



PERIODIC REVIEW

**Sparks and Buttercup Subdivision
Facility Site ID#: 695**

**12th Avenue and Eastern Street
Spokane Valley, Washington 99212**

Eastern Region Office

TOXICS CLEANUP PROGRAM

October 2008

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1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup site conditions and monitoring data to ensure that human health and the environment are being protected at the Sparks and Buttercup Subdivision (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA), Chapter 173-340 Washington Administrative Code (WAC).

Cleanup activities at this Site were completed under the Independent Remedial Action Program. The cleanup actions resulted in residual concentrations of total petroleum hydrocarbons (TPH), pesticides and metals exceeding MTCA Method A cleanup levels for soil established under WAC 173-340-740(2). WAC 173-340-420 (1) requires that “if the department selects or approves a cleanup action that results in hazardous substances remaining at a site at concentrations which exceed Method A or Method B cleanup levels established under WAC 173-340-700 through 173-340-760 or if conditional points of compliance have been established, the department shall review the cleanup action no less frequently than every five years after the initiation of such cleanup action to ensure that human health and the environment are being protected”.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(2)]:

- (a) The effectiveness of ongoing or completed cleanup actions;
- (b) New scientific information for individual hazardous substances of mixtures present at the site;
- (c) New applicable state and federal laws for hazardous substances present at the Site;
- (d) Current and projected site use;
- (e) Availability and practicability of higher preference technologies; and
- (f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the site register and provide an opportunity for public comment.

2.0 SITE SUMMARY

2.1 Site History

The Sparks and Buttercup Subdivision is located in the City of Spokane Valley in Spokane County, Washington (Vicinity Map - Appendix 6.1). Following remedial activities, a restrictive covenant was recorded for the property in 1996, and the Site received a No Further Action determination. The Site remains unoccupied and is located in a residential area.

A landfill was reportedly operated at the Site from as early as 1928 until approximately 1960. The landfill reportedly received domestic refuse, construction debris, scrap metal and other types of debris. No permits were issued for the operation of the landfill. No other activities are known to have taken place at the Site before or after landfill activities. The site remained undeveloped until remedial investigations began in 1991.

2.2 Site Investigations

A Phase II Environmental Site Assessment was conducted at the Site in 1991. Samples were collected from eight test pits and three soil borings which were advanced to a maximum depth of 15 feet below ground surface (bgs). TPH, 4,4 Dichloro-Diphenyl-Trichloroethane (DDT), antimony, arsenic, beryllium, cadmium, chromium, lead, and mercury were all detected at concentrations exceeding MTCA Method A or Method B cleanup levels.

In 1993, Kleinfelder conducted a subsurface investigation specifically to address the presence of contamination in groundwater at the Site. Groundwater was encountered between 56 and 121 feet in three monitoring wells which were installed at the Site. Arsenic and chromium were detected in soil samples collected between 24 and 29 feet bgs during the installation of these wells. Kleinfelder proposed that these concentrations represent background levels that occur naturally in soils within the Spokane Valley. DDT, lead, arsenic and chromium were detected at concentrations exceeding MTCA Method A cleanup levels in groundwater samples collected from two of the monitoring wells. Again, Kleinfelder proposed that these concentrations were representative of background concentrations in the area and were not impacts caused by the landfill.

A landfill gas survey was also conducted at the Site at this time. Six landfill gas probes were installed in and around the landfill and sampled over a two day period. These samples did not detect appreciable levels of combustible gas in either the landfill or in near-surface soils surrounding the landfill.

2.3 Remedial activities

The remedial action for the Site consisted of encapsulating the landfill with one foot of imported soil covered by a 40-millimeter polyvinyl chloride (PVC) liner. The PVC liner was then covered with 1.5 to 2 feet of topsoil. The surface of the landfill cap was revegetated with grass.

A groundwater compliance monitoring program was started in 1993 to ensure the protection of groundwater at the Site.

In 1995, the following additional work was conducted at the Site:

1. Two additional groundwater monitoring wells were installed downgradient (north) of the landfill boundary and monitored quarterly for TPH, pesticides, Polychlorinated Biphenyls (PCBs), arsenic, chromium and lead.
2. Gas vapor monitoring was conducted again at six locations around the perimeter of the site to determine if any landfill gas was being emitted from the Site.

Sample results from two years of groundwater compliance monitoring did not detect pesticides, PCBs, TPH or metals at concentrations exceeding MTCA Method A cleanup levels.

2.4 Restrictive Covenant

Following installation of the landfill cap, a Restrictive Covenant was recorded for the Site in 1996. The Restrictive Covenant is available as Appendix 6.3. The Restrictive Covenant imposes the following limitations:

1. Remediation or removal of the contaminated soil must be addressed before the Site is altered or modified.
2. The owner or successor owner of the Site must give written notice of intent to convey any interest in the Site.
3. The owner or successor owner must maintain the clean soil cap and submit written notification to Ecology on an annual basis confirming that the cap has undergone a visual inspection, received any necessary repairs, and remains in place.
4. The owner or successor owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of the Covenant.
5. The owner or successor owner shall grant Ecology the right to enter the site at reasonable times.
6. The owner or successor owner reserves the right to remove this Covenant with Ecology's approval.

3.0 PERIODIC REVIEW

3.1 Effectiveness of completed cleanup actions

Based upon the site visit conducted on August 29, 2008, the soil cap at the Site continues to eliminate exposure pathways (ingestion, contact) to contaminated soils. The majority of the cap appears in satisfactory condition, though the concrete drainage channel at the southeast corner of the landfill appeared to be damaged and undermined. This area will likely continue to erode during significant precipitation and snowmelt events. The Site continues to remain undeveloped. A photo log is available as Appendix 6.4.

The Restrictive Covenant for the Site was recorded and is in place. This Restrictive Covenant prohibits activities that will result in the release of contaminants contained as part of the cleanup without Ecology's approval, and prohibits any use of the property that is inconsistent with the Covenant. As part of the Restrictive Covenant, the property owner is required to submit an annual notification that the cap has undergone a visual inspection, received necessary repairs due to erosion, and that it remains in place. There is no evidence that these inspections have taken place, or that written notification has been given to Ecology.

Conclusions:

Soils with TPH and metals concentrations higher than MTCA Method A cleanup levels are still present at the Site. However, the clean soil cap prevents human exposure to this contamination by ingestion and direct contact with soils. The Restrictive Covenant for the property ensures the integrity of the cap will be protected by maintaining the current use of the Site. Section 5 of the Restrictive Covenant is not being followed. Written notifications of cap inspections have not been submitted to Ecology, and erosion is taking place under the concrete drainage channel at the southeast corner of the landfill.

3.2 New scientific information for individual hazardous substances for mixtures present at the Site

There is no new scientific information for the petroleum contaminants related to the Site.

3.3 New applicable state and federal laws for hazardous substances present at the Site

The cleanup at the site was governed by Chapter 173-340 WAC (1996 ed.). WAC 173-340-702(12) (c) [2001 ed.] provides that,

“A release cleaned up under the cleanup levels determined in (a) or (b) of this subsection shall not be subject to further cleanup action due solely to subsequent amendments to the provision in this chapter on cleanup levels, unless the department determines, on a case-by-case basis, that the

previous cleanup action is no longer sufficiently protective of human health and the environment.”

Although cleanup levels changed for TPH and PAHs as a result of modifications to MTCA in 2001, contamination remains at the site above MTCA Method A cleanup levels and the cleanup action is still protective of human health and the environment. A table containing MTCA Method A cleanup levels relevant to the Site is located below:

Analyte	1991 MTCA Soil Cleanup Level (ppm)	2001 MTCA Method A Soil Cleanup Level (ppm)	1991 MTCA Method A Groundwater Cleanup level (ppb)	2001 MTCA Method A Groundwater Cleanup Level (ppb)
Arsenic	20	20	5	5
Barium	NL	NL	NL	NL
Cadmium	2	2	5	5
Chromium	100	19	50	50
DDT	1	3	0.1	0.3
Lead	250	250	5	15
Mercury	1	2	2	2
PCBs	1	1	0.1	0.1
TPH	NL	NL	1000	NL
TPH-Gas	100	100/30	NL	1000/800
TPH-Diesel	200	2000	NL	500
TPH-Oil	200	2000	NL	500
NL = None listed				

3.4 Current and projected site use

The site remains vacant. There is a cosmetic wooden fence surrounding the landfill cap. There have been no changes in current or projected future site or resource uses.

3.5 Availability and practicability of higher preference technologies

The remedy implemented included containment of hazardous substances, and it continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial action were capable of detection below MTC Method A cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the site.

4.0 CONCLUSIONS

- The cleanup actions completed at the Site appear to be protective of human health and the environment, but the limitations of the Restrictive Covenant are not currently being observed.
- Soils cleanup levels have not been met at the Site; however, under WAC 173-340-740(6)(d), the cleanup action is determined to comply with cleanup standards, as long as the long-term integrity of the containment system is ensured and the requirements for containment technologies in WAC 173-340-360(8) have been met. The integrity of the containment system is currently in jeopardy, and the requirements for maintaining the containment system are not being met.
- Inspection, maintenance and repair of the soil cap are necessary in order for the remedy to be effective in protecting public health and the environment from exposure to hazardous substances and protecting the integrity of the cleanup action.

Based on this periodic review, the Department of Ecology has determined that the requirements of the Restrictive Covenant are not being satisfactorily met. The property owner is required to inspect and maintain the soil cap and submit annual written notification to Ecology of these activities. The property owner will be notified that in order for the No Further Action determination to remain in effect, the cap must be repaired and inspected annually and the inspection reports must be submitted to Ecology.

4.1 Next Review

The next review for the site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 REFERENCES

Century West Engineering Corporation. Report of Findings. January 1991.

Kleinfelder, Inc. Remedial Investigation Report. July 1993.

Kleinfelder, Inc. Groundwater Monitoring Data Summary Report. August 1993.

Kleinfelder, Inc. Independent Remedial Action Report. August 1994.

Kleinfelder, Inc. August 1994 Compliance Groundwater Monitoring Report, September 1994.

Kleinfelder, Inc. November 1994 Compliance Groundwater Monitoring Report, December 1994.

Kleinfelder, Inc. April-May 1995 Compliance Groundwater Monitoring Report, May 1995.

Kleinfelder, Inc. Compliance Monitoring Report, May-August 1995. August 1995.

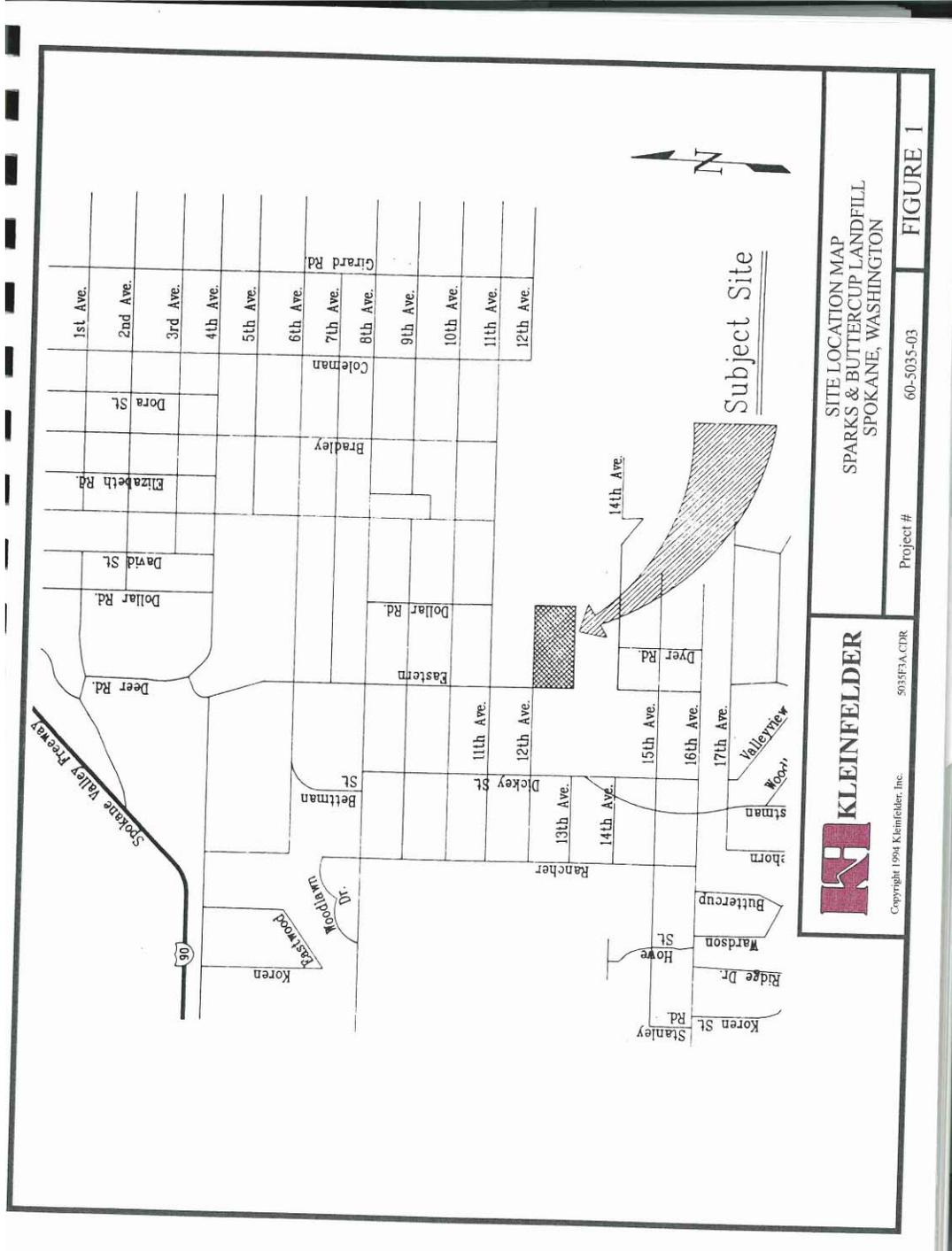
Ecology. Restrictive Covenant, 1996.

Ecology. No Further Action Letter. 1996

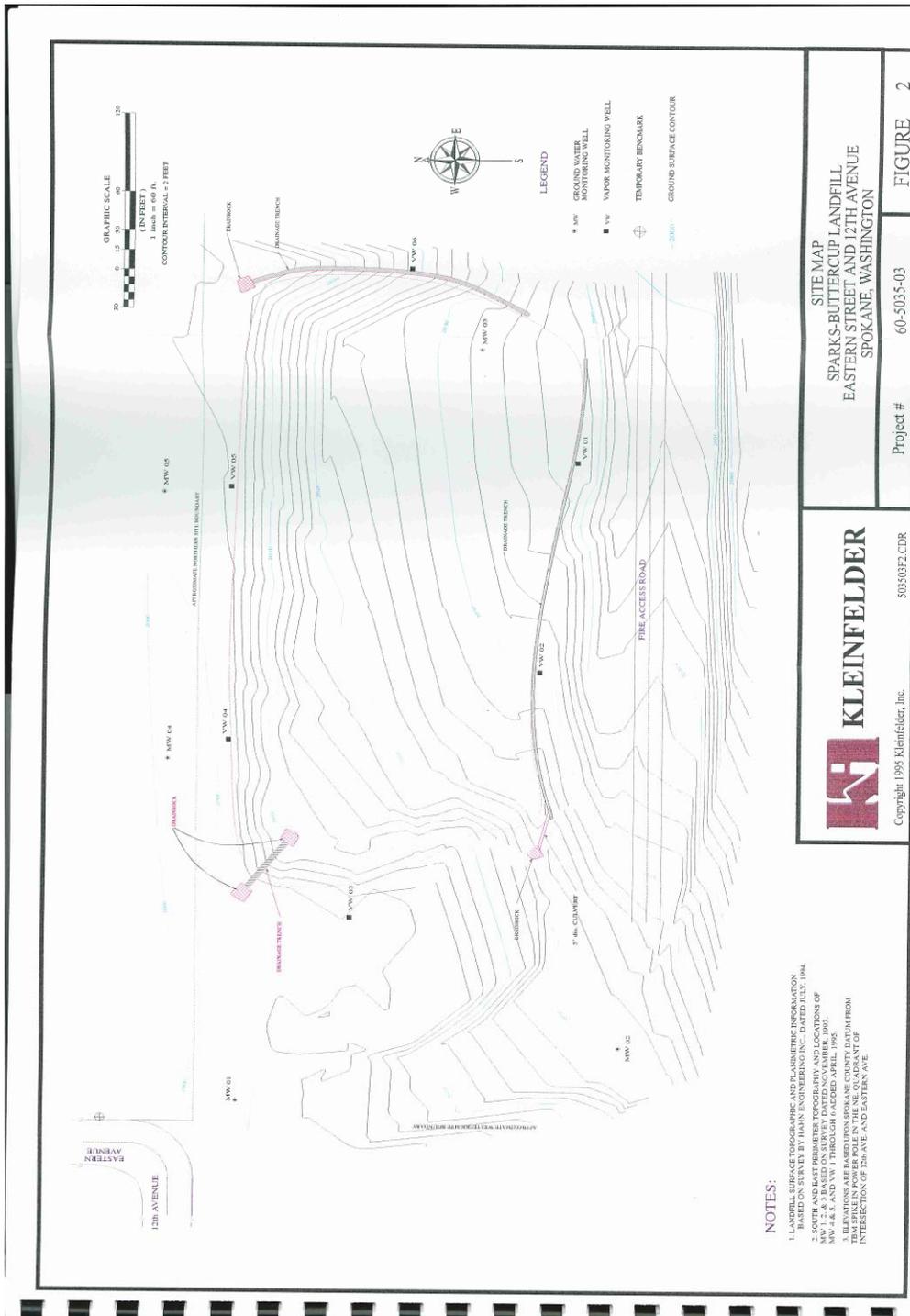
Ecology. Site Visit. August 29, 2008.

6.0 APPENDICES

6.1 Vicinity Map



6.2 Site Plan



SITE MAP
 SPARKS-BUTTERCUP LANDFILL
 EASTERN STREET AND 12TH AVENUE
 SPOKANE, WASHINGTON

Project # 60-5035-03

FIGURE 2

KLEINFELDER
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6.3 Environmental Covenant

RESTRICTIVE COVENANT

Sparks and Buttercup Subdivision
12th Avenue and Eastern Street, Spokane, Washington

The property that is the subject of this Restrictive Covenant ("the Site") has been the subject of remedial action under Chapter 70.105D RCW and is legally described as follows:

Those portions of Blocks 11 and 12 and portions of Twelfth Avenue, Dyer Street, Dollar Street, and portions of the Alleys through said Blocks 11 and 12, all in Sparks Addition to Spokane as shown on the plat recorded in Volume L of Plats Page 6, Spokane County, Washington and being more particularly described as follows:

Commencing at the intersection of the centerline of Fourteenth Avenue and Eastern Road as shown on the Final Plat of Buttercup Addition recorded in Volume 16 of Plats Page 84, in said Spokane County, Washington; thence $N0^{\circ}14'15"W$, along the centerline of said Eastern Road, a distance of 607.95 feet; thence $N89^{\circ}45'45"E$, perpendicular to the preceding line, a distance of 221.01 feet to the POINT OF BEGINNING; thence $S88^{\circ}29'11"E$ a distance of 106.40 feet; thence $S88^{\circ}22'41"E$ a distance of 312.92 feet; thence $S25^{\circ}43'48"E$ a distance of 38.73 feet; thence $S12^{\circ}00'22"E$ a distance of 31.65 feet; thence $S6^{\circ}49'26"W$ a distance of 70.24 feet; thence $S33^{\circ}53'10"W$ a distance of 79.12 feet; thence $S89^{\circ}16'10"W$ a distance of 40.03 feet; thence $N77^{\circ}53'50"W$ a distance of 90.86 feet; thence $N78^{\circ}54'25"W$ a distance of 59.47 feet; thence $N86^{\circ}13'03"W$ a distance of 59.66 feet; thence $N84^{\circ}34'09"W$ a distance of 80.35 feet; thence $N30^{\circ}47'47"W$ a distance of 146.07 feet; thence $N13^{\circ}58'31"E$ a distance of 47.34 feet to the POINT OF BEGINNING.

The investigative and remedial actions undertaken to clean up the Site (hereinafter the "Cleanup Action") are described in the following reports:

Remedial Investigation Report, Sparks and Buttercup Subdivision, Eastern Street and 12th Avenue, Spokane, Washington: Kleinfelder, Inc., July 7, 1993.

Ground Water Monitoring Data Summary Report, Sparks and Buttercup Subdivision, Eastern Street and 12th Avenue, Spokane, Washington: Kleinfelder, Inc., August 13, 1993

Independent Remedial Action Report, Sparks and Buttercup Landfill, Eastern Street and 12th Avenue, Spokane, Washington: Kleinfelder, Inc., August 1994.

August 1994 Compliance Ground Water Monitoring Report, Sparks and Buttercup Subdivision, Eastern Street and 12th Avenue, Spokane, Washington: Kleinfelder, Inc., September 14, 1994.

November 1994 Compliance Ground Water Monitoring Report, Sparks and Buttercup Subdivision, Eastern Street and 12th Avenue, Spokane, Washington: Kleinfelder, Inc., December 28, 1994

April-May 1995 Compliance Monitoring Report, Sparks and Buttercup Subdivision, Eastern Street and 12 Avenue, Spokane, Washington: Kleinfelder, Inc., May 26, 1995.

Compliance Monitoring Report, May-August 1995, Sparks and Buttercup Subdivision, Eastern Street and 12th Avenue, Spokane, Washington: Kleinfelder, Inc., August 30, 1995.

These documents are on file at the State of Washington Department of Ecology ("Ecology") Eastern Regional Office. This Restrictive Covenant is required under Ecology's rule WAC 173-340-440 because the cleanup action on the Site resulted in residual concentrations of petroleum hydrocarbons and metals in the soil which exceed Ecology's cleanup levels established under WAC 173-340-740.

The undersigned, U. S. Bancorp Financial Inc., successor by merger to Spectrum Properties, Inc., is the fee owner of the Site in Spokane County, State of Washington. This property owner makes the following declaration as to limitations, restrictions, and uses to which the Site may be put, and specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Site.

Section 1. The Site contains residual concentrations of petroleum hydrocarbons and metals in the soil. The Site has been covered with imported clean soil and a PVC liner, and has been revegetated with grass. Remediation or removal of the contaminated soil must be addressed before the owner or a successor owner alters or modifies the Site to the extent that it affects the contamination, the clean soil cap, or the PVC liner. Any plans for alteration, modification, or removal shall be submitted to Ecology, or a successor agency, for approval.

Section 2. The owner or successor owner of the Site must give written notice to Ecology, or to a successor agency, of the owner's or successor owner's intent to convey any interest in the Site, and shall, prior to conveyance of title, easement, lease, or other interest in the Site, provide the new owner or lessee of any interest in the Site a copy of the August 1994 Independent Remedial Action Report. No conveyance of title, easement, lease, or other interest in the property shall be consummated by the owner without adequate and complete provision for continued compliance with this Restrictive Covenant. Copies of this Restrictive Covenant shall be furnished to any transferee of the Site.

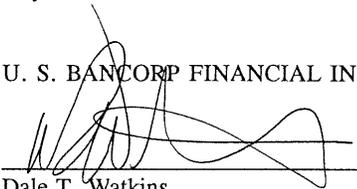
Section 3. The owner or successor owner agrees to maintain the clean soil cap and agrees to submit written notification to Ecology, or a successor agency, on an annual basis, confirming that the clean soil cap has undergone a visual inspection, received any necessary repairs due to erosion, and remains in place. This covenant does not require the owner or successor owner to maintain or inspect the PVC liner.

Section 4. The owner or successor owner must notify and obtain approval from Ecology, or from a successor agency, prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. Ecology or its successor agency may approve such a use only after public notice and comment.

Section 5. The owner or a successor owner shall grant Ecology, or a successor agency, and its designated representatives the right to enter the Site at reasonable times for the purpose of carrying out its duties under RCW Chapter 70.105D, including the right to take samples, inspect any remediation actions taken at the Site, and inspect records.

Section 6. The owner of the Site and any successor owners reserve the right under WAC 173-340-440 to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the Site or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology, or of a successor agency. Ecology, or a successor agency, may consent to the recording of such an instrument only after public notice and comment, and only if a restrictive covenant is no longer required by law at this Site.

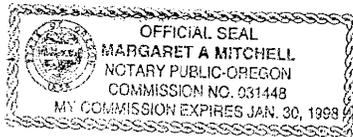
U. S. BANCORP FINANCIAL INC.



Dale T. Watkins
Vice President

STATE OF OREGON)
) SS
COUNTY OF MULTNOMAH)

This instrument was acknowledged before me on May 16, 1996, by Dale T. Watkins as Vice President of U. S. Bancorp Financial Inc.



Margaret A. Mitchell
Notary Public for Oregon
My commission expires: 1-30-98

6.4 Photo log

Photo 1: Entrance to Property – from the southeast



Photo 2: Damaged Concrete Drainage Structure – from the southeast



Photo 3: West Side of Landfill - from the south



Photo 4: Landfill Surface – from the north

