

**Explanation of Significant Differences
Northside Landfill Superfund Site
Spokane, Washington**

October 21, 2009

**U.S. Environmental Protection Agency, Region 10
Office of Environmental Cleanup
1200 6th Avenue, Suite 900
Seattle, WA 98101**

**Explanation of Significant Differences
Northside Landfill Superfund Site
Spokane, Washington**

I (approve)/(disapprove) this Explanation of Significant Differences:

Lori Cohen
(signature)

9/30/09
(date)

Lori Cohen, Acting Director
Office of Environmental Cleanup
1200 6th Ave, Suite 900
Seattle, WA 98101

Site Background and Statement of Purpose

The Northside Landfill Superfund Site (Site WAD980511778) is located in the northwest portion of the City of Spokane, in Spokane County, Washington (see Figure 1). The Site was listed on the National Priorities List (NPL) in 1986. 49 Fed. Reg. 40320 (Oct. 15, 1984) and 51 Fed. Reg. 21054 (June 10, 1986).

Based on the third Five Year Review (September 2007), EPA has determined that an Explanation of Significant Differences (ESD) is needed to document several changes to the remedy selected in 1989. This ESD has been prepared in accord with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 117(c), 42 U.S.C. § 9617(c), and the National Contingency Plan (NCP), Sections 300.435(c)(2)(i) and 300.825(a)(2).

Site History, Contamination, and Selected Remedy

Following initial Site investigations, a Remedial Investigation and Feasibility Study (RI/FS) was completed in 1988 which determined that releases to groundwater warranted remediation to address risks to human health and the environment. Groundwater contamination extended a quarter mile down gradient of the landfill boundary. The contaminants of concern (COC) were identified as volatile organic compounds (VOCs) related to disposal of dry cleaning solvents.

The landfill property (approximately 345 acres) is owned by the City of Spokane (City) and includes an active municipal waste landfill operating under a permit on approximately 15 acres, an older landfill, approximately 125 acres in size, which was closed to disposal in 1991, and an infiltration basin for storm water runoff. The older landfill and the contaminated groundwater were the focus of the September 1989 Record of Decision (ROD).

Residential developments border the landfill on three sides. On the fourth side, an arterial road separates the landfill from additional residential areas. All area residents have been connected to the municipal water supply since 1984, when initial Site investigations indicated VOC contamination in domestic wells down gradient of the landfill. The risk assessment focused on exposure to contaminated groundwater, within the landfill and within the down-gradient plume, and estimated excess cancer risks ranging to 1×10^{-4} .

Alternatives were evaluated that would achieve the remedial action objectives of controlling the leaching of contaminants into the groundwater and reducing health risks from contaminants in the groundwater.

The ROD documented selection of the following remedy:

- closing the landfill,
- capping the landfill waste units to reduce infiltration and contaminant migration to groundwater,

- pumping and treating the groundwater to prevent migration of contaminated groundwater beyond the landfill boundary,
- monitoring the groundwater,
- providing alternative water to prevent exposure to contaminated groundwater,
- enacting administrative restrictions to protect the cap, monitoring wells, and pumping and treatment system, as well as to restrict the construction of new wells and the use of existing wells in the contaminated plume, and
- controlling landfill gas emissions.

The remedy anticipated natural recovery of contaminated groundwater down-gradient of the landfill boundary. The groundwater pumping and treatment was to be used until the landfill cap demonstrated control of contamination sources. Under a January 1991 CERCLA Consent Decree (CD), the City agreed to implement the remedy, long-term monitoring, operation and maintenance, and institutional controls (ICs). Civ. Act. No. CS-90-0462-JLQ (E.D. Wash.). The institutional controls included recordation of the CD with the deeds for properties within the Site, and for the City-owned landfill property, deed notices restricting the use of groundwater and actions that could affect the integrity of the remedy, as well as obligations on the City to notify EPA and the State of Washington if property ownership changed.

The City achieved CERCLA Construction Completion in 1993. Groundwater pumping began in 1993 and is ongoing. Pursuant to the ROD, groundwater pumped from the Site was initially treated at a Publicly Owned Treatment Works (POTW). The City came to view the high volumes of water as a strain on the POTW, particularly as the contaminant concentrations were declining. Consequently, since 2003, the City has treated water through passive air stripping on Site, with discharge of the treated water in an infiltration basin on City property adjacent to the landfill. Current data indicate that the plume has decreased to the point where drinking water Maximum Contaminant Levels (MCLs) are met most of the time at the landfill boundary and continuously in down-gradient wells.

In 1997, a court order terminated the CD with the exception of certain ongoing requirements on the City, such as performing Operation and Maintenance (O&M), monitoring, and ICs, under oversight by the Washington Department of Ecology (Ecology). Five Year Reviews have been required, as waste remains on Site at levels that do not allow unrestricted use and unlimited exposure. In the third Five Year Review (September 2007), EPA recommended that an ESD be prepared to document the change in the location of water treatment and discharge, further specify cleanup standards, clarify compliance boundaries, and review the ICs.

EPA was lead agency overseeing the RI/FS and Remedial Design/Remedial Action (RD/RA). EPA also selected the remedy and is responsible for five-year

reviews. Ecology was the support agency during the RI/FS, concurred on the ROD, and is now lead agency for oversight of O&M.

Basis for the ESD

In 2007, EPA completed the third Five Year Review for the Site (EPA September 2007). In keeping with EPA's growing emphasis on improved tracking of institutional controls, the 2007 Five Year Review called for a detailed review of the status of institutional controls at the Site. The 2007 Five Year Review also identified certain post-ROD changes that had not been set forth in a formal decision document, which taken together warranted an ESD.

As noted above, the 2007 Five Year Review recommended that an ESD be issued to:

1. Clarify and document the federal drinking water standards as the groundwater cleanup levels at this Site for tetrachloroethene and trans-1,2-dichloroethene. Federal MCLs for protection of drinking water did not exist for these two contaminants of concern at the time of the ROD.
2. Document the change in the groundwater treatment system from off-site to on-site treatment and discharge.
3. Clarify that the groundwater point of compliance described in the ROD is still the landfill boundary.
4. Document the new surface water point of compliance, given the groundwater treatment system changes.

In addition, based on EPA review of the status of institutional controls (see Appendix A), an ESD is needed to incorporate changes to the institutional controls in the ROD. Institutional controls required by the ROD and CERCLA enforcement documents have not been implemented.

Even if implemented, deed notices do not provide enforceable, effective long-term control over land use at the Site. A restrictive covenant that is recorded on the title of the property and that runs with the land in perpetuity is considered a more reliable and effective, long-term control to meet the objectives of the institutional controls: to protect the landfill cap, monitoring wells, and the pumping and treatment system and to prevent exposure to contaminated groundwater through restricting use (ROD page 55).

Description of Significant Differences

1) Cleanup Objectives for all Groundwater Contaminants of Concern

This ESD clarifies and documents that MCLs are the selected cleanup level for all contaminants of concern at the Site. Specifically, this clarifies groundwater

cleanup levels for tetrachloroethylene and 1,2-(trans)dichloroethylene. [Note: This ESD uses the term 1,2-(trans)dichloroethylene to refer to what is variously called trans-1,2 dichloroethene, trans-1,2 DCE, or t-1,2 DCE. It also uses the term tetrachloroethylene to refer to what is sometimes called tetrachloroethene, PCE, or PERC.]

The risk assessment highlighted trichloroethylene (TCE) and 1,1,1-trichloroethane (TCA) as the two contaminants most frequently detected, and tetrachloroethylene and TCE as detected above the MCL on site and off site. However, the ROD states, under "Groundwater Contamination" in the "Site Characteristics" section, "Six other compounds in addition to PERC [tetrachloroethylene] that have known health effects have been detected in off-site wells: chloroform, TCE, 1,1,1-trichloroethane (TCA), 1,2-(trans)dichloroethylene, 1,1-dichloroethane, and vinyl chloride." [ROD, p.11]. These seven contaminants are also listed in Table 5 of the ROD as chemical-specific Applicable or Relevant and Appropriate Requirements (ARARs) and TBCs (To Be Considered), [ROD, p. 32].

At the time of the ROD, MCLs had been promulgated for chloroform (100 ug/l), 1,1,1 – trichloroethane (200 ug/l), trichloroethylene (5 ug/l), and vinyl chloride (2 ug/l), but MCLs had not been promulgated for the remaining three COCs: tetrachloroethylene, 1,2-(trans)dichloroethylene, and 1,1-dichloroethane. The final drinking water MCL rule was issued for tetrachloroethylene and 1,2-(trans)dichloroethylene in 1991, following the ROD.

Subsequent references in the ROD to groundwater cleanup levels refer to MCLs generally, rather than listing individual contaminants. [ROD, pp 53 and 54]. This ESD documents that the specific numeric standards that must be achieved at the groundwater compliance boundary for tetrachloroethylene and 1,2-(trans)dichloroethylene are the MCLs listed below:

1,2-(trans)dichloroethylene:	100 ug/L
tetrachloroethylene:	5 ug/L

In the future, if EPA issues a Safe Drinking Water Act MCL for 1,1-dichloroethane, the MCL will be considered the cleanup level for this COC also. The change is not expected to affect the cleanup, as testing of the extraction well (PEW) from 2002 to 2006 has shown no detections of 1,1-dichloroethane, at a detection limit of 0.5 ug/L, well below ecological and human health protective levels.

2) Groundwater Treatment and Discharge Location

This ESD documents changes to the pumping and treatment system. In 2003, following pilot testing, Ecology approved a change in the groundwater treatment. The change is hereby incorporated into the remedy for the Site. The ROD included cleanup levels for treatment system discharges to the Spokane River.

With the change in discharge location, ARARs for surface water discharge are not applicable.

The ROD called for water extracted on site to be conveyed to the City of Spokane POTW, where the water was treated and discharged in compliance with the National Pollutant Discharge Elimination System (NPDES) permit for the POTW. By 2003, the capping of old landfill areas had begun to reduce groundwater COC concentrations, as anticipated in the ROD. To reduce the demand on the POTW, the City began to seek alternative treatment for the approximately 1 million gallons per day of groundwater extracted for the cleanup.

As observed in the second Five-Year Review report (September 2002), the City proposed to use the on-site storm water collection system as an air stripping system for extracted groundwater and to allow the treated water to infiltrate to groundwater in an on-site infiltration pond. The water flows along a shallow, lined ditch filled with cobbles to reduce erosive force. The ditch drops 80 feet in elevation, and ends in an infiltration basin. The COC removal efficiency for this method of treatment was tested by sampling at the point where the pumped water flows from the pilot extraction well into the ditch and again where the ditch flows into the infiltration basin. The removal efficiency for tetrachloroethylene (PERC), which was present in the highest concentrations, was calculated at approximately 80 percent. (See test results, Appendix B). Based on the contaminant removal results, EPA and Ecology approved this change to the remedy. The system is now fully operational, and the landfill groundwater discharges on-site.

The 2002 Five Year Review described this potential change and included a recommendation that if such a change was made, it should be documented in an ESD.

3) Groundwater Point of Compliance

Cleanup levels for groundwater apply to the “aquifer unit.” For each contaminant of concern, these levels must be achieved at the point of compliance. At the time the ROD was written, the down gradient landfill boundary and the landfill property boundary were the same, and the ROD uses both terms to describe the groundwater point of compliance. Subsequently, the City of Spokane acquired additional property down gradient of the landfill for infiltration of surface water and treated groundwater. This ESD clarifies that the groundwater point of compliance is the down gradient side of the landfill itself, not of the additional property. This is consistent with EPA policy (OSWER Directive 9283.1-33), which calls for compliance with groundwater cleanup goals at the downgradient edge of the waste management area (in this case, the landfill).

The ROD states that the point of compliance is the landfill boundary, with performance monitoring to be located down gradient but beyond the zone of influence of the extraction wells. For this reason, groundwater monitoring plans for performance monitoring of the groundwater treatment have included monitoring of wells along the landfill boundary and well MWWB, located further

down gradient (see Figure 2). When groundwater extraction is discontinued, the wells along the down-gradient edge of the landfill will continue to be monitored for compliance.

4) Surface Water Point of Compliance

This ESD changes the surface water point of compliance from the point where the POTW discharged to surface water (the Spokane River) to the location where treated water enters the on-site infiltration area.

Based on treatment and discharge of groundwater off site, the ROD (Statutory Determinations, ROD pp 56 – 59) cited the Clean Water Act (33 U.S.C § 1251 *et seq.*) as an ARAR for surface water discharge. However, because water in the infiltration area results from pumping and treatment of groundwater that is not considered “waters of the United States,” the Clean Water Act is not applicable to the discharge. Even if Clean Water Act ARARs were applicable, State water quality standards have not been promulgated for the COCs at the Site.

Water discharged to the infiltration area complies with MCLs for the contaminants of concern, and available screening levels for ecological protection indicate that levels of these contaminants that are protective of human health are, for the most part, more stringent than screening levels used in ecological risk assessment. Where this is not the case, as with chloroform and 1,1,1-TCA, monitoring at the extraction well indicates that groundwater pumped from the Site is below ecological screening levels and MCLs. See Table 1.

This ESD does not modify the following ROD language regarding discharge of treated water. “The selected remedy treats the extracted water to meet MCLs, health-based standards, or Water Quality Criteria prior to discharge, whichever is lower. Therefore, there will be no adverse impact on surface waters resulting from discharge of treated groundwater, and requirements of these regulations will be attained.” (See Statutory Determinations, pp 56-59 of the ROD).

5) Institutional Controls

The Selected Remedy in the ROD (page 55) states “Administrative restrictions or institutional controls need to be enacted which will protect the landfill cap, monitoring wells, and the pumping and treatment system. Restrictions should be placed on the construction of new wells and the use of existing wells in the contaminated plume.” More specific requirements were set forth in the Consent Decree entered by the City, Washington State and EPA in 1991. The Consent Decree requirements for institutional controls were preserved in the 1997 Court Order terminating the Consent Decree. This ESD does not change the above requirements of the ROD or the Court Order. Rather, it adds clarity as to the objectives of needed institutional controls, and provides additional specificity on the types of controls that are being relied on to achieve these objectives.

As noted above, the 2007 Five Year Review recommended an in-depth review of the status of institutional controls. EPA completed the review and prepared a memo dated June 2008 (Appendix A) that found that the required institutional controls had not been implemented. Although the City still owns the landfill property, which is fenced, deed notices and restrictions required by the CD were not recorded for City-owned property, and no mechanisms were in place that ensured continued access to off-site monitoring wells.

Governmental controls required by Chapter 173-304 of the Washington Administrative Code, Minimum Functional Standards for Solid Waste Handling, will apply for a 30-year period following closure of the permitted landfill.

The landfill cover and groundwater collection and treatment have greatly reduced the extent of contamination beyond the landfill. To ensure long term protectiveness, however, lasting, and enforceable institutional controls that run with the land are needed in case existing controls expire or are eliminated or changed.

Thus, the following language is hereby incorporated into the Selected Remedy section on Institutional Controls:

The specific objectives of the Institutional Controls are to:

1. prohibit activity on the landfill property that could damage or disturb the integrity or maintenance of the landfill cap or any other component of any containment system, pump and treat system, gas collection system, or the function of the landfill monitoring system, or otherwise result in the release or exposure to the environment of any hazardous substances beneath the cap without prior written approval from Ecology;
2. ensure that current and future owners of the landfill property maintain the cap, including the minimum 12-inch cover of topsoil and the minimum 18-inches of granular cover material;
3. prohibit access to groundwater on the landfill property unless groundwater removal is part of monitoring activities established in a plan approved by EPA and Ecology
4. ensure that EPA and Ecology are notified at least 60 days in advance of any conveyance of the property,
5. ensure that any conveyance of any interest in the landfill property, current and future owners provides for these Institutional Controls to continue,
6. restrict leases to uses and activities consistent with these Institutional Controls and notify all lessees of the restrictions on the use of the landfill property, and
7. provide for EPA and Ecology access to the landfill property to inspect and evaluate the remedial action.

The landfill property, which is the area to which these Institutional Controls shall apply, is defined as the property shown on Figure 3 (including tax parcel numbers: 26223.0004, 26223.0016, 26262.0021, 26262.0033, 26275.0029, 26275.0030, 26281.0029).

The restrictions are needed in perpetuity, unless a demonstration is made that contaminants are no longer present at levels that could pose an unacceptable risk to human health or the environment through direct pathways (such as dermal contact, ingestion, or inhalation of contaminants in the landfill), or through the groundwater pathway (releases to groundwater followed by exposure, though ingestion, inhalation, or other pathways).

The preferred and anticipated means to implement these Institutional Controls is through a covenant under the Uniform Environmental Covenants Act (UECA). The covenant would be signed by EPA, Ecology, and the City of Spokane, and it would be enforceable by both EPA and Ecology. The requirements are expected to be implemented within a year of this ESD.

Support Agency Comments

The Washington Department of Ecology concurs with this ESD (Appendix C).

Statutory Determinations

The selected remedy, as modified by this ESD, is protective of human health and the environment and continues to meet ARARs. This ESD satisfies the requirements of CERCLA Section 121, 42 U.S.C. § 9621.

Public Participation

The public participation requirements set out in NCP Section 300.435(c)(2)(i) have been met. Public notice of this ESD is being placed in the Spokesman Review, a local newspaper of general circulation in the vicinity of the Site. The ESD and supporting documentation have been added to the Administrative Record for this Site. The Administrative Record is available for public review at the following location(s):

Spokane Public Library
906 West Main Street
Spokane, WA 99201

EPA Region 10 Records Center
1200 6th Avenue
Seattle, WA 98101

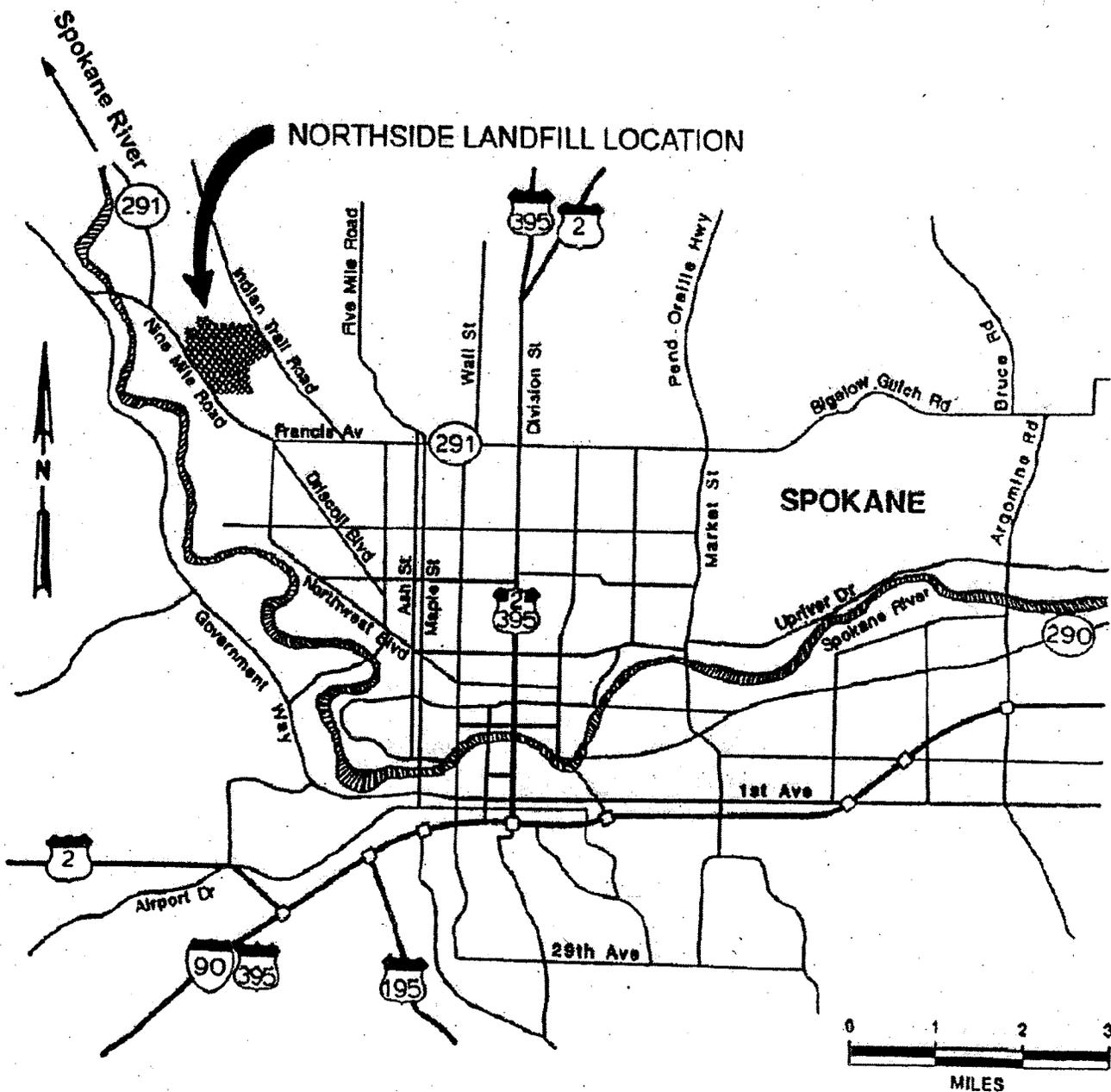


Figure 1: Site Location

Figure source:
 City of Spokane
 report, "Northside
 Landfill Groundwater
 Monitoring Plan
 Revision 2, March
 2007." Report
 prepared by
 CH2MHill.

FIGURE 1-1
 Vicinity Map
 Northside Landfill
 March 2007

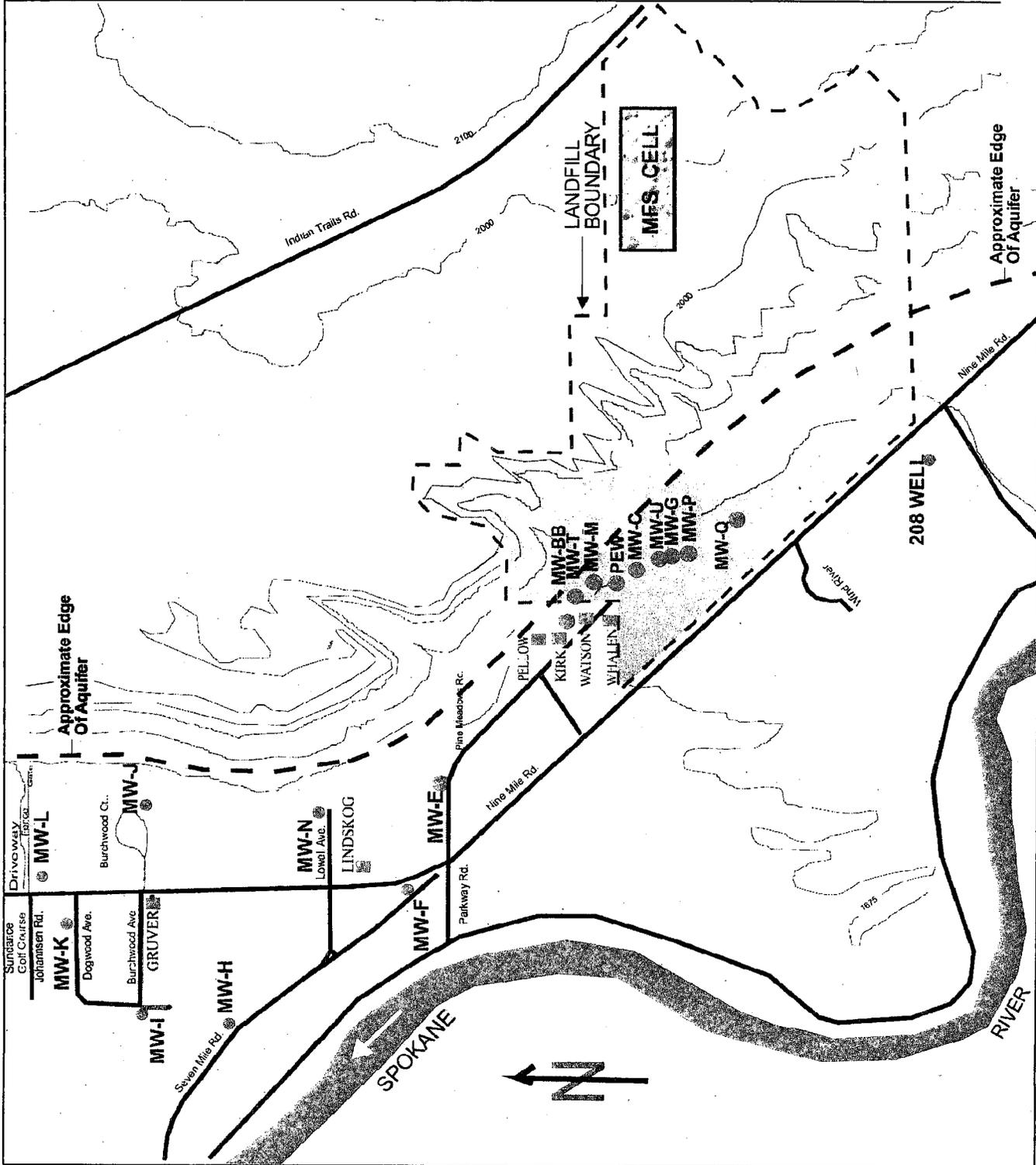
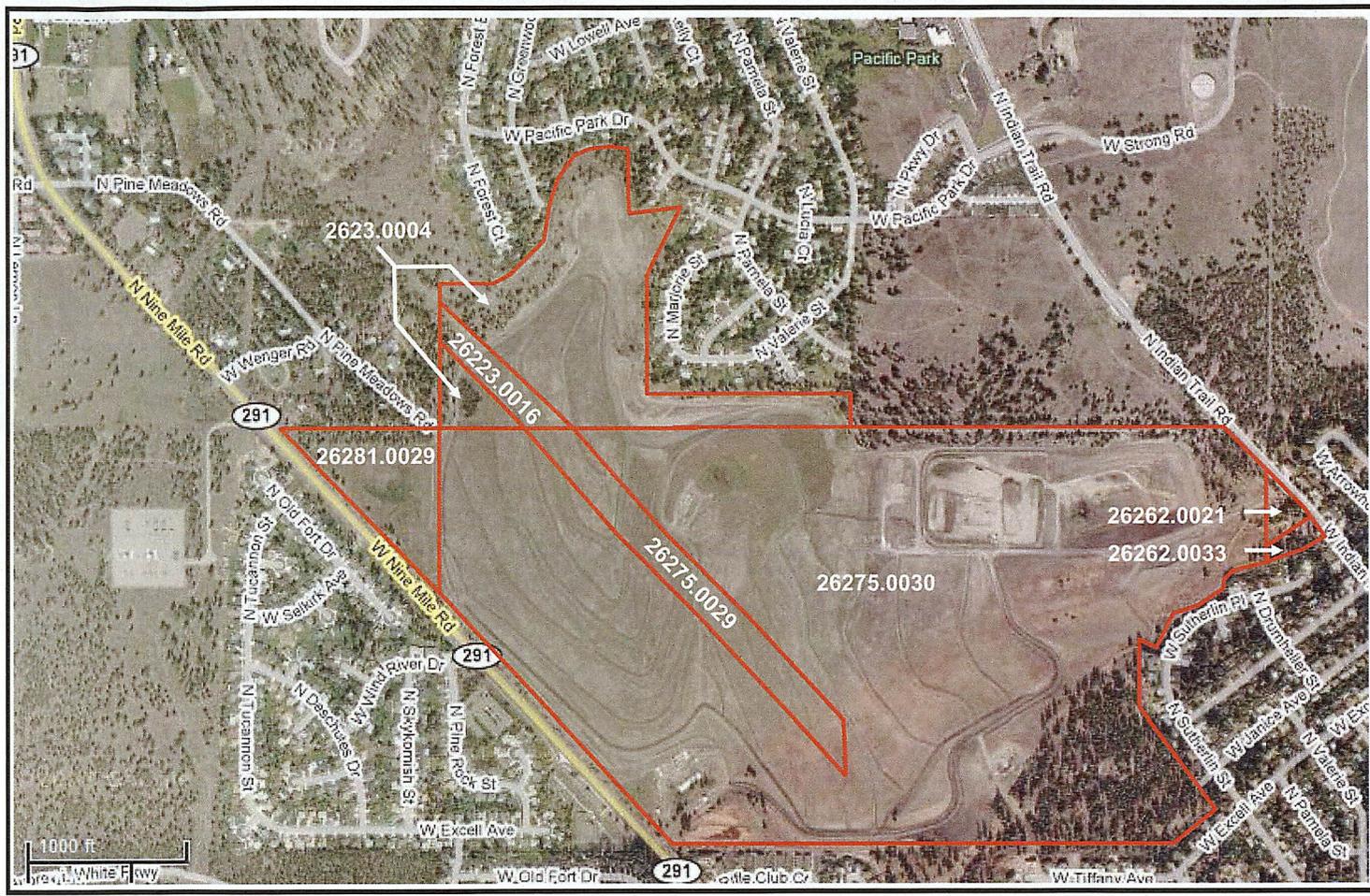


Figure 2:
Monitoring Well Locations

City of Spokane
Northside Landfill
Spokane, WA



Northside Landfill Superfund Site

Legend

- Tax Parcels of Interest
- 26275.0030 Tax Parcel ID Number
- W Strong Rd Roads

Note: The City of Spokane is the current property owner for all parcels of interest.

Aerial photo provided by: Google Maps Imagery - Digital Globe, NAVTEQ 2008.
 Tax lot information provided by Spokane County GIS.
 Modified By Booz Allen Hamilton.

Booz | Allen | Hamilton March 13, 2008

Figure 3:
Northside Landfill Tax Parcels

Table 1 - Chemical-Specific ARARS from the 1989 ROD compared to Aquatic Ecological Screening Levels (in µg/L)

	ESL	MCL	Max or D/L ^a	MCL Goal	CWA HH Fish and Water	CWA HH Fish Only	CWA Acute Toxicity	CWA Chronic Toxicity	Risk-based HH screening levels
PERC	111	5	5.4	0	0.8	8.85	5,280	450	10
TCE	21	5	.5	-	2.7	80.7	45,000	-	260
1,1,1-TCA	11	200	.5U	-	18400	1,030,000	-	-	1,000
Chloroform	1.8	100	.5U	-	0.19	15.7	28,900	1,240	350
1,1-DCA	47	-	.5U	-	0.94	243	-	-	4,500
t-1,2-DCE	970	100	.5U	-	0.33	1.85	11,600	-	350
VC	930	2	.5U	0	2.0	525	-	-	46

ESL: EPA Region 3: Ecological Screening Level: Freshwater Screening Benchmarks
 (<http://www.epa.gov/reg3hscd/risk/eco/btag/sbv/fw/screenbench.htm>)

^aMaximum detection or (if undetected) detection limit, from 2002 – 2006 sampling from the extraction well (PEW).

D/L: detection limit

CWA: Clean Water Act

HH: Human Health

U: not detected at indicated detection limit

Table 2 - Recommendations of the 2007 Five Year Review

Recommendation/ Follow-Up Action	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness? (Y/N)	
				Current	Future
Clarify and document MCLs as groundwater cleanup levels for PCE and t-1,2-DCE in the ESD.	EPA Region 10	EPA	Dec 2007	No	No
Document changes to pumping and treatment system in the ESD.	EPA Region 10	EPA	Dec 2007	No	No
Clarify the groundwater point of compliance in the ESD.	EPA Region 10	EPA	Dec 2007	No	No
Revise the surface water point of compliance and any related monitoring changes in the ESD.	EPA Region 10	EPA	Dec 2007	No	No
Evaluate future groundwater data in light of vapor intrusion pathway, and consider additional assessment if groundwater concentrations rise.	EPA Region 10	EPA	Dec 2007	No	No
Conduct in-depth survey of ICs to assess long-term protectiveness.	EPA Region 10, Ecology	EPA	Dec 2007	No	Yes
Initiate suspension of pumping and treatment for evaluation, including appropriate data gathering.	City of Spokane	EPA, Ecology	Sep 2008	No	No

Appendix A: Review of Institutional Controls (dated June 20, 2008)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

Reply To: ECL-113

MEMORANDUM

Subject: Review of Institutional Controls at Northside Landfill, Spokane County

From: Ellen Hale, RPM
Alexander Fidis, Site Attorney

Through: Howard Orlean, Unit Manager

To: Site File, Northside Landfill Superfund Site

CC: William Fees, Washington Department of Ecology
Scott Windsor, City of Spokane Solid Waste Management

The September 2007 Five Year Review of the remedy at Northside Landfill Superfund Site recommended a more detailed review of the status of institutional controls (ICs) (see "Evaluation of Institutional Controls" in Appendix H of the Five Year Review). This memorandum reports on EPA's subsequent inquiry into whether the ICs were implemented as required by the Record of Decisions (ROD), Consent Decree (CD) and other related enforcement documents, and whether the ICs properly implemented are consistent with more recent EPA practices.

Appendix H of the Five Year Review (FYR) states:

While this review supports a determination that the existing ICs, in combination with engineering controls, are currently effective in accomplishing the goals identified in the ROD, further work is necessary to determine whether the existing ICs will be effective in the long term. At a minimum, the following is recommended:

- *A review of the operating permit for the landfill and the MFS to determine the nature and duration of state-required ICs*
- *A review of the Institutional Controls Plan (referenced in the CD Scope of Work)*
- *A title search for the City's landfill property to review encumbrances and verify that deed notices are still in place*
- *A review of the need for access to monitoring wells on private properties,*

including coordination with Ecology regarding existing conveyance notification requirements, whether they are being complied with, and whether they are necessary (paragraph 55 of CD).

- *A review of nearby homes with monitoring wells for compliance with conveyance notification.*
- *Zoning documents for the landfill property*
- *An evaluation of the effectiveness of the “start card” system*
- *Clarification of the Spokane County Health District role in ICs*

It may be appropriate to include in the proposed ESD an update of ROD ICs, to address specifics of duration, extent, implementation procedures, mapping, and reporting requirements.

In following up on these recommendations, EPA has, to date, performed the following actions:

- tasked contractors to perform a limited title search for the Northside Landfill property,
- obtained from the city a copy of the operating permit for the landfill,
- requested but never obtained the Institutional Controls Plan referenced in the CD because it could not be located,
- reviewed language in the Minimum Functional Standards regarding post-closure requirement for landfills,
- reviewed city zoning maps for the area that includes the landfill,
- contacted Department of Ecology and Department of Health staff regarding the specifics of the “start card” process,
- met several times with City of Spokane legal and technical representatives to discuss
 - ROD and CD language regarding access to downgradient wells for groundwater monitoring,
 - Start card process
 - Status of permit, landfill closure plans, etc.

In addition, the site attorney, Alex Fidis, reviewed the adequacy of existing ICs in terms of their enforceability. Our conclusions follow.

Proprietary Controls

The IC requirements of the ROD (1989), as further specified in the 1991 CD, paragraphs 29 and 55, and the February 2, 1997 Order terminating the CD set forth a number of proprietary controls that were not implemented. The title search revealed that no deed notices were established, no copy of the CD had been recorded, and no restrictions were put in place to limit the future use of the landfill property to protect the integrity of the remedy

Governmental Controls

State Regulatory Standards for Landfills: The Minimum Functional Standards (WAC 173-304) and Criteria for Municipal Solid Waste Landfills (WAC 173-351) include post-

closure, recordation and land use requirements similar to those required as ICs by the CD. Both sets of regulations apply to Northside because it was a functioning landfill when both became effective.

Post-Closure: Post-closure requirements include maintenance of the cover, maintenance and operation of the leachate collection system and gas monitoring system, and monitoring of the groundwater. Two post-closure periods apply to municipal landfills. WAC 173-304-407(7)(a) requires a post-closure plan that addresses “facility maintenance and monitoring activities for at least a twenty year period or until the site becomes stabilized . . . and monitoring of ground water, surface water, and gases can be safely discontinued.” The second, found at WAC 173-351-500(2), requires a thirty-year period of monitoring and care for the cap and the closure systems. Both periods can be increased (by the jurisdictional health department) if necessary to protect human health and the environment. However, both also contemplate a time – thirty years or so after closure – when regulatory requirements that ensure the protectiveness of the landfill closure will no longer apply.

Recordation and Land Use: As part of the general requirements applicable to all landfills, WAC 173-304-405(6) requires that “maps and a statement of fact concerning the location of the disposal site shall be recorded as part of the deed with the county auditor not later than three months after closure.” Further, WAC 173-351-500(1)(i)(ii) requires recording notice on the deed to notify potential purchasers that the land has been used as a landfill facility and that its use is restricted under subsection (2)(c)(iii), which generally prohibits future uses of post-closure property that will disturb the integrity of the final cover, liner or any components of the containment system or the functioning of the monitoring system.

The regulatory provisions addressing post-closure, recordation and land use requirements do not apply until landfill closure. Because the Northside Landfill property contains disposal cells that are still actively used, it is not clear whether a closure plan has been developed for the portion of the landfill that includes the Superfund site. In addition, since the post-closure plans only apply for a specified, if variable, period following closure, they are not permanent. And the WAC provisions do not appear to specify how restrictions on land use will be established and enforced.

Other Location Restrictions: WAC 173-351-140(1) states that “no new MSWLF unit or lateral expansion active area shall be located closer than one thousand feet (three hundred meters) to any drinking water supply well, in use and existing at the time of the purchase of the property containing the active area unless the owner or operator can demonstrate during the permit process of WAC 173-351-700 that the active area is no less than a ninety-day hydraulic travel time to the nearest down-gradient drinking water supply well in the first useable aquifer. The owner or operator must place the demonstration in the application for a permit under WAC 173-351-700 and be issued a solid waste permit by the jurisdictional health department.” The criteria for MSWLF apply only to the siting of new landfills, and not the drilling of new wells. As a result, the regulations may be useful

in preventing new landfills from being sited within 1000 feet of existing wells, but they do not appear to prevent the encroachment of new wells around existing landfills.

Well Drilling Regulatory Process: The applicable regulations that would prohibit the drilling of a new well adjacent to a landfill are part of the Ecology Start Card Program found generally at WAC 173-160. These regulations require a minimum setback of 1000 feet from the boundary of any landfill. WAC 173-160-171(3)(b)(vi). Although this regulation purportedly would prevent well-drilling within 1000 feet of the Site, a description of the program from Ecology reveals that, as applied, the Start Card program may not be effective.

According to Bill Fees, the project lead for Washington Department of Ecology, the following process is followed when the drilling of a new well is proposed:

*“A notice of intent (NOI) is filed in Olympia. After three days, the applicant receives a receipt acknowledging the NOI. There is no zoning overlay or any other system that tells them not to allow a well to be drilled. Ecology puts the NOI into a database that is reviewed by Spokane Regional Health District. The health district reviews notices to assess compliance with their delegated responsibility. Their responsibility is to inspect well seals, well site, and well decommissioning. The health district is required to do up to 50 percent of the wells. **So there is not a system in place to prevent someone from drilling a well over the plume.** Where I was mistaken is that the drillers around here are knowledgeable about the landfill locations and are cautious about well locations. Sorry if this complicates things any further.”*

This process does not appear likely to ensure that wells are not located too close to existing landfills. The method of enforcing the drilling requirements appears to be the licensing of well contractors and operators set forth at WAC 173-162. These licensing requirements generally require all contractors that drill wells to obtain a license. Failure to comply with well drilling requirements may result in the suspension or revocation of a contractor’s license. WAC 173-162-025. These regulations state that only contractors are subject to licensing and are silent as to whether individuals that do not drill wells for money would be subject to the same licensing requirements.

The reference to “jurisdictional health department” indicates that it is DOH that issues the permits and approves closure plans.

City Zoning: Section 17C.190.350 of the City of Spokane’s Municipal Code places “waste-related uses” of property in the industrial land use category. Waste-related uses are characterized by the receipt or disposal of solid or liquid wastes and include sanitary landfills. Pursuant to the municipal code, all landfills must be zoned as industrial use. However, the zoning map available on the City’s website depicts the Northside Landfill as zoned for residential use. Based on the zoning map alone, there is no indication that the landfill or the zone of 1000 feet around the landfill, is set aside for industrial use. It is possible that the map does not accurately reflect actual zoning. Still, absent an unequivocal designation as industrial use, any zoning ambiguity raises concerns about

incompatible uses and the possibility of well drilling within 1000 feet of the landfill boundary.

Summary of IC Review

The City of Spokane has, to date, not implemented any permanent proprietary controls to implement the institutional controls required by the ROD and CD. The landfill is currently owned by and operated by the City in compliance with a permit that restricts unauthorized access, cover disturbance or penetration, and well drilling. These governmental controls, however, are neither prescriptive nor permanent and standing alone may not be sufficient to ensure the integrity of the remedy or the protection of human health and the environment. Even assuming the landfill post-closure plan provided such assurances, the plans are written and applied to span a limited period of approximately thirty years. Human exposure to contaminated drinking water off site is unlikely, because the area is on the municipal water supply system. However, there are few real constraints on drilling a well near the site, and use of such a well could affect the hydrologic containment of contamination at the site, as well as potentially exposing people to contaminated groundwater.

Conclusion The ESD should be used to impose ICs and they should be implemented as required. At a minimum the ESD would require that the City implement the proprietary ICs originally required in the CD. First, a copy of the CD must be filed and appended to the title of each parcel affected by the remedial action. Second, the remaining proprietary and information controls required by the CD should be implemented with the execution of an environment covenant under the Uniform Environmental Covenant Act. The covenant would, in perpetuity, provide notice to future landowners, require maintenance of the cap and treatment systems, restrict use to protect the cap and remedy, restrict access to or use of groundwater at the Site, allow EPA and Ecology access to the remedial site, require notification and approval by EPA of any major construction at the Site, and require notice to EPA prior to conveyance of any property interest at the Site. The covenant would also grant EPA and Ecology the right to enforce its terms.

The environmental covenant will only apply ICs within the boundaries of the landfill property. To prevent the improper access or use of groundwater from off-Site sources, EPA proposes a layered IC approach. The first layer would require the City to clearly delineate the boundary of the landfill and to rezone the landfill and the area within 1000 feet to restrict access to groundwater. The second layer would rely on the existing Start Card program to prevent contractors from drilling within the 1000 feet of the landfill boundary. Another layer has already been established with the provision of municipal water to area residents, thereby reducing the need for water wells. If, after further evaluation, EPA believes that additional layers are necessary, it may consider additional measures such as requiring the City to mail an annual notification to residents in the area reminding them not to drill wells.

Appendix B: Results of 2002 Pilot Tests



"Fees, William J. (ECY)"
<WFEE461@ECY.WA.GOV>

09/16/2008 04:31 PM

To: Ellie Hale/R10/USEPA/US@EPA

cc

bcc

Subject: FW: fourth quarter 2001 ground water monitoring report
NSLF

For your files.

-----Original Message-----

From: Fowler, Dean [mailto:DFowler@SpokaneCity.org]

Sent: Friday, January 04, 2002 4:29 PM

To: Fees, William J.; Bill Rickard; Lloyd Brewer; Monica Hairston; neil thompson; Steve Holderby

Subject: fourth quarter 2001 ground water monitoring report NSLF

Preliminary results of diverting the Pew to the storm Basin look favorable... three consecutive months with a 78% reduction in VOC's. Next step will be to submit a request to Ecology to use this as a permanent solution. The attached report shows analysis at the compliance points below treatment levels. I predict that we may be shutting down the PEW sometime this year. (with continued monitoring)

Dean Fowler, P.E.
Senior Engineer
City of Spokane, Solid Waste Management
1225 E. Marietta Avenue
Spokane WA 99207-2787
Phone: (509)625-7890
FAX: (509)625-7899
E-Mail: dfowler@spokanecity.org

<<GWM4thQTR2001.xls>>



GWM4thQTR2001.xls

North Landfill Fourth Quarter 2001

WELL	DIS.As	DIS.Ba	DIS.Be	DIS.Cd	DIS.Cr	DIS.Co	DIS.Cu	DIS.Fe	DIS.Pb	DIS.Mn	DIS.Hg	DIS.Ni	DIS.Se
MW-208	0.006	0.07	<0.001	<0.001	0.003	<0.001	0.001	0.13	<0.001	0.002		<0.001	<0.001
MW-BB	0.001	0.047	<0.001	<0.001	0.004	<0.001	0.001	0.2	<0.001	<0.001		0.001	<0.001
MW-C	0.003	0.052	<0.001	<0.001	0.005	<0.001	0.002	0.15	<0.001	0.002		<0.001	<0.001
P.E.W.													
MW-E								0.12		0.002			
MW-F													
MW-G													
MW-H													
MW-I													
MW-J													
MW-J													
MW-K								0.13		0.003			
MW-K								0.14		0.003			
MW-L													
MW-M													
MW-M													
MW-N													
MW-N													
MW-P													
MW-T	0.002	0.049	<0.001	<0.001	0.005	<0.001	0.002	0.27	<0.01	<0.001		0.001	0.002
MW-T	0.002	0.051	<0.001	<0.001	0.003	<0.001	0.002	0.28	<0.01	<0.001		0.001	<0.001
MW-U													
GRUVER													
LINDSKOG													
PELLOW													
PELLOW													
WELL	DIS.Ag	DIS.Tl	DIS.V	DIS.Zn	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt
MW-208	<0.001	<0.001	0.003	0.012			0.006	0.076		<0.001	51.5	0.003	
MW-BB	<0.001	<0.001	0.003	0.01			0.001	0.045		<0.001	74.7	0.002	
MW-C	<0.001	<0.001	0.002	0.014			0.003	0.054		<0.001	52.7	0.001	
P.E.W.	<0.001						0.001	0.08		<0.001		0.002	
MW-E				0.01			0.002	0.059		<0.001	56.7	0.001	
MW-F													
MW-G													
MW-H													
MW-I													
MW-J													
MW-J													
MW-K				0.012			0.003	0.059		<0.001	58.7	0.001	
MW-K				0.01			0.003	0.055		<0.001	57.6	0.001	
MW-L													
MW-M							0.002	0.09		<0.001		0.002	
MW-M							0.002	0.098		<0.001		0.001	
MW-N													
MW-N													
MW-P													
MW-T	<0.001	<0.001	0.002	0.013			0.002	0.054		<0.001	123	0.005	
MW-T	<0.001	<0.001	0.002	0.014			0.002	0.054		<0.001	120	0.003	
MW-U													
GRUVER													
LINDSKOG													
PELLOW													
PELLOW													

North Landfill Fourth Quarter 2001

WELL	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium
MW-208	0.001	0.21	<0.001	31.7	0.003	<0.0002		4.3	<0.001	<0.001	6.6		
MW-BB	<0.001	0.19	<0.001	32.1	<0.001	<0.0002		4.7	<0.001	<0.001	7.6		
MW-C	0.001	0.23	<0.001	25.7	0.002	<0.0002		3.6	<0.001	<0.001	6.2		
P.E.W.			0.001			<0.0002			0.001	<0.001			
MW-E	<0.001	0.22	<0.001	20	0.004	<0.0002		3.3	<0.001	<0.001			
MW-F													
MW-G													
MW-H													
MW-I													
MW-J													
MW-J													
MW-K	0.001	0.43	<0.001	22.3	0.003	<0.0002		3.4	0.001	<0.001			
MW-K	0.001	0.36	<0.001	21.7	0.003	<0.0002		3.5	<0.001	<0.001			
MW-L													
MW-M			<0.001			<0.0002							
MW-M			<0.001			<0.0002							
MW-N													
MW-N													
MW-P													
MW-T	0.002	0.28	<0.001	58.2	<0.001	0.0001		8.2	0.002	<0.001	6.6		
MW-T	0.002	0.28	<0.001	58.3	<0.001	<0.0002		8	<0.001	<0.001	6.6		
MW-U													
GRUVER													
LINDSKOG													
PELLOW													
PELLOW													
WELL	ZINC	TOTAL COLIFORM	FECAL COLIFORM	Chloroform 100mg/L	1,1-dichloroethane DCA (no MGL)	trichloroethane TCA (200 ug/L)	tetrachloroethene perc (5ug/L)	trans-1,2-dichloroethene DCE (no mcl)	trichloroethene TCE (5ug/L)	vinyl chloride 2ug/L	acetone	acrylonitrile	benzene
MW-208	0.012	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5
MW-BB	0.008	<2	<2	<0.5	<0.5	<0.5	3.7	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5
MW-C	0.013	<2	<2	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5
P.E.W.		<2	<2	<0.5	<0.5	<0.5	3.1	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5
MW-E	0.01	<2	<2	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.3			
MW-F				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3			
MW-G				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3			
MW-H				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3			
MW-I				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3			
MW-J				<0.5	<0.5	<0.5	2.9	<0.5	0.5	<0.3			
MW-J				<0.5	<0.5	<0.5	2.8	<0.5	0.5	<0.3			
MW-K	0.012	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3			
MW-K	0.01	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3			
MW-L				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3			
MW-M		4	<2	<0.5	<0.5	<0.5	5.5	<0.5	0.5	<0.3			
MW-M		17	<2	<0.5	<0.5	<0.5	5.2	<0.5	0.6	<0.3			
MW-N				<0.5	<0.5	<0.5	2.1	<0.5	0.5	<0.3			
MW-N				<0.5	<0.5	<0.5	2.1	<0.5	0.5	<0.3			
MW-P				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3			
MW-T	0.013	<2	<2	<0.5	<0.5	<0.5	4.9	<0.5	<0.5	<0.3	<2.5	<0.5	<0.5
MW-T	0.014	<2	<2	<0.5	<0.5	<0.5	4.7	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5
MW-U				<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.3			
GRUVER				<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.3			
LINDSKOG				<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.3			
PELLOW				<0.5	<0.5	<0.5	4.7	<0.5	0.5	<0.3			
PELLOW				<0.5	<0.5	<0.5	4.8	<0.5	0.5	<0.3			

North Landfill Fourth Quarter 2001

WELL	1,4-dichlorobenzene	1,2-dichlorobenzene	chlorobenzene	ethylbenzene	bromoform	2-butanone	trans-1,4-dichloro-2-butene	Carbon disulfide	carbon tetrachloride	1,1,1,2-tetrachloroethane	1,1,2-trichloroethane	1,1,2,2-tetrachloroethane	1,2-dibromoethane
MW-208	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-BB	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-C	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
P.E.W.													
MW-E													
MW-F													
MW-G													
MW-H													
MW-I													
MW-J													
MW-J													
MW-K													
MW-K													
MW-L													
MW-M													
MW-M													
MW-N													
MW-N													
MW-P													
MW-T	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-T	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-U													
GRUVER													
LINDSKOG													
PELLOW													
PELLOW													
WELL	1,2-dichloroethane	Chloroethane	1,1-dichloroethene	cis-1,2-dichloroethene	2-hexanone	Bromomethane	bromochloromethane	bromodichloromethane	chloromethane	dibromomethane	dibromochloromethane	dichloromethane	iodomethane
MW-208	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-BB	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-C	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
P.E.W.	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-E													
MW-F													
MW-G													
MW-H													
MW-I													
MW-J													
MW-J													
MW-K													
MW-K													
MW-L													
MW-M													
MW-M													
MW-N													
MW-N													
MW-P													
MW-T	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-T	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-U													
GRUVER													
LINDSKOG													
PELLOW													
PELLOW													

North Landfill Fourth Quarter 2001

WELL	trichlorofluoromethane	4-methyl-2-pentanone	1,2-dibromo-3-chloropropane	1,2-dichloropropane	1,2,3-trichloropropane	cis-1,3-dichloropropene	trans-1,3-dichloropropene	styrene	toluene	vinyl acetate	m+p-xylene	o-xylene	
MW-208	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-BB	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-C	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
P.E.W.	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-E													
MW-F													
MW-G													
MW-H													
MW-I													
MW-J													
MW-J													
MW-K													
MW-K													
MW-L													
MW-M													
MW-M													
MW-N													
MW-N													
MW-P													
MW-T	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-T	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-U													
GRUVER													
LINDSKOG													
PELLOW													
PELLOW													



"Fees, William J. (ECY)"
<WFEE461@ECY.WA.GOV>
09/16/2008 04:31 PM

To: Ellie Hale/R10/USEPA/US@EPA
cc
bcc

Subject: FW: pew diversion samples-Northside Landfill

Another one.

-----Original Message-----

From: Fowler, Dean [mailto:DFowler@SpokaneCity.org]
Sent: Tuesday, January 08, 2002 9:40 AM
To: Fees, William J.
Cc: 'neil thompson'; Holderby, Steve; Hairston, Monica
Subject: pew diversion samples-Northside Landfill

Bill, This attachment shows you the results of three consecutive months of monitoring for the PEW diversion. This completes the pilot period of operation. Do you suggest we meet to discuss the future operation of the PEW? ...or I can send you a letter requesting a modification to our treatment plan. With the better than expected results of the pilot...the city will continue to operate the diversion through the interim.

I look forward to hearing from you!!

<<pew diversion samples.xls>>

Dean Fowler, P.E.
Senior Engineer
City of Spokane, Solid Waste Management
1225 E. Marietta Avenue
Spokane WA 99207-2787
Phone: (509)625-7890
FAX: (509)625-7899
E-Mail: dfowler@spokanecity.org



pew diversion samples.xls

Northside Landfill PEW Diversion / Sample events

Tetrachloroethane (PPB)

	<u>10/10/01</u>	<u>11/8/2001</u>	<u>12/10/2001</u>
<u>Sample point</u>			
pew	4.8 / 4.3	5.0/4.8	4.2/3.8
basin	1.0 / 1.0	1.0/1.2	0.8/0.9
% reduction >	78%	78%	79%
well BB	3.4 / 3.7	4.1/3.9	4.2/4.0

Note: analysis for vinyl chloride, trichloroethylene, 1,1,1-trichloroethane, 1,2-(trans) dichloroethylene, 1,1-dichloroethane, and chloroform show "non-detect" at all sample locations and events

Actual lab information available at request

Samples taken by Rolf Stratte / City of Spokane Solid Waste Management



"Fees, William J. (ECY)"
<WFEE461@ECY.WA.GOV>
09/16/2009 11:09 AM

To: Ellie Hale/R10/USEPA/US@EPA
cc: "Rourke, Melissa (ATG)" <MelissaR3@ATG.WA.GOV>,
"Hanson, Rich" <RAHanson@SpokaneCity.org>, Alexander
Fidis/R10/USEPA/US@EPA
bcc:
Subject: nlfll5yrltr.doc

Ellie,

Attached is the authorizing letter to change the discharge from the POTW to on-site treatment. I will continue to look for other documents and send them along.

Regards,
Bill

<<nlfll5yrltr.doc>>



nlfll5yrltr.doc

August 13, 2002

Mr. Dean Fowler
City of Spokane Solid Waste Management
1225 E. Marietta Avenue
Spokane, WA 99207-2787

Dear Mr. Fowler:

The Washington Department of Ecology (Ecology) has reviewed the submittal requesting for the permanent diversion of extracted groundwater from the Perimeter Extraction Well (PEW) into the stormwater ditches at the Northside Landfill. The pilot test results indicate that the aeration provided in on-site storm water ditches reduces the tetrachloroethylene (PERC) concentrations by 78 percent. Since the extracted groundwater PERC concentrations are near the cleanup level of five parts per billion (ppb), the aeration gives the necessary treatment. Based on our discussions with the United States Environmental Protection Agency (EPA) during the five-year review meeting of July 29, 2002, Ecology has the authority to approve this change in treatment for the extracted groundwater. This letter will serve as formal approval for the permanent diversion of the pumped groundwater from the PEW.

An additional request to phase the PEW shut down was included in the submittal. The concept of a phased shut down would allow the City of Spokane to assess the efficacy of intermittent PEW operation. Ecology supports this concept and will provide the necessary review and discussion as appropriate for the final shut down of the PEW.

If you have any questions or comments on the enclosed information, please do not hesitate to contact me at (509) 625-5190.

Sincerely,

William J. Fees, P.E.
Environmental Engineer
Toxics Cleanup Program

CC: Neil Thompson – EPA Region 10

Appendix C: State Concurrence Letter



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000

711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

April 21, 2009

Ms. Ellie Hale
US EPA Region 10
1200 6th Avenue
Suite 900 M/S: ECL-115
Seattle, WA 98101

Dear Ms. Hale:

The Washington Department of Ecology (Ecology) has reviewed the Explanation of Significant Differences (ESD) prepared by the U.S. Environmental Protection Agency for the Northside Landfill Superfund Site located in Spokane, Washington. Ecology concurs with the changes presented in the ESD.

Sincerely,

A handwritten signature in black ink, appearing to read "James J. Pendowski".

James J. Pendowski, Manager
Toxics Cleanup Program