FINAL REPORT

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TRW Inc.

Ground Water Monitoring
2000 Biennial Report
Sullivan Landfill - Sullivan, Missouri

July 13, 2000

Project No. A3149.00 / 97189GL

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SUPERFUND RECORDS

Environmental Resources Management
1630 Heritage Landing Drive, Suite 100
St. Charles, Missouri 63303

ERM®

A MEMBER OF THE ENVIRONMENTAL RESOURCES MANAGEMENT GROUP

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1630 Heritage Landing Drive, Suite 100
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1.0 *INTRODUCTION*

This report summarizes the ground water monitoring effort which took place on May 22 and 23, 2000 at the Sullivan Landfill site located in Sullivan, Missouri.

Sampling activities were conducted by Environmental Resources Management (ERM) of St. Charles, Missouri.

2.0 *GROUND WATER SAMPLING*

This section describes the sampling procedures used to collect the ground water samples. It describes the well purging activities, decontamination procedures, and sample collection procedures.

In a letter dated Febraury 29, 2000, the Missouri Department of Natural Resources (MDNR) requested some alterations in the sampling program. The sampling frequency for the wells was reduced from annual to biennial. The analyte lead was added to the parameter list, and inorganic samples were to be analyzed for dissolved parameters. The monitoring wells MW102A, MW102B, and B201 were no longer required to be sampled, and MW104 was included as a sample point.

2.1 *WELL PURGING ACTIVITIES*

There are seven ground water monitoring wells currently surrounding the landfill. There is also a ground water production well located near the landfill designated as the "Voss Well". The locations of these wells are shown on Figure 1. Table 1 displays a summary of the well numbers and measurements.

Ground water sampling activities were conducted following the methodologies presented in the March 1994 Ground water Monitoring Plan (the Work Plan) prepared by ABB Environmental Services, Inc. (ABB) of Portland, Maine, and approved by the MDNR.

Prior to well purging, depth to water measurements were collected from the monitoring wells (Table 1) and the casing volume of each well to be sampled was calculated. The Voss Well has a permanent pump and is sealed, so no water level reading was collected from this well.

As described in the Work Plan, some of the wells will not accept a submersible Grundfos pump. Therefore, in order to use a consistent method of purging and sampling for all of the wells, purging of the ground water monitoring wells was completed with dedicated PVC bailers. The bailers were lowered and raised with an electric motor. A stainless steel line was connected to the bailers and they were lowered approximately 10 feet below the water surface before retrieval.

The Voss well is fitted with an automatic chlorination device, therefore, prior to purging, the chlorinator was disconnected. The well was then purged at a rate of approximately 1 gallon per minute using the existing pump until approximately 50 gallons had been removed.

Ground water from monitoring wells was tested, after each full casing volume was removed, for the following field-measured parameters: pH, temperature, specific conductance, and turbidity. These readings were recorded on Field Data Sheets, which are included as Appendix A. As described in the Work Plan, if two well volumes have been removed and field-measured parameters (except turbidity) have stabilized within 10%, the well is considered purged and may be sampled. As shown in the Field Data Sheets, the field-measured parameters for all of the monitoring wells were stable after two casing volumes had been removed.

According to the Work Plan, the Voss Well was to be considered purged after it was allowed to run for a minimum of 10 minutes. During this sampling event it was allowed to run for approximately 1 hour prior to sample collection since it was purged at a slow rate. The purge rate was set low to avoid excessive ponding of water where the purge water was discharged. Field-measured parameters were collected from the well just before sample collection and were recorded on a Field Data Sheet (see Appendix A).

Purge water from all the wells, except the Voss Well, was disposed of in the city of Sullivan sanitary sewer, as approved by the MDNR project manager for this site. Purge water from the Voss Well was allowed to run on the ground, in accordance with the Work Plan.

2.2 *DECONTAMINATION PROCEDURES*

Dedicated bailers were used in all of the monitoring wells. Each bailer is stored by hanging it within the individual wells. Decontamination consisted of a rinse with distilled water prior to use. The stainless steel line used to retrieve bailers was decontaminated between wells with an Alconox detergent and distilled water solution followed by a distilled water rinse.

2.3 *SAMPLE COLLECTION PROCEDURES*

Samples were collected from each well for volatile organic compounds (VOCs) and dissolved barium, chromium, and lead.

Laboratory-supplied containers that had been pre-preserved were used for sample collection. Following sample collection, the containers were held on ice in an insulated cooler.

Samples from the monitoring wells were collected directly from the bailers used to purge the wells. Samples collected for inorganic analysis were placed in a

laboratory-supplied neat container and then field filtered into laboratory-supplied pre-preserved containers. Field filtering was conducted using a peristaltic pump, using dedicated tubing and 0.45 micron filters for each well sampled.

At the Voss Well, the ground water samples were collected from a short length of hose attached to the well spigot. This was the same length of hose that had been used for well purging.

2.4 *QUALITY CONTROL SAMPLE COLLECTION*

A field duplicate sample, equipment blank, and trip blank were included for field sampling and laboratory quality control purposes.

The trip blank consisted of a laboratory-supplied sample for VOCs only, which accompanied the sample containers to the field, during storage, and during delivery to the analytical laboratory.

The equipment blank consisted of the collection of distilled water that was poured over the connector that was used to attach the stainless steel line to the individual bailers. The equipment blank was collected after decontamination procedures had been completed. The equipment blank samples were collected following to the purging and sampling of MW-104 and were labeled MW-104B.

The field duplicate consisted of the filling of an additional set of laboratory-supplied containers. The field duplicate for this sampling event was collected from MW-104 and was labeled MW-104(DUP).

3.0 *GROUND WATER FLOW DIRECTION*

On May 22, 2000 a round of water level measurements was collected from the monitoring wells. The depth-to-water measurements and ground water elevations are shown in Table 1.

The water level elevations for MW-101, MW-102B, MW-103, and MW-105 were used in the construction of the potentiometric surface map (see Figure 2). These four wells were chosen because the screened elevations of these wells are the most similar. Previous potentiometric maps constructed by ABB Environmental Services, Inc. also utilized only these four wells.

As shown in Figure 2, the ground water flow direction is generally to the north, based on the measurements collected on May 22, 2000. The flow direction is similar to that determined during the last annual monitoring event.

4.0 *ANALYTICAL RESULTS*

The ground water samples were delivered by overnight carrier to Quanterra Environmental Services of North Canton, Ohio for laboratory analyses. The samples were held, transported, and delivered following strict chain-of-custody procedures. Custody seals were placed on the shipping cooler.

The collected samples were analyzed for VOCs by Method 8260B, and dissolved barium, chromium, and lead by Method 6010B. The laboratory analytical report and completed chain-of-custody forms are included as Appendix B.

A summary of detected VOCs and inorganic analytes is attached as Table 2.

Three of the VOCs were found above laboratory detection limits: 1,1-dichloroethane, 1,1,1-trichloroethane, and trichloroethene. The compound 1,1-dichloroethane was found at 8 ug/l in MW105 and at 3.6 ug/l in the Voss Well. These two are upgradient and sidegradient of the landfill, respectively (see Figure 2). The compound 1,1,1-trichloroethane was found at 1.1 ug/l in MW105 and at the estimated value of 1.2 ug/l in the Voss Well. As previously described, these wells are upgradient and sidegradient of the landfill, respectively. Trichloroethene was found at 3.8 ug/l in MW101, 4.3 ug/l in MW104, 3.0 ug/l in MW105, and at the estimated value of 1.6 ug/l in the Voss Well. As shown in Figure 2, these four wells are all upgradient or sidegradient from the landfill.

Except for the previously described three compounds, all other VOCs were found at estimated levels below the laboratory detection limits.

The analytical results for dissolved barium, chromium, and lead show that for all of the samples submitted, the levels were below the instrument detection limit.

5.0 *SUMMARY*

On May 22 and 23, 2000, ground water samples were collected for VOCs and dissolved barium, chromium, and lead from five wells around the Sullivan Landfill located in Sullivan, Missouri. As described in Section 4.0 of this report, the only analytes found at levels above the detection limit were 1,1-Dichloroethane, 1,1,1-Trichloroethane, and Trichloroethene. The analytes were found in several monitoring wells at varied concentrations shown in Table 2. The concentrations of these VOCs found in the ground water samples are only slightly above the detection limits of 1 ug/L and are below the maximum contaminant levels promulgated by the U.S. Environmental Protection Agency.

In order to provide a comparison to previous sampling results, a historical summary of detected VOCs as well as, total and dissolved barium, chromium, and lead from all previous sampling events has been included as Table 3. As shown in this table, the measurements in all of the wells have remained relatively consistent over time since sampling activities began.

A potentiometric surface map was completed based on depth-to-water measurements collected on May 22, 2000 and indicates a northerly ground water flow direction, which is similar to what has been previously measured.

TABLES

TABLE 1

WELL SUMMARY SULLIVAN LANDFILL SAMPLING [1]
May 22-23, 2000
SULLIVAN, MISSOURI

Well	TOC Elevation [1]	Depth-to-Water from TOC	Ground Water Elevation [2]	Total Well Depth from TOC	Total Boring Depth from Ground Surface	Base of Well Elevation [2]	Formation Screened
MW-101	887.08	168.33	718.75	185	243	702.08	Gasconade
MW-102A	895.5	194.28	701.22	275	283	620.5	Gasconade
MW-102B	896.01	186.80	709.21	210	214	686.01	Gasconade
MW-103	878.46	187.62	690.84	208	243	670.46	Gasconade
MW-104	898.95	184.38	714.57	202	205	696.95	NC
MW-105	881.69	155.40	726.29	177	203	704.69	Gasconade
B-201	NC	14.30	NC	20.2	17.5	NC	Roubidoux
Voss	NC	NC	NC	NC	NC	NC	NC

Notes: [1] All measurements are expressed in feet.

[2] Elevations are based on the North American Vertical Datum of 1988.

Key: TOC = Top of casing.

NC = Not collected.

TABLE 2

SUMMARY OF DETECTED ANALYTES [1]
May 22 and 23, 2000
SULLIVAN LANDFILL
SULLIVAN, MISSOURI

	MCL[2]	Detection Limit	Sample Number							
			MW-101	MW-103	MW-104	MW-104 (duplicate)	MW-104B (eqpt. blank)	MW-105	Voss	Trip Blank
Volatile Organic Analytes										
Acetone	[3]	10	--	--	0.92 J	1.0 J	2.7 J	--	--	1.0 J
2-Butanone	[3]	10	--	--	--	0.13 J	0.83 J	--	--	
Chlorobenzene	100	1	--	--	--	--	--	--	--	--
Dibromochloromethane	[3]	1	--	--	--	--	--	--	--	--
Chloroform	[3]	1	0.11 J	--	0.14 J	--	--	0.27 J	0.64 J	--
1,1-Dichloroethane	[3]	1	0.35 J	--	0.35 J	0.36 J	--	8.0	3.6	--
1,2-Dichloroethane	5	1	--	--	--	--	--	0.14 J	--	--
1,1-Dichloroethene	7	1	--	--	--	--	--	0.24 J	--	--
1,2-Dichloroethene	5	1	0.97 J	--	--	--	--	--	--	--
Methylene Chloride	5	1	--	--	--	--	--	0.40 J	--	--
Toluene	1,000	1	0.12 J	--	--	--	0.96 J	--	--	0.14 J
1,1,1-Trichloroethane	200	1	0.39 J	0.82 J	0.37 J	0.37 J	--	1.1	1.2 J	--
Trichloroethene	5	1	3.8	--	4.3	4.2	--	3.0	1.6 J	--
Tetrachloroethene	5	1	0.36 J	0.70 J	0.49 J	0.45 J	--	0.70 J	0.93 J	--
Inorganic Analytes (dissolved)										
Barium	2000	200	--	--	--	--	--	--	--	N/A
Chromium	100	10	--	--	--	--	--	--	--	N/A
Lead	15	3	--	--	--	--	--	--	--	N/A

Notes: [1] Results expressed in ug/l.
[2] U.S. Environmental Protection Agency maximum contaminant level.
[3] No MCL is associated with this compound.

Key: J = Estimated value.
-- = Not detected.
N/A = Not analyzed.

TABLE 3

MW-101
HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES
SULLIVAN LANDFILL

	Sample Event														
	5/23/92	7/22/92	2/13/93	8/30/93	5/24/94	9/6/94	3/24/95	6/28/95	9/15/95	12/18/95	5/3/96	6/23/97	7/22/98	6/29/99	5/22/00
Volatile Organic Compounds (ug/l)															
Acetone	--	--	--	--	--	--	--	--	--	--	--	--	4 BJ	--	--
2-Butanone (MEK)	--	--	--	--	--	--	--	--	--	--	--	3 J	--	--	--
4-Methyl-2-Pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28 J	0.35 J
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	1 BJ	0.19 J	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.39 J
Trichloroethene	4 J	--	--	4.2	1.9	3.7	2.1	2.2	3.7	4.1	3.2	--	3 J	2.3	3.8
Tetrachloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	0.33 J	0.36 J
Toluene	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	0.12 J
Dibromochloromethane	--	--	--	3.3 J	2.2	--	--	--	--	--	--	NA	NA	NA	--
Dichlorodifluoromethane	NA	NA	--	--	--	--	2.1	1.9	3	4.9	4.8	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	51	31	26.2	43.8	26.8	24.8	32.4	42.3	32.9	NA	NA	NA	NA
Dichlorofluoromethane	NA	NA	30	26	18.6	23.7	16.3	19.4	22.5	39.8	25.5	NA	NA	NA	NA
Inorganic Analytes (total) (ug/l)															
Barium	90	[illegible]	NA	NA	52	53	56	51	53	58	63	61.1	67 B	--	NA
Chromium	--	--	NA	NA	--	--	--	--	--	--	--	--	4.5 B	39	NA
Lead	10	8	NA	NA	--	--	--	--	--	--	--	--	NA	NA	NA
Inorganic Analytes (dissolved) (ug/l)															
Barium	NA	NA	--	53	60	58	64	57	56	55	54	NA	NA	NA	--
Chromium	NA	NA	--	--	--	--	--	--	--	--	--	NA	NA	NA	--
Lead	NA	NA	--	--	--	--	--	--	--	--	--	NA	NA	NA	--

Key: -- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J=Estimated value.
NA = Not Analyzed

TABLE 3

MW-103
HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES
SULLIVAN LANDFILL

	Sample Event														
	5/20/92	7/22/92	2/11/93	8/30/93	5/24/94	9/6/94	3/29/95	6/28/95	9/28/95	12/18/95	5/3/96	6/24/97	7/23/98	6/30/99	5/23/00
Volatile Organic Compounds (ug/l)															
Acetone	--	--	--	--	--	--	--	--	--	--	--	--	4 BJ	--	--
2-Butanone (MEK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	0.38 J	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	0.32 J	--
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	--	--	35 B	0.55 J	--
1,1,1-Trichloroethane	--	--	--	--	1.1	1.4	1.3	1.1	1.4	1.9	1	--	2 J	2	0.82 J
Trichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	1 J	0.5 J	--
Tetrachloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	0.7 J
Toluene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--	--	NA	NA	--	--
Dichlorodifluoromethane	NA	NA	--	--	4.7	3.6	7.7	6	6.1	7.5	10.1	NA	NA	NA	--
Trichlorofluoromethane	NA	NA	63	76	14.4	18.5	176	174	179	175	185	NA	NA	NA	--
Dichlorofluoromethane	NA	NA	--	5.6	24.4	37.5	43.3	42	54.2	88.8	74.1	NA	NA	NA	--
Inorganic Analytes (total) (ug/l)															
Barium	NA	--	--	NA	52	48	52	48	54	56	54	57.1 B	117 B	--	NA
Chromium	NA	70	70	NA	--	--	--	--	--	--	--	--	17.4 B	12.0	NA
Lead	NA	10	160	NA	--	--	198	119	119	119	--				NA
Inorganic Analytes (dissolved) (ug/l)															
Barium	NA	NA	NA	50	52	55	58	51	90	53	58	NA	NA	NA	--
Chromium	NA	NA	NA	--	--	--	--	--	--	--	--	NA	NA	NA	--
Lead	NA	NA	NA	--	--	--	--	--	--	--	--	NA	NA	NA	--

Key: -- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J=Estimated value.
NA = Not Analyzed

TABLE 3

MW-104
HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES
SULLIVAN LANDFILL

	Sample Event				
	5/23/92	7/22/92	2/13/93	8/30/93	5/23/00
Volatile Organic Compounds (ug/l)					
Acetone	4 J	--	--	--	0.92 J
2-Butanone (MEK)	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	30 J	--	--	--	--
1,1-Dichloroethane	--	--	--	--	0.35 J
1,1-Dichloroethene	--	--	--	--	--
Methylene Chloride	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	0.37 J
Trichloroethene	4 J	--	--	--	4.3
Tetrachloroethene	--	--	--	--	0.49
Toluene	--	--	--	--	--
Dibromochloromethane	NA	NA	--	--	--
Dichlorodifluoromethane	NA	NA	--	--	NA
Trichlorofluoromethane	NA	NA	89	58	NA
Dichlorofluoromethane	NA	NA	52	60	NA
Inorganic Analytes (total) (ug/l)					
Barium	NA	--	NA	NA	NA
Chromium	NA	60	NA	NA	NA
Lead	NA	60	NA	NA	NA
Inorganic Analytes (dissolved) (ug/l)					
Barium	70	NA	--	56	--
Chromium	--	NA	--	--	--
Lead	--	NA	--	3.1	--

Key: -- = Not Detected
J=Estimated value.
NA = Not Analyzed

TABLE 3

MW-105
HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES
SULLIVAN LANDFILL

	Sample Event														
	5/24/92	7/22/92	2/2/93	8/30/93	5/24/94	9/6/94	3/29/95	6/28/95	9/22/95	12/18/95	5/3/96	6/23/97	7/22/98	6/29/99	5/23/00
Volatile Organic Compounds (ug/l)															
Acetone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	21	--	27	--	8.0	11.7	11.5	10.1	12.5	8.1	17.1	--	12	13	8.0
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	1 J	0.93 J	0.24 J
Methylene Chloride	3 J	--	--	--	--	--	--	--	--	--	--	--	2 BJ	0.73 J	0.4 J
1,1,1-Trichloroethane	5	--	--	--	9.4	9.6	8.9	7.1	6.2	3.6	1.7	--	3 J	2.5	1.1
Trichloroethene	6	--	--	--	2.5	4.3	3.6	2.6	5.4	2.9	4.8	--	4 J	3.9	3.0
Tetrachloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	0.61 J	0.7 J
Toluene	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	23 J	--	--	--	--	--	--	--	NA	NA	--	--
Dichlorodifluoromethane	NA	NA	--	--	2.7	--	4.4	2.3	2.8	3.6	7.7	NA	NA	NA	
Trichlorofluoromethane	NA	NA	89	--	31	50.6	44.2	29.5	26.7	25.6	197	NA	NA	NA	
Dichlorofluoromethane	NA	NA	320	120	84.1	114	121	88.8	104	114	28.9	NA	NA	NA	
Inorganic Analytes (total) (ug/l)															
Barium	300	120	NA	NA	152	123	136	121	129	139	160	158 B	144 B	--	NA
Chromium	30	--	NA	NA	--	--	--	--	--	--	--	--	1.5 B	--	NA
Lead	120	50	NA	NA	--	--	--	--	--	--	5.8				NA
Inorganic Analytes (dissolved) (ug/l)															
Barium	NA	NA	120	120	--	139	153	136	131	145	173	NA	NA	NA	--
Chromium	NA	NA	--	--	--	--	--	--	--	--	--	NA	NA	NA	--
Lead	NA	NA	--	--	--	--	--	--	--	--	--	NA	NA	NA	--

Key: -- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J=Estimated value.
NA = Not Analyzed

TABLE 3

VOSS WELL
HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES
SULLIVAN LANDFILL

	Sample Event												
	2/12/93	8/31/93	5/24/94	9/6/94	3/29/95	6/28/95	9/22/95	12/18/95	5/3/96	6/23/97	7/22/98	6/30/99	5/23/00
Volatile Organic Compounds (ug/l)													
Acetone	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	1.9	2.0	2.3	3.1	2.6	3.1	3.5	--	4 J	5.2	3.6
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	--	--	--	--	--	--	--	--	--	--	2 BJ	0.85 J	--
1,1,1-Trichloroethane	--	--	1.7	1.7	1.5	1.6	1.5	1.8	1.6	--	2 J	1.9	1.2 J
Trichloroethene	--	--	2.5	2.4	2.8	2.7	2.8	3.1	3.4	--	3 J	2.6	1.6 J
Tetrachloroethene	--	--	--	--	--	--	--	--	--	8	1 J	1	0.93 J
Toluene	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	NA	NA	0.11 J	--
Dichlorodifluoromethane	NA	--	3.9	3.8	4.7	5.2	5.7	7	8.7	NA	NA	NA	
Trichlorofluoromethane	120	15 J	73.9	--	70.1	90.3	81.4	88.7	92.7	NA	NA	NA	
Dichlorofluoromethane	150	19 J	70	66.7	76.7	97.4	80.8	161	192	NA	NA	NA	
Inorganic Analytes [1] (ug/l)													
Barium	NA	NA	76	82	82	69	83	83	85	88.2 B	83 B	--	NA
Chromium	NA	NA	--	--	--	--	--	--	--	--	--	--	NA
Lead	NA	NA	--	--	--	--	--	--	--				NA
Inorganic Analytes (dissolved) (ug/l)													
Barium	90	76	78	91	93	78	85	86	96	NA	NA	NA	--
Chromium	--	--	--	--	--	--	--	--	--	NA	NA	NA	--
Lead	--	--	--	--	--	--	--	--	--	NA	NA	NA	--

Key: -- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J=Estimated value.
NA = Not Analyzed

FIGURES

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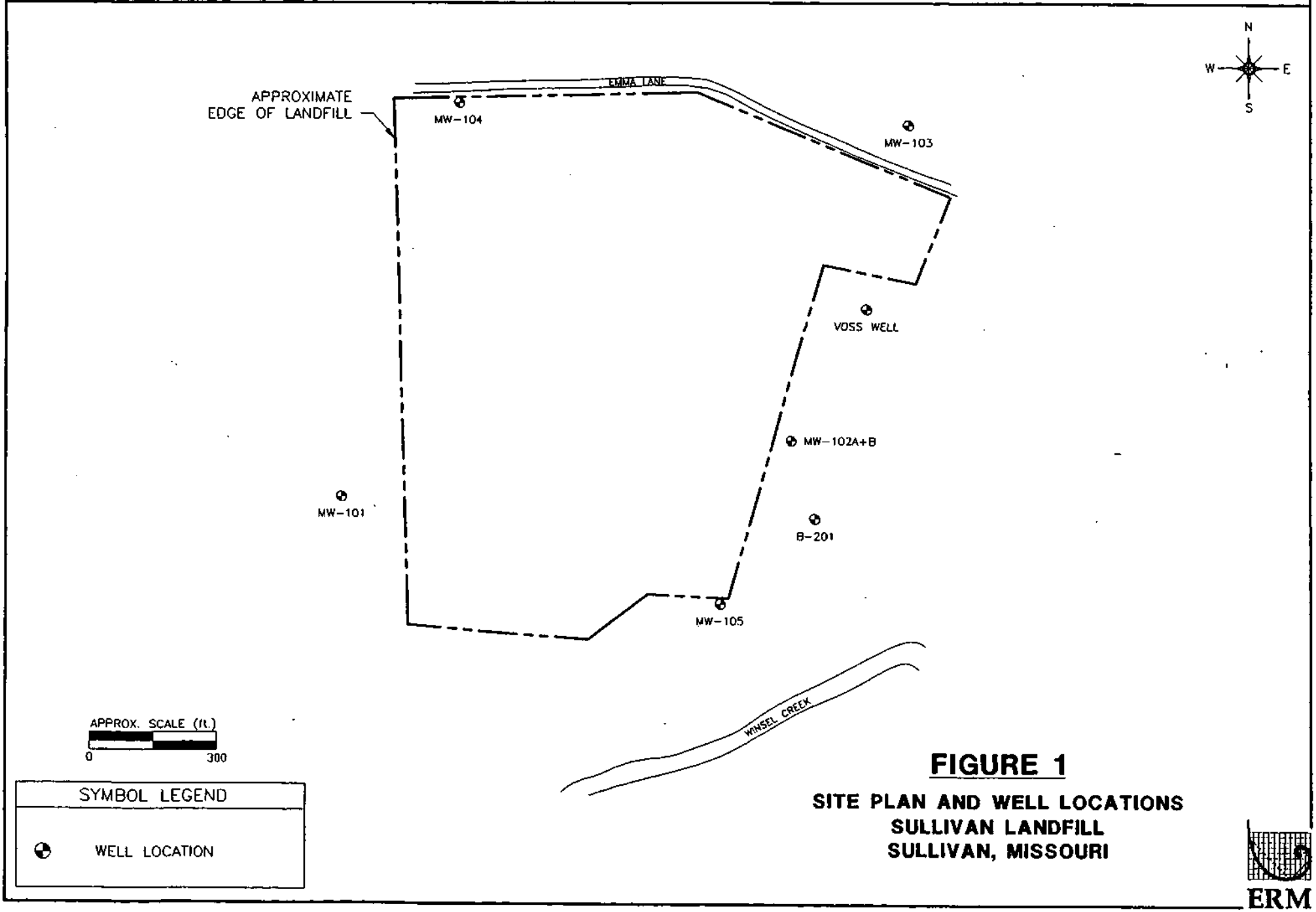

FIGURE 1

SITE PLAN AND WELL LOCATIONS
SULLIVAN LANDFILL
SULLIVAN, MISSOURI

ERM

FK | S:\CPF\A31\A3149\00\ACAD\FIG2.DWG JUNE 15, 2000 - 10:54:15

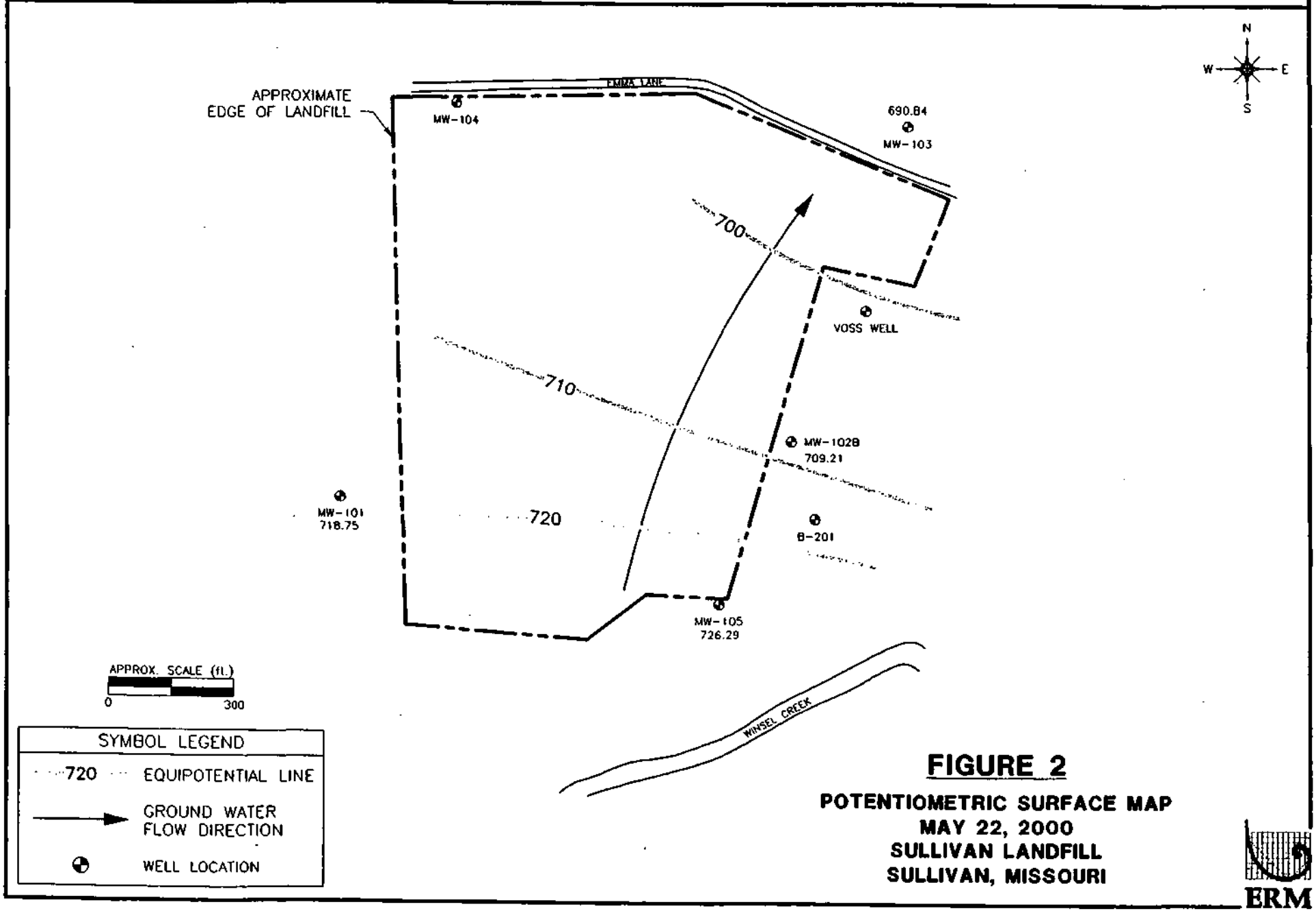

FIGURE 2

POTENTIOMETRIC SURFACE MAP
MAY 22, 2000
SULLIVAN LANDFILL
SULLIVAN, MISSOURI

ERM