

CSID 1229

WORKSHEET 1
SUMMARY SCORE SHEET

Note: This document currently has no provision for sediment route scoring.

Site Name/Location (Street, City, County, Section/Township/Range, TCP ID Number):

MST Chemicals
AKA: Schnitzer Steel Industries, Inc.
6020 W. Marginal Way SW
Seattle, WA 98106
T-24N, R-4E, Sec-30
TCP ID# N-17-0157-000
Longitude: 122 Degrees, 20 Minutes, 43.66 Seconds
Latitude: 47 Degrees, 32 Minutes, 55.28 Seconds
Method: 99

Site Description (Include management areas, substances of concern, and quantities):

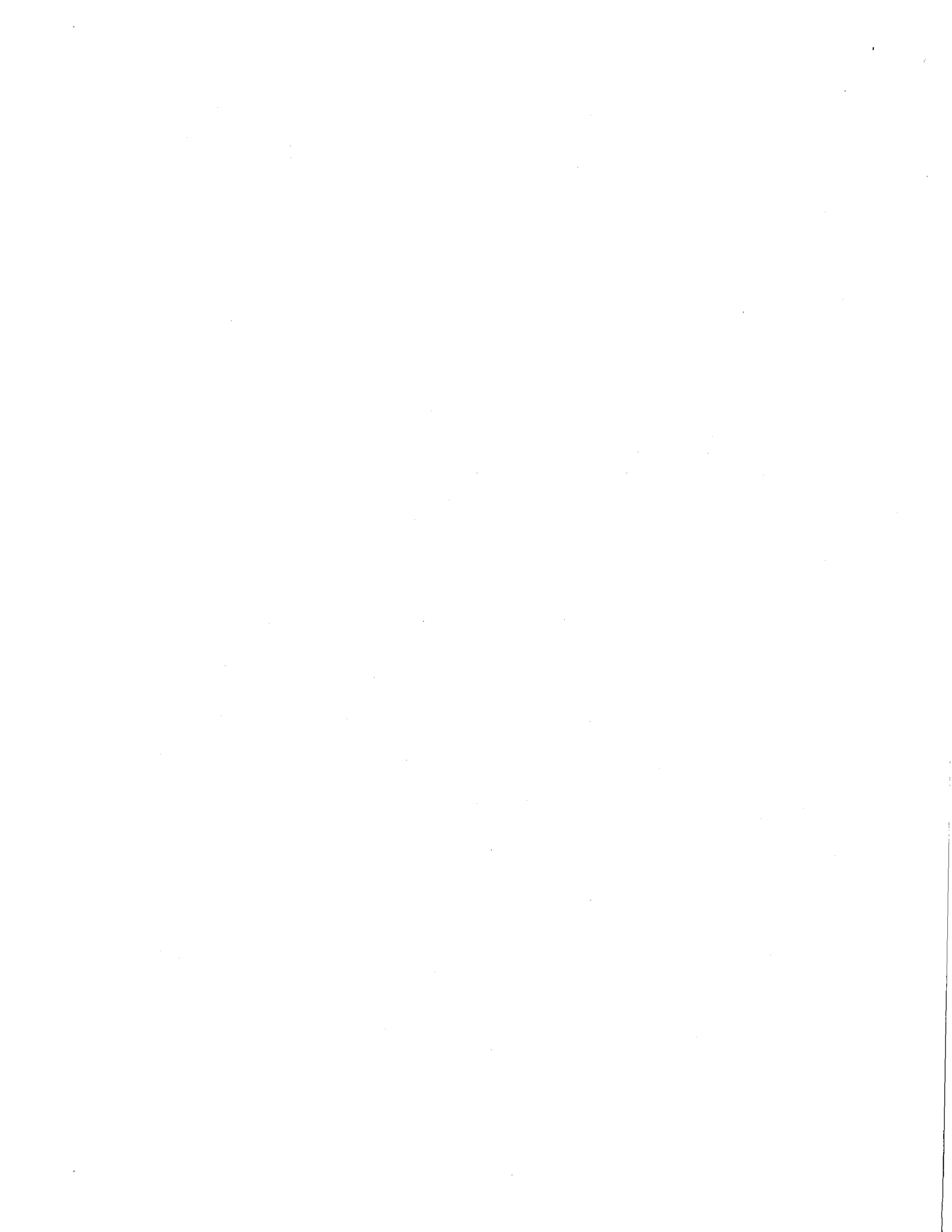
The MST Chemicals site lies on property owned by the Port of Seattle at Terminal 115 which is located in an industrial area along the western shore of the Duwamish Waterway in West Seattle. Although the record shows the site listed as MST Chemicals, this appears to be a mistake as the business has never been known under this name. The business has been known as M & T Chemicals, MRI Corporation (affiliated with American Can), Proler International, Proler Recycling (Proler) and is now owned by Schnitzer Steel Industries, Inc (Schnitzer). The site property is leased from the Port by Schnitzer.

Proler was sold to Schnitzer in January 1997. Schnitzer is currently in the process of shutting down the existing Tin Reclamation and Recycling operation on the site. The site has been used for tin recycling processes since 1963. The most recent recycling operation involved stripping steel cans and glass sludge (dross) of tin which was precipitated out, smelted and sold as ingots. The steel was collected and sold for reuse. The rest of the waste stream consisted of "black mud" and spent plating solution. "Black mud" is the term for the food, glue and other dirt taken from the cans, dewatered in a filter press and stockpiled on site. The "black mud" was either sold for further tin reclamation or sent to the landfill.

The spent plating solution was originally discharged to the sanitary sewer. However, due to the inability of this facility to meet wastewater discharge limits, and to meet a December 2, 1996 Compliance Order issued by the King County Department of Natural Resources, all storm water and process wastewater was being collected and reused on site. Only toilet wastes were allowed to discharge to the sewer. During a storm event, however, water from the western parking/staging area was seen to leave the site. Raw cans, barrels of glass dross and other materials were stockpiled in this parking/staging area prior to entering the recycling process. The stormwater runoff discharged to storm system catch basins outside the site's fence line. It is believed that this storm system discharges into the Duwamish waterway.

Most of the site is covered by concrete and/or asphalt, except for the area of the railroad spur located in the western parking/staging area which is unsealed dirt and gravel. A large building, with a sealed floor, is present where vats of chemicals were used to run the tin recycling process indoors. A concrete lined and containment bermed above ground tank farm, for bulk chemicals, is present on the site.

Historically, prior to 1972, the method of handling the spent plating solution and black mud used two settling and evaporation lagoons located in the East portion of the site. Total area of the lagoons was about 2,000 square feet. The mud accumulated in these lagoons was periodically excavated and sold for further tin reclamation. These lagoons were abandoned due to the incorporation of the dewatering filter press. At that time (1972), according to a report prepared for the Port by



Advanced Environmental Technologies, Seattle, WA, the lagoons were cleaned out, and the recovered tin rich soils were sold and shipped to Tex-Tin in Texas for further tin recovery. No written evidence of this transfer was available when ranking the site.

Following the incorporation of the dewatering filter press, since 1972, the black mud was stockpiled on site and periodically sold and shipped to England for further tin recovery. According to the report by Advanced Environmental Technologies, due to market pressure involving a drop in price for tin, further shipping of the accumulated mud was not conducted between 1987 and 1991. ENSR Consulting and Engineering conducted a waste characterization program, report date March 14, 1991, and found the black mud accumulated on site did not produce lab results (lab results by Pacific Northwest Environmental Laboratories, Inc.) indicating a classification as a dangerous waste. Waste Management of North America also reportedly developed a chemical waste profile from the data supplied by ENSR and a representative sample of the mud and then accepted the mud for disposal to a regular landfill.

The former lagoon areas were filled some time ago with gravel and the entire east yard was paved over in 1991. There is no record available showing the soils below the lagoon area were excavated and removed. Nor is there a sampling record showing soils in this area are not contaminated.

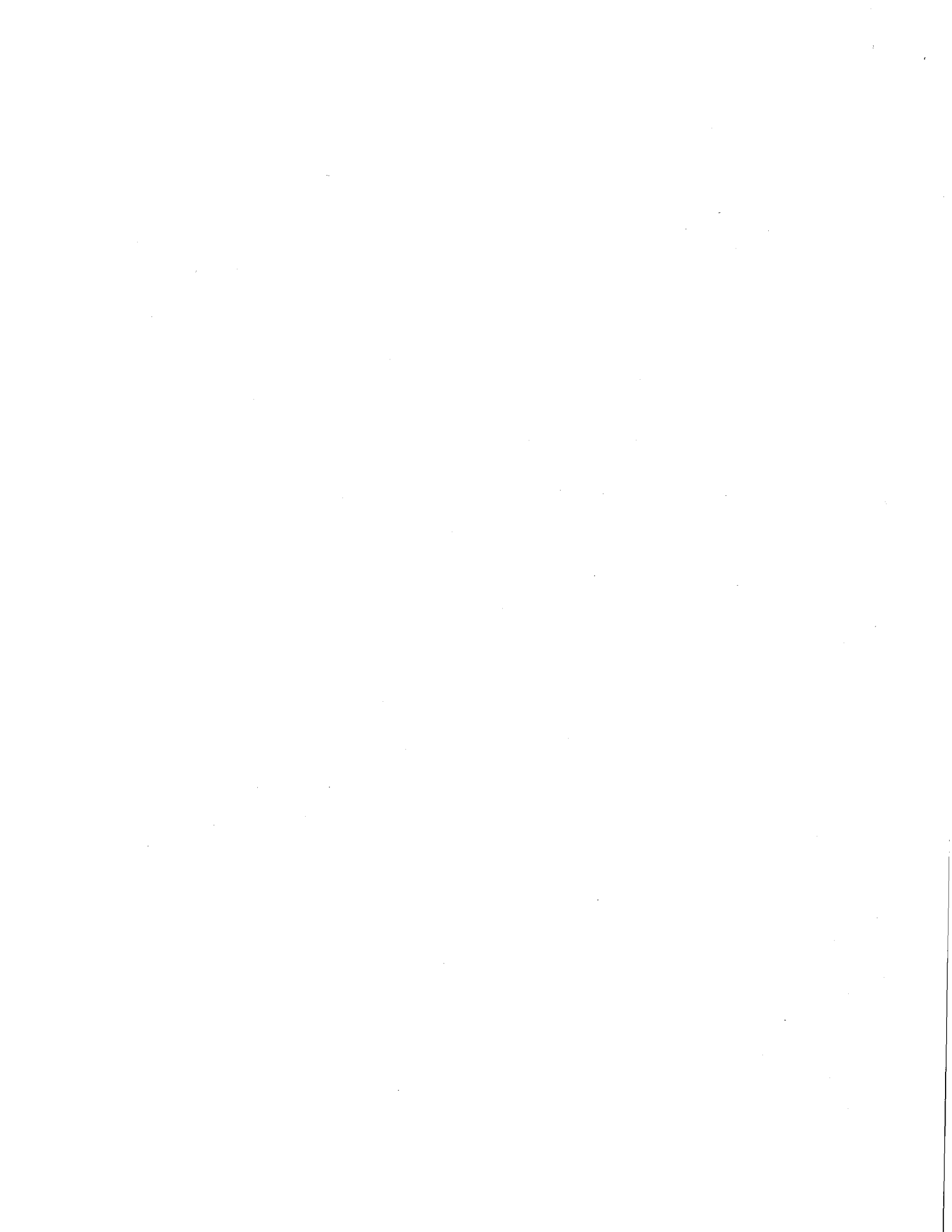
A Site Hazard Assessment was conducted by Peter Isaksen and Carsten Thomsen of the Seattle-King County Department of Public Health (SKCDPH). A site visit to investigate sampling possibilities was conducted on October 30, 1997. Sampling was conducted on November 7, 1997 with three soil samples collected and tested for Total RCRA Metals (8) plus Tin and Zinc from the soils of the railroad spur area. Testing was performed by OnSite Environmental, Inc., Redmond, WA. In addition, split samples were collected and tested by Dave Corbin of CH2M Hill. Results of split sample testing were not received by SKCDPH. The soils of the lagoon area were not sampled as they could not be accessed below the concrete cover in the eastern end of the site.

One soil sample, taken closest to the entrance of the process building showed Lead at 470 mg/kg (PPM). This level exceeds Model Toxics Control Act (MTCA) Method A Cleanup Levels for Lead in residential soils which is 250.0 mg/kg, however this level does not exceed Method A Cleanup levels for Industrial Soil (1000 mg/kg). The property is zoned Industrial. No other measured parameter exceeded Method A cleanup levels. Zinc and tin levels were slightly elevated from what can be expected from background levels, however no sample was at or near Method B cleanup levels.

On the basis of this SHA, completed by the SKCDPH's Environmental Health division, this site will be scored on the basis of past practices which used the unlined dewatering lagoons for black mud sludge storage. These lagoons have been abandoned but no record, nor sampling is available to prove contaminated soils have been totally removed. The site will be scored on the ground water pathway only because the entire lagoon area is now covered by concrete.

Special Considerations (Include limitations in site file data or data which cannot be accommodated in the model, but which are important in evaluating the risk associated with the site, or any other factor(s) over-riding a decision of no further action for the site):

Although the site ranked a 5, it is not considered a significant threat to the health of the public due to the fact that the ground water in the area is not usable for drinking, nor for irrigation purposes due to tidal influences of the Duwamish Waterway. This site is in an industrial zoned area. Land use in this area is not likely to change. Actual soil levels of possible contaminants were not used for this ranking due to lack of available soils for sampling.



ROUTE SCORES:

Surface Water/Human Health: N/A

Surface Water/Environ.: N/A

Air/Human Health: N/A

Air/Environmental: N/A

Ground Water/Human Health: 11.6

WARMSSH
Rev. 7/12/94

OVERALL RANK: 5

WORKSHEET 2
ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

List those substances to be considered for scoring: Source: 2

Not applicable to site/not scored.

Explain basis for choice of substance(s) to be used in scoring.

List those management units to be considered for scoring: Source: 2

Explain basis for choice of unit to be used in scoring.

2. AIR ROUTE

List those substances to be considered for scoring: Source: 2

Not applicable to site/not scored.

Explain basis for choice of substance(s) to be used in scoring.

List those management units to be considered for scoring: Source: 2

Explain basis for choice of unit to be used in scoring.

3. GROUND WATER ROUTE

List those substances to be considered for scoring: Source: 2,3,4
Tin
Zinc

Explain basis for choice of substance(s) to be used in scoring.

The above substances are associated with past uses on site.

List those management units to be considered for scoring: Source: 2

Materials may be present in soils below abandoned, unlined dewatering lagoons which are now covered by concrete.

Explain basis for choice of unit to be used in scoring.

Dewatering lagoons are now covered by concrete. No record is available to show material has been removed.



**WORKSHEET 6
GROUND WATER ROUTE**

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard		Acute Toxicity		Chronic Toxicity		Carcinogenicity		
	(ug/l)	Val.	(mg/kg-bw)	Val.	(mg/kg/day)	Val.	WOE	PF*	Val.
1. Tin	-	ND	-	-	ND	-	-	-	ND
2. Zinc	4000	2	-	ND	0.2	1	-	-	ND
3.									
4.									

*Potency Factor Source: 3
Highest Value: 2
(Max.=10)
+2 Bonus Points? No
Final Toxicity Value: 2
(Max.=12)

1.2 Mobility (Use numbers to refer to above listed substances)
Cations/Anions: 1.= 1, 2.= 3 Source: 1 Value: 3
(Max.=3)

OR
Solubility(mg/l): 1= ; 2= ; 3= ; 4= ; 5= ; 6= .

1.3 Substance Quantity: >100 - 1,000 cubic yards Source: 2 Value: 3
Explain basis: Soils estimate: 2,000 square foot dewatering lagoons, three feet deep. (Max.=10)

2.0 MIGRATION POTENTIAL

2.1 Containment Source: 2 Value: 8
Explain basis: Scored as a landfill with a cover and no liner or leachate collection system. (Max.=10)

2.2 Net Precipitation: 19.2 inches Source: 5 Value: 2
(Max.=5)

2.3 Subsurface Hydraulic Conductivity: Silty sand Source: 2 Value: 3
(Max.=4)

2.4 Vertical Depth to Ground Water: 0 - 25 feet Source: 2 Value: 8
(Max.=8)

3.0 TARGETS

3.1 Ground Water Usage: Ground water not usable. Source: 7 Value: 1
(Max.=10)

3.2 Distance to Nearest Drinking Water Well: > 10,000 ft Source: 6 Value: 0
(Max.=5)

3.3 Population Served within 2 Miles: $\sqrt{\text{pop.}} = \sqrt{0} = 0$ Source: 7 Value: 0
(Max.=100)

3.4 Area Irrigated by (Groundwater) Wells
within 2 miles: $0.75\sqrt{\text{no.acres}} = 0$ Source: 7 Value: 0
 $0.75\sqrt{0} = 0.75(0) = 0$ (Max.=50)

WORKSHEET 6 (CONTINUED)
GROUND WATER ROUTE

4.0 RELEASE

Explain basis for scoring a release to ground
water: No confirmed release to ground water

Source: 2 Value: 0
(Max.=5)

SOURCES USED IN SCORING

1. Washington Ranking Method Toxicological Data-base
2. Site Hazard Assessment, Seattle-King County Department of Public Health, conducted November 7, 1997.
3. Analytical results by OnSite Environmental Inc., Redmond, WA, 98052, November 11 through 13, 1997.
4. Waste Characterization Program conducted on black mud by ENSR Consulting and Engineering, Redmond, WA, 98052, for MRI-Proler, Seattle, WA, March 14, 1991
5. National Weather Service Forecast Data.
6. Washington State Department of Health Public Water Supply Listing.
7. Washington State Water Use Data.

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