Third Five-Year Review Report

for

J.H. Baxter & Co.
Superfund Site
Weed, Siskiyou County, California

September 2010

Prepared By:
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, California 94105

Approved by:

Kathleen Salyer, Assistant Director
Superfund Division
California Site Cleanup Branch
U.S. EPA Region IX

9/30/10
Date

This page left blank intentionally

Contents

Tables

Figures

Acronyms & Abbreviations

ARARs	Applicable or Relevant and Appropriate Requirements
Baxter	J. H. Baxter Co.
cPAH	carcinogenic polycyclic or polynuclear aromatic hydrocarbons
CRWQCB	California Regional Water Quality Control Board
CZP	capture zone piezometers
DHS	Department of Health Services
DNAPL	dense non-aqueous phase liquids
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
MCL	maximum contaminant level
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MWH	Montgomery Watson Harza
ncPAH	non-carcinogenic polycyclic or polynuclear aromatic hydrocarbons
NCRWQCB	North Coast Regional Quality Control Board
NEW	northern extraction well
NPL	National Priority List
O&M	operation and maintenance
PAH	polycyclic or polynuclear aromatic hydrocarbons
PCP	pentachlorophenol
ppm	parts per million
PRP	potentially responsible party
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
Roseburg	Roseburg Forest Products
SEW	southern extraction well
Site	J.H. Baxter & Co. Superfund Site
STLC	soluble threshold limit concentration
TCLP	toxicity characteristic leaching procedure
TI	Technical Impracticability
WEW	western extraction well
WRG	Weed Remediation Group
WTP	water treatment plant

Executive Summary

The United States Environmental Protection Agency (EPA) completed the Third Five-Year Review of the remedial actions implemented at the J. H. Baxter & Co. Superfund Site (Site), located in the northeastern portion of the City of Weed in Siskiyou County, California. The triggering action for this five-year review was the Second Five-Year Review, completed September 28, 2005. The 1990 Record of Decision (ROD) identifies remedies for soil, surface water, groundwater and sediments, selected to achieve remedial standards based on a 10^{-6} excess cancer risk, background, maximum contaminant level (MCL), or non-detect (as indicated by accepted analytical methods used at the time).

In 1998, the EPA issued a ROD Amendment in response to significant changes in the understanding of Site conditions and increases in the quantity of dense nonaqueous-phase liquid [DNAPL] found during design studies. The ROD Amendment documents a Technical Impracticability waiver of the ROD's groundwater cleanup standards for the groundwater within the zone contaminated with DNAPL. The revised groundwater remedy employed a slurry wall system (including hydraulic gradients induced by pumping) to contain the contaminated groundwater within the DNAPL zone. Groundwater outside this zone will be remediated to the ROD groundwater cleanup standards.

A 2001 Explanation of Significant Differences (ESD) changed the treatment standard for non-carcinogenic polycyclic or polynuclear aromatic hydrocarbons (ncPAHs) in soils placed in the on-site Resource Conservation and Recovery Act (RCRA)-equivalent cell from 1.0 to 2.6 milligrams per liter (mg/L), based on Toxicity Characteristic Leaching Procedure (TCLP) regulatory levels. The ESD allowed for disposal of the treated (landfarmed) soils in the RCRA-equivalent cell designated as a Corrective Action Management Unit.

The remedy at the J.H. Baxter Superfund site is protective of human health and the environment because the asphaltic surface and restrictive covenants prevent direct contact exposure to the soil and groundwater.

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name: J. H. Baxter & Company

EPA ID: 0974 CERCLIS ID #: CAD009112087

Region: IX **State:** CA **City/County:** Weed / Siskiyou

SITE STATUS

NPL status: ■ Final ❑ Deleted ❑ Other (specify) _____

September 21, 1984

Remediation status (choose all that apply): ❑ Under Construction ❑ Operating ■ Complete

Multiple OUs? ❑ YES ■ NO **Construction completion date:** September 14, 2001

Soil and Ground Water Operable Unit (Site wide)

Has Site been put into reuse? ❑ YES ■ NO

REVIEW STATUS

Reviewing agency: ■ EPA ❑ State ❑ Tribe ❑ Other Federal Agency _____

Author name: Travis Cain

Author title: Remedial Project Manager **Author affiliation:** EPA Region IX

Review period: January 22, 2010 – September 2010

Date(s) of Site inspection: March 11, 2010

Type of review: ■ Statutory

❑ Policy ❑ Post-SARA ❑ Pre-SARA ❑ NPL-Removal only

❑ Non-NPL Remedial Action Site ❑ NPL State/Tribe-lead

❑ Regional Discretion)

Review number: ■ 3 (Third)

Triggering action:

❑ Actual RA Operation of Groundwater ■ Previous Five-Year Review Report

Remedial Systems

❑ Construction Completion

❑ Other (specify) _____

Triggering action date: September 28, 2005

Due date (5 years after triggering action date): September 28, 2010

Issues:

There are no issues that affect protectiveness.

Protectiveness Statement:

The remedy at the J.H. Baxter Superfund site is protective of human health and the environment because the asphaltic surface and restrictive covenants prevent direct contact exposure to the soil and groundwater.

This page left blank intentionally

Section 1
Introduction

The United States Environmental Protection Agency (EPA) has conducted the Third Five-Year Review of the remedial action implemented at the J. H. Baxter Superfund Site ("the Site") located in Weed, California, east of Interstate 5 and south of Highway 97 (location shown on Figure 1). By statute, EPA is preparing this five-year review consistent with the Comprehensive Environmental Response, Compensation, and Liability Act and the National Oil and Hazardous Substances Pollution Contingency Plan. Comprehensive Environmental Response, Compensation, and Liability Act Section 121(c), as amended, states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the Site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The National Oil and Hazardous Substances Pollution Contingency Plan part 300.430(f)(4)(ii) of the Code of Federal Regulations states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every 5 years after the initiation of the selected remedial action.*

Consequently, this five-year review was performed because hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unrestricted use and unlimited exposure.

This is the Third Five-Year Review for the Site. The triggering action for this statutory review is September 28, 2005, the date of the Second Five-Year Review.

Section 2
Site Chronology

Following is a chronology of important Site activities and investigations by J. H. Baxter Co. ("Baxter"), Roseburg Forest Products ("Roseburg"), other potentially responsible parties ("PRPs"), state agencies, and EPA.

Table 2-1
Chronology of Site Events
Third Five-Year Review, J.H. Baxter Site, Weed, California

Activity	Date
North Coast Regional Quality Control Board (NCRWQCB) inspected the Site and requested a report of waste discharge.	**March 1982**
California Department of Health Services (DHS – currently Department of Toxic Substance Control) inspected the Site and reported improper handling and storage of wastes.	**November 1982**
DHS required J. H. Baxter to begin a surface and groundwater monitoring program.	**December 1982**
Elevated levels of arsenic, creosote, and pentachlorophenol (PCP) were discovered by DHS and NCRWQCB in Site soils, surface water runoff, and groundwater. Additional soil samples collected in Lincoln Park also showed elevated arsenic concentrations. The NCRWQCB issued a Cleanup and Abatement Order to J. H. Baxter to cease improper waste disposal practices.	**March 1983**
J. H. Baxter installed two monitoring wells at the request of DHS and NCRWQCB. Sampling and analysis results showed elevated levels of wood treatment chemicals in groundwater.	**March 1983**
Siskiyou County Health Department temporarily closed Lincoln Park to evaluate soil contamination results.	**April 1983**
NCRWQCB sampled soil, sediment, and surface water within Lincoln Park, the drainage through the park, and on J. H. Baxter property. Results showed that a discharge was occurring, and the NCRWQCB issued a Cease and Desist order to J. H. Baxter.	**May 1983**
J. H. Baxter sampled soil within its spray field and reported elevated arsenic levels.	**July 1983**
DHS cited J. H. Baxter for violation of an interim hazardous waste facility permit and the State Hazardous Waste Control Laws.	**September 1983**
NCRWQCB advised J. H. Baxter of continued non-compliance with existing orders.	**January 1984**
NCRWQCB and DHS met with J. H. Baxter regarding Remedial Investigations and waste discharge requirements.	**February to September 1984**
DHS held public meetings to discuss addition of the Site to the State Superfund List.	**July 1985**
The NCRWQCB issued Cease and Desist orders to J. H. Baxter, International Paper, and Roseburg requiring that the companies submit a plan for investigating and cleaning up groundwater and surface water.	**September 1985**
NCRWQCB issued Cease and Desist orders to J. H. Baxter, International Paper, and Roseburg to implement an investigation work plan.	**December 1985**
The Site was formally included on the State's Priority Ranking List.	**January 1986**
EPA became the lead agency for Site remedial studies and enforcement.	**January 1986**
EPA attempted to negotiate a consent decree with the PRP to conduct the Remedial Investigation / Feasibility Study.	**January to September 1986**
Consent decree negotiations failed and EPA prepared for EPA-led Remedial Investigation / Feasibility Study.	**September 1986**

Table 2-1(continued)

Activity	Date
EPA initiated a Remedial Investigation. The Remedial Investigation report was released in January 1989.	**March 1987**
The California Department of Fish and Game conducted a fisheries study of Beaughton Creek above and below the Site. The California Department of Fish and Game reported that discharges from the Site had adversely affected aquatic life downstream of the Site.	**Late 1987 to Early 1988**
NCRWQCB issued Cease and Desist orders to J. H. Baxter and Roseburg to address surface runoff violations. Cleanup and Abatement orders were issued to International Paper to implement a groundwater remediation program.	**December 1988**
NCRWQCB issued Waste Discharge Requirements to J. H. Baxter, International Paper, and Roseburg for a groundwater biological treatment feasibility study.	**May 1989**
The Site was added to the National Priorities List (NPL).	**October 1989**
EPA's Draft Feasibility Study and Proposed Plan were released.	**April 1990**
EPA released the record of decision (ROD).	**September 1990**
EPA issued Unilateral Administrative Order 91-92 with a Scope of Work that detailed the remedial actions to be conducted at the Site.	**August 1991**
EPA completed the Final Focused Feasibility Study to re-evaluate the cleanup requirements for groundwater and soils contaminated with dense non-aqueous phase liquids (DNAPL).	**May 1997**
EPA released a ROD Amendment that identified a Technical Impracticability (TI) zone where it was determined that compliance with ROD standards could not be met. The Amendment also included installation of a slurry wall to contain water and soil within the TI zone and a Resource Conservation and Recovery Act (RCRA)-equivalent disposal cell for treated soil. The Amendment designated the slurry wall, the RCRA-equivalent disposal cell, and areas designated by EPA for treatment of soil prior to disposal in Corrective Action Management Units. The Amendment also allowed for soil designated as Area B Soils (not identified in the ROD) to undergo bioventing as a form of treatment for polycyclic or polynuclear aromatic hydrocarbons (PAH).	**March 1998**
Pre-final inspection for bioventing system. Bioventing system for Area B soils was constructed and is operational.	**March 1999**
Slurry wall construction, water treatment plant modifications, and related activities.	**Construction Season 1999**
Pre-construction meeting for RCRA-equivalent disposal cell part of the selected remedy.	**February 2000**
Completion of RCRA-equivalent disposal cell construction, asphalt cap, and related activities. Approximately 700 cubic yards of soil undergoing biotreatment for PAHs and PCP (referred to as landfarmed soils or Component 3A soils in Table 9-1 of the ROD Amendment) that had not yet reached ROD standards. Therefore, the pre-final construction meeting was postponed.	**Construction Season 2000**
EPA conducted the initial Five-Year Review.	**July 2000**
Component 3A soil was added to RCRA-equivalent disposal cell and final construction activities were completed.	**Construction Season 2001**
EPA performed pre-final inspection of the Site to verify that construction was complete and met ROD standards and requirements.	**August 2001**
EPA released the Explanation of Significant Differences (ESD) that revised the treatment standards for 3A soils to allow the placement of those soils in the RCRA-equivalent disposal cell, designated as a Corrective Action Management Unit. The soils were placed concurrent with preparation of the ESD so that the disposal of contaminated soil and completion of the cell could be completed during the 2001 construction season. EPA conducted pre-final inspection on August 29, 2001.	**August/ September 2001**
EPA performed a site visit for the Five-Year Review and placed a public notice in newspapers.	**March 2005**

Table 2-1(continued)

Activity	*Date*
EPA approved completion of bioventing of Area B soil.	**June 2005**
EPA completed the Second Five-Year Review.	**September 2005**
Area B land survey was performed. Vegetative cover was cleared, grubbed, and disposed of at an off-site facility. Approximately 14,180 cubic yards of clean fill soil was obtained from Roseburg and spread over a little less than three acres. EPA visited the Site to document completion and closure activities on December 9, 2005. The construction area was re-seeded and a post-fill land survey was performed on December 20, 2005.	**October to December 2005**
On December 30, 2005 during a major rainfall event, the storage capacity of Stormwater Holding Pond #2 was exceeded and an estimated 20,000 gallons of stormwater was discharged from the J.H. Baxter property	**December 2005**
Weed Remediation Group (WRG) consultants Montgomery Watson Harza (MWH) documented placement of two feet of clean soil over the Area B soil. EPA announced Completion of Construction Activities and Closure of Area B.	**March/April 2006**
Land use covenants to restrict use of properties comprising the J.H. Baxter Superfund Site were filed with the Siskiyou County Recorder.	**January/ February 2007**
NCRWQCB ordered WRG to submit a Work Plan to sample fish tissue for presence of dioxins in Lake Shastina.	**July 2007**
J.H. Baxter notified EPA that a portion of the J.H. Baxter Superfund Site had been leased and stated that the lease would not impact the remedial activities at the Site.	**September 2007**
WRG submitted a Work Plan to sample fish tissue from Lake Shastina per NCRWQCB order.	**October 2007**
NCRWQCB requested WRG submit an amended Work Plan including sampling and analysis of bottom feeding fish species in Lake Shastina.	**November 2007**
WRG submitted an amended Work Plan to comply with NCRWQCB request for an amended Work Plan.	**December 2007**
Surface Water Ponds 2 and 3 were cleared of sediment and biological growth. Sediment was disposed of at an off-site waste-handling facility.	**August 2008**
A new liner was installed in Tank 3A and sludge was removed and disposed of at an off-site waste handling facility.	**September 2008**
WRG collected fish tissue samples from Lake Shastina to analyze for the presence of dioxins and furans in accordance with the December 2007 Work Plan. California Regional Water Quality Control Board (CRWQCB) reported that all results were non-detect.	**May/June 2008**
WRG requested approval to cease groundwater extraction from the northern extraction well (NEW) series wells asserting that the NEW groundwater extraction system had effectively restored groundwater quality in that portion of the aquifer. Cracks in the asphaltic-concrete wearing surface were filled as part of periodic maintenance activities.	**September 2008**
EPA, NCRWQCB, and Department of Toxic Substance Control approved WRG's request to cease groundwater extraction in the NEW wells. Groundwater extraction at the NEW wells was subsequently terminated.	**October 2008**
Surface water flow was generated proximal to the Site in the drainage near Lincoln Park as the result of high rainfall amounts combined with melting snow. However, no water was discharged off of the Site.	**February 2009**

Section 3
Site Background

3.1 Physical Characteristics

The Site comprises approximately 205 acres located in Siskiyou County, California, in the northeastern portion of the City of Weed (Figures 1 and 2). The overall facilities comprise approximately 850 acres that include a wood treatment plant operated by Baxter and a lumber mill and veneer plant operated by Roseburg. Buildings present at the site include the office, water treatment plant, engine room for lumber preserving, open shed for lumber incising, and dry kilns. The Site is bordered on the west and northwest by residential areas of Weed, to the north by Angel Valley Subdivision and Lincoln Park, to the east by mixed woodlands, and to the south by irrigated pasture. Beaughton Creek runs through the eastern portion of the Site (Bechtel, 1997).

Regional physiographic features include Shasta Valley, Mount Shasta, Mount Shastina, and Black Butte. The Site is underlain by coalescent fans of pyroclastic, mudflow, glacial, and fluvial deposits from the northwestern flank of Mount Shasta and Mount Shastina.

3.2 Land and Resource Use

The population of Weed is 3,100, with another 5,000 living just outside the city limits. Land uses in the Site area consist of industrial, residential, and pasture/mixed woodland. Beaughton Creek, the main surface water body for the Site, originates from springs located 3,000 feet upgradient of the Baxter Property. The stream flows through the Site in a northwest to west direction. All major and minor Site stormwater surface runoff drainages eventually flow into the creek, either on the Site, or downgradient of the Site. Constructed and natural wetlands exist within the Site boundaries.

There are two main aquifers at the Site. The first aquifer is referred to as the uppermost aquifer. The second aquifer is described as the lower aquifer. The two aquifers are separated by the Older Clastic Assemblage aquitard. Depth to ground water at the Site varies from a few feet below ground surface to over 20 feet below ground surface. Hydrographs from monitoring wells indicate that there is a persistent downward vertical gradient across the Site between the two aquifers. The head difference can be as much as 20 feet.

The most important unit of the subsurface at the Site is the Older Clastic Assemblage. Generally, the Older Clastic Assemblage has been observed to act as an effective barrier to vertical contaminant migration from the upper aquifer to the lower aquifer (EPA, 1998).

The water table is shallow (0 to 10 feet below the ground surface), emergent in some areas of the Site, and exhibits fluctuation with recharge conditions from rainfall and snow melt (EPA, 1990). Groundwater and surface water are not used as a source of drinking water at the Site. Area residents receive their drinking water from city groundwater drinking wells, which have not been affected by the Site. Wood treatment operations using chemicals to preserve lumber products were initiated at the Site in 1937 and continue to the present. Lumber operations on the Site and the surrounding area are projected to continue into the future.

3.3 History of Contamination

Wood treatment operations using chemicals to preserve lumber products were initiated at the Site in 1937. The companies that have been responsible for wood treatment operations include American Lumber and Treatment Company, International Paper, Inc., J. H. Baxter, Beazer East, and Roseburg Forest Products. Tanalith and Minalith were used in treatment processes until the mid-1950s. Tanalith is a mixture of sodium fluoride, sodium dichromate, arsenic, and dinitrophenol. Minalith is a mixture of diammonium phosphate, ammonium sulfate, sodium tetraborate and boric acid. A fluoride-chrome-arsenic-phenol mixture is reported to also have been used. In the late 1960s, chromated zinc chloride was removed from the onsite wood treatment process. Ammonical copper arsenate was also used as a preservative (CH2M HILL, 2001). Reports indicated that PCP was used for wood treatment at least as far back as the 1950s, and until 1982.

During this period of use, PCP was applied to wood in an oil-based mixture. Commercial grades of PCP manufactured during this period contained various isomers of chlorinated dibenzo-dioxins and dibenzo-furans.

Additional chemicals used by J. H. Baxter and Company from the beginning of its wood treatment operations in 1962 through the current operations of the treatment facility include ammonical copper-zinc-arsenate, creosote 50/50 (a 50/50 petroleum/creosote mixture), D-blaze, and pyresote. Pyresote, a flame retardant, is a mixture of zinc chloride, sodium dichromate, ammonium sulfate, and boric acid.

Waste disposal, handling, and discharge practices over the 50 years of plant operations have resulted in Site soil, groundwater, and surface-water contamination by chemicals described in the previous paragraphs. Waste generated at the Site include retort drippings, tank and retort sludges, process water, wastewater, drying area drippings, storage area drippings, empty containers, and spilled raw preservative compounds. Prior to 1983, waste management involved onsite disposal and discharge, spray irrigation of wastewater onsite, storage in ponds and tanks onsite, and possible disposal of sludges into a local landfill. Leakage from storage tanks may also have contributed to subsurface contamination.

3.4 Initial Response

In 1983, the California Regional Water Quality Control Board (CRWQCB) issued a Cleanup and Abatement Order and a Cease and Desist Order. In 1984, the CRWQCB ordered Roseburg to cease discharge of contaminated water. In 1986, EPA initiated a Remedial Investigation to characterize the extent of soil, surface water, and groundwater contamination. The Remedial Investigation report was issued in 1988.

EPA placed the Site on the NPL in 1989 and, in 1991, issued a Unilateral Administrative Order to the responsible parties requiring them to carry out the cleanup. In response to EPA's initiative to clean up the site, the PRPs formed the Weed Remediation Group (WRG) (EPA, 1998).

3.5 Basis for Taking Action

Contaminants

Hazardous substances have been released to environmental media at the site. Arsenic, carcinogenic polycyclic aromatic hydrocarbons, PCP, and dioxins have been identified as the primary contaminants of concern at the Site. All of these contaminants are known or suspected carcinogens and are present in each medium at concentrations exceeding health standards. Chromium, copper, zinc, benzene, and non-carcinogenic polycyclic or polynuclear aromatic hydrocarbons (ncPAHs) have been identified as contaminants of lesser concern. These contaminants are present at levels below health-based standards, are not widespread, or are considered to be less toxic than the primary Site contaminants. Average and maximum contaminant concentrations for each media as presented in the ROD are presented in Table 3-1.

The selected response actions address contamination in surface soil, subsurface soil, sediment, surface water, and groundwater caused by operations at the J. H. Baxter Site. The response actions required meeting standards established in the ROD and ROD Amendment. The standards are based on applicable or relevant and appropriate requirements (ARARs) and health protection criteria.

The 1990 Endangerment Assessment (ICF/Clement, 1990) conducted as part of the remedial investigation evaluated two baseline scenarios: continued use of the property as industrial (wood treatment) and future-use development of the property as residential. The potentially exposed populations included onsite workers at the facility, and offsite children in nearby Lincoln Park and Angel Valley subdivision. As such, the following receptors were evaluated: adult residents, child residents, and industrial workers. The principal exposure pathways for human receptors at the Site were identified to be direct contact with contaminated soils, inhalation of fugitive dust emissions, direct contact with surface water and sediments, and ingestion of groundwater. The risk for receptors due to exposure to contaminants at the Site was estimated to be above the acceptable range of upper bound lifetime cancer risk to an individual of between 10^{-4} and 10^{-6}. Site total cancer risks were estimated to be 1.4×10^{-1} for current workers, 6×10^{-1} for future children, and 8.6×10^{-1} for future adults. Similarly, the noncarcinogenic risk (hazard index) is above one, the acceptable exposure levels representing concentration levels to which the human population, including sensitive subgroups, may be exposed without causing deleterious effects. Maximum hazard index for current workers was estimated to be 11.1.

Table 3-1
Average and Maximum Contaminant Concentrations
Third Five-Year Review, J.H. Baxter Site, Weed, California

Contaminant	Average Site Levels (ppm)	Maximum Site Levels (ppm)
Surface Soils		
Arsenic	240	38,500
Chromium	130	45,000
Copper	Not reported	37,100
Zinc	Not reported	58,400
Pentachlorophenol	9	2,440
cPAHs	6	2,600
Dioxins	0.0035	5.7
Furans	0.002	0.98
Subsurface Soils		
Arsenic	21	12,100
Chromium	12	1,350
Copper	11	604
Zinc	40	1,120
Pentachlorophenol	160	1,300
cPAHs	18	420
ncPAHs	30	6,100
Dioxins	0.0035	5.7
Sediment		
Arsenic	60	35
Chromium	33	216
Zinc	170	1,750
Pentachlorophenol	Not reported	11
Tetrachlorophenol	Not reported	35
cPAHs	Not reported	54
ncPAHS	Not reported	220
Groundwater		
Arsenic	37	1,740
Chromium	13	122
Copper	Not reported	37,100
Zinc	170	23,000
Benzene	8	170
Pentachlorophenol	2	210
cPAHs	360	6,000
ncPAHs	635	251,800
Dioxins	12	13

ppm – parts per million

Section 4
Remedial Actions

4.1 Remedy Selection

Decision documents for selection of the remedy were the 1990 ROD, 1998 ROD Amendment, and the 2001 ESD. These documents are discussed below, including a presentation of the Site's remedial action objectives and major system components of the selected remedy.

Summary of 1990 ROD

The response actions selected in the September 27, 1990, ROD address the documented principal public health and environmental threats from the Site contamination. Actions were selected to address the contaminated soils, groundwater, surface water, and sediments in Beaughton Creek. The major components of the selected remedy included the following:

- Extraction of the contaminated groundwater followed by biological treatment and chemical precipitation, polishing, and disposal. The preferred disposal method for the treated groundwater was reuse on the Roseburg log decks. Other disposal options included re-injection to groundwater, release to subsurface drains or trenches, industrial process use, and/or disposal to percolation ponds.

- Excavation of the soils contaminated with organics and biological treatment in lined treatment cells with onsite disposal after treatment in a lined, RCRA-equivalent disposal cell.

- Excavation of the soils contaminated with inorganics and chemical fixation followed by onsite disposal in RCRA-equivalent disposal cells for treated soils designated as hazardous waste.

- Excavation of the soils contaminated with both organic and inorganic constituents, biological treatment in treatment cells, chemical fixation, and onsite disposal in a lined, RCRA-equivalent disposal cell.

As part of the risk assessment for the 1990 ROD, an Environmental Assessment was performed. The assessment evaluated terrestrial and aquatic habitats. No sensitive plant or animal species were found onsite. In response, the California Department of Fish and Game reported that fish life in Beaughton Creek was impaired downstream of discharge areas from the site. Interim corrective actions required by the state to treat effluent discharges from the site eliminated continuing impacts to the stream. The 1990 ROD did not select a remedy for contamination in Beaughton Creek, because surveys indicated that fish were returning to the creek. Instead, continued monitoring was proposed by EPA. In 1993, under the direction of EPA, California Department of Fish and Game, and the CRWQCB, Beaughton Creek was analyzed for contamination in water and sediments, and health impacts on fish and insects. No significant impacts were observed (EPA, 1997).

In April 1997, additional sampling of surface water and creek sediments was performed. Results indicated that Beaughton Creek has not been impacted by site-related constituents adjacent to and immediately downstream of the Site. Sediment sampling was performed once every 2 years, and surface water sampling is performed as required by the Unilateral Administrative Order (after significant rainfall and following construction) (TRC, 1999f).

Summary of 1998 ROD Amendment

The ROD Amendment, signed March 27, 1998, documents a waiver of the groundwater cleanup standards set forth in the 1990 ROD. EPA concluded that it was technically impracticable from an engineering perspective to achieve the ROD cleanup standards for groundwater within the zone contaminated with DNAPL. The revised groundwater remedy employed a slurry wall system (including hydraulic gradients induced by pumping) to contain the contaminated groundwater within the DNAPL zone. Groundwater outside this zone is being remediated to the ROD groundwater cleanup standards.

Selection of this remedy required waiver of the groundwater cleanup standards set forth in the ROD on the basis of TI. The factual basis for the TI waiver is presented in the TI Evaluation summary in the Focused Feasibility Study (Bechtel, 1997). Other components of the ROD amendment include the following:

- Bioventing of Area B soils (completed prior to slurry wall construction)
- Construction of a RCRA-equivalent disposal cell and related activities
- Institutional controls

Summary of 2001 Explanation of Significant Differences

The September 2001 ESD was written to address soil that was undergoing biotreatment or landfarming prior to placement in the RCRA-equivalent cell. These soils, referred to as the Component 3A soils in the Amended ROD, or as the "land farmed soils" were contaminated with ncPAHs. The ROD set a standard of 1 milligram per liter (mg/l), TCLP, for ncPAHs in soil and the Amended ROD retained this standard for soils to be placed in the RCRA-equivalent cell. The levels of ncPAHs were successfully reduced through landfarming treatment (watering and tilling on a regular basis), but analyses indicated that further treatment would not be sufficient to remediate the soil to meet the ROD standard. Therefore, the ESD changed the standard to 2.6 mg/l. The Component 3A soils were placed in the cell in August and September 2001, concurrent with preparation of the ESD, so that the disposal cell could be covered and completed during the 2001 construction season.

Remedial Action Objectives by Media

Remedial Action Objectives (RAOs) were not specifically stated in the Site's decision documents. However, the inferred remedial action objectives established for the site are listed below:

- Restore groundwater to its beneficial use as a potential drinking water source in the area outside of the DNAPL Zone. To achieve this objective, the remedy required contaminated soil removal and treatment.

- Reduce risks by preventing direct contact exposure to surface soils and inhalation of fugitive dust emissions (by placement of soil cap and asphaltic-concrete surface) while protecting against potential releases to groundwater.

- Reduce risks for receptors by preventing exposure to subsurface soils (by placement of soil cap and asphaltic-concrete surface) while protecting groundwater.

- Reduce contaminant concentrations in surface soil, subsurface soil, and groundwater to achieve compliance with treatment standards.

- Control surface water discharge to Beaughton Creek, treat surface water prior to discharge.

- Monitor natural flushing and attenuation of contaminants in ditch sediments.

- Contain DNAPL within the DNAPL Zone (the slurry wall serves as a physical barrier that would prevent further contamination and facilitate faster cleanup of the groundwater outside of the DNAPL Zone). A waiver of the ROD's groundwater cleanup standards for the groundwater within the DNAPL Zone was granted in the ROD Amendment (technical impracticability).

- Prevent ingestion of contaminated groundwater and contact with contaminated subsurface soils through implementation of site institutional controls.

To achieve these RAOs, soil and subsurface soil excavation standards, sediment cleanup standards, soil treatment standards, aquifer cleanup standards, groundwater treatment standards, groundwater treatment standards for discharge to Beaughton Creek, and requirements for institutional controls have been specified in the ROD, ROD Amendment, and ESD. Tables 4-1 through 4-7 summarize the excavation and treatment standards for the Site.

Table 4-1
Surface Soil Excavation Standards
Third Five-Year Review, J.H. Baxter Site, Weed, California

Constituents of Concern	Surface Soil Excavation Standards (mg/kg)
Arsenic	8
Chromium	500
Copper	2,500
Zinc	5,000
Pentachlorophenol (PCP)	17
Tetrachlorophenol	2,800
cPAHs	0.51
ncPAHs	43,000
Dioxins	0.001
Furans	0.001

mg/kg – milligrams per kilogram

Table 4-2
Subsurface Soil Excavation Standards
Third Five-Year Review, J.H. Baxter Site, Weed, California

Constituents of Concern	Subsurface Soil Excavation Standards (*)
Arsenic	5 TCLP (mg/L)
Chromium	5 STLC (mg/L)
Copper	25 STLC (mg/L)
Zinc	250 STLC (mg/L)
Pentachlorophenol (PCP)	7.4 (mg/L mg/L)
Tetrachlorophenol	Not present in subsurface soil
cPAHs	3.4 (mg/kg)
ncPAHs	3.4 (mg/kg)
Dioxins	0.001 (mg/kg)
Furans	0.001 (mg/kg)

(*) There will be no excavation of subsurface soils in the TI zone.
STLC – Soluble Threshold Limit Concentration
TCLP – Toxicity Characteristic Leaching Procedure
mg/kg – milligrams per kilogram
mg/L – milligrams per liter

Table 4-3
Sediment Cleanup Standards
Third Five-Year Review, J.H. Baxter Site, Weed, California

Constituents of Concern	Sediment Cleanup Standards (Natural Attenuation) (mg/kg)
Arsenic	8
Chromium	18
Copper	Not present in sediment
Zinc	26
Pentachlorophenol (PCP)	1.0
Tetrachlorophenol	1.0
cPAHs	0.5
ncPAHs	0.5
Dioxins	Not present in sediment
Furans	Not present in sediment

mg/kg – milligrams per kilogram

Table 4-4
Treatment Standards for Soils Placed in RCRA-Equivalent Cell
Third Five-Year Review, J.H. Baxter Site, Weed, California

Constituents of Concern	Treatment Standards for Soils Placed in RCRA-Equivalent Cell (*) (mg/L)
Arsenic	5 (TCLP)
Chromium	5 (STLC)
Copper	25 (STLC)
Zinc	250 (STLC)
Pentachlorophenol (PCP)	1.7 (STLC)
Tetrachlorophenol	1.0 (TCLP)
cPAHs	0.005 (TCLP)
ncPAHs	1.0 (TCLP)
Dioxins	0.001 (TCLP)
Furans	0.001 (TCLP)

(*) The standard tests will be modified by use of deionized water as the leaching solution rather than a citric acid buffer.
STLC – Soluble Threshold Limit Concentration
TCLP – Toxicity Characteristic Leaching Procedure
mg/kg – milligrams per kilogram

Table 4-5
Treatment Standards for Area B Soils
Third Five-Year Review, J.H. Baxter Site, Weed, California

Constituents of Concern	Treatment Standards for Areas B (*) (mg/kg)
Arsenic	Not a constituent of concern for Area B soil
Chromium	Not a constituent of concern for Area B soil
Copper	Not a constituent of concern for Area B soil
Zinc	Not a constituent of concern for Area B soil
Pentachlorophenol (PCP)	7.4
Tetrachlorophenol	Not a constituent of concern for Area B soil
cPAHs	3.4
ncPAHs	3.4
Dioxins	0.001
Furans	0.001

mg/kg – milligrams per kilogram

Table 4-6
Aquifer Cleanup and Groundwater Treatment Standards
Third Five-Year Review, J.H. Baxter Site, Weed, California

Constituents of Concern	Aquifer Cleanup and Groundwater Treatment Standards (mg/L)
Arsenic	0.005
Chromium	0.008
Copper	0.011
Zinc	0.090
Benzene	0.001
Pentachlorophenol (PCP)	0.001
Tetrachlorophenol	1.1
cPAHs	0.005
ncPAHs	0.005
Dioxins	2.5 X 10-8
Furans	Not present in groundwater

mg/L – milligrams per liter

Table 4-7
Groundwater Treatment Standards for Discharge to Beaughton Creek
Third Five-Year Review, J.H. Baxter Site, Weed, California

Constituents of Concern	Groundwater Treatment Standards for Discharge to Beaughton Creek (mg/L)
Arsenic	0.005
Chromium	0.005
Copper	0.005
Zinc	0.010
Benzene	0.001
Pentachlorophenol (PCP)	0.0003
Tetrachlorophenol	0.0004
cPAHs	0.001
ncPAHs	0.001
Dioxins	2.5 X 10-8
Furans	Not present in groundwater

mg/L – milligrams per liter

Remedy Components

Major components of the remedy selected in the ROD, ROD Amendment, and ESD are listed below.

Area B Bioventing Components

- 4,800 feet of horizontal bioventing wells at 41 locations
- 15 vertical monitoring wells
- 2 feet of clean soil

Slurry Wall Components

- 4,377-foot-long slurry wall at depth from 27 to 52 feet
- 3,450-foot-long gravel drainage trench
- 5 piezometers set in gravel drainage trench
- Capping for existing or future use (soil/gravel/ asphalt concrete)

Upper Aquifer Extraction Wells and Pipelines

- 7 north extraction wells (north of log deck)
- 6 west extraction wells (west/Roseburg operations area)
- 4 south extraction wells (inside slurry wall/Roseburg excavation area)

Upper Aquifer Piezometers

- 4 north extraction wells piezometers (CZP-7 through 10)
- 6 west extraction wells piezometers (CZP-1 through 6)
- 2 slurry wall gradient piezometers (P-1 and P-2)

Water Treatment Improvements

- Oil/water separator, metals precipitation, biological treatment, and activated carbon adsorption unit (expand treatment plant throughput capacity from 45 gallons per minute to 130 gallons per minute)
- Pipe and sprinkler improvements at South Pasture
- Pipeline to Roseburg ponds

South Pasture Ditch Re-Alignment

- Enlarged and re-aligned ditch and inlets with riprap for erosion protection

RCRA-Equivalent Disposal Cell

- Abandon domestic water well in location of disposal cell
- Sub-drain, structural fill, and berms
- Vadose zone leak detection system, leachate collections and removal system piping, sumps, and monitoring pipes
- Multiple layer, geosynthetic liner
- 2-feet operational layer of affected soils
- Multiple layer, geosynthetic cover
- 2-foot thick vegetative soil cover and drainage features

Stormwater Ponds and Collection System

- Relocated utility poles at Stormwater Ponds 2 and 3
- Stormwater Pond 2 and 3 including 60 mil high density polyethylene liner
- Transfer pump and piping at Pond 2
- Double contained transfer piping at Pond 3
- Backup generator set for transfer pumps
- Security fencing around Stormwater Ponds 2 and 3
- Decontamination pad near Baxter maintenance shop
- 25 stormwater catch basins and 2,700 feet of storm drain collection piping

General Grading, Drainage, Surfacing and Security

- Place, fill, and grade at far east and west ends of Baxter property (not affected by surface contamination)
- Backfill in areas excavated for affected soils
- Replaced Baxter tram tracks
- Placed and compacted aggregate base rock for asphalt concrete wearing surface
- 14 acres asphalt concrete wearing surface
- gravel wearing surface at south side of Baxter property
- Surface drainage features
- Wood post fence along north side of Baxter property

4.2 Remedy Implementation

Remedial design reports for Groundwater/Slurry Wall Remediation System, Bioventing System Area B Soils, Stormwater Pond, and Surface Soils and Ditch Sediments were approved by EPA

prior to the release of the ROD Amendment in March 1998. Under EPA's direction, the WRG performed two Post-ROD investigations: 1) Cleaner Technologies Assessment Substitutes (Grant, 1993), and 2) Groundwater Remedial Design Investigations (Grant, 1995).

The purpose of these studies was to provide specific information necessary to design the remedies selected by EPA in the 1990 ROD. The results of the studies confirmed that creosote contamination exists in the soil and groundwater as DNAPLs above and below the groundwater table. However, the studies also indicated that the DNAPLs extended throughout a much wider and deeper portion of the site than was previously thought and that subsurface soil contamination was also much more widespread. The ROD estimated 41,000 cubic yards of contaminated soil were subject to cleanup. The post-ROD investigations estimated 201,500 cubic yards of impacted soil in the unsaturated zone.

Since 1990 when the Feasibility Study and ROD for the Site were developed, EPA learned more about the difficulties and limitations of cleaning up groundwater sites contaminated with DNAPLs. Therefore, EPA undertook a Focused Feasibility Study to re-evaluate the cleanup for groundwater and soils in the area of the Site contaminated with DNAPLs. These post-ROD investigations and focused feasibility study affected the implementation of the remedial system as discussed below.

Area B Bioventing

The Area B soils contain elevated levels of both non-carcinogenic and potentially carcinogenic PAHs. The ROD Amendment selected evaluation of *in situ* bioventing as the remedial technology for Area B (EPA, 1998).

The Area B bioventing system was constructed between October 1998 and March 1999, and was put into operation in March 1999. The Area B bioventing system was operated by WRG from 1999 to June 2005. EPA performed oversight to ensure that the system was operated and maintained in accordance with the guidelines provided in the *Draft Technical Memorandum, 100% Remedial Design; Proposed Bioventing System; Area B Soils* (TRC, 1998).

On June 7, 2005 the WRG requested EPA's approval to cease bioventing operations, permission to decommission and remove the bioventing system and deem remediation of the Area B soils complete. EPA evaluated vadose zone modeling performed by MWH. This evaluation confirmed that the standards set forth for the Area B soil in the ROD and ROD Amendment had been achieved, as documented in the letter from EPA to WRG on June 23, 2005.

EPA's June 23, 2005 letter regarding Area B Soils completion stated that the bioventing of Area B soils was complete. It also stated that removal of the bioventing system should be accompanied by placement of a minimum of 2 feet of protective, clean cover soil. In addition, Area B soils should be fenced and signs posted to prevent site operations or other activities from breaching and exposing area b soils in the future. Table 4-8 summarizes the Area B Bioventing activities that have occurred since the Second Five-Year Review.

Table 4-8
Area B Bioventing Activities Since the Second Five-Year Review
Third Five-Year Review, J.H. Baxter Site, Weed, California

Date	Activity
October 24, 2005	Land survey (pre-fill topography) of area performed.
October 24 - 31, 2005	Clearing and grubbing of existing vegetation performed. Existing vegetation was removed and hauled to an off-site location for disposal.
October 31 through Mid December, 2005 (intermittent due to acceptable weather)	Loading, transportation and placement of clean fill obtained from Roseburg Forest Products borrow source located south of the project site. A total of 14,180 cubic yards over a little less than three acres area was completed.
December 9, 2005	Site visit conducted by EPA to document completion and closure activities.
December 20, 2005	Seed and mulch placed on the disturbed construction area.
December 20, 2005	Land survey (Post-fill) of area performed.
March 14, 2006	MWH Letter Report, Area B Soils Fill Project. Documents work performed and confirmation of placement of two feet of clean fill over the Area B soils.
April 2006	EPA announces Completion of Construction Activities and Closure of Area B.

Slurry Wall and Related Activities

As described in the 1998 ROD Amendment, EPA conducted a Final Focused Feasibility Study and Evaluation of Technical Impracticability of groundwater water remedy in the DNAPL zone, and concluded that it was technically impracticable to achieve ROD cleanup standards for groundwater within the DNAPL zone. EPA granted that area of the Site a waiver of the ROD groundwater standards. To enhance the groundwater remedy for the remainder of the Site, a slurry wall was installed around the DNAPL zone as a barrier to prevent further contamination. In addition, hydraulic containment within the slurry wall would be achieved by installation and indefinite operation of groundwater extraction system (EPA, 1998).

Slurry wall construction and related activities took place between March and October 1999. Contaminants of concern in groundwater include arsenic, carcinogenic PAHs, PCP, and dioxin. The extraction well system (shown on Figure 2) was fully operational in December 1999. It is anticipated that this system (within the slurry wall) will continue to operate indefinitely. EPA approved the long-term operations and maintenance plan (*Operations and Maintenance Plan -*

Ground Water/Slurry Wall Remediation System) prepared by the PRPs' consultant at the time, TRC, (TRC, 1999b).

Water Treatment Plant and Water Treatment Improvements

As described in the 1990 ROD and 1998 ROD Amendment, extracted Site groundwater is treated to meet cleanup goals in a WTP. The WTP includes an oil/water separator, metals precipitation, biological treatment, and activated carbon adsorption unit. Treated water can be reused on the Roseburg log decks or delivered to the South Pasture for disposal. As part of the construction of the slurry wall and DNAPL zone hydraulic containment system, WPT throughput capacity was increased from 45 to 130 gallons per minute.

RCRA-Equivalent Cell

As described in the 1990 ROD and 1998 ROD Amendment, excavated Site soils were placed in a RCRA-equivalent disposal cell and capped to prevent exposure. The RCRA-equivalent cell, designated a Corrective Action Management Unit, includes a liner, a leachate collection and removal system, soil cap, stormwater runoff controls, and utilities. A preconstruction meeting for the cell was held in February 2000 and construction was completed in August of 2001.

Restrictive Covenants

Institutional controls were implemented to prevent future exposures to soil and groundwater contaminants in the DNAPL Zone and to protect the integrity of the remedy. These controls include: limiting future land uses to appropriate industrial uses (and prohibiting other uses); restricting access to and inappropriate use of contaminated groundwater; prohibiting activities that would disturb the integrity of the remedy, including appropriate prohibitions on activities that would disturb the soil and/or any cap placed upon soil; requiring appropriate handling of excavated materials; providing for appropriate notice (in land records and otherwise) that hazardous wastes remain on site; and prohibiting other activities that could cause a potential threat to human health or the environment. The Site institutional controls take the form of restrictive covenants recorded on the Site properties owned by J.H. Baxter and Roseburg.

Access and institutional controls implemented at the site began with WRG's submittal of the draft Land Use Restriction Notice to EPA on February 6, 1999. The Department of Toxic Substance Control issued draft and second draft Covenant to Restrict Use of Property for J.H. Baxter and Roseburg Forest Products Facilities on December 17, 2002 and October 7, 2004, respectively.

On November 20 and 27, 2006 J.H. Baxter and Roseburg Forest Products signed Covenants to Restrict Use of Property, respectively. These restrictive covenants were filed with the Siskiyou County Recorder on January 10, 2007 for Roseburg Forest Products property and on February 12, 2007 for the J.H. Baxter property. These restrictive covenants have not been modified since filing.

4.3 Operations and Maintenance

Operations and maintenance (O&M) activities for the remedy are described in the Site O&M plans for Groundwater/Slurry Wall Remediation System and Post-closure O&M Plan for

Surface Soils, Area B, and Ditch Sediment, as well as the O&M plans for the WTP. Routine O&M activities, including WTP influent/effluent sampling, surface water sampling, hydraulic containment/capture zone monitoring/slurry wall/gravel drainage trench monitoring (water level measurements), and groundwater sampling are performed at the site on a scheduled basis. Operational monitoring is used to assure proper operation and determine the optimal system configuration and procedure for the remedy.

Other O&M activities are performed on a routine basis and include inspection of the remedy component, and servicing tanks, pipes, pumps, and electrical systems. There have been very few problems in the implementation of system operations/O&M. However, since the Second Five-Year Review, the following non-routine maintenance or improvements were performed at the Site.

Pavement Wearing Surface

As described in the 1998 ROD Amendment, a protective asphaltic-concrete surface will be used to reduce direct contact and inhalation risk, protect groundwater, and reduce short-term risk related to excavation of and reburial of contaminated surface soils.

An estimated excavation of 30,000 cubic yards of contaminated soil, and the considerable quantity of airborne and other exposures that would be generated, were avoided by applying the wearing surface. Approximately 14 acres were covered by compacted aggregate base rock and an asphaltic-concrete wearing surface. The wearing surface is inspected annually and maintenance and repairs are performed as needed.

In September 2008, cracks in the wearing surface were filled to reduce water intrusion into the base and sub-base layers.

Surface Water Management Systems/Stormwater Holding Ponds

Pursuant to the selected remedy, surface water is being controlled and treated to prevent movement of site chemicals into Beaughton Creek. Surface water runoff is managed through the Stormwater Management System, which consists of three stormwater ponds (800,000, 50,000, and 150,000 gallon capacity), stormwater holding tanks, transfer pumps and pipes, backup electrical generator, security fencing, decontamination pad, and a series of stormwater catch basins and storm drain collection piping. These structures are regularly inspected and maintenance and repairs are performed, as needed.

In 2008, Stormwater Ponds 2 and 3 were cleared of sediment and biological growth. Pinhole leaks were noted in Stormwater Holding Tank 3A (which holds stormwater/groundwater prior to treatment) during O&M inspections in July 2008. A liner was installed to repair the leaks.

O & M Cost

Operations and Maintenance costs associated with the remedy at the Site since the last five-year review are contained in Table 4-9. J.H. Baxter employees transitioned to the O&M contractor in 2008 and Premo Services costs increased accordingly. An additional one-time expense was incurred in 2008/2009, including pond sediment clean-out and lining of Tank 3A. No unusually high O&M costs were observed during this review period.

Table 4-9
Annual Remedy Costs Incurred Since the Second Five-Year Review
Third Five-Year Review, J.H. Baxter Site, Weed, California

Activity	2005	2006	2007	2008	2009
Project Coordination	$36,000	$36,000	$36,000	$36,000	$36,000
Operation & Maintenance / Sampling & Analysis / Reporting					
Treatment Plant O&M and Sampling	$208,000	$164,000	$165,476	$314,000	$311,000
Laboratory Analytical, Plant & Wells	$21,000	$22,596	$19,875	$17,800	$21,130
OM&M Reporting	$18,000	$18,000	$18,000	$16,000	$16,000
EPA Annual Reporting	$5,000	$5,000	$5,000	$5,000	$5,000
Regulatory	$19,000	$50,000	$85,524	$60,366	$45,117
TOTAL	$307,000	$295,596	$329,875	$449,166	$434,247

Section 5
Progress Since the Last Five-Year Review

2005 Five-Year Review Protectiveness Statement

From the Second Five-Year Review, the following statements were made regarding the protectiveness of the selected remedy for the Site:

> *"The remedy at the J.H. Baxter site currently protects human health and the environment because exposure pathways that could result in unacceptable risks are being controlled. In the long-term the following actions need to be taken to ensure long-term protectiveness:*
>
> - *Place 2 feet of new protective cover soil over the Area B soils, and fence the area boundaries.*
> - *Complete and implement the Site institutional controls.*
> - *Continue to monitor and evaluate copper concentrations in Wells MW-9B and MW-13."*

Results from Implemented Actions since 2005 Five-Year Review

Table 5-1 lists the issues and recommended follow up actions from the Second Five-Year Review Report and summarizes the actions taken.

Table 5-1
Actions Taken Since the Second Five-Year Review
Third Five-Year Review, J.H. Baxter Site, Weed, California

Issues from Previous Review	Action Taken and Outcome
Place 2 feet of new protective cover soil over Area B soils, and fence the area boundaries.	Two feet of protective cover soil was placed over Area B. EPA issued a letter on June 23, 2005 stating that the bioventing system at Area B had achieved the ROD standard for cleanup and was approved for closure. Between July and December 2005, closure activities were conducted by the WRG at Area B. EPA conducted a site visit on December 9, 2005, which documented the completion of closure activities. EPA announced Completion of the Construction Activities and Closure of Area B in April 2006. Note: Fencing of the Area B was an EPA recommendation only. After further evaluation of access controls present at the Site, it was determined that implementation of this recommendation was not necessary and would not impact the protectiveness of the remedy.
Complete and implement the Site institutional controls.	On November 20 and 27, 2006 J.H. Baxter and Roseburg Forest Products signed Covenants to Restrict Use of Property, respectively. These restrictive covenants were filed with the Siskiyou County Recorder on January 10, 2007 for Roseburg Forest Products property and on February

Issues from Previous Review	Action Taken and Outcome
	12, 2007 for the J.H. Baxter property. These restrictive covenants have not been modified since filing.
Continued to monitor and evaluate copper concentrations in Wells MW-9B and MW-13.	Continued monitoring of copper in wells MW-9B and MW-13. Since 2005 copper concentrations in MW-9B and MW-13 have remained below the ROD cleanup goal. However, three quarterly samples collected from MW-9B have exceeded the zinc ROD Cleanup Goal of 90 ug/L but did not exceed the zinc 2010 California maximum contaminant level (MCL) of 1,500 ug/L).

Section 6
Five-Year Review Process

6.1 Administrative Components

The J.H. Baxter Third Five-Year Review was led by EPA Remedial Project Manager, Travis L. Cain. The five-year review consisted of community involvement, document review, data review, institutional controls review, human risk assessment, and site inspection. This work was initiated on February 4, 2010, and extended through June 2010.

6.2 Community Involvement and Notification

On April 14, 2010, a public notification published in the Weed Press announced that EPA has begun the Third Five-Year review of cleanup actions undertaken at the J. H. Baxter Superfund Site, in Weed, Siskiyou County, California and that the review will evaluate whether the cleanup actions for the Site remain protective of human health and the environment.

EPA received no response to the public notice during this Third Five-Year Review.

6.3 Document Review

In preparing this Third Five-Year Review, background documents were reviewed to determine the full scope of the remedy and its goals and documents produced in the past five years were reviewed to determine the site's current status. The list of documents reviewed for this report is provided in Appendix A.

ARARs were reviewed to determine whether any changes to the ARARs have occurred since last five-year review that could impact the protectiveness of the remedy at the Site. The memorandum discussing results of the review is provided in Appendix B and further discussed in Section 7.

6.4 Data Review

Groundwater Monitoring

Depth to Water Monitoring

Potentiometric surface maps presented in the 2005, 2006, 2007, 2008, and 2009 annual reports for site were reviewed and evaluated (Figures 3 and 4). Minor changes in flow direction and groundwater gradient at the Site have occurred over the previous five years which have been consistent with expected and historical groundwater conditions.

Hydraulic Control Across Slurry Wall and Network Capture Zone

The slurry wall and extraction wells have been effective in capturing groundwater containing constituent concentrations that are above the site's ROD Cleanup Goals outside of the DNAPL zone. An inward groundwater gradient is created by extracting groundwater from within the slurry wall. The groundwater gradient across the slurry wall is determined using groundwater elevation data collected from six paired wells located along the slurry wall. Achieving the desired head differential across the slurry wall in the northwest area of the slurry wall has not occurred at various times over the last five-year period. Although the head inside the slurry

wall is slightly higher than the head outside of the wall, the southern extraction wells (SEW) located within the slurry wall and the physical barrier to groundwater movement (slurry wall) are believed to be effective in controlling and capturing groundwater contaminants. Low transmissivity of the aquifer and the low extraction rate of the wells in this area may be responsible for this condition. Other information on containment performance is regularly reviewed to determine if evidence exists of containment zone failure such that contaminants are migrating or suspected to be migrating from the Network Capture Zone. Using support data from the capture zone system, the slurry wall and extraction wells are providing an effective hydraulic containment system.

Evaluation of hydraulic capture from the western extraction well (WEW) and northern extraction well (NEW) series are reported in the annual report for the Site. Table 6-1 provides a summary.

Table 6-1
Evaluation of Western and Northern Hydraulic Capture Zones
Third Five-Year Review, J.H. Baxter Site, Weed, California

Year	Well Series	Capture Zone Analysis
2005	WEW	Maintaining capture west of slurry wall.
	NEW	Drawdown is believed to be sufficient to hydraulically capture groundwater containing ROD constituents above cleanup goals outside the slurry wall.
2006	WEW	Maintaining capture impacted groundwater west of the slurry wall.
	NEW	Sufficient to capture groundwater containing concentrations of ROD constituents above cleanup goals outside the slurry wall.
2007	WEW	Maintaining capture of impacted groundwater west of the slurry wall.
	NEW	Sufficient to capture groundwater containing concentrations of ROD constituents above cleanup goals outside the slurry wall.
2008	WEW	Maintaining capture of impacted groundwater west of the slurry wall.
	NEW	Effective in restoring groundwater quality in this portion of the aquifer. Groundwater extraction ceased on 10-15-2008.
2009	WEW	Sufficient to capture groundwater containing concentrations of ROD constituents above cleanup goals outside the slurry wall.
	NEW	No extraction. Wells monitored on a semiannually basis.

WEW series extraction wells appear to be maintaining groundwater capture in the area west of the slurry wall that contains ROD constituents (Figure 5). NEW series wells maintained groundwater capture and appear to have been effective in restoring groundwater quality in this portion of the aquifer to the ROD Cleanup Goals. Groundwater extraction from the NEW series wells ceased on October 15, 2008. Groundwater from the NEW is collected and analyzed on semiannual basis and discussed below. Reinstatement of groundwater extraction from the NEW series wells has not been required since initial termination.

Groundwater Quality

Groundwater samples are collected and analyzed on a semiannual basis, as presented in the 2005, 2006, 2007, 2008, and 2009 annual reports for the Site. Groundwater quality data are summarized below with additional information provided in the Groundwater Data Review Memorandum in Appendix D. Distributions of target metals and PAHs on October 1, 2009 in the upper aquifer and in the lower aquifer are presented in Figures 6 and 7, respectively.

Northern Upper Aquifer – Outside Slurry Wall

Restoration of groundwater to its beneficial uses in the northern portion of the Upper Aquifer is assessed using water quality data collected from monitoring wells MW-06A, MW-14, RIW-08B, RIW-09A, RIW-10A, RIW-10B, RIW-12A, and RIW-13C, and from extraction wells NEW-01, NEW-02, NEW-03, NEW-04, NEW-06, NEW-08, and NEW-10. Groundwater analytical results from Upper Aquifer wells outside the slurry wall are summarized in Appendix H.

Except for the NEW wells, since 2005, all metals of concern (dissolved arsenic, chromium, copper, and zinc) highlighted in the 1990 ROD are present in the northern portion of the Upper Aquifer at concentrations exceeding their respective groundwater ROD Cleanup Goals of 5, 8, 11, and 90 micrograms per liter (µg/L). Total ncPAHs were detected once in 2005 and once in 2006 in groundwater monitoring well (RIW-10A) below the ROD Cleanup Goal of 5 µg/L, but was not detected in 2007, 2008, or 2009. Total cPAHs were not detected in groundwater collected from this portion of the aquifer. PCP and tetrachlorophenols were not analyzed.

Arsenic, chromium, and copper all appear to be decreasing or stable in the northern portion of the Upper Aquifer during the five-year monitoring period. Zinc concentrations are also decreasing or stable in the northern portion of the Upper Aquifer, with the exception of well MW-06A and MW-14, where zinc concentrations increased above the ROD Cleanup Goal of 90 µg/L during the last monitoring event.

Groundwater data from the monitoring and extraction wells were used to assess the effectiveness of restoring groundwater quality in this portion of the aquifer to the ROD Cleanup Goals. Restoration of groundwater to its beneficial uses was deemed successful in the vicinity of the NEW wells, so groundwater extraction from the NEW series wells ceased on October 15, 2008. Monitoring will be continued until cleanup levels are achieved throughout the aquifer.

Western Upper Aquifer – Outside Slurry Wall

Restoration of groundwater to its beneficial uses in the western portion of the Upper Aquifer is assessed using water quality data collected from monitoring wells MW-04, MW-10, MW-12, MW-13, MW-09A, RIW-03A, RIW-03B, and WP-13 and from extraction wells WEW-01, WEW-

03, WEW-05, WEW-07, and WEW-10. Groundwater analytical results from Upper Aquifer wells outside the slurry wall are summarized in Appendix H.

Dissolved arsenic, chromium, copper, and zinc have been detected in the western portion of the Upper Aquifer at concentrations exceeding their respective groundwater ROD Cleanup Goals in all but three wells. Dissolved arsenic was detected above the 2010 California MCL in wells WEW-01, WEW-07, and WEW-10; and zinc was detected above the 2010 California MCL in wells WP-13, WEW-05, and WEW-10. Total ncPAHs were detected only once in WEW-07 in 2006 at a concentration below the ROD Cleanup Goal and carcinogenic polycyclic or polynuclear aromatic hydrocarbons (cPAHs) were not detected in groundwater collected from this portion of the aquifer. PCP and tetrachlorophenols were not analyzed.

Arsenic, chromium, and copper concentrations appear to be decreasing in the western portion of the Upper Aquifer and were not detected in any wells in this area during the most recent sampling round (January 2010), with the exception of chromium. Chromium has been detected below its ROD Cleanup Goal in well RIW-03B during the last two sampling event (2008 and 2009). Although zinc concentrations also appear to be decreasing or stable, concentrations have been consistently detected above its ROD Cleanup Goal of 90 μg/L. However, during the most recent monitoring event, zinc was not detected above the 2010 California MCL of 1,500 μg/L in the western portion of the Upper Aquifer.

Southern Upper Aquifer – Outside Slurry Wall

Restoration of groundwater to its beneficial uses in the southern portion of the Upper Aquifer is assessed using water quality data collected from monitoring wells CMW-01, CMW-02, and RIW-01B. Groundwater analytical results from Upper Aquifer wells outside the slurry wall are summarized in Appendix H.

Since 2005, dissolved arsenic, copper, and zinc have been detected in the southern portion of the Upper Aquifer at concentrations exceeding their respective groundwater ROD Cleanup Goals, but not above their 2010 California MCLs. Chromium and total cPAHs were not detected in groundwater collected from this portion of the aquifer. Total ncPAHs were detected only once in CMW-02 in 2006 at a concentration below the ROD Cleanup Goal. PCP and tetrachlorophenols were not detected in any groundwater samples.

Metals, total cPAHs, total ncPAHs, PCP, and tetrachlorophenols concentrations all appear to be decreasing or stable in the southern portion of the Upper Aquifer during the five-year monitoring period.

Upper Aquifer Inside Slurry Wall (DNAPL Zone)

Since 2005, groundwater quality inside the DNAPL Zone is collected from monitoring wells WP-09, WP-11, WP-12, B-01S, SEW-05 and SEW-08. Groundwater analytical results from Upper Aquifer wells inside the slurry wall are summarized in Appendix H. ROD Cleanup Goals for the DNAPL Zone have been waived; therefore no comparisons to these goals are provided.

Arsenic has been detected in four samples, chromium in one sample, and zinc in four samples. Copper was not detected above the laboratory reporting limit in any sample. Concentrations of

total ncPAHs have been detected in nine samples. Concentrations of cPAHs and PCP were not detected above the laboratory reporting limit in any sample. Tetrachlorophenols were detected in well WP-09 in January 2010.

The presence of Site contaminants of concern in groundwater collected from monitoring and extraction wells located in the Upper Aquifer inside of the slurry wall indicates that contaminants are being removed from the aquifer and hydraulic containment is functioning as expected.

Lower Aquifer Water Quality

Groundwater analytical results from the Lower Aquifer monitoring wells MW-09B, RIW-09B, RIW-01D, and RIW-12D are summarized in Appendix 6-6. Total ncPAHs and cPAHS were not detected in the Lower Aquifer wells outside of the slurry wall. There have been sporadic hits of arsenic, chromium, and copper in these wells during the past five years. Arsenic was detected once below its ROD Cleanup Goal. Chromium was detected in two samples, once below the ROD Cleanup Goal in 2008 and once above the ROD Cleanup Goal but below the 2010 California MCL in October 2007. This appears to be a one-time occurrence. Copper was detected above its ROD Cleanup Goal but below the 2010 California MCL in July 2006; it has not been detected in the last three years.

Zinc concentrations in well RIW-01D have displayed a decreasing trend. Zinc concentrations in well MW-09B have generally displayed a decreasing trend; however, levels have increased to above its ROD Cleanup Goal in the last two monitoring events (October 2009 and January 2010). Although the zinc concentrations in these samples (354 and 518 μg/L) are above the ROD Cleanup Goal, they are well below the 2010 California MCL of 1,500 μg/L.

Arsenic, chromium, copper, and zinc have not been detected above laboratory reporting limits in well B-01R located in the DNAPL Zone (inside of the slurry wall). ROD Cleanup Goals for the DNAPL Zone have been waived. Concentrations of ncPAHs in Lower Aquifer extraction well B-01R in October 2009 totaled 147.59 μg/L. Lower Aquifer extraction well B-01R is located within the slurry wall area. Groundwater is extracted from this well to limit the extent of ncPAHs in the Lower Aquifer (EPA, 2005).

Water Treatment Plant

The Baxter WTP effluent is sampled bimonthly and the influent to the plant is sampled annually. A summary of the data is provided in Appendix 6-7.

WTP effluent samples are compared to discharge limits for best practicable treatment standards. WTP effluent samples were below best practicable treatment standards and WTP is operating as designed. However, in March and May 2005, January 2006, and March 2008 zinc was detected above the best practicable treatment standard of 10 μg/L. These WTP minor "upsets" generally occur following a rain or snow melt event that affects WTP influent water chemistry. Zinc may occasionally exceed the best practicable treatment standard for very short periods as the WTP's optimal chemical precipitation set-point is adjusted to treat this different WTP influent chemistry. Once optimal performance of the WTP has been re-established, removal of both zinc and arsenic is effective.

The annual volume of groundwater and stormwater treated and subsequently discharged to the South Pasture is provided in Appendix 6-7. Variability in treatment volume is a result of the water that is captured versus the treatment capacity of the WTP.

Surface Water

Surface water is being controlled and treated to prevent movement of site chemicals into Beaughton Creek. Since the Second Five-Year Review 2005, only one surface water sample was collected on December 30, 2005 during a major rainfall event that resulted in an unauthorized discharge of about 20,000 gallons of stormwater from the site. The Site's stormwater management plan was reviewed by EPA and WRG to determine whether additional measures or actions should be taken to prevent future uncontrolled discharges. It was concluded that the pumping capacity has already been increased above the system design criteria, and that other stormwater controls are consistent with best management practices. The likelihood of another unanticipated discharge is low.

Sediment

As required by the ROD, ditch sediment samples were collected to evaluate whether the ROD cleanup standards are being met via natural attenuation. The last ditch sediment sampling event occurred on May 25, 2005. Analytical data for the nine sediment samples show that ROD cleanup standards for cPAHs (<0.5 mg/kg, B(a)P toxicity equivalent), ncPAHS (<0.5 mg/kg), PCP (1.0 mg/kg), and tetrachlorophenol (1.0 mg/kg) have been met. The mean arsenic concentration was below the ROD cleanup standard of 8 mg/kg but the mean concentration for both chromium and zinc exceed the ROD cleanup of <18 mg/kg and <26 mg/kg, respectively. Since these concentrations did not exceed the ROD excavation standards of 500 mg/kg and 5,000 mg/kg, respectively, future samples of ditch sediments will continue to be monitored to determine whether the ROD cleanup goals are attained through natural attenuation.

Treated Water Disposal

Every five years, soil samples are collected from the South Pasture and analyzed to ensure that soil in the South Pasture has not been impacted by disposal of the WTP effluent. South Pasture baseline soil concentrations for comparative purposes were established using six soil samples collected on January 14, 1999. Following the establishment of the baseline condition, two sampling events occurred on April 8, 2004 and July 7, 2009. As stated in the MWH annual report, "*in general, current results were similar to the results from the past sampling events*." This statement is supported by the data.

RCRA-Equivalent Disposal Cell

Quarterly leachate sampling from the RCRA-Equivalent Cell is required for 30 years after closure of the RCRA-Equivalent Cell. Leachate is sampled from the cell when leachate is present at three collection ports within the cell; upper leachate collections and removal system sump, leak detection system sump, and the vadose zone sump. From 2005 to 2009, no samples were collected because all collection ports were dry.

Compliance groundwater samples are collected from CMW-1 and CMW-2 downgradient of the cell. These groundwater results are discussed in the subsection addressing groundwater quality.

Several settlement monuments are located on the on the RCRA-Equivalent Disposal Cell. The monuments are shown on site plans and are surveyed by a licensed California land surveyor annually. Settlement reports and data are provided to EPA in the Annual Report of Activities for the Site. No settlement issues have been identified in the RCRA-Equivalent Disposal Cell

Asphaltic-Concrete Surface

As described in the 1998 ROD amendment, a protective asphaltic-concrete surface will be used to reduce direct contact and inhalation risk, protect groundwater, and reduce short-term risk related to excavation and reburial of contaminated surface soils above the surface soil excavation standard and below the subsurface soil excavation standard.

Approximately 14 acres were covered by compacted aggregate base rock and an asphaltic-concrete wearing surface. The wearing surface is inspected annually and maintenance and repairs are performed as needed and necessary.

In September 2008, cracks in the wearing surface were filled to reduce water intrusion into the base and sub-base layers. Several repair areas were observed and found to be effective. The wearing surface is in good repair and functioning as designed.

Area B Soil Bioventing System

EPA's June 23, 2005 letter regarding Area B Soils completion states that the bioventing of Area B soils is considered complete. Removal of the bioventing system was accompanied by placement of a minimum of 2 feet of protective, clean cover soil. In addition, EPA recommended that Area B soils be fenced and signs posted to prevent site operations or other activities from breaching and exposing Area B soils in the future.

The following closure activities were performed: land survey (pre-fill and post-fill topography) of area; clearing and grubbing of existing vegetation; removing existing vegetation and disposal at an off-site location; loading, transportation and placement of clean fill obtained from Roseburg Forest Products borrow source south the project site; and seeding and placement of mulch on remediated area.

A site visit was conducted by EPA to document completion and closure activities. A total of 14,180 cubic yards was placed over about 3 acres. MWH's March 14, 2006 letter report, Area B Soils Fill Project documents work performed and confirmation of placement of 2 feet of clean fill over the Area B soils. In April 2006, EPA announced completion of construction activities and closure of Area B. Area B has achieved the ROD standard for cleanup and the remedy is complete. EPA's recommendation to fence the area to restrict access was not implemented due to other access restriction methods employed at and around the area.

Institutional Controls

On November 20 and 27, 2006 J.H. Baxter and Roseburg Forest Products signed Covenants to Restrict Use of Property, respectively. These restrictive covenants were filed with the Siskiyou County Recorder on January 10, 2007 for Roseburg Forest Products property and on February 12, 2007 for the J.H. Baxter property. These restrictive covenants have not been modified since filing.

On September 7, 2007, J.H. Baxter notified EPA that a portion of the J.H. Baxter Superfund Site had been leased to Pacific States Treating and that the lease would not impact remedial activities at the Site. This notification and statement was conducted in accordance with the Covenant to Restrict Use of the Property. No other events that have occurred at the Site affected institutional controls at the Site. Implementation of institutional controls, which restrict certain uses and activities, was confirmed during the site inspection.

6.5 Site Inspection

The USEPA conducted a site inspection on March 11, 2010. The Site Inspection Checklist is provided in Appendix E and site inspection photographs are in Appendix F. The remedy systems and components that are observable are in very good repair and operating as designed. The general impression is that the remedy systems are functioning very well, are very well maintained, and problems and/or issues are pro-actively addressed. Data, records, and logs reviewed during the site inspection support the statement that the remedy is effective and functioning as designed

The fence recommended by EPA to be constructed around Area B to restrict access following closure has not been constructed. However, existing provisions to restrict access to the area were found to be effective in restricting access to the area and no improvements are recommended.

6.6 Interviews

As part of the Third Five-Year-Review, interviews were conducted with Richard Andrachek, WRG Coordinator; and Gale Jensen, O&M Manager for J.H. Baxter Company. All parties agreed that the project was progressing as planned and that the remedy is effective and well-maintained. Below is a summary of the interviews:

- The WRG recently submitted a request to reduce the semiannual reporting to annual reporting for the site. This request is currently under consideration by the EPA and site stakeholders.

- A few incidents of vandalism and trespassing have occurred at the site; however, these have been isolated events and the trespassers have been escorted off of the property and informed of the private property status of the area. As a result of the incidents, two security cameras and additional latches/padlocks have been installed at the storage buildings to reduce vandalism at the site.

- In December 2005, intense rains resulted in a discharge of stormwater from the site because the stormwater flowing into a holding pond exceeded the pond's pumping rate. However, a review of the incident by the EPA and the WRG determined that no modification to the surface water management was needed because the event has not been repeated, the pumping capacity has already been increased above the system design criteria, and the likelihood of another event occurring is low.

- Only one accidental release of a controlled substance has occurred since the last 5-Year Review. During a recent J.H. Baxter property cleanup activity, a small release of hydrocarbons occurred while preparing equipment for recycling/salvage and/or disposal. The area impacted by this spill is not located on or in close vicinity to any Superfund remedy components, and therefore, this event does not impact the protectiveness or effectiveness of the remedy.

- A couple of community concerns have been noted:

  - During the period between remedy construction and the Second Five-Year Review, a resident in the community complained about a noxious odor coming from the J.H. Baxter property. EPA investigated the complaint and performed a site inspection and collected and analyzed air samples. Following data analysis, no source of noxious air emissions was found to be emanating from the site and no further action was deemed necessary.

  - Since the last Five-Year Review, several citizens were concerned about the potential discharge/release of dioxins into the Dwinnell Reservoir. However, this issue has been resolved to the satisfaction of the California Regional Water Quality Control Board, North Coast Region, through additional sampling. This resolution is documented in a letter dated March 22, 2010, stating that no further investigation of legacy dioxins in fish tissue in Dwinnell Reservoir is warranted (file J.H. Baxter & Co., Weed, Case No. 1NSI043).

Interview summary forms are presented as Appendix G.

Section 7
Technical Assessment

7.1 Question A: Is the Remedy Functioning as Intended by the Decision Document?

Remedial Action Performance

The review of documents and the site inspection indicate that the remedy is functioning as intended by the ROD and ROD Amendment, as modified by the ESD. The treatment and/or containment of contaminated soils have achieved the RAOs of protecting groundwater and surface water and preventing direct contact with contaminated soils. With the exception of chromium and zinc, RAOs for contaminated sediments have been met through natural attenuation. Sediments will continue to be monitored until all cleanup levels are achieved. Surface water capture and treatment prior to discharge to Beaughton Creek has been effective. Extraction and treatment of the groundwater has been effective in meeting the best practicable treatment standards for discharge of treated water. Institutional controls have been effectively implemented and prevent exposure to contaminated soils, surface water, and groundwater.

Operation and maintenance of the slurry wall and groundwater pumping from wells within the wall effectively prevent migration of contaminants beyond the slurry wall. Progress towards restoration of groundwater outside the slurry wall is being achieved through extraction and treatment from wells outside the wall.

Groundwater data from the monitoring and extraction wells were used to assess the effectiveness of restoring groundwater quality in the northern portion of the aquifer outside of the slurry wall. Restoration of groundwater to beneficial uses has not yet been achieved, except in the area of the NEW series wells. Groundwater extraction from the NEW series wells ceased on October 15, 2008. Continued groundwater monitoring of the northern aquifer indicates that concentrations of all contaminants are decreasing or stable, with the exception of zinc, which increased in wells MW-06A and MW-14 during the last sampling event. Future monitoring will be used to evaluate whether this increase in zinc requires an active response (e.g. further extraction/treatment).

A review of the western Upper Aquifer water elevation data from the well pairs, established to determine the effectiveness of the slurry wall, indicates that occasionally an outward gradient exists along the western portion of the slurry wall. However, a capture zone analysis performed to evaluate the success of the WEW networks indicates that the extraction wells (SEW) located within the slurry wall and the physical barrier to groundwater movement (slurry wall) are believed to be effective in controlling and capturing groundwater contaminants. Groundwater extraction from extraction wells located in the western portion of the Upper Aquifer (outside of the slurry wall) will continue until groundwater quality has been restored.

Metals, total cPAHs, total ncPAHs, PCP, and tetrachlorophenols concentrations all appeared to be decreasing or stable during the five-year monitoring period in the southern Upper Aquifer.

Arsenic and zinc are currently detected in wells CMW-01 and CMW-02, respectively, at concentrations above ROD Cleanup Goals but below their respective MCLs. However, these wells are located upgradient from all extraction wells and the slurry wall, and the groundwater is captured and treated.

Total cPAHs and ncPAHs were not detected in the Lower Aquifer wells located outside of the slurry wall. There have been sporadic detections of arsenic, chromium and copper during the past five years in these wells, and no increasing trends were identified for the contaminants of concern.

Groundwater extracted from extraction wells located in the Upper Aquifer inside of the slurry wall (DNAPL Zone) will continue to remove containments from the aquifer and provide hydraulic containment of the DNAPL Zone.

System Operations/Operation and Maintenance

To ensure the operation of the remedial components (i.e., groundwater extraction, water treatment, RCRA-Equivalent Disposal Cell, etc.), routine inspections and monitoring activities are performed. Site inspections and the monitoring program have confirmed that remedial action complies with environmental regulations, and therefore, are protective of human health and the environment.

Opportunities for Optimization

Opportunities for optimization that were identified during this review are summarized below.

1. Adjust monitoring well network so that a suitable potentiometric surface map can be generated and used for groundwater hydraulic control and capture zone assessment. At a minimum, three water level elevations should be collected.
2. Repair capture zone piezometer CPZ-2 to facilitate more complete evaluation of hydraulic capture from the extraction well network.
3. In accordance with the site's sampling plan, sample wells SEW-0, SEW-02, and WP-14 within the period before the next Five-Year Review if the well is operated during that period.

Early Indicators of Potential Remedy Problems

There are no early indicators of additional potential issues.

Implementation of Institutional Controls and Other Measures

Institutional controls in the form of restrictive covenants were filed with Siskiyou County Recorder in 2007. Information obtained during this review and interviews with EPA, PRPs, and other individuals, indicate that the institutional control documents for the site have been implemented and are effective in protecting the remedy, and therefore, are protective of human health and the environment.

7.2 Question B: Are the Exposure Assumptions, Toxicity Data, Clean-up Levels, and Remedial Action Objectives Used at the Time of the Remedy Selection Still Valid?

Changes in Applicable or Relevant and Appropriate Requirements (ARARs) and To Be Considered

An ARAR review was conducted for this third five-year review and findings of the review were submitted in an ARARs Review Technical Memorandum (Appendix B). In accordance with the preamble of the National Contingency Plan, ARARs are frozen at the time of the ROD unless a "new or modified requirement calls into question the protectiveness of the selected remedy". Review of the ARARs has determined no changes since the Second Five-Year Review that would affect protectiveness of the remedy. Although a new arsenic MCL of 0.010 mg/L has been adopted both by the USEPA on January 23, 2006 and California Environmental Protection Agency (CalEPA) on November 11, 2008,the arsenic ROD Cleanup Goal of 0.005 mg/L is lower than the MCL. Thus, this change would have no effect on the remedy at the J.H. Baxter Superfund.

Changes in Potential Receptors and Exposure Pathways

Vapor intrusion was not assessed in the original risk assessment for current and future onsite workers in the few enclosed onsite buildings such as the water treatment plant and office (other onsite buildings are open-sided buildings with natural air ventilation).

Of the Site contaminants of concern listed in the original ROD, benzene and naphthalene (a PAH) are the only chemicals of concern in groundwater with appreciable volatility. In the 1998 ROD Amendment, benzene was removed from the list of Site contaminants because: 1) It was not detected in Area B soils, 2) Water treatment plant samples collected and analyzed for benzene between 1992 and 1996 showed the following: Of a total of 105 samples collected, benzene was not detected in 73 samples at a method detection limit of 0.5 µg/L. In the 32 samples where benzene was detected, the average concentration was 1.4 µg/L, and 3) Groundwater samples collected from 25 monitoring wells in the latter half of 1999 and the first half of 2000 showed benzene was not detected in any well except one, which showed an estimated concentration of 0.6 µg/L, just slightly over the method detection limit of 0.5 µg/L. This benzene groundwater concentration does not pose a vapor intrusion risk.

The naphthalene concentrations in groundwater during the most recent five-year monitoring period ranged from non-detect to 1,100 µg /L. The highest levels of napthalene have been detected within the slurry wall TI zone over 100 feet north of any buildings on the property. Therefore, the naphthalene does not pose a risk for vapor intrusion.

Changes in Toxicity

EPA's dioxin reassessment has been developed and undergone review over many years with the participation of scientific experts in EPA and other federal agencies, as well as scientific experts in the private sector and academia. The Agency followed current cancer guidelines and incorporated the latest data and physiological/biochemical research into the assessment. The results of the assessment have currently not been finalized and have not been adopted into state

or federal standards. EPA anticipates that a final revision to the dioxin toxicity numbers may be released by the end of 2010. In addition, EPA/OSWER has proposed to revise the interim preliminary remediation goals (PRGs) for dioxin and dioxin-like compounds, based on technical assessment of scientific and environmental data. However, EPA has not made any final decisions on interim PRGs at this time. Therefore, the dioxin toxicity reassessment for this Site will be updated during the next Five Year Review.

Expected Progress Towards Meeting the RAOs

The remedy is progressing as expected and environmental conditions are improving over time.

7.3 Question C: Has any Other Information Come to Light that Could Call into Question the Protectiveness of the Remedy?

There is no other information that has come to light that would call into question the protectiveness of the remedy.

7.4 Technical Assessment Summary

According to the data reviewed, site inspections, and the interviews, the remedy is functioning as intended by the ROD, ROD Amendment, and ESD. Reduction of contaminants in Site media continues to progress as expected and no physical conditions have changed at the Site that would affect the protectiveness of the remedy.

No changes to the standardized risk assessment methodology were identified that could affect the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

Section 8
Issues

There no issues that affect protectiveness.

Section 9
Recommendations and Follow-up Actions

There are no recommendations.

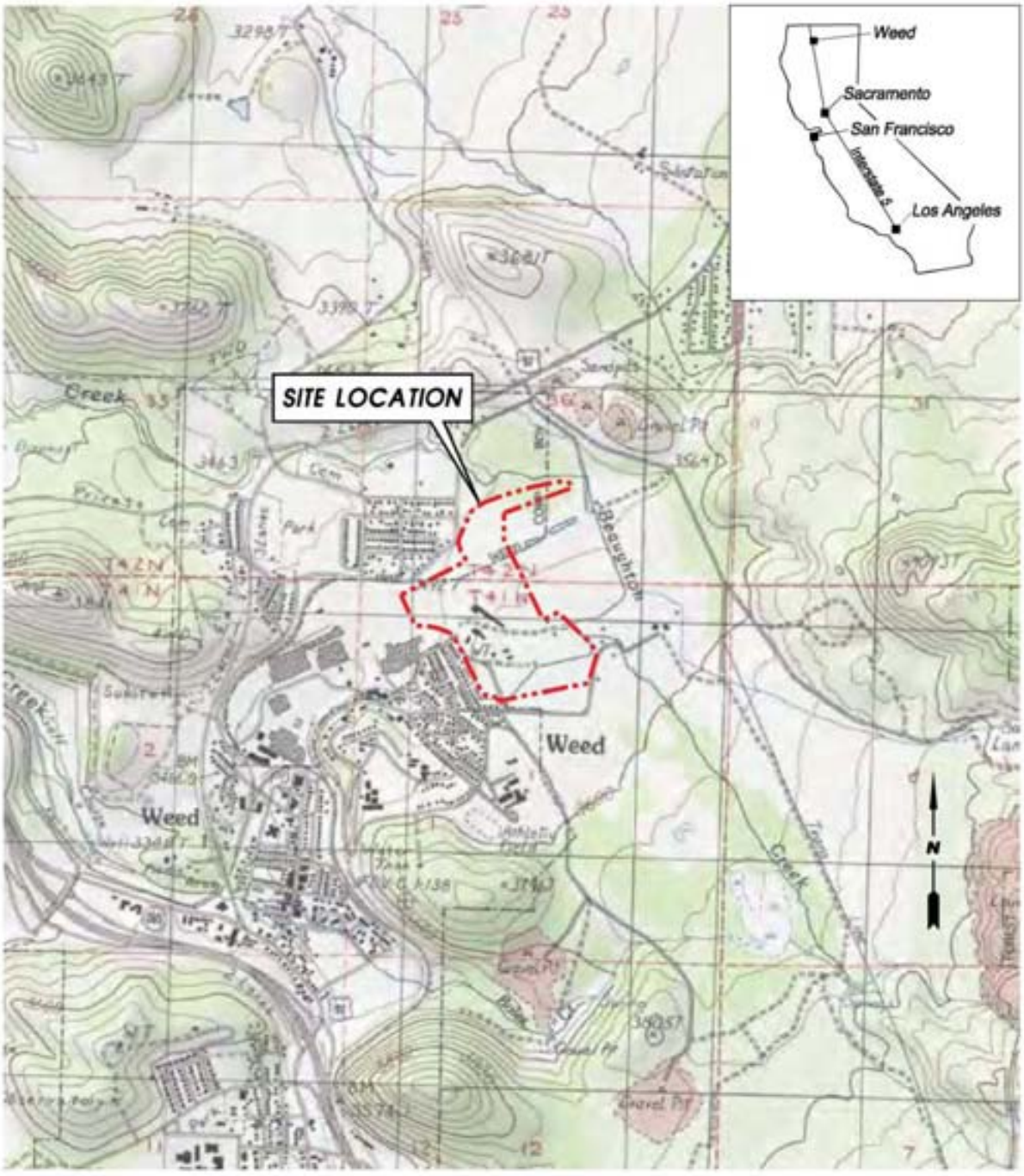
Section 10
Protectiveness Statement

The remedy at the J.H. Baxter Superfund site is protective of human health and the environment because the asphaltic surface and restrictive covenants control direct contact exposure to the soil and groundwater. In addition, groundwater is being effectively contained or restored.

Section 11
Next Five-Year Review

The next review will be conducted within five years of the completion of this Five-Year Review report.

Figures



SOURCE: U.S.G.S. 7.5' QUAD SHEET
WEED, CALIFORNIA
PHOTOREVISED 1979
HOTLUM, CALIFORNIA
PHOTOREVISED 1979

SCALE:
0 FEET 2000

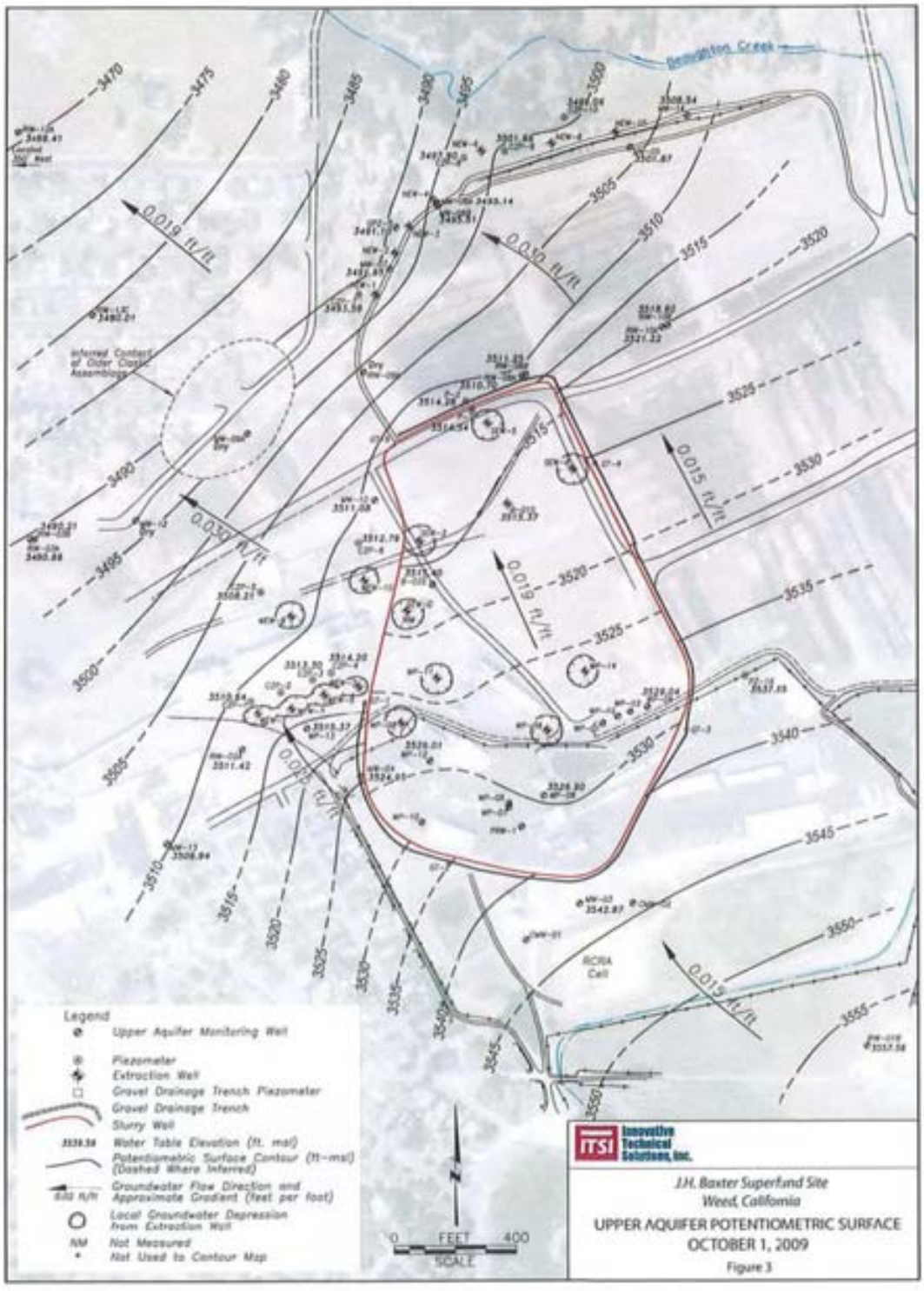
Innovative Technical Solutions, Inc.

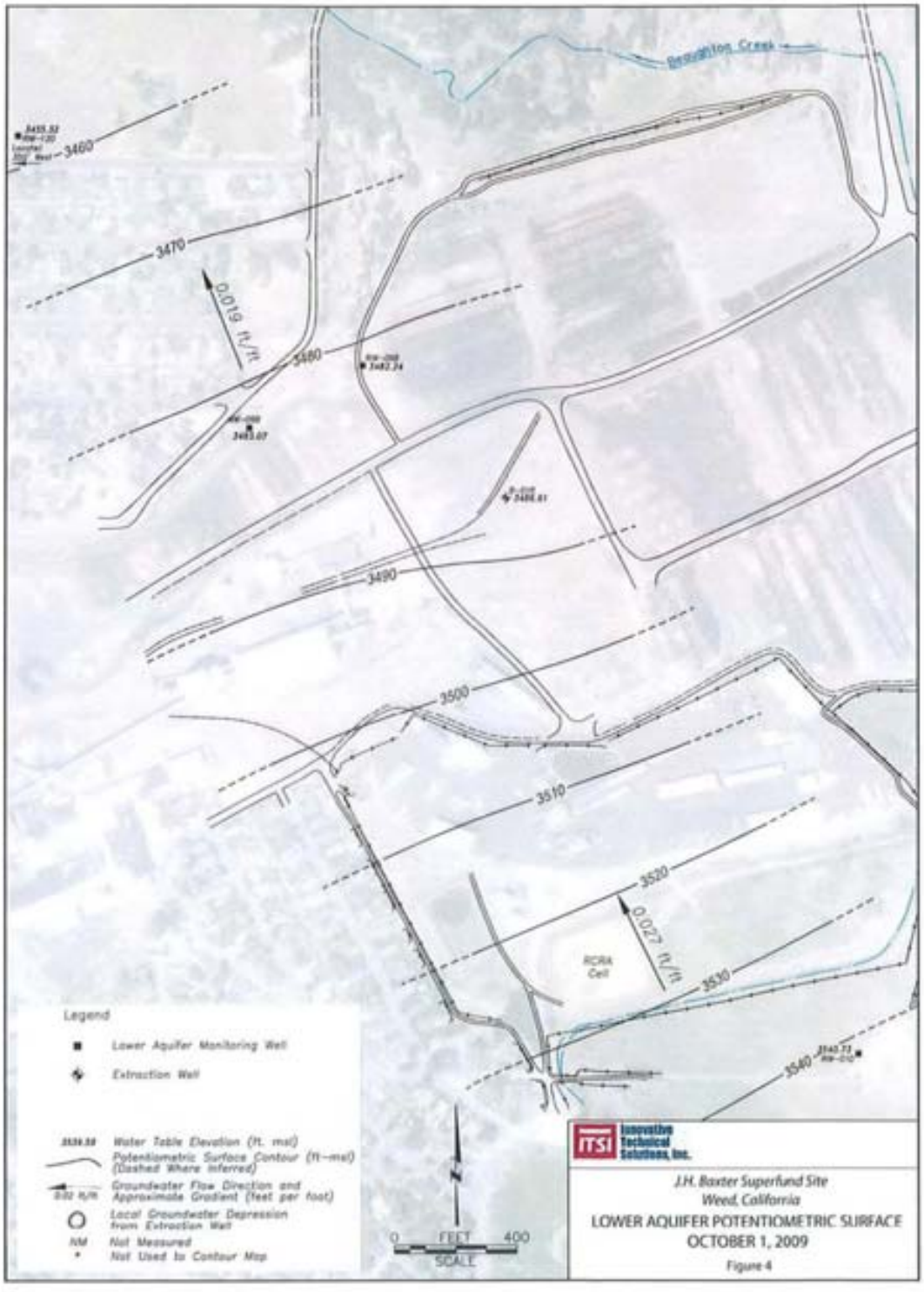
J.H. Baxter Superfund Site
Weed, California

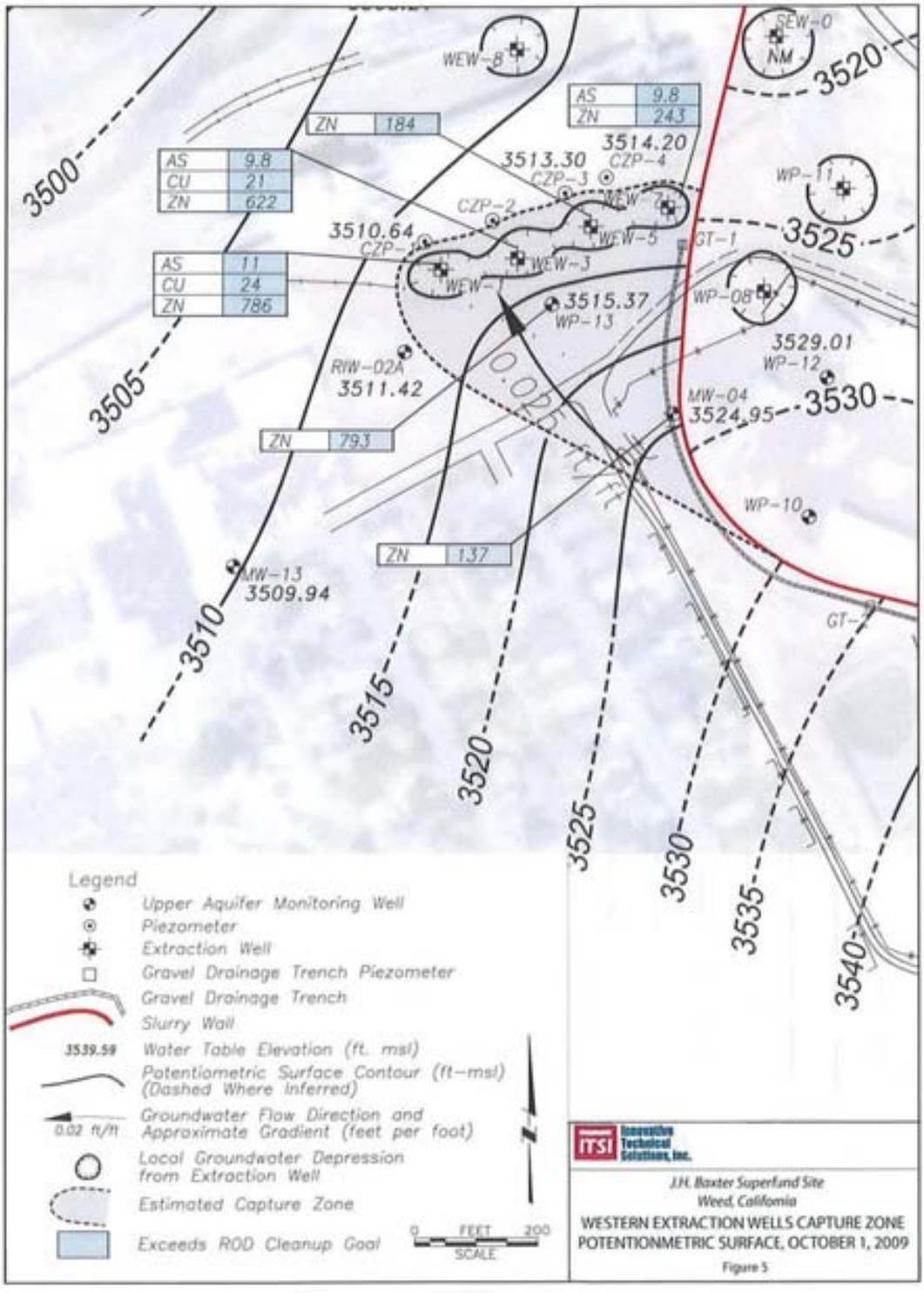
SITE LOCATION

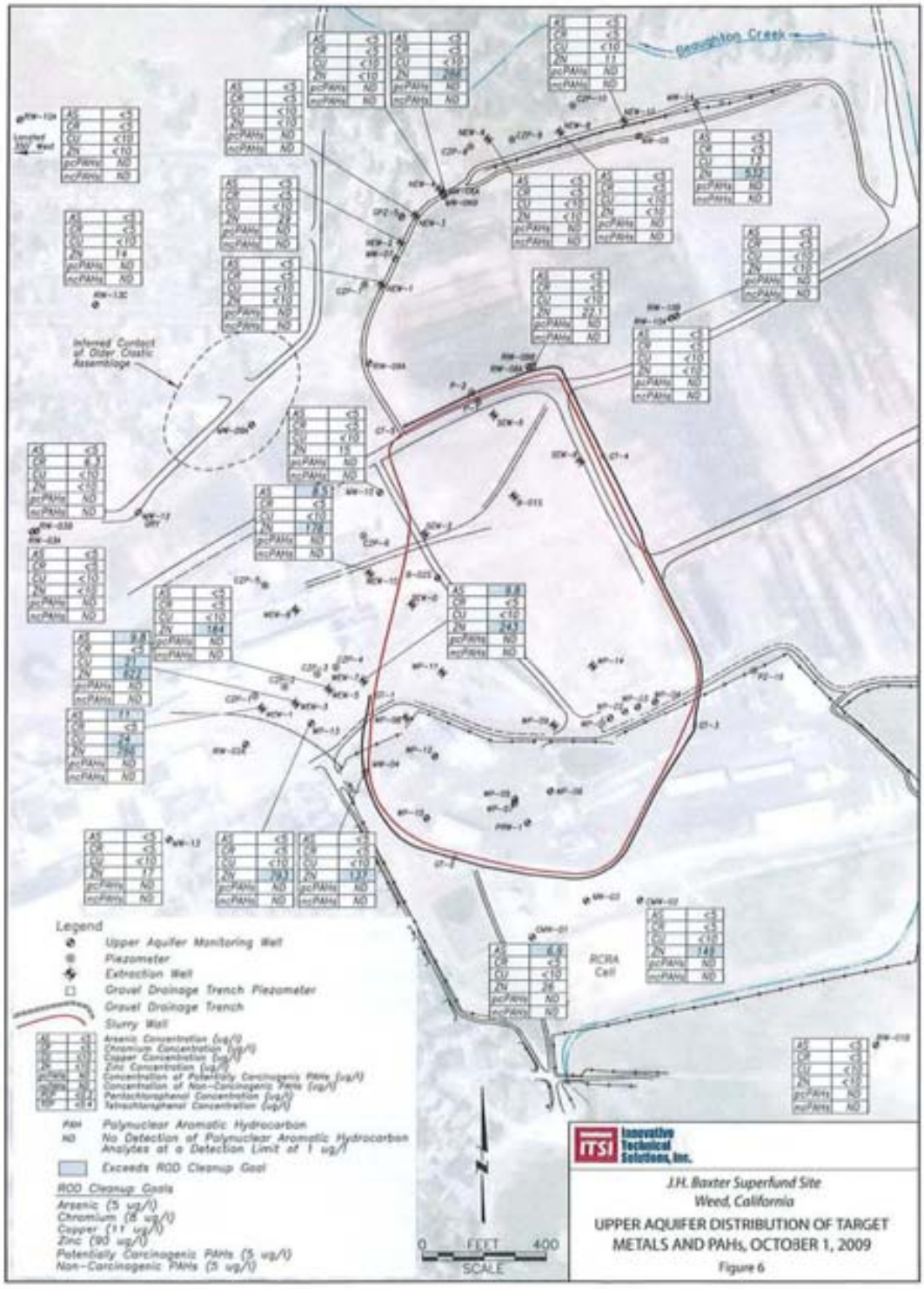
Figure 1

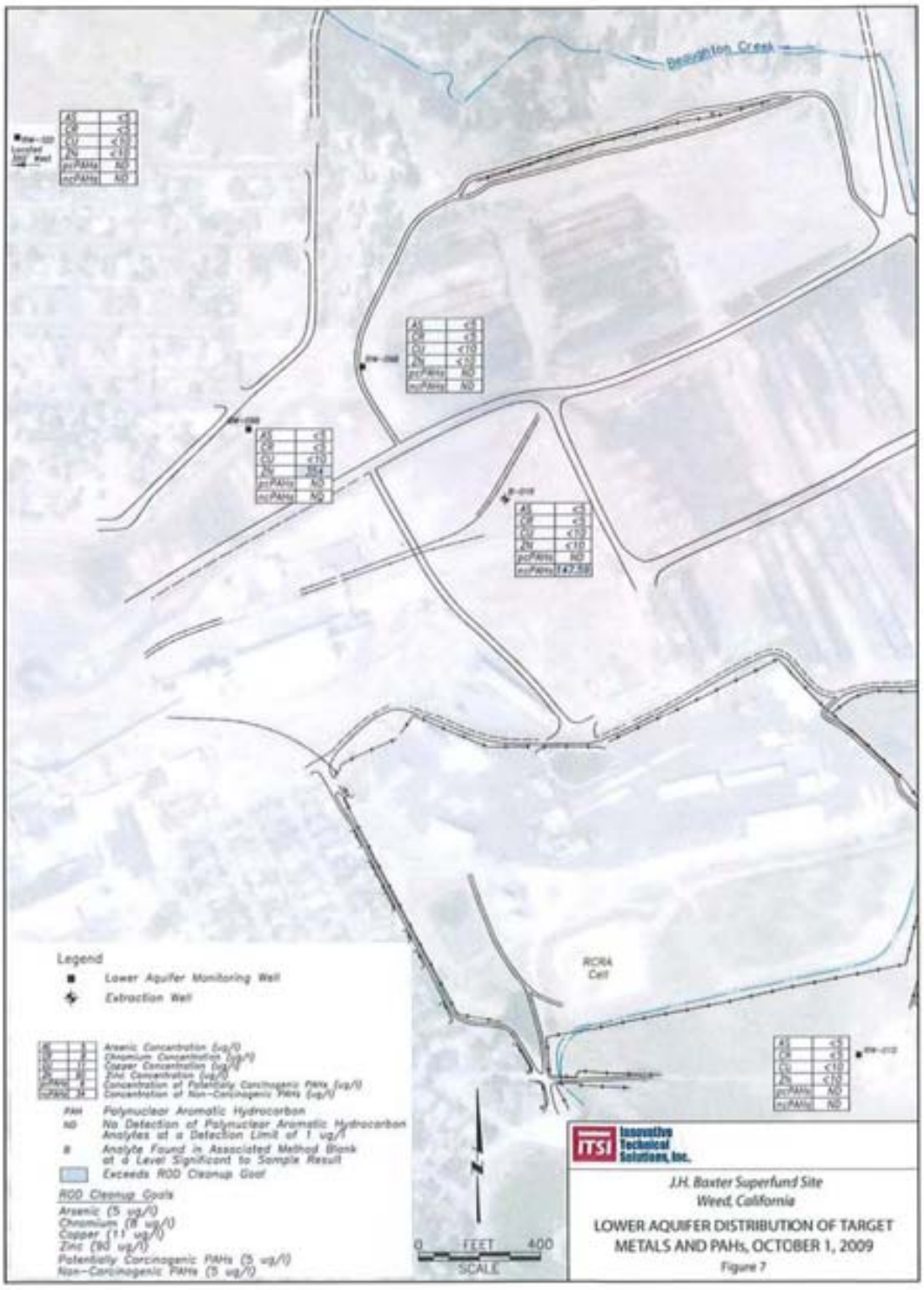

Legend
Upper Aquifer Monitoring Well
Lower Aquifer Monitoring Well
Piezometer
Extraction Well
Gravel Drainage Trench Piezometer
Gravel Drainage Trench
Slurry Wall
RCRA Cell
0 FEET 400
SCALE
ITSI Innovative Technical Solutions, Inc.
J.H. Baxter Superfund Site
Weed, California
SITE PLAN
Figure 2


Legend
Upper Aquifer Monitoring Well
Piezometer
Extraction Well
Gravel Drainage Trench Piezometer
Gravel Drainage Trench
Slurry Wall
Water Table Elevation (ft. msl)
Potentiometric Surface Contour (ft-msl) (Dashed Where Inferred)
Groundwater Flow Direction and Approximate Gradient (Feet per foot)
Local Groundwater Depression from Extraction Well
Not Measured
Not Used to Contour Map
0 FEET 400
SCALE
ITSI Innovative Technical Solutions, Inc.
J.H. Baxter Superfund Site
Weed, California
UPPER AQUIFER POTENTIOMETRIC SURFACE
OCTOBER 1, 2009
Figure 3


Legend
Lower Aquifer Monitoring Well
Extraction Well
Water Table Elevation (ft. msl)
Potentiometric Surface Contour (ft-msl) (Dashed Where Inferred)
Groundwater Flow Direction and Approximate Gradient (feet per foot)
Local Groundwater Depression from Extraction Well
NM Not Measured
* Not Used to Contour Map
0 FEET 400
SCALE
ITSI Innovative Technical Solutions, Inc.
J.H. Baxter Superfund Site
Weed, California
LOWER AQUIFER POTENTIOMETRIC SURFACE
OCTOBER 1, 2009
Figure 4
3460
3470
3480
3490
3500
3510
3520
3530
3540
0.019 ft/ft
0.027 ft/ft
RCRA Cell


WEW-8
SEW-0
NM
3520
AS 9.8
ZN 243
3514.20
ZN 184
3513.30
CZP-4
CZP-3
CZP-2
WEW-6
WP-11
AS 9.8
CU 21
ZN 622
3510.64
CZP-1
WEW-5
GT-1
3525
AS 11
CU 24
ZN 786
WEW-3
WEW-
3515.37
WP-13
WP-08
3529.01
WP-12
RIW-02A
3511.42
MW-04
3524.95
3530
3505
ZN 793
0.02 ft/ft
WP-10
ZN 137
MW-13
3509.94
3510
3515
3520
3525
3530
3535
3540
GT-2
Legend
Upper Aquifer Monitoring Well
Piezometer
Extraction Well
Gravel Drainage Trench Piezometer
Gravel Drainage Trench
Slurry Wall
3539.59 Water Table Elevation (ft. msl)
Potentiometric Surface Contour (ft-msl) (Dashed Where Inferred)
0.02 ft/ft Groundwater Flow Direction and Approximate Gradient (feet per foot)
Local Groundwater Depression from Extraction Well
Estimated Capture Zone
Exceeds ROD Cleanup Goal
0 FEET 200
SCALE
ITSI Innovative Technical Solutions, Inc.
J.H. Baxter Superfund Site
Weed, California
WESTERN EXTRACTION WELLS CAPTURE ZONE
POTENTIONMETRIC SURFACE, OCTOBER 1, 2009
Figure 5


Geoghegan Creek
Inferred Contact of Older Coastic Assemblage
RCRA Cell
Legend
Upper Aquifer Monitoring Well
Piezometer
Extraction Well
Gravel Drainage Trench Piezometer
Gravel Drainage Trench
Slurry Wall
Arsenic Concentration (ug/l)
Chromium Concentration (ug/l)
Copper Concentration (ug/l)
Zinc Concentration (ug/l)
Concentration of Potentially Carcinogenic PAHs (ug/l)
Concentration of Non-Carcinogenic PAHs (ug/l)
Pentachlorophenol Concentration (ug/l)
Tetrachlorophenol Concentration (ug/l)
PAH Polynuclear Aromatic Hydrocarbon
ND No Detection of Polynuclear Aromatic Hydrocarbon Analytes at a Detection Limit of 1 ug/l
Exceeds ROD Cleanup Goal
ROD Cleanup Goals
Arsenic (5 ug/l)
Chromium (8 ug/l)
Copper (11 ug/l)
Zinc (90 ug/l)
Potentially Carcinogenic PAHs (5 ug/l)
Non-Carcinogenic PAHs (5 ug/l)
0 FEET 400
SCALE
ITSI Innovative Technical Solutions, Inc.
J.H. Baxter Superfund Site
Weed, California
UPPER AQUIFER DISTRIBUTION OF TARGET METALS AND PAHs, OCTOBER 1, 2009
Figure 6


Legend
Lower Aquifer Monitoring Well
Extraction Well
Arsenic Concentration (ug/l)
Chromium Concentration (ug/l)
Copper Concentration (ug/l)
Zinc Concentration (ug/l)
Concentration of Potentially Carcinogenic PAHs (ug/l)
Concentration of Non-Carcinogenic PAHs (ug/l)
PAH Polynuclear Aromatic Hydrocarbon
ND No Detection of Polynuclear Aromatic Hydrocarbon Analytes at a Detection Limit of 1 ug/l
B Analyte Found in Associated Method Blank at a Level Significant to Sample Result
Exceeds ROD Cleanup Goal
ROD Cleanup Goals
Arsenic (5 ug/l)
Chromium (8 ug/l)
Copper (11 ug/l)
Zinc (90 ug/l)
Potentially Carcinogenic PAHs (5 ug/l)
Non-Carcinogenic PAHs (5 ug/l)
Bridgeton Creek
RCRA Cell
0 FEET 400
SCALE
ITSI Innovative Technical Solutions, Inc.
J.H. Baxter Superfund Site
Weed, California
LOWER AQUIFER DISTRIBUTION OF TARGET METALS AND PAHs, OCTOBER 1, 2009
Figure 7

This page left blank intentionally

References

Bechtel Environmental, Inc. 1997. *J. H. Baxter Superfund Site Final Focused Feasibility Study and Evaluation of Technical Impracticability*. May.

California Environmental Protection Agency, Department of Toxic Substances Control. 2005. *Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*. Revised February 7.

California Regional Water Quality Control Board, North Coast Region (NCRWQCB). 2004. Beneficial Use-Protective Water Quality Limits for Components of Petroleum-Based Fuels. April.

NCRWQCB. 2010. Dwinnell Fish Tissue Investigation. March.

CH2M HILL. 2001. Preliminary *Close Out Report for J. H. Baxter Superfund Site, Weed, California*. September.

City-data.com. 2005. www.city-data.com/city/Weed-California.html. April.

Environmental Solutions. 1996. *Draft Final (100%) Groundwater /Slurry Wall Remediation System*. May.

ICF/Clement 1990. *Endangerment Assessment Baxter/International Paper/Roseburg Site, Weed, California, (Draft)*, Prepared for CH2M Hill. April 30.

Montgomery Watson Harza (MWH). 2005. 2004 Annual Report to EPA. January.

MWH. 2005. Semiannual Report on Operation, Maintenance, and Monitoring Activities – January through June 2005. July.

MWH. 2005. 2005 Semiannual Report of Operation, Maintenance, and Monitoring Activities – January through June 2005. July.

MWH. 2006. 2005 Annual Report of Activities – January through December 2005. January.

MWH. 2006. 2005 Annual Report of Operation, Maintenance, and Monitoring Activities – January through December 2005. January.

MWH. 2006. Letter Report, Area B Soils Fill Project (SFUND RECORDS CTR 2075064). March.

MWH. 2006. 2006 Semiannual Report of Operation, Maintenance, and Monitoring Activities – January through June 2006. July.

MWH. 2007. 2006 Annual Report of Activities – January through December 2006. January.

MWH. 2007. 2006 Annual Report of Operation, Maintenance, and Monitoring Activities – January through December 2006. January.

MWH. 2008. 2007 Annual Report of Activities – January through December 2007. January.

MWH. 2008. 2007 Annual Report of Operation, Maintenance, and Monitoring Activities – January through December 2007. January.

MWH. 2008. 2008 Semiannual Report of Operation, Maintenance, and Monitoring Activities – January through June 2008. July.

MWH. 2009. 2008 Annual Report of Activities – January through December 2008. January.

MWH. 2009. 2008 Annual Report of Operation, Maintenance, and Monitoring Activities – January through December 2008. January.

MWH. 2009. 2009 Semiannual Report of Operation, Maintenance, and Monitoring Activities – January through June 2009. July.

MWH. 2010. 2009 Annual Report of Activities – January through December 2009. January.

MWH. 2010. 2009 Annual Report of Operation, Maintenance, and Monitoring Activities – January through December 2009. January.

United States Environmental Protection Agency (EPA). 1990. EPA Superfund Record of Decision, J.H. Baxter & CO. September.

EPA. 1998. Superfund Record of Decision Amendment, J.H. Baxter & CO. March.

EPA. 2000. First Five-Year Review Report for J.H. Baxter Superfund Site, Weed, Siskiyou County, California. August.

EPA. 2001. Explanation of Significant Difference (ESD #1) to March 1998 Amendment #1 to the Record of Decision, J.H. Baxter & CO. September.

EPA. 2001. Preliminary Close Out Report, J.H. Baxter Superfund Site, Weed, California (SFUND RECORDS CTR 0510-01542). September.

EPA, Office of Solid Waste and Emergency Response (OSWER). 2002. *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance).* November.

EPA. 2005. Second Five-Year Review Report for J.H. Baxter Superfund Site, Weed, Siskiyou County, California. September.

EPA. 2006. Fact Sheet, EPA Announces Completion of Construction Activities and Closure of Area B (SFUND RECORDS CTR 2096842). April.

EPA. 2009. EPA Seeks Public Input on Interim Guidance for Dioxins in Soil Cleanup Goals. December.

Siskiyou County Recorder. 2007. Convent to Restrict use of Property, Environmental Restriction for J.H. Baxter Superfund Site, Weed, Siskiyou County, California. January.

Appendix A
Documents Reviewed

This page left blank intentionally

Appendix A
Documents Reviewed

California Regional Water Quality Control Board, North Coast Region (NCRWQB). 2004. Beneficial Use-Protective Water Quality Limits for Components of Petroleum-Based Fuels. April.

CH2M HILL. 2001. Preliminary Close Out Report for J. H. Baxter Superfund Site, Weed, California.

NCRWQCB. 2010. Dwinnell Fish Tissue Investigation. March.

United State Environmental Protection Agency (EPA). 1990. EPA Superfund Record of Decision, J.H. Baxter & CO. September.

EPA. 1998. Superfund Record of Decision Amendment, J.H. Baxter & CO. March.

EPA. 2000. First Five-Year Review Report for J.H. Baxter Superfund Site, Weed, Siskiyou County, California. August.

EPA. 2001. Explanation of Significant Difference (ESD #1) to March 1998 Amendment #1 to the Record of Decision, J.H. Baxter & CO. September.

EPA. 2001. Preliminary Close Out Report, J.H. Baxter Superfund Site, Weed, California (SFUND RECORDS CTR 0510-01542). September.

EPA. 2005. Second Five-Year Review Report for J.H. Baxter Superfund Site, Weed, Siskiyou County, California. September.

EPA. 2006. Fact Sheet, EPA Announces Completion of Construction Activities and Closure of Area B (SFUND RECORDS CTR 2096842). April.

EPA. 2009. EPA Seeks Public Input on Interim Guidance for Dioxins in Soil Cleanup Goals. December.

MWH. 2005. Semiannual Report on Operation, Maintenance, and Monitoring Activities – January through June 2005. July.

MWH. 2005. 2005 Semiannual Report of Operation, Maintenance, and Monitoring Activities – January through June 2005. July.

MWH. 2006. 2005 Annual Report of Activities – January through December 2005. January.

MWH. 2006. 2005 Annual Report of Operation, Maintenance, and Monitoring Activities – January through December 2005. January.

MWH. 2006. Letter Report, Area B Soils Fill Project (SFUND RECORDS CTR 2075064). March.

MWH. 2006. 2006 Semiannual Report of Operation, Maintenance, and Monitoring Activities – January through June 2006. July.

MWH. 2007. 2006 Annual Report of Activities – January through December 2006. January.

MWH. 2007. 2006 Annual Report of Operation, Maintenance, and Monitoring Activities – January through December 2006. January.

MWH. 2008. 2007 Annual Report of Activities – January through December 2007. January.

MWH. 2008. 2007 Annual Report of Operation, Maintenance, and Monitoring Activities – January through December 2007. January.

MWH. 2008. 2008 Semiannual Report of Operation, Maintenance, and Monitoring Activities – January through June 2008. July.

MWH. 2009. 2008 Annual Report of Activities – January through December 2008. January.

MWH. 2009. 2008 Annual Report of Operation, Maintenance, and Monitoring Activities – January through December 2008. January.

MWH. 2009. 2009 Semiannual Report of Operation, Maintenance, and Monitoring Activities – January through June 2009. July.

MWH. 2010. 2009 Annual Report of Activities – January through December 2009. January.

MWH. 2010. 2009 Annual Report of Operation, Maintenance, and Monitoring Activities – January through December 2009. January.

Siskiyou County Recorder. 2007. Convent to Restrict use of Property, Environmental Restriction for J.H. Baxter Superfund Site, Weed, Siskiyou County, California. January.

Appendix B
Site Inspection Checklist

This page left blank intentionally

Site Inspection Checklist

I. SITE INFORMATION	
Site name: J.H. Baxter Company, Inc.	**Date of inspection:** 3-11-2010
Location and Region: Weed, CA USEPA Region 9	**EPA ID:** 0974 CERCLIS ID #: CAD009112087
Agency, office, or company leading the five-year review: USEPA Region 9	**Weather/temperature:** Cold, overcast, windy

Remedy Includes: (Check all that apply)

- ✓ Landfill cover/containment
- ✓ Access controls
- ✓ Institutional controls
- ✓ Groundwater pump and treatment
- ✓ Surface water collection and treatment
- ✓ Other Asphaltic-concrete wearing surface
- ✓ Monitored natural attenuation
- ✓ Groundwater containment
- ✓ Vertical barrier walls

Attachments: ☐ Inspection team roster attached ✓ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Gale Jensen (Name) O&M Manager (Title) 3-11-2010 (Date)
   Interviewed ✓ at site ☐ at office ✓ by phone Phone no. (530) 938-2872
   Problems, suggestions; ✓ Report attached The groundwater extraction system, slurry wall, hydraulic containment system, water treatment plant, treated water disposal system, RCRA-equivalent disposal cell, asphaltic-concrete wearing surface, surface water and sediment control system, and institutional controls are performing as designed. No changes that would impact the protectiveness of effectiveness of the remedy have been observed. No suggestions or recommendations for site O&M activities were provided.

2. **O&M staff** Mike Duchi (Name) O&M Operator (Title) 3-11-2010 (Date)
   Interviewed ✓ at site ☐ at office ☐ by phone Phone no. (530) 938-2872
   Problems, suggestions; ☐ Report attached No suggestions or recommendations for site O&M activities were provided.

3.	**Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply. Agency _____ Contact _____ _____ _____ _____ Name Title Date Phone no. Problems; suggestions; ☐ Report attached _____ Local regulatory authorities were not contacted during this 5-Year review. All regulatory bases for taking action at the site is the result of the California Regional Water Quality Control Board (CRWQCB) or the U.S. Environmental Protection Agency (EPA) issuance of orders to perform investigations and/or cleanup activities at the site. Local regulatory authorities and response agencies have been informed by EPA throughout the entire Superfund process. Although not required, EPA seeks and obtains concurrence from local regulatory authorities for all site activities and modifications to site documents. Because of the close working relationship between EPA and local authorities and work that has occurred in the last five years, local authorities and response agencies were not contacted. Information pertaining to this section was provided by EPA's RPM.
4.	**Other interviews** (optional) ☐ Report attached.
	The following personal were present during all or a portion of the site inspection visit. These individuals provided input during the site inspection but were not interviewed per say. Comments provided by these individuals were incorporated into the inspection comments as appropriate and no interview report has been provided.
	• Jim Brunello and Steve Henson – Roseberg Forest Products
	• Todd Schoffstoll – Pacific States Treating
	• Lynn Suer, Ph.D. – EPA Section Chief, Superfund Division

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)				
1.	**O&M Documents**			
	✓ O&M manual	✓ Readily available	✓ Up to date	☐ N/A
	✓ As-built drawings	✓ Readily available	✓ Up to date	☐ N/A
	✓ Maintenance logs	✓ Readily available	✓ Up to date	☐ N/A
	Remarks O&M documents are maintained at the site. The WRG submits rationale and justification to EPA before any modification to a site O&M document. No modifications are made until approved by EPA, with concurrence from other stakeholders. Site documents are readily available and are up to date.			
2.	**Site-Specific Health and Safety Plan**	✓ Readily available	✓ Up to date	☐ N/A
	✓ Contingency plan/emergency response plan	✓ Readily available	✓ Up to date	☐ N/A
	Remarks The site Health and Safety Plan, contingency plan/emergency response plan is up to date. These plans are available and implemented at the site.			
3.	**O&M and OSHA Training Records**	✓ Readily available	✓ Up to date	☐N/A
	Remarks The O&M staff are required to have completed the 40-hour HAZWOPER training and annual 8-hour refresher training. Training records are maintained at the site and sufficient for the type of work performed at the site.			
4.	**Permits and Service Agreements**			
	☐ Air discharge permit	☐ Readily available	☐ Up to date	✓ N/A
	✓ Effluent discharge	✓ Readily available	✓ Up to date	☐ N/A
	☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	✓ N/A
	☐ Other permits_____	☐ Readily available	☐ Up to date	✓ N/A
	Remarks Effluent and influent sampling requirements are provided in the Revised Monitoring and Reporting Program Order 93-88 used by the CRWQCB on November 17, 2003.			
5.	**Gas Generation Records**	☐ Readily available	☐ Up to date	✓ N/A
	Remarks_____			
6.	**Settlement Monument Records**	✓ Readily available	✓ Up to date	☐ N/A
	Remarks Settlement monuments for the slurry wall and RCRA-equivalent disposal cell are surveyed by a licensed California land surveyor on an annual basis (October of each year). Annual reports with recommendation are submitted by the licensed California Professional Engineer and kept at the site for reference.			
7.	**Groundwater Monitoring Records**	✓Readily available	✓ Up to date	☐ N/A
	Remarks Groundwater monitoring records are maintained at the site and reported in the Semiannual Report on Groundwater and the Annual Report of Activities for site.			
8.	**Leachate Extraction Records**	✓ Readily available	✓ Up to date	☐ N/A
	Remarks Leachate records from the RCRA-equivalent disposal cell are maintained at the site. Field logbooks, which document site conditions and absence of leachate in the collection ports at the cell (i.e., dry), are also kept at the site.			
9.	**Discharge Compliance Records**			
	☐ Air	☐Readily available	☐ Up to date	☐ N/A
	✓ Water (effluent)	✓ Readily available	✓ Up to date	☐N/A
	Remarks Water treatment plant effluent is sampled bimonthly and influent sampled annually. These records are maintained at the site and reported in the Annual Report on Groundwater OM&M.			

10. **Daily Access/Security Logs** ✓ Readily available ✓ Up to date ☐ N/A

Remarks All visitors to the site must check in at the J.H. Baxter site office on the site's main thoroughfare. Depending on the nature of the visit, a Baxter, Roseburg, or Pacific States Treating representative will provide an escort, as necessary. The Baxter and Roseburg main gates are closed to restrict access to the site during non-business hours.

IV. O&M COSTS

1. **O&M Organization**

☐ State in-house ☐ Contractor for State
✓ PRP in-house ✓ Contractor for PRP
☐ Federal Facility in-house ☐ Contractor for Federal Facility
☐ Other MWH provides engineering and reporting services for the Weed Remediation Group (WRG). The WRG consists of J.H. Baxter, International paper, Beazer East, and Roseburg Forest Products. O&M services for the remedy are provided by two J.H. Baxter employees that specialize in collecting environmental samples and operating and maintaining the remedy and all ancillary system components. These J. H. Baxter O&M employees are dedicated to the J. H. Baxter Superfund site and do not have any non-Superfund related responsibility.

2. **O&M Cost Records**

☐ Readily available ✓ Up to date
☐ Funding mechanism/agreement in place
Original O&M cost estimate_____ ☐ Breakdown attached

Total annual cost by year for review period if available

From 2004 To 2005	$307,000	✓Breakdown attached
Date Date	Total cost	
From 2005 To 2006	$295,596	✓ Breakdown attached
Date Date	Total cost	
From 2006 To 2007	$329,605	✓ Breakdown attached
Date Date	Total cost	
From 2007 To 2008	$449,166	✓ Breakdown attached
Date Date	Total cost	
From 2008 To 2009	$440,247	✓ Breakdown attached
Date Date	Total cost	

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: J.H. Baxter employees transitioned to OM&M contractor in 2008 (Premo Services, costs increased accordingly). Additional one-time expense incurred in 2008/2009, including pond sediment clean-out and lining of Tank 3A.

V. ACCESS AND INSTITUTIONAL CONTROLS ✓ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged** ☐ Location shown on site map ✓ Gates secured ☐N/A

Remarks The site uses chain-link and barbed-wire fences to restrict trespassers from entering the property. All fences are in good repair and property boundaries are well marked with appropriate signage.

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ☐ N/A

Remarks Signs are appropriately positioned and in good repair. Gates used to restrict vehicular access onto or off the site are in working condition and good repair. Services that are not used as part of the wood treating or mill/veneer operations are closed using large tree stumps or concrete Jersey barriers. These very large and heavy barriers are placed across the service road and effectively stop any vehicular traffic from passing. Beaughton Creek provides a natural access restriction along the site's eastern and northern boundaries. Additional private property held by Roseburg Forest Products creates a buffer between residential areas and the Superfund site. Although this private property does not create a physical barrier (i.e., fence), it creates a physical distance barrier between the properties and reduces the likelihood of trespassing. This distance has effectively kept trespassers off of the Superfund property.

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ✓ No ☐ N/A
Site conditions imply ICs not being fully enforced ☐ Yes ✓ No ☐ N/A

Type of monitoring (*e.g.*, self-reporting, drive by) Owner provides notice to the DTSC and to EPA no later than 30 days after any conveyance of the any ownership interest in the Property.
Frequency Each and every conveyance. Restriction runs with the Property to perpetuity.
Responsible party/agency Department of Toxic Substances Control (DTSC)
Contact James L Tjosvold, Chief NA (916) 255-3785
Name Title Date Phone no.

Reporting is up-to-date ✓ Yes ☐ No ☐N/A
Reports are verified by the lead agency ✓ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ✓ Yes ☐ No ☐ N/A
Violations have been reported ☐ Yes ☐ No ✓ N/A
Other problems or suggestions: ☐ Report attached
Environmental restrictions applicable to the owner(s) property have been executed and recorded in Siskiyou County, California. Before the lease of a portion of the property to Pacific States Treating, the owner (J.H. Baxter) provided written notice to Pacific States Treating that hazardous substances are located on or beneath the Property.

2. **Adequacy** ✓ ICs are adequate ☐ ICs are inadequate ☐ N/A

Remarks ICs are adequate. Based on the restrictive covenants implemented for the Pacific States Treatment lease and notification to EPA and understanding of the requirements as confirmed with conversations with both J.H. Baxter and Roseburg Forest Products representatives, the restrictive covenants recorded by the Siskiyou County Recorder are functioning as designed.

D. General

1. **Vandalism/trespassing** ☐ Location shown on site map ✓ No vandalism evident

Remarks Wood treatment and lumber mill/veneer operations are performed on the J.H. Baxter and Roseburg properties. In place security measures, access restrictions, and activity level from operating a wood treating and lumber mill/veneer on the properties (i.e., employees working on the logging decks and treatment plants) make vandalism and trespassing at the site unlikely.

2. **Land use changes on site**✓N/A

Remarks No land use changes have occurred at the site (see institutional controls discussion for additional information on land use).

3.	**Land use changes off site** ✓N/A Remarks No offsite land use changes have occurred since the last 5-year review.

VI. GENERAL SITE CONDITIONS

A. Roads ✓ Applicable ☐ N/A

1. **Roads damaged** ☐Location shown on site map ✓ Roads adequate N/A
Remarks Roads are in good repair. Any damage to the asphaltic-concrete wearing surface or roads is repaired promptly, in part due to the necessity of having good roads for heavy equipment used to support wood treating and mill/veneer operations.

B. Other Site Conditions

Remarks _____

VII. LANDFILL COVERS ✓ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (Low spots) ☐ Location shown on site map ✓Settlement not evident
Areal extent_____ Depth_____
Remarks No settling or low spots were observed in the RCRA-equivalent disposal cell.

2. **Cracks** ☐Location shown on site map ☐Cracking not evident
Lengths_____ Widths_____ Depths_____
Remarks Not applicable. A soil and vegetative cover has been used on the cell cover.

3. **Erosion** ☐Location shown on site map ✓ Erosion not evident
Areal extent_____ Depth_____
Remarks No erosion features are present on the cover in part due to a good vegetative cover.

4. **Holes** ☐ Location shown on site map ✓ Holes not evident
Areal extent_____ Depth_____
Remarks Very small holes created by burrowing animals/insects were observed on the cover. However, these holes are insignificant in extent and diameter and do not impact the protectiveness or effectiveness of the cover.

5. **Vegetative Cover** ✓ Grass ✓Cover properly established ✓ No signs of stress
☐ Trees/Shrubs (indicate size and locations on a diagram)
Remarks Cover is well established and maintained. No signs of stress were observed in the vegetative cover.

6. **Alternative Cover (armored rock, concrete, etc.)** ✓ N/A
Remarks_____
_____

7. **Bulges** ☐ Location shown on site map ✓ Bulges not evident
Areal extent_____ Height_____
Remarks_____
_____

8. **Wet Areas/Water Damage** ✓ Wet areas/water damage not evident
☐ Wet areas ☐ Location shown on site map Areal extent_____
☐ Ponding ☐ Location shown on site map Areal extent_____
☐ Seeps ☐ Location shown on site map Areal extent_____
☐ Soft subgrade ☐ Location shown on site map Areal extent_____
Remarks_____
_____

9. **Slope Instability** ☐Slides ☐ Location shown on site map ✓ No evidence of slope instability
Areal extent_____
Remarks No evidence of slope instability was noted. Vegetative cover is well established and no sloughing or other instability was observed.

B. Benches ☐ Applicable ✓ N/A
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** ☐Location shown on site map ✓ N/A or okay
Remarks_____
_____

2. **Bench Breached** ☐ Location shown on site map ✓ N/A or okay
Remarks_____
_____

3. **Bench Overtopped** ☐ Location shown on site map ✓ N/A or okay
Remarks_____
_____

C. Letdown Channels ☐ Applicable ✓ N/A
(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** ☐ Location shown on site map ☐ No evidence of settlement
Areal extent_____ Depth_____
Remarks_____
_____

2. **Material Degradation** ☐ Location shown on site map ☐ No evidence of degradation
Material type_____ Areal extent_____
Remarks_____
_____

3. **Erosion** ☐Location shown on site map ☐No evidence of erosion
Areal extent_____ Depth_____
Remarks_____
_____

4. **Undercutting** ☐ Location shown on site map ☐ No evidence of undercutting
Areal extent_____ Depth_____
Remarks_____
_____

5. **Obstructions** Type_____ ☐ No obstructions
☐ Location shown on site map Areal extent_____
Size_____
Remarks_____
_____

6. **Excessive Vegetative Growth** Type_____
☐ No evidence of excessive growth
☐ Vegetation in channels does not obstruct flow
☐ Location shown on site map Areal extent_____
Remarks_____
_____

D. Cover Penetrations ✓ Applicable ☐ N/A

1. **Gas Vents** ☐ Active ☐ Passive
☐ Properly secured/locked Functioning ☐ Routinely sampled ☐Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance
✓ N/A
Remarks_____
_____

2. **Gas Monitoring Probes**
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ✓ N/A
Remarks_____
_____

3. **Monitoring Wells** (within surface area of landfill)
✓ Properly secured/locked ✓Functioning ✓ Routinely sampled ✓ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks CMW-1 and CMW-2 are sampled every quarter. Wells are in good condition and functioning as designed.

4. **Leachate Extraction Wells**
✓ Properly secured/locked ✓ Functioning ✓ Routinely sampled ✓ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks Three HDPE pipes penetrate the cover. These pipes collect leachate within the cell. The horizontal wells are sampled in accordance with the Revised Monitoring/Confirmation Sampling Plan. These collection ports have been dry since the last 5-year review and no samples have been collected. The collection ports are maintained and can be sampled any time when leachate is present.

5. **Settlement Monuments** ✓ Located ✓ Routinely surveyed ☐ N/A
Remarks Several settlement monuments were located on the on the RCRA-equivalent disposal cell. The monuments are shown on site plans, easily found in the field, and in good repair. Settlement monuments are surveyed by a licensed California land surveyor annually and results are provided to EPA in the Annual Report of Activities for the site.

E. Gas Collection and Treatment ☐ Applicable ✓ N/A

1. **Gas Treatment Facilities**
   ☐ Flaring ☐ Thermal destruction ☐Collection for reuse
   ☐ Good condition ☐ Needs Maintenance
   Remarks_____
   _____

2. **Gas Collection Wells, Manifolds and Piping**
   ☐ Good condition ☐ Needs Maintenance
   Remarks_____
   _____

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
   ☐ Good condition ☐ Needs Maintenance ☐ N/A
   Remarks_____
   _____

F. Cover Drainage Layer ✓ Applicable ☐ N/A

1. **Outlet Pipes Inspected** ✓ Functioning ☐ N/A
   Remarks A small 4-inch HDPE perforated pipe (French drain) captures clean shallow inter-flow water upgradient (south) of the disposal cell and conveys the water via underground pipe to an exit point on the east-northeast side of the disposal cell. The water exits the pipe and drops about 2 feet onto an energy dissipator structure (riprap) and into unlined channel. About a $1/8^{th}$ gallon per minute was observed discharging from this pipe on this day. Discharge water from this structure is conveyed via open unlined channel to the South Pasture (Treated Waste Disposal System). This structure is working and in good repair. The O&M staff stated that the maximum flow rated observed from this drainage outlet pipe is about ½ gallon per minute and occurs immediately following an intense precipitation event. Depending on site conditions, flow generally decreases to no flow in about a week following the precipitation event. Flow from this pipe is sporadic.

2. **Outlet Rock Inspected** ✓ Functioning ☐N/A
   Remarks The riprap structure is working and in good repair.

G. Detention/Sedimentation Ponds ☐Applicable ✓ N/A

1. **Siltation** Areal extent_____ Depth_____ ☐ N/A
   ☐ Siltation not evident
   Remarks_____
   _____

2. **Erosion** Areal extent_____ Depth_____
   ☐ Erosion not evident
   Remarks_____
   _____

3. **Outlet Works** ☐ Functioning ☐ N/A
   Remarks_____
   _____

4. **Dam** ☐ Functioning ☐ N/A
   Remarks_____
   _____

H. Retaining Walls ☐ Applicable ✓ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident
   Horizontal displacement_____ Vertical displacement_____
   Rotational displacement_____
   Remarks_____

2. **Degradation** ☐ Location shown on site map ☐ Degradation not evident
   Remarks_____

I. Perimeter Ditches/Off-Site Discharge ✓Applicable ☐N/A

1. **Siltation** ☐ Location shown on site map ✓ Siltation not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A
   ✓ Vegetation does not impede flow
   Areal extent_____ Type_____
   Remarks_____

3. **Erosion** ☐ Location shown on site map ✓Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Discharge Structure** ✓Functioning ☐ N/A
   Remarks Perimeter ditches and catch basins prevent discharge of water from the Superfund property. These discharge ditches and surface water control structures are functioning and in good repair._____

VIII. VERTICAL BARRIER WALLS ✓ Applicable ☐ N/A

1. **Settlement** ☐Location shown on site map ✓Settlement not evident
   Areal extent_____ Depth_____
   Remarks No visual evidence of settlement at the slurry wall was observed in the field. Settlement monuments are surveyed by a licensed California land surveyor annually and results provided to EPA in the Annual Report of Activities for the site.

2. **Performance Monitoring** Type of monitoring Water levels from wells and piezometers.
   ☐ Performance not monitored
   Frequency Semiannual Basis_____ Evidence of breaching
   Head differential Varies across slurry wall
   Remarks Hydraulic capture using the slurry wall and extraction wells has been shown effectively capturing the groundwater containing ROD constituent concentrations that are above the site's cleanup goals outside of the slurry wall's containment area. The head differential between wells located inside and outside of the slurry wall at the northwest area of the containment system is a concern. This concern appears to be related to transmissivity of the aquifer and low extraction rate of the surrounding wells rather the effectiveness of the slurry wall.

IX. GROUNDWATER/SURFACE WATER REMEDIES ✓ Applicable ☐ N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ✓ Applicable ☐ N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
✓ Good condition ✓ All required wells properly operating ☐Needs Maintenance ☐ N/A
Remarks O&M operators routinely perform maintenance on the pump and well screens. Scaling, believed to be hydroxide precipate, can blind off the well or pump screen openings and restrict flow and extraction of groundwater in a well. The current well/pump maintenance program appears to be adequate in addressing this geochemical issue. In September 2008, the WRG requested approval to cease groundwater extraction from the NEWs as a result of the NEW groundwater extraction system being effective in restoring groundwater quality in this area. EPA, CRWQCB, and DTSC approved the request on November 14, 2008 and extraction of groundwater from NEWs was terminated the following day. Groundwater samples from the NEWs are collected on a semiannual basis. If a well shows exceedances of ROD constituents from two consecutive sampling events, groundwater extraction from the well will be initiated.

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
✓ Good condition ☐Needs Maintenance ☐ N/A
Remarks_____
_____

3. **Spare Parts and Equipment**
✓ Readily available ✓ Good condition Requires upgrade ☐Needs to be provided
Remarks Spare parts are maintained at the site. A part that is not maintained as a spare part at the site can be ordered and shipped (expedited) to site to reduce system down time and impact to the protectiveness of the system. When a spare part is taken off the storage shelve, it is immediately replaced with a new spare part. Remedy down time as a result of lack or replacement or availability of parts is considered to be very short.

B. Surface Water Collection Structures, Pumps, and Pipelines ✓ Applicable ☐ N/A

1. **Collection Structures, Pumps, and Electrical**
✓Good condition ☐Needs Maintenance ☐ N/A
Remarks Storage tanks, ponds, and weirs were operating and in good repair.

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
✓Good condition ☐Needs Maintenance ☐ N/A
Remarks_____
_____

3. **Spare Parts and Equipment**
✓ Readily available ✓ Good condition Requires upgrade ☐Needs to be provided
Remarks Spare parts for critical equipment are available at the site.

C. Treatment System ✓ Applicable ☐ N/A

1. **Treatment Train** (Check components that apply)
   - ✓ Metals removal ☐ Oil/water separation ✓ Bioremediation
   - ☐ Air stripping ✓ Carbon adsorbers
   - ✓ Filters Generates cake with waste codes F032, F067, and F035
   - ✓ Additive (*e.g.*, chelation agent, flocculent)_____
   - ☐ Others_____
   - ✓ Good condition ☐ Needs Maintenance
   - ✓ Sampling ports properly marked and functional
   - ✓ Sampling/maintenance log displayed and up to date
   - ✓ Equipment properly identified
   - ✓ Quantity of groundwater treated annually 19,154,00 gallons in 2009
   - ✓ Quantity of surface water treated annually Included in quantity shown above.

   Remarks Water treatment plant is operating as designed. Manually monitoring of water chemistry by the O&M operators and use of the plant's program logic control (PLC) and upset alarms prevent major plant upsets from occurring. The water treatment plant is equipment with auto-dialer that calls the O&M staff and provides notification of the upset conditions. The O&M staff immediately responds to the upset condition on a 24 hour, 7 day a week basis. The plant consistently treats water at the optimum rate and meets discharge compliance requirements.

2. **Electrical Enclosures and Panels** (properly rated and functional)
   ☐ N/A ✓ Good condition ☐Needs Maintenance
   Remarks_____
   _____

3. **Tanks, Vaults, Storage Vessels**
   ☐ N/A ✓ Good condition ✓ Proper secondary containment ☐Needs Maintenance
   Remarks Many tanks in the water treatment plant and surface water control systems are constructed from steel. Steel tanks have limited operational lives and will eventually require lining or replacement. During the site inspection, no pin leaks, holes, or large areas affected by corrosion were noted. Adequate secondary containment has been provided throughout the site. Tanks, vaults, storage vessels, and secondary containment are operating and in good repair.

4. **Discharge Structure and Appurtenances**
   ☐ N/A ✓ Good condition ☐Needs Maintenance
   Remarks Discharge of treated water is accomplished through the treated water disposal system in the South Pasture. This system consists of 13 "rain-bird" type sprinklers that apply the treated water to the South Pasture and as a result maintains elevated moisture or saturated soil condition in this area. Depending on the treatment rate and storage volume of contaminated groundwater and storm water, discharge of treated water is not always continuous. This cycling of discharge and no discharge through the sprinklers can cause some the heads to be blinded off by ice formed over the sprinkler's orifice. Although not optimal to have several heads not functioning for a short-period, the volume of water discharged during a cycle is sufficient due to the remaining sprinklers' increased discharge output. Frequent inspection of the South Pasture by the O&M staff during freezing weather conditions reduces potential for the cascade failure to the water treatment plant or subsurface piping and/or pumps. The treated water disposal system is operating and in good repair.

5. **Treatment Building(s)**
   ☐ N/A ✓ Good condition (esp. roof and doorways) ☐ Needs repair
   ✓ Chemicals and equipment properly stored
   Remarks_____
   _____

6.	**Monitoring Wells** (pump and treatment remedy) ✓ Properly secured/locked ✓ Functioning ✓ Routinely sampled ✓ Good condition ✓ All required wells located ☐Needs Maintenance ☐ N/A Remarks Occasionally monitoring wells will be damaged by large logging or wood treating equipment. When wells are damaged, EPA is notified and the well is repaired. If the well cannot be revitalized, EPA is notified and the sampling plan is modified accordingly. The property has active wood treatment and lumber mill/veneer operations and occasionally those operations impact the monitoring wells at the site. This impact is generally the result of well accessibility issues (logging deck or wood chip pile) or from lumber watering returns (wells surrounded by sanding water). These conditions are noted during inspection and sampling activities and various corrective actions or resolutions are attempted. In some cases, the well will not be sampled until the accessibility condition is relieved at a later date. EPA is notified of those circumstances.
D. Monitoring Data	
1.	Monitoring Data ✓ Is routinely submitted on time ✓ Is of acceptable quality
2.	Monitoring data suggests: ✓ Groundwater plume is effectively contained ✓ Contaminant concentrations are declining
E. Monitored Natural Attenuation	
1.	**Monitoring Wells** (natural attenuation remedy) ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition ☐ All required wells located ☐ Needs Maintenance ✓N/A Remarks_____ _____
2.	**Sediment Stations** (natural attenuation remedy) ☐ Properly secured/locked ✓ Functioning ✓ Routinely sampled ☐ Good condition ✓All required stations located ☐ Needs Maintenance ☐N/A Remarks Sediment samples are collected in accordance with the UAO from offsite ditches to determine whether the ROD cleanup standards were being met via natural attenuation. Data from sediment sampling supports that the ROD cleanup standards are being met for all applicable constituents. No visual observations were made that would suggest that the status quo or additional natural attenuation would not continue to occur.

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

A. Area B Soil Bioventing

Area B soils contain elevated levels of both non-carcinogenic and potentially carcinogenic PAHs. The ROD amendment states that EPA will evaluate in situ bioventing as the treatment technology for Area B soils and will also evaluate results of bioventing to verify that cleanup levels are protective of groundwater. In October 1998, the Area B Soil bioventing system was initiated and began operations in March 1999. The system consisted of an access road, 4,800 feet of horizontal bioventing wells at 41 locations, 15 vertical monitoring wells, and forced air blowers.

On June 7, 2005, the WRG requested EPA's approval to cease bioventing operations, permission to decommission and remove the bioventing system and deem remediation of the Area B soils to be complete. EPA evaluated vadose zone modeling performed by MWH. This evaluation confirmed that the standards set forth for the Area B soil in the ROD and ROD Amendment No. 1 have been achieved, as documented in the letter from EPA to WRG on June 23, 2005.

EPA's June 23, 2005 letter regarding Area B Soils completion states that on the basis of this evaluation, the bioventing of Area B soils is considered complete. Removal of the bioventing system should be accompanied by placement of a minimum of 2 feet of protective, clean cover soil. In addition, Area B soils should be fenced and signs should be posted to prevent site operations or other activities from breaching and exposing Area B soils in the future.

The following closure activities were performed: land survey (pre-fill and post-fill topography) of area; clearing and grubbing of existing vegetation; removing existing vegetation and disposal at an off-site location; loading, transportation and placement of clean fill obtained from Roseburg Forest Products borrow source south the project site; and seeding and placement of mulch on remediated area.

A site visit was conducted by EPA to document completion and closure activities. A total of 14,180 cubic yards of clean fill was placed over about 3 acres. MWH's March 14, 2006 letter report, Area B Soils Fill Project, documents work performed and provides confirmation of placement of 2 feet of clean fill over the Area B soils. In April 2006, EPA announced completion of construction activities and closure of Area B. The Area B has achieved the ROD standard for cleanup and the remedy is complete. However, the area has not been fenced to restrict access as recommended by EPA.

B. Asphaltic-Concrete Wearing Surface

As described in the 1998 ROD amendment, a protective asphaltic-concrete surface will be used to reduce direct contact and inhalation risk, protect groundwater, and reduce short-term risk related to excavation and reburial of contaminated surface soils above the surface soil excavation standard and below the subsurface soil excavation standard.

An estimated excavation of 30,000 cubic yards of contaminated soil and the considerable quantity of airborne and other exposures that would be generated were avoided by applying the wearing surface. Approximately 14 acres were covered by compacted aggregate base rock and an asphaltic-concrete wearing surface. The wearing surface is inspected annually and maintenance and repairs are performed as needed and necessary.

In September 2008, cracks in the wearing surface were filled to reduce water intrusion into the base and sub-base layers. Several repair areas were observed and found to effective. The wearing surface is in good repair and functioning as designed.

C.	Other
	_____ _____

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

In accordance with the ROD, ROD Amendment, and ESD, the remedies for the site include: slurry wall/gravel drainage trench to contain areas of contaminated groundwater that cannot be cleaned up and has a technical impracticability (TI) waiver; groundwater extraction system for restoration of contaminated groundwater outside the TI waiver containment area; water treatment plant to treat contaminated groundwater and storm water; RCRA-equivalent disposal cell to dispose of contaminated surface and subsurface soils; pavement wearing surface to eliminate exposure to contaminated soil left in place at the site; surface water management to collect, contain, and treat all surface water and stormwater generated at the site; Area B bioventing to reduce soil contaminants to acceptable levels using a bioventing system; and institutional controls so the covenant restrictions remain with the property in perpetuity.

Observation of the surface water containment systems, the RCRA-equivalent disposal cell, the Area B bioventing clean cover, water treatment plant, and the pavement wearing surface demonstrate that these remedy components are effective and functioning as designed.

Effectiveness of the capture zone created by the external extraction wells or the containment effectiveness of the slurry wall cannot be determined using visual observations. However, remedy systems and components that are observable are in very good repair and operating as designed. The general impression is that the remedy systems are functioning very well, are very well maintained, and problems and/or issues are pro-actively addressed. Data, records, and logs reviewed during the site inspection support the statement that the remedy is effective and functioning as designed.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

Plans and procedures for the operation and maintenance of the remedy are clear, concise, and appropriate for the work performed at the site. When site conditions change or a new procedure is needed, input and recommendations from the O&M staff are considered and the plan is modified or developed by MWH to meet the intent of the site's decision documents. Plans are submitted to EPA for review and approval before implementation at the site. Following EPA approval of the plans or procedures, the O&M staff implements those plans in strict adheardance to those plans.

The breadth of the O&M staff's ability to maintain the site is apparent by the limited number of work tasks that have been subcontracted by the WRG. The O&M staff is able to perform most O&M work in addition to collecting environmental samples and reporting site activities and status to the project stakeholders.

The readiness of the O&M staff to address equipment failures is demonstrated by the spare part replacement procedure. When a critical spare part is taken off the shelf and installed into a remedy component, the part is immediately ordered and restocked. This procedure ensures that when equipment

failures occur, the critical part is available and down-time of a remedy component is minimal.

Plans and procedures have been tested and refined over the last 10 years of remedy operation. The plans and procedures clearly have been developed to address long-term protectiveness of the remedy. Preventative maintenance, future expenditure forecasting, and providing the appropriate resources and staff demonstrates the WRG dedication to the successful implementation of the remedy and removal of the site from NPL's Superfund site listing.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

The slurry wall and gravel drainage trench was installed to contain contaminated groundwater that cannot be cleaned up and a technical impracticability (TI) waiver has been granted for the area. Water levels measured along the northwest section of the slurry wall, inside and outside of the containment area, do not have the desired head differential to ensure that hydraulic containment in the area has been achieved. Although the desired head differential does not exist across the slurry wall, extract wells (SEW) operating within the slurry wall and the physical barrier (slurry wall) to groundwater movement does create an effective containment system. Continued monitoring and evaluation of the area should be performed and if necessary, operation modifications should be recommended.

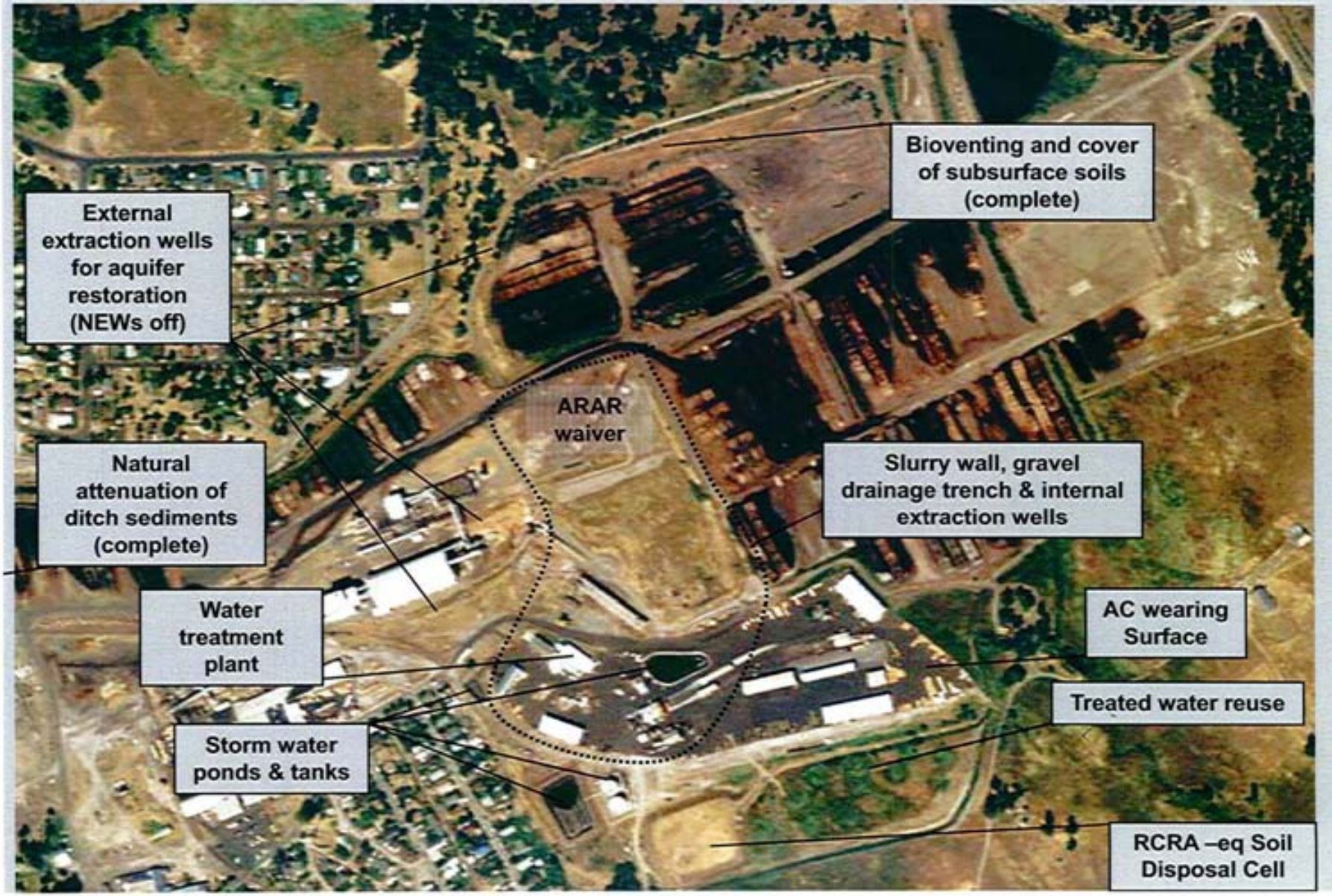
Treated water (water treatment plant effluent) is applied to the South Pasture as part the Treated Water Disposal System. Soil samples are collected from the South Pasture every 5 years to assess impact of inorganic ROD constituents on soil. Baseline soil quality samples were collected in January 1999 and operational assessment samples were collected in April 2004 and July 2009. An assessment of the impact of treated water disposal practices to the South Pasture soil should be performed. The assessment should include projected ROD constituent loading to the soil and recommendations for system modification, if necessary.

Continued observation and assessment of zinc and copper concentrations in wells MW-4, MW-6A, MW-9B, MW-13, MW-14, CMW-2, NEW1-0, NEW-2, NEW-8, and NEW-10. Concentrations for zinc and copper are above the ROD cleanup goals sporadically. System modification should be considered if ROD constituents do not continue to decrease over time.

Following successful remediation of contaminated soil using a bioventing system, the system was removed and 2 feet of clean fill were placed on the Area B area. EPA recommended that a fence be constructed around Area B to restrict access. This fence was not constructed around Area B. This fence was a recommendation and not a requirement for closure. Existing provisions to restrict access to the area were reviewed during the site visit. Area B is located in an isolated area of the Roseburg Forest Products property, surrounded by privately owned property (Roseburg) and physically separated from residential areas by Beaughton Creek. Access to the Roseburg's property is controlled by the Roseburg' main office gate, security practices, private property signage, fencing, and locking gates. Services road that can be used to access Area B are closed using large tree stumps or concrete Jersey barriers. These measures appear to be effective in restricting access to the area and no improvements are recommended. If these measures change or trespassing/vandalism becomes an issue, increased security measures or fencing of the Area B should be evaluated and implemented as necessary.

D.	Opportunities for Optimization
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. Review a list of previously selected and sampled extraction wells to ensure that extractions wells located within the slurry wall area are sampled annually and that each extraction well is sampled at least once every 5 years. If needed, select extraction wells that have not been sampled in the past five years to met the intent of the Revised Monitoring and Reporting Program Order No. 93-88 (November 17, 2003). Evaluate the need for additional emergency generators at the site. Depending on the length of a power outage at the site, various components of the remedy could be effective. Loss of site power for an extended period of time could affect hydraulic capture and treatment of contaminated water at the site. It should be noted that power outages have occurred at the site and the existing backup generators have been sufficient for the duration of the power outage and no impact to the protectiveness of the remedy have occurred from these events. Continued inspection of the steel tanks in the water treatment plant or part of the surface water management system should be performed so that assessment of the tanks' remaining life and the projected type and extent of repairs can be made. Scheduled proactive repair, lining, or replacement of these steel tanks with poly tanks could prevent unexpected water treatment plant down-time if a failure or leak were to occur. Stormwater storage capacity and transfer rates appear to be adequate and surface water discharge events from the site are isolated. An evaluation of the of the existing stormwater capacity and transfer rates should be performed if regional storm events increase in intensity or frequency as determined from meteorically data analysis. Permanent sample station monuments should be established and surface soil sampling procedures refined to reduce, as much as practical, natural variability of constituents in soil and the variability from the application of the water treatment plant effluent to the South Pasture. Surface soil samples should be collected from the area immediately adjacent to the area sampled five years earlier. This can be accomplished using permanent sample station monuments and a sampling plan that defines the specific location of surface soil sample as related to the monument (Year 2014 samples will be collected from the northeast quadrant and within a 2 foot radius of the monument, Year 2019 samples will be collected from the northwest quadrant and within a 2 foot radius of the monument). This approach may reduce natural variations found in surface soil and from the amount of the water received and over time, would be better representations of the impact that the disposal system is having on the pasture.

JH Baxter Superfund Site Remedy Overview



Annual Remedy Costs Incurred, JH Baxter Superfund Site, Weed, CA
2005 through 2009

	2005	2006	2007	2008	2009
Project Coordination	$36,000	$36,000	$36,000	$36,000	$42,000
Operation & Maintenance/ Sampling & Analysis/Reporting					
Treatment Plant Operations & Monitoring and Sampling	$208,000	$164,000	$165,476	$314,000	$311,000
Laboratory Analytical, Plant & Wells	$21,000	$22,596	$19,875	$17,800	$21,130
OM&M Reporting	$18,000	$18,000	$18,000	$16,000	$16,000
EPA Annual Reporting	$5,000	$5,000	$5,000	$5,000	$5,000
Regulatory	$19,000	$50,000	$85,254	$60,366	$45,117
TOTAL	$307,000	$295,596	$329,605	$449,166	$440,247

Notes:

Baxter employees transitioned to OM&M contractor in 2008 (Premo services, costs increased accordingly)

Additional one-time expenses incurred in 2008/ 2009, including pond sediment clean-out and lining of tank 3A.

This page left blank intentionally

Appendix C
Site Inspection Photographs

This page left blank intentionally

Photo 1 *Stormwater Holding Pond No. 2, looking West from pond inlet*

Photo 2 *Stormwater Holding Pond No. 1, looking Northwest from RCRA-Equivalent Disposal Cell*

Photo 3 *Settling Monitoring Monument at RCRA-Equivalent Disposal Cell*

Photo 4 *Wearing Surface and Stormwater Holding Pond No. 3, looking South*

Photo 5 *Roseburg Excavation Area, looking north*

Photo 6 *Area B Bioventing Soil Clean Cover, looking Northeast*

Photo 7 *Water Treatment Plant*

Appendix D
Five-Year Review Interview Forms

This page left blank intentionally

INTERVIEW DOCUMENTATION FORM			
The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.			
Name	**Title/Position**	**Organization**	**Date**
Travis L. Cain	RPM	EPA	3-11-10 & 4-20-10
Richard G. Andrachek	WRG Coordinator	MWH	3-11-10 & 4-14-10
Gale Jensen	O&M Manager	J.H. Baxter	3-11-10 & 4-15-10

INTERVIEW RECORD

Site Name: J.H. Baxter Company, Inc		**EPA ID No.:** 0974 CERCLIS ID #: CAD009112087
Subject: Travis L. Cain, Five-Year Interview		**Time:** 9:00 AM **Date:** 3-11-2010
Type: X Telephone X Visit ☐ Other **Location of Visit:** J.H. Baxter Superfund Site		X Incoming ☐ Outgoing

Contact Made By:

Name: Steven D. Fundingsland	**Title:** Site Inspector	**Organization:** CDM rep of EPA

Individual Contacted:

Name: Travis L. Cain	**Title:** RPM	**Organization:** EPA
Telephone No: (415) 972-3161 **E-Mail Address:** cain.travis@epa.gov	**Street Address:** 75 Hawthorne Street **City, State, Zip:** San Francisco, CA, 94105	

Summary Of Conversation

Mr. Cain is the EPA RPM for the site.

Background Information:

1. What is your overall impression of the project?

- Following the construction completed in 2002, the remedy has been in an Operation and Maintenance (O&M) mode and the remedy is performing well. The successful implementation of the bioventing remedy at Area B and subsequent closure was a milestone achieved during this period. All remedy components are operating as designed and are well maintained.
- Just one event occurred during the last 5 years that could possible raise a concern about the protectiveness of the remedy. On December 30, 2005, as a result of intense rains, a discharge of stormwater from the site occurred. EPA and the Weed Remediation Group (WRG) reviewed the circumstances of the event and determined that no modification to the surface water management system was needed.
- WRG has been responsive to EPA and other stakeholder's requests and recommendations.
- Both the site and remedy is very well maintained and operated.

2. What effects have site operations had on the surrounding community?

- None.

3. Are you aware of any community concerns regarding the site or its operation and administration?

- EPA is only aware of one Superfund site concern from a resident in the community - a noxious odor was reported to be coming from the J.H. Baxter property. EPA investigated the complaint and performed a site inspection and collected and analyzed air samples. Following data analysis, no source of noxious air emissions was found to be emanating from the site and no further action was deemed necessary by EPA.
- Roseburg Forest Products is commissioning a Biogen plant that will provide electricity to the local power distribution grid. A concerned citizen group raised issues that are separate from the Superfund site and were addressed during the local county board review and approval process. This plant does not impact the effectiveness of the remedy.

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities?

- None.

5. Do you feel well informed about the site's activities and progress?

- Yes. The WRG has been very good about keeping EPA informed, both pertaining to site status and potential concerns. They have been proactive in providing information and proactive in addressing concerns. WRG informs EPA when the water treatment plant will be off-line for a few hours as a result of preventative maintenance activities. This reporting is not required but appreciated and is used to keep other stakeholders informed.

6. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

- No. The remedy is operating as expected, the remedy is well maintained, and the site is well managed.

State and Local Considerations:

1. Are you aware of any changes in State laws and regulations that may impact protectiveness of the remedy?

- No.

2. Are you aware of any State permitting or reporting compliance issues?

- No.

3. How are State/Local contacts keep informed on site activities, status, and issues?

- EPA provides information on site activities through meetings, letters, emails, and teleconferences. To maintain the regulatory continuity and consistency, EPA obtains concurrence from the stakeholders for any modifications to the remedy, modifications to sampling plans, or construction complete (closure) of the remediated area. A working relationship has been established for this project among the stakeholders, and EPA responds to any questions that a stakeholder has as soon as possible.

4. Does State/Local contracts perform site visits, inspections, and reporting and how is this information communicated to EPA?

- As needed and the information is provided to EPA via letters, emails, and teleconferences.

Construction Considerations:

1. Have any problems been encountered which required, or will require, changes to the remedy?

- No.

2. Have any problems or difficulties been encountered which have impacted construction progress or implement ability?

- No.

3. Do you feel the contractor's health and safety plan, O&M Manual, and Contingency Plan are adequate?

- Yes, the contactor's plans are sufficient for maintaining the protectiveness of the remedy. Plans are well thought-out, written, and implemented. The O&M staff at the site demonstrates high ownership in the project and is reflected in the quality of the plans used to operate and maintain the site.

Performance, Operation and Maintenance Problems:

1. Is the remedy functioning as expected?

How well is groundwater extraction system performing?

- As designed.

How well is the slurry wall performing?

- As designed.

How well is the hydraulic containment system performing?

- As designed.

How well is the water treatment plant performing?

- As designed.

How well is the treated water disposal system performing?

- As designed.

How well is the RCRA-equivalent disposal cell performing?

- As designed.

How well is the Area B Soil Bioventing performing?

- Performed very well. EPA provided announcement of completion of Construction and Closure of Area B in April 2006.
- EPA had recommended that a fence be constructed around Area B to restrict access. This was an EPA recommendation and not a requirement. Following review of the accessibility issue to the Area B by WRG, O&M staff, and J.H. Baxter and Roseburg Forest Products, additional security, fencing or access controls were not deemed necessary. With the current understanding of access restrictions and barriers used at the site, no additional action is required or recommended by EPA at this time pertaining to this issue.

How well is the asphaltic-concrete wearing surface performing?

- As designed.

How well are the surface water and sediment control system performing?

- As designed.

How well are the access and institutional controls performing?

- As specified.

2. Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines since the last five-year review?

- WRG has recently submitted a request to reduce semiannual reporting to annual reporting for the site. This request is under consideration by EPA and site stakeholders. The semiannual reporting requirement will remain until approved by EPA (with concurrence from the site's stakeholders).

3. Have any of these changes impacted the protectiveness or effectiveness of the remedy?

- No. However, EPA continues to review and assess trends in Record of Decision (ROD) constituents in soil, sediment, and water at the site. When an area of concern is identified, adjustments to operation or system components are made to ensure that remedy is performing as designed and meeting the ROD cleanup goal objective.

4. Have there been opportunities to optimize O&M, or sampling efforts?

- None at this time.

INTERVIEW RECORD

Site Name: J.H. Baxter Company, Inc		**EPA ID No.:** 0974 CERCLIS ID #: CAD009112087
Subject: Richard G. Andrachek, Five-Year Interview	**Time:** 9:30 AM	**Date:** 3-11-2010
Type: X Telephone X Visit ☐ Other **Location of Visit:** J.H. Baxter Superfund Site	☐ Incoming X Outgoing	

Contact Made By:

Name: Steven D. Fundingsland	**Title:** Site Inspector	**Organization:** CDM rep of EPA

Individual Contacted:

Name: Richard G. Andrachek	**Title:** WRG Coordinator	**Organization:** MWH
Telephone No: (925) 627-4500 **E-Mail Address:** richard.andracheck@mwhglobal.com	**Street Address:** 2121 N. California Blvd., Suite 600 **City, State, Zip:** Walnut Creek, CA, 94596	

Summary Of Conversation

Mr. Andrachek described his involvement with the site as:

- As the Project Coordinator, Mr. Andrachek is the single point of contact for the project and represents the four Potentially Responsible Parties (PRPs) which consists of J.H. Baxter Company, International Paper Company, Roseburg Forest Products, and Beazer East, Inc. collectively named the Weed Remediation Group (WRG).
- Since 1995 he has managed the design, assisted with Record of Decision (ROD) Amendment No. 1, Explanation of Significant Differences (ESD), remedial action (RA), and Operation and Maintenance (O&M) activities at the site.
- Also responsible for meeting reporting requirements per site's decision documents.

Background Information:

1. What is your overall impression of the project?

- Excellent. A reasonable and effective remedy was decided on, designed, implemented, and maintained for the project. PRPs have been responsive to EPA concerns and effective in implementing the remedy.

2. What effects have site operations had on the surrounding community?

- None since the last 5-Year Review.
- Because no additional/new construction has been required, the existing remedy components have been in operation and effective, and no release or other community environmental concerns have occurred, the surrounding community has not been affected by any Superfund activities.

3. Are you aware of any community concerns regarding the site or its operation and administration?

- Only one concern that he is aware of – special interest groups concerned about the potential discharge/release of dioxins into the Dwinnell Reservoir. However, this issue has been resolved to the satisfaction of the California Regional Water Quality Control Board, North Coast Region, in a letter dated March 22, 2010 stating that no further investigation of legacy dioxins in fish tissue in Dwinnell Reservoir is warranted (file J.H. Baxter & Co., Weed, Case No. 1NSI043).

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities?

- There are no signs of excessive vandalism or trespassing at the site.
- Only one environmental response to the property has occurred since the last 5-Year Review. During a recent property cleanup event performed on the J.H. Baxter property, a small release of hydrocarbons occurred while preparing equipment for recycling/salvage and/or disposal. The area impacted by this spill is not located on or in close vicinity to any Superfund remedy components, and therefore, this event does not impact the protectiveness or effectiveness of the remedy.

Construction Considerations:

1. Have any problems been encountered which required, or will require, changes to the remedy?

- None.

2. Have any problems or difficulties been encountered which have impacted construction progress or implementability?

- • None.

3. Do you feel the contractor's health and safety plan, O&M Manual, and Contingency Plan are adequate?

- Yes the contractor's plans are adequate for the activities, concerns, and contingencies for the site. Plans are modified when site conditions change or new activities are identified that require additional documentation of the contractor's means or methods.

Performance, Operation and Maintenance Problems:

1. Is the remedy functioning as expected?

How well is groundwater extraction system performing?

- Performing well and as designed.

How well is the slurry wall performing?

- Performing well and as designed.

How well is the hydraulic containment system performing?

- Achieving the desired head differential across the slurry wall in the northwest area of the slurry wall has not occurred at various times over the last 5 year period. Although the head inside the slurry wall is slightly higher than the head outside of the wall, the extraction wells (SEW) located within the slurry wall and the physical barrier to groundwater movement (slurry wall) is believed to be effective in controlling and capturing groundwater contaminants. The slurry wall and extraction wells are providing an effective hydraulic containment system.

How well is the water treatment plant performing?

- Performing well and as designed.

How well is the treated water disposal system performing?

- Performing well and as designed.

How well is the RCRA-equivalent disposal cell performing?

- Performing well and as designed.

How well is the Area B Soil Bioventing performing?

- Performed as designed. Remediation of the area is complete.

How well is the asphaltic-concrete wearing surface performing?

- Performing well and as designed.

How well are the surface water and sediment control system performing?

- In 2001, a second pump was installed at Stormwater Holding Pond #2 to add additional pumping capacity from this holding pond. The first pump transfers stormwater to Tank 3A, the second pump transfers stormwater to Stormwater Holding Pond #1. The increased pumping rate decreased the likelihood of having a stormwater discharge event from the J.H. Baxter property. On December 30, 2005 during a major rainfall event, the storage capacity of Stormwater Holding Pond #2 was exceeded and an estimated 20,000 gallons of stormwater was discharge off the J.H. Baxter property. The discharge occurred because the stormwater flowing into Holding Pond #2 exceeded the pond's pumping rate. This resulted in the stormwater pond's capacity being consumed and water flowing out of the pond through a discharge structure and off the property. Since this event has not been repeated and the pumping capacity already has been increased above the system design criteria, the likelihood of another discharge event occurring is low, and the risk associated with such a discharge does not warrant modification to the system.

How well are the access and institutional controls performing?

- As specified. However, EPA recommended that a fence be constructed around Area B to restrict access. An evaluation of the accessibility to Area B was conducted and determined that as a result of the existing access restrictions (physical barriers, natural access restrictions from the creek, and a private property buffer), additional fence was not necessary. In addition, the remediated soils are covered with 2 feet of clean fill that prevents soil exposure to any site trespasser.

2. What does the monitoring data show and are there any trends that show contaminant levels are decreasing/increasing?

- ROD constituents continue to show a decreasing trend and monitoring will continue as outlined in the approved plans.

3. Is there a continuous on-site O&M presence, who is on staff and what activities do they perform?

- Yes, two O&M operators provide 7 days per week coverage of the site.
- Operators operate and maintain the water treatment plant, the extraction and monitoring wells network, and all ancillary remedy components. The staff operates various gauges and samples and analyzes various media as described in the sample plans. The O&M staff also maintains O&M and sampling data and provides field data to the MWH project coordinator.

4. Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines since the last five-year review?

- No.

5. Have any of these changes impacted the protectiveness or effectiveness of the remedy?

- Not applicable.

6. Have there been unexpected O&M difficulties or cost at the site since the last five-year review?

- Repair (lining) of Tank 3A and removal of sediment from stormwater ponds were incurred in 2008. These repairs maintained the effectiveness of the remedy.

7. Have there been opportunities to optimize O&M, or sampling efforts?

- The WRG has requested a reduction in reporting frequency to EPA. Currently, data are reported to EPA on a semiannual basis as required by the site's decision documents. The WRG has requested that reporting frequency be reduced to once a year, (annual basis). EPA is considering this request but no determination or direction has been provided by EPA as of the date of this interview.

8. Do you have any comments, suggestions, or recommendations regarding the project?
None.

INTERVIEW RECORD

Site Name: J.H. Baxter Company, Inc		**EPA ID No.:** 0974 CERCLIS ID #: CAD009112087
Subject: Gale Jensen, Five-Year Interview		**Time:** 9:00 AM **Date:** 3-11-2010
Type: ☐ Telephone X Visit ☐ Other **Location of Visit:** J.H. Baxter Superfund Site		☐ Incoming ☐ Outgoing

Contact Made By:

Name: Steven D. Fundingsland	**Title:** Site Inspector	**Organization:** CDM rep of EPA

Individual Contacted:

Name: Gale Jensen	**Title:** O&M Manager	**Organization:** J. H. Baxter
Telephone No: (530) 938-2872 **E-Mail Address:** gjensen@jhbaxter.com	**Street Address:** 422 Mill Street **City, State, Zip:** Weed, CA, 96094	

Summary Of Conversation

Mr. Jensen is the O&M Manager for J.H. Baxter.

Background Information:

1. What is your overall impression of the project?

- Remedy is doing an excellent job. All issues are being addressed.

2. What effects have site operations had on the surrounding community?

- None.

3. Are you aware of any community concerns regarding the site or its operation and administration?

- None. However, the outreach effort to the community is very important to the Weed Remediation Group (WRG). Field trips are granted to interested citizens, college, high school, and elementary school classes on a routine basis. Any opportunity to demonstrate the activities and performance of the remedy is encouraged by the WRG.

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities?

- Sporadic and limited evidence of vandalism or trespassing has been observed at the site. It should be noted that these are very isolated events, and in almost all cases, the visitors have been escorted from the property and informed about the private property status of the area. Each trespassing event is evaluated to determine if correction measures (changes or modifications) are needed to prevent future events. Recently, two security cameras and additional latches/pad-locks have been installed to storage buildings to reduce/eliminate vandalism at the site.
- If a surface water discharge from the site occurs, the California Regional Water Quality Control Board (CRWQCB) and EPA are notified as soon as practicable. Included in the notification is when the discharge started, when the discharge stopped, the estimated volume of discharge (in gallons) and sampling activities conducted during the event.
- Only one emergency response has occurred at the site. This was on the J.H. Baxter property and was the result of recycling/salvage/disposal activities that occurred during a recent property cleanup event. This response was addressed by the property owner, J.H. Baxter, and did not impact the Superfund remedy.

5. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

- None.

Performance, Operation and Maintenance Problems:

1. Is the remedy functioning as expected?

- My response to the functionality of the remedy is limited to operation of the physical system(s) and data collection activities. Data is collected and compiled by Operation and Maintenance (O&M) staff and provided to MWH Americas, Inc. (MWH) for tabulation, interpretation, reporting, and presentation of conclusion/recommendation, as required.
- If sampling concerns are identified in the field (i.e., logging deck process water surrounding a monitoring well), MWH is notified of the concern. MWH may request additional sampling of the location/station if the results are identified as an outlier data point or non-characteristic based on previous analytic data.

How well is groundwater extraction system performing?

- Wells are functioning as designed. Several monitoring and extraction wells are located in very low transmissivity zones and do not produce the desired volume (rate) of water. However, this is a function of the physical conditions and not the wells themselves. No corrective action can be performed to increase production of water from these wells.

How well is the slurry wall performing?

- No physical system to inspect. Settlement of the slurry wall is monitored annual by a licensed California land surveyor. Results and recommendations are provide to MWH and are reported to EPA as required.

How well is the hydraulic containment system performing?

- Pumps and wells are maintained and operating.

How well is the water treatment plant performing?

- The water treatment plant is maintained and operating as designed.

How well is the treated water disposal system performing?

- The disposal system is maintained and operating as designed. During cold weather some of the sprinkler heads can stop discharging treated water due to ice build up around the sprinkler's orifice. The problem is very easy to discover by visual observation of the South Pasture (i.e., lack of treated water discharge from sprinkler) and is quickly corrected (remove ice from the sprinkler head). No long-term performance issues arise from this problem, and no corrective measures are deemed necessary.

How well is the RCRA-equivalent disposal cell performing?

- The cell is maintained and operating as designed. Only concern would be damage to the cover by large borrowing animals. If evidence of borrowing animal is observed, appropriate action will be taken to protect the remedy.

How well is the Area B Soil Bioventing performing?

- Completed.

How well is the asphaltic-concrete wearing surface performing?

- Maintained and operating as designed. Inspection of the wearing surface is conducted annually by a licensed California Professional Engineer. Results and recommendations are provided to MWH and are reported to EPA as required.

How well are the surface water and sediment control system performing?

- Maintained and operating as designed. If the storm event exceeds the design capacity of the surface water control system, a release may occur depending on the duration and intensity of the event, available water

storage capacity of the holding ponds, and water treatment rate. If a surface water discharge occurs at the site, CRWQCB and EPA is notified and includes information on the duration and estimated volume of water discharged from site and samples collected in accordance with the appropriate sampling plan.

How well are the access and institutional controls performing?

- Access to the site is restricted, and employees and O&M staff continually observe the site for presence of trespassers. Trespassers are quickly and effectively removed from the property and told of the private property nature of the site.
- ICs requirements are well know at the site and any operation activity that could impact the remedy is discussed during the planning stages of the activity. No activities are allowed that would negatively impact the remedy. If an operation is absolutely necessary, notification would take place as required by the ICs.

2. What does the monitoring data show and are there any trends that show contaminant levels are decreasing/increasing?

- Data is collected by the O&M staff and provided to MWH for interpretation and reporting. Monitoring data does show a decreasing trend in contaminant levels at the site.

3. Is there a continuous on-site O&M presence, who is on staff and what activities do they perform?

- Two O&M operators provide 7 days/week, 365 days/year presence at the site. The schedule allows the operators to work together 3 days per week. This operator overlap provides the opportunity to maintain, service, and/or repair system components that require two people to perform or are required per the site's health and safety plan (i.e., confined space entrance, electrical work, etc.).

4. Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines since the last five-year review?

- Only significant change has been the request for and approval to terminate extraction of groundwater from Northern Extraction Wells (NEW). These wells are maintained and if directed to do so, extraction of groundwater from these wells can be implemented in a very short-period of time.

5. Have any of these changes impacted the protectiveness or effectiveness of the remedy?

- No.

6. Have there been unexpected O&M difficulties or cost at the site since the last five-year review?

- Not unexpected but incurred during the review period was the lining of Stormwater Tank 3A and removal of sediment from stormwater ponds.

7. Have there been opportunities to optimize O&M, or sampling efforts?

- All suggested improvement to the remedy made by the O&M staff are provided to MWH for evaluation and engineer's approval. Minor improvements such as replacement of a pump with a different configuration or horsepower are evaluated and if within the site's design criteria are approved. All major modifications to the remedy require notification to and approval from EPA prior to make any physical improvement or change in procedure.

8. Do you have any comments, suggestions, or recommendations regarding the project?

- None.

Appendix E
Summary of Groundwater Analytical Results

This page left blank intentionally

Appendix E-1
Summary of Groundwater Analytical Results – Upper Aquifer Monitoring Wells Outside Slurry Wall
Third Five-Year Review, J.H. Baxter Superfund Site, Weed, California

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	Chromium	Copper, Dissolved	Zinc	Total nc-PAHs	Total c-PAHs	PCP	2,3,4,5-Tetrachloro phenol	2,3,5,6-Tetrachloro phenol
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
CMW-01	05-Jan-05	ND	ND	**14.7**	**50.1**	ND	ND	ND	ND	ND
	05-Apr-05	**5.7**	ND	ND	**31.6**	ND	ND	ND	ND	ND
	06-Jul-05	ND	ND	ND	**35.1**	ND	ND	ND	ND	ND
	05-Oct-05	**5.2**	ND	ND	**29**	ND	ND	ND	ND	ND
	16-Jan-06	**6.7**	ND	ND	**21.5**	ND	ND	ND	ND	ND
	03-Apr-06	**9.3**	ND	ND	**31.5**	ND	ND	ND	ND	ND
	06-Jul-06	**5.1**	ND	**13.1**	**83**	ND	ND	ND	ND	ND
	03-Oct-06	**6.4**	ND	ND	**47.3**	ND	ND	ND	ND	ND
	09-Jan-07	**6.4**	ND	**11**	**49**	ND	ND	ND	ND	ND
	03-Oct-07	ND	ND	ND	**27.8**	ND	ND	ND	ND	ND
	09-Jan-08	**6.6**	ND	ND	**13.9**	ND	ND	ND	ND	ND
	07-Jul-08	**5.3**	ND	ND	**13.7**	ND	ND	ND	ND	ND
	08-Oct-08	ND	ND	ND	**21**	ND	ND	ND	ND	ND
	06-Jan-09	**6.6**	ND	ND	**25.6**	ND	ND	ND	ND	ND
	08-Jul-09	**5.8**	ND	ND	**41**	ND	ND	ND	ND	ND
	06-Oct-09	**6.9**	ND	ND	**26**	ND	ND	ND	ND	ND

Appendix E-1 (continued)

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	Chromium	Copper, Dissolved	Zinc	Total nc-PAHs	Total c-PAHs	PCP	2,3,4,5-Tetrachloro phenol	2,3,5,6-Tetrachloro phenol
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
CMW-02	05-Jan-05	ND	ND	ND	**323**	ND	ND	ND	ND	ND
	05-Apr-05	ND	ND	ND	**228**	ND	ND	ND	ND	ND
	16-Jan-06	ND	ND	ND	**16.1**	ND	ND	ND	ND	ND
	03-Apr-06	**6.1**	ND	ND	**20.3**	ND	ND	ND	ND	ND
	06-Jul-06	ND	ND	ND	**92.6**	**0.25**	ND	ND	ND	ND
	03-Oct-06	ND	ND	ND	**95.4**	ND	ND	ND	ND	ND
	09-Jan-07	ND	ND	ND	**182**	ND	ND	ND	ND	ND
	09-Jul-07	ND	ND	ND	**204**	ND	ND	ND	ND	ND
	03-Oct-07	ND	ND	ND	**138**	ND	ND	ND	ND	ND
	09-Jan-08	ND	ND	ND	**119**	ND	ND	ND	ND	ND
	07-Jul-08	ND	ND	ND	**121**	ND	ND	ND	ND	ND
	08-Oct-08	ND	ND	ND	**142**	ND	ND	ND	ND	ND
	06-Jan-09	ND	ND	ND	**150**	ND	ND	ND	ND	ND
	08-Jul-09	ND	ND	ND	**167**	ND	ND	ND	ND	ND
	06-Oct-09	ND	ND	ND	**149**	ND	ND	ND	ND	ND
MW-04	04-Apr-05	**8.1**	ND	ND	**404**	ND	ND	NA	NA	NA
	10-Oct-05	ND	ND	ND	**370**	ND	ND	NA	NA	NA
	11-Jan-06	ND	ND	ND	**120**	ND	ND	NA	NA	NA
	09-Jul-06	ND	ND	**10.7**	**321**	ND	ND	NA	NA	NA
	01-Apr-07	ND	**6.3**	ND	**345**	ND	ND	NA	NA	NA
	01-Oct-07	ND	ND	**11.5**	**197**	ND	ND	NA	NA	NA
	09-Jan-08	ND	ND	ND	**318**	ND	ND	NA	NA	NA
	01-Jul-08	**6.3**	ND	ND	**222**	ND	ND	NA	NA	NA
	04-Oct-09	ND	ND	ND	**137**	ND	ND	NA	NA	NA
MW-06A	04-Apr-05	ND	ND	**21.4**	**21.5**	ND	ND	NA	NA	NA
	10-Oct-05	ND	ND	ND	**14**	ND	ND	NA	NA	NA
	11-Jan-06	ND	ND	**11.3**	**16.5**	ND	ND	NA	NA	NA
	09-Jul-06	ND	ND	**19.1**	**13.5**	ND	ND	NA	NA	NA
	01-Apr-07	ND	ND	ND	**31.6**	ND	ND	NA	NA	NA

Appendix E-1 (continued)

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	Chromium	Copper, Dissolved	Zinc	Total nc-PAHs	Total c-PAHs	PCP	2,3,4,5-Tetrachloro phenol	2,3,5,6-Tetrachloro phenol
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
	01-Oct-07	ND	ND	ND	**41**	ND	ND	NA	NA	NA
	09-Jan-08	ND	ND	ND	**34.5**	ND	ND	NA	NA	NA
	01-Jul-08	ND	ND	ND	**45**	ND	ND	NA	NA	NA
	04-Oct-09	ND	ND	ND	**286**	ND	ND	NA	NA	NA
MW-10	04-Apr-05	ND	ND	ND	**17.4**	ND	ND	NA	NA	NA
	10-Oct-05	ND	ND	ND	**38**	ND	ND	NA	NA	NA
	09-Jul-06	ND	ND	ND	**27.7**	ND	ND	NA	NA	NA
	01-Apr-07	ND	ND	ND	ND	ND	ND	NA	NA	NA
	01-Oct-07	ND	ND	ND	**20.3**	ND	ND	NA	NA	NA
	01-Jul-08	**5.6**	ND	ND	**45**	ND	ND	NA	NA	NA
	04-Oct-09	ND	ND	ND	**15**	ND	ND	NA	NA	NA
MW-12	04-Apr-05	**5.2**	**13.2**	ND	**15.9**	ND	ND	NA	NA	NA
	10-Oct-05	ND	ND	**10**	**18**	ND	ND	NA	NA	NA
	11-Jan-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	09-Jul-06	ND	ND	ND	**48**	ND	ND	NA	NA	NA
MW-13	04-Apr-05	ND	ND	ND	**40.5**	ND	ND	NA	NA	NA
	10-Oct-05	ND	ND	ND	**61**	ND	ND	NA	NA	NA
	11-Jan-06	ND	ND	ND	**32.1**	ND	ND	NA	NA	NA
	09-Jul-06	ND	ND	ND	**25.6**	ND	ND	NA	NA	NA
	01-Apr-07	ND	ND	ND	**56.8**	ND	ND	NA	NA	NA
	01-Oct-07	ND	ND	ND	**68**	ND	ND	NA	NA	NA
	09-Jan-08	ND	**5.1**	ND	**26.2**	ND	ND	NA	NA	NA
	01-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	04-Oct-09	ND	ND	ND	**17**	ND	ND	NA	NA	NA
MW-14	04-Apr-05	ND	ND	**28.6**	**138**	ND	ND	NA	NA	NA
	10-Oct-05	ND	ND	**26**	**73**	ND	ND	NA	NA	NA
	09-Jul-06	ND	ND	**21.2**	**199**	ND	ND	NA	NA	NA
	01-Apr-07	ND	ND	**40.3**	**70.3**	ND	ND	NA	NA	NA
	01-Oct-07	ND	ND	**30.8**	**75.7**	ND	ND	NA	NA	NA

Appendix E-1 (continued)

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	Chromium	Copper, Dissolved	Zinc	Total nc-PAHs	Total c-PAHs	PCP	2,3,4,5-Tetrachloro phenol	2,3,5,6-Tetrachloro phenol
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
	09-Jan-08	ND	ND	**18.4**	**34.5**	ND	ND	NA	NA	NA
	07-Jul-08	ND	ND	**16**	**57.4**	ND	ND	NA	NA	NA
	04-Oct-09	ND	ND	**13**	**532**	ND	ND	NA	NA	NA
RIW-01B	10-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	10-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	01-Oct-07	ND	ND	ND	ND	ND	ND	NA	NA	NA
	07-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	04-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
RIW-03A	10-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	10-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	02-Oct-07	ND	**9**	ND	ND	ND	ND	NA	NA	NA
	08-Jul-08	**5.2**	5.8	ND	ND	NA	NA	NA	NA	NA
	05-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
RIW-03B	03-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	10-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	02-Oct-07	ND	ND	ND	ND	ND	ND	NA	NA	NA
	08-Jul-08	ND	**5**	ND	ND	ND	ND	NA	NA	NA
	05-Oct-09	ND	**6.3**	ND	ND	ND	ND	NA	NA	NA
RIW-08B	04-Apr-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	03-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	11-Jan-06	ND	ND	ND	**25**	ND	ND	NA	NA	NA
	10-Jul-06	ND	ND	ND	**12.4**	ND	ND	NA	NA	NA
	01-Apr-07	ND	ND	**17.9**	**10.9**	ND	ND	NA	NA	NA
	02-Oct-07	ND	ND	ND	**68.8**	ND	ND	NA	NA	NA
	09-Jan-08	ND	ND	ND	**28.4**	ND	ND	NA	NA	NA
	08-Jul-08	ND	ND	ND	ND	NA	NA	NA	NA	NA
	05-Oct-09	ND	ND	ND	**22.1**	ND	ND	NA	NA	NA
MW-09A	11-Jan-06	ND	ND	ND	**676**	ND	ND	NA	NA	NA
	09-Jul-06	ND	ND	ND	**85.2**	ND	ND	NA	NA	NA

Appendix E-1 (continued)

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	Chromium	Copper, Dissolved	Zinc	Total nc-PAHs	Total c-PAHs	PCP	2,3,4,5-Tetrachloro phenol	2,3,5,6-Tetrachloro phenol
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
RIW-09A	03-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	10-Jul-06	**6.1**	ND	ND	**15.6**	ND	ND	NA	NA	NA
	02-Oct-07	**5.1**	ND	ND	ND	ND	ND	NA	NA	NA
	08-Jul-08	**5.1**	ND	ND	ND	NA	NA	NA	NA	NA
RIW-10A	03-Oct-05	**7.4**	ND	ND	**52.4**	**0.12**	ND	NA	NA	NA
	10-Jul-06	**7.4**	ND	ND	**40.8**	**0.14**	ND	NA	NA	NA
	02-Oct-07	ND	ND	ND	**24.1**	ND	ND	NA	NA	NA
	08-Jul-08	ND	ND	ND	**153**	NA	NA	NA	NA	NA
	05-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
RIW-10B	03-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	10-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	02-Oct-07	ND	ND	ND	ND	ND	ND	NA	NA	NA
	08-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	05-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
RIW-12A	03-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	11-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	02-Oct-07	ND	ND	ND	ND	ND	ND	NA	NA	NA
	09-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	05-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
RIW-13C	03-Oct-05	ND	ND	ND	**20.4**	ND	ND	NA	NA	NA
	11-Jul-06	ND	ND	ND	**16.3**	ND	ND	NA	NA	NA
	03-Oct-07	ND	**7**	ND	**29.4**	ND	ND	NA	NA	NA
	09-Jul-08	ND	ND	ND	**26.5**	ND	ND	NA	NA	NA
	06-Oct-09	ND	ND	ND	**14**	ND	ND	NA	NA	NA
WP-13	04-Apr-05	ND	ND	ND	**3370**	ND	ND	NA	NA	NA
	10-Oct-05	ND	ND	**16**	**2500**	ND	ND	NA	NA	NA
	11-Jan-06	ND	ND	ND	**2040**	ND	ND	NA	NA	NA
	09-Jul-06	**7**	ND	**17.6**	**847**	ND	ND	NA	NA	NA
	01-Apr-07	**5.9**	ND	ND	**2520**	ND	ND	NA	NA	NA

Appendix E-1 (continued)

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	**Chromium**	**Copper, Dissolved**	**Zinc**	**Total nc-PAHs**	**Total c-PAHs**	**PCP**	**2,3,4,5-Tetrachloro phenol**	**2,3,5,6-Tetrachloro phenol**
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
	01-Oct-07	ND	ND	ND	**1730**	ND	ND	NA	NA	NA
	09-Jan-08	ND	ND	ND	**1010**	ND	ND	NA	NA	NA
	07-Jul-08	ND	ND	ND	**1920**	ND	ND	NA	NA	NA
	04-Oct-09	ND	ND	ND	**793**	ND	ND	NA	NA	NA
Number of Measurements		136	136	136	136	132	132	31	31	31
Number of Detections		25	8	20	101	3	0	0	0	0
Number of Exceedances		25	2	17	37	0	0	0	0	0

Notes:

All metals concentrations provided in the database are assumed to be dissolved

nc PAHs = non-carcinogenic polycyclic aromatic hydrocarbons

c PAHs = carcinogenic polycyclic aromatic hydrocarbons

PCP = pentachlorophenol

7 = Detected concentration exceeds ROD Cleanup Goal s

ROD Cleanup Goals = Record of Decision Cleanup Goals

NE = not established

ND = not detected above the method reporting limit

NA = not analyzed

MCL = Maximum Contaminant Level

Appendix E-2
Summary of Groundwater Analytical Results - Upper Aquifer Extraction Wells Outside Slurry Wall
Third Five-Year Review, J.H. Baxter Superfund Site, Weed, California

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	Chromium	Copper, Dissolved	Zinc	Total nc-PAHs	Total c-PAHs	PCP	2,3,4,5-Tetrachloro phenol	2,3,5,6-Tetrachloro phenol
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
NEW-01	05-Apr-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	04-Oct-05	ND	ND	ND	**10.4**	ND	ND	NA	NA	NA
	12-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	13-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	07-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	ND	ND	ND	NA	NA	NA
NEW-02	05-Apr-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	04-Oct-05	ND	ND	ND	**17**	ND	ND	NA	NA	NA
	12-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	13-Jul-08	ND	ND	ND	**29**	ND	ND	NA	NA	NA
	07-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	ND	ND	ND	NA	NA	NA
NEW-03	05-Apr-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	04-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	12-Jul-06	ND	ND	ND	**11.4**	ND	ND	NA	NA	NA
	13-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	07-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	ND	ND	ND	NA	NA	NA
NEW-04	05-Apr-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	04-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	12-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	13-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	07-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	ND	ND		NA	NA	NA

ND

Appendix E-2 (continued)

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	**Chromium**	**Copper, Dissolved**	**Zinc**	**Total nc-PAHs**	**Total c-PAHs**	**PCP**	**2,3,4,5-Tetrachloro phenol**	**2,3,5,6-Tetrachloro phenol**
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
NEW-06	06-Apr-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	04-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	13-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	13-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	07-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	ND	ND	ND	NA	NA	NA
NEW-08	06-Apr-05	ND	ND	ND	**10.9**	ND	ND	NA	NA	NA
	04-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	12-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	13-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	07-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	ND	ND	ND	NA	NA	NA
NEW-10	06-Apr-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	04-Oct-05	ND	ND	ND	**12.7**	ND	ND	NA	NA	NA
	12-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	13-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	07-Oct-09	ND	ND	ND	**11**	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	ND	ND	ND	NA	NA	NA
WEW-01	05-Apr-05	ND	ND	**17.7**	**780**	ND	ND	NA	NA	NA
	04-Oct-05	**6.1**	ND	**27.4**	**995**	ND	ND	NA	NA	NA
	17-Jan-06	**7.4**	ND	**12.4**	**643**	ND	ND	NA	NA	NA
	11-Jul-06	**6**	ND	**20.5**	**593**	ND	ND	NA	NA	NA
	15-Jan-08	**8.7**	ND	**12.2**	**618**	ND	ND	NA	NA	NA
	13-Jul-08	**10.2**	ND	**25.8**	**932**	ND	ND	NA	NA	NA
	06-Oct-09	**11**	ND	**24**	**786**	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	**631**	ND	ND	NA	NA	NA

Appendix E-2 (continued)

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	Chromium	Copper, Dissolved	Zinc	Total nc-PAHs	Total c-PAHs	PCP	2,3,4,5-Tetrachloro phenol	2,3,5,6-Tetrachloro phenol
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
WEW-03	05-Apr-05	ND	ND	**18.2**	**518**	ND	ND	NA	NA	NA
	04-Oct-05	ND	ND	**19.7**	**735**	ND	ND	NA	NA	NA
	17-Jan-06	**5.7**	ND	**10.4**	**524**	ND	ND	NA	NA	NA
	11-Jul-06	ND	ND	**17**	**495**	ND	ND	NA	NA	NA
	15-Jan-08	**6.7**	ND	**10.4**	**440**	ND	ND	NA	NA	NA
	13-Jul-08	**6.5**	ND	**17**	**503**	ND	ND	NA	NA	NA
	06-Oct-09	**9.8**	ND	**21**	**622**	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	**571**	ND	ND	NA	NA	NA
WEW-05	05-Apr-05	ND	ND	ND	**1980**	ND	ND	NA	NA	NA
	04-Oct-05	ND	ND	**10.8**	**3100**	ND	ND	NA	NA	NA
	17-Jan-06	ND	ND	**12**	**543**	ND	ND	NA	NA	NA
	11-Jul-06	ND	ND	**11.7**	**1290**	ND	ND	NA	NA	NA
	15-Jan-08	**8.8**	ND	ND	**432**	ND	ND	NA	NA	NA
	13-Jul-08	ND	ND	**12.3**	**277**	ND	ND	NA	NA	NA
	06-Oct-09	ND	ND	ND	**184**	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	**258**	ND	ND	NA	NA	NA
WEW-07	05-Apr-05	**18.2**	ND	ND	**994**	ND	ND	NA	NA	NA
	04-Oct-05	**8.6**	ND	ND	**995**	ND	ND	NA	NA	NA
	17-Jan-06	**41.3**	ND	ND	**884**	**1.1**	ND	NA	NA	NA
	11-Jul-06	**52**	ND	ND	**1180**	ND	ND	NA	NA	NA
	15-Jan-08	**8.1**	ND	ND	**205**	ND	ND	NA	NA	NA
	13-Jul-08	**5.7**	ND	ND	**364**	ND	ND	NA	NA	NA
	06-Oct-09	**9.8**	ND	ND	**243**	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	**213**	ND	ND	NA	NA	NA
WEW-10	05-Apr-05	ND	ND	**14.8**	**3570**	ND	ND	NA	NA	NA
	04-Oct-05	**12.7**	ND	ND	**820**	ND	ND	NA	NA	NA
	17-Jan-06	ND	ND	ND	**393**	ND	ND	NA	NA	NA
	11-Jul-06	ND	ND	**10.1**	**671**	ND	ND	NA	NA	NA
	15-Jan-08	ND	ND	ND	**322**	ND	ND	NA	NA	NA

Appendix E-2 (continued)

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	**Chromium**	**Copper, Dissolved**	**Zinc**	**Total nc-PAHs**	**Total c-PAHs**	**PCP**	**2,3,4,5-Tetrachlorophenol**	**2,3,5,6-Tetrachlorophenol**
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
WEW-10	13-Jul-08	**8.1**	ND	**10.6**	**581**	ND	ND	NA	NA	NA
	06-Oct-09	**8.5**	ND	ND	**178**	ND	ND	NA	NA	NA
	18-Jan-10	ND	ND	ND	**212**	ND	ND	NA	NA	NA
Number of Measurements		82	82	82	82	82	82	0	0	0
Number of Detections		21	0	21	47	1	0	0	0	0
Number of Exceedances		21	0	16	40	0	0	0	0	0

Notes:

All metals concentrations provided in the database are assumed to be dissolved

nc PAHs = non-carcinogenic polycyclic aromatic hydrocarbons

c PAHs = carcinogenic polycyclic aromatic hydrocarbons

PCP = pentachlorophenol

ROD Cleanup Goals = Record of Decision Cleanup Goals

7 = Detected concentration exceeds ROD Cleanup Goals

NE = not established

ND = not detected above the method reporting limit

NA = not analyzed

MCL = Maximum Contaminant Level

Appendix E-3
Summary of Groundwater Analytical Results - Upper Aquifer Monitoring Wells Inside Slurry Wall
Third Five-Year Review, J.H. Baxter Superfund Site, Weed, California

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	**Chromium**	**Copper, Dissolved**	**Zinc**	**Total nc-PAHs**	**Total c-PAHs**	**PCP**	**2,3,4,5-Tetrachloro phenol**	**2,3,5,6-Tetrachloro phenol**
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
WP-12	03-Oct-07	**52**	ND	ND	**1040**	**5.63**	ND	NA	NA	NA
Number of Measurements		1	1	1	1	1	1	0	0	0
Number of Detections		1	0	0	1	1	0	0	0	0

Notes:

All metals concentrations provided in the database are assumed to be dissolved

ROD Cleanup Goals waived within DNAPL Zone (TI Zone)

nc PAHs = non-carcinogenic polycyclic aromatic hydrocarbons

c PAHs = carcinogenic polycyclic aromatic hydrocarbons

PCP = pentachlorophenol

ROD Cleanup Goals = Record of Decision Clean Up Goals

NE = not established

ND = not detected above the method reporting limit

NA = not analyzed

MCL = Maximum Contaminant Level

Appendix E-4
Summary of Groundwater Analytical Results - Upper Aquifer Extraction Wells Inside Slurry Wall
Third Five-Year Review, J.H. Baxter Superfund Site, Weed, California

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	Chromium	Copper, Dissolved	Zinc	Total nc-PAHs	Total c-PAHs	PCP	2,3,4,5-Tetrachlorophenol	2,3,5,6-Tetrachlorophenol
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
B-01S	03-Oct-07	ND	ND	ND	25.2	1212	ND	NA	NA	NA
SEW-05	06-Apr-05	ND	ND	ND	ND	41.35	ND	NA	NA	NA
	05-Oct-05	ND	ND	ND	ND	ND	ND	ND	ND	ND
	07-Oct-09	ND	ND	ND	ND	5.35	ND	ND	ND	ND
SEW-08	06-Apr-05	ND	ND	ND	ND	ND	ND	ND	ND	ND
	05-Oct-05	5.6	ND	ND	ND	6.7	ND	ND	ND	ND
	07-Oct-09	ND	ND	ND	ND	1.4	ND	ND	ND	ND
WP-11	13-Jan-10	2.9	2.2	ND	3.3	7	ND	ND	ND	ND
WP-09	13-Jan-10	1.1	ND	ND	5.8	0.26	ND	ND	0.94	0.5
Number of Measurements		9	9	9	9	9	9	7	7	7
Number of Detections		3	1	0	3	7	0	0	1	1

Notes:
All metals concentrations provided in the database are assumed to be dissolved
ROD Cleanup Goals waived within DNAPL Zone (TI Zone)

nc PAHs = non-carcinogenic polycyclic aromatic hydrocarbons

c PAHs = carcinogenic polycyclic aromatic hydrocarbons

PCP = pentachlorophenol

ROD Cleanup Goals = Record of Decision Cleanup Goals

NE = not established

ND = not detected above the method reporting limit

NA = not analyzed

MCL = Maximum Contaminant Level

Appendix E-5
Summary of Groundwater Analytical Results - Lower Aquifer Wells
Third Five-Year Review, J.H. Baxter Superfund Site, Weed, California

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	Chromium	Copper, Dissolved	Zinc	Total nc-PAHs	Total c-PAHs	PCP	2,3,4,5-Tetrachloro phenol	2,3,5,6-Tetrachloro phenol
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
Lower Aquifer Monitoring Wells Outside of Slurry Wall										
MW-09B	06-Apr-05	ND	ND	ND	**59.6**	ND	ND	NA	NA	NA
	03-Oct-05	ND	ND	ND	**25.7**	ND	ND	NA	NA	NA
	11-Jan-06	ND	ND	ND	**58.2**	ND	ND	NA	NA	NA
	11-Jul-06	ND	ND	ND	**441**	ND	ND	NA	NA	NA
	17-Jan-07	ND	ND	ND	**43.1**	NA	NA	NA	NA	NA
	03-Oct-07	ND	ND	ND	**19.3**	ND	ND	NA	NA	NA
	21-Jan-08	ND	ND	ND	**23.3**	ND	ND	NA	NA	NA
	09-Jul-08	ND	ND	ND	**13.2**	ND	ND	NA	NA	NA
	04-Oct-09	ND	ND	ND	**354**	ND	ND	NA	NA	NA
	13-Jan-10	**1.5**	ND	ND	**518**	ND	ND	NA	NA	NA
RIW-09B	03-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	10-Jul-06	ND	ND	ND	ND	ND	ND	NA	NA	NA
	02-Oct-07	ND	ND	ND	ND	ND	ND	NA	NA	NA
	08-Jul-08	ND	**5.1**	ND	ND	ND	NA	NA	NA	NA
	05-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA
RIW-01D	10-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	10-Jul-06	ND	ND	ND	**95.9**	ND	ND	NA	NA	NA
	02-Oct-07	ND	**8.7**	ND	**287**	ND	ND	NA	NA	NA
	24-Apr-08	ND	ND	ND	ND	NA	NA	NA	NA	NA
	07-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
RIW-12D	03-Oct-05	ND	ND	ND	ND	ND	ND	NA	NA	NA
	11-Jul-06	ND	ND	**13.2**	ND	ND	ND	NA	NA	NA
	02-Oct-07	ND	ND	ND	ND	ND	ND	NA	NA	NA
	09-Jul-08	ND	ND	ND	ND	ND	ND	NA	NA	NA
	05-Oct-09	ND	ND	ND	ND	ND	ND	NA	NA	NA

Appendix E-5 (continued)

Well ID	Date Sampled	Concentration in micrograms per liter								
		Arsenic, Dissolved	**Chromium**	**Copper, Dissolved**	**Zinc**	**Total nc-PAHs**	**Total c-PAHs**	**PCP**	**2,3,4,5-Tetrachlorophenol**	**2,3,5,6-Tetrachlorophenol**
ROD Cleanup Goals		**5**	**8**	**11**	**90**	**5**	**5**	**1**	**NE**	**NE**
2010 California MCL		**10**	**50**	**1,300**	**1,500**	**NE**	**NE**	**1**	**NE**	**NE**
Number of Measurements		25	25	25	25	23	22	0	0	0
Number of Detections		1	2	1	12	0	0	0	0	0
Number of Exceedances		0	1	1	5	0	0	0	0	0
Lower Aquifer Extraction Well Inside of Slurry Wall										
B-01R	06-Oct-09	ND	ND	ND	ND	147.59	ND	NA	NA	NA

Notes:

All metals concentrations provided in the database are assumed to be dissolved

nc PAHs = non-carcinogenic polycyclic aromatic hydrocarbons

c PAHs = carcinogenic polycyclic aromatic hydrocarbons

PCP = pentachlorophenol

ROD Cleanup Goals = Record of Decision Cleanup Goals

7 = Detected concentration exceeds ROD Cleanup Goals

NE = not established

ND = not detected above the method reporting limit

NA = not analyzed

MCL = Maximum Contaminant Level

Appendix E-6
Summary of Analytical Results - Water Treatment Plant
Third Five-Year Review, J.H. Baxter Superfund Site, Weed, California

Year	Date Sampled	Concentration in micrograms per liter																Treated Water (gallons)
		Arsenic		Chromium		Copper		Zinc		Total nc-PAHs		Total c-PAHs		PCP		Tetrachlorophenol		
		Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	
Best Practicable Treatment Standards		--	<1 - <5	--	<1 - <5	--	<1 - <5	--	<1 - <10	--	<0.2 - 1	--	<0.2 - 1	--	<0.3	--	<0.4	
2005	03-Jan-05	32.6	ND	1.4	ND	64.8	ND	148	5.2	5.22	ND	ND	ND	ND	ND	ND	ND	21,500,000
	01-Mar-05	NC	1	NC	ND	NC	ND	NC	22.9	NC	ND	NC	ND	NC	ND	NC	ND	
	02-May-05	NC	ND	NC	ND	NC	1.4	NC	14.4	NC	ND	NC	ND	NC	ND	NC	ND	
	05-Jul-05	NC	ND	NC	ND	NC	ND	NC	5.9	NC	ND	NC	ND	NC	ND	NC	ND	
	06-Sep-05	NC	ND	NC	ND	NC	ND	NC	8.2	NC	ND	NC	ND	NC	ND	NC	ND	
	Number of Measurements	1	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4	
	Number of Detections	1	1	1	0	1	1	1	5	1	0	0	0	0	0	0	0	
	Number of Exceedances	--		--	0	--		--		--	0	--		--		--		
2006	03-Jan-06	34.8	ND	1.4	ND	131	1.3	60.7	19.2	9.22	ND	0.077	ND	ND	ND	ND	ND	22,200,000
	01-Nov-05	NC	ND	NC	ND	NC	2.4	NC	9.9	NC	ND	NC	ND	NC	ND	NC	ND	
	01-Mar-06	NC	ND	NC	1	NC	ND	NC	2	NC	ND	NC	ND	NC	ND	NC	ND	
	06-Jul-06	NC	ND	NC	ND	NC	ND	NC	6.1	NC	ND	NC	ND	NC	ND	NC	ND	
	05-Sep-06	NC	ND	NC	0.4	NC	0.2	NC	2.7	NC	ND	NC	ND	NC	ND	NC	ND	
	01-Nov-06	NC	ND	NC	ND	NC	ND	NC	6.1	NC	ND	NC	ND	NC	ND	NC	ND	
	Number of Measurements	1	4	1	4	1	4	1	5	1	4	1	4	1	4	1	4	
	Number of Detections	1	0	1	2	1	3	1	5	1	0	1	0	0	0	0	0	
	Number of Exceedances	--		--	0	--		--		--	0	--		--		--		
2007	09-Jan-07	18.1	ND	0.7	ND	265	ND	74.6	2.2	0	ND	ND	ND	ND	ND	ND	ND	21,900,000
	01-May-07	NC	ND	NC	ND	NC	1.5	NC	7.3	NC	ND	NC	ND	NC	ND	NC	ND	
	09-Jul-07	NC	0.14	NC	ND	NC	0.09	NC	1.7	NC	ND	NC	ND	NC	ND	NC	ND	
	04-Sep-07	NC	ND	NC	ND	NC	ND	NC	2.4	NC	ND	NC	ND	NC	ND	NC	ND	
	01-Nov-07	NC	ND	NC	ND	NC	ND	NC	2.6	NC	ND	NC	ND	NC	ND	NC	ND	
	Number of Measurements	1	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4	
	Number of Detections	1	1	1	0	1	2	1	4	0	1	0	4	0	0	0	0	
	Number of Exceedances	--		--	0	--		--		--	0	--		--		--		

Appendix E-6 (continued)

Year	Date Sampled	Concentration in micrograms per liter																Treated Water (gallons)
		Arsenic		Chromium		Copper		Zinc		Total nc-PAHs		Total c-PAHs		PCP		Tetrachlorophenol		
		Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	
Best Practicable Treatment Standards		--	<1 - <5	--	<1 - <5	--	<1 - <5	--	<1 - <10	--	<0.2 - 1	--	<0.2 - 1	--	<0.3	--	<0.4	
2007	09-Jan-07	18.1	ND	0.7	ND	265	ND	74.6	2.2	0	ND	ND	ND	ND	ND	ND	ND	
	01-May-07	NC	ND	NC	ND	NC	1.5	NC	7.3	NC	ND	NC	ND	NC	ND	NC	ND	
	09-Jul-07	NC	0.14	NC	ND	NC	0.09	NC	1.7	NC	ND	NC	ND	NC	ND	NC	ND	21,900,000
	04-Sep-07	NC	ND	NC	ND	NC	ND	NC	2.4	NC	ND	NC	ND	NC	ND	NC	ND	
	01-Nov-07	NC	ND	NC	ND	NC	ND	NC	2.6	NC	ND	NC	ND	NC	ND	NC	ND	
	Number of Measurements	1	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4	
	Number of Detections	1	1	1	0	1	2	1	4	0	1	0	4	0	0	0	0	
	Number of Exceedances	--	0	--		--		--	0	--		--		--	0	--	0	
2008	11-Mar-08	NC	ND	NC	ND	NC	3.1	NC	12.2	NC	ND	NC	ND	NC	ND	NC	ND	
	01-Jul-08	NC	0.7	NC	ND	NC	0.4	NC	2.7	NC	ND	NC	ND	NC	ND	NC	ND	
	02-Sep-08	NC	0.7	NC	ND	NC	0.3	NC	3.1	NC	ND	NC	ND	NC	ND	NC	ND	21,250,000
	03-Nov-08	NC	ND	NC	ND	NC	ND	NC	1.4		ND	NC	ND	NC	0.33	NC	ND	
	Number of Measurements	--	4	--		--		--	4	--		--		--	4	--	4	
	Number of Detections	--	2	--		--		--	3	--		--		--	0	--	0	
	Number of Exceedances	--	0	--		--		--	1	--		--		--	0	--	0	
2009	02-Mar-09	NC	ND	NC	ND	NC	ND	NC	2.8	NC	ND	NC	ND	NC	ND	NC	ND	19,154,000
	06-Jul-09	NC	ND	NC	ND	NC	ND	NC	4.8	NC	ND	NC	ND	NC	ND	NC	ND	
	03-Sep-09	NC	ND	NC	ND	NC	ND	NC	4.2	NC	ND	NC	ND	NC	ND	NC	ND	
	Number of Measurements	--	3	--		--		--	3	--		--		--	3	--	3	
	Number of Detections	--	0	--		--		--	3	--		--		--	0	--	0	
	Number of Exceedances	--	0	--		--		--	0	--		--		--	0	--	0	

Notes:

All metals concentrations provided in the database are assumed to be dissolved

nc PAHs = non-carcinogenic polycyclic aromatic hydrocarbons

c PAHs = carcinogenic polycyclic aromatic hydrocarbons

PCP = pentachlorophenol

-- = not applicable

ND = not detected above the method reporting limit

NC = not collected