DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

Spickler Landfill
Spencer, Wisconsin

STATEMENT OF BASIS AND PURPOSE

This decision document represents the selected remedial action for Operable Unit (O.U.) #2 at the Spickler Landfill Superfund Site (the "Site") in Spencer, Wisconsin, developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

This decision is based upon the contents of the Administrative Record for the Spickler Landfill site. Indexes attached to this Record Of Decision (ROD) identify items that comprise the latest updates to the Administrative Record upon which this ROD is based.

DESCRIPTION OF SELECTED REMEDY: NO ACTION

The United States Environmental Protection Agency (U.S. EPA) has found that no further action is appropriate due to the effectiveness of the remedial action for the first operable unit. Proper closure of the landfills and mercury brine pit, installation of a landfill gas collection and flare and leachate collection systems and continued operation have eliminated the primary human health risk posed by direct contact with contaminated soils, eliminated the threat to the environment, and mitigated the primary human health risk posed by contaminated Site groundwater and landfill gas. The remedy established by this ROD is the final Remedial Action for this Site.

STATUTORY DETERMINATIONS AND DECLARATION STATEMENT

Based on the information collected to date on site contamination, associated risks to human health and the environment, and considerations of state soil and groundwater standards, U.S. EPA has determined no further action is necessary for O.U. #2. This recommendation is based on the success of the O.U. #1 remedy in eliminating threats associated with direct contact with contaminated soils and containing shallow Site groundwater through the leachate collection system. Because the primary risks at the Site have been addressed by previous response actions, this decision will not require additional remedial

measures. The hazardous substances which remain on Site have been addressed in the O.U.#1 ROD. This remedy will be considered within the review conducted every five years for the previous O.U. #1 Remedial Action, to assure that the remedies remain protective of human health and the environment.

The U.S. EPA has determined that its response at this site is complete. Therefore, the site now qualifies for inclusion on the Construction Completion List.

The State of Wisconsin has indicated a willingness to concur with the selected remedy described in this document. The state's letter of concurrence will be added to the administrative record upon receipt.

Richard C Karl for

9-29-98
Date

William E. Muno, Director
Superfund Division
U.S. EPA - Region 5

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I. SITE LOCATION, DESCRIPTION, AND HISTORY

The Spickler Landfill is located in a sparsely populated, rural area, at S-2550 Eckes Road in the Town of Spencer, Marathon County, Wisconsin (see Figure 1). The Site is located on an eighty acre parcel of land and consists of a ten acre landfill with two fill areas (Old and New Fill areas), separated by a crude oil pipeline right-of-way.

The Spickler Landfill was owned by Frederick Spickler and operated by Spickler's Sanitation Service in 1970 as a municipal open dump. The landfill accepted municipal and industrial wastes from July 1970 to March 1974. In December 1970, BASF Wyandotte received approval from the Wisconsin Department of Natural Resources (WDNR) to construct an approximately 100 by 100 foot, 10 foot deep clay-lined sludge disposal area (the "mercury brine pit") at the landfill. There were no construction records for this disposal area and therefore no verification that the pit was clay-lined as planned. The mercury brine pit was used from January to April, 1971 and received mercury brine muds. The mercury brine pit was closed with a clay cap in September 1971 and posted with monuments (concrete posts). Other industrial wastes known to have been disposed in the Spickler Landfill include kalo dust which contained asbestos, toluene, xylenes, methyl-ethyl ketone, and methylene chloride.

There are two homes directly west of the landfill, and additional homes to the south and southwest of the landfill. Groundwater is flowing to the northwest and could impact some residential wells and the two homes to the south and southwest. Sampling of residential wells was conducted during the remedial investigation but no evidence of contamination was found. Surface water from the Site originally drained along several unnamed intermittent streams which flow north and northeast. The intermittent streams subsequently flowed east and southeast approximately 1.5 miles to the East Branch of the Yellow River.

The Site, as discussed in this document, consists of the Old and New Fill areas, the mercury brine pit, and the groundwater contamination plume.

II. SITE ENFORCEMENT ACTIVITIES

In August 1972, Carmen Way purchased the property from Frederick Spickler, and the landfill was renamed Way's Sanitary Landfill. Ways's Sanitary Landfill was licensed to accept solid wastes, including industrial waste, with the exception of toxic and hazardous materials. During 1973, numerous violations were noted

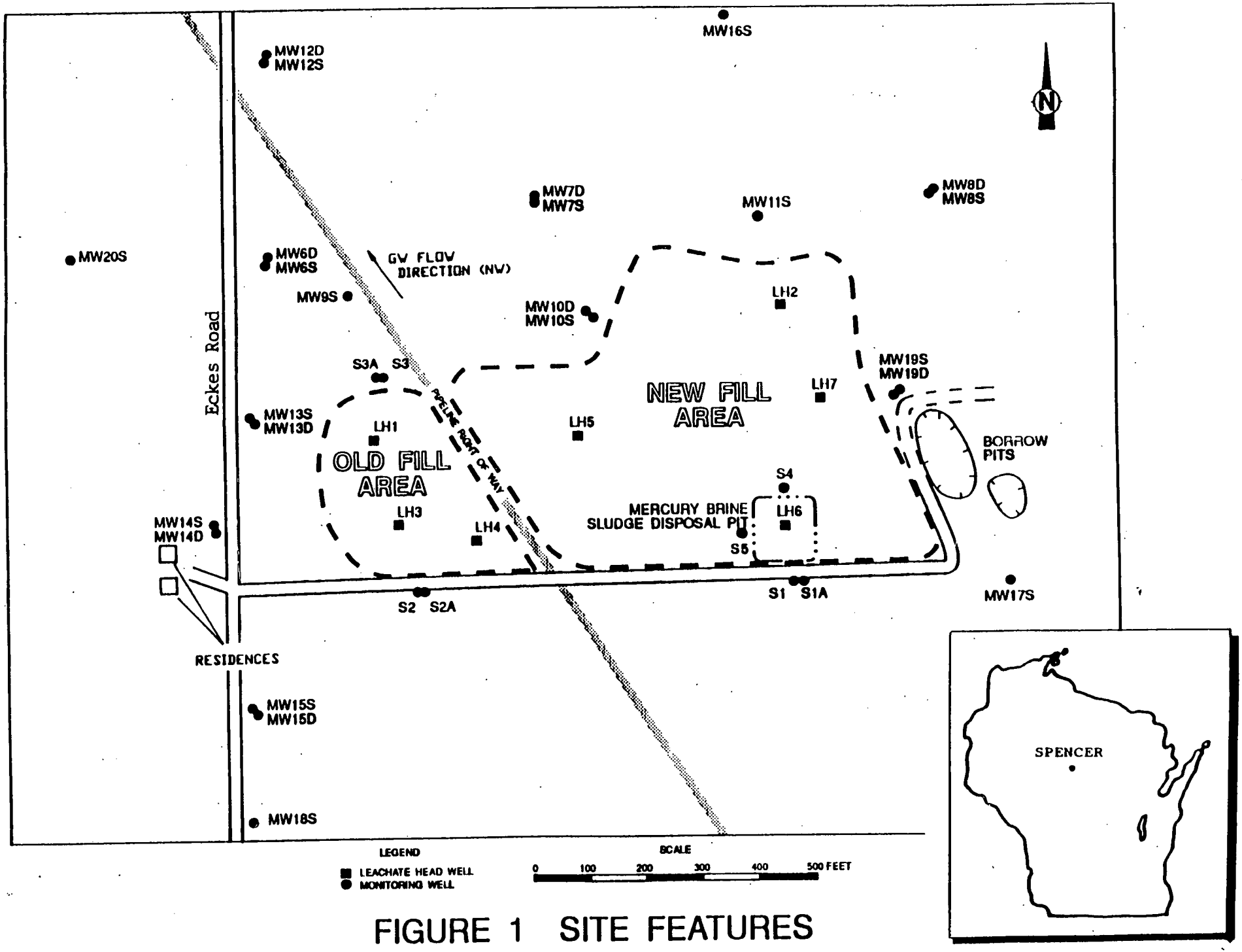

FIGURE 1 SITE FEATURES

by the WDNR at Way's Sanitary Landfill. Among these were failure to perform daily cover operations and ineffective drainage control.

In late 1973, Lawrence Laddick and Vernon Verjinsky, owners of Midstate Disposal, purchased Way's Sanitary Landfill. Midstate Disposal operated the landfill until its closure in June 1975. In March 1974, the WDNR ordered Midstate Disposal to terminate operations and close the landfill. Between March, 1974 and February, 1975, most closure and abandonment work was completed, including placement, grading, and seeding of the landfill cover, with the exception of the west slope of the New Fill Area northeast of the pipeline right-of-way. In April, 1975, Frederick Spickler re-purchased the land from Midstate Disposal. In August, 1975, Kenneth Fuller purchased the property on land contract from Frederick Spickler. In November, 1975, the land contract was assigned to John Rooney.

On June 20, 1984, a Hazard Ranking System assessment was conducted by the U.S. EPA. It was noted that areas of leachate seepage occurred on both the north and south faces of the New Fill Area, and that the mercury brine pit had subsided and appeared to be collecting surface water. Soil samples from landfill seeps were found to contain traces of mercury and groundwater samples contained both organic and inorganic contaminants. In July 1987, the Spickler Landfill was placed on the National Priorities List (NPL).

The Record of Decision (ROD) for the first operable unit was signed by U.S. EPA on June 3, 1992. The ROD addressed the closure and capping of the mercury brine pit and landfills, landfill gas control, leachate extraction and treatment, and groundwater monitoring. The second operable unit as described in that ROD would consist of a final remedy decision for groundwater.

BASF Corp. and Weyerhaeuser Co. signed an Administrative Order by Consent to conduct the Remedial Investigation and Feasibility Study (RI/FS). The order became effective on July 16, 1988. An Administrative Order on Consent for Remedial Design was issued by the U.S. EPA on September 30, 1993. On January 25, 1994, U.S. EPA issued a Unilateral Administrative Order directing the potential responsible parties to implement the Remedial Action described in the O.U. #1 ROD. Construction of the remedy started in April 1994 and was completed in August 1995.

III. HIGHLIGHTS OF COMMUNITY PARTICIPATION

A Community Relations Plan for the Spickler Landfill Site was finalized in 1989. This document lists contacts and interested parties throughout government and the local community. It also establishes communication pathways to ensure timely dissemination of pertinent information. The public comment period for the O.U. #1 ROD occurred from December 9, 1991 to February 10, 1992 and the ROD was issued on June 3, 1992.

A Proposed Plan Fact Sheet outlining the no action remedy for O.U. #2 was made available to the community on August 6, 1998, and a public comment period occurred from August 6 to September 5, 1998. A public meeting to discuss the Proposed Plan Fact Sheet was not requested. All comments which were received by U.S. EPA prior to the end of the public comment period are addressed in the Responsiveness Summary.

All Site documents have been made available in both the Administrative Record (located at the Records Center, 77 W. Jackson Blvd., 7th Floor, Chicago, Illinois 60604), and an information repository maintained at the Spencer Village Hall.

IV. SCOPE AND ROLE OF OPERABLE UNIT

The O.U. #1 ROD, signed on June 3, 1992, required upgrade of the landfill cap to standards dictated by Chapter NR 504 of the Wisconsin Administrative Code (WAC) and the cap over the mercury brine pit to NR 660 WAC standards. The O.U. #1 ROD also required installation of leachate and landfill gas collection systems, installation of a landfill gas flare, and long term groundwater monitoring.

The O.U. #1 ROD reserved O.U. #2 for the possibility of Site groundwater restoration through a more active means, such as pumping and treating. U.S. EPA has determined no further action is necessary for O.U. #2 because of the success of the O.U. #1 remedy in reducing threats associated with direct contact with contaminated soils and containment of shallow Site groundwater through the leachate collection system.

This decision is based on an analysis of Site conditions and the associated risks (described in detail below), the successful construction and operation of the O.U. #1 remedy, and the demonstration by long term groundwater monitoring that contamination associated with leachate migrating into the groundwater aquifer at the Site has been eliminated by placement of a leachate collection system after completion of the O.U.#1

remedy. The continued success of this decision relies on implementation of the land use restrictions as described in the ROD for OU #1.

Because hazardous substances will remain at the Site, U.S. EPA will conduct a five-year review under the requirements of the O.U. #1 remedy in accordance with Section 121 of the CERCLA to assess whether any other response is necessary.

V. SUMMARY OF SITE RISKS

A Baseline Risk Assessment (BRA) was conducted for the Site and is presented in documents contained in the Administrative Record. The O.U. #1 remedy addressed threats to human health and the environment from future exposure to seep sediments and future use of the contaminated groundwater. Potential risk associated with future use of groundwater was estimated in the 1991 Risk Assessment using the maximum concentrations of contaminants detected in monitoring wells at and downgradient of the Site, to estimate exposure point concentrations. It was assumed that individuals were exposed to chemicals of potential concern in water daily for 30 years, and that exposure occurred as a result of groundwater ingestion, as well as dermal contact and inhalation while bathing. Based on analytical results, private drinking water downgradient of the Site did not appear to be affected by the landfill; therefore, this medium was not considered a source of chemical exposure under initial Site conditions.

A. Contaminants of Concern

The majority of the total noncancer health risk was associated with the potential exposure to Arsenic, Barium, Lead, Manganese, and Nitrites detected in groundwater. The majority of the cancer risk associated with potential groundwater exposure was due to Vinyl Chloride and Arsenic. Table 1 summarizes the chemicals of potential concern identified in the O.U. #1 ROD and provides their current status. As shown, thirty-one of the original forty-seven contaminants were not consistently detected during the design, construction, or operation of the O.U. #1 remedy and thus no longer pose any threat.

Elevated concentrations of vinyl chloride and trichloromethane at one location at the up gradient edge of the landfill are still a concern. Inefficiencies in the leachate collection system may have decreased the system's ability to collect leachate. In the spring of 1996 the leachate collection system was modified to more effectively capture leachate, which significantly increased

the amount of leachate collected. The latest groundwater data shows a reduction in concentration for vinyl chloride and trichloromethane, which seems to show modifications to the leachate collection system were successful in improving leachate collection. Continued monitoring of leachate and groundwater is required to more adequately evaluate the effectiveness of the collection system in capturing leachate.

B. Risks Identified in O.U. #1 ROD

Table 2 summarizes the risks associated with Site conditions at the time of the O.U. #1 ROD. When the Hazard Index (HI) is greater than 1, there is a potential for health problems such as damage to vital organs, birth defects, and anemia and other blood disorders. A $1x10^{-6}$ cancer risk value corresponds to a 1 in 1,000,000 chance that an individual develops cancer as a result of exposure to these concentrations of contaminants over a period of 70 years. Similarly, 10^{-5} corresponds to a 1 in 100,000 chance, $1x10^{-4}$, 1 in 10,000, and so on. Current environmental policy allows U.S. EPA to perform a Remedial Action if an HI is 1.0 or above or if cancer risks exceed $1x10^{-4}$.

Site conditions at the time of the O.U. #1 ROD were used to calculate risk values associated with exposure to:

(1) contaminants in soil adjacent to former waste disposal areas;

(2) contaminants in water that accumulates on Site from precipitation and meltage; and

(3) contaminants in sediments associated with both accumulated surface water and seepage (leachate) from disposal areas.

Risk calculated at the time of the O.U. #1 ROD qualitatively considered contaminants introduced into air through landfill gas, and contaminants introduced into air from disturbance of contaminated soil. The installation of landfill gas collection and flare system and the construction of the upgraded caps have eliminated the potential for this type of exposure. As previously noted, private drinking water downgradient of the Site did not appear to be affected by the landfill; therefore, this medium was not considered a source of chemical exposure under Site conditions at the time of the O.U. #1 ROD.

Table 2 also shows the risk to any individual who would use the Site for a residence. In addition to the 3 exposure scenarios listed previously, risks attributable to Site soil and the use of

Site groundwater were calculated. As shown, the greatest risks associated with the Site are to a future residential Site user that uses Site groundwater which contains a lifetime cancer risk of 3.0×10^{-3} and a Hazard Index of 30. The majority of the total non-cancer health risk due to groundwater ingestion was associated with potential exposure to Arsenic, Barium, Lead, Manganese, and Nitrites detected in groundwater. The majority of cancer risk associated with potential groundwater exposure was due to Vinyl Chloride and Arsenic.

Through the implementation and operation and maintenance of the remedy implemented for O.U. #1 (which includes groundwater / leachate containment, institutional controls, and groundwater monitoring) these risks are being mitigated, making the requirement for an O.U. #2 active groundwater restoration remedy unnecessary. In addition, installation of improved landfill caps and the associated grading of cap soils has eliminated improper surface accumulation of precipitation and meltage.

As documented in the O.U. #1 ROD, there were no threatened or endangered species or critical habitats in the vicinity of the Site. The landfill or hazardous components of the fill had no discernible impact on the ecology in the immediate vicinity of the Site. There are no areas of stressed vegetation.

C. Risk Reduction Through OU#1 Remedy

As previously mentioned, all risks associated with direct contact with Site soil have been eliminated. Based on information collected to date on Site groundwater contamination and the associated risks to human health and environment, U.S. EPA believes that it is unnecessary to require an active groundwater restoration remedy as operable unit #2, mentioned in the O.U. #1 ROD. Groundwater contamination which exists primarily under the landfill is contained on site and poses no significant risk under the current land use. With appropriate restrictions on access and construction on the Site, groundwater contamination will pose no significant risk.

Although current Site zoning by the Town of Spencer does not prohibit residential future land use, protection against inappropriate land use will be put in place in the form of restrictive covenants pursuant to the O.U. #1 remedy. Specifically, to enhance the likelihood and insure that future land use of the Site remains appropriate considering the Site contaminants, appropriate deed restrictions will be recorded on the title to the real estate on which the Site is located.

The scope of the O.U. #1 remedy requires long term commitments, and, except for any contingent additional response action for O.U. #1, no further remedial action is necessary for this Site. The continued effectiveness of the O.U. #1 remedy in protecting human health and the environment will be confirmed through the five year remedy review process. If it is determined that the O.U. #1 remedy becomes ineffective, any contingent additional response action will be performed within the scope of that remedy.

VI. SITE CHARACTERISTICS

A. SITE CONDITIONS

Prior to implementation of the O.U. #1 remedy and landfill cap upgrade, most of the surface water runoff from the Site appeared to flow northwest through a culvert under Eckes Road and into a wetland area approximately 15 acres in size. Based on observations made of this area, there is not sustained flow through this wetland throughout the year; only for a limited duration after runoff events (e.g., precipitation events and spring melt). Final surface grades of the upgraded landfill caps now control surface water run-off such that there is no sustained flow anywhere on the Site that may present wetland considerations.

Groundwater flow is to the north, northwest, and somewhat to the west. At the northwest corner of the Site, depth to groundwater in the area of the landfill is less than five feet below the original Site grade, before installation of the upgraded landfill cap. As demonstrated by documents contained in the Administrative Record, leachate collection piping was installed at a level close to the natural level of groundwater. This in effect prevents groundwater from leaving the Site.

The following conditions were documented in the O.U. #1 ROD:

- Depth to groundwater in the northwest area of the landfill was less than five feet.

- Explosive levels of combustible landfill gas were detected in several new monitoring wells, an existing well, and in three permanent gas probes on the west and north perimeters of the Old Fill area.

- The existing landfill cover did not meet the WDNR's clay capping thickness requirements.

- Asbestos was confirmed to be present in a landfill cover soil sample.

- There was a significant amount of leachate production and build-up. The refuse was sitting in leachate (saturated) which had collected on top of an impermeable clay layer in most areas of the landfill.

- Leachate samples from the mercury brine pit contained elevated levels of calcium, magnesium, mercury and nine organic compounds.

- Groundwater samples from monitoring wells showed exceedances of Maximum Contaminant Levels (MCLs) for the following chemicals: benzene, vinyl chloride, barium, copper, iron and manganese. Mercury was detected in the groundwater samples during the RI.

- Eight private wells near the Site were sampled. One well exceeded the Wisconsin Drinking Water Standard for manganese, one well exceeded for lead, one well exceeded for iron, and one well exceeded for copper. The standards for these inorganics are based on taste and odor considerations and not on health considerations. One well slightly exceeded the Wisconsin Drinking Water standard for chromium. Contamination in these private wells does not appear to be Site related based on the presence of these contaminants either in background samples that were taken or determined to be related to the well construction and piping.

- Surface water samples on Site exceeded the Ambient Water Quality Criteria (AWQC) for manganese.

The O.U. #1 remedy was designed and constructed to address these conditions.

B. SITE CHRONOLOGY OF REMEDIAL ACTIONS TO DATE

The completed cleanup action for the first operable unit included:

- Capping the landfill areas with a clay cap which meets the requirements of NR 504 WAC.

- Active landfill gas control system consisting of gas collection piping and an intermittent flare which operates only if gas accumulates to high enough levels.

- Leachate collection and transfer of accumulated leachate for off-Site treatment.

- Treatability tests for stabilization/solidification of the contents of the mercury brine pit which proved that stabilization or solidification was not necessary.

- Capping of the mercury brine pit with a clay cap which meets the requirements of NR 660 WAC.

- Monitoring of contaminated groundwater in the vicinity of the Site, including a long term groundwater monitoring data.

- Operation and maintenance of the landfill gas and leachate collection systems.

Construction Quality Assurance procedures as recommended by the appropriate U.S. EPA guidance was followed for each design and construction phase. Construction of the remedy for O.U. #1 was completed in October 1994 and declared Operational and Functional by the U.S. EPA in September 1995. Table 3 is a chronology of Site events to date including design and construction milestones for the O.U. #1 remedy. The Administrative Record for the Site has been updated to include documents certifying each of these milestones.

C. CURRENT SITE CONDITIONS

This ROD is for OU #2 and is the final remedy decision for the Site. OU #1 has eliminated risks through capping of the landfills with a NR 504 cap, capping the mercury brine pit with a NR 660 cap, active landfill gas control, and leachate collection. The NR 504 cap provides protection against direct contact with contaminated soils and has reduced infiltration of precipitation. The NR 660 cap on the mercury brine pit has eliminated infiltration into the pit insuring leachate will not be generated and enter the groundwater.

The leachate collection system was modified in the spring of 1996 to improve its efficiency. Since then the leachate collection has increased significantly. Table 4 shows the leachate generation at the site for the last 3.5 years.

The active gas control has insured that nearby buildings are protected from the possibility of landfill gas migrating to basements with potential for an explosion. Based on an analysis of ten rounds of groundwater monitoring results from wells adjacent to and on Site, the groundwater contamination has not

been detected off-Site. Groundwater contamination on-site has been intercepted by the leachate collection system. The groundwater contamination that exists beyond the collection system is currently not exceeding any groundwater water quality standards.

The risks associated with future use of the contaminated groundwater are addressed in this ROD. Groundwater has been collected at the Site and analyzed throughout the design and construction of the O.U. #1 remedy. Following construction completion and declaration of operational and functional in March 1996 samples have been collected on a semi-annual basis. Table 1 summarizes the maximum contaminant concentrations discovered in groundwater before and after completion of the O.U. #1 remedy.

Vinyl Chloride concentrations have been discovered at levels above the State of Wisconsin NR 140 Enforcement Standard (ES) acceptable limits for several rounds of sampling at monitoring locations at the edge of the landfill and a few hundred feet downgradient. Although concentrations under the landfill exceed MCLs, concentrations above MCLs have not been detected outside of the waste boundary. Concentrations detected downgradient of the landfill do not currently exceed MCLs.

The compound (cis) 1,2 - Dichloroethene has been above the PAL for only one sampling location directly at the Mercury brine pit area. 1,2 - Dichloroethane has been shown to be above State of Wisconsin Preventive Action Limits (PALs), but below Enforcement Standards (ES) and MCLs. For several isolated sampling rounds, Benzene has been shown to be slightly above PAL but below ES standards and MCLs.

Trichloroethene and Methylene Chloride have been shown to be consistently slightly above the PAL but below the ES and MCLs. In the RI, Xylene was documented in exceedance of the ES but during the long term monitoring has been only above the PAL. Toluene has consistently been below both the PAL and ES. Xylene and Toluene have only been detected in groundwater under the landfill.

Iron and Manganese have been shown to exceed State limits, but have been shown to remain on-Site for the 10 rounds cited.

Because these exceedances occur on Site only, are not detected off Site, and are at relatively consistent levels there is no need for implementation of an active pump and treat remedy provided O.U. #1 operation and maintenance continues. Further, groundwater flow patterns run to the north, northwest, and west,

and the maximum concentrations are upgradient. Down gradient wells are an indicator as to whether any contaminant could threaten any off-Site location.

However, it is because of these contaminant detections that long term monitoring for the O.U. #1 remedy must continue to ensure groundwater contamination remains on site and does not pose a threat to off site users. If it is later determined through the 5 year review process that the O.U. #1 remedy is no longer being protective, U.S. EPA may require contingent remedial actions to occur to address unacceptable conditions. The review is scheduled for completion in 1999.

VII. The "No Further Action" Alternative

As previously mentioned, all risks associated with direct contact with Site soil have been eliminated. Based on information collected to date on Site groundwater contamination and the associated risks to human health and environment, U.S. EPA believes that it is unnecessary to require an active groundwater restoration remedy as operable unit #2, mentioned in the O.U. #1 ROD. Groundwater contamination at the landfill poses no significant risk under the current land use. With appropriate restrictions on access and construction on the Site, groundwater contamination will pose no significant risk.

Although current Site zoning by the Town of Spencer does not prohibit residential future land use, protection against inappropriate land use will be put in place in the form of restrictive covenants pursuant to the O.U. #1 remedy. Specifically, to enhance the likelihood and insure that future land use of the Site remains appropriate considering the Site contaminants, appropriate deed restrictions will be recorded on the title to the real estate on which the Site is located.

The scope of the O.U. #1 remedy requires long term commitments, and, except for any contingent additional response action for O.U. #1, no further remedial action is necessary for this Site. The continued effectiveness of the O.U. #1 remedy in protecting human health and the environment will be confirmed through the five year remedy review process which is scheduled for 1999. If it is determined that the O.U. #1 remedy becomes ineffective, any contingent additional response action will be performed within the scope of that remedy.

TABLE 1 - CHEMICALS OF POTENTIAL CONCERN IDENTIFIED IN O.U. #1 ROD

Contaminant Identified in O.U. #1 ROD	PAL / ES (ppb)	Maximum Concentration Detected Before LTM	Maximum Concentration Detected in (3/98)Sampling	Location of Maximum Concentration in (3/98) Sampling	Conclusions
Acetone	200/1000	120	11	MW-13S	Continue Monitoring
Benzene	0.5 / 5	**8 (J)**	*3*	MW-13 & 6S	Continue Monitoring
2-Butanone	5/90	*70*	*5*	MW-FB01	Continue Monitoring
Chlorobenzene	20/200	0.8 (T,J)	5 (U)	MW-S1AR	Continue Monitoring
Chloroform	0.6/6	*0.9 (J)*	*2*	MW-S1AR	Continue Monitoring
1,1-Dichloroethane	85/850	8	7	MW-S3AR	Continue Monitoring
1,2-Dichloroethene (trans)	20/100	2	5 (U)	MW-S1AR	Continue Monitoring
Ethylbenzene	140/700	*270 (F,B,D)*	5	MW-S3 & 13S	Continue Monitoring
2-Hexanone	–	1 (J)	25 (U)	MW-S1AR	Continue Monitoring
Methylene Chloride	0.5/5	**88 (U)**	**9**	MW-FB02	Continue Monitoring
4-Methyl-2-Pentanone	50/500	13	25 (U)	MW-S1AR	Continue Monitoring
Tetrachloroethene	0.5/5	*0.7 (J)*	*2*	MW-S1AR	Continue Monitoring
1,1,1- Trichloroethane	40/200	1 (J)	5 (U)	MW-S1AR	Continue Monitoring
Trichloroethene	0.5/5	*3 (J)*	**8**	MW-S1AR	Continue Monitoring
Toluene	68.6/343	14	1	MW-13S &S1AR	Continue Monitoring
Styrene	10/100	*12*	5 (U)	MW-S1AR	Continue Monitoring

Vinyl Chloride	0.02/0.2	**3**	**41 (E)**	MW-S1AR	Continue Monitoring
Xylenes (total)	124/620	**2700 (D)**	36	MW-13S	Continue Monitoring
Benzoic Acid	--	35	NOT TESTED	Concentration below level of concern.	
bis (2-Ethylhexyl) phthalate	0.6/6	**900 (B)**	NOT TESTED	No consist detection; monitoring dropped	
4-chloro-3-methylphenol	–	34	NOT TESTED	Concentration below level of concern.	
1,4-Dichlorobenzene	15/75	3	NOT TESTED	NA	Below PAL/ES
Diethylphthalate	–	9 (J)	NOT TESTED	NA	Lab Contaminant.
2,4-Dimethylphenol	–	20	NOT TESTED	Concentration below level of concern.	
Di-n-Butylphthalate	–	16	NOT TESTED	NA	Lab Contaminant.
4-Methylphenol	–	12	NOT TESTED	Concentration below level of concern.	
γ-BHC	–	No Hits	NOT TESTED	Not detected in RI; monitoring dropped.	
Asbestos	0.7/7 MFL	No Hits	NOT TESTED	Not detected in RI; monitoring dropped.	
Aluminum	--	900	NOT TESTED	No consist detection; monitoring dropped	
Arsenic	5/50	**88.4**	2.4 (B)	MW-11S	Continue Monitoring
Barium	400/2000	**4860**	*729*	MW-S2	Continue Monitoring
Beryllium	0.4/4	*0.72*	NOT TESTED	No consist detection; monitoring dropped	

Cadmium	0.5/5	*4.1 (B)*	NOT TESTED	No consist detection; monitoring dropped	
Chromium (III)	10/100	*11.7*	4 (B)	MW- 11S	Continue Monitoring
Cobalt	--	107	NOT TESTED	No consist detection; monitoring dropped	
Copper	130/1300	30.3	NOT TESTED	Below PAL/ES; monitoring dropped.	
Iron	150/300	**82,300**	**28,900**	MW-11S	Continue Monitoring
Lead	1.5/15	**28.3**	*5.4*	MW-S2	Continue Monitoring
Manganese	25/50	**30,200**	**7,270**	MW-S1AR	Continue Monitoring
Mercury	0.2/2	*.92*	0.10 (U)	Most Wells	Continue Monitoring
Nickel	20/100	**473**	NOT TESTED	No consist detection; monitoring dropped	
Selenium	10/50	No Hits	NOT TESTED	Not detected in RI; monitoring dropped.	
Silver	10/50	8.6 (B)	NOT TESTED	No consist detection; monitoring dropped	
Sodium	--	195,000	NOT TESTED	Naturally occurring in area mineralogy.	
Vanadium	--	17.2 (B)	NOT TESTED	No consist detection; monitoring dropped	
Zinc	2500/5000	142	NOT TESTED	Below PAL/ES; monitoring dropped.	
Cyanide	40/200	*69*	NOT TESTED	Below PAL/ES; monitoring dropped.	

LEGEND:
B = Analyte detected, but below contract required detection limit.
J = compound detected, but below contract required quantitation limit.
D = Diluted sample
N = Below QC limit.
E = Estimated value, parameter detected below contract required detection limit.
U = Compound not detected above concentration listed.
F = Also detected in associated blank.
X = Total xylene

TABLE 2 - SUMMARY OF SITE RISKS AT TIME OF O.U. #1 ROD

CONTAMINANT SOURCE [1]	SITE TRESSPASSERS INCLUDING CHILDREN	
	HI	CANCER RISK
Borrow Pit Surface Water	7.00e-04	6.00e-08
Borrow Pit Sediment	5.00e-03	3.00e-09
Borrow Pit Seepage (Leachate) Sediment	3.00e-01	1.00e-06
Surface Soil	9.00e-03	6.00e-09
TOTAL RISK FOR TRESSPASSERS OF SITE AT TIME OF O.U. #1 ROD	3.15e-01	1.07e-06

CONTAMINANT SOURCE [1]	INDIVIDUAL RESIDENTIAL SITE USERS	
	HI	CANCER RISK
Borrow Pit Surface Water	4.00e-03	3.00e-07
Borrow Pit Sediment	2.00e-02	2.00e-08
Borrow Pit Seepage Sediment	2.00e+00	5.00e-06
Subsurface Soils at Site	2.00e-02	4.00e-08
Groundwater	3.00e+01	3.00e-03
TOTAL RISK FOR INDIVIDUALS RESIDING ON SITE	3.20e+01	3.01e-03

FOOTNOTES FOR TABLE 2

1 Borrow Pit Surface Water water which may collect from precipitation and/or meltage in any excavated areas adjacent to areas of known waste disposal

Borrow Pit Sediment is sediment within collected precipitation in any excavated area adjacent to areas of known waste disposal

Borrow Pit Seepage Sediment is sediment which may collect in areas containing seepage (leachate) from areas of known waste disposal.

TABLE 3 - SPICKLER LANDFILL CHRONOLOGY OF SITE EVENTS

June, 1984	Hazard Ranking System (HRS) assessment conducted by U.S. EPA.
July, 1987	Spickler Landfill site included on the National Priorities List (NPL).
July, 1988	Administrative Order on Consent (AOC) for the Remedial Investigation/Feasibility Study (RI/FS) signed by Potentially Responsible Parties (PRPs) and U.S. EPA. RI/FS started by PRP consultant.
June, 1992	RI/FS completed.
June 2, 1992	OU #1 ROD signed by U.S. EPA Regional Administrator.
Aug., 1992	AOC for the Remedial Design (RD) signed by PRPs and U.S. EPA.
Sept., 1992	Remedial Design (RD) started by PRP consultant.
Dec., 1993	RD completed.
Feb., 1994	Unilateral Administrative Order (UAO) issued to PRPs for Remedial Action (RA).
March, 1994	Construction contract awarded by PRPs.
April, 1994	PRP consultant and construction contractor mobilized on Site. RA started.
Oct. 7, 1994	PRP consultant (engineer) certifies physical construction as complete.

Dec. 19, 1994	U.S. EPA Site visit[1] to confirm completion of physical construction. Items to be completed by PRP consultant consist mainly of Site documentation such as As Built Drawings, Long Term Monitoring Plan and QAPP Addendum, O&M Plan, and Construction Completion Report.
March, 1995	PRP consultant submits Draft Site documentation in response to Agencies' "items to be completed".
June 5, 1995	U.S. EPA provides comments on draft documentation.
Sept. 28, 1995	U.S. EPA and WDNR approve RA documentation and declare OU #1 remedy operational and functional.
Mar. 1996	1st Round LTGWM
Sept 1996	2nd Round LTGWM
Mar. 1997	3rd Round LTGWM
Sept 1997	4th Round LTGWM
Mar. 1998	5th Round LTGWM
Apr 1998	O.U. #2 Proposed Plan to Public
Apr 1998	Public Meeting

[1] Because WDNR visited the Site regularly, they did not attend this walk-through.

Table 4 - Leachate Production

Month	1994	1995	1996	1997
January	--	38400	12400	37200
February	--	12800	0	37200
March	--	25200	0	18600
April	--	24800	0	18600
May	--	44800	12400	173600
June	1728	43400	43400	117800
July	49688	6200	173600	155200
August	134500	6200	111600	117800
September	139400	18600	53600	117800
October	71200	6200	31000	130200
November	36000	24800	12400	117800
December	57600	49600	37200	86800
Total/Year	490,116	301,000	487,600	1,128,600
Total/Month	70,017	25,083	40,633	94,050
Total/Week	17,504	5,788	9,377	21,704

RESPONSIVENESS SUMMARY

This Responsiveness Summary has been prepared to meet the requirements of Section 113(k)(2)(B)(iv) and 117(b) of the Comprehensive Environmental Response, Compensation , and Liability Act of 1980 (CERCLA), as amended by Superfund Amendments and Reauthorization Act of 1986 (SARA), which requires the U.S. EPA to respond to "...to each of the significant comments, criticisms, and new data submitted in written or oral presentations" on a proposed plan for remedial action. The Responsiveness Summary addresses concerns expressed by the public, potentially responsible parties (PRPs), and governmental bodies in the written and oral comments received by the U.S. EPA and State regarding the proposed remedy for the Spickler Landfill Superfund site.

A. Overview

The selected remedial action for Operable Unit #2 (OU2) at the Spickler Landfill Superfund is no further action. More detailed information on the no further action alternative is available in these documents. The documents are available in the information repository and administrative record for the site at the Spencer Village Hall.

B. Background on Community Involvement

The Remedial Investigation (RI) report, Feasibility Study (FS) report and the Proposed Plan for the Spickler Landfill site were released to the public for comment on December 9, 1991. These documents were made available to the public in both the administrative record file and the information repository maintained at the U.S. EPA offices in Region V and at Spencer Village Hall. The notice of availability for these documents was published in the Marshfield Herald on December 4, 1991. A public comment period was open from December 9, 1991 through February 10, 1992. The public was afforded the opportunity to request a public meeting but no requests for a public meeting were received. Based in part on comments the agency received during the comment period U.S. EPA determined an operable unit approach was more appropriate for this site than one final remedy. The Proposed Plan for OU2 was released to the public for comment on August 6, 1998. A public comment period was open from August 6, 1998 to September 5, 1998. The public was afforded the opportunity to request a public meeting, but no requests for a public meeting were received. No comments were received during the public comment period.

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U.S. ENVIRONMENTAL PROTECTION AGENCY
REMEDIAL ACTION

ADMINISTRATIVE RECORD
FOR
SPICKLER LANDFILL SITE
TOWN OF SPENCER, MARATHON COUNTY, WISCONSIN

UPDATE #3
OPERABLE UNIT #2
APRIL 28, 1998

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	1992-1996	STS Consultants, Ltd.	U.S. EPA	Progress Reports #1-32 (September 1992 - April 1996) for the Spickler Landfill Site	536
2	02/05/92	Reiner, E., U.S. EPA	Hunt, S., STS Consultants, Inc.	Letter re: U.S. EPA/ WDNR's Approval of the *Final Leachate Removal Work Plan* for the Spickler Landfill Site	1
3	06/02/92	U.S. EPA	Public	*Record of Decision* and *Responsiveness Summary* for Operable Unit #1 at the Spickler Landfill Site	65
4	1993-1994	STS Consultants, Ltd.	U.S. EPA	*Technical Memoranda Nos. 1,3,4 and 6: Rounds 1-4 Quarterly Groundwater Monitoring Results* for the Spickler Landfill Site	1076
5	1993-1994	STS Consultants, Ltd.	U.S. EPA	*Technical Memoranda Nos. 2 and 5: Rounds 2-3 Quarterly Leachate Monitoring Reports* for the Spickler Landfill Site	188
6	02/26/93	STS Consultants, Ltd.	U.S. EPA	*Leachate Removal Work Plan* for the Spickler Landfill Site	154
7	03/02/93	STS Consultants, Ltd.	U.S. EPA	*Remedial Design Work Plan* for the Spickler Landfill Site	154

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
8	03/11/93	Reiner, E., U.S. EPA	Hunt, S., STS Consultants, Inc.	Letter re: U.S. EPA/ WDNR's Approval of the March 1993 *Remedial Design Work Plan* for the Spickler Landfill Site	1
9	04/22/93	Rose, C., U.S. EPA	Mayka, J., U.S. EPA	Memorandum re: U.S. EPA Final Approval of the Conditionally Approved First Revision of the *Quality Assurance Project Plan* for the PRP-Lead Remedial Design Interim Monitoring Activities at the Spickler Landfill Site	2
10	08/16/93	STS Consultants, Ltd.	U.S. EPA	*Final Leachate Removal Technical Specifications* for the Spickler Landfill Site	163
11	08/27/93	STS Consultants, Ltd.	U.S. EPA	*Final Design Report for the Leachate Removal System* at the Spickler, Landfill Site	348
12	09/03/93	Reiner, E., U.S. EPA	Ryan, T., STS Consultants, Ltd.	Letter re: U.S. EPA/ WDNR's Approval of the *Final Leachate Removal Design Report, Drawings, Specifications and Operation and Maintenance Addendum* for the Spickler Landfill Site	1
13	11/17/93	STS Consultants, Ltd.	U.S. EPA	*Final Construction Quality Assurance Plan* for the Spickler Landfill Site	50
14	11/17/93	STS Consultants, Ltd.	U.S. EPA	*Final Remedial Design Technical Specifications* (Capping) for the Spickler Landfill Site	117
15	11/17/93	STS Consultants, Ltd.	U.S. EPA	*Final Remedial Design Report* (Capping) for the Spickler Landfill Site	160

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
16	12/09/93	White, E., Ecology and Environment, Inc.	Reiner, E., U.S. EPA	Letter re: E&E's Review Comments on the *Final Design Documents* for the Spickler Landfill Site	3
17	12/20/93	Reiner, E., U.S. EPA	Huibregtse, K., STS Consultants, Ltd.	Letter re: U.S. EPA/ WDNR's Approval of the *100% Remedial Design Submittal (Final RD Report, Final RD Technical Specifications, Final RD Plans, Final CQA Plan, Final Construction Cost Estimate)* and Review Comments on the Draft *Operations and Maintenance Plan* for the Spickler Landfill Site	4
18	02/22/94	White, E., Ecology and Environment, Inc.	Fagiolo, J., U.S. EPA	Letter re: E&E's Review and Data Validation for *Technical Memorandum No. 3* for the Spickler Landfill Site	27
19	12/09/94	Pachowicz, T., Ecology and Environment, Inc.	Fagiolo, J., U.S. EPA	Letter re: E&E's Review Comments on the *Draft Remedial Action Work Plan* for the Spickler Landfill Site	9
20	12/12/94	Fagiolo, J., U.S. EPA	Johnson, L., STS Consultants, Inc.	Letter re: U.S. EPA's Conditional Approval of the March 1994 *Remedial Action Work Plan* for the Spickler Landfill Site	7
21	05/15/95	STS Consultants, Ltd.	U.S. EPA	Drawings: *As-Builts* for the Spickler Landfill Site	53
22	06/05/95	Fagiolo, J., U.S. EPA	Johnson, L., STS Consultants, Ltd.	Letter re: U.S. EPA's Conditional Approval of the *As-Built Drawings, Construction Completion Report, Long Term Groundwater Monitoring Plan* and *Operations and Maintenance Plan* for the Spickler Landfill Site	5

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
23	08/11/95	STS Consultants, Ltd.	U.S. EPA	*Final Construction Completion Report* for the Spickler Landfill Site	430
24	08/31/95	Johnson, L., STS Consultants, Ltd.	Fagiolo, J., U.S. EPA	Letter: STS' Additional Response to U.S. EPA's Comments on the Draft O&M Plan Submittal for the Spickler Landfill Site	53
25	09/28/95	Fagiolo, J., U.S. EPA	Muno, W., U.S. EPA	Memorandum re: U.S. EPA Approval of the *Remedial Action Report for Operable Unit #1* at the Spickler Landfill Site	8
26	09/29/95	Muno, W., U.S. EPA	Johnson, L., STS Consultants, Ltd.	Letter re: U.S. EPA/ WDNR's Approval of the August 1995 *Final Construction Completion Report* for the Spickler Landfill Site	4
27	11/03/95	STS Consultants, Ltd.	U.S. EPA	*Final Long Term Groundwater Monitoring Plan* for the Spickler Landfill Site	60
28	11/03/95	STS Consultants, Ltd.	U.S. EPA	*Final Quality Assurance Project Plan* for the Spickler Landfill Site	283
29	1996-1997	STS Consultants, Ltd.	U.S. EPA	*Long Term Groundwater Monitoring Reports/ Rounds 1-4 (Progress Reports #33-36)* for the Spickler Landfill Site	674
30	03/06/96	Fagiolo, J., U.S. EPA	Wolf, T., STS Consultants, Inc., et al.	Memorandum re: Installation of New Monitoring Wells S1AR, S2AR and S3AR at the Spickler Landfill Site	3
31	05/00/96	Ecology and Environment, Inc.	U.S. EPA	*Remedial Action Field Activities Summary Report* for the Spickler Landfill Site	106

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
32	09/11/96	Pachowicz, T., Ecology and Environment, Inc.	Fagiolo, J., U.S. EPA	Letter re: E&E's Review and Data Validation for the *First Round: Long Term Groundwater Monitoring Results* for the Spickler Landfill Site	11
33	03/13/97	Fagiolo, J., U.S. EPA	Wolf, T., STS Consultants, Inc.	Letter re: U.S. EPA's Approval of STS' Request for Elimination of Laboratory Analytical Parameters for the Long Term Groundwater Monitoring Scope of Work at the Spickler Landfill Site	2