[DRAFT] SECOND EXPLANATION OF SIGNIFICANT DIFFERENCES
McAdoo Associates Site – Blaine Street Location, Schuylkill County, Pennsylvania

I. INTRODUCTION

Site Name: McAdoo Associates Site – Operable Unit 2 (Blaine Street Location)

Site Location: Borough of McAdoo, Schuylkill County, Pennsylvania

Lead Agency: U.S. Environmental Protection Agency, Region III

Support Agency: Pennsylvania Department of Environmental Protection

Statement of Purpose

EPA has prepared this Second Explanation of Significant Differences (ESD2) to modify the selected remedy for the McAdoo Associates Site - Operable Unit 2 (Blaine Street location), to summarize the information that supports the modification, and to affirm that the remedy, as modified by this ESD2, complies with the statutory requirements of Section 121 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, (CERCLA), 42 U.S.C. § 9621.

This ESD2 is a draft document. It has been prepared to provide the public with an explanation of EPA's proposal to modify the remedies selected for the Site to (1) establish institutional controls prohibiting the installation of wells for potable use, and deed restrictions to protect monitoring wells at the Site; (2) clarify the groundwater monitoring schedule; and (3) modify the groundwater performance standard for benzene, ethylbenzene, 1,2-dichloroethane, and bis(2-ethylhexyl)phthalate. EPA will accept comments on the proposed modifications to the remedies selected for this Site during a 30-day public comment period. Once the public comment period closes, comments will be evaluated and this draft will be revised as appropriate, and signed as a final decision document. Both the draft and final versions of this ESD2 will be incorporated into the Administrative Record for this Site.

In August 2008, EPA's Office of Inspector General (OIG) published a report evaluating EPA's deletion of several sites from the NPL (EPA Decisions to Delete Superfund Sites Should Undergo Quality Assurance Review, Report No. 08-P-0235 (August 20, 2008)). The McAdoo Associates Site was among those sites included in OIG's evaluation. In the report, OIG found that, among other things, EPA had inappropriately deleted the Site before the groundwater cleanup standards selected in the 1993 ROD Amendment were met. The OIG found that the 1993 ROD Amendment continued to require groundwater monitoring and attainment of the cleanup goals. EPA concurs with this representation and the expectations for groundwater restoration set forth in NCP § 300.430(a)(iii)(F). As a result, EPA is conducting an ongoing comprehensive evaluation of the site to make a determination to ensure the remedy remains protective of human health and the environment.

This modification to the amended Record of Decision (ROD) does not fundamentally alter the basic features of the selected remedy with respect to scope, performance, or cost. EPA has concluded, and PADEP concurs, that the remedy selected in the 1991 ROD, as modified by the 1993 ROD Amendment, and modified again with the 1995 Explanation of Significant Differences (ESD1) and this ESD2, meets the objectives of the ROD.

This ESD2 and the information upon which it is based will be included in the Administrative Record. The Administrative Record is available for public review at the locations listed below:

U.S EPA, Region III – 6th floor Docket Room
1650 Arch Street
Philadelphia, PA 19103
Please call Ms. Anna Butch (215) 814-3157 to schedule an appointment.

Hazleton Area Public Library
McAdoo Branch
515 Kelayres Road
McAdoo, PA 18237

The Administrative Record is also available online at:
http://loggerhead.epa.gov/arweb/public/advanced_search.jsp

II. SUMMARY OF SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDY

A. Site History and Contamination Problems

The McAdoo Associates Site consists of two Operable Units (OUs) located approximately 0.5 miles from each other: the McAdoo Kline Township location, designated at OU1, and the McAdoo Blaine Street location (MBS), designated as OU2. This ESD2 addresses only OU2, the MBS location.

OU2 consists of an approximately 100-foot by 150-foot lot located at the intersection of West 4th Street and North Harrison Street in a residential area of McAdoo Borough, Pennsylvania. The actual address is 15-17 North Harrison Street. The property is predominantly vegetated in grass, with a small gravel parking area located in the southwest corner. Additionally, there is a sewage pumping facility located at the northeast corner of the property that is operated by the Borough of McAdoo. The nearest residences are located on North Harrison Street, approximately 200 feet to the south.

From the early 1940s until 1972, OU2 was the location of a retail home heating oil and gasoline supply business that utilized five underground storage tanks to store petroleum products. McAdoo Associates purchased the property, and from 1972 to 1979 used the underground storage tanks to store various liquid wastes, petroleum distillates, spent solvents, and gasoline used to fuel incinerators being used at OU1, the McAdoo Kline Township location.

In 1979, following numerous complaints and non-compliance issues, the Pennsylvania Department of Environmental Resources (now Pennsylvania Department of Environmental Protection, or PADEP) ordered both the Kline Township and MBS locations closed. EPA conducted preliminary assessments at both locations, and added the McAdoo Associates Site to the National Priorities List in 1981.

Selected Remedy and Subsequent Enforcement Action

The Remedy for the Site was formulated through the issuance, by EPA, of two RODs, one ROD amendment, and one ESD that modified the ROD amendment. Only the decision documents that specifically addressed OU2 are discussed in detail here.

It should be noted that, in 1982, prior to issuance of a decision document, EPA emptied four of the underground storage tanks, removing nearly 11,000 gallons of liquid which was hauled offsite for incineration. The tanks were left in place. The liquid was described as flammable liquids, particularly petroleum distillates and polynuclear aromatic hydrocarbons, gasoline, oils, solvents, and water. At the time this was performed, EPA was aware of only four underground storage tanks. The fifth tank was later discovered during assessment activities.

In June 1984, EPA issued a ROD that called for the cleaning and removal of the five underground storage tanks, and sampling and removal of contaminated soil at OU2. The remedial activities that followed the 1984 ROD started in March 1985 with excavation of soils and emptying and removal of the underground storage tanks. During a two week period, 1,000 cubic yards of contaminated soils were removed and taken offsite for disposal. Some subsurface low-level contaminated soils, however, still remained at the site. Backfilling was completed in June 1985. A Final Report for the Interim Remedial Measure at the MBS location was issued in July 1986.

In June 1985 EPA issued a ROD concerning remedial measures at OU1, the MKT location. In September 1991 EPA issued a ROD which stated no further actions beyond those already implemented at OU1 and OU2 were required. The 1991 ROD called for long-term groundwater monitoring at both locations, which included:

- Expansion of the long-term water quality monitoring program at the MKT location; and
- Installation of four groundwater monitoring wells at OU2 to include sampling for volatile organic compounds, semivolatile organic compounds, and Target Analyte List inorganics.

The groundwater monitoring wells required for OU2 were installed by EPA in 1992. Groundwater samples were collected that indicated the presence of a light, non-aqueous phase product layer in one well (identified as weathered fuel oil and gasoline), in addition to petroleum-related volatile organic compounds and semi-volatile organic compounds in the monitoring wells located down gradient of the where the former tanks were located. Additional contaminants were also reported. This discovery led to EPA issuing an Amendment to the 1991 ROD. The 1993 ROD Amendment established performance standards for site-related groundwater contaminants,

and required the construction of a groundwater recovery and treatment system, which included installation of new wells. The major components of the 1993 ROD Amendment were:

- Installation of new groundwater extraction wells at the MBS location and extraction of contaminated groundwater;
- Installation and operation of a free product removal system to extract the weathered fuel oil and gasoline;
- Installation of a groundwater treatment system to include oil/water separation, air stripping, and polishing using granular activated carbon;
- Performance of groundwater monitoring; and
- Establishment of performance standards for benzene, ethylbenzene, 1,2-dichloroethane, bis(2-ethylhexyl)phthalate, and manganese.

To implement the 1993 ROD Amendment at OU2, EPA installed five groundwater extraction wells in March 1995. Following installation of the extraction wells, EPA discovered the recharge in the wells was not adequate to produce the volume of water required for treatment (15 gallons per minute). Consequently, EPA terminated the remedial action and issued an Explanation of Significant Differences (ESD1) in September 1995. ESD1 established the following changes to the 1993 ROD Amendment:

- Mechanical pumping of the wells on a continual basis at the MBS location was determined not be a viable option due to insufficient water volume, therefore the contaminated groundwater would have to be manually extracted by hand bailing the wells;
- The small volume of groundwater capable of being removed from the extraction wells at the MBS location did not warrant construction of a treatment system; therefore the manually extracted groundwater would be contained and taken off-site for treatment;
- The extraction and treatment of groundwater would not be performed on a continual basis, rather it would be performed on a periodic basis;
- The free product recovery system described in the 1993 ROD Amendment would not be constructed because the recharge rate of free product was extremely slow, rather the free product is to be removed and taken off-site for treatment on the same schedule as the contaminated groundwater.

Implementation of ESD1 began in 1996. Monitoring data indicated the presence of some constituents of gasoline and fuel oil, namely benzene and ethylbenzene, at concentrations above the performance standards. Among other chemicals, bis(2-ethylhexyl)phthalate was sporadically present at concentrations slightly above the performance standard. Following a review of the monitoring data, EPA issued a Final Close-Out Report (FCOR) in August 2001. In the FCOR, EPA determined that organic contaminants in the groundwater at OU2 were not related to the liquid wastes that had been stored at the Site, but were related to the petroleum products that were formerly stored at the property. As a result, EPA deleted the Site from the NPL in December 2001. The deletion of the Site from the NPL was based upon EPA's belief at the time that all appropriate response actions required under CERCLA had been implemented and no further response by EPA was appropriate.

Following deletion of the Site from the NPL in December 2001, EPA discontinued its monitoring of the groundwater monitoring wells at OU2. This decision was based on EPA's belief at the time that there were no longer site-related contaminants at OU2 (the petroleum related compounds were not considered to be site-related). However, in support of and following the 2007 Five Year Review conducted at the site, EPA resumed conducting annual groundwater monitoring at OU2.

In June 2005, November 2006, November 2007, and October 2008, EPA conducted monitoring well sampling at OU2. Analytical results indicated elevated concentrations of volatile and semivolatile organic compounds that are related to petroleum contamination. Additionally, low concentrations of bis(2-ethylhexylphthalate) are still detected during the sampling events. A layer of free product, or light non-aqueous phase liquid (LNAPL), was identified in at least one monitoring well during each of the sampling events. In September 2007, EPA conducted an oil-fingerprint analysis of the LNAPL and found it to be comprised of diesel fuel mixed with gasoline, which is consistent with historical analytical results.

Additional investigations conducted at OU2 include a subsurface soil sampling and geophysical investigation conducted by PADEP in 2008. The objective of the investigation was to determine the nature and extent of any soil contamination that may be present at the Site. Results of PADEP's 2008 investigation indicate low (below PADEP Act 2 medium specific standards for direct contact, residential soil) concentrations of petroleum hydrocarbons, and measurable LNAPL in five of the monitoring wells, ranging in thickness from 0.01 feet to 0.53 feet.

III. DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

This ESD2 modifies the remedy selected in the 1993 ROD Amendment, as modified by the 1995 ESD1, to include the following components at OU2:

1. Establish Institutional Controls to prohibit the installation of groundwater wells for potable use, and to protect existing groundwater monitoring wells; and
2. Clarification the groundwater monitoring schedule; and
3. Modification of the performance standards for benzene, ethylbenzene, 1,2-dichloroethane, and bis(2-ethylhexyl)phthalate in groundwater.

Additionally, this ESD2 clarifies the fact that, in accordance with ESD1, the manual extraction and offsite treatment of contaminated groundwater and free product will continue at the Site until a decision document is issued that specifically addresses remediation of the remaining contamination. The manual extraction and offsite treatment of contaminated groundwater and free product will occur on an annual basis.

A. Institutional Controls

Institutional controls in the form of title notices and land use restrictions through easements and covenants and orders from or agreements with EPA and/or PADEP will be established at OU2 to prevent the installation of new groundwater wells for potable use, and to prevent the unauthorized destruction of EPA or PADEP groundwater monitoring wells at the property. While there is language in the Prospective Purchaser Agreement between EPA and the current owner of the property that specifies potable water will come from a municipal water supply, EPA will work with PADEP and the property owner to have the institutional controls added to the property deed by September 2010.

B. Groundwater Monitoring Schedule

Groundwater monitoring is to occur on an annual basis until the next Five Year Review (to be conducted in 2010) is issued. By reviewing sampling data from 2005 through 2010, EPA will be able to make a determination of whether or not the concentrations of contaminants of concern are increasing, decreasing, or have stabilized at the Site. EPA will also evaluate the results of PADEP's 2008 field investigation, and, in conjunction with evaluating EPA's groundwater data, make a determination to ensure the remedy at the Site remains protective of human health and the environment. Following issuance of the next Five Year Review, groundwater monitoring will be conducted as needed to support five year review efforts.

C. Performance Standard Modification

The remedy, as described in the 1993 ROD Amendment, established the following performance standards:

- Benzene 0.2 µg/l
- Ethylbenzene 0.2 µg/l
- 1,2-Dichloroethane 0.03 µg/l
- bis(2-Ethylhexyl)phthalate 2.5 µg/l
- Manganese "Background"

The requirement for the cleanup of the chemicals listed above was set for the Site based upon the Pennsylvania Hazardous Waste Management Regulations, where it was required that all groundwater must be remediated to background quality as specified by 25 PA Code Sections 264.97(i) and (j) and Section 264.100(a)(9). For the compounds listed above, excluding manganese, the laboratory method detection limit was provided as the performance standard, since there was no background standard for those compounds.

CERCLA requires EPA to conduct remedial actions in compliance with all environmental laws identified before the ROD, if they are applicable or relevant and appropriate for the situation. These requirements are commonly referred to as ARARs (applicable or relevant and appropriate requirements). EPA is not required to add ARARs that come into effect after the ROD unless the ROD is not protective or a significant new component is added to the remedy. However, in instances where a state ARAR that is more stringent than a federal ARAR is repealed, EPA can

re-visit the ROD in appropriate circumstances. In these matters EPA considers the state's position on the issue.

When the ROD was issued, Pennsylvania's background levels standard was potentially more stringent than the federal standard (i.e., Maximum Contaminant Levels (MCLs) under the Safe Drinking Water Act as codified under 40 CFR Part 141). Pennsylvania's background levels standard has since been modified by Pennsylvania pursuant to the Land Recycling and Environmental Remediation Standards Act (Act 2, 1995). EPA has determined that Act 2 does not, on the facts and circumstances of this remedy, impose any requirements more stringent than the federal standard.

Therefore, EPA has determined that the federal standards (MCLs) will be used as performance standards at the Site for the remediation of groundwater for benzene, 1,2-dichloroethane, and bis(2-ethylhexyl)phthalate, and a site-specific standard for ethylbenzene. These standards are fully protective of human health and the environment and have been evaluated for total risk in accordance with 40 CFR 300.430(e)(2)(i)(A)(2) and (e)(2)(i)(D). The existing performance standard for manganese of "background" remains unchanged. The modified performance standards are shown below:

PERFORMANCE STANDARDS FOR GROUNDWATER

Compound	Performance Standard
Benzene	5 µg/l
Ethylbenzene	280 µg/l
1,2-Dichloroethane	5 µg/l
bis(2-ethylhexyl)phthalate	6 µg/l

IV. PUBLIC PARTICIPATION

EPA's proposed modifications to the remedies selected for this Site were released to the public on August 14, 2009 for review and comment. EPA will accept comments on these proposed modifications during a 30-day public comment period beginning August 14, 2009 and ending September 14, 2009. Once the public comment period closes, comments received will be evaluated and this draft will be revised as appropriate, and signed as a final decision document.

This ESD2 and the information upon which it is based will be included in the Administrative Record. The Administrative Record is available for public review at the location listed in Section I of this ESD2. Questions concerning EPA's action should be directed to:

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U.S. EPA, Region III
1650 Arch Street (3HS22)
Philadelphia, PA 19103
white.brad@epa.gov (215) 814-3217

V. SUPPORT AGENCY REVIEW

In accordance with 40 C.F.R. § 300.435(c)(2), EPA has provided PADEP with an opportunity to comment on this modification to the selected remedy described in this draft EDS2. PADEP concurs with the issuance of this ESD2.

VI. AFFIRMATION OF STATUTORY DETERMINATION

Considering the changes that have been made to the selected remedy under this ESD2, EPA and PADEP have determined that the 1993 ROD Amendment, as modified by ESD1 and this ESD2, remains protective of human health and the environment, complies with Federal and Commonwealth requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective.

Kathryn A. Hodgkiss, Acting Director
Hazardous Site Cleanup Division

Date