# SOIL MANAGEMENT PLAN

## FORMER STANDARD OIL BULK PLANT #1001157
## WEST 15TH AVENUE AND NORTH WATER STREET
## ELLENSBURG, WASHINGTON

**February 3, 2011**

**Prepared for:**
**City of Ellensburg**
**501 Anderson Street**
**Ellensburg, Washington 98926**

**On Behalf of:**
**Chevron Environmental Management Company**
**145 S. State College Boulevard**
**Brea, CA 92821**

**Prepared by:**
**Science Applications International Corporation**
**18912 North Creek Parkway, Suite 101**
**Bothell, WA 98011**

SAIC
From Science to Solutions

## TABLE OF CONTENTS



## LIST OF FIGURES

# SOIL MANAGEMENT PLAN

## 1.0 INTRODUCTION

This Soil Management Plan has been prepared by SAIC Energy, Environment, and Infrastructure, LLC (hereafter SAIC) on behalf of Chevron Environmental Management Company (CEMC). The plan specifically addresses residual soils containing petroleum hydrocarbons that remain beneath the public right-of-way adjacent to former Chevron Bulk Plant 1001157 located at the northeast corner of West 15th and North Water Streets, in Ellensburg, Washington (Figure 1). The property is bound by a State Park to the north and by residential housing to the south. This soil management plan has been prepared at the request of the Washington State Department of Ecology (WDOE) as a component of the long-term contingency planning required for the site following completion of a remedial excavation in January 2005.

## 2.0 BACKGROUND

### 2.1 SITE HISTORY

The property operated as a bulk fuel transfer facility from the 1920s through the 1980s. The site was purchased from Chevron by ARH Distributors in 1980. In 1986, ARH Distributors went bankrupt and sold the property to Wondrack Distributing who ceased operations shortly after purchasing the facility. All underground piping, tanks, and associated buildings were removed in 1997, with the exception of a corrugated metal garage which was removed during excavation activities in January 2005. The property is currently owned by Wondrak Distributing, Inc. (Carol Wondrak). A site map is presented as Figure 1.

In June 2002, Ecology issued Agreed Order #DE 02TCPCR-3982 to Chevron requiring the planning and implementation of a remedial investigation/feasibility study (RI/FS) at the site. Delta Environmental Consultants (Delta) started a Remedial Investigation of the site in August 2002. Test pits DTP-1 through DTP-28 were installed in order to delineate the extent of petroleum impacts on the property and beneath West 15th Avenue. Supplemental sampling events were conducted by Delta in November 2002 and completed in March 2003 (*Final Remedial Investigation/Feasibility Study Report, Former Chevron Bulk Plant No. 100-1157,* Prepared for ChevronTexaco by SAIC, June 1, 2004). Test pits TP-29 through TP-42 were installed on residential properties south of 15th Avenue to further delineate the extent of potential petroleum impacts (Figure 1). Test pits were completed in March 2003 with SAIC onsite to observe.

In accordance with the 2004 *Cleanup Action Plan*, SAIC completed a soil remedial excavation cleanup at the site and a portion of the eastern adjacent State Park property in late December 2004 and early January 2005. Approximately 4,800 tons of petroleum-impacted soil was removed from the site. All impacted soil beneath the property was removed from surface to a minimum of one foot below the water table, approximately 6 to 8 feet in depth. Petroleum-impacted soil remains in-place beneath the sidewalk and West 15th Avenue. Figure 1 shows the approximate extent of petroleum impacts to soil remaining in the City right-of-way based on test pit results.

Following the site remedial efforts, two additional groundwater monitoring wells (MW-13 and MW-14) were installed in March 2005 along the southern property boundary of the site (Figure 1). On- and off-property monitoring wells have been sampled quarterly since May 2005.

Groundwater analytical results show contaminant concentrations below MTCA Method A cleanup levels in all wells.

## 3.0 HYDROGEOLOGY/GEOLOGY

Shallow groundwater beneath the site typically occurs from approximately 3-6 feet below ground surface (bgs) with seasonal fluctuations of 0.5 to 1.0 foot. The groundwater is at its lowest levels in the winter. Groundwater flow directions vary from southeast to southwest and are influenced by seasonal variation. The hydraulic gradients across the site are low, ranging from 0.005 to 0.006 ft/ft.

Subsurface soils typically consist of very dense clayey gravel and sand with coarse gravel and occasional cobbles to 15 feet below ground surface (bgs). The subsurface material is brown and dark green in color and dense to very dense in compaction. A layer of rounded gravel and river rock was observed at 4.5 to 6.5 feet bgs in the south and southeast portions of the site.

A more detailed presentation of hydrogeologic and geologic information can be found in the RI/FS (SAIC, 2004).

## 4.0 EXTENT OF PETROLEUM HYDROCARBON IMPACT

The estimated extent of subsurface impacts off-property beneath West 15$^{th}$ Avenue is approximately 250 feet long (east-west direction) by 50 feet wide (approximate width of 15$^{th}$ Avenue) (Figure 1). The highest petroleum impacts were encountered between 4 and 6 feet below ground surface, at depths typical of buried utilities. Off-property impacted soil beneath West 15$^{th}$ Avenue has been detected between approximately between 2 and 10 feet bgs.

## 5.0 PURPOSE OF SOIL MANAGEMENT PLAN

The purpose of this soil management plan is to develop long-term management procedures that will be adequate to protect human health and the environment with respect to residual petroleum impacted soil remaining beneath West 15$^{th}$ Avenue where the impacted soil cannot be reasonably removed due to presence of underground utilities. This soil management plan presents specific actions and protocols for managing impacted soil and groundwater that may be encountered beneath West 15$^{th}$ Avenue.

## 6.0 EXPOSURE ASSESSMENT

### 6.1 HEALTH AND SAFETY

Personnel that work with the petroleum impacted soil must be trained in the hazards specific to these substances and in the appropriate protective measures. The contractor/utility worker will be entirely responsible for identifying and complying with all health and safety requirements in federal, state, and local regulations. The contractors/utility workers will be responsible for writing, implementing, and enforcing an appropriate health and safety plan that is in compliance with all federal, state and local regulations when excavating and handling impacted soil.

### 6.2 CHEMICALS OF CONCERN

Chemicals of concern in soil and potentially groundwater beneath West 15$^{th}$ Avenue and North Water Street include gasoline-, diesel-, and heavy oil-range hydrocarbons, and BTEX. These

compounds were present at the site at concentrations greater than the MTCA Method A cleanup levels for soil, based on soil cleanup levels summarized in Table 720-1, WAC 173-340-900.

### 6.3 EXPOSURE PATHWAYS

There is potential for humans to be exposed to petroleum impacted soil, groundwater or vapor during invasive work activities.

*Subsurface soil*: Activities that involve soil excavation beneath West 15th Avenue may lead to petroleum hydrocarbon exposure to humans through inhalation, ingestion, and dermal contact. The individuals most likely to be affected by this exposure pathway are utility workers.

*Groundwater*: There is potential for individuals to come into contact with petroleum impacted groundwater during excavations or subsurface exploration beneath West 15th Avenue. The most likely group to be affected by this exposure pathway beneath the street is utility workers. Although impacts to groundwater are minimal, this pathway has been left open to ensure long-term protection for individuals that may come in contact with groundwater through invasive work actions.

*Vapors*: There is potential for humans to come into contact with vapors that volatilize from soil and groundwater during excavation or subsurface explorations in the soil management area. Vapors can pose a threat to human health and the environment when they are present at concentrations in confined spaces that exceed NIOSH (National Institute for Occupational Safety and Health) and/or OSHA (Occupational Safety and Health Administration) permissible exposure limits, or at high enough concentrations to create conditions that may lead to explosions. The most likely population to be affected by this exposure pathway within the soil management area is utility workers.

Prior to and during any invasive work activities within the soil management area beneath West 15th Avenue, steps will be taken to notify all responsible parties, minimize the risk to workers and the public and properly handle, and treat and/or dispose of any impacted soil or groundwater generated. The steps necessary to accomplish these goals are presented in the following sections of this soil management plan.

## 7.0 SOIL MANAGEMENT PLAN

### 7.1 RISK MANAGEMENT MEASURES PRIOR TO INVASIVE WORK

Exposure to residual petroleum hydrocarbons beneath West 15th Avenue is most likely to occur during excavation, grading or drilling activities, particularly at depths between 2 and 6 feet bgs. Coordinating response actions in advance of street work will help minimize construction delays. The contractors/utility workers performing the subsurface activity must be notified of the environmental conditions and contents of this soil management plan prior to site activities.

#### 7.1.1 Notification Requirements

The contractor/utility worker will notify the City of Ellensburg prior to the start of ground disturbing activities at the site. An environmental consultant representing CEMC will be on site to observe any ground disturbing activities and to monitor soil and groundwater conditions during site work.

For grading, excavation, drilling/test pitting or any subsurface site activities, the contractor/utility worker will provide the following information:

- Start date and time
- Anticipated duration of subsurface activities
- Nature of subsurface activities
- Location, size, and depth of excavation/borehole

The information provided by the contractor/utility worker will be forwarded on to CEMC, Washington State Department of Ecology and any permitting agency. Point of contact names and addresses are listed in Section 8.

## 8.0 PROJECT CONTACTS

**Chevron Environmental Management Company**
Dan Carrier
145 S. State College Blvd. Room 4086
Brea, CA 92821
Phone: (714) 671-3371
E-mail: DCarrier@chevron.com

**City of Ellensburg**
John Akers
Public Works
501 Anderson Street
Ellensburg, Washington 98926
(509) 962-7230
E-mail: pubworks@ci.ellensburg.wa.us

**Washington State Department of Ecology, Central Regional Office**
Attn: Richard Bassett
15 West Yakima Ave., Ste 200
Yakima, Washington 98902
Phone: (509) 454-7839
E-mail: rbas461@ecy.wa.gov

## 9.0 REFERENCES

*Cleanup Action Plan, Former Chevron Bulk Plant #100-1157, 15th and Water Streets, Ellensburg, Washington.* Prepared for ChevronTexaco by SAIC, December 8, 2004.

*Analytical Results for Samples Collected at the Sewer Line Installation Site, Ellensburg, WA.* Prepared for the City of Ellensburg by SAGE Earth Science Inc., November 27, 1995.

*Final Remedial Investigation/Feasibility Study Report, Former Chevron Bulk Plant No. 100-1157, 15th and Water Streets, Ellensburg, WA.* Prepared for ChevronTexaco by SAIC, June 8, 2004.

*Final Remedial Excavation Report, ChevronTexaco Facility No. 100-1157, West 15th Ave and North Water Street, Ellensburg, Washington 98926.* Prepared for ChevronTexaco by SAIC, February 15, 2005.

# Figure

LEGEND

MW–13 GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION

MW–3 ABANDONED MONITORING WELL LOCATION AND IDENTIFICATION

FENCE

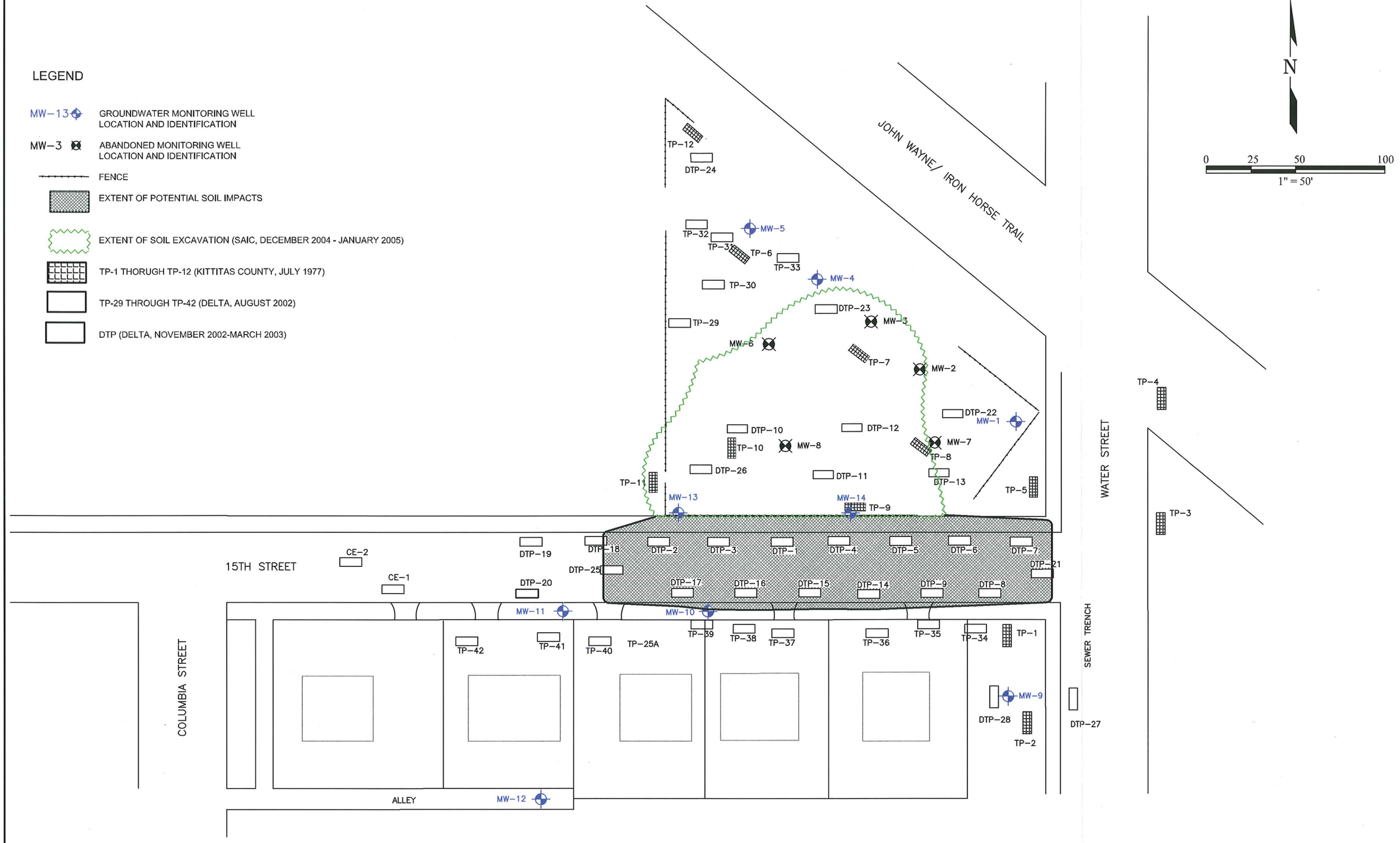
EXTENT OF POTENTIAL SOIL IMPACTS

EXTENT OF SOIL EXCAVATION (SAIC, DECEMBER 2004 - JANUARY 2005)

TP-1 THORUGH TP-12 (KITTITAS COUNTY, JULY 1977)

TP-29 THROUGH TP-42 (DELTA, AUGUST 2002)

DTP (DELTA, NOVEMBER 2002-MARCH 2003)




SAIC From Science to Solutions

| | |
|---|---|
| FORMER CHEVRON BULK PLANT<br>NO. 1001157<br>WEST 15TH AVENUE & NORTH WATER STREET<br>ELLENSBURG, WASHINGTON | FIGURE 1<br>EXTENT OF POTENTIAL SOIL IMPACTS |
| | FILE NAME: 100-1157-ExtSoilContam.dwg<br>DATE: 02/03/2011 |

Z:\2004\ChevronTexaco\WA Portfolio\1001157 Ellensburg\100-1157-ExtSoilContam.dwg greenjamal 03/02/11 - 9:09 A

**Attachment C:**
**Voluntary Cleanup Program (VCP) Application**