one ViroBind™ reagent dose (0.5% dry weight) was added, since the soil testing did not indicate the presence of arsenic in the soil. However, as described below, results of testing showed that detectable arsenic was leached from the slurry, although at a lower concentration than from the control samples. Therefore, higher dose rates were subsequently prepared for analysis, at initial dose rates of 2% and 4% ViroBind™ reagent, and tested after 2 and 4 days. Results of this short-term leachability testing are presented in Table 3. Later testing was conducted at dose rates of 0.5%, 1%, 1.5%, and 2% dose rates, for 2, 4, 6, and 8 weeks of leaching. These results are discussed in later paragraphs.

As noted above, the control samples and the samples treated with 0.5% ViroBind™ reagent did contain detectable arsenic in samples of the water filtered from the bottles. The control samples were found to contain 0.30 mg/l arsenic after 2 days and 0.37 mg/l arsenic after 14 days. This indicates that, while the soil sample did not contain detectable arsenic at a detection limit of 5 mg/kg, there was sufficient leachable arsenic to allow for detection in the liquid. It is interesting to note that the concentration of leachable arsenic in the untreated control samples is approximately the same as the arsenic concentration in groundwater from GW-12, indicating a possible equilibrium exists between influx of groundwater and leaching of arsenic from the solid-phase reservoir of arsenic in the soil. The laboratory results for the water samples, the volume of water added, and the mass of soil present in the bottles were used to calculate the amount of arsenic leached from the soil in the control samples from the treatability and leachability testing. The calculations show that the control sample of the leachability testing leached 1.71 mg arsenic per kilogram of soil. The control samples of the treatability testing, previously discussed, leached 2.28 mg arsenic per kilogram of soil plus the addition from the contaminated ground water. Thus, while the soil sample did not contain detectable arsenic at a detection limit of 5 mg per kg, 75% of the leachable arsenic came from the soil and only 25% from the contaminated groundwater, illustrating the role of the solid-phase arsenic from the soil in subsequent leaching.

As shown in Table 3, the arsenic concentrations in the samples treated with 0.5% ViroBind™ reagent was lower than the concentrations in the control samples, indicating that the treatment of the soil with low dose of ViroBind™ reagent was capable of binding a portion of the leachable arsenic to the soil in a non-leachable form. The arsenic concentration in the samples dosed with 0.5% ViroBind™ reagent was lower than the control samples over the period of testing, at 0.08 mg/l after 1 day and 0.15 mg/l after 14 days. The time relationship of the control and low-dose samples is shown in Figure 3. Samples treated with 2.0 and 4.0% ViroBind™ reagent did not contain detectable arsenic in any samples, indicating that these doses of reagent are capable of fixation of arsenic. No samples of treated soil contained detectable hexavalent chromium, indicating that even the low dose is sufficient to reduce the hexavalent chromium. The manganese concentration in the treated samples was a function of the manganese content of the ViroBind™ reagent dose. The sulfate concentration was a combination of leachable sulfate from soil and groundwater and from the ViroBind™ reagent.

Additional samples were prepared for longer-term leachability testing for 2, 4, 6, and 8 weeks. The protocol for these tests was the same as the short term tests, namely by mixing 200 gram samples of the contaminated soil with sufficient contaminated water (from well GW-12) to form a wet paste, with a total weight of 228 grams. The paste was then dosed with ViroBind™ reagent, and placed into clean one-liter plastic bottles. Clean groundwater (950 ml) from the GW-18 bulk sample was then placed in the bottles and the bottles tumbled to mix the slurry. Long-term testing was conducted at dose rates of 1, 1.5 and 2.0%, with the intent to also use data from the earlier 0.5% dose testing. A control sample was also prepared, without addition of ViroBind™ reagent.

Results of these subsequent long-term tests are contained in Table 4. Data from the two series of leachability testing (Tables 3 and 4) were used to construct a plot (Figure 3) of dissolved arsenic as a function of ViroBind™ dose rates after 14 days, a length of time common to both the short- and long-term testing. The plot of arsenic concentrations at 2 weeks shows essentially a semi-log decline in arsenic concentration as a function of dose, thus the benefit of increasing dose declines as dose rates become higher. Figure 4 shows the leached concentration of arsenic for the 8-weeks duration of the long-term leaching test, for various dose rates. The plot shows that ViroBind™ F Blend dosing significantly reduces the amount of arsenic leached from the treated solids, relative to the untreated control sample. The plot also shows that the amount of arsenic leached becomes constant after 4 to 6 weeks. For low doses (1.0 and 1.5%, the manganese concentrations drop to non-detectable values as the reducing effects of the ViroBind™ F Blend is consumed. Experience at other sites indicates that arsenic concentrations decline once the manganese concentrations become non-detectable, hence the arsenic likely would have declined over time. Hexavalent chromium was not mobilized during the 8-week leaching, and is not expected to be mobilized in the field.

The data were also used to calculate the total mass of arsenic leached from the soil for the various dose rates. For example, the control sample (not treated with ViroBind™) leached 1.71 mg arsenic per kilogram soil, while the sample dosed at 0.5% leached 0.76 mg/kg, or a decrease of 0.95 mg/kg, while the difference in leaching between samples treated with 1.5 and 2% is only 0.0475 mg / kg. Since the manganese and sulfate concentrations are related to dose, those concentrations show a linear increase with dose increase.

The leachability testing was conducted simulating worst-case conditions, with the sudden plug-flow displacement of treated groundwater and the influx of groundwater from upgradient, while in reality there would be a slow migration of the treated water from the zone of influence of the injections. Another aspect of the worst-case condition is that the groundwater used for the test was from non-contaminated well GW-18, but the soil paste was treated with the ferrous-ion bearing ViroBind™ reagent, thus generating reduced conditions in the slurries. Such reduced conditions result in mobilization of arsenic and manganese in excess of what would occur in the actual condition of groundwater moving through an area previously contaminated with hexavalent chromium, a strong oxidant.

Based on the results of the treatability testing and subsequent leachability testing, it is concluded that a dose rate of 1% represents the optimum dose to offer significant arsenic removal, while not causing excessive dissolved manganese increase in groundwater. This dose rate is proposed to be used in the field injection of ViroBind™ reagent as discussed in detail below. In addition, a ferrous chloride versus ferrous sulfate additive is proposed to address the State's concern that the *in-situ* treatment not add additional sulfate to the groundwater.

## ***IN-SITU* TREATMENT WORK PLAN**

As specified in ROD Amendment No.2, *in-situ* treatment will be conducted in the area of residual arsenic contamination along the western side of the former VWP timber-preservation facility. As shown in Figure 5, a localized area of arsenic contamination exceeding cleanup objectives exists in this area. The *in-situ* treatment will involve the injection of ViroBind™ slurry on a grid basis, covering an area from near monitoring well GW-24 to approximately 50 feet north of monitoring wells GW-1 and GW-12 (see Figure 6). The extent of the treatment area is based on results of soil sampling, prior to excavation of contaminated soil, as described in the report: *Final Soil Remediation Action Report, Valley Wood Preserving, Turlock, California* (MWH 2005). The pre-excavation soil data show that arsenic contamination in the northern portion of this area was generally deeper, extending to the saturated zone, while the contamination in the southern portion generally did not extend to the saturated zone. Figure 7 provides a cross-section view of the *in-situ* treatment area, illustrating the prior depth of excavation and the proposed injection depths. Existing groundwater monitoring wells in this area and their screened intervals are also shown.

### **Waste Discharge Requirements**

Site remedial actions must comply with all applicable or relevant and appropriate State and Federal requirements (ARARs) as specified in CERCLA Section 121(d). ARARs pertain only to on-Site activities and include only substantive, not administrative requirements. The State Water Resources Control Board Resolution No. 68-16 ("Anti-Degradation Policy") was identified in ROD Amendment No. 2 as an applicable State policy, therefore VWP is required to meet the substantive requirements of the Anti-Degradation Policy, but as indicated by EPA, is not required to obtain a permit from the State for on-site work.<sup>1</sup>

This work plan provides information and performance criteria to demonstrate that the substantive requirements of the State Anti-Degradation Policy will be met throughout the *in-situ* treatment and subsequent MNA stages of the remedial action. Specifically, the policy requires that high quality surface and groundwater be maintained to the maximum extent possible. Degradation of waters will be allowed (or allowed to remain) only if it is consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality less than

<sup>1</sup> "Site" is defined as the extent of contamination and is not limited to the boundaries of the VWP property.

that prescribed in RWQCB and SWRCB policies. If degradation is allowed, the discharge must meet best practicable treatment or control, which must prevent pollution or nuisance and result in the highest water quality consistent with the maximum benefit to the people of the State. Appendix A provides supporting information regarding the general uses of ViroBind™ reagent. The Site-specific treatability study conducted has provided data to indicate the injection of ViroBind™ will meet the cleanup objectives set forth in the ROD Amendment No. 2.

### **Injection of ViroBind™ Reagent**

Figure 6 shows a plan view of the grid of injection points including the estimated extent of radial influence of injected reagent from each point. The injection pattern is designed around the existing water-quality data and the prior soil sampling data, to provide coverage for the area of known and suspected contamination of the saturated zone. It includes four staggered lines of injection points along the entire length of the test area: one line with 7 injection points located 10 feet from the concrete berm along the west side, and another line of 6 injection points located 30 feet from the berm. These two overlapping lines of points will thus provide a reactive barrier along the west side of the test area. Two additional lines of 11 total additional injection points will be located 50 and 70 feet east of the berm, in the northern portion of the site, in the area of the former soil contamination. Thus, the test will involve a total of 24 injection points.

As described in an earlier section, depth profiling shows that the contamination extends from the water table to a depth of approximately 30 feet. Therefore the injection at each injection point will begin near the water table (approximately 10 feet below ground surface) and extend to approximately 30 feet below ground surface (see Figure 7). Injection will be through the drill rods of a Geoprobe™ rig, equipped with a slotted rod on the bottom 10 feet of the rod. Injection will be conducted in a downward progression with slurry injected at sufficient pressure to produce hydrofracturing. By injecting in the order from top to bottom, the slurry will be more uniformly distributed that occurs in a bottom up method, which allows the slurry to follow the most permeable zones. Based on prior experience at this and other sites, MWH assumes the radius of fracturing will be approximately 20 feet.

Treatability testing has demonstrated that a dose of 1% ViroBind™ F Blend solids, on a dry weight basis, is capable of fixation of the arsenic in the soil saturated with groundwater similar to that of GW-12 and reducing the hexavalent chromium. Leachability testing shows that such a dose rate will result in leachate not containing arsenic concentrations much in excess of the site clean-up goals even at worst-case conditions, and thus will be used for the pilot test. Assuming a dry weight density of 100 pounds per cubic foot for aquifer solids, and a radius of influence of 20 feet, each hole needs to be dosed with approximately 25,000 pounds (12.5 tons) of ViroBind™ F Blend solids (inclusive of the ferrous chloride additive). Since arsenic solubility is at a minimum under slightly acidic conditions, the pH of the ViroBind™ F Blend slurry will be adjusted to approximately 6.0 before injection by the addition of hydrochloric acid. This injection mixture will be distributed from 10 to 30 feet below the land surface, in



approximately 10,000 gallons of slurry. Each injection point will be sealed with bentonite slurry at the end of the injection.

### **Post-Injection Groundwater Monitoring**

An increased frequency of groundwater monitoring will be conducted immediately following injection of ViroBind™ to evaluate the effects of the reagent injection on groundwater in the vicinity of the treatment area. As shown in Figure 6, four shallow zone groundwater monitoring wells are located in the area of the *in-situ* injection: GW-1, GW-2, GW-12 and GW-24. These wells will be the primary wells used to evaluate the effectiveness of *in-situ* treatment following the injection of ViroBind™. In addition, although the effects of ViroBind™ injection are not expected to migrate beyond the immediate area of treatment, other nearby and downgradient wells (e.g. GW-15A, -B and -C, GW-9 and deep well GW-39D) will also be monitored according to the routine groundwater monitoring program and will be used in overall evaluations of the performance of the *in-situ* treatment effectiveness. Since all these wells are already part of the routine groundwater monitoring program, no specific pre-injection sampling is required. GW-1, GW-2, GW-12 and GW-24 will be sampled weekly for the first month following injection and then monthly for one quarter (3 months), and then revert to quarterly frequency thereafter. Other wells are already being sampling quarterly. Sampling methodology will follow the approved Groundwater Monitoring Plan (GMP) (MWH 2004). Based upon the results, additional sampling may be proposed after the four month period of increased sampling. VWP will also address longer term groundwater monitoring in the RD-RA Work Plan, which will include an update to the GMP to address MNA monitoring.

Samples will be analyzed in the field for pH, temperature, electrical conductivity, oxidation-reduction potential (ORP) during well purging activities as specified in the GMP. Samples will be sent to GeoAnalytical Laboratory for analyses for dissolved arsenic, hexavalent chromium, dissolved manganese and sulfate.

The success of the *in-situ* injection and treatment will be evaluated using the trends of the concentrations of the two constituents of concern (hexavalent chromium and arsenic). The concentrations of two constituents of interest (manganese and sulfate) will also be monitored.

### **Performance Criteria**

To demonstrate compliance with the substantive requirements of the State's Anti-Degradation Policy (Waste Discharge Requirements), and demonstrate that the *in-situ* treatment element of the final groundwater remedial action is meeting the ROD Amendment No. 2-established cleanup objectives, VWP will meet the Performance Criteria specified in this Work Plan. All monitoring data will be reported in the Quarterly, Semi-Annual and Annual Compliance Monitoring Reports and Annual Performance Evaluation Reports, which are all deliverables required in the RD-RA Work Plan.

As discussed above, the final groundwater remedial action will have two parts: 1) *in-situ* treatment to address onsite residual arsenic near the former wood treatment facility at the Site and 2) MNA for arsenic and hexavalent chromium. The evaluations performed during the Focused Feasibility Study indicated that MNA alone would be an acceptable final remedial action for the Site groundwater. The projected timeframe for a localized on-Site area of residual arsenic concentrations to reach cleanup objectives was up to 40 years. EPA selected a final remedial alternative for groundwater, which was designed to reduce the timeframe to reach the arsenic cleanup objectives. The purpose of the *in-situ* treatment is to reduce concentrations of arsenic in groundwater near the former wood treatment plant, to be followed by the MNA monitoring.

It is anticipated that the *in-situ* remediation described in this Work Plan will reduce the concentration of arsenic in the localized area of residual arsenic contamination near the former wood treatment facility at the Site to enhance the MNA remedy. As discussed above, during and immediately following *in-situ* treatment, performance will be evaluated by groundwater monitoring. Four shallow zone groundwater monitoring wells are located in the area of the *in situ* treatment field: GW-1, GW-2, GW-12 and GW-24, which will be the primary indicator wells for *in-situ* treatment effectiveness following the injection of ViroBind™. In addition, other surrounding wells will continue to be monitored as part of the routine groundwater monitoring program, but the *in-situ* treatment is not expected to result in any changes to the concentrations of constituents of concern or interest outside the immediate area of injection.

The results of the groundwater monitoring program will be evaluated with respect to concentration trends of the two constituents of concern (arsenic and hexavalent chromium) to determine the success of the field injection and treatment. It is anticipated that concentrations of one of the constituents of interest (manganese) may rise in the wells in the treatment area as a result of the proposed *in-situ* treatment; however prior data collected at the Site has demonstrated that concentrations of this constituents will not migrate significantly beyond the immediate area of treatment and will eventually decline.

For several years, groundwater monitoring has been conducted in accordance with the approved Groundwater Monitoring Plan GMP (MWH 2004). One of the key deliverables under the RD-RA Work Plan, the GMP will be updated to address MNA monitoring. In particular, the GMP will be updated to reflect groundwater conditions and monitoring needs in the post *in-situ* treatment timeframe and to address the methodology to demonstrate through MNA that groundwater has met final remedial action objectives. It is anticipated that a statistical approach will be used to evaluate groundwater concentration trends.

The Performance Criteria for the MNA remediation are:

- The MNA groundwater monitoring program shall demonstrate an overall stable/declining trend for two constituents of concern (arsenic and hexavalent chromium).

- MNA shall be deemed complete when groundwater monitoring data demonstrates that the ROD Amendment No. 2-specified RAOs have been met at the Site using EPA-approved methodology as defined in the updated GMP.

## CONCLUSION

Groundwater contamination with arsenic in the vicinity of the former wood-treating plant is vertically stratified, with contamination mostly present in the upper 30 feet of the subsurface. Based on prior soil sampling before soil removal, it is reasonable to expect that the arsenic groundwater contamination extends from approximately 50 feet north of GW-1 to the vicinity of GW-24, a north-south distance of approximately 250 feet. The contamination does not appear to extend down-gradient from the plant site.

The treatability test activities conducted to date show that ViroBind™ F Blend is capable of reducing residual arsenic and hexavalent chromium concentrations present in the groundwater, such that the MNA timeframe will be significantly shortened. The subsequent leachability testing shows that a dose rate of 1% ViroBind™ reagent by weight will prevent the leaching of most of the solid-phase soluble arsenic from the soil material by the subsequent influx of groundwater from upgradient of the Site without resulting in a significant increase in manganese concentrations beyond those previously observed during the GPS. To address the concern for potential increased sulfate concentrations, the ViroBind™ blend for *in-situ* treatment will use ferrous chloride versus ferrous sulfate, and hydrochloric acid will be used instead of sulfuric acid for pH adjustment. Therefore, no significant changes in sulfate concentrations are expected to result due to the *in-situ* treatment. The treatability study data confirm that the manganese concentrations in the samples decrease with time in the lower dose rate samples.

The laboratory treatability study work plan called for determination of the dose of reagent to be used in *in-situ* treatment. The leachability portion of the testing was conducted on a paste formed by mixing contaminated soil with contaminated groundwater. While the results are stated in terms of dose rates of dry soil, in fact the dose rates are actually equivalent to the dose of the saturated contaminated soil in the vicinity of well GW-12, on the down-gradient area of the arsenic contamination. This testing, at dose rates between 0.5 and 2%, showed that dosing of the saturated soil exhibits a semi-log relationship between dose and arsenic concentrations in the leachate, and that 1% achieves most of the desired goal. The dosing at 1% will involve an injection of approximately 0.15 pore volumes.

## REFERENCES

MWH 2004, *Groundwater Monitoring Plan*, December.

MWH 2005, *Final Soil Remediation Action Report, Valley Wood Preserving, Turlock, California*, September 20.

MWH 2007a, *Final Focused Feasibility Study, Valley Wood Preserving Site, Turlock, California*, January 19.

MWH 2007b, *Work Plan for Conduct of Laboratory Treatability Study, In-Situ Arsenic Remediation at the Valley Wood Preserving Site, Turlock, California*, January.

**TABLES**

**Table 1 - VWP Treatability Study Test Results  
Groundwater Profiling  
January/February 2007**

<b>Depth Profile Samples, GW-12</b>						
<b>GeoAnalytical Laboratories (Results in mg/L)</b>						
<b>Sample ID</b>	<b>Sample Depth</b>	<b>Sample Date</b>	<b>Dissolved Arsenic</b>	<b>Dissolved Manganese</b>	<b>Hexavalent Chromium</b>	<b>Sulfate as SO<sub>4</sub></b>
GW-12	10	1/8/2007	0.37	<0.01	0.4	175
GW-12	15	1/8/2007	0.38	<0.01	0.5	155
GW-12	20	1/8/2007	0.39	<0.01	0.5	219
GW-12	25	1/8/2007	0.39	<0.01	0.5	175
GW-12	30	1/8/2007	0.14	<0.01	0.1	172
Duplicate 1*	30	1/8/2007	0.13	<0.01	0.1	174
GW-12	35	1/8/2007	0.05	<0.01	0.03	185
GW-12	40	1/8/2007	0.02	<0.01	0.01	139
GW-12	45	1/8/2007	0.02	<0.01	0.02	144
GW-12	50	1/8/2007	0.02	<0.01	0.01	145

\* Duplicate of Sample GW-12 @ 30'

<b>Inter-Laboratory Duplicate, GW-12</b>						
<b>Sample ID</b>	<b>Sample Depth</b>	<b>Sample Date</b>	<b>Dissolved Arsenic</b>	<b>Dissolved Manganese</b>	<b>Hexavalent Chromium</b>	<b>Sulfate as SO<sub>4</sub></b>
<b>GeoAnalytical Laboratories (Results in mg/L)</b>						
GW-12	22.5	1/9/2007	0.38	<0.01	0.5	188
<b>Energy Laboratories (Results in mg/L)</b>						
GW-12	22.5	1/9/2007	0.4	<0.01	0.5	175

<b>Inter-Laboratory Duplicate, GW-18</b>						
<b>Sample ID</b>	<b>Sample Depth</b>	<b>Sample Date</b>	<b>Dissolved Arsenic</b>	<b>Dissolved Manganese</b>	<b>Hexavalent Chromium</b>	<b>Sulfate as SO<sub>4</sub></b>
<b>GeoAnalytical Laboratories (Results in mg/L)</b>						
GW-18	48	1/9/2007	<0.005	0.04	<0.01	177
<b>Energy Laboratories (Results in mg/L)</b>						
GW-18	48	1/9/2007	<0.005	0.04	<0.005	162

<b>Blended Soil Sample, GW-12 and GW-2</b>					
<b>Sample ID</b>	<b>Sample Depth</b>	<b>Sample Date</b>	<b>Arsenic</b>	<b>Manganese</b>	<b>Hexavalent Chromium</b>
<b>Energy Laboratories (Results in mg/kg)</b>					
VWPO-0	—	2/21/2007	<5.0	40	<5

**Table 2 - VWP Treatability Study Test Results  
Virotec Slurry Samples**

Sample Name	ViroBind™ Dosage Rate (g/L)	Oxidant	pH	ORP (mV)	Conductivity (uS/cm)	Arsenic (mg/L)	Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfate (mg/L)
VWP 1-1	2.0	none	8.14	135.0	1099	0.05	0.36	0.005 U	264 D
VWP 1-2	3.2	none	7.61	58.1	1176	0.02	0.54	0.005 U	314 D
VWP 1-3	4.0	none	7.67	70.2	1286	0.01	0.66	0.005 U	351 D
VWP 1-4	6.0	none	7.44	99.6	1492	0.006	0.89	0.005 U	445 D
VWP 1-5	8.0	none	7.24	102.9	1653	0.005 U	1.1	0.005 U	482 D
VWP 1-6	4.0	none	7.41	156.1	1321	0.01	0.65	0.005 U	351 D
VWP 1-7	4.0	potassium persulfate	7.48	163.4	1543	0.008	0.56	0.005 U	468 D
VWP 1-8	4.0	calcium peroxide	7.70	151.0	1280	0.02	0.45	0.005 U	351 D
VWP 1-9	control	none	7.74	140.8	893	0.58	0.01	0.48 D	179 D

## Notes:

U = non-detect detection limit shown

D = sample diluted

**Table 3 - Valley Wood Preserving  
Short-Term Leachability Study  
Virotec Slurry Samples**

Sample ID	Dosage Rate (dry wt)	Leach Duration (Days)	Analyte (mg/L)			
			Arsenic	Manganese	Cr(VI)	Sulfate
VWP 2-0	0.0%	14	0.37	0.02	0.007	179
VWP 2-1	0.5%	1	0.08	0.15	<0.005	213
VWP 2-2		2	0.11	0.14	<0.005	213
VWP 2-3		4	0.12	0.15	NA	217
VWP 2-4		7	0.15	0.13	<0.005	209
VWP 2-5		14	0.16	0.15	<0.005	227
VWP 2-6		7	0.14	0.15	<0.005	217
VWP 2-7	2.0%	1	<0.01	NA	NA	NA
VWP 2-8		2	<0.01	NA	NA	NA
VWP 2-9	4.0%	1	<0.01	NA	NA	NA
VWP 2-10		2	<0.01	NA	NA	NA
VWP 2-11	0.0%	2	0.30	NA	NA	NA

## Notes:

NA = not analyzed

and adding GW-12 groundwater (contaminated) to the saturation point. 226 grams of saturated soil (200g dry wt. equivalents) was added to 1 liter plastic bottles and then 950mL of GW-18 groundwater (clean) was added to each bottle. The bottles were tumbled for at least 4hrs per day and then filtered (0.45um), preserved, and submitted for analysis.



**Table 4 - Valley Wood Preserving  
Short-Term Leachability Study  
Virotec Slurry Samples**

Sample ID	Dosage Rate (dry wt)	Leach Duration (Weeks)	Analyte (mg/L)			
			Arsenic	Manganese	Cr(VI)	Sulfate
2-12	0.0%	2	0.35	0.02	0.02 H	161
2-17		4	0.37	0.03	0.02	171
2-22		6	0.38	0.02	<0.005	172
2-26		8	0.39	0.02	0.02	167
2-13	1.0%	2	0.05	0.39	<0.005 H	247
2-18		4	0.06	0.01	<0.005	262
2-21			0.06	<0.01	<0.02 D	265
2-23		6	0.07	<0.01	<0.005	261
2-27		8	0.07	<0.01	<0.005	278
2-14	1.5%	2	0.02	0.6	<0.005 H	312
2-16			0.02	0.55	<0.005 H	314
2-19		4	0.03	0.53	<0.005	325
2-24		6	0.03	0.02	<0.005	309
2-28		8	0.03	<0.01	<0.005	321
2-15	2.0%	2	0.01	0.78	<0.02 DH	357
2-20		4	0.02	0.65	<0.01 D	374
2-25		6	0.02	0.64	<0.005	378
2-29		8	0.02	0.57	<0.005	375

**Notes:**

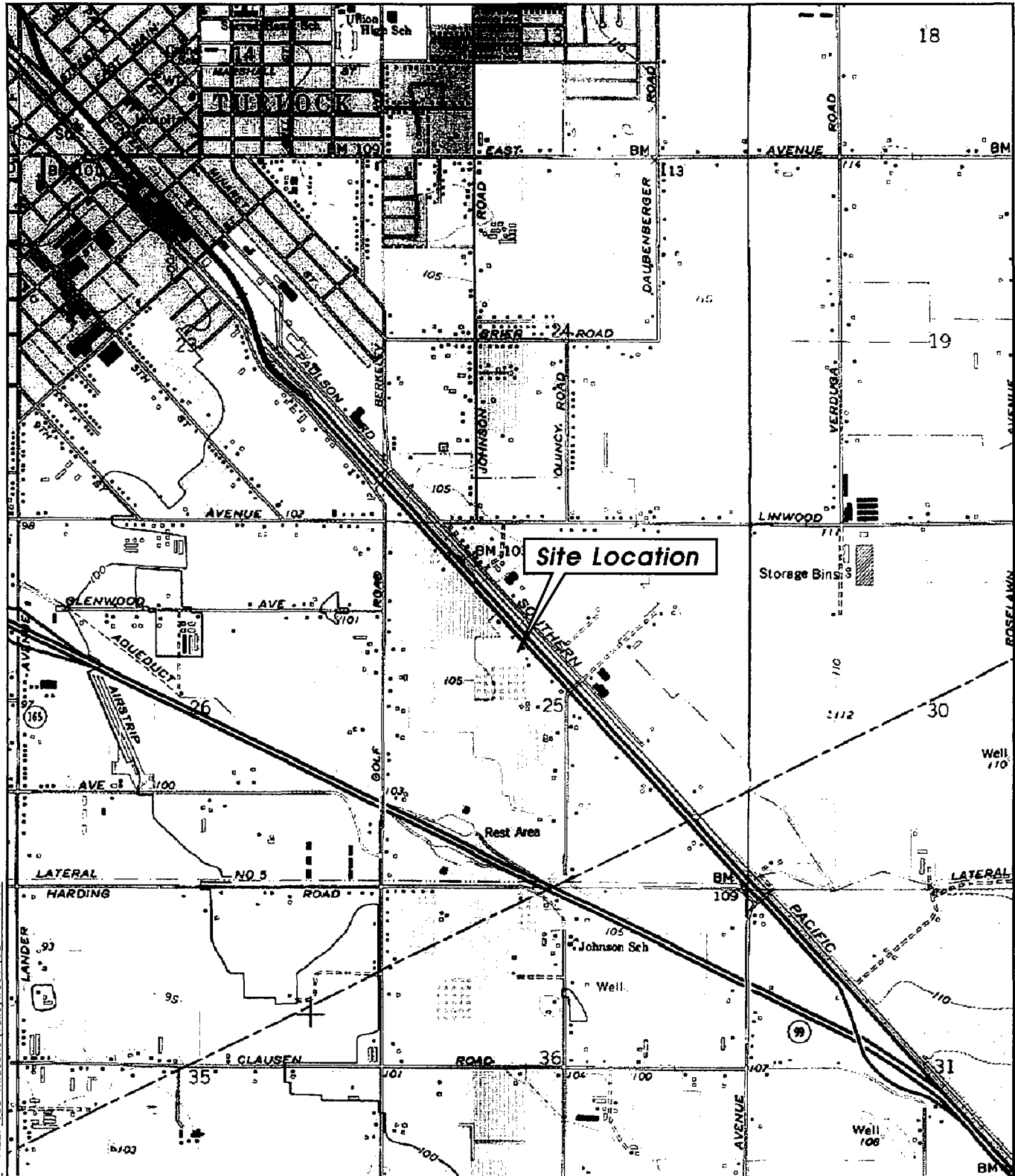
Qualifiers: H=hold time exceeded D=dilution required

\*Leaching began on April 9, 2007

\*Leaching was completed by combining contaminated soil with ViroBind™ F-blend then mixing thoroughly and adding GW-12 groundwater (contaminated) to the saturation point. 226 grams of saturated soil (200g dry wt. equivalents) was added to 1 liter plastic bottles and then 950mL of GW-18 groundwater (clean) was added to each bottle. The bottles were inverted at least once a day and then filtered (0.45um), preserved, and submitted for analysis.

**FIGURES**

FILE: cad\_muebike\_valleywood\SI\MAP\_6\_04  
JOB No.



**MWH**

VALLEY WOOD PRESERVING, INC.  
TURLOCK, CA

**SITE LOCATION MAP**

FIGURE 1

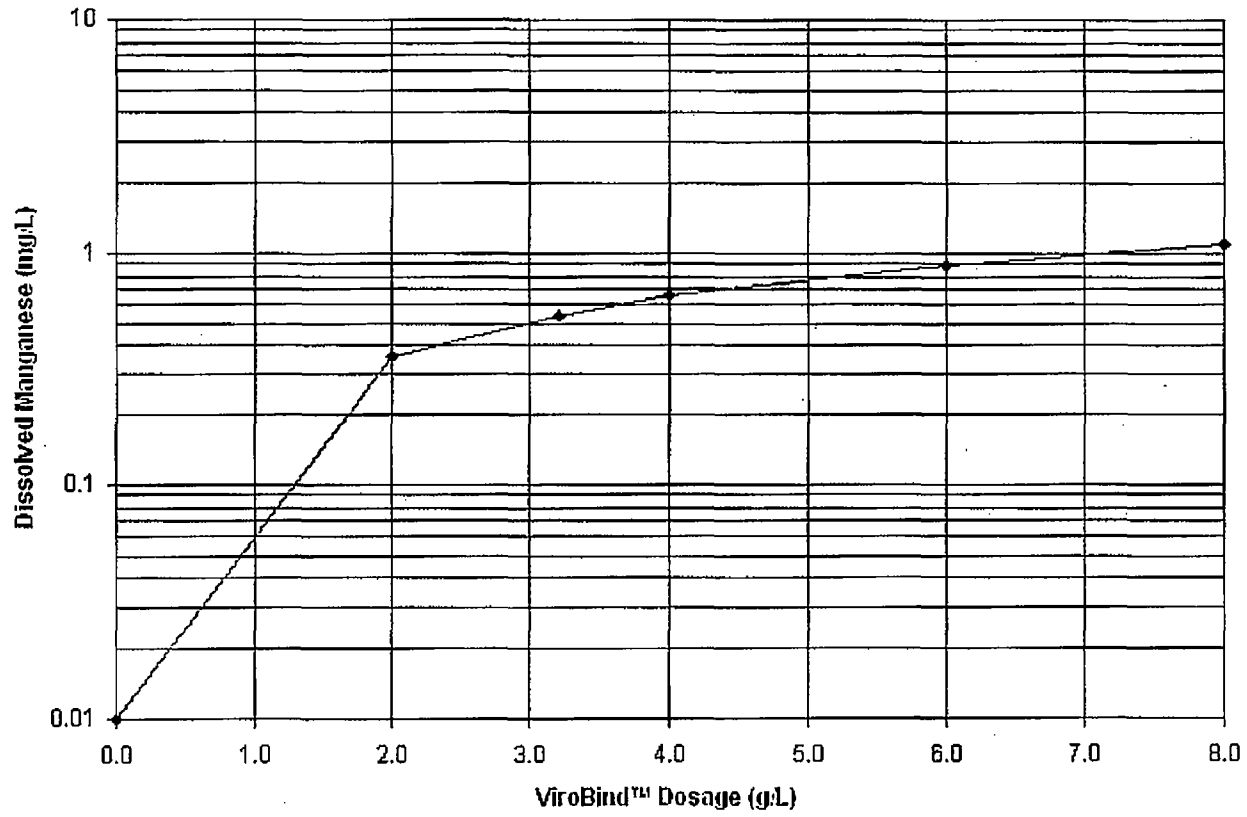


Figure 2. Manganese as a function of ViroBind™ dose.

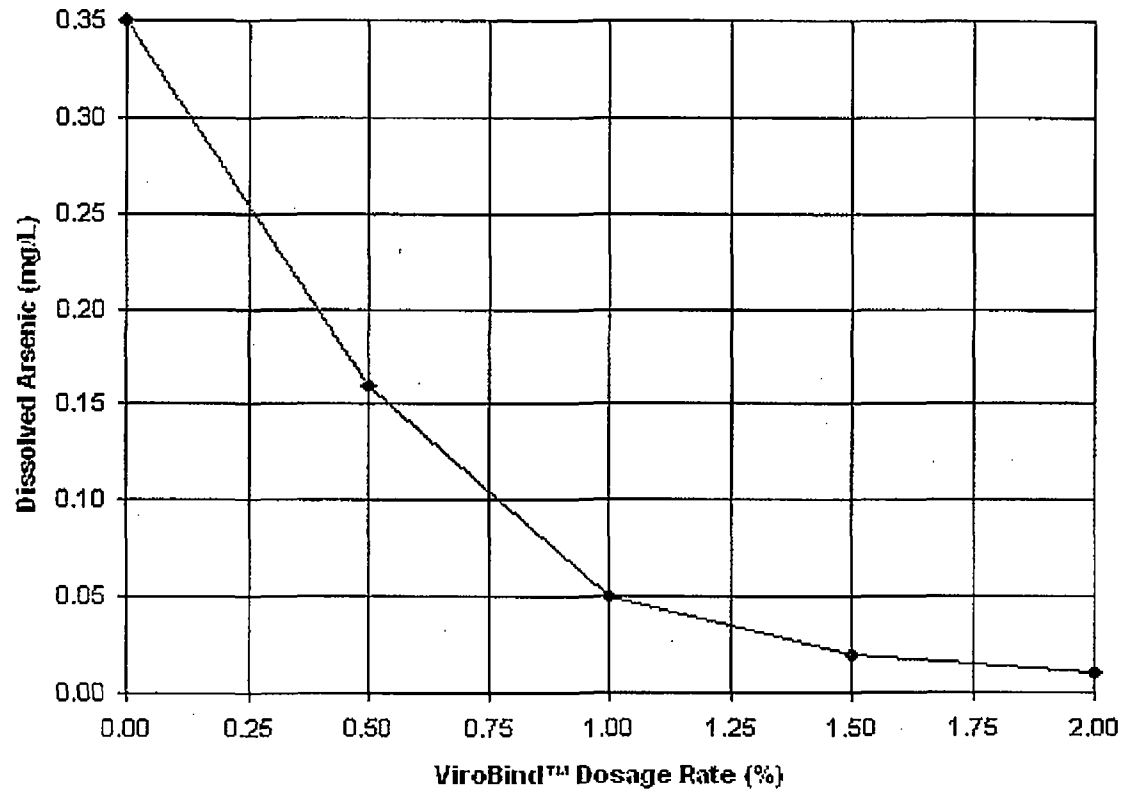


Figure 3. Arsenic at various ViroBind™ dosage rates. Leach duration=14 days.

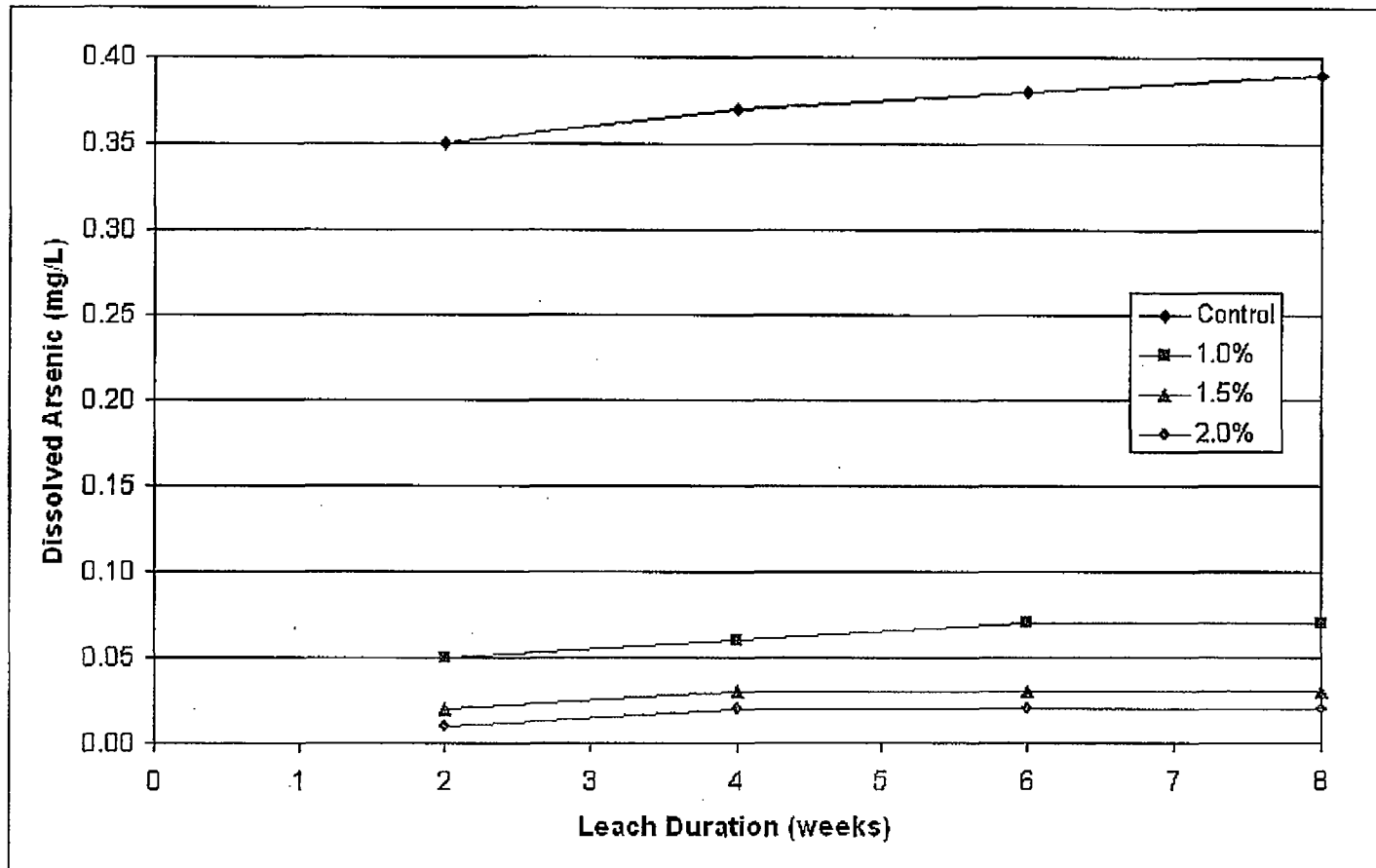
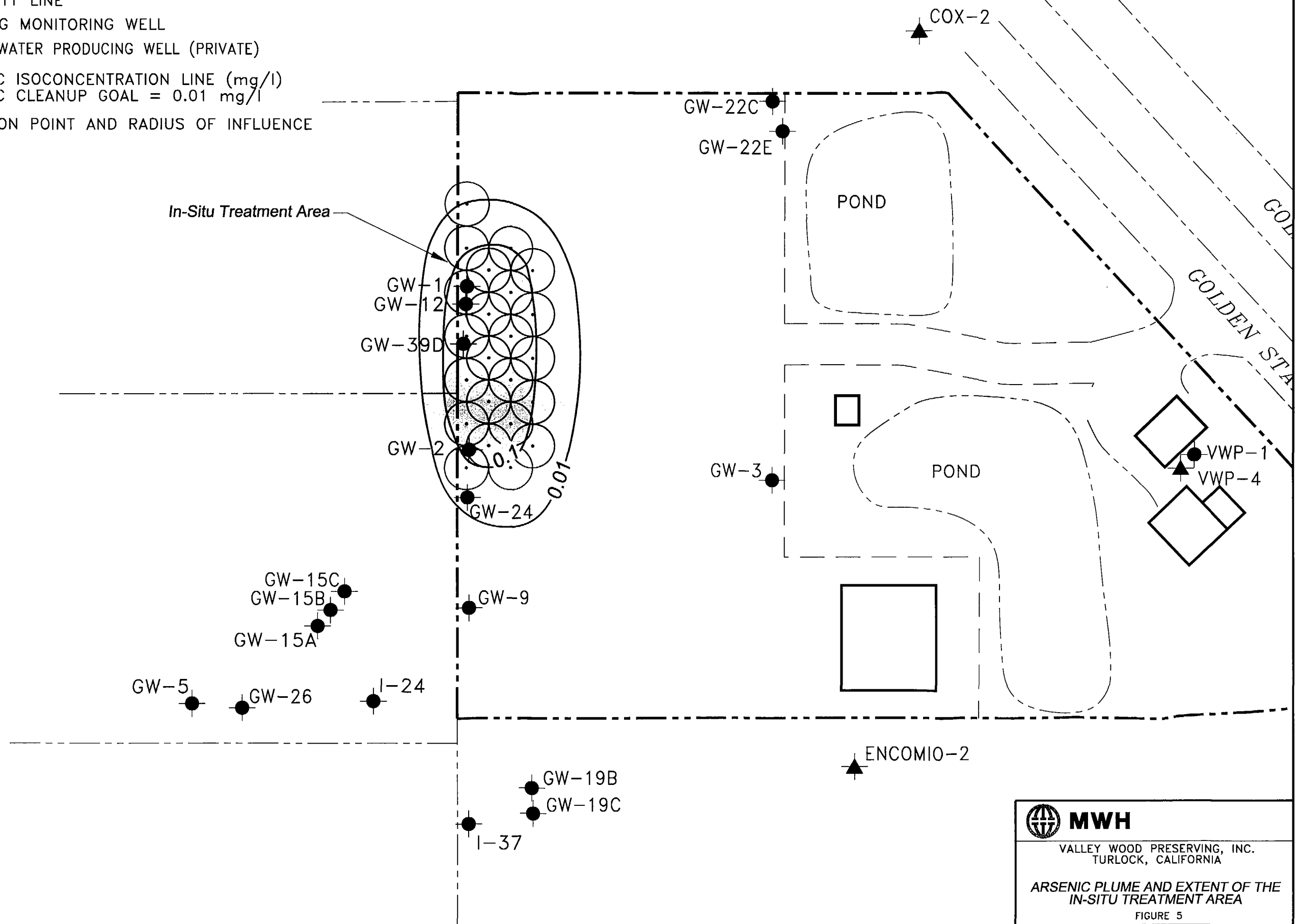


Figure 4. Dissolved arsenic concentrations for various ViroBind™ dosages over a leach duration of 2 to 8 weeks.

**LEGEND**

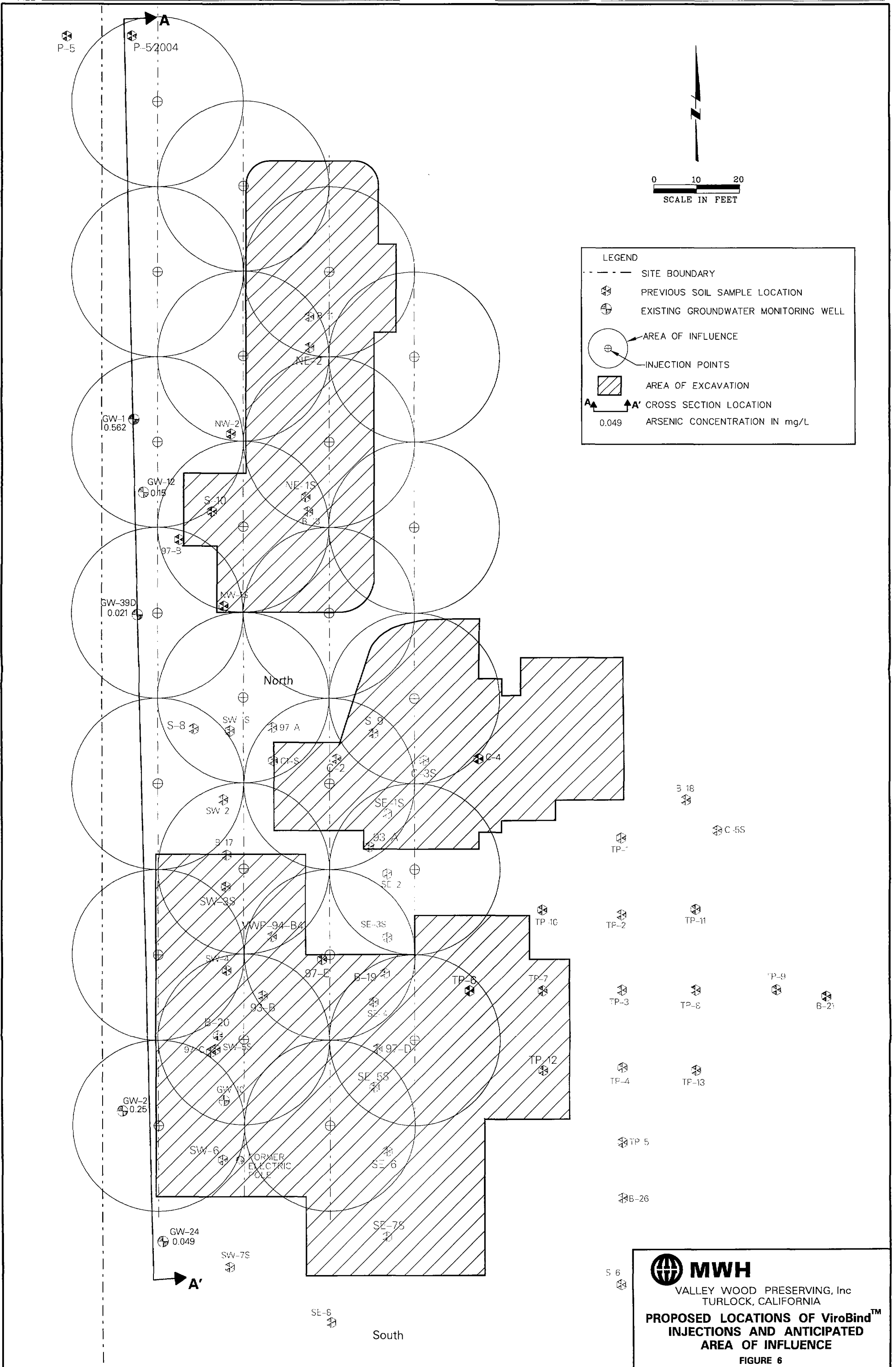
- PROPERTY LINE
- EXISTING MONITORING WELL
- ▲ ACTIVE WATER PRODUCING WELL (PRIVATE)
- ARSENIC ISOCONCENTRATION LINE (mg/l)  
ARSENIC CLEANUP GOAL = 0.01 mg/l
- INJECTION POINT AND RADIUS OF INFLUENCE

In-Situ Treatment Area



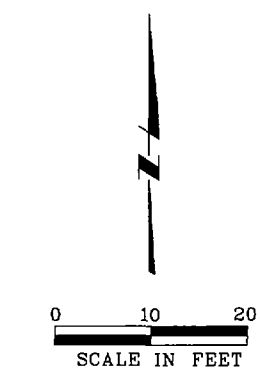
JOB No. 1196166 FILE: CAD\M\L\EBK\WOOD\injection site plan 8 07

**MWH**  
 VALLEY WOOD PRESERVING, INC.  
 TURLOCK, CALIFORNIA  
**ARSENIC PLUME AND EXTENT OF THE  
 IN-SITU TREATMENT AREA**  
 FIGURE 5



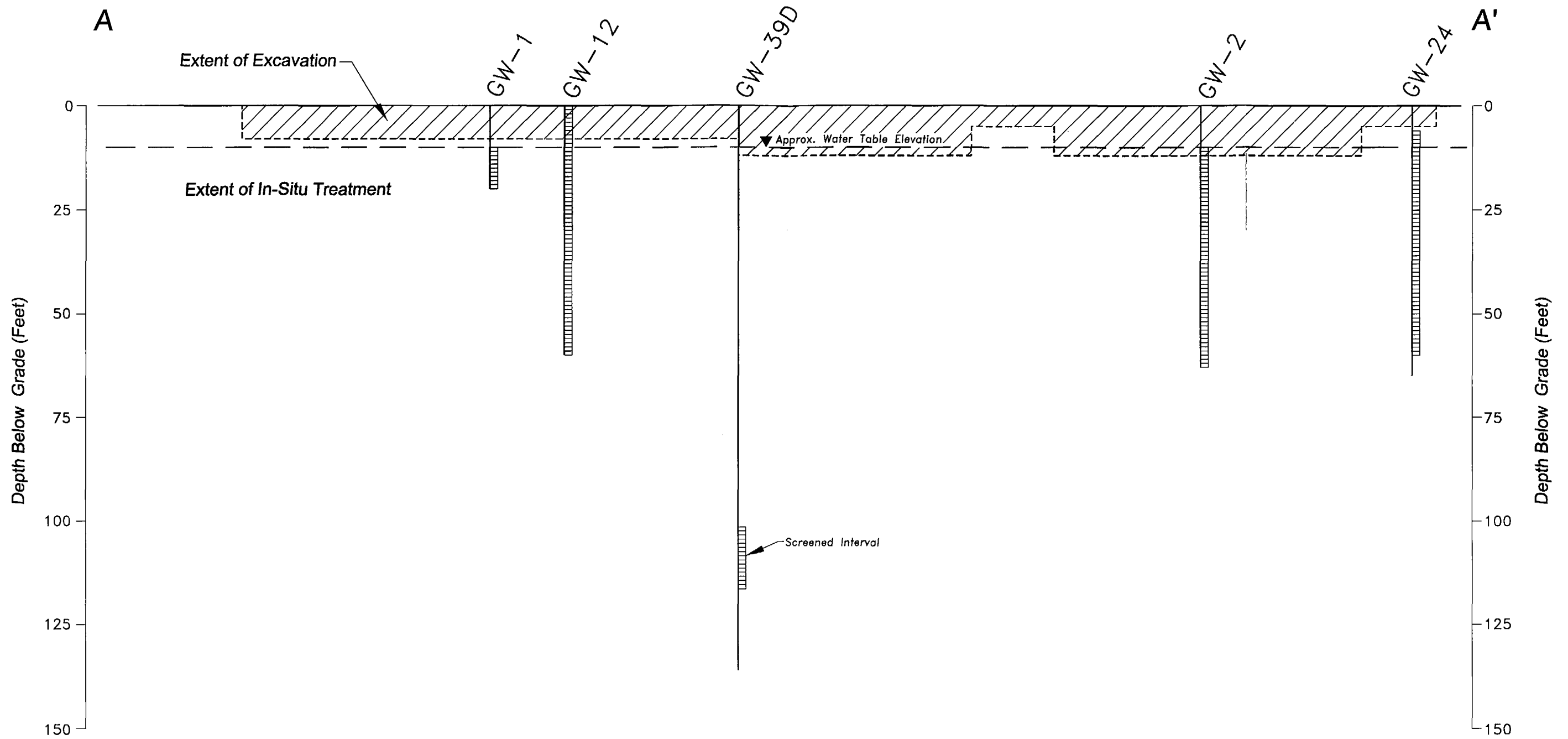
**LEGEND**

- - - SITE BOUNDARY
- ⊗ PREVIOUS SOIL SAMPLE LOCATION
- ⊕ EXISTING GROUNDWATER MONITORING WELL
- AREA OF INFLUENCE
- ⊕ INJECTION POINTS
- ▨ AREA OF EXCAVATION
- ↕ CROSS SECTION LOCATION
- 0.049 ARSENIC CONCENTRATION IN mg/L




**MWH**  
 VALLEY WOOD PRESERVING, Inc  
 TURLOCK, CALIFORNIA  
**PROPOSED LOCATIONS OF ViroBind™  
 INJECTIONS AND ANTICIPATED  
 AREA OF INFLUENCE**  
 FIGURE 6





JOB No. 1196166 FILE: CADMLUEBKWOOD\cross\_section aa 8 6 07



 **MWH**  
VALLEY WOOD PRESERVING, INC.  
TURLOCK, CALIFORNIA  
**CROSS SECTION THROUGH PROPOSED  
IN-SITU TREATMENT AREA**  
FIGURE 7

**APPENDIX A**  
**Acceptance of Virotec Reagents by**  
**Federal, State, and Non-Governmental Agencies**

## Appendix A

### Acceptance of Virotec reagents by Federal, State, and Non-Governmental Agencies

ViroBind™ F Blend reagent is proposed to be used to immobilize arsenic and reduce residual hexavalent chromium in the subsurface at the Valley Wood Preserving (VWP) site at Turlock, CA. This reagent, and other similar reagents such as ViroMine™, ViroSoil™, etc is manufactured by Virotec USA Inc using the patented Bauxsol™ technology, originally developed in Australia and since utilized for metals, radionuclide and phosphate remediation at sites around the world. Additional information is available at the Virotec web site ([www.virotec.com](http://www.virotec.com)). The following provides a brief description of the nature and manufacture of the ViroBind™ reagent, followed by a description of its acceptance and use at sites in the United States. Similar acceptance has occurred at sites in Australia, United Kingdom, Italy, Romania, Portugal and other countries, but the following discussion is limited to the United States.

The foundation of the various reagents consists of a finely-ground lateritic material that has been stripped of aluminum by a sodium hydroxide leach, followed by neutralization in sea water and a calcium and magnesium brine, leaving behind a series of predominantly iron minerals such as hematite, boehmite, gibbsite and sodalite, with trace quantities of various calcium and magnesium carbonates, hydroxides, and oxides. The material is a fine mineral powder, with 80% less than 10 micron in diameter, meaning the minerals have a large exposed surface area. Scanning electron microscope pictures show that the mineral grains are also highly porous, further increasing the surface area. The result is that the mineral grains serve as nucleation sites for metal mineral growth. The foundation reagent is essentially non-soluble.

The foundation reagent is then blended with additives to further enhance the desired geochemical properties. For example, ViroBind™ T Blend includes magnesium oxide to further enhance acid neutralization. ViroBind™ F Blend is formed by the addition of ferrous ion, to serve as a reductant for hexavalent chromium. Normally, the ViroBind™ F Blend is dosed with ferrous sulfate and the pH is modified to slightly acidic by the use of sulfuric acid, but because of the concern over the addition of sulfate ions, the reagent will be formed by the use of ferrous chloride and hydrochloric acid. All available sources of ferrous ions include trace amounts of manganese ions, thus the reagent will include some manganese ions in soluble form. The additives such as the ferrous chloride are soluble and designed to react with residual hexavalent chromium or other reducible ions such as nitrate, present in the ground water from past and present agricultural practices. A copy of the ViroBind™ F Blend MSDS is attached.

Acceptance of the various Virotec reagents has occurred by State, Federal and non-governmental bodies. At the State level, the California North Coast Regional Water Quality Control Board, by Waste Discharge Requirements Order No. R1-2004-0094, issued to Coast Wood Preserving (CWP), has indicated acceptance of the use of "Bauxsol" to aid in immobilization of arsenic and reduction of hexavalent chromium at the CWP site, along with zero valent iron (ZVI), calcium polysulfide and calcium peroxide. Arizona authorized the trial injection of ViroMine™ T Blend into the saturated

Tanks Wash, near Miami, AZ, to neutralize acidic ground water and to precipitate dissolved heavy metals. South Carolina has approved the use of Radium ProActiv™, a reagent very similar to ViroBind™ F Blend, for removal of radium from municipal water-supply wells, and has not recognized any other form of radium removal. Florida has recently authorized the use of ViroBind™ F Blend for treatment of ponds and ground water for arsenic removal.

Several regions of the US Environmental Protection Agency have approved injection of the various Virotec reagents into the saturated zone, and have actually conducted tests using the Virotec reagents. For example, EPA Region 1 has tested the reagent for acidic pit-lake treatment at an abandoned mine pit. Region 3 has issued an Underground Injection Control (UIC) permit for the injection of the a T Blend at the I-99 site near State College PA, and Region 8 has conducted tests of the foundation reagent to treat acidic runoff from the Gilt Edge mine near Lead, SD. Each of these programs has been successful, with no adverse effects.

Non-governmental entities have also approved of the use of the various Virotec reagents. The National Sanitation Foundation (NSF) has certified the use of the various reagents in the treatment of drinking water for arsenic and radium removal. A copy of the NSF certification is attached.

Based on the above described experience, the use of ViroBind™ F Blend is believed to be beneficial and non-harmful in the remediation of dissolved arsenic in the limited area of the shallow ground water at the former VWP plant site. No adverse effects are anticipated from the local injection.

**Material Safety Data Sheet**

Prepared according to NOHSC: 2011(1994.)

**ViroBind™ F blend**

**Not a hazardous good as listed in: "List of Designated Hazardous Substances", National Occupational Health and Safety Commission and the Australian Dangerous Goods Code.**

<b>Company</b>	<b>Virotec USA Inc.</b>
<b>Address</b>	10835 Dover Street, Suite 100 Westminster, CO 80021
<b>Telephone Number</b>	303 628 4347
<b>Emergency Telephone Number</b>	303 628 4347

<b>PRODUCT IDENTIFICATION</b>
-------------------------------

<b>Product Name</b>	ViroBind™ F blend
<b>Other Names</b>	None
<b>Manufacturer's Product Code</b>	BXA2-F
<b>UN Number</b>	None allocated
<b>US EPA Number</b>	P 04-876 Regist. 69 #189:58442
<b>NSF Std 60 Certificate No.</b>	None allocated
<b>SIC / NAICS Codes</b>	2819 / 325188
<b>Dangerous Goods Class</b>	None allocated
<b>Subsidiary Risk</b>	None allocated
<b>Hazchem Code</b>	None allocated
<b>Poisons Schedule Number</b>	Not scheduled
<b>Maximum Use Level (for drinking water)</b>	1,000 milligrams per liter
<b>Major Uses and Methods of Application</b>	Treatment of acid, metals, fluoride, phosphate, radium, or arsenic contaminated waste or groundwater, and soils.  Disperse into contaminated water, mix into contaminated soil or use as a passive barrier

**Physical Description/Properties**

<b>Appearance</b>	Reddish pasty solid or granules
<b>Description</b>	Water dispersible solid obtained from the neutralization and immobilization of red mud.
<b>Boiling Point (°C)</b>	Not Applicable
<b>Vapour Pressure (mmHg)</b>	Not Applicable
<b>Density</b>	1.05 - 1.15
<b>Flash Point (°C) ASTM D93</b>	None
<b>Lower Flammability Limit(% Vol)</b>	Not flammable
<b>Upper Flammability Limit (%Vol)</b>	Not flammable
<b>Solubility In Water</b>	Insoluble, dispersible
<b>Percent Volatiles By Volume</b>	No data available
<b>pH</b>	8.5 – 9.5
<b>In vitro corrosivity</b>	Not corrosive as determined by the Corrositex® test method by Invitro International of Irvine, California

**Composition**

<b>Chemical Name</b>	<b>CAS Number</b>	<b>Proportion</b>
Iron(II) chloride tetrahydrate ( $\text{FeCl}_2 \cdot 4\text{H}_2\text{O}$ )	13478-10-9	0 – 20%
Iron oxyhydroxides (mainly hematite $\text{Fe}_2\text{O}_3$ )	1309-37-1	27 - 35%
Hydrated alumina ( $\text{Al}_2\text{O}_3 \cdot x\text{H}_2\text{O}$ )	1344-28-1	17 - 25%
Sodalite ( $\text{Na}_4\text{Al}_3\text{Si}_3\text{O}_{12}\text{Cl}$ )	1302-90-5	17 - 22%
Quartz ( $\text{SiO}_2$ )	14808-60-7	3 - 6%
Cancrinite ( $(\text{Na}, \text{Ca}, \text{K})_8(\text{Al}, \text{Si})_{12}\text{O}_{24}(\text{SO}_4, \text{CO}_3)$ )	12172-98-4	6 - 10%
Calcium carbonates & hydroxycarbonates	471-34-1	4 - 8%
Magnesium hydroxides & hydroxycarbonates	1309-42-8	2 - 3%
Titanium oxides	51745-87-0	4 - 6%
Water		Remainder
Contains inorganic trace elements		Less than 0.2%



**HEALTH HAZARD INFORMATION**

**Health Effects**

**Acute**

- Swallowed** Minor to moderately irritating to the gastro-intestinal tract if swallowed, may cause nausea and/or vomiting when ingested.
- Eye** Product can be uncomfortable and may be abrasive to the eyes. Product is capable of causing mild, temporary redness to the conjunctiva, short-term impairment of vision and/or other temporary eye damage and ulceration.
- Skin** Product may be slightly irritating to the skin if there is prolonged exposure and may cause temporary discoloration of skin. Long term exposure may cause dryness to the skin and lead to dermatitis. In the presence of moisture or perspiration it may produce skin irritation. May aggravate pre-existing skin conditions.
- Inhaled** Dust generated during the general use of the product may cause irritation to respiratory tract and lungs if inhaled. Pre-existing respiratory and lung conditions may be aggravated by extended exposure.
- Chronic** Main exposure to the product is usually by skin, or eye contact and inhalation of dust. With good occupational health and work practices, inhalation, ingestion and skin contact can be minimized.

**First Aid**

- Swallowed** If conscious, do not induce vomiting, flush mouth with water, drink copious quantities of water, but do not give anything by mouth to an unconscious person. Call doctor if necessary.
- Eye** Flush with water for 15 minutes, lifting upper lid. Call doctor if necessary.
- Skin** Remove contaminated clothing. Wash affected area thoroughly with water and soap (pumice or sand soap are effective). Use barrier cream to prevent dry skin. If any irritation persists, seek medical attention.
- Inhaled** Remove person to fresh air. Get patient to blow nose to clear airways. If breathing is shallow, give oxygen and seek medical help.
- Advice to Doctor** Treat symptomatically



**PRECAUTIONS FOR USE**

- Exposure Standards** None established for the product.  
Limits for individual components are:  
Dust Worksafe TWA 10 mg/m<sup>3</sup>.  
Respirable quartz component Worksafe TWA 0.2 mg/m<sup>3</sup>.
- Ventilation** Ensure adequate ventilation to minimize dust exposure levels  
Respiratory protection should be worn.
- Personal Protection**
- Hand / Foot** Wear protective gloves and safety boots.
- Inhalation** Use an approved dust type respirator or mask.
- Eye Protection** Safety glasses with side shields or goggles.  
Contact lenses are a hazard; soft lenses may capture irritants and all lenses concentrate them.
- Flammability** No special precautions required

**SAFE HANDLING INFORMATION**

- Handling** Wear protective gloves and loose comfortable clothing and boots. Long sleeves and trousers are recommended. Ensure access to a shower and/or eye wash unit.
- Spills**
- Minor
- 1) Clean all spills without delay.
  - 2) Prevent contact with eyes and skin.
  - 3) Wear protective clothing, gloves, safety glasses and dust respirator.
  - 4) Prevent dust generation.
  - 5) Sweep or vacuum.
  - 6) Place in clean drum and wash area with water.
- Major (in public places)
- 1) Clear area of personnel and move away from possible dust.
  - 2) All management and contracting personnel to wear appropriate clothing, gloves, safety-glasses and dust respirator.
  - 3) Prevent spills from entering waterways, sewers or drains.
  - 4) Prevent generation of dust.
  - 5) Retrieve and reuse product where possible.
  - 6) Place remainder in labelled containers for removal.
  - 7) Advise Virotec management and local authorities.





- Disposal**
- 1) Notify Virotec for location of suitable storage site.
  - 2) Recycle where possible or contact company for recycling options.
  - 3) Consult Local Government Authority for disposal.
- Corrosivity** Less than 6.25 mm/yr when tested against 7075T6 Aluminium using Laboratory Corrosion Testing of Metals for the Process Industry NACE TM-01-69 (revised 1976).
- Environmental** TCLP testing using extraction fluid #2, pH 2.83 - 2.93 is less than the concentration limits proposed by the US EPA.
- Fire/Explosion Hazard** None
- Fire Extinguishers** Not Applicable

---

**Contact Point:** Virotec USA Inc.

**Signature:**

**Date:**

---

**This Data Sheet prepared by:** Virotec USA Inc.  
10835 Dover St., Suite 100  
Westminster, CO 80021  
Telephone: 303 628 4347

All information contained in this Material Safety Data Sheet is based on data and samples provided by Virotec Global Solutions Pty Ltd. It is accurate to the best of our knowledge at the date of issue. However no warranty or representation is expressed or implied as to the accuracy or completeness of the information contained in this data sheet. Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the users' obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The company accepts no responsibility for injury, loss or damage, resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of this material.

# NSF International

RECOGNIZES

**VIROTEC USA INC.**  
Facility: WESTMINSTER, CO

AS COMPLYING WITH NSF/ANSI 60.  
PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE  
AUTHORIZED TO BEAR THE NSF MARK.



ANSI Accredited Program  
Product Certification  
Certification Program  
Accredited by the  
American National  
Standards Institute



Certification Program  
Accredited by the  
Standards Council  
of Canada

This certificate is the property of NSF International and must be returned upon request. For the most current and complete information, please access NSF's website ([www.nsf.org](http://www.nsf.org)).

November 11, 2005  
Certificate# 3C291 - 01

A handwritten signature in black ink, appearing to read "D. Purkiss".

David Purkiss, General Manager  
Water Distribution Systems

## **APPENDIX G**

### **Land Use Covenant**



+

**RECORDING REQUESTED BY:**

Valley Wood Preserving  
c/o Bob Schmidt  
P O Box 1805  
Turlock, California 95381

Stanislaus Co Recorder Office  
Lee Lundrigan, County Recorder  
**DOC- 2007-0082718-00**

Acct 402-Counter Customers  
Friday, JUN 22, 2007 08:23:30  
Ttl Pd \$58.00 Nbr-0002357567  
OMC/R2/1-18

**WHEN RECORDED MAIL TO:**

James L. Tjosvold, P.E., Chief  
Northern California-Central  
Cleanup Operations Branch  
Dept Toxic Substances Control  
8810 Cal Center Drive  
Sacramento, California 95826

SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE

**COVENANT TO RESTRICT USE OF PROPERTY  
ENVIRONMENTAL RESTRICTION**

(Re: Valley Wood Preserving Superfund Site, Stanislaus County, California)

This Covenant and Agreement ("Covenant") is made by and between Valley Wood Preserving, Inc. (the "Covenantor"), the current owner of property situated in the County of Stanislaus, State of California, described in Exhibit A, attached hereto and incorporated herein by this reference (the "Property"), and the Department of Toxic Substances Control (the "Department"). Pursuant to California Civil Code section 1471, the Department has determined that this Covenant is reasonably necessary to protect present or future human health or safety or the environment as a result of the presence on the land of hazardous materials as defined in California Health and Safety Code ("H&SC") section 25260. The Covenantor and the Department, collectively referred to

*18 MC*

as the "Parties," therefore intend that the use of the Property be restricted as set forth in this Covenant. The Parties further intend that the provisions of this covenant also be for the benefit of, and be enforceable by, the United States Environmental Protection Agency ("U.S. EPA") as a third party beneficiary.

**ARTICLE I**  
**STATEMENT OF FACTS**

1.01. The Property. The Property, totaling approximately 13.1 acres, is more particularly described and depicted in Exhibit A, attached hereto and incorporated herein by this reference. The Property is located at 2119 and 2237 South Golden State Boulevard (formerly U.S. Highway 99) in the unincorporated area of Stanislaus County, California. The Property is bounded by Golden State Boulevard on the East; agricultural land and an automotive repair shop to the North; fallow and agricultural land that is currently zoned by Stanislaus County as "A-2-10" (permitting one residence on each agricultural parcel of at least 10 acres in size) to the West; and by a poultry farm to the South. The Property is more specifically described as Stanislaus County Assessor Parcel Numbers 044-031-004 and 044-031-005. The Property is located within Section 25 of Township 5 South, Range 10 East, relative to the Mount Diablo Base and Meridian.

1.02. Regulatory Oversight. The Property was the location of a wood treating plant from 1973 through 1979. In the course of wood treating activities at the Property, hazardous substances (primarily arsenic and chromium) were released onto the Property. Beginning in 1979, the Property was the subject of a Remedial Investigation and remedial actions under the direction of the Department. Beginning in September 1989, the U.S. EPA replaced the Department in the role of the lead agency and began, in consultation with the Department and the California Regional Water Quality Control Board, directing the Remedial Investigation and remedial actions at the Site.

1.03. Hazardous Substances. Hazardous substances, as defined in section 25316, chapter 6.8, division 20 of the H&SC, Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C Section 9601(14) (“CERCLA”); and 40 Code of Federal Regulations (“CFR”) parts 261.3 and 302.4, at levels inappropriate for residential land-uses, remain on portions of the Property. The hazardous substances of concern are primarily arsenic and hexavalent chromium, which were detected in the soil and groundwater. These substances are also hazardous materials as defined in H&SC section 25260.

1.04. Remediation of the Property. The Property is subject to remediation pursuant to a Record of Decision for the Valley Wood Preserving Superfund site (the “Site”) issued by the U.S. EPA in September 1991, which was subject to an Explanation of Significant Differences issued on December 9, 1994 and was amended in September 2003 (collectively these three documents are referred to herein as “the ROD”). Under the ROD, the U.S. EPA Region IX selected remedial actions for the Site pursuant to CERCLA. The Department concurred with the ROD for this Site. Pursuant to the ROD, soil above the water table contaminated with arsenic and/or hexavalent chromium at levels in excess of the levels specified in Table 2 of the 2003 ROD amendment, were excavated, and disposed of at an off-site facility. No engineered cap over the backfilled excavation area is required.

1.05. The ROD provides for a land-use covenant limiting future use of the Property to industrial/commercial uses only. This Covenant is necessary to preclude residential use of the Property; provide notice to future occupants of the Property of U.S. EPA directed remediation activities regarding soil and groundwater on the Property; provide for the proper future handling and off-site disposal of soil from the Property, including the requirement for obtaining U.S. EPA's prior written approval for the excavation or disturbance of soil located at or below 6 feet below ground surface and written notice to U.S. EPA prior to any off-site disposal of excavated soil from the property; restrict use of groundwater; and protect groundwater remedial systems.

**ARTICLE II**  
**DEFINITIONS**

2.01. Department. "Department" means the California Department of Toxic Substances Control and includes its successor agencies, if any.

2.02. U.S. EPA. "U.S. EPA" means the United States Environmental Protection Agency and includes its successor agencies, if any.

2.03. Owner. "Owner" means the Covenantor, its successors in interest, and their successors in interest, including heirs and assigns, who at anytime hold title or an ownership interest to all or any portion of the Property.

2.04. Occupant. "Occupant" means any Owner and any person or entity entitled by ownership, leasehold, or other legal relationship to the right to occupy any portion of the Property.

2.05. Remedial Systems. "Remedial Systems" means those systems described in the ROD and in any future amendments or modifications to the ROD, and which include without limitation existing groundwater monitoring wells, monitoring systems and the associated utilities.

**ARTICLE III**  
**GENERAL PROVISIONS**

3.01. Restrictions to Run with the Land. This Covenant sets forth protective provisions, covenants, restrictions, and conditions (collectively referred to as "Restrictions"), subject to which the Property shall be improved, held, used, occupied, leased, sold, hypothecated, encumbered, and/or conveyed. Each and every Restriction:

- (a) Runs with the land pursuant to H&SC section 25355.5 (a)(1)(C) and California Civil Code section 1471;
- (b) Inures to the benefit of and passes with each and every portion of the Property;
- (c) Is for the benefit of, and is enforceable by the U.S. EPA as a third party beneficiary and by the Department; and
- (d) Is imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof.

3.02. Binding upon Owners and Occupants. Pursuant to H&SC section 25355.5(a)(1)(C), this Covenant binds all owners of the Property, their heirs, successors and assignees, and the agents, employees and lessees of the owners, heirs, successors and assignees. Pursuant to California Civil Code section 1471(b), all successive owners of the Property are expressly bound hereby for the benefit of the Department and the U.S. EPA.

3.03. Written Notice of the Presence of Hazardous Substances. Prior to the sale, lease, assignment, or other transfer of the Property, or any portion thereof, the owner, lessor, assignor, or other transferor shall give the buyer, lessee, assignee, or other transferee notice that hazardous substances are located on or beneath the Property, as required by H&SC section 25359.7.

3.04. Incorporation into Deeds and Leases. The Covenant set forth herein shall be incorporated by reference in each and all deeds and leases for any portion of the Property. Further, each Owner or Occupant agrees to include in any instrument conveying any interest in all or any portion of the Property.

3.05. Conveyance of Property. The Owner shall provide notice to the Department not later than thirty (30) days after any conveyance of any ownership interest in the Property (excluding mortgages, liens, and other non-possessory encumbrances). Such notice shall include the name and address of any new Owner,



describe the portion of the Property owned by the new Owner and identify the new Owner as a person to whom notices should be delivered pursuant to section 7.03 of this Covenant. The Department and the U.S. EPA shall not, by reason of this Covenant, have authority to approve, disapprove, or otherwise affect proposed conveyance, except as otherwise provided by law, by administrative order, or by a specific provision of this Covenant.

3.06 Costs of Administering the Deed Restriction to be paid by the Owner. The Department has incurred and will in the future incur costs associated with the administration of this Covenant. The Owner covenants that the Owner shall pay the Departments costs of administering this Covenant.

#### **ARTICLE IV** **RESTRICTIONS**

4.01. Prohibited Uses. Future uses of the Property shall be restricted to industrial and commercial use only, and the Property shall not be used for any of the following purposes, including but not limited to:

- (a) A residence, including but not limited to any mobile home or factory built housing, constructed or installed for use as residential human habitation.
- (b) A hospital for humans.
- (c) A public or private school for persons under 21 years of age.
- (d) A day care center for children.
- (e) A long-term care facility for the elderly, handicapped, or infirm.
- (f) Any other purpose involving residential occupancy on a 24-hour basis.

4.02. Regulated Activities. The following activities are subject to the Restrictions of this Covenant, unless exemption is authorized or obtained as described in this section:

- (a) The extraction of groundwater from beneath the Property for purposes or uses other than Site remediation shall not be permitted on the Property without prior written approval from the U.S. EPA. The existing domestic well, or a similar replacement, is exempt from this prohibition as long as it meets federal and state drinking water standards.
- (b) All soil located at the Property below ground surface that is brought to the surface by activities such as grading, excavation, trenching, backfilling, etc. shall be managed in accordance with all applicable provisions of federal, state, and local law. Prior to conducting any activity that disturbs soil on the Property located at or below 6 feet below ground surface, written approval from U.S. EPA shall be obtained.
- (c) U.S. EPA shall be provided at least two weeks written notice prior to any off-site disposal of excavated soil from the Property. Excavated soil shall not be used for residential purposes.
- (d) The construction of any device or system at the Property which causes the leaching, injection, or introduction of material that will result in the migration of arsenic or hexavalent chromium into groundwater at concentrations in excess of applicable site-specific groundwater cleanup levels for arsenic and hexavalent chromium shall not be permitted without prior written approval from the U.S. EPA. The replacement or service of the existing septic tanks at the Property is exempt from this subsection.
- (e) No activity shall be conducted or allowed that interferes with the operation of the Remedial Systems present at the Property. Remedial Systems include, but are not limited to, the Groundwater Monitoring System. The Covenantor specifically agrees that: unless granted prior written approval of the U.S. EPA, the Owner and/or Occupant shall not interfere with, or alter, operating Groundwater Remedial Systems on the Property, as those Remedial Systems are described in the ROD and in any future amendments or modifications to the ROD, and which include without limitation existing groundwater monitoring wells, monitoring systems and the associated utilities

4.03. Site Access. The U.S. EPA, the Department, and Valley Wood Preserving, Inc., including the respective successors and duly authorized representatives of the aforementioned entities, shall have reasonable right of entry and access to the Property for inspection, monitoring, and other activities consistent with the purposes of this Covenant as deemed necessary by the U.S. EPA or the Department in order to protect the public health or safety or the environment. Nothing in this instrument shall limit or otherwise effect the right of entry and access of the U.S. EPA, or authority of the U.S. EPA to take response actions under CERCLA, the National Contingency Plan (“NCP”), 40 CFR Part 300, or other applicable federal law. Nothing in this instrument shall limit or otherwise effect the Department’s right of entry and access, or authority to take response actions, under CERCLA; the NCP; Chapter 6.8, Division 20 of the California Health and Safety Code (H&SC); California Civil Code; or other applicable state law.

**ARTICLE V**  
**ENFORCEMENT**

5.01. Enforcement. Failure of the Covenantor, Owner or Occupant to comply with this Covenant shall be grounds for the Department or the U.S. EPA to require that the Covenantor, Owner or Occupant modify or remove, as the Department or the U.S. EPA determines appropriate, any improvements constructed or placed upon any portion of the Property in violation of the Covenant. Violation of this Covenant shall be grounds for the Department or the U.S. EPA to file civil or criminal actions, as provided by law.

**ARTICLE VI**  
**VARIANCE, TERMINATION, AND TERM**

6.01. Variance. The Covenantor, or any other aggrieved person, may apply to the Department for a written variance from the provisions of this Covenant. Such application shall be made in accordance with H&SC section 25233. No variance may

be granted under this paragraph 6.01 without prior review and prior concurrence of the variance by the U.S. EPA. Any approved variance shall be recorded in the land records by the person or entity granted the variance.

6.02. Termination. The Covenantor, or any other aggrieved person, may apply to the Department for a termination of the Restrictions or other terms of this Covenant as they apply to all or any portion of the Property. Such application shall be made in accordance with H&SC section 25234. No termination may be granted under this paragraph 6.02 without prior review and prior written concurrence of the termination by the U.S. EPA.

6.03. Term. Unless ended in accordance with the Termination paragraph above, by law, or by the Department in the exercise of its discretion, this Covenant shall continue in effect in perpetuity.

## **ARTICLE VII** **MISCELLANEOUS**

7.01. No Dedication Intended. The Covenantor entered into this Agreement as part of a resolution with the Department and the U.S. EPA of its alleged liabilities for the Property. Nothing set forth in this Covenant shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Property, or any portion thereof to the general public or anyone else for any purpose whatsoever. Further, nothing in this Covenant shall be construed to effect a taking under state or federal law.

7.02. Recordation. The Covenantor shall record this Covenant, with all referenced Exhibits, in the County of Stanislaus within ten (10) days of receipt of a fully executed original.

7.03. Notices. Whenever any person gives or serves any Notice ("Notice" as used herein includes any demand or other communication with respect to this

Covenant), each such Notice shall be in writing and shall be deemed effective: (1) when delivered, if personally delivered to the person being served or to an officer of a corporate party being served, or (2) three (3) business days after deposit in the mail, if mailed by United States mail, postage paid, certified, return receipt requested:

To the Owner:

If by U.S. Mail:

Valley Wood Preserving  
c/o Bob Schmidt  
P .O. Box 1805  
Turlock, California 95381

If by courier:

Valley Wood Preserving  
c/o Bob Schmidt  
600 West Glenwood Avenue  
Turlock, CA 95380

Notices shall be sent to any new or subsequent Owner(s) as identified to the Department pursuant to section 3.05 of this Covenant

To the Department:

James L. Tjosvold, P.E., Chief  
Northern California-Central Cleanup Operations Branch  
Site Mitigation and Brownfields Reuse Program  
Department of Toxic Substances Control  
8800 Cal Center Drive  
Sacramento, California 95826

To the U.S. EPA:

Elizabeth J. Adams, Chief  
Site Cleanup Branch, Superfund Division  
U.S. Environmental Protection Agency, Region IX  
75 Hawthorne Street  
San Francisco, California 94105-3901

Any party may change its address or the individual to whose attention a Notice is to be sent by giving written Notice in compliance with this paragraph.

7.04. Partial Invalidity. If any portion of the Covenant set forth herein is determined by a court of competent jurisdiction to be invalid for any reason, the surviving portions of this Covenant shall remain in full force and effect as if such portion found invalid had not been included herein.

7.05. Liberal Construction. Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed to effect the purpose of this instrument and the policy and purpose of CERCLA. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

7.06. Statutory and Regulatory References. All statutory and regulatory references include successor provisions.

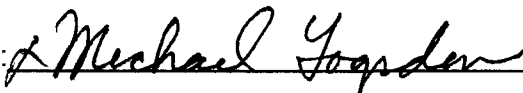
7.07. Inspection and Reporting Requirements. An annual inspection of the Property and an annual report are required. After the recording of this Covenant, the annual report shall be provided to the Department and the U.S. EPA by January 15 of each year by the then current Owner(s) of the Property. The annual report shall describe how all requirements outlined in this Covenant have been met. The annual

report, filed under penalty of perjury, shall certify that the Property is being used in a manner consistent with this Covenant. The annual report shall describe how all the requirements outlined in this Covenant are being met. The annual report must include the dates, times, and names of those who conducted and reviewed the annual inspection. It also shall describe how the observations were performed that were the basis for the statements and conclusions in the annual report (e.g., drive by, walk in, etc.). If the observer noted violations, the annual report must detail the steps taken to return to compliance. If the Owner identifies any violations of this Covenant during the annual inspections or at any other time, the Owner must within 10 days of identifying the violation of this Covenant determine the identity of the party in violation, send a letter advising the party of the violation of this Covenant and demand that the violation cease immediately. Additionally, copies of any correspondence related to the enforcement of this Covenant shall be sent to the Department within ten (10) days of its original transmission.

IN WITNESS WHEREOF, the Parties execute this Covenant.

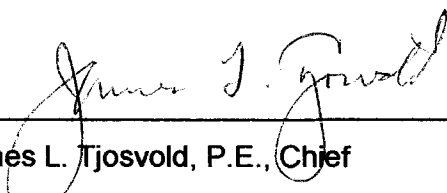
"Covenantor"

Date: MAY 11 2007

By:   
Michael Logsdon, President  
Valley Wood Preserving, Inc.

"Department"

Date: 6/12/07

By:   
James L. Tjosvold, P.E., Chief  
Northern California-Central Cleanup Operations Branch  
Department of Toxic Substances Control

STATE OF CALIFORNIA )

COUNTY OF Sacramento )

On this 12<sup>th</sup> day of June, in the year 2007,

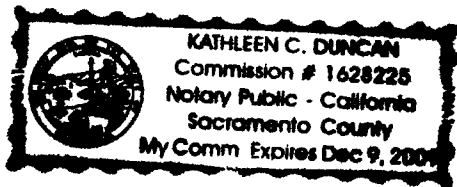
before me Kathleen C. Duncan, personally appeared

James L. Lisswold,

personally known to me (or ~~proved to me on the basis of satisfactory evidence~~) to be the person(s) whose name(s) is /are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/~~the~~ authorized capacity(ies), and that by his/her/~~their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

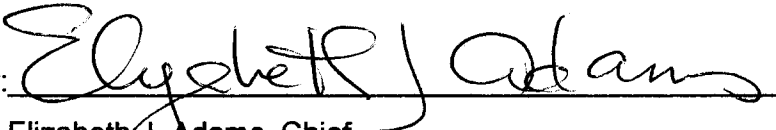
Signature Kathleen C. Duncan





"U.S. Environmental Protection Agency" as a Third Party Beneficiary

Date: 5/25/2007

By:   
Elizabeth J. Adams, Chief  
Site Cleanup Branch, Superfund Division  
U.S. EPA, Region IX

**EXHIBIT A**  
**VALLEY WOOD PRESERVING**

That real property composed of the following parcels, situated in the City of Turlock, County of Stanislaus, State of California described as follows:

PARCEL 1: That portion of Lots 13 and 14 in YOUNGSTOWN COLONY, according to the Official Map thereof, filed in the office of the Recorder of Stanislaus County, California, on June 5, 1903 in Volume 1 of Maps, at page 28, more particularly described as follows: BEGINNING at the Northwest corner of said Lot 13 and running thence South 0° 30' West along the West line of said Lot 13, a distance of 306.06 feet; thence South 89° 31' East 846.3 feet; thence South 4° 12' East 77.95 feet; thence North 68° 37' East 265.9 feet; thence North 47° 47' East 152.6 feet to a point on the Easterly line of Lot 13; thence North 42° 13' West 249.39 feet, along the Southwesterly line of State Highway No. 99, to the Northeast corner of said Lot 13; thence continuing on the same course 97.76 feet to the Northeast corner of the South 1.67 acres of Lot 14 of said YOUNGSTOWN COLONY; thence North 89° 41' West 976.72 feet to the Northwest corner of the South 1.67 acres of said Lot 14; thence South 0° 30' West 72.04 feet to the point of beginning, containing 9.83 acres.

EXCEPTING THEREFROM that portion over the East side of the above described property, as conveyed to the State of California, by Deed recorded February 28, 1951, in Volume 1022 of Official Records, at page 427, as Instrument No. 5052.

PARCEL 2: The North 5.23 acres of the South 6.9 acres of Lot 14 of YOUNGSTOWN COLONY, as per Map thereof filed June 5, 1903 in Volume 1 of Maps, page 28, Stanislaus County Records,

EXCEPTING THEREFROM the following described property: BEGINNING at the point of intersection of the Southerly line of said portion of Lot 14 described in Deed dated January 11, 1924 with the Southwesterly line of the existing (60 foot wide) State

Highway, Road X-Sta-4-A; thence from said point of intersection along said Southerly line, North 89° 32' West, 179.25 feet; thence North 32° 23' East 37.36 feet; thence North 42° 05' 30" West, 319.41 feet to the Northerly line of said portion of Lot 14 described in Deed dated January 11, 1924; thence along said Northerly line, South 89° 37' East, 130.20 feet to said Southwesterly line of existing State Highway; thence along last said line, South 42° 05' 30" East, 362.73 feet to the point of the beginning.

PARCEL 4: All that portion of Lot 13 of the Youngstown Colony, according to the map thereof, filed in Volume 1 of Maps at page 28, Stanislaus County Records, more particularly described as follows: Commencing at the Northwest corner of said Lot 13, thence South 0° 30' West along the West Line of said Lot 13, a distance of 306.06 feet to the point of the beginning; thence continuing same course South 0°30' West a distance of 8.62 feet; thence South 89° 31' East a distance of 847.01 feet; thence North 4° 12' West a distance of 8.65 feet; thence North 89° 31' West a distance of 846.30 feet to the point of the beginning.

EXCEPTING THEREFROM that portion of Lot 13 of the Youngstown Colony, according to the Map thereof, filed in Volume 1 of Maps at page 28, Stanislaus County Records, more particularly described as follows: Commencing at the Northwest corner of said Lot 13; thence South 0° 30' West along the west line of said Lot 13, a distance of 306.06 feet; thence South 89° 31' East, a distance of 846.30 feet; thence South 4° 12' East, a distance of 8.65 feet to the point of the beginning; thence continuing same course South 4° 12' East, a distance of 69.30 feet; thence North 68° 37' East, a distance of 265.90 feet; thence North 47° 47' East, a distance of 10.79 feet; thence South 76° 59' 20" West, a distance of 159.77 feet; thence North 89° 31' West, a distance of 105.00 feet to the point of beginning.

ACKNOWLEDGMENT

\* MAY 11, 2007

State of CALIFORNIA  
County of SAN BERNARDINO } ss.

\* On MAY 11 2007 before me, MIKE McCABE, NOTARY (here Insert name)

Notary Public, personally appeared Michael Logsdon

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within Instrument and acknowledged to me all that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the Instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the Instrument.

WITNESS my hand and official seal.

Signature Mike McCabe Notary Public  
MIKE McCABE, NOTARY

(affix seal)



GOVERNMENT CODE 27361.7

I certify under the penalty of perjury that the notary seal on the document to which this statement is attached reads as follows:

NAME OF NOTARY MIKE McCABE

DATE COMMISSION EXPIRES JUNE 28, 2007

PLACE OF EXECUTION SAN BERNARDINO County

6.22.07  
(date)

Bob Sch  
(signature and firm name if any)

Bob Schmidt

## **APPENDIX H**

### **Exemplar Access Agreement**

### **Right of Access Agreement**

THIS RIGHT OF ACCESS AGREEMENT is made and given by the undersigned (“Grantor(s)”) on \_\_\_\_\_, to and for the benefit of the Valley Wood Preserving, Inc., (“Grantee”) and also provides the right of access to the United States Environmental Protection Agency (“EPA”) and the State of California Department of Toxic Substances Control (“DTSC”), and all their respective employees, contractors, subcontractors for the purposes provided below consistent with each Agency’s regulatory authority.

#### **Recitals:**

Grantor(s) is/are the fee simple owners of that certain real property having an address of \_\_\_\_\_, Turlock, California (“Grantor’s Property”). Grantee is engaged in ongoing efforts to respond to EPA requirements related to the prior use of Grantee’s property, located at 2119 and 2237 South Golden State Boulevard, Turlock, in the unincorporated area of Stanislaus County, California. Grantee requires access onto Grantor’s Property in order to undertake certain inspections, sampling and studies relating to groundwater at Grantor’s Property, and Grantor is willing to grant such access. It is agreed as follows:

#### **Agreement**

1. Limited Grant of Access. In consideration of the benefits and burdens that both parties have assumed under this Agreement, Grantor grants to Grantee access and a license to and upon Grantor’s Property **strictly and only for the purpose of:** studies and monitoring of groundwater including sampling of groundwater from wells.
2. Grantee’s Duties. Grantee, in the exercise of such right of entry, shall exercise all reasonable efforts not to damage the Grantor’s Property or to interfere unreasonably with the Grantor’s operation thereof, and if Grantor’s Property is damaged, Grantee shall fully repair and restore same at Grantee’s sole cost and expense.
3. Access Times. Except in cases where EPA and/or DTSC has/have determined there exists an urgent need otherwise, the access rights granted hereunder may be exercised only between reasonable business hours on non-holiday weekdays and only upon providing notice to Grantor of Grantee’s intent to access the Property.
4. Termination. The access rights and license granted hereunder shall expire upon EPA and DTSC’s determination that Grantee may cease monitoring groundwater at the Grantor’s Property.

IN WITNESS WHEREOF, the Grantor(s) has/have executed this Right of Access  
the day and year first above written.

GRANTOR(S)

GRANTEE

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