



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III**

FINAL DECISION AND RESPONSE TO COMMENTS

**St Marys Refining Company
St Marys, West Virginia**

EPA ID No. WVD004337135

January 2012

I. Introduction

The United States Environmental Protection Agency (EPA) is issuing this Final Decision and Response to Comments (FDRTC) for the St Marys Refining Company (SMRC) facility located at 201 Barkwill Street, St Marys, West Virginia, 26170 (Facility). EPA's final remedy is summarized below:

- For soil on the "Bluff Area," no further action.
- For soil at the Northern Refinery and the Pipeline Site, SMRC will develop and implement a Soils Management Plan (SMP) and restrict those areas to industrial use through the compliance with and maintenance of institutional controls (ICs).
- For groundwater under the Northern Refinery, the Creel Street Site and the off-site residential area (west of State Route 2) that was impacted by Facility contaminants, SMRC will monitor and document the natural attenuation of remaining contaminants and implement ICs.
- For sediment and surface water in the Tackett Run and Tannery Run and sediment in the Ohio River, no further action.
- For soil vapor, no further action.

The Facility is subject to EPA's Corrective Action program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. Sections 6901, *et seq.* The Corrective Action program requires that certain facilities subject to RCRA investigate and address environmental releases of hazardous waste and hazardous constituents, usually in the form of soil or groundwater contamination, that have occurred on their property.

On September 14, 2011, EPA issued a Statement of Basis (SB) in which EPA proposed a remedy for the SMRC Facility. EPA held a thirty-(30) day comment period which began September 14, 2011 and ended October 14, 2011. The only comments EPA received during the public comment period were submitted by SMRC. Based on SMRC's comments, EPA has determined that it is not necessary to make significant modifications to the proposed remedy as set forth in the SB. EPA is, however, making minor modifications to and clarifying certain aspects of the proposed remedy as described in more detail in Attachment A, EPA Responses to Comments. This Final Decision and the remedy selected herein incorporate those minor modifications and clarifications.

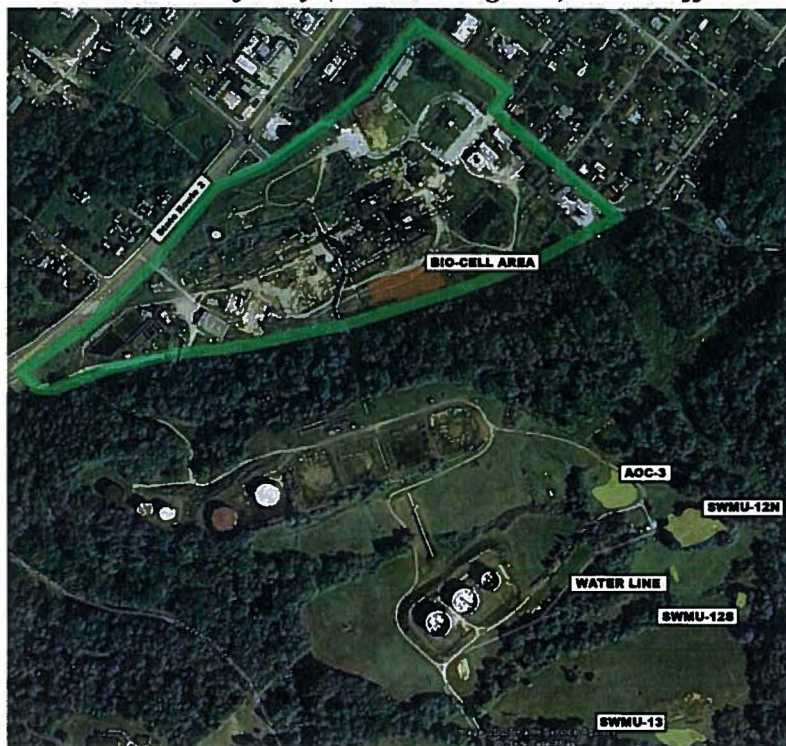
II. Facility Background

A. Facility Operations

The Facility is a former petroleum refinery that produced lubricating oils, waxes, gasoline, jet fuel and other petroleum products throughout its operating history. Refining operations were conducted at the Facility by various owners from 1913 until 1993 when refinery operations ceased. Historic releases of hydrocarbons occurred primarily in the former refinery area, called the “Northern Refinery,” and impacted soil and groundwater. Since April 1993, the Facility has been used primarily for the bulk storage of petroleum products including gasoline and diesel fuel. SMRC has owned the Facility since August 1991. The Facility receives gasoline and diesel fuel by barge, and conveys the product to the refinery by underground and aboveground pipes. Product is loaded onto tanker trucks which transport the product for off-site distribution.

The Facility encompasses approximately 70 acres. It is bordered by State Route 2 to the north and west, with residential and commercial properties around the Facility. Figure 1, below, is an aerial view of the Northern Refinery outlined. The Northern Refinery encompasses approximately 21 acres of Ohio River alluvial bottomland, along a steep valley wall. The Northern Refinery is currently used for loading gasoline and diesel onto tanker trucks. On top of the valley wall, which ascends 100 to 150 feet above the Northern Refinery, is the “Bluff Area,” which encompasses approximately 48 acres. Within the Bluff Area are two tank farms, a closed solid waste disposal area, two surface impoundments, and a former fire training area. The Bluff Area is bordered by a hilly, wooded area to the south that is semi-rural and sparsely populated. The Facility also includes a parcel that contains the above ground segment of SMRC’s pipeline that conveys petroleum products from the barge loading dock on the Ohio River to the Northern Refinery.

Figure 1. Northern Refinery (outlined in green) and Bluff Area



B. Summary of Environmental History

In April 1997, EPA and SMRC entered into an Administrative Order on Consent under Section 7003 of RCRA (7003 Order) requiring SMRC to conduct, among other things, a RCRA Facility Investigation (RFI) to characterize the extent of soil and groundwater contamination at the Facility and to evaluate remedy options. In June 2003, SMRC submitted an RFI Report to EPA for review and approval. The RFI identified soil and groundwater contamination associated with the release of petroleum at the Facility; delineated the extent of contamination, and identified the contaminants of concern (COCs). EPA approved the RFI Report in August 2005.

1. Soil Investigation

The EPA-approved RFI Report identified the following COCs in soils at the Facility: benzene, toluene, ethylbenzene, xylenes, naphthalene, methyl tertiary butyl ether (MTBE), benzo(a)pyrene, benzo(b)fluoranthene, arsenic and lead. SMRC screened Facility soils for COCs using the EPA Region 3 Risk Based Concentrations (RBCs) table (April 11, 2006).

The RFI Report identified 15 Solid Waste Management Units (SWMUs) and 5 Areas of Concern (AOCs). A SWMU is any discernible waste management unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been randomly and systematically released. SWMUs are units where solid or hazardous waste was placed, or where solid wastes have been routinely released. AOCs are areas where a release occurred that requires investigation. Given the close proximity of numerous aboveground storage tanks (ASTs) located in the Northern Refinery, the RFI Report consolidated those ASTs which showed signs of leakage into one AOC identified as AOC2, Facility-wide Soil and Groundwater Releases. Table 1, attached hereto, identifies the SWMUs and AOCs, their current status and EPA's proposed remedy for each at the time of the SB.

2. Groundwater Investigation

The Facility is located within an alluvial terrace of the Ohio River. The geology of the Facility includes a unit containing a mixture of clays and silts approximately 15 to 30 feet below ground surface (bgs), underlain by a sandy unit with interbedded silt to bedrock. Depth to bedrock ranges from approximately 45 to 80 feet bgs. Groundwater in both units flows to the northwest towards the Ohio River.

Pursuant to the EPA-approved RFI Report, SMRC has installed 72 groundwater monitoring wells, with 38 wells on-site and 34 wells off-site. SMRC has conducted groundwater sampling from those wells on a semi-annual basis since 2005. Figure 2, attached hereto, shows the locations of the monitoring wells.

The RFI Report identified the following COCs in Facility groundwater: benzene, toluene, ethylbenzene, xylenes, naphthalene, MTBE, arsenic, and tert-butyl-alcohol. Although the Facility is located within an area where groundwater is not used as a source for drinking water, concentrations of COCs in groundwater were screened against drinking water criteria, known as the Maximum Contaminant Levels (MCLs) promulgated at 40 C.F.R. Part 141 pursuant to Section 1412 of the Safe Drinking Water Act, 42 U.S.C. Section 300g-1, or, in the absence of an MCL, concentrations were screened using EPA's RBCs. Sampling results from 1993 to 2002 showed benzene, ethylbenzene, toluene, naphthalene and arsenic above their respective MCLs in groundwater in the shallow and intermediate aquifer in the area of the Northern Refinery and benzene and arsenic above their respective MCLs in the intermediate aquifer off-site, in the neighborhood northwest of the Facility, across from Route 2. Well surveys conducted by SMRC showed that all residences around the Facility were connected to the City of St Marys' public water supply system and that there were no current consumptive uses of Facility-contaminated groundwater.

III. Interim Measures (IMs)

Interim Measures (IMs) are activities to control or abate imminent threats to human health and the environment from contaminated releases at RCRA facilities. In accordance with the IM provision in the 7003 Order, SMRC implemented the following IMs at the Facility:

A. Soil Vapor Extraction and Bioventing (SVEB)

In May 2006, in order to address AOC2, Facility-Wide Soil and Groundwater Releases, SMRC proposed to install and operate a Soil Vapor Extraction and Bioventing (SVEB) system to extract volatile and some semi-volatile contaminant vapors from contaminated soils in the smear zone at the Northern Refinery. The smear zone is the area where contaminants accumulate in the subsurface at the water table. The SVEB also extracts volatile contaminants in the upper zone of the groundwater, or the water table, and free phase product floating on the water table. By reducing mobile contaminants from the smear zone, the source of the groundwater contamination is removed. The bioventing system draws more oxygen into the soil which expands the existing microbial population and, subsequently, the microbes break down residual hydrocarbons.

In 2008, EPA approved the SVEB IM Workplan. In accordance with the Workplan, SMRC installed 107 vapor extraction wells, to an average depth of 40 feet. By September 2008, the SVEB had removed about 98% of source mass with no significant rebound (i.e., reappearance of contaminants in groundwater). Sampling results from 2011 show that benzene remains in the groundwater above its MCL and naphthalene, which does not have an MCL, remains in concentrations above its EPA Risk Based Level (RSL).¹ All the other COCs are below MCLs or EPA's RSLs. EPA anticipates that the remaining benzene and naphthalene will be reduced over time by natural attenuation because the concentrations of those contaminants have already been significantly reduced and benzene and naphthalene have been shown to be effectively remediated

¹ In Spring 2008, EPA Region III began relying on the RSLs for its baseline risk assessments. EPA now refers to those parameters and not RBCs.

by natural attenuation processes. Figure 3, attached hereto, depicts benzene concentrations in groundwater during Fall 2010, post treatment. Figure 4, attached hereto, shows that benzene concentrations have been significantly reduced on- and off-site. In May 2011, EPA determined that the remedial goals of the SVEB system were met, and approved the SVEB IM Completion Report.

Groundwater was not found on the Bluff Area because the shallow soil layer on the bedrock does not sustain a water table.

B. Enhanced Anaerobic Bioremediation (EAB)

SMRC conducted enhanced anaerobic bioremediation (EAB) to supplement SVEB to enable biodegradation of hydrocarbons in the oxygen poor intermediate aquifer (below the shallow water table aquifer). As part of the EAB, sulfate was injected into the intermediate aquifer to grow the existing anaerobic bacteria population such that the bacteria could consume the hydrocarbons. The EAB was successful in decreasing COCs in the intermediate aquifer. SMRC no longer injects sulfate into the aquifer, but existing bacteria continue to break down contaminants. EPA will require that groundwater be monitored until drinking water standards are met.

C. Excavation and Treatment of Bluff Area Soil

In the Fall of 2009, SMRC excavated approximately 10,000 cubic yards of soil from the following locations in the Bluff Area (Figure 2 shows locations):

1. SWMU 12 consisted of two surface impoundments where Facility sludge and fly ash were disposed from 1968 to approximately 1980. During previous investigations, SWMU 12 had been identified as SWMU 12N (north) and 12S (south). Visibly stained soil was found in SWMU 12.
2. SWMU 13 was a solid waste disposal area for disposal of construction and demolition debris. Stained soil was found in SWMU 13.
3. AOC 3 was the fire training area, reportedly used once a year. AOC 3 had four containers with sludge and oily materials and stained soil. Diesel fuel was used as a fire source.
4. Contaminated soil mounds.

Post excavation sampling of the above-listed locations showed that remaining soils meet residential use levels. SMRC backfilled the excavations with clean soil from the Bluff Area and from off-site. The Bluff Area is now grassed. The excavated soil was transported to a lined treatment cell located in the Northern Refinery. The treatment cell is 11 feet high, 270 feet long and 80 feet wide. Soil vapor extraction (SVE) pipes were installed in the soil mound to remove volatile hydrocarbons. In June 2011, EPA determined that treatment of the excavated soils was complete, and that the soils met EPA acceptable risk levels for industrial workers. SMRC intends to use the treated soils as fill in the Northern Refinery.

IV. Post RFI Investigations

A. Ambient Air Investigation

Buildings located above a contaminated groundwater plume may be vulnerable to subsurface vapor (from volatile contaminants like gasoline) entering a building through cracks, joints and utilities openings. Due to the known presence of VOC contamination in the groundwater beneath the Facility, in July 2008, EPA conducted soil vapor and air sampling at the neighborhood adjacent to the Facility on the northeast border, on Court Lane. The investigation included collection of a crawl space vapor sample (24 hours) from beneath a neighboring residence, an air sample from the basement of a second residence, and continuous (9.5 hours) ambient air samples along the fence line of the Facility, during daytime truck gas/diesel loading. The sampling results showed acceptable ambient air conditions for these residences and no contaminants were detected in the crawl space and basement.

Groundwater monitoring data from the neighborhood north of the Facility, across Route 2, have shown that shallow groundwater meets drinking water standards and intermediate depth groundwater has shown Site-related contamination above drinking water standards. Because the top layer of groundwater is not contaminated and acts as a barrier, EPA has determined that soil vapor does not pose a current threat to human health because VOCs in the intermediate layer would not enter homes in this area.

SMRC used EPA's Draft Vapor Intrusion Guidance (2002) to evaluate the on-site buildings. Based on the distances from those buildings to SWMUs and AOCs and soil and ground water results, EPA has determined that soil vapor does not pose a current threat to human health in on-site buildings.

B. Surface Water and Sediment

In 2007, SMRC collected sediment and surface water samples from two streams, Tackett Run and Tannery Run, and sediment samples from the Ohio River. Tannery Run originates above the Bluff Area and flows down hill, just off-site of the Facility's southern boundary. Tackett Run is a storm sewer pipe that discharges to an off-site channel west of Route 2 and south of Creel Street. Most of Tackett Run water comes from City storm water, with some storm water from the Facility. Both streams are intermittent and flow into the Ohio River.

Three sediment and surface water samples were collected from Tackett Run and six sediment and surface water samples were collected from Tannery Run. Surface water samples from Tackett Run contained low level barium and lead at or below ecological screening values. Surface water samples from Tannery Run contained low levels of barium at or below ecological screening values. Surface water samples from upstream of the Facility contained levels of barium equivalent to the levels of barium found in Tackett and Tannery Runs, indicating that barium is naturally present at those levels.

Sediment samples were collected at the same time and locations as the water samples in Tackett and Tannery Run. Sediment samples from Tackett Run contained semi-volatile organic compounds (SVOCs) and lead which exceeded ecological screening levels. Generally, SVOCs are present in storm runoff from asphalt roads and parking lots. Given that Tackett Run is one of the stormwater outlets for the City, the SVOC contamination in Tackett Run does not indicate a single source.

Sediment samples from Tannery Run contained SVOCs above detection limits, but below ecological screening levels, and arsenic and lead in concentrations that exceeded ecological screening levels. Similar arsenic and lead concentrations were found in sediment upstream of the Facility, indicating that those contaminants are naturally occurring, and represent background levels.

Six sediment samples were collected immediately off-shore of the Facility in the Ohio River, which included two upstream of the barge loading dock, two at the dock and two downstream. Low concentrations of total petroleum hydrocarbons and diesel range organics were found upstream and downstream of the Facility loading dock. Two SVOCs were detected in the two downstream samples at low concentrations that were above ecological screening levels. Given that the SVOCs, total petroleum hydrocarbons and diesel range organics concentrations were low and that the Ohio River receives storm water from many sources, EPA determined that the Facility is not the primary source of those contaminants in the sediment of the Ohio River.

C. West Virginia Voluntary Remediation Program (VRP) Sites

SMRC entered the following three off-site properties into the West Virginia Department of the Environment's (WVDEP) Voluntary Remediation Program (VRP): (1) Wastewater Treatment Plant (WWTP) Site (VRA# 07398), (2) Pipeline Site (VRP#10011) and (3) Creel Street Site (VRP#09846). The Sites were impacted by Facility Contaminants of Concern (COCs) from the underground segment of SMRC's pipeline located near the loading dock.

The WWTP Site is located on 1.27 acres and is owned by the City of St. Marys. Facility COCs were found in soil and groundwater at the WWTP Site. The footprint of the newly constructed WWTP covers the 1.27 acre WWTP Site. Prior to construction of the WWTP, soil was removed to a 15 foot depth beneath the footprint. Contaminated soil was disposed of at an off-site location. Groundwater monitoring wells were removed for construction. The WWTP Site is not part of EPA's Final Decision, but is described here because Facility COCs were found in the soil and groundwater at the WWTP Site.

The Pipeline Site is located on 0.49 acres and is owned by the City of St. Marys. It is located between the CSX railway and the WWTP. The Pipeline Site contains a portion of the underground segment of the pipeline and is vacant. SMRC used SVE and EAB to reduce contaminants in soil and groundwater. Contaminants in the soil are in concentrations acceptable for industrial use and groundwater contaminants meet their respective MCLs. WVDEP issued a VRP Certificate of Completion for the Pipeline Site on July 14, 2010.

The Creel Street Site consists of 0.83 acres and is located off-site, between the underground pipeline and Creel Street. SMRC remediated soils using SVE and bio-venting. Contaminants in the soil meet residential standards. With respect to groundwater, SMRC has remediated the majority of contaminants that could potentially migrate from beneath the Creel Street Site. COCs remain in the groundwater above MCLs and RSLs beneath the Creel Street Site. EPA anticipates that the concentrations of those COCs will continue to decrease and decompose rapidly enough to prevent the contaminants and their breakdown products from migrating from the Creel Street Site and that groundwater COCs will meet their respective MCLs and RSLs by natural attenuation. WVDEP expects to issue a VRP Certificate of Completion for the Creel Street Site in early 2012.

D. Environmental Indicators (EIs)

Under the Government Performance and Results Act (GPRA), EPA has set national goals for RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental clean-up indicators for each facility: (1) Current Human Exposures Under Control and (2) Migration of Contaminated Groundwater Under Control. The Facility met these two indicators in September 2003, and October 2009, respectively.

E. Human Health Risk Assessment

In May 2011, EPA approved the "Focused Health Risk Assessment for Soil for the St Marys Refinery, St Marys, WV" (RA) which evaluated the health risks to workers posed by soils in the Northern Refinery. The RA found that some samples had arsenic levels above EPA's Risk Screening Level for industrial soil in the Northern Refinery including post-treated soil in the treatment cell. However, the RA also found that the overall health risk posed to workers from arsenic to be within EPA's acceptable risk level. As a precaution, EPA's final remedy for soil requires the development and implementation of a Soils Management Plan which will include procedures to notify workers of the locations where contaminants remain in soils. Soil treated in the treatment cell located in the Northern Refinery that is used for fill at the Facility will be vegetated with grass or other vegetation, after emplacement, to prevent erosion.

Since the remaining soils on the Bluff Area meet residential use standards, no further action is required for this Area.

V. Corrective Action Objectives

EPA has identified the following Corrective Action Objectives for soils and groundwater at the Facility:

A. Soils

The Corrective Action Objective for Facility soils is to remediate contaminated soils to cleanup standards and to control human and environmental exposure to the hazardous wastes and hazardous constituents that will remain in the subsurface and treatment pile at the Northern Refinery and at the Pipeline Site.

B. Groundwater

The Corrective Action Objective for contaminated groundwater at the Facility and off-site is to restore the groundwater to drinking water standards and until such time as drinking water standards are achieved, prohibit use of the groundwater at the Facility for water supply purposes.

VI. Final Remedy

A. Soils

1. Development and Implementation of a Soils Management Plan

EPA's final remedy requires the development and implementation of a Soils Management Plan (SMP) to be approved by EPA before any earth moving activities, including construction and drilling, can be done at the Northern Refinery and Pipeline Site. The SMP will detail how all excavated soils will be handled and disposed. In addition, the SMP will include soil stabilization requirements to minimize contact between storm water runoff and soils. Soil stabilization measures may include the construction of berms to prevent storm water from flowing onto certain areas as well as the construction of sumps with pumps to remove ponded water from low lying areas.

The SMP will include a Health and Safety Plan, Sampling and Analysis Plan and Quality Assurance Project Plan. The Health and Safety Plan will identify the locations at the Facility where contaminants remain in soils; detail how future on-site workers and contractors will be notified about such locations and about the presence of the contaminated soil.

2. Compliance with and Maintenance of Institutional Controls

EPA's final remedy for Facility soils consists of the compliance with and maintenance of land use restrictions to be implemented through enforceable institutional controls (ICs). ICs are non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination by limiting land or resource use. The ICs are to contain the following elements:

- 1) The Northern Refinery and Pipeline Site shall be restricted to industrial uses and shall not be used for residential purposes unless it is demonstrated to WVDEP in consultation with EPA, that such use will not pose a threat to human health or the environment and
- 2) All earth moving activities in the Northern Refinery and Pipeline Site including drilling and construction activities shall be done in accordance with the EPA-approved SMP.

Under the Final Remedy, land and groundwater use will be restricted through enforceable ICs such as a permit, order and/or an Environmental Covenant pursuant to the West Virginia

Uniform Environmental Covenants Act, WV Code Section 22-17, (UECA) which will be recorded with the deed for the Facility property. SMRC will be required to provide a coordinate survey as well as a metes and bounds survey of the Northern Refinery, the Pipeline Site and the Facility boundary.

If the Facility owner or subsequent owners fail to meet their obligations under the ICs or if EPA and/or WVDEP, in its sole discretion, deems that additional engineering controls or land and/or resource restrictions are necessary to protect human health or the environment, EPA and/or WVDEP has the authority to require and enforce such additional engineering controls or land and/or groundwater use restrictions.

B. Groundwater

For the Northern Refinery, the Creel Street Site, and the off-site residential areas impacted by Facility contaminants, the Final Remedy for groundwater consists of monitored natural attenuation (MNA) and institutional controls. Natural attenuation refers to a system where a variety of physical, chemical, or biological processes act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater. As decomposition of the contaminants takes place, compounds called "breakdown products" are produced. Ultimately, the breakdown products are also decomposed resulting in compounds which are not a threat to human health or the environment. Monitored Natural Attenuation simply refers to the act of collecting samples to "monitor" the natural attenuation process.

The remedial actions taken by SMRC have removed about 98% of the source mass which was migrating into the groundwater from the Northern Refinery. While benzene and naphthalene remain in the groundwater above the MCLs and RSLs, those contaminants have been shown to be effectively remediated by natural attenuation processes. EPA anticipates that the concentrations of benzene and naphthalene will exhibit a decreasing trend and decompose rapidly enough to prevent the contaminants and the breakdown products from migrating from the Facility. Therefore, EPA is selecting MNA for the Northern Refinery, Creel Street and off-site residential areas until groundwater cleanup standards, discussed immediately below, are attained.

The groundwater cleanup standards consist of the MCLs for all Facility COCs. If a COC does not have an MCL, then the cleanup standard for the COC will be EPA's RSL. SMRC will be required to sample the groundwater monitoring well network in accordance with an EPA-approved Groundwater Sampling and Analysis Plan (SAP).

Because contamination will remain in the groundwater under the Northern Refinery, the Creel Street Site, and the off-site residential areas impacted by Facility contaminants until MCLs or RSLs, as applicable, are met, EPA's final remedy includes groundwater use restrictions to be implemented through enforceable ICs. The ICs for groundwater under the Northern Refinery and the Creel Street Site are:

- Use of groundwater beneath the Northern Refinery and Creel Street Site for potable purposes or any other use that could result in human exposure shall be prohibited unless such use is otherwise required by EPA.

- Well drilling without prior EPA approval shall be prohibited at the Northern Refinery and the Creel Street Site to prevent inadvertent exposure to the contaminated groundwater and adverse affects to the remedial components of the Final Remedy.

With respect to the off-site residential areas, ICs are already in place. Those residences are connected to the City of St. Marys' public water supply system and are required to be so connected under Ordinance 173, Section 211 (3/3/2003).

C. Surface Water and Sediment

EPA has selected no further action with respect to Facility COCs for the sediments and surface water of the Tackett Run and Tannery Run and sediment in the Ohio River.

D. Soil Vapor

EPA has selected that no further action with respect to soil vapor.

VII. Evaluation of EPA's Final Remedy

In this Section, EPA sets forth its evaluation of the Final Remedy based on EPA's remedy evaluation criteria. The criteria are applied in two phases. In the first phase, EPA evaluates three remedy threshold criteria as general goals. In the second phase, for those remedies which meet the threshold criteria, EPA then evaluates seven balancing criteria to determine which alternative provides the best relative combination of attributes.

A. Threshold Criteria

1. **Protect Human Health and the Environment** - The primary human health and environmental threat posed by contaminated soils at the Facility was related to direct contact with those soils and as a continuing source for groundwater contamination. Soils at the Bluff Area were remediated to WVDEP residential values for soils which are within EPA's risk range for residential use, and therefore no longer pose a threat to human health or the environment. Since soils at the Northern Refinery and the Pipeline Site will contain some residual contamination above WVDEP residential values for soils, institutional controls will be implemented to restrict future use of those areas to industrial activities. In addition, EPA will require that workers be informed of the potential risks so that precautions to reduce exposure to residual contaminants may be taken.

With respect to groundwater, SMRC has already removed the majority of contaminants that could potentially migrate from the Northern Refinery and the three VRP Sites to groundwater. Benzene and naphthalene remain in the groundwater above MCLs and RSLs beneath the Facility and the Creel Street Site; however, EPA anticipates that the concentrations of those contaminants will continue to decrease and decompose rapidly enough to prevent the contaminants and their

breakdown products from migrating from the Facility. In addition, SMRC conducted two well surveys in the community around the Facility. The survey showed that no residences or commercial operations around the Facility used their own groundwater source and all were connected to the City of St Marys' public water supply system. While there are no current consumptive uses of Facility-contaminated groundwater, the remedial goal for Facility-wide groundwater is to restore it to drinking water standards.

2. Achieve Media Cleanup Objectives - The Facility has achieved WVDEP residential values for soils at the Bluff Area and the Creel Street Site. The human health risk assessment also shows that the area meets residential use risk levels. For soils at the Northern Refinery and the Pipeline Site, the Facility reduced contamination to industrial use risk levels. Because some contamination will remain in place, EPA's final remedy requires the implementation and maintenance of institutional controls to ensure that the Northern Refinery and the Pipeline Site are not used for residential purposes. WVDEP restricted the Pipeline Site to non-residential use through an environmental covenant, signed in April 2010.

Even though there are no current consumptive uses of Facility-contaminated groundwater, it is EPA's goal that groundwater be restored to drinking water standards to be protective of potential future use. The remedy, monitored natural attenuation and compliance with and maintenance of ICs, will attain the media cleanup criterion by restoring groundwater to drinking water standards. Under EPA's remedy, SMRC will be required to monitor groundwater until the concentration of benzene, toluene, ethylbenzene and xylenes do not exceed their respective MCLs, dissolved arsenic meets its MCL or background level, naphthalene does not exceed its EPA RSL and MTBE does not exceed its EPA RSL, for three continuous years. The point of compliance is meeting the cleanup levels throughout the groundwater plume. Until groundwater is restored to drinking water standards, EPA is requiring ICs, as necessary, to prevent consumptive use of the groundwater.

3. Remediating the Source of Releases - In all remedy decisions, EPA seeks to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may pose a threat to human health and the environment. SMRC removed the source of contaminants from the Bluff Area by excavating and treating contaminated soils. In addition, SMRC remediated sources of releases, i.e., contaminated soil, in the Northern Refinery, the Pipeline and Creel Street Sites.

B. Balancing/Evaluation Criteria

1. Long-Term Effectiveness - The long-term reliability and effectiveness standard is intended to address protection of human health and the environment over the long term. SMRC has demonstrated that, due to biological activity, the contaminants in the groundwater are decomposing rapidly enough to prevent the contaminants or the breakdown products from migrating beyond the Facility boundary. EPA expects this natural attenuation process to continue. SMRC will continue to monitor the groundwater to demonstrate that this attenuation process continues until the groundwater cleanup standards are met. The required groundwater monitoring program will provide EPA with data to determine the rate of attenuation.

The ICs will maintain protection of human health and the environment over time by controlling exposure to the hazardous constituents remaining in the soils at the Northern Refinery, at the Pipeline Site and in the groundwater. EPA anticipates that the land use and/or groundwater use restrictions will be implemented through an environmental covenant to be recorded with the deed for the Facility property. The environmental covenant will run with the land and as such, will be enforceable by EPA and the State against future land owners.

2. Reduction of Toxicity, Mobility, or Volume of the Hazardous Constituents - The reduction of toxicity, mobility and volume of hazardous constituents at the Facility has already been achieved by SMRC's excavating and treating contaminated soils in the Bluff Area and installing and operating the SVEB and EAB systems which recovered floating and dissolved product and remediated soil and groundwater contamination in the Northern Refinery and the Pipeline and Creel Street Sites.

3. Short-Term Effectiveness - EPA's final remedy does not involve any activities, such as construction or excavation that would pose short-term risks workers, residents, and the environment. In addition, EPA anticipates that the land use and/or groundwater use restrictions will be fully implemented shortly after the issuance of this Final Decision and Response to Comments.

4. Implementability - EPA's final remedy is readily implementable. All necessary components of the monitoring network are in place and are currently operational. In addition, EPA does not anticipate any regulatory constraints in requiring SMRC to record an environmental covenant with the deed to the Facility property. Therefore, EPA does not anticipate any regulatory constraints in implementing the Final Remedy.

5. Cost - The capital costs associated with excavating and treating contaminated soils in the Bluff Area, installing and operating the SVEB and EAB systems and groundwater monitoring wells have already been incurred and the remaining costs are minimal.

6. Community Acceptance - The only comments that EPA received on its proposed remedy for the Facility were from SMRC. Based on SMRC's comments, EPA has made minor modifications to and clarified certain aspects of the proposed remedy as described in Attachment A, Public Comments and EPA Responses.

7. State/Support Agency Acceptance - WVDEP has been consulted regarding the final remedy for the Facility as described above and concurs.

VIII. Financial Assurance

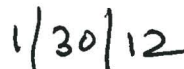
EPA has determined that no financial assurance is required given that EPA's final remedy does not require any further engineering actions to remediate soil or groundwater contamination at this time and given that the costs of implementing ICs and MNA at the Facility will be minimal.

Signature:

Date:



Abraham Ferdas, Director
Land and Chemicals Division (3LC20)



Tables and Figures

Table 1: Status of SWMUs and AOCs

Figure 1: Northern Refinery (outlined in green) and Bluff Area

Figure 2: Monitoring well locations

Figure 3: Benzene concentrations Fall 2010

Figure 4: Benzene concentration reduction

Attachment A
St. Marys Refining Company (SMRC)
FINAL DECISION AND RESPONSE TO COMMENTS

RESPONSE TO COMMENTS

EPA received comments from St Marys Refining Company (SMRC) on the Statement of Basis for its facility located in St. Marys, West Virginia (Facility). EPA's summary of SMRC's comments and EPA's responses to those comments are set forth below:

A. SMRC Comment No. 1:

Summary of Comment No. 1

SMRC stated that it is addressing off-site properties impacted by Facility related contaminants under the West Virginia Voluntary Remediation and Redevelopment Program (VRP), and therefore, the properties do not need to be addressed under the RCRA Corrective Action Program. SMRC also stated that, "Any discussion of VRP sites which we believe comprise the 1.2-acre tract in the Statement of Basis, is not necessary since responsibility for VRP site is being handled separately through the VRP." SMRC also asked for clarification if the VRP Sites comprise what EPA referred to as the 1.2-Acre Parcel in the SB.

EPA's Response

When EPA referenced the 1.2-Acre parcel in the SB, it was referring to two VRP Sites, the (1) Pipeline Site and (2) Creel Street Site. According to WVDEP records, the total acreage for the two Sites is 1.32 acres and not 1.2 acres as written in the SB. EPA has incorporated language in the Final Decision to correctly describe the 1.32-Acre VRP Sites.

EPA disagrees with SMRC's assertion that the off-site VRP Sites do not need to be addressed under the RCRA Corrective Action Program. Facility COCs were found in soil and groundwater at those Sites and SMRC is required to investigate, delineate and address the extent of environmental releases of hazardous waste and hazardous constituents that have occurred from its Facility under the federal RCRA Corrective Action Program.

The VRP has not been authorized by EPA to implement the RCRA Corrective Action Program. The WVDEPRCRA Corrective Action Program was authorized to administer the federal RCRA Corrective Action Program, effective September 29, 2000. However, EPA and the WVDEP Corrective Action Program agreed that EPA would take the lead for corrective action at the Facility.

B. SMRC Comment No. 2:

Summary of Comment No. 2

SMRC clarifies that the last sampling event occurred in the fall of 2010 and not fall of 2011.

EPA's Response to Comment No. 2

EPA agrees with this comment and has incorporated language into Section III of the Final Decision.

C. SMRC Comment No. 3:

Summary of Comment No. 3

SMRC again states that it is unnecessary to address the VRP Sites in the SB given that SMRC is addressing the three VRP Sites in that area.

EPA's Response to Comment No. 3

This comment was addressed in EPA's Response to Comment 1 response.

D. SMRC Comment No. 4:

Summary of Comment No. 4

SMRC states that it will prepare a new Sampling and Analysis Plan (SAP) for implementing the groundwater sampling described in the SB. The new SAP will identify sampling locations and sampling frequency for benzene and naphthalene, the compounds of concern (COCs). SMRC also states that the clean up level for benzene will be the MCL and the WV de Minimis clean up level for naphthalene will be used since there is no MCL for naphthalene.

EPA's Response to Comment No. 4

SMRC may submit to EPA for review and approval a new SAP. EPA has incorporated language in the Final Decision to recognize that SMRC may submit a new SAP to EPA for review and approval.

EPA disagrees that the COCs for the Site are limited to benzene and naphthalene. Benzene and naphthalene are indicator COCs because (1) they do not break down as quickly as the other volatile and semi-volatile contaminants, and (2) they are known or suspected carcinogens and have low clean up levels. While benzene and naphthalene are the only contaminants that remain above their respective MCL or RBC, the groundwater COCs at the Facility are benzene, toluene,

ethylbenzene, xylenes, naphthalene, methyl tertiary butyl ether (MTBE), tert-butyl alcohol (TBA) and dissolved arsenic. Therefore, the SAP must include monitoring for all of the COCs (except TBA) and SMRC must show that all COCs meet acceptable risk levels over three continuous years throughout the plume before the remedy is finished. EPA has incorporated language in the Final Decision to clarify this issue.

E. SMRC Comment No. 5:

Summary of Comment No. 5

SMRC requests clarification that the groundwater IC prohibiting groundwater for potable purposes applies to the Northern Refinery and not the whole Facility.

EPA's Response to Comment No. 5

EPA agrees that SMRC does not need to implement ICs to prevent the use of groundwater for potable purposes for the whole Facility. Since contaminants remain at levels above MCLs at the Northern Refinery and the Creel Street Site, SMRC will be required to implement ICs to prohibit groundwater use at the Northern Refinery and Creel Street Site. EPA has incorporated language in the Final Decision to clarify this issue.

F. SMRC Comment No. 6:

Summary of Comment No. 6

SMRC comments that it is preparing an environmental covenant for the Northern Refinery Area and that it is preparing a new Sampling and Analysis Plan (SAP).

EPA's Response to Comment No. 6

EPA agrees with comment, and notes that the Pipeline Site already has an environmental covenant in place. The SAP will also apply to the Pipeline Site. EPA has incorporated language in the Final Decision to clarify these issues.

G. SMRC Comment No. 7:

Summary of Comment No. 7

SMRC states that financial assurance is not mandated by regulation for interim status Facilities subject to RCRA. In addition, SMRC states that no additional financial assurance is necessary given that active remediation at the facility is complete.

EPA's Response to Comment No. 7

EPA has not promulgated regulations for financial assurance for facilities operating under

interim status. Nonetheless, under RCRA § 7003, EPA has authority to require financial assurance for corrective action in order to protect against imminent and substantial endangerment to health or the environment.

Based on the estimated cost provided by SMRC, EPA has reevaluated whether financial assurance for corrective action is necessary to implement EPA's proposed remedy at the Facility. Given that EPA's proposed remedy does not require any further engineering actions to remediate soil or groundwater, at this time, and given that the costs of implementing institutional controls at the Facility will be minimal, EPA is requiring no financial assurance.

EPA has added language in the Final Decision to incorporate this change.

October 14, 2011

Ms. Barbara Smith
USEPA Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Subject:

Clarifications on U.S. EPA's Statement of Basis
St. Marys Refining Company
St. Marys, West Virginia
EPA ID No. WVD004337135

Dear Ms. Smith:

St. Marys Refining Company (SMRC) has reviewed the Statement of Basis for the SMRC facility located at 201 Barkwell Street, St. Marys, West Virginia 26170 and has the following comments.

1. Page 1, Introduction, Bullets 3 and 4 (and throughout the document)

On Page 1 and throughout this document there is reference to a 1.2-acre tract.

The following clarification is made to the Statement of Basis with regard to the discussion of the 1.2-acre tract. The discussion of the 1.2-acre tract we believe refers to offsite locations associated with a pipeline for the former refinery that are being or have been remediated under the West Virginia Department of Environmental Protection (WVDEP) Voluntary Remediation and Redevelopment Program (VRP). The following summarizes the VRP Sites.

- Pipeline near Waste Water Treatment Plant (WWTP) remediated by Pennzoil Quaker State (PQS) – WVDEP VRP Number 07398 – Certificate of Completion issued October 2008
- Pipe Line between WWTP and railroad tracks remediated by PQS and SMRC – WVDEP VRP Number 10011 – Certificate of Completion issued July 2010
- Pipeline Near the Creel Street property remediated by PQS – WVDEP VRP Number 09846 – Anticipated Certificate of Completion December 2011

Any discussion of VRP sites which we believe comprise the 1.2-acre tract in the Statement of Basis, is not necessary since responsibility for VRP site is being handled separately through the VRP.

2. Page 4, A, 2nd paragraph, 4th line

The last sampling event was in the Fall of 2010 not 2011, we wish to clarify that this sentence should read, "Sampling results for the Fall of 2010..."

3. Page 9, first full paragraph that discusses surveying

Based upon the VRP sites being addressed under the WVDEP VRP, surveying of the Northern Refinery will be performed. We wish to clarify that reference to the 1.2-Acre Tract is not applicable as discussed

above. We will provide EPA with additional data on drawings that can be used by your GIS group to identify the Facility. If this is not sufficient then we will provide additional survey data as needed.

4. Page 10, 1st paragraph

A Sampling and Analysis Plan (SAP) will be prepared for implementing the groundwater sampling discussed in the Statement of Basis. The plan will identify sampling locations and sampling frequency for compounds of concern (COCs) (benzene and naphthalene). The maximum Contamination Level (MCL) for benzene will be used and since there is no MCL for naphthalene, the WVDEP De Minimis groundwater value for naphthalene will be considered in the SAP for consistency with state regulations.

5. Page 10, first bullet, IC for Northern Refinery

The first bullet point regarding an IC for groundwater use at the "Facility" we believe should be clarified to mean the "Northern Refinery".

6. Page 11, No. 2, second paragraph

An Environmental Covenant is being prepared for the Northern Refinery area. This will prohibit the future withdrawal of any groundwater from the property for human consumption. This covenant will run with the land and be binding on any subsequent purchasers and could not be modified without the written approval of WVDEP and EPA. As stated in Item No. 4 above, we wish to clarify that a new SAP will be prepared to identify well sampling points, frequency and COCs.

7. Page 13, Section VII:

Financial responsibility is not mandated by regulation for interim status facilities subject to the RCRA Corrective Action Program and SMRC was only a RCRA interim status facility.

EPA has not promulgated detailed regulations for financial assurance for corrective action. EPA codified the statutory requirements for owners and operators of permitted facilities, but did not codify requirements for owners and operators of facilities operating under interim status. Regions and authorized States have discretion in determining how to address the corrective action financial assurance requirements at each RCRA TSDF to meet the regulatory and statutory requirements in light of the specific circumstances at that facility. (Excerpt from EPA's 2003 "Interim Guidance on Financial Responsibility for Facilities Subject to RCRA Corrective Action.")

We wish to clarify for the Statement of Basis that the financial assurance for the Soils Management Plan (SMP) and monitored natural attenuation of groundwater can be assured to occur without requiring separate financial assurance. Other West Virginia Environmental Covenants which EPA has approved include in addition to the "passive" restrictions for industrial use and prohibiting groundwater withdrawal, "active" requirements such as groundwater monitoring, maintaining caps, fencing, signage, etc. Given that active remediation is complete, the associated costs for preparing a SMP and performing groundwater sampling are minimal, as indicated on page 12 #5 of the Statement of Basis.

These comments have been reviewed by SMRC and representatives of PQS and both parties concur as referenced above. If you or your staff would like to discuss these comments with us or need further clarification of our thinking, we would encourage you to call us as we would not want to delay EPA's issuance of the final remedy. We appreciate all the work and cooperation we have had over the past 14

years on this Site with EPA and particularly the effort that has gone into preparing this document. We look forward to continuing to work with EPA to finalize closure of this Site.

Very truly yours,



Charles M. McCulloch, CPG, REM
Project Manager for St. Marys Refining Company

cc: S. Heater, SMRC
M. Himberger, PQS
R. Johnston, ARCADIS
M. Edelman, ARCADIS

