GERAGHTY & MILLER, INC.
Environmental Services

Ground Water Engineering Hydrocarbon Remediation Education

March 6, 1991

Ms. Cynthia L. Hutchison
Region VII
U.S. Environmental Protection Agency
726 Minnesota Avenue
Kansas City, KS 66101

Dear Ms. Hutchison:

Enclosed please find five copies each of the following reports:

- "Progress Report, Ground Water Remediation System, SECO Products Facility, Washington, Missouri"
- "Operational Report, Vapor Extraction System, SECO Products, Washington, Missouri"

If you have any questions or comments, please call.

Very truly yours,

GERAGHTY & MILLER, INC.

Gregory D. Sengelmann
Project Scientist I
Manager, Hydrocarbon Services

Robert L. Miller
Associate

R00349430
RCRA RECORDS CENTER

GDS/kn

Enclosures

cc: Mr. Dennis Dubitsky, Hussmann Corporation (w/encl)

1700 American Bank Plaza • Corpus Christi, Texas 78475 • (512) 883-1353 • FAX (512) 883-7565

PROGRESS REPORT
GROUND WATER REMEDIATION SYSTEM
SECO PRODUCTS FACILITY
WASHINGTON, MISSOURI

March 5, 1991

Prepared for

Hussmann Corporation
12999 St. Charles Rock Road
Bridgeton, MO 63044

Prepared by

Geraghty & Miller, Inc.
1700 American Bank Plaza
Corpus Christi, Texas
(512) 883-1353

PROGRESS REPORT
GROUND WATER REMEDIATION SYSTEM
SECO PRODUCTS FACILITY
WASHINGTON, MISSOURI

March 5, 1991

Geraghty & Miller, Inc., appreciates the opportunity to work for Hussmann Corporation at the SECO Products facility. If you have any questions or comments concerning this report, please contact one of the individuals listed below.

Respectfully submitted,

GERAGHTY & MILLER, INC.

Gregory D. Sengelmann
Project Scientist I
Manager, Hydrocarbon Services
Project Manager

Robert L. Miller
Associate/Project Officer

CONTENTS

INTRODUCTION 1

BACKGROUND 1

GROUND WATER RECOVERY SYSTEM INSTALLATION 1

SAMPLING AND ANALYSIS 3

OPERATION AND MAINTENANCE 4

REPORTING 6

RECOVERY WELL SYSTEM EVALUATION 6

TABLES

1. Recovery/Monitor Well Completion Details

2. Summary of Recovery/Monitor Well Analytical Results

3. Summary of Water Level Measurements

4. Air Stripper Efficiency

FIGURES

1. Site Map
2. Typical Recovery Well Design
3. Ground Water Recovery System Diagram
4. Air Stripper Design
5. Static Water Table Map, January 29, 1990
6. Middle Sand Water Table - High Stream Stage, September 13, 1990
7. Pumping Water Table Map, March 13, 1990
8. Pumping Water Table Map, April 3, 1990
9. Pumping Water Table Map, July 18, 1990
10. Pumping Water Table Map, October 12, 1990

APPENDICES

A. Boring Logs and Well Completion Diagrams
B. Ground Water Recovery System - Operation and Maintenance Procedures
C. Treatment Unit Inspection Logs - 1990
D. Monitor/Recovery Well Data Forms - 1990

PROGRESS REPORT
GROUND WATER REMEDIATION SYSTEM
SECO PRODUCTS FACILITY
WASHINGTON, MISSOURI

INTRODUCTION

This ground water remediation system progress report is being submitted to the United States Environmental Protection Agency (EPA) Region VII and the Missouri Department of Natural Resources (MDNR) on behalf of Hussmann Corporation. The ground water remediation system was installed at the SECO Products facility in Washington, Missouri, as a portion of the work required by a 3008(h) Consent Order signed by the EPA and Hussmann Corporation.

BACKGROUND

A Ground Water Quality Assessment Plan was submitted to EPA Region VII as part of Hussmann Corporation's Remedial Action Plan. The plan was subsequently approved by an EPA 3008(h) Consent Order. Geraghty & Miller, Inc. (G&M) conducted the ground water quality assessment at the SECO Products facility and submitted the results of that investigation in documents entitled "Progress Report, Ground Water Assessment, Phase II" dated April 12, 1989, and "Phase II Ground Water Assessment and Remediation System" dated June 21, 1989. The "Phase II Ground Water Assessment and Remediation System" document included a proposed sitewide ground water remediation system which was subsequently approved by the EPA. This system was started on January 29, 1990.

GROUND WATER RECOVERY SYSTEM INSTALLATION

Five ground water recovery wells (RW-1 through RW-5) were installed at the locations shown on the site map (Figure 1). Six recovery wells were initially proposed; however, it was determined during construction and development of recovery well RW-5

that installation of the sixth recovery well proposed near the southern edge of the site would not contribute to the overall effectiveness of the system because of the decreased saturated aquifer thickness and low transmissivity in this area. Recovery well RW-5, the southernmost recovery well, runs only intermittently and requires approximately 12 to 24 hours to recover after pumping the well dry.

The recovery wells were installed with a truck-mounted rig using mud rotary techniques. Cuttings were logged continuously and split spoon samples were collected at five-foot intervals and at lithologic breaks. The boreholes were drilled to the top of the clay layer below the middle sand aquifer. Each boring was logged by a G&M hydrogeologist using the Unified Soil Classification System. Boring logs are included in Appendix A.

The wells were constructed of six-inch-diameter Schedule 40 PVC casing and screen (0.018-inch slot). The screened interval was placed opposite the shallow and middle sand aquifers, and a WB-35 sand pack was emplaced in the annular space between the borehole and screen from the bottom of the borehole to approximately two feet above the top of the screened section. A two-foot bentonite pellet seal was placed above the sand pack, and the remaining annular space was grouted to the surface with a cement-bentonite slurry. The wells were completed approximately one foot below grade inside concrete vaults. Monitor well construction schematics are presented in Appendix A. Table 1 summarizes the well completion details of each recovery well and monitor well at the site. The top-of-casing elevations were surveyed to the nearest 0.01 foot above mean sea level.

The rig and all sampling and development equipment were steam cleaned prior to drilling and before installation of each well. Sampling equipment was cleaned between each sample interval with an Alconox wash and a deionized water rinse. After installation the wells were developed by pumping and surging until the development water was clear and free of drilling mud and silt.

Following development, submersible pumps and water level sensors were installed in the wells, and an air-tight sanitary well head seal was fitted over the top of each well. A flow totalizer, pressure gauge, flow valve, and sample port were connected to the discharge piping at the well head (Figure 2). PVC discharge piping connecting the wells to the air stripper tower was installed and buried approximately three feet below ground level (BGL) (Figure 3). A blower capable of maintaining an air/water ratio of 100:1 or greater to optimize mass transfer of organics from the fluid phase to the vapor phase was connected to the bottom of the air stripper tower. The treated water is discharged from the air stripper tower to a drainage ditch that flows into Dubois Creek. A schematic diagram of the air stripper is shown on Figure 4.

SAMPLING AND ANALYSIS

As stipulated in the ground water recovery plan, the recovery wells and shallow and middle sand aquifer wells (except the six RCRA wells) will be sampled quarterly for the first year and semiannually thereafter until termination of the program. The deep sand aquifer wells (MD-1 and MD-2) will be sampled quarterly for the first year to confirm the absence of volatile organic compounds (VOCs) in the deep aquifer at the site. When the analytical results for one year confirm the deep sand aquifer is free of VOCs, the deep sand aquifer wells will be plugged and abandoned to prevent any chance of future cross contamination between the deep and middle and/or shallow sand aquifers.

The ground water samples will be analyzed for VOCs using EPA Method 8240. Ground water levels will be measured in all wells during each sampling round. The effluent from the ground water treatment system is being sampled in accordance with the requirements of the National Pollutant Discharge Elimination System permit. Table 2 summarizes the results of the sample analyses for the first year of operation for

each of the recovery wells; the shallow, middle, and deep sand aquifer wells; and the air stripper effluent stream. Table 3 summarizes the water level data collected since startup of the ground water recovery system for the recovery wells; the shallow, middle, and deep sand aquifer wells; and Dubois Creek.

In order to determine the treatment efficiency of the ground water recovery system, air stripper influent and effluent samples were collected during the first sampling round. The results of these analyses and the calculated removal efficiency of the air stripper are shown in Table 4.

OPERATION AND MAINTENANCE

Operation and maintenance procedures for the ground water recovery system are conducted according to the Operation and Maintenance Procedures Manual presented as Appendix B. Flow rate, total gallons discharged, water pressure, and condition of the tower and blower system are recorded daily on the Treatment Unit Inspection Log by SECO Products personnel (Appendix C). Any system failures or shutdowns because of inclement weather also are noted on the inspection log. System failures or shutdowns are reported to representatives of Hussmann Corporation and G&M within 24 hours.

Recovery well and monitor well inspections are performed by G&M representatives during each sampling round. Water level measurements, flow rates, total gallons discharged from each well, and water pressure are recorded on the Monitor/Recovery Well Data forms (Appendix D).

Any repairs or modifications made to the air stripper system, monitor wells, or recovery wells are recorded in a cloth-bound field notebook. Repairs to the ground water recovery system during the period from January 29 to December 31, 1990, are listed below.

Date	Repair
01/31/90	Reset amperage sensitivity to avert pump failure from power surges.
03/01/90	Clean out flow meter on recovery well RW-1.
03/13/90	Clean out flow meter on recovery well RW-1.
04/03/90 - 06/08/90	Recovery well RW-1 shut down because of sand entering well through break in screened section. Workover performed and well placed back on line.
04/12/90	New flow meter installed on recovery well RW-2.
05/17/90 - 05/30/90	Recovery system shut down because of Dubois Creek flooding.
08/01/90 - 09/19/90	Recovery system shut down for routine maintenance on air stripper tower. Cleaned out packing material and replaced with new packing.

The workover for recovery well RW-1 was conducted under the supervision of a G&M hydrogeologist. A truck-mounted mud rotary drilling rig was used to circulate the sand and silt out of the well and pull the submersible pump. The sand and silt material was flushed out of the well to a depth of 36 feet BGL. A four-inch-diameter flush-threaded PVC screen section (0.018-inch slot) was installed inside the original six-inch-diameter casing, and the annular space between the two casings was sand packed with a WB-35 water-washed sand. Following recompletion, the well was developed by surging and bailing until the development water was clear and free of silt. The submersible pump and water level sensors were reinstalled in the well, and the well was put back on line on June 6, 1990. A diagram of the recompleted well is presented in Appendix A.

REPORTING

Laboratory results are submitted to the EPA and MDNR within 45 days of receipt from the laboratory. An annual report summarizing the analytical results and water level data for the previous year will be submitted to the EPA and MDNR. The performance of the recovery well system will be reviewed, and any problems experienced with the system will be discussed in this report.

RECOVERY WELL SYSTEM EVALUATION

The ground water recovery system was placed in operation on January 29, 1990. The system is designed both to remove VOCs from the ground water and provide an effective hydraulic barrier prohibiting the downgradient migration of ground water containing VOCs. The recovery wells are screened across both the shallow and middle sand aquifers, although the shallow sand zone has been intermittently dry since water level monitoring of the discrete shallow sand aquifer wells was initiated.

Prior to starting the system, static water level measurements were collected from each well on-site, and a static water table map of the middle sand aquifer was constructed (Figure 5). The static water table map provides a basis for which to assess the amount of subsequent drawdown. This map indicates an east-west trending ground water divide exists at the site. The flow direction to the north of this divide is northerly toward Dubois Creek, while the flow direction to the south of this divide is to the southwest, also toward the creek. Historical water level data indicate a considerable range of water level fluctuations occurs in the shallow and middle sand aquifers. Annual variations can be as much as ten feet from high to low levels. The water levels in the middle and shallow zones appear, in large part, to be controlled by water levels in the Dubois Creek/Missouri River drainage system. Dubois Creek is generally the discharge area for these zones, although temporary ground water flow reversals occur during large-scale flooding events (Figure 6).

Figures 7, 8, 9, and 10 show the water table at the site after startup of the recovery system for the first through fourth quarters of 1990, respectively. These maps indicate the direction of ground water flow across virtually the entire site is now to the northwest toward the recovery wells. The ground water sink created by the recovery wells appears to be effectively capturing VOC-impacted water at the site.

Table 1. Recovery/Monitor Well Completion Details, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well No.	Well Diameter (inches)	Borehole Diameter (inches)	Well Material	Screened Interval (ft BGL)	Sand Pack (ft BGL)	Cement/ Bentonite Seal (ft BGL)	Top of Casing Elevation (ft MSL)
RW-1	6	9	PVC Casing PVC Screen (0.018" slot)	10-50	8-55	0-8	482.93
	4		PVC Screen (0.020" slot)	15.5-35.5	0-36	---	483.09
RW-2	6	9 7/8	PVC Casing PVC Screen (0.018" slot)	15-75	10-76	0-10	479.14
RW-3	6	9 7/8	PVC Casing PVC Screen (0.018" slot)	17-67	12-69	0-12	478.90
RW-4	6	9 7/8	PVC Casing PVC Screen (0.018" slot)	13-43	10-45	0-10	483.84
RW-5	6	9 7/8	PVC Casing PVC Screen (0.018" slot)	13-48	10-48	0-10	486.84
SS-1	2	9	PVC Casing SS Screen (0.018" slot)	10-15	8-15	0-8	483.22
SS-2	2	9	PVC Casing SS Screen (0.018" slot)	10-20	8-20	0-8	483.88

SS Stainless steel
BGL Below ground level
MSL Mean sea level

Table 1. Recovery/Monitor Well Completion Details, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well No.	Well Diameter (inches)	Borehole Diameter (inches)	Well Material	Screened Interval (ft BGL)	Sand Pack (ft BGL)	Cement/ Bentonite Seal (ft BGL)	Top of Casing Elevation (ft MSL)
SS-3	2	9	PVC Casing SS Screen (0.018" slot)	15-20	13-21	0-13	492.14
MS-1	2	9	PVC Casing SS Screen (0.018" slot)	26-41	24-43	0-24	482.32
MS-2	2	9	PVC Casing SS Screen (0.018" slot)	25-45	21-46	0-21	482.75
MS-3	2	9	PVC Casing SS Screen (0.018" slot)	34-44	29-50	0-29	491.77
MS-5	2	9	PVC Casing SS Screen (0.018" slot)	24.5-39.5	22.5-40	0-22.5	491.95
MS-6	2	9	PVC Casing SS Screen (0.018" slot)	34-39	32.5-47	0-32.5	492.15
MD-1	2	9	PVC Casing SS Screen (0.018" slot)	83-88	78-89	0-78	482.62

SS Stainless steel
BGL Below ground level
MSL Mean sea level

Table 1. Recovery/Monitor Well Completion Details, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well No.	Well Diameter (inches)	Borehole Diameter (inches)	Well Material	Screened Interval (ft BGL)	Sand Pack (ft BGL)	Cement/ Bentonite Seal (ft BGL)	Top of Casing Elevation (ft MSL)
MD-2	2	9	PVC Casing SS Screen (0.018" slot)	83-88	78-89	0-78	482.58
MW-1	2.5	6	PVC Casing PVC Screen (0.006" slot)	8.3-23.3	8-23.5	0-8	482.02
MW-2	2.5	6	PVC Casing PVC Screen (0.006" slot)	17.9-32.9	16.5-33	0-16.5	492.43
MW-3	2.5	6	PVC Casing PVC Screen (0.006" slot)	7.5-22.5	6-23.5	0-6	482.81
MW-4	2.5	6	PVC Casing PVC Screen (0.006" slot)	7.5-22.5	6-22.5	0-6	481.83
MW-5	2.5	6	PVC Casing PVC Screen (0.006" slot)	11.8-26.8	10-29	0-10	484.24
MW-6	2.5	6	PVC Casing PVC Screen (0.006" slot)	23.4-38.4	14-38.5	0-14	493.37

SS Stainless steel
BGL Below ground level
MSL Mean sea level

Table 2. Summary of Recovery/Monitor Well Analytical Results, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Sample Collection Date	Laboratory	Laboratory Report Number	TOC (µg/L)	Toluene (µg/L)	1,1-DCE (µg/L)	t-1,2-DCE (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	Vinyl Chloride (µg/L)	1,2-DCA (µg/L)	Silver (µg/L)	pH
RW-1	12/05/88	NET	38640	0.0	-1.0	1.0	41.10	-1.0	49.40	-20.0	-1.0	0.0	0.00
	01/31/90	EMS	A200234	0.0	-50.0	-50.0	3000.00	-50.0	90.00	130.0	-50.0	0.0	0.00
	07/20/90	EMS	A210734	0.0	-5.0	6.0	9600.00	-5.0	700.00	-10.0	-5.0	0.0	0.00
	09/26/90	EMS	A214778	0.0	35.0	-5.0	2700.00	-5.0	5.80	28.0	-5.0	0.0	0.00
	10/15/90	EMS	A216233	0.0	-5.0	-5.0	3300.00	-5.0	88.00	77.0	-5.0	0.0	0.00
RW-2	01/31/90	EMS	A200236	0.0	-5.0	24.0	11000.00	-5.0	200.00	110.0	-5.0	0.0	0.00
	04/03/90	EMS	A204066	0.0	-5.0	11.0	11000.00	-5.0	440.00	110.0	-5.0	0.0	0.00
	07/20/90	EMS	A210735	0.0	-5.0	14.0	6500.00	-5.0	740.00	170.0	-5.0	0.0	0.00
	10/15/90	EMS	A216231	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	01/24/91*	EMS	A222561	0.0	-5.0	7.0	4,600.00	-5.0	600.00	130.00	-5.0	0.0	0.00
RW-3	01/31/90	EMS	A200237	0.0	-50.0	-50.0	2800.00	-50.0	55.00	55.0	-50.0	0.0	0.00
	04/03/90	EMS	A204067	0.0	-250.0	-250.0	6100.00	-250.0	2900.00	6200.0	-250.0	0.0	0.00
	07/20/90	EMS	A210736	0.0	-5.0	-5.0	3800.00	-5.0	120.00	84.0	-5.0	0.0	0.00
	10/15/90	EMS	A216232	0.0	-5.0	7.0	4900.00	-5.0	800.00	140.0	-5.0	0.0	0.00
RW-4	01/31/90	EMS	A200238	0.0	-5.0	-5.0	1800.00	-5.0	390.00	14.0	-5.0	0.0	0.00
	04/03/90	EMS	A204065	0.0	-5.0	-5.0	2700.00	-5.0	900.00	44.0	-5.0	0.0	0.00
	07/20/90	EMS	A210737	0.0	-5.0	-5.0	2000.00	-5.0	650.00	22.0	-5.0	0.0	0.00
	10/15/90	EMS	A216234	0.0	-5.0	8.0	9500.00	-5.0	800.00	900.0	-5.0	0.0	0.00
RW-5	01/31/90	EMS	A200239	0.0	6.0	-5.0	-5.00	-5.0	-5.00	-5.0	-5.0	0.0	0.00
	04/12/90	EMS	A204064	0.0	5.0	-5.0	-5.00	-5.0	-5.00	-5.0	-5.0	0.0	0.00
	07/20/90	EMS	A210738	0.0	-5.0	-5.0	12.00	-5.0	6.00	-10.0	-5.0	0.0	0.00
	10/15/90	EMS	A216235	0.0	-5.0	-5.0	2000.00	-5.0	500.00	27.0	-5.0	0.0	0.00
	02/06/91*	EMS	A222385	0.0	-5.0	-5.0	210.00	-5.0	8.00	130.0	-5.0	0.0	0.00

Footnotes listed on last page of table.

Table 2. Summary of Recovery/Monitor Well Analytical Results, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Sample Collection Date	Laboratory	Laboratory Report Number	TOC (µg/L)	Toluene (µg/L)	1,1-DCE (µg/L)	t-1,2-DCE (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	Vinyl Chloride (µg/L)	1,2-DCA (µg/L)	Silver (µg/L)	pH
MS-1	09/01/88	metaTRACE	AA17388	0.0	-5.0	-5.0	25.00	-5.0	15.00	-10.0	-5.0	0.0	0.00
	10/12/88	metaTRACE	AA20406	0.0	-5.0	0.0	9.40	-5.0	160.00	-10.0	-2500.0	0.0	0.00
	02/09/90	EMS	A200912	0.0	-5.0	-5.0	840.00	-5.0	35.00	-10.0	29.0	0.0	0.00
	04/04/90	EMS	A204073	0.0	5.0	-5.0	2800.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	07/19/90	EMS	A210627	0.0	-5.0	6.0	5800.00	-5.0	1900.00	18.0	-5.0	0.0	0.00
	10/11/90	EMS	A216154	0.0	-5.0	-5.0	5600.00	-5.0	8000.00	-10.0	-5.0	0.0	0.00
MS-2	09/01/88	metaTRACE	AA17389	0.0	7.0	29.0	15000.00	-5.0	98000.00	-10.0	-5.0	0.0	0.00
	10/12/88	Wilson	88110211	0.0	-2500.0	-2500.0	13000.00	-2500.0	44000.00	-5000.0	-5.0	0.0	0.00
	10/12/88	metaTRACE	AA20407	0.0	6.2	8.0	7800.00	-5.0	30000.00	72.0	-5.0	0.0	0.00
	02/09/90	EMS	A200914	0.0	-5.0	-5.0	14000.00	-5.0	42000.00	-10.0	-5.0	0.0	0.00
	04/03/90	EMS	A204073	0.0	-2500.0	-2500.0	6300.00	-2500.0	9300.00	-5000.0	-2500.0	0.0	0.00
	07/19/90	EMS	A210617	0.0	-5.0	6.0	9800.00	-5.0	17000.00	35.0	-5.0	0.0	0.00
	10/11/90	EMS	A216152	0.0	-5.0	16.0	8400.00	-5.0	19000.00	35.0	-5.0	0.0	0.00
MS-3	09/02/88	metaTRACE	AA17391	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/12/88	metaTRACE	AA20408	0.0	-5.0	-5.0	110.00	-5.0	230.00	-10.0	-5.0	0.0	0.00
	02/09/90	EMS	A200910	0.0	-5.0	-5.0	39.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	04/04/90	EMS	A204071	0.0	-5.0	-5.0	30.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	07/19/90	EMS	A210623	0.0	-5.0	-5.0	50.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/15/90	EMS	A216228	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	34.0	0.0	0.00
MS-4	09/01/88	metaTRACE	AA17390	0.0	-5.0	-5.0	100.00	-5.0	210.00	-10.0	-5.0	0.0	0.00
	10/12/88	metaTRACE	AA20409	0.0	-5.0	-5.0	-5.00	-5.0	56.00	-10.0	-5.0	0.0	0.00
	10/27/88	metaTRACE	AA21035	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/27/88	metaTRACE	AA21036	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00

Footnotes listed on last page of table.

Table 2. Summary of Recovery/Monitor Well Analytical Results, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Sample Collection Date	Laboratory	Laboratory Report Number	TOC (µg/L)	Toluene (µg/L)	1,1-DCE (µg/L)	t-1,2-DCE (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	Vinyl Chloride (µg/L)	1,2-DCA (µg/L)	Silver (µg/L)	pH
MS-5	01/18/89	NET	39507	0.0	-1.0	-1.0	-1.00	-1.0	74.40	-20.0	-1.0	0.0	0.00
	06/07/89	NET	42192	0.0	-1.0	-1.0	-1.00	-1.0	27.50	-20.0	-1.0	0.0	0.00
	02/09/90	EMS	A200915	0.0	-5.0	-5.0	21.00	-5.0	35.00	-10.0	-5.0	0.0	0.00
	04/04/90	EMS	A204074	0.0	-5.0	-5.0	24.00	-5.0	19.00	-10.0	-5.0	0.0	0.00
	07/19/90	EMS	A210624	0.0	-5.0	-5.0	14.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216157	0.0	-5.0	-5.0	30.00	-5.0	20.00	-10.0	-5.0	0.0	0.00
MS-6	12/05/88	NET	38639	0.0	-1.0	-1.0	-1.0	-1.0	-1.00	-20.0	-1.0	0.0	0.00
	06/07/89	NET	42193	0.0	-1.0	-1.0	-1.00	-1.0	-1.00	-20.0	-1.0	0.0	0.00
	02/09/90	EMS	A200911	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	04/04/90	EMS	A204072	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	07/19/90	EMS	A210743	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216153	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
MD-1	08/26/88	metaTRACE	AA16900	0.0	0.0	0.0	0.16	0.0	0.61	0.0	0.0	0.0	0.00
	09/01/88	metaTRACE	AA17382	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/12/88	Wilson	88110208	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/12/88	metaTRACE	AA20403	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	03/13/90	EMS	A202547	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	04/03/90	EMS	A204069	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-5.0	-5.0	0.0	0.00
	07/20/90	EMS	A210740	0.0	-5.0	-5.0	-5.00	-5.0	8.00	-10.0	-5.0	0.0	0.00
	08/21/90*	EMS	A210429	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/15/90	EMS	A216230	0.0	-5.0	-5.0	9.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	01/24/91*	EMS	A222562	0.0	-5.0	-5.0	8.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00

Footnotes listed on last page of table.

Table 2. Summary of Recovery/Monitor Well Analytical Results, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Sample Collection Date	Laboratory	Laboratory Report Number	TOC (µg/L)	Toluene (µg/L)	1,1-DCE (µg/L)	t-1,2-DCE (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	Vinyl Chloride (µg/L)	1,2-DCA (µg/L)	Silver (µg/L)	pH
MD-2	08/26/88	metaTRACE	AA16901	0.0	0.0	0.0	2.72	0.0	1.06	0.0	0.0	0.0	0.00
	09/01/88	metaTRACE	AA17383	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/12/88	metaTRACE	AA20404	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/12/88	Wilson	88110209	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	03/13/90	EMS	A202548	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	04/03/90	EMS	A204068	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	07/20/90	EMS	A210741	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216156	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
MD-3	08/26/88	metaTRACE	AA16901	0.0	0.0	0.0	0.65	0.0	0.05	0.0	0.0	0.0	0.00
	09/01/88	metaTRACE	AA17384	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/12/88	Wilson	88110210	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/12/88	metaTRACE	AA20405	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/27/88	metaTRACE	AA21039	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/27/88	metaTRACE	AA21038	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
SS-2	04/12/90	EMS	A204648	0.0	-5.0	-5.0	260.00	-5.0	76.00	-10.0	-5.0	0.0	0.00
	07/19/90	EMS	A210626	0.0	-5.0	-5.0	38.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216155	0.0	-5.0	-5.0	2300.00	-5.0	230.00	-10.0	-5.0	0.0	0.00
SS-3	07/19/90	EMS	A210625	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/15/90	EMS	A216229	0.0	-5.0	-5.0	-5.00	-5.0	19.00	-10.0	-5.0	0.0	0.00
MW-1	12/05/88	NET	38583	0.0	0.0	0.0	0.00	0.0	4.60	0.0	-5.0	0.0	0.00
	01/18/89	NET	39501	6000	-1.0	-1.0	-1.00	-1.0	64.10	-20.0	-1.0	0.0	6.24
	06/06/89	NET	42156	14000	-1.0	-1.0	-1.00	-1.0	84.00	-20.0	-1.0	0.0	0.00
	09/28/89	NET	44980	8000	-1.0	-1.0	-1.00	-1.0	39.40	-20.0	-1.0	0.0	0.00

Footnotes listed on last page of table.

Table 2. Summary of Recovery/Monitor Well Analytical Results, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Sample Collection Date	Laboratory	Laboratory Report Number	TOC (µg/L)	Toluene (µg/L)	1,1-DCE (µg/L)	t-1,2-DCE (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	Vinyl Chloride (µg/L)	1,2-DCA (µg/L)	Silver (µg/L)	pH
MW-1 (cont.)	12/20/89	Well dry		0.0	0.0	0.0	0.00	0.0	0.00	0.0	0.0	0.0	0.00
	02/02/90	EMS	A201954	26000	-5.0	-5.0	-5.00	-5.0	64.00	-5.0	-5.0	0.0	0.00
	04/13/90	EMS	A204636	11000	-5.0	-5.0	-5.00	-5.0	23.00	-10.0	-5.0	0.0	0.00
	07/19/90	EMS	A210618	5000	-5.0	-5.0	-5.00	-5.0	39.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216148	4000	-5.0	-5.0	-5.00	11.0	24.00	-5.0	-5.0	0.0	0.00
MW-2	12/05/88	NET	38584	0.0	0.0	0.0	0.00	0.0	353.00	0.0	0.0	0.0	0.00
	01/18/89	Continental	89010514	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	5.0	-5.0	0.0	0.00
	01/18/89	NET	39502	4000	-1.0	-1.0	-1.00	-1.0	-1.00	-20.0	-1.0	0.0	6.28
	06/06/89	NET	42157	9000	-1.0	-1.0	-1.00	-1.0	-1.00	-20.0	-1.0	0.0	0.00
	09/28/89	NET	44891	6000	-1.0	-1.0	-1.00	-1.0	-1.00	-20.0	-1.0	0.0	0.00
	12/20/89	EMS	137000	-3000	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	03/02/90	EMS	A201955	-3000	-5.0	-5.0	-5.00	-5.0	-5.00	-5.0	-5.0	0.0	0.00
	04/12/90	EMS	A204642	-3000	-5.0	-5.0	8.00	-5.0	23.00	-10.0	-5.0	0.0	0.00
	06/08/90	EMS	A208451	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	07/18/90	EMS	A210614	-3000	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216145	-3000	-5.0	-5.0	-5.00	11.0	24.00	-10.0	-5.0	0.0	0.00
MW-3	12/05/88	NET	38585	0.0	0.0	0.0	0.00	0.0	97.70	0.0	0.0	0.0	0.00
	01/18/89	NET	39503	-1000	-10.0	-10.0	-10.00	-10.0	1280.00	-200.0	-10.0	0.0	6.76
	06/06/89	NET	42158	278000	-1.0	-1.0	-1.00	2.4	531.00	-20.0	-10.0	0.0	0.00
	09/28/89	NET	44892	6000	-1.0	-1.0	-1.00	1.2	158.00	20.0	-1.0	0.0	0.00
	12/20/89	Well dry		0.0	0.0	0.0	0.00	0.0	0.00	0.0	0.0	0.0	0.00
	03/02/90	EMS	A201956	-3000	-5.0	-5.0	16.00	-5.0	380.00	-5.0	-5.0	0.0	0.00
	04/12/90	EMS	A204637	4000	-5.0	-5.0	5.00	-5.0	150.00	-10.0	-5.0	0.0	0.00
	07/18/90	EMS	A210615	5000	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216146	5000	-5.0	-5.0	6.50	-5.0	69.00	-10.0	-5.0	0.0	0.00

Footnotes listed on last page of table.

Table 2. Summary of Recovery/Monitor Well Analytical Results, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Sample Collection Date	Laboratory	Laboratory Report Number	TOC (µg/L)	Toluene (µg/L)	1,1-DCE (µg/L)	t-1,2-DCE (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	Vinyl Chloride (µg/L)	1,2-DCA (µg/L)	Silver (µg/L)	pH
MW-4	12/05/88	NET	38586	0.0	0.0	0.0	0.00	0.0	638.00	0.0	0.0	0.0	0.00
	01/18/89	NET	39504	-1000	-1.0	-1.0	-1.00	1.3	167.00	-20.0	-1.0	0.0	6.50
	01/18/89	Continental	89010515	0.0	-5.0	-5.0	-5.00	-5.0	91.00	-5.0	-5.0	0.0	0.00
	06/06/89	NET	42159	161000	-1.0	-1.0	2.50	2.7	438.00	-20.0	-1.0	0.0	0.00
	09/28/89	NET	44983	6000	-1.0	-1.0	-1.00	1.6	194.00	-20.0	-1.0	0.0	0.00
	12/20/89	EMS	137001	32000	-5.0	-5.0	54.00	-5.0	210.00	-10.0	-5.0	0.0	0.00
	03/02/90	EMS	A201957	-3000	-5.0	-5.0	-5.00	-5.0	560.00	-5.0	-5.0	0.0	0.00
	04/13/90	EMS	A204638	4000	-5.0	-5.0	-5.00	-5.0	330.00	-10.0	-5.0	0.0	0.00
	07/18/90	EMS	A210616	5000	-5.0	-5.0	-5.00	-5.0	220.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216147	6000	-5.0	-5.0	-5.00	-5.0	310.00	-10.0	-5.0	0.0	0.00
MW-5	12/05/88	NET	38587	0.0	0.0	0.0	0.00	0.0	272.00	0.0	-5.0	0.0	0.00
	01/18/89	NET	39505	-1000	-100.0	-100.0	-100.00	-100.0	12200.00	-2000.0	-100.0	0.0	6.62
	06/06/89	NET	42160	288000	-1.0	-1.0	896.00	-1.0	319.00	-20.0	-1.0	0.0	0.00
	09/28/89	NET	44489	30000	-1.0	31.4	131.00	-1.0	713.00	-20.0	-1.0	0.0	0.00
	12/20/89	EMS	137003	43000	-5.0	12.0	6000.00	-5.0	150.00	38.0	-5.0	0.0	0.00
	03/02/90	EMS	A201958	9000	-5.0	12.0	11000.00	-5.0	11.00	4500.0	-5.0	0.0	0.00
	04/12/90	EMS	A204643	-3000	-5.0	-5.0	1100.00	-5.0	140.00	10.0	-5.0	0.0	0.00
	07/18/90	EMS	A210619	-3000	-5.0	-5.0	410.00	-5.0	130.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216151	4000	-5.0	-5.0	520.00	-5.0	62.00	14.0	-5.0	0.0	0.00
MW-6	12/05/88	NET	38588	0.0	-5.0	0.0	0.00	0.0	2.60	0.0	0.0	0.0	0.00
	01/18/89	Continental	89010516	0.0	-5.0	-5.0	-5.00	-5.0	1600.00	-5.0	-5.0	0.0	0.00
	01/18/89	NET	39506	-1000	-100.0	-100.0	-100.00	-100.0	4600.00	-2000.0	-100.0	0.0	6.71
	06/06/89	NET	42161	61000	-1.0	-1.0	1030.00	3.7	2590.00	-20.0	-1.0	0.0	0.00
	09/28/89	NET	44489	19000	-1.0	4.5	13.50	2.0	760.00	-20.0	-1.0	0.0	0.00
	12/20/89	EMS	137002	52000	-5.0	-5.0	680.00	-5.0	3100.00	-10.0	-5.0	0.0	0.00
	03/02/90	EMS	A201959	-3000	-5.0	-5.0	1000.00	-5.0	4900.00	-5.0	6.0	0.0	0.00

Footnotes listed on last page of table.

Table 2. Summary of Recovery/Monitor Well Analytical Results, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Sample Collection Date	Laboratory	Laboratory Report Number	TOC (µg/L)	Toluene (µg/L)	1,1-DCE (µg/L)	t-1,2-DCE (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	Vinyl Chloride (µg/L)	1,2-DCA (µg/L)	Silver (µg/L)	pH
MW-6 (cont.)	04/13/90	EMS	A204639	6000	6.0	5.0	1000.00	-5.0	3300.00	10.0	82.0	0.0	0.00
	07/18/90	EMS	A210620	4000	-5.0	9.0	3300.00	-5.0	6800.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216149	6000	-5.0	8.3	2700.00	11.0	7400.00	-10.0	8.3	0.0	0.00
Stripper Effluent	01/31/90	EMS	A200241	9000	-5.0	-5.0	66.00	-5.0	-5.00	-10.0	-5.0	-10	7.50
	03/02/90	EMS	A200962	4000	-5.0	-5.0	49.00	-5.0	-5.00	-10.0	-5.0	13	0.00
	04/04/90	EMS	A204078	-3000	-5.0	-5.0	36.00	-5.0	-5.00	-10.0	-5.0	-10	6.50
	06/08/90	EMS	A208452	23000	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	-10	0.00
	07/20/90	EMS	A210745	4000	-5.0	-5.0	27.00	-5.0	52.00	-10.0	-5.0	-10	8.00
	09/26/90	EMS	A214777	4000	5.0	-5.0	59.00	-5.0	-5.00	-5.0	-5.0	-10	8.00
	10/12/90	EMS	A216160	4000	-5.0	-5.0	67.00	-5.0	-5.00	-10.0	-5.0	-10	8.10
	11/30/90	EMS	A219266	10000	5.0	-5.0	8.00	-5.0	-5.00	-5.0	-5.0	-10	8.00
	12/28/90	EMS	A222141	-3000	5.0	-5.0	180.00	-5.0	-5.00	70.0	-5.0	-10	8.30
Stripper Influent	01/31/90	EMS	A200240	0.0	-5.0	14.0	7900.00	-5.0	170.00	170.0	-5.0	0.0	0.00
Field Blank	09/01/88	metaTRACE	AA17387	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	09/01/88	metaTRACE	AA17386	0.0	-5.0	-5.00	-5.0	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/12/88	metaTRACE	C299	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/12/88	metaTRACE	AA20410	0.0	-5.0	-5.0	-5.00	-5.0	21.00	-10.0	-5.0	0.0	0.00
	10/12/88	Wilson	88110212	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/27/88	metaTRACE	AA21037	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	12/05/88	NET	38590	0.0	-1.0	-1.0	-1.00	-1.0	-1.00	-20.0	-1.0	0.0	0.00
	01/18/89	NET	39509	0.0	-1.0	-1.0	-1.00	-1.0	10.30	-20.0	-1.0	0.0	0.00
	06/06/89	NET	42162	0.0	1.3	-1.0	-1.00	-1.0	11.70	-20.0	-1.0	0.0	0.00

Footnotes listed on last page of table.

Table 2. Summary of Recovery/Monitor Well Analytical Results, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Sample Collection Date	Laboratory	Laboratory Report Number	TOC (µg/L)	Toluene (µg/L)	1,1-DCE (µg/L)	t-1,2-DCE (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	Vinyl Chloride (µg/L)	1,2-DCA (µg/L)	Silver (µg/L)	pH
Field Blank (cont.)	06/06/89	NET	42163	0.0	1.4	-1.0	-1.00	-1.0	2.90	-20.0	-1.0	0.0	0.00
	09/28/89	NET	44979	0.0	-1.0	-1.0	-1.00	-1.0	-1.00	-20.0	-1.0	0.0	0.00
	12/20/89	EMS	8946084	-3,000	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	02/09/90	EMS	A200916	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	03/02/90	EMS	A201961	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-5.0	-5.0	0.0	0.00
	03/13/90	EMS	A202549	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	04/04/90	EMS	A204076	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	04/13/90	EMS	A204641	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-5.0	-5.0	0.0	0.00
	07/20/90	EMS	A210746	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00
	10/11/90	EMS	A216159	0.0	-5.0	-5.0	-5.00	-5.0	-5.00	-10.0	-5.0	0.0	0.00

* Resampled
µg/L Micrograms per liter
TOC Total organic carbons
TCE Trichloroethylene
1,1-DCE 1,1-Dichloroethylene
1,2-DCA 1,2-Dichloroethane
1,1,1-TCA 1,1,1-Trichloroethane
t-1,2-DCE trans-1,2-Dichloroethylene

Chemical Analyses for Hussmann-SECO, Washington, Missouri.
Negative values indicate the measured constituent was below the detection limit. Zero indicates the constituent was not included in the analysis.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
RW-1	12/06/88	482.93	13.29	469.64	---	---
	01/17/89	482.93	22.63	460.30	---	---
	06/07/89	482.93	20.72	462.21	---	---
	09/13/89	482.93	14.33	468.60	---	---
	09/28/89	482.93	19.62	463.31	---	---
	11/10/89	482.93	19.07	463.86	---	---
	01/29/90	479.82	21.76	458.06	---	---
	01/30/90	479.82	28.49	451.33	7.0	6,710
	01/31/90	479.82	30.14	449.68	7.0	16,235
	02/01/90	479.82	30.91	448.91	7.0	26,970
	02/02/90	479.82	30.60	449.22	7.0	---
	02/22/90	479.82	24.20	455.62	7.0	---
	03/01/90	479.82	20.71	459.11	7.5	163,623
	03/02/90	479.82	24.24	455.58	8.0	---
	03/13/90	479.82	28.26	451.56	---	197,200
	04/03/90	479.82	12.42	467.40	---	197,201
	04/12/90	479.82	12.39	467.43	---	197,201
	07/18/90	479.82	22.70	457.12	---	200,722
	08/06/90	479.82	22.40	457.42	---	222,589
	10/15/90	479.82	26.37	453.45	---	222,589

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
RW-2	11/10/89	479.14	18.79	460.35	---	---
	01/29/90	479.14	21.31	457.83	---	---
	01/30/90	479.14	23.52	455.62	11.5	12,855
	01/31/90	479.14	21.98	457.16	10.0	21,063
	02/01/90	479.14	25.07	454.07	19.5	48,450
	02/02/90	479.14	25.21	453.93	20.0	---
	02/09/90	479.14	27.00	452.14	20.8	252,572
	02/22/90	479.14	24.50	454.64	18.0	---
	03/01/90	479.14	22.29	456.85	20.0	895,778
	03/02/90	479.14	22.29	456.85	22.0	---
	03/13/90	479.14	22.50	456.64	20.5	1,246,240
	04/03/90	479.14	17.81	461.33	19.4	1,872,040
	04/12/90	479.14	18.25	460.89	---	2,101,050
	07/18/90	479.14	17.39	461.75	---	---
	08/06/90	479.14	17.40	461.74	23.0	---
	10/15/90	479.14	23.64	455.50	26.5	---
RW-3	11/10/89	478.91	16.00	462.91	---	---
	01/29/90	478.91	16.82	462.09	---	---
	01/30/90	478.91	41.68	437.23	8.0	8,830
	01/31/90	478.91	37.11	441.80	8.8	19,010
	02/01/90	478.91	40.64	438.27	9.5	33,060
	02/02/90	478.91	42.91	436.00	10.0	---

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
RW-3 (cont.)	02/09/90	478.91	42.90	436.01	10.6	135,607
	02/22/90	478.91	42.20	436.71	10.0	---
	03/01/90	478.91	34.83	444.08	11.0	452,495
	03/02/90	478.91	42.44	436.47	12.0	---
	03/13/90	478.91	42.92	435.99	11.6	652,460
	04/03/90	478.91	36.58	442.33	13.5	1,004,800
	04/12/90	478.91	37.46	441.45	11.5	1,153,410
	07/18/90	478.91	24.00	454.91	---	2,110,473
	08/06/90	478.91	26.20	452.71	5.5	2,250,210
	10/15/90	478.91	35.80	442.11	6.1	2,515,462
RW-4	11/10/89	483.84	21.82	462.02	---	---
	01/29/90	483.84	24.08	459.76	---	---
	01/30/90	483.84	31.62	452.22	1.8	1,420
	01/31/90	493.84	25.03	458.81	0.8	1,714
	02/01/90	483.84	32.71	451.13	1.5	3,324
	02/02/90	483.84	32.65	451.19	1.3	---
	02/22/90	483.84	25.00	458.84	---	---
	03/01/90	483.84	32.29	451.55	0.8	24,900
	03/02/90	483.84	32.71	446.63	1.5	---
	03/13/90	483.84	35.00	448.84	2.0	56,730
	04/03/90	483.84	25.85	457.99	0.8	83,780

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
RW-4 (cont.)	04/12/90	483.84	23.54	460.30	0.7	103,310
	07/18/90	483.84	34.84	449.00	3.0	238,214
	08/06/90	483.84	30.82	453.02	2.5	300,091
	10/15/90	493.84	34.78	449.06	2.1	394,170
RW-5	11/10/89	486.84	21.68	465.16	---	---
	01/29/90	486.84	22.37	464.47	---	15,863
	01/30/90	486.84	34.34	452.50	---	15,892
	01/31/90	486.84	35.72	451.12	---	15,900
	02/01/90	486.84	33.84	453.00	---	15,901
	02/02/90	486.84	32.29	454.55	---	---
	02/22/90	486.84	31.70	455.14	---	---
	03/01/90	486.84	33.21	453.63	---	16,200
	03/02/90	486.84	35.62	451.22	---	---
	03/13/90	486.84	35.81	451.03	---	16,315
	04/03/90	486.84	35.83	451.01	---	16,520
	04/12/90	486.84	35.71	451.13	---	---
	07/18/90	486.84	34.25	452.59	---	24,414
	08/06/90	486.84	18.97	467.87	---	24,503
	10/15/90	486.87	20.42	466.42	---	24,503

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MS-1	10/12/88	482.32	20.69	461.63		
	10/26/88	482.32	21.01	461.31		
	11/30/88	482.32	20.27	462.05		
	12/06/88	482.32	20.34	461.98		
	01/17/89	482.32	20.90	461.42		
	06/07/89	482.32	19.10	463.22		
	09/13/89	482.32	14.63	467.69		
	09/28/89	482.32	18.14	464.18		
	11/10/89	482.32	20.57	461.75		
	01/29/90	482.32	22.82	459.50		
	01/30/90	482.32	24.35	457.97		
	01/31/90	482.32	24.95	457.37		
	02/01/90	482.32	24.86	457.46		
	02/02/90	482.32	25.01	457.31		
	02/09/90	482.32	24.50	457.82		
	02/22/90	482.32	23.50	458.82		
	03/01/90	482.32	23.04	459.28		
	03/13/90	482.32	23.90	458.42		
	04/03/90	482.32	18.40	463.92		
	04/12/90	482.32	18.65	463.67		
	07/18/90	482.32	18.23	464.09		
	10/12/90	482.32	22.28	460.04		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MS-2	10/12/88	482.75	22.45	460.30		
	10/26/88	482.75	22.76	459.99		
	11/30/88	482.75	21.91	460.84		
	12/06/88	482.75	22.17	460.58		
	01/17/89	482.75	22.96	459.79		
	06/07/89	482.75	20.82	461.93		
	09/13/89	482.75	13.77	468.98		
	09/28/89	482.75	19.72	463.03		
	11/10/89	482.75	22.27	460.48		
	01/29/90	482.75	24.80	457.95		
	01/30/90	482.75	25.66	457.09		
	01/31/90	482.75	25.50	457.25		
	02/01/90	482.75	26.25	456.50		
	02/02/90	482.75	26.37	456.38		
	02/09/90	482.75	26.30	456.45		
	02/22/90	482.75	25.20	457.55		
	03/01/90	482.75	23.35	459.40		
	03/13/90	482.75	23.54	459.21		
	04/03/90	482.75	18.77	463.98		
	04/12/90	482.75	19.23	463.52		
	07/18/90	482.75	18.54	464.21		
	10/12/90	482.75	23.88	458.87		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MS-3	10/12/88	491.77	26.66	465.11		
	10/26/88	491.77	26.72	465.05		
	06/07/89	491.77	29.56	462.21		
	09/13/89	491.77	24.67	467.10		
	09/28/89	491.77	27.28	464.49		
	11/10/89	491.77	28.18	463.59		
	01/29/90	492.75	28.55	464.20		
	01/30/90	492.75	28.50	464.25		
	01/31/90	492.75	28.55	464.20		
	02/01/90	492.75	28.38	464.37		
	02/02/90	492.75	28.60	464.15		
	02/09/90	492.75	30.10	462.65		
	02/22/90	492.75	28.20	464.55		
	03/01/90	492.75	27.75	465.00		
	03/13/90	492.75	28.17	464.58		
	04/03/90	492.75	25.88	466.87		
	04/12/90	492.75	25.83	466.92		
	07/18/90	492.75	24.11	468.64		
	10/12/90	492.75	27.00	465.75		
MS-4	10/12/88	493.17	27.58	465.59		
	10/26/88	493.17	27.66	465.51		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MS-5	12/06/88	491.95	29.29	462.66		
	01/17/89	491.95	29.63	462.32		
	06/07/89	491.95	28.14	463.81		
	09/13/89	491.95	25.03	466.92		
	09/28/89	491.95	27.29	464.66		
	11/10/89	491.95	29.57	462.38		
	01/29/90	491.95	31.66	460.29		
	01/30/90	491.95	32.83	459.12		
	01/31/90	491.95	32.48	459.47		
	02/01/90	491.95	33.33	458.62		
	02/02/90	491.95	33.61	458.34		
	02/09/90	491.95	32.90	459.05		
	02/22/90	491.95	32.50	459.45		
	03/01/90	491.95	32.85	459.10		
	03/13/90	491.95	33.35	458.60		
	04/03/90	491.95	23.29	468.66		
	04/12/90	491.95	28.29	462.66		
	07/18/90	491.95	27.68	464.27		
	10/12/90	491.95	31.39	460.56		
MS-6	12/06/88	492.15	26.45	465.70		
	01/17/89	492.15	23.64	468.51		
	06/07/89	492.15	23.66	468.49		
	09/13/89	492.15	24.83	467.32		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MS-6 (cont.)	09/28/89	492.15	24.71	467.44		
	11/10/89	492.15	25.26	466.89		
	01/29/90	492.15	25.84	466.31		
	01/30/90	492.15	25.72	466.43		
	01/31/90	492.15	25.85	466.30		
	02/01/90	492.15	25.79	466.36		
	02/02/90	492.15	25.78	466.37		
	02/09/90	492.15	25.50	466.65		
	02/22/90	492.15	26.10	466.05		
	03/01/90	492.15	25.42	466.73		
	03/13/90	492.15	24.98	467.17		
	04/03/90	492.15	23.94	468.21		
	04/12/90	492.15	23.79	468.36		
	07/18/90	492.15	20.65	471.50		
	10/11/90	492.1	23.19	468.96		
MD-1	10/12/88	482.62	21.02	461.60		
	10/26/88	482.62	21.29	461.33		
	11/30/88	482.62	21.22	461.40		
	12/06/88	482.62	20.93	461.69		
	01/17/89	482.62	21.54	461.08		
	06/07/89	482.62	20.10	462.52		
	09/13/89	482.62	17.49	465.13		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MD-1 (cont.)	09/28/89	482.62	18.99	463.63		
	11/10/89	482.62	21.19	461.43		
	01/29/90	482.62	23.20	459.42		
	01/30/90	482.62	23.08	459.54		
	01/31/90	482.62	23.36	459.26		
	02/01/90	482.62	23.18	459.44		
	02/02/90	482.62	23.25	459.37		
	02/09/90	482.62	19.20	463.42		
	02/22/90	482.62	23.10	459.52		
	03/01/90	482.62	22.00	460.62		
	03/13/90	482.62	21.46	461.16		
	04/03/90	482.62	18.60	464.02		
	04/12/90	482.62	18.77	463.85		
	07/18/90	482.62	15.19	467.43		
	10/15/90	482.62	20.03	462.59		
MD-2	10/12/88	482.58	19.89	462.69		
	10/26/88	482.58	19.99	462.59		
	11/30/88	482.58	20.02	462.56		
	12/06/88	482.58	29.83	452.75		
	01/17/89	482.58	20.24	462.34		
	06/07/89	482.58	19.34	463.24		
	09/13/89	482.58	19.02	463.56		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MD-2 (cont.)	09/28/89	482.58	18.31	464.27		
	11/10/89	482.58	20.15	462.43		
	01/29/90	482.58	21.98	460.60		
	01/30/90	482.58	21.85	460.73		
	01/31/90	482.58	22.15	460.43		
	02/01/90	482.58	21.92	460.66		
	02/02/90	482.58	22.00	460.58		
	02/09/90	482.58	22.10	460.48		
	02/22/90	482.58	22.30	460.28		
	03/01/90	482.58	21.75	460.83		
	03/13/90	482.58	21.06	461.52		
	04/03/90	482.58	18.75	463.83		
	04/12/90	482.58	18.83	463.75		
	07/18/90	482.58	13.93	468.65		
	10/12/90	482.58	18.15	464.43		
MD-3	10/12/88	493.43	30.12	463.31		
	10/26/88	493.43	30.21	463.22		
SS-1	12/06/88	483.22	17.51	465.71		
	07/18/90	483.22	16.37	466.85		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
SS-2	12/06/88	483.88	21.56	462.32		
	01/17/89	483.88	21.96	461.92		
	06/07/89	483.88	20.35	463.53		
	09/13/89	483.88	17.23	466.65		
	09/28/89	483.88	19.30	464.58		
	07/18/90	483.88	17.48	466.40		
	10/12/90	483.88	21.12	462.76		
SS-3	12/06/88	492.14	22.33	469.81		
	07/18/90	492.14	20.31	471.83		
	10/12/90	492.14	22.12	470.02		
MW-1	10/12/88	482.02	21.30	460.72		
	10/26/88	482.02	21.56	460.46		
	11/30/88	482.02	18.24	463.78		
	12/06/88	482.02	20.23	461.79		
	01/17/89	482.02	20.16	461.86		
	06/06/89	482.02	16.92	465.10		
	06/07/89	482.02	17.08	464.94		
	09/13/89	482.02	15.02	467.00		
	09/28/89	482.02	17.44	464.58		
	11/10/89	482.02	21.27	460.75		
	03/01/90	482.02	22.58	459.44		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MW-1 (cont.)	03/13/90	482.02	22.64	459.38		
	04/03/90	482.02	15.62	466.40		
	04/12/90	482.02	15.75	466.27		
	07/18/90	482.02	13.26	468.76		
	10/11/90	482.02	11.82	470.20		
MW-2	10/12/88	494.94	25.64	469.30		
	10/26/88	494.94	25.83	469.11		
	11/30/88	494.94	25.62	469.32		
	12/06/88	492.43	22.41	470.02		
	01/17/89	492.43	22.41	470.02		
	06/06/89	492.43	21.93	470.50		
	06/07/89	492.43	21.78	470.65		
	09/13/89	492.43	22.45	469.98		
	09/28/89	492.43	22.64	469.79		
	11/10/89	492.43	23.42	469.01		
	01/29/90	492.43	24.26	468.17		
	01/30/90	492.43	24.29	468.14		
	01/31/90	492.43	24.29	468.14		
	02/01/90	492.43	24.29	468.14		
	03/01/90	492.43	18.90	473.53		
	03/13/90	492.43	23.75	468.68		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MW-2 (cont.)	04/03/90	492.43	22.52	469.91		
	04/12/90	492.43	22.51	469.92		
	07/18/90	492.43	18.28	474.15		
	10/11/90	492.43	21.85	470.58		
MW-3	10/12/88	482.81	21.49	461.32		
	10/26/88	482.81	21.63	461.18		
	11/30/88	482.81	18.41	464.40		
	12/06/88	482.81	19.71	463.10		
	01/17/89	482.81	19.26	463.55		
	06/06/89	482.81	17.49	465.32		
	06/07/89	482.81	18.05	464.76		
	09/13/89	482.81	16.32	466.49		
	09/28/89	482.81	17.15	465.66		
	11/10/89	482.81	21.12	461.69		
	03/01/90	482.81	22.08	460.73		
	03/13/90	482.81	22.06	460.75		
	04/03/90	482.81	16.29	466.52		
	04/12/90	482.81	16.40	466.41		
	07/18/90	482.81	12.96	469.85		
	10/11/90	482.81	18.21	464.60		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MW-4	10/12/88	481.83	17.90	463.93		
	10/26/88	481.83	17.74	464.09		
	11/30/88	481.83	14.31	467.52		
	12/06/88	481.83	16.11	465.72		
	01/17/89	481.83	13.62	468.21		
	06/06/89	481.83	13.71	468.12		
	06/07/89	481.83	14.05	467.78		
	09/13/89	481.83	14.82	467.01		
	09/28/89	481.83	15.34	466.49		
	11/10/89	481.83	18.25	463.58		
	01/29/90	481.83	22.03	459.80		
	01/30/90	481.83	23.02	458.81		
	01/31/90	481.83	23.15	458.68		
	02/09/90	481.83	22.70	459.13		
	02/22/90	481.83	20.80	461.03		
	03/01/90	481.83	17.29	464.54		
	03/13/90	481.83	17.79	464.04		
	04/03/90	481.83	13.77	468.06		
	04/12/90	481.83	13.67	468.16		
	07/18/90	481.83	11.28	470.55		
	10/11/90	481.83	14.18	467.65		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MW-5	10/12/88	484.24	24.07	460.17		
	10/26/88	484.24	24.35	459.89		
	11/30/88	484.24	23.56	460.68		
	12/06/88	484.24	23.86	460.38		
	01/17/89	484.24	24.64	459.60		
	06/06/89	484.24	22.25	461.99		
	06/07/89	484.24	22.37	461.87		
	09/13/89	484.24	15.72	468.52		
	09/28/89	484.24	20.94	463.30		
	11/10/89	484.24	23.82	460.42		
	01/29/90	484.24	26.37	457.87		
	01/30/90	484.24	27.20	457.04		
	01/31/90	484.24	27.04	457.20		
	02/01/90	484.24	27.80	456.44		
	02/02/90	484.24	27.91	456.33		
	02/22/90	484.24	27.00	457.24		
	03/01/90	484.24	24.95	459.29		
	03/13/90	484.24	25.14	459.10		
	04/03/90	484.24	20.04	464.20		
	04/12/90	484.24	20.59	463.65		
	07/18/90	484.24	19.85	464.39		
	10/11/90	484.24	25.38	458.86		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
MW-6	10/12/88	493.37	26.86	466.51		
	10/26/88	493.37	26.69	466.68		
	11/30/88	493.37	25.40	467.97		
	12/06/88	493.37	25.68	467.69		
	01/17/89	493.37	24.92	468.45		
	06/06/89	493.37	25.53	467.84		
	06/07/89	493.37	25.60	467.77		
	09/13/89	493.37	25.94	467.43		
	09/28/89	493.37	25.70	467.67		
	11/10/89	493.37	27.10	466.27		
	01/29/90	493.37	27.16	466.21		
	01/30/90	493.37	27.18	466.19		
	01/31/90	493.37	27.23	466.14		
	02/01/90	493.37	27.26	466.11		
	02/02/90	493.37	27.24	466.13		
	02/09/90	493.37	27.30	466.07		
	02/22/90	493.37	26.40	466.97		
	03/01/90	493.37	25.96	467.41		
	03/13/90	493.37	25.79	467.58		
	04/03/90	493.37	23.58	469.79		
	04/12/90	493.37	24.17	469.20		
	07/18/90	493.37	22.56	470.81		
	10/11/90	493.37	24.26	469.11		

Footnotes listed at end of table.

Table 3. Summary of Water Level Measurements, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Well	Date	TOC Elev. (ft MSL)	Depth to Water (ft BTOC)	Water Elevation (ft. MSL)	Flow Rate (gpm)	Cumulative Flow (gallons)
DUBOIS WL	09/13/89	493.27	19.22	474.05		
	09/28/89	493.27	34.11	459.16		
	11/10/89	493.27	34.13	459.14		
	01/29/90	493.27	34.50	458.77		
	01/31/90	493.27	34.53	458.74		
	02/01/90	493.27	35.20	458.07		
	02/02/90	493.27	32.85	460.42		
	03/01/90	493.27	32.88	460.39		
	03/13/90	493.27	31.88	461.39		
	04/03/90	493.27	28.62	464.65		
	04/12/90	493.27	29.52	463.75		
	07/18/90	493.27	31.05	462.22		
	12/29/90	493.27	34.50	458.77		

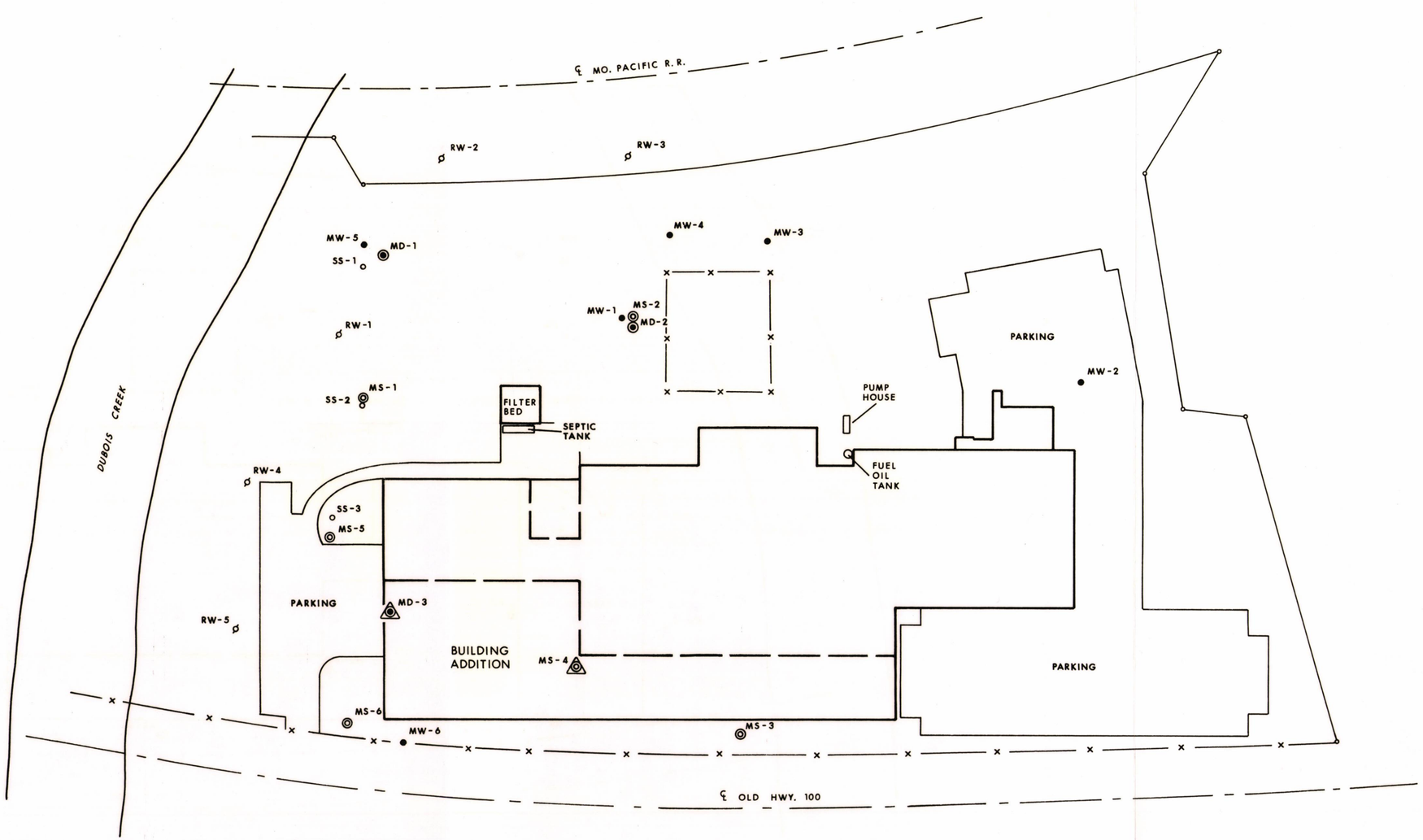
gpm Gallons per minute
MSL Mean sea level
TOC Top of casing
BTOC Below top of casing

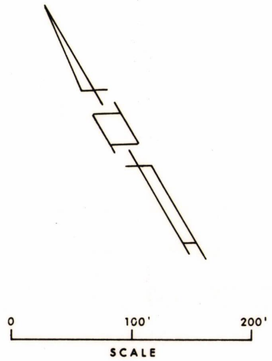
Footnotes listed at end of table.

Table 4. Ground Water Recovery System Efficiency, SECO Products Facility, Washington, Missouri, Hussmann Corporation

Compound	Influent	Effluent	Removal Efficiency
Acetone	28	35	*
Methylene Chloride	ND	6	*
1,1-Dichloroethene	14	ND	100
1,2-Dichloroethene	7,900	66	99
Trichloroethene	170	ND	100
Vinyl Chloride	170	ND	100

* Common laboratory contaminant
ND Not detected





LEGEND

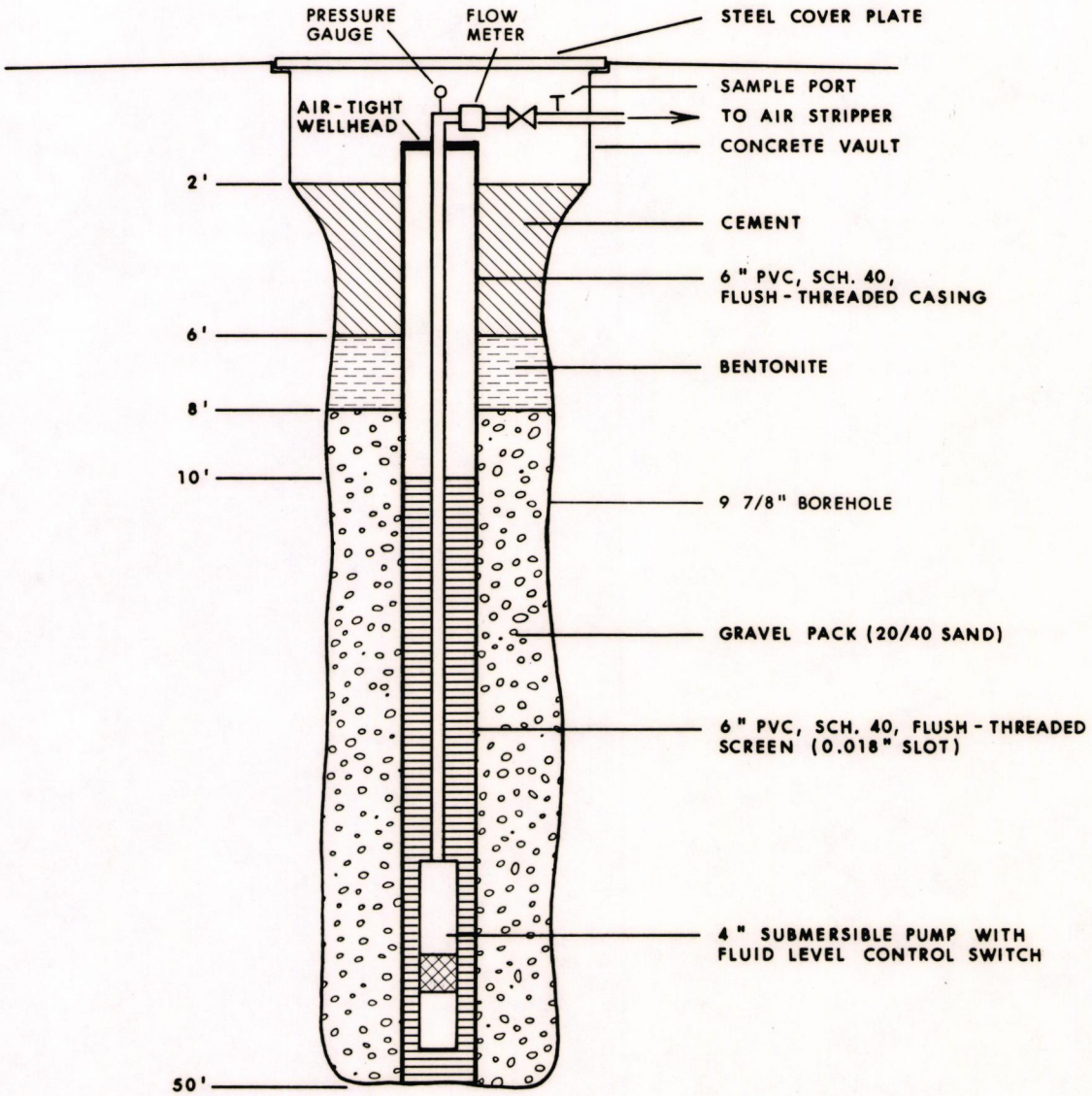
- ● ORIGINAL MONITOR WELL
- ○ SHALLOW MONITOR WELL
- ◎ MIDDLE MONITOR WELL
- ◉ DEEP MONITOR WELL
- △ PLUGGED MONITOR WELL
- ø RECOVERY WELL

SECO PRODUCTS

SITE MAP

GERAGHTY & MILLER, INC.
Environmental Services

Figure 1



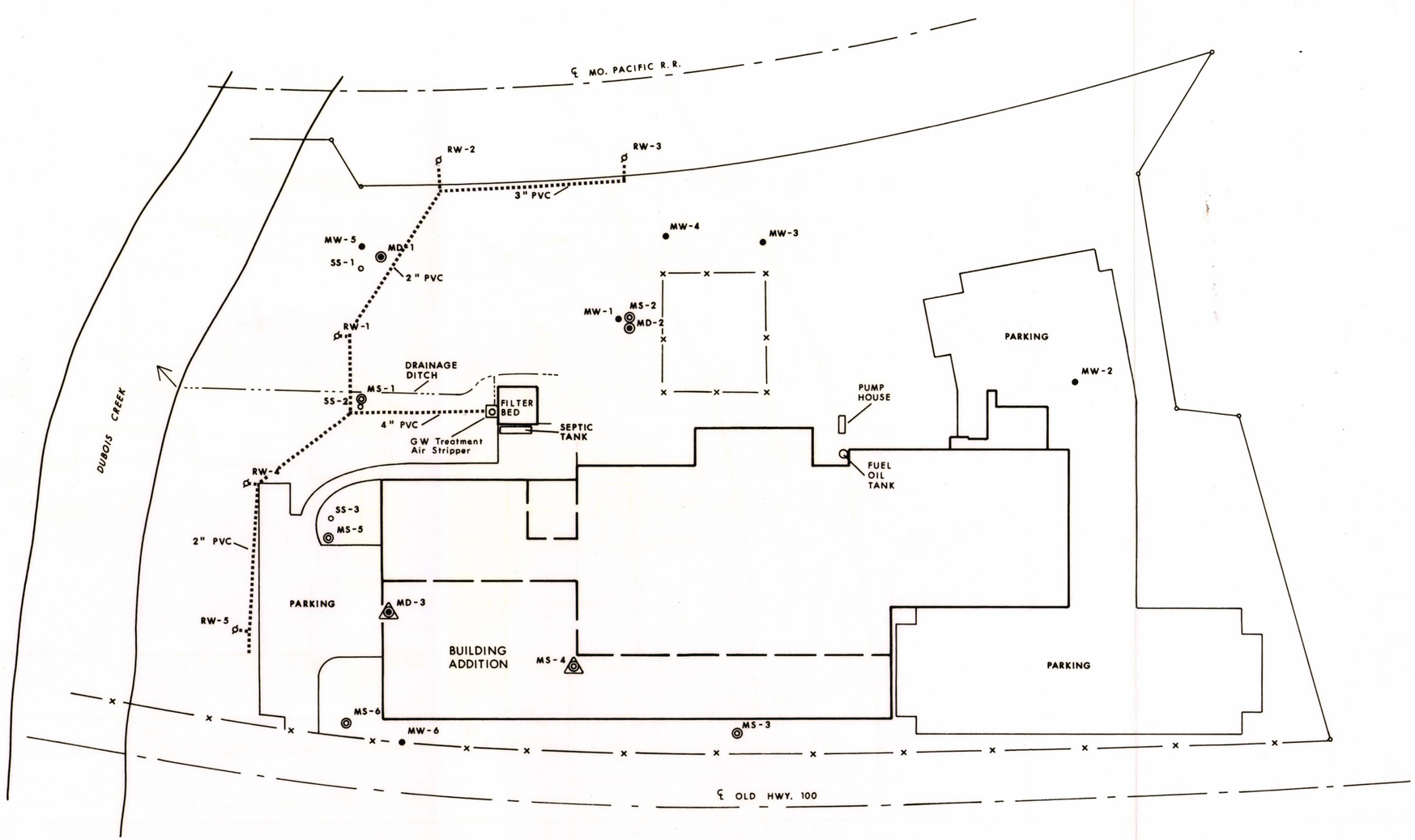
DRAWING NOT TO SCALE

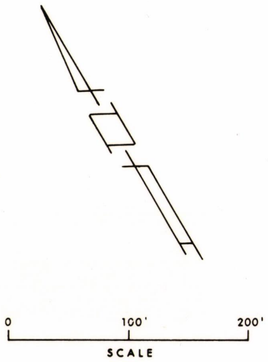
SECO PRODUCTS

TYPICAL
RECOVERY WELL DESIGN

GERAGHTY & MILLER, INC.
Environmental Services

Figure 2





LEGEND

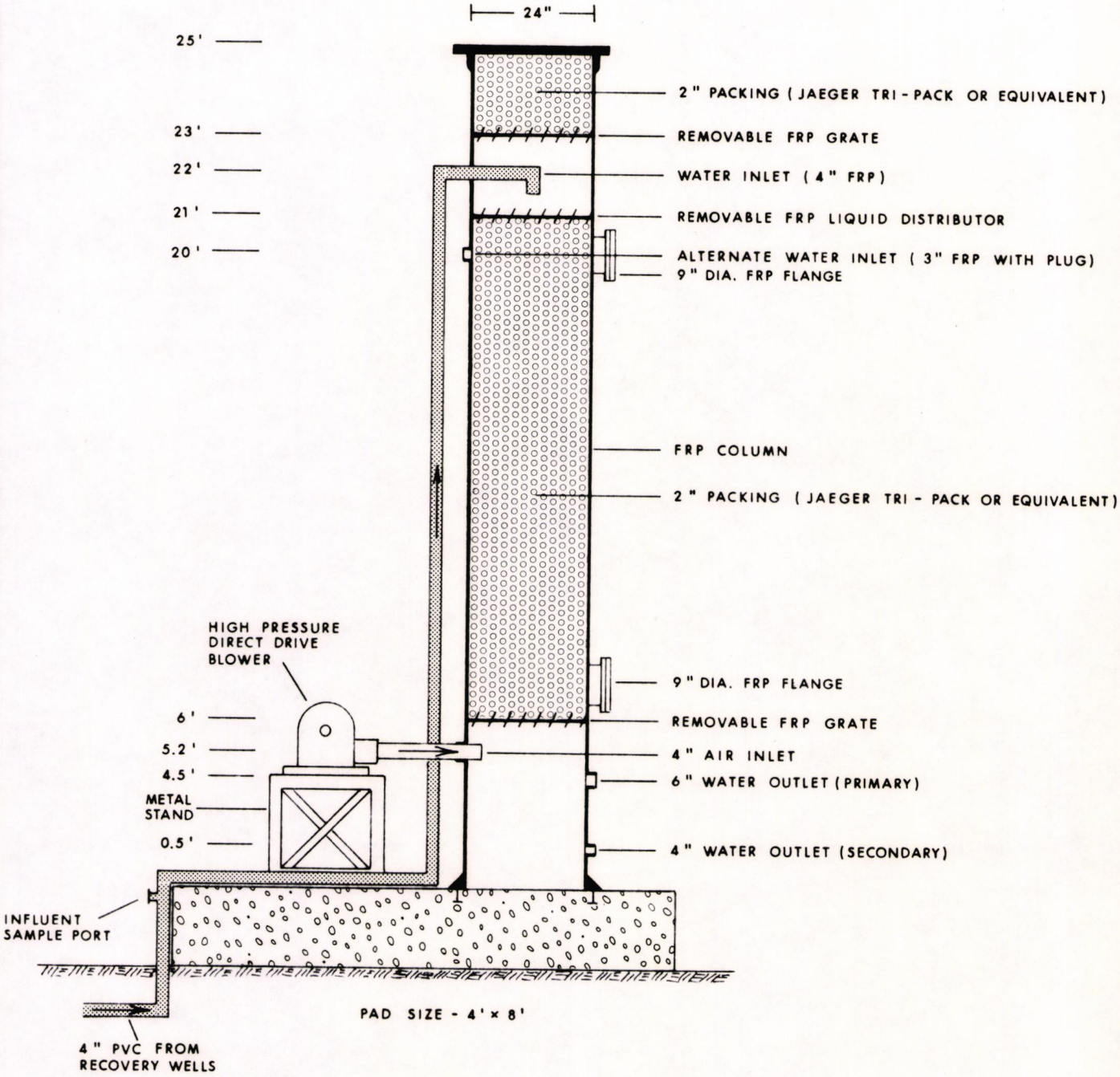
- ● ORIGINAL MONITOR WELL
- ○ SHALLOW MONITOR WELL
- ◎ MIDDLE MONITOR WELL
- ◉ DEEP MONITOR WELL
- △ PLUGGED MONITOR WELL
- ø RECOVERY WELL
- ····· RECOVERY WELL PIPING

SECO PRODUCTS

GROUND WATER RECOVERY SYSTEM DESIGN

GERAGHTY & MILLER, INC.
Environmental Services

Figure 3



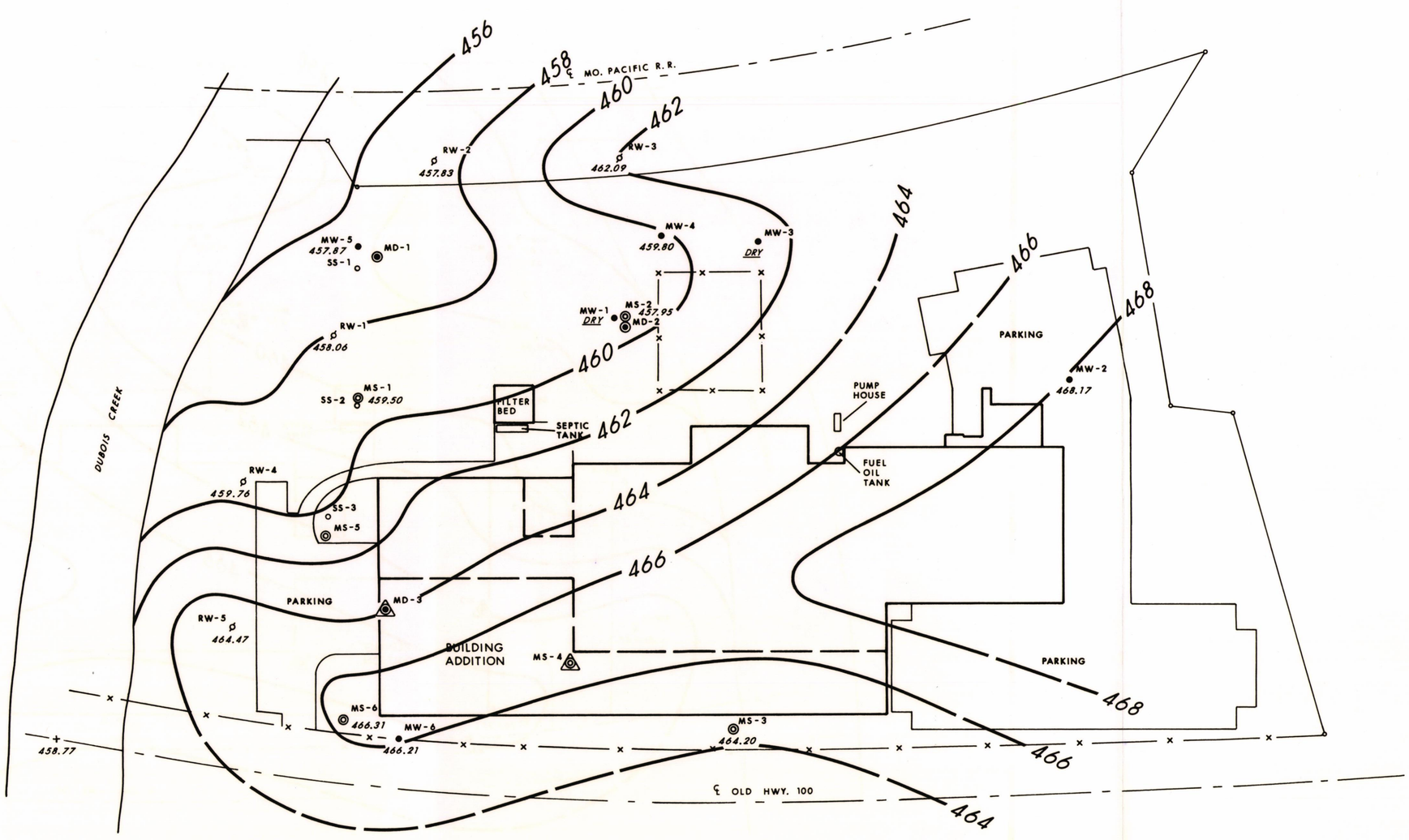
DRAWING NOT TO SCALE

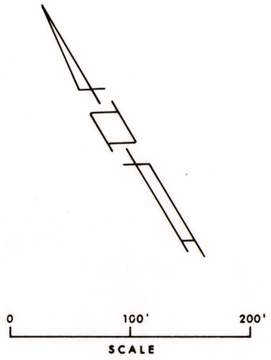
SECO PRODUCTS

AIR STRIPPER DESIGN

GERAGHTY & MILLER, INC.
Environmental Services

Figure 4





LEGEND

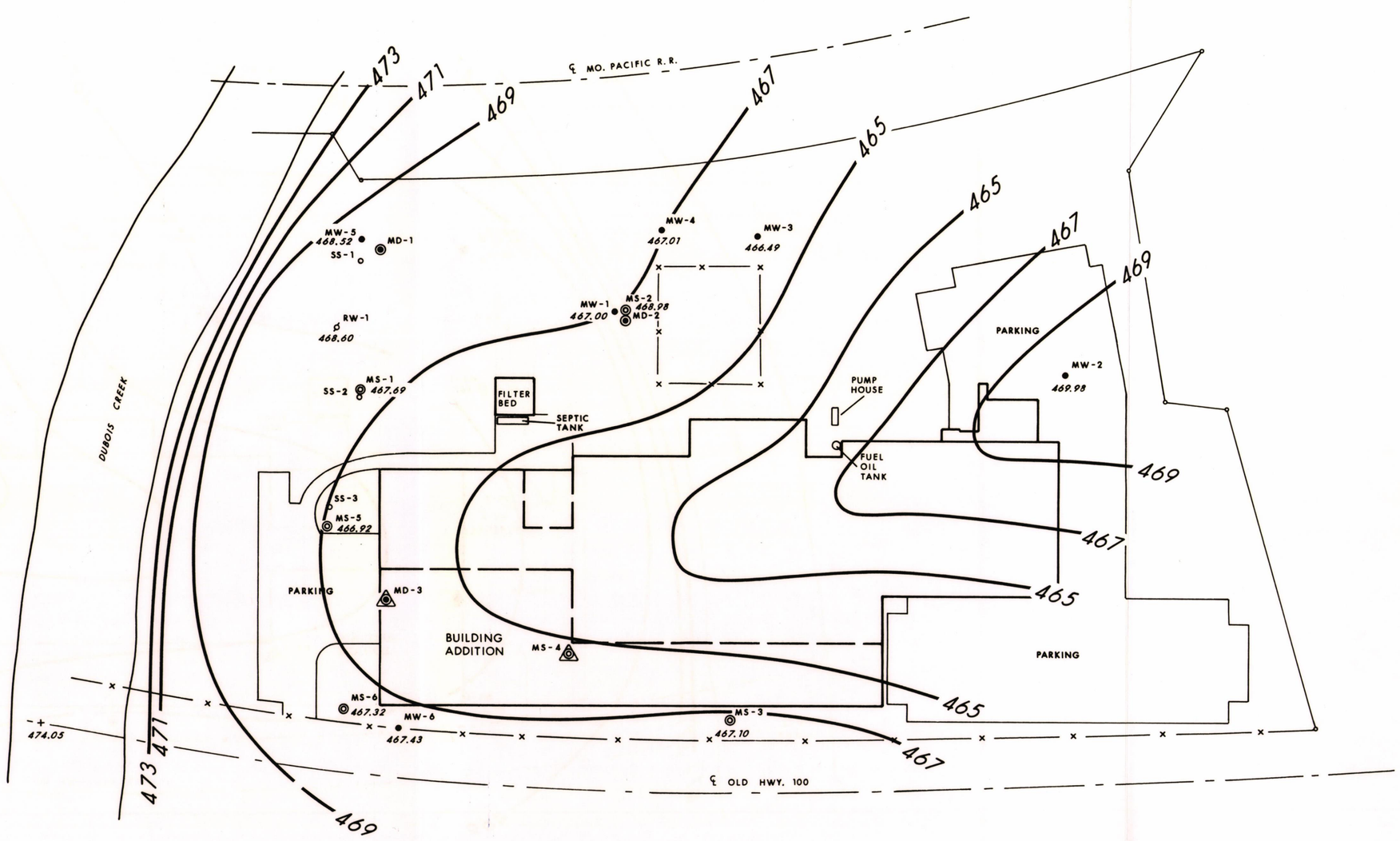
- ● ORIGINAL MONITOR WELL
- ○ SHALLOW MONITOR WELL
- ◎ MIDDLE MONITOR WELL
- ◉ DEEP MONITOR WELL
- △ PLUGGED MONITOR WELL
- ø RECOVERY WELL

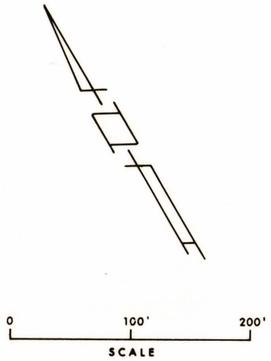
SECO PRODUCTS

STATIC WATER TABLE MAP
JANUARY 29, 1990

GERAGHTY & MILLER, INC.
Environmental Services

Figure 5





LEGEND

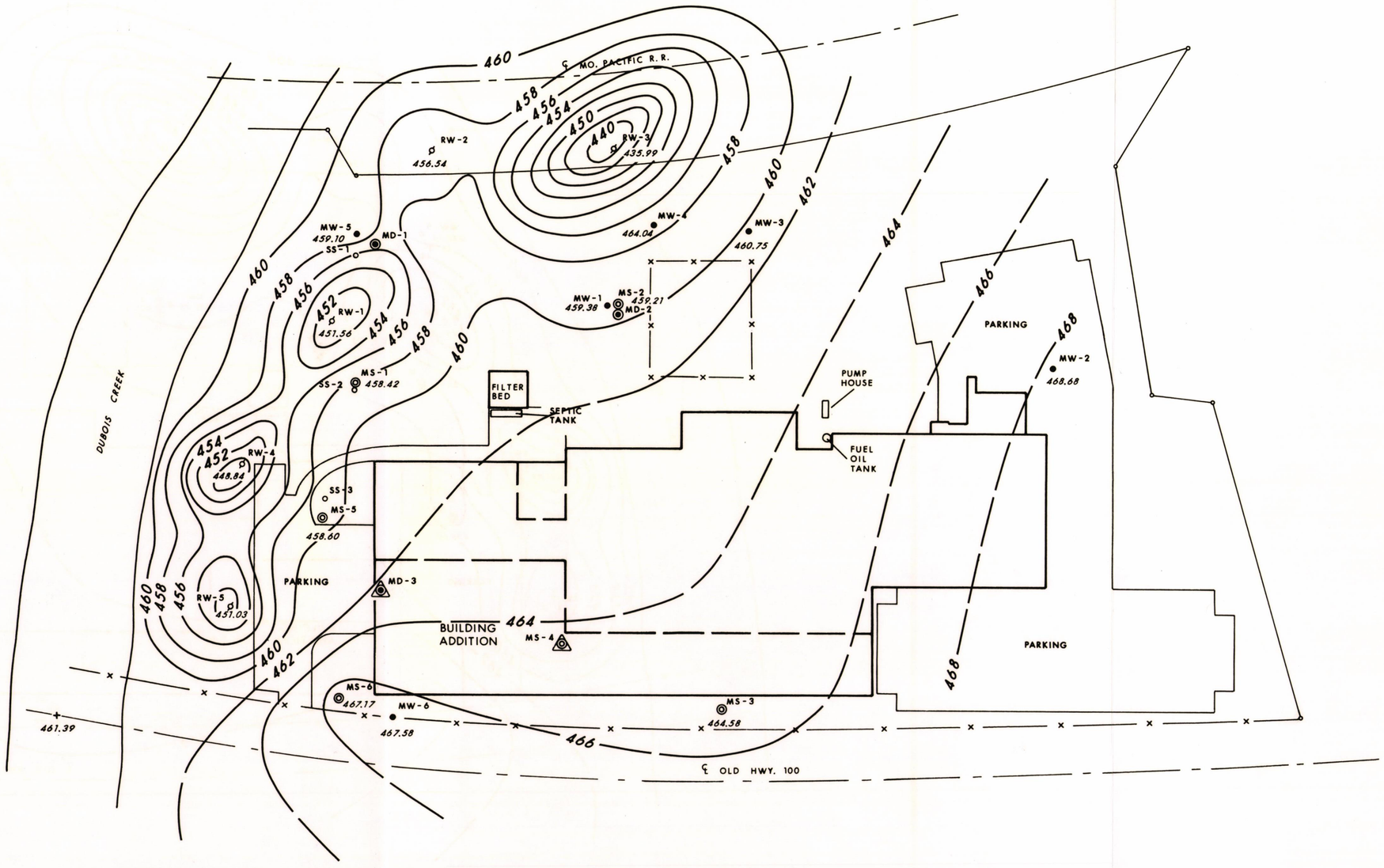
- ● ORIGINAL MONITOR WELL
- ○ SHALLOW MONITOR WELL
- ◎ MIDDLE MONITOR WELL
- ◉ DEEP MONITOR WELL
- △ PLUGGED MONITOR WELL
- ø RECOVERY WELL

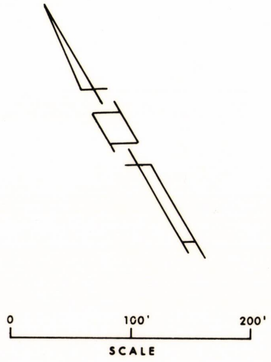
SECO PRODUCTS

MIDDLE SAND WATER TABLE
HIGH STREAM STAGE
SEPTEMBER 13, 1989

GERAGHTY & MILLER, INC.
Environmental Services

Figure 6





LEGEND

- ● ORIGINAL MONITOR WELL
- ○ SHALLOW MONITOR WELL
- ◎ MIDDLE MONITOR WELL
- ◉ DEEP MONITOR WELL
- △ PLUGGED MONITOR WELL
- ø RECOVERY WELL

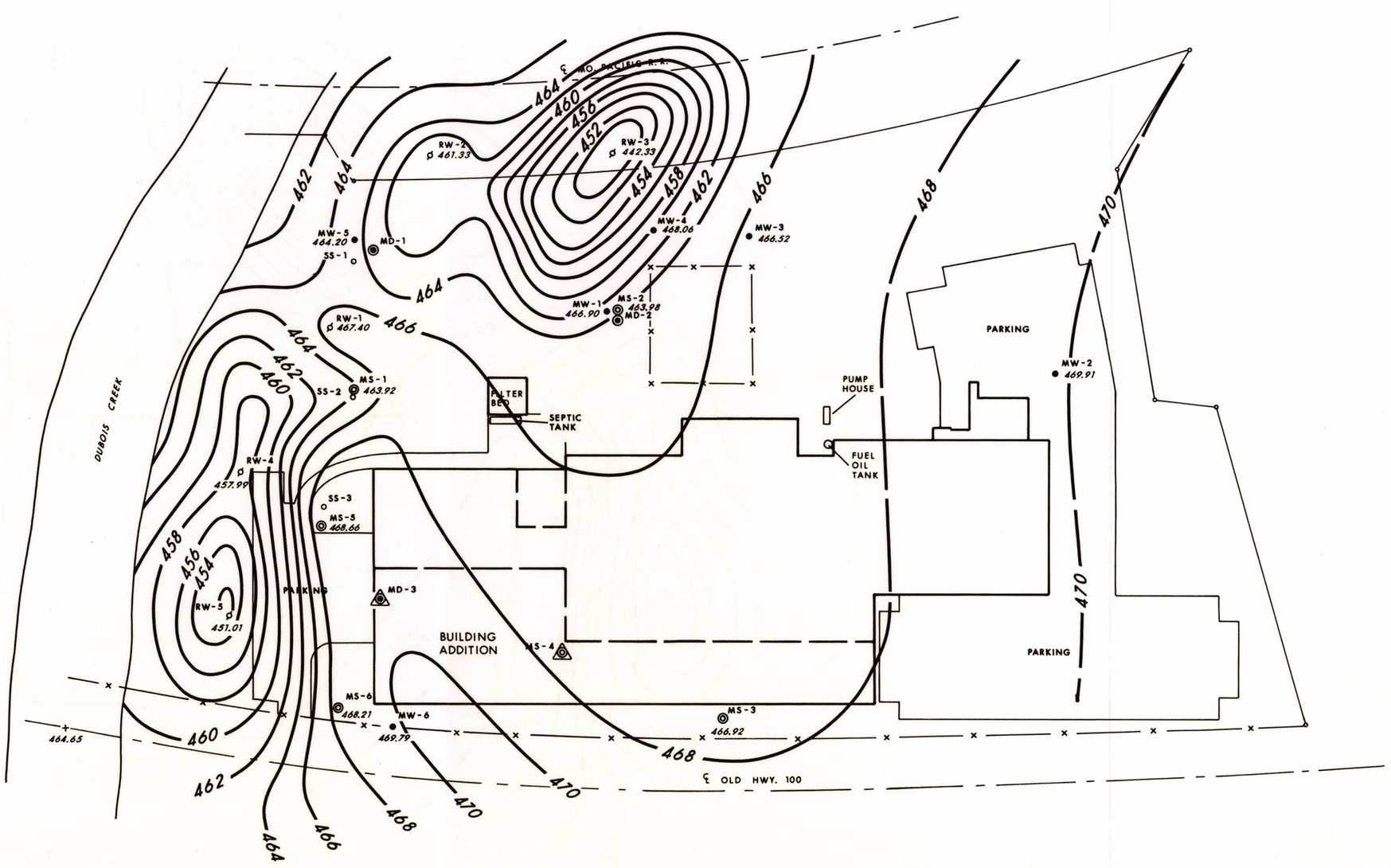
NOTE: SYSTEM FLOW RATE - 42 GPM

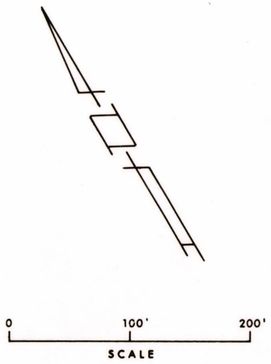
SECO PRODUCTS

PUMPING WATER TABLE MAP
MARCH 13, 1990

GERAGHTY & MILLER, INC.
Environmental Services

Figure 7





LEGEND

- ● ORIGINAL MONITOR WELL
- ○ SHALLOW MONITOR WELL
- ◎ MIDDLE MONITOR WELL
- ◉ DEEP MONITOR WELL
- △ PLUGGED MONITOR WELL
- ø RECOVERY WELL

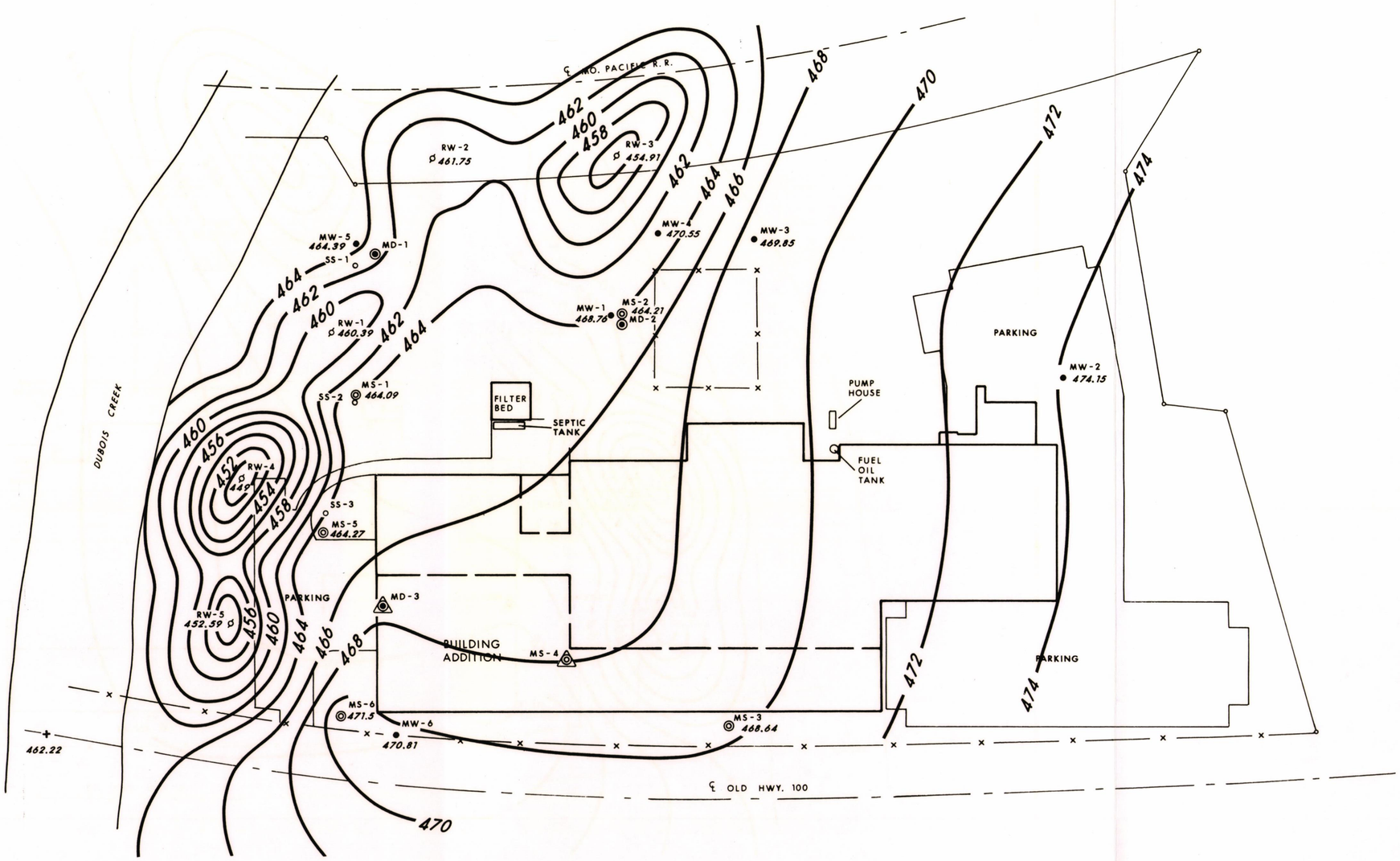
NOTE: SYSTEM FLOW RATE - 36 GPM
RECOVERY WELL RW-1 SHUT DOWN FOR MAINTENANCE

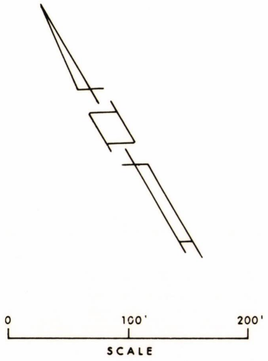
SECO PRODUCTS

PUMPING WATER TABLE MAP
APRIL 3, 1990

GERAGHTY & MILLER, INC.
Environmental Services

Figure 8





LEGEND

- ● ORIGINAL MONITOR WELL
- ○ SHALLOW MONITOR WELL
- ◎ MIDDLE MONITOR WELL
- ◉ DEEP MONITOR WELL
- △ PLUGGED MONITOR WELL
- ø RECOVERY WELL

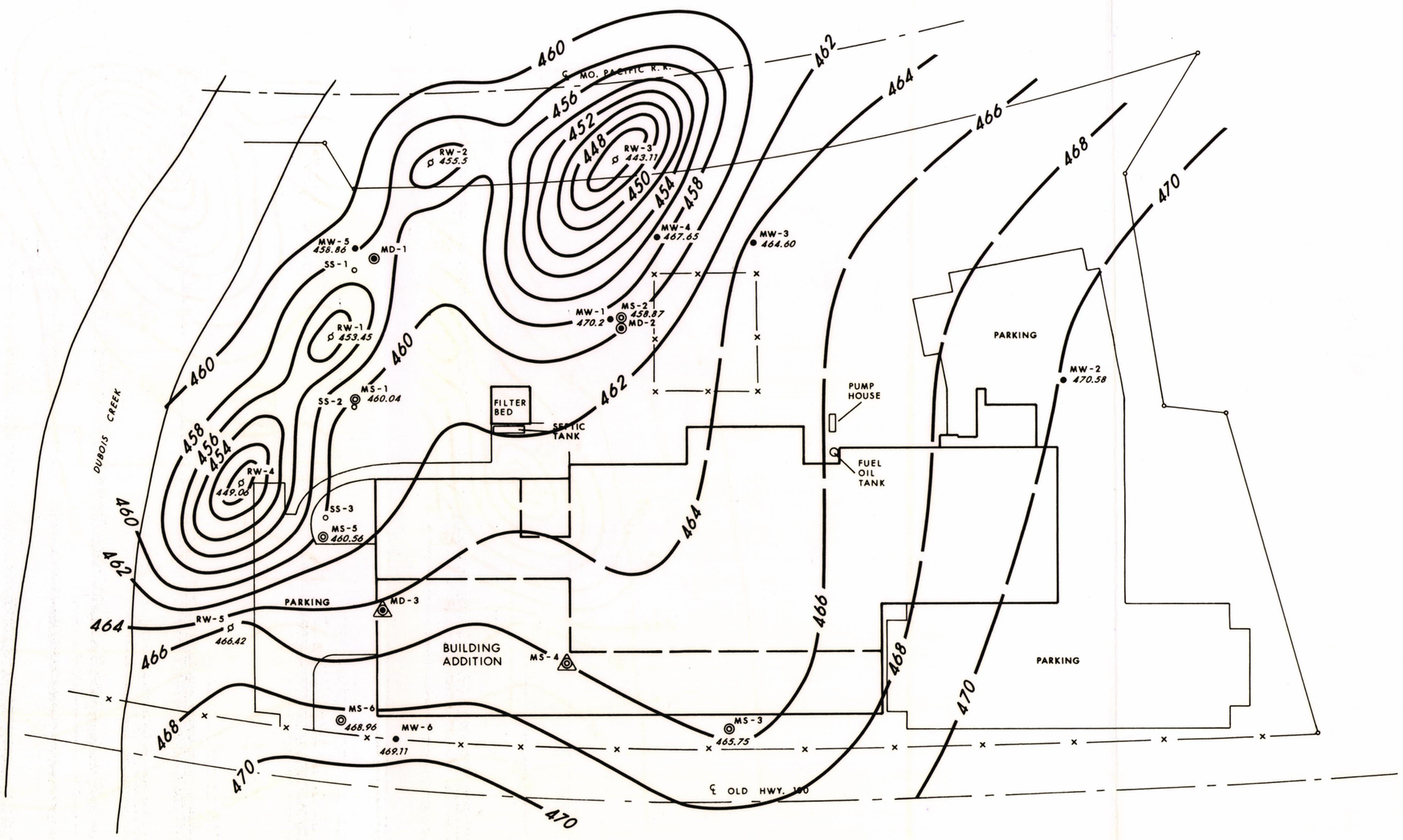
NOTE: SYSTEM FLOW RATE - 32 GPM

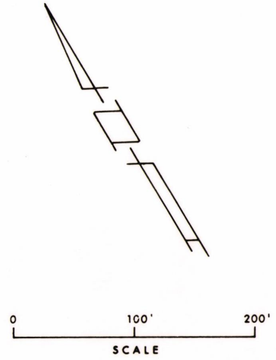
SECO PRODUCTS

PUMPING WATER TABLE MAP
JULY 18, 1990

GERAGHTY & MILLER, INC.
Environmental Services

Figure 9





LEGEND

- ● ORIGINAL MONITOR WELL
- ○ SHALLOW MONITOR WELL
- ◎ MIDDLE MONITOR WELL
- ◉ DEEP MONITOR WELL
- △ PLUGGED MONITOR WELL
- ø RECOVERY WELL

NOTE: SYSTEM FLOW RATE - 35 GPM

SECO PRODUCTS

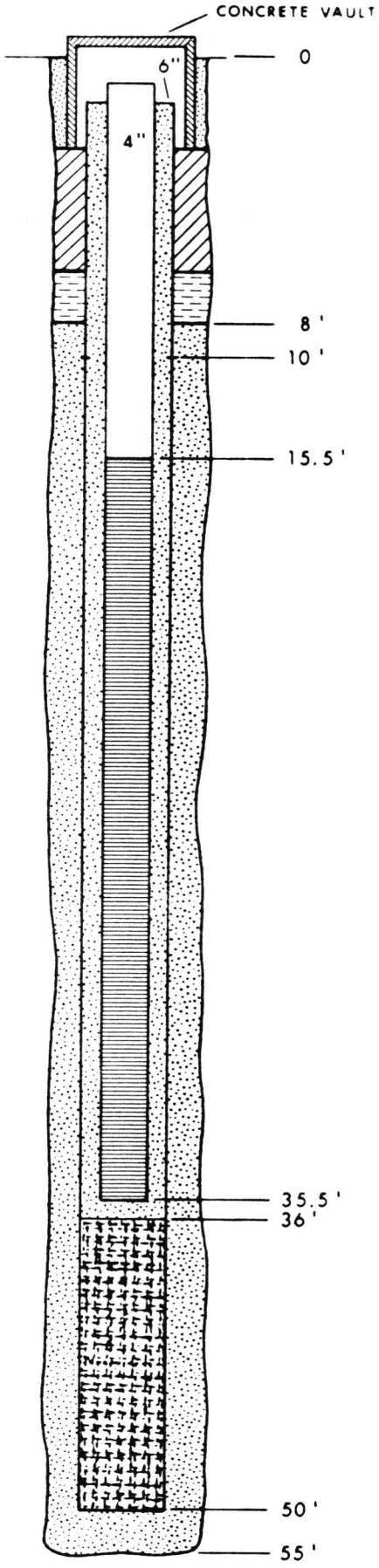
PUMPING WATER TABLE MAP
OCTOBER 12, 1990

GERAGHTY & MILLER, INC.
Environmental Services

Figure 10

APPENDIX A

BORING LOGS AND
WELL COMPLETION DIAGRAMS



4" RW SPECIFICATIONS

4" SCHEDULE 40 PVC (-1.3-15.5')
4" SCREEN - 0.020" SLOT (15.5 - 35.5')
WB - 35 SAND (0 - 36')
NO CEMENT/BENTONITE
MUD/COLLAPSE FILL (36 - 50')

6" RW SPECIFICATIONS

6" SCHEDULE 40 PVC (-1.5-10')
6" SCREEN - 0.018" SLOT (10-50')
WB - 35 SAND (8 - 55')
CEMENT/BENTONITE (0 - 8')

SECO PRODUCTS

RW - 1 WELL LOG

GERAGHTY & MILLER, INC.
Environmental Services

August 1990

CLIENT Hussmann

PROJECT Hussmann-SECO

LOCATION Washington, Missouri

WELL NO. RW-1

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 6" Sch. 40 PVC (+3-10')
6" screen (0.018" slot) (10-50')

COMPLETION WB-35 sand (8-55')

CEMENT Cement-bentonite (0-8')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: GEOPHYSICAL LOG	LITHOLOGY: SAMPLE LOG	COMPLETION	HOLE SIZE	DEPTH
			Dk. brown, silty clay (cl); med. stiff; moist; 10-20% silt		9"	
5						5
10			Dk. brown, silty sand (sm); med. dense; moist; v. fine sand; 30-40% silt.			10
15			Becomes saturated at 15 feet. Dk. brown, silty clay (cl); med. stiff; moist; 15-25% silt. Dk. brown, sandy clay (cl); med. stiff; moist; 25-35% v. fine sandy; 5-15% silt.			15
20			Dk. gray, silty sand (sm); med. dense; saturated; v. fine sand; 35-45% silt. Less silt at 23 feet (10-20%).			20
25			Dk. gray, sandy clay (cl); med. stiff; moist; 20-30% v. fine sand. Dk. gray, silty sand (sm); med. dense; saturated; v. fine sand; 10-20% silt.			25
30			Dk. gray, silty clay (cl); med. stiff; moist; 25-35% silt. Dk. gray, silty sand (sm); med. dense; saturated; v. fine sand; 5-15% silt.			30

▼ WATER LEVEL
-o- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann

PROJECT Hussmann-SECO

LOCATION Washington, Missouri

WELL NO. RW-1

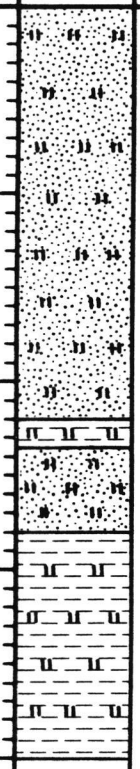
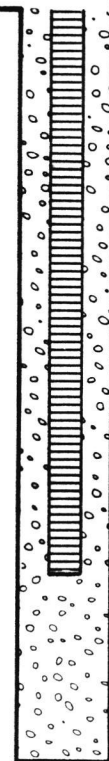
WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 6" Sch. 40 PVC (+3-10')
6" PVC screen (0.018" slot) (10-50')

COMPLETION WB-35 sand (8-55')

CEMENT Cement-bentonite (0-8')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: GEOPHYSICAL LOG	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
					9 3/4"	
40						40
45			Dk. gray, silty clay (cl); med. stiff; moist; 15-25% silt.			45
			Dk. gray, silty sand (sm); med. dense; saturated; v. fine sand; 5-15% silt.			
50			Dk. gray, silty clay (cl); med. stiff; moist; 10-20% silt.			50
55			Total depth is 55 feet.			55
60						60
65						65

▼ WATER LEVEL

-o- PUMP SETTING

CEMENT

BENTONITE SEAL

GRAVEL PACK

PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Hussmann SECO

LOCATION Washington, Missouri

WELL NO. RW-2

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

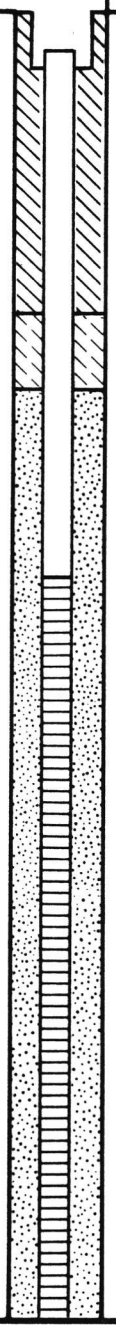
CASING 6" PVC, Sch. 40 (-1-15')
6" PVC, 0.018" slot (15-75')

COMPLETION WB-25 sand (10-76')

CEMENT Cement-bentonite (0-10')

DEPTH	SYMBOL	LITHOLOGY: SAMPLE LOG
		Dark brown, silty clay (cl); medium stiff, moist; 30 to 40% silt.
5		
		Dark brown, sandy clay (cl); medium stiff, moist; 30 to 40% very fine sand; ≤2 to 7% silt.
10		Dark brown, clayey sand (sc); medium dense; very fine sand; 30 to 40% clay; ≤5 to 15% silt.
15		Dark brown, silty clay (cl); medium stiff; moist; 30 to 40% silt.
		Change in color at 19 feet to dark gray.
20		Dark gray, clayey sand (sc); medium dense; very fine sand; 25 to 35% clay; 10 to 20% silt.
		Dark gray, silty clay (cl); medium stiff; moist; 30 to 40% silt.
		Dark gray, silty sand (sm); medium dense; very fine sand; 30 to 40% silt.
25		Dark gray, silty clay (cl); medium stiff; moist; 30 to 40% silt.
		Dark gray, clayey sand (sc); medium dense; very fine sand; 20 to 30% clay; 5 to 15% silt.
30		Dark gray to black, gravelly sand (sp); med. dense; subrounded to subangular, medium to very coarse sand; subangular gravel to 3/16" diameter.
		Dark gray to black, sandy gravel (gp); medium dense, subrounded gravel to 1/2" diameter; 25 to 35% coarse to very coarse sand.

COMPLETION



HOLE SIZE: 9 7/8"

DEPTH: 5, 10, 15, 20, 25, 30

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Hussmann SECO

LOCATION Washington, Missouri

WELL NO. RW-2

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 6" PVC, Sch. 40 (-1-15')
6" PVC, 0.018" slot (15-75')

COMPLETION WB-25 sand (10-76')

CEMENT Cement-bentonite (0-10')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
				9 7/8"	
40					40
45					45
50					50
		Dark gray sand (sp); medium dense; very fine to fine sand.			
55					55
		Minor silt and clay at 59 feet.			
		Gray, sandy gravel (gp); medium dense to dense; subrounded gravel to 1" diameter; 20 to 30% very fine to very coarse, subrounded to subangular sand; ≤2 to 7% clay.			
60					60
		Dark gray, silty sand (sm); medium dense; very fine to fine sand; 30 to 40% silt.			
65					65
		Minor clay from 66 to 67 feet (5 to 10%).			
		Two-inch to three-inch interbedded, sandy clay layers from 69 to 73 feet.			

▼ WATER LEVEL
-o- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Hussmann SECO

LOCATION Washington, Missouri

WELL NO. RW-2

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 6" PVC, Sch. 40 (-1-15')
6" PVC, 0.018" slot (15-75')

COMPLETION WB-25 sand (10-76')

CEMENT Cement-bentonite (0-10')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
		10 to 15% medium to coarse sand interspersed from 73 to 74 feet.		9 7/8"	
75		Dark gray, silty clay (cl); stiff to very stiff; moist; 15 to 25% silt.		1" Core Sample	75
		Total depth is 78 feet.			
80					80
85					85
90					90
95					95
100					100

▼ WATER LEVEL
-o- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Hussmann SECO

LOCATION Washington, Missouri

WELL NO. RW-3

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 6" PVC, Sch. 40 (-1-17')
6" PVC, 0.018" slot (17-67')

COMPLETION WB-25 sand (12-69')

CEMENT Cement-bentonite (0-12')

DEPTH	SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	HOLE SIZE	DEPTH
		Dark brown, silty clay (cl); medium stiff; moist; 25 to 35% silt.		9 7/8"	
5					5
		Dark brown, sandy clay (cl); medium stiff; moist; 20 to 30% very fine sand; ≤2 to 10% silt.			
10					10
		Dark brown, silty sand (sm); medium dense; very fine sand; 30 to 40% silt.			
15					15
		Dark gray, silty clay (cl); medium stiff; moist; 25 to 35% silt.			
20					20
		Dark gray, silty sand (sm); medium dense; very fine sand; 30 to 40% silt.			
		Less silt at 22 feet (15 to 25%).			
25					25
30					30
		Becomes siltier at 33 feet (25 to 35% silt).			

▼ WATER LEVEL
-O- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Hussmann SECO

LOCATION Washington, Missouri

WELL NO. RW-3

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 6" PVC, Sch. 40 (-1-17')
6" PVC, 0.018" slot (17-67')

COMPLETION WB-25 sand (12-69')

CEMENT Cement-bentonite (0-10')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
		Dark gray, clayey sand (sc); medium dense; very fine sand; 20 to 30% clay.		9 7/8"	
40		Less clay at 41 feet (10 to 20%).			40
45		Brown and black sand (sp); medium dense to dense; fine to very coarse grain, subrounded sand.			
50		Sand becomes very fine to fine at 54 feet.			50
55					55
60		Dark gray, silty sand (sm); medium dense; very fine to fine sand; 15 to 25% silt.			60
		Brown and black sand (sp); medium dense to dense; medium to very coarse, subrounded to subangular sand.			
65		Dark gray, silty sand (sm); medium dense; very fine sand; 20 to 30% silt.			65
		Dark gray, silty clay (cl); medium stiff; moist; 30 to 40% silt; small very fine sand pockets. Total depth is 70 feet.			

▼ WATER LEVEL
-o- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Hussmann SECO

LOCATION Washington, Missouri

WELL NO. RW-4

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

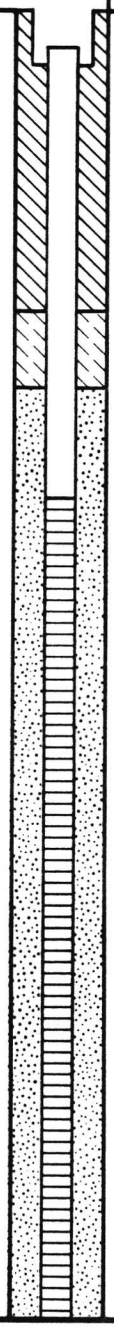
CASING 6" PVC, Sch. 40 (-1-13')
6" PVC, 0.018" slot (13-43')

COMPLETION WB-25 sand (10-45')

CEMENT Cement-bentonite (0-10')

DEPTH	SYMBOL	LITHOLOGY: SAMPLE LOG
		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.
5		Brown, silty sand (sm); medium dense; moist, very fine sand; 30 to 40% silt; ≤2 to 5% clay; limonitic staining.
10		
15		Becomes clayier at 17 feet (5 to 15%).
20		Dark gray, sandy silt/silty sand (ML/SM); medium stiff; very fine sand; ≤2 to 5% clay.
25		Dark gray, silty sand (sm); medium stiff; very fine sand; 35 to 45% silt.
30		Less silt at 34 feet (25 to 35%).

COMPLETION



HOLE SIZE: 9 7/8"

DEPTH: 5, 10, 15, 20, 25, 30

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Hussmann SECO

LOCATION Washington, Missouri

WELL NO. RW-4

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 6" PVC, Sch. 40 (-1-13')
6" PVC, 0.018" slot (13-43')

COMPLETION WB-25 sand (10-45')

CEMENT Cement-bentonite (0-10')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
		Sand becomes very fine to fine at 36 feet; less silt (15 to 25%).		9 7/8"	
40		Dark gray, clayey sand (sc); medium dense; very fine sand; 15 to 25% clay; ≤5 to 15% silt.			40
		Dark gray, silty clay (cl); medium stiff to stiff; moist; 20 to 30% silt.			
45		Total depth is 45 feet.			45
50					50
55					55
60					60
65					65

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Hussmann SECO

LOCATION Washington, Missouri

WELL NO. RW-5

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

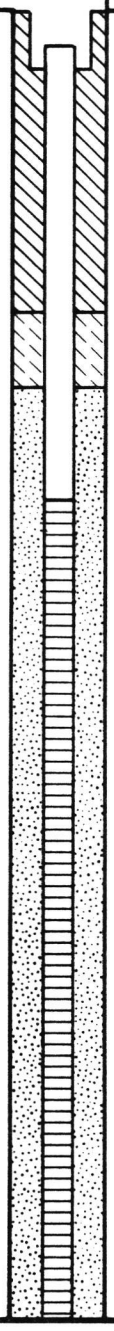
CASING 6" PVC, Sch. 40 (-1-13')
6" PVC, 0.018" slot (13-48')

COMPLETION WB-25 sand (10-48')

CEMENT Cement-bentonite (0-10')

DEPTH	SYMBOL	SAMPLE LOG
		Brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.
5		
		Brown and gray mottled, sandy clay (cl); medium stiff; moist; 25 to 35% very fine sand; 10 to 20% silt; limonitic staining.
10		Dark brown, silty sand (sm); medium dense; very fine sand; 30 to 40% silt; ≤2 to 7% clay.
		Brown, silty clay (cl); medium stiff; moist; 20 to 30% silt; limonitic staining.
15		Dark brown, silty sand (sm); medium dense; very fine sand; 30 to 40% silt.
		Brown, silty clay (cl); medium stiff; moist; 25 to 35% silt; limonitic staining.
		Dark gray, silty sand (sm); medium dense; very fine sand; 30 to 40% silt; ≤2 to 7% clay.
20		5 to 15% medium to course grain sand from 20 to 22 feet.
		Dark gray, sandy silt (ml); medium stiff; moist; 25 to 35% very fine sand; ≤2 to 5% clay.
25		Dark gray, silty clay (cl); medium stiff; moist; 20 to 30% silt.
30		Minor sand and silt interbeds from 28 to 30 feet.
		10 to 20% very fine sand from 33 to 34 feet.

COMPLETION



HOLE SIZE: 9 7/8"

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Hussmann SECO

LOCATION Washington, Missouri

WELL NO. RW-5

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 6" PVC, Sch. 40 (-1-13')
6" PVC, 0.018" slot (13-48')

COMPLETION WB-25 sand (10-48')

CEMENT Cement-bentonite (0-10')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
40				9 7/8"	40
45		Dark gray, sandy silt/silty sand (ml/sm); medium stiff; moist; very fine sand; ≤2 to 5% clay. Dark gray, silty clay (cl); medium stiff; moist; 30 to 40% silt. Dark gray, sandy silt/silty sand (ml/sm); medium stiff; moist; very fine sand.			45
50		Dark gray, silty clay (cl); medium stiff; moist; 25 to 35% silt. Total depth is 50 feet.		1"	50
55					55
60					60
65					65

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

APPENDIX B

GROUND WATER RECOVERY SYSTEM
OPERATION AND MAINTENANCE PROCEDURES

APPENDIX B

HUSSMANN SECO
GROUND WATER RECOVERY SYSTEM
OPERATIONAL AND MAINTENANCE PROCEDURES

- Monitoring and Record Keeping

  - Daily monitoring and record keeping of the ground water recovery system will be performed by SECO Products personnel. The specific tasks to be performed daily including the following.

    - Record time of inspection
    - Record air stripper effluent discharge rate
    - Record total gallons discharged
    - Record in-line pressure
    - Inspect air stripper tower and blower

    This data will be recorded on the Treatment Unit Inspection Log presented as Attachment 1.

  - Quarterly inspections of the ground water treatment unit, including the five recovery wells, will be performed by G&M St. Louis personnel. The specific tasks to be performed during the quarterly inspection include the following.

    - Record time and date of inspection
    - Record if pump is on or off
    - Record total gallons discharged
    - Record pumping rate
    - Record in-line pressure
    - Record condition of well and piping
    - List any repairs or replacement of parts
    - Record time well out of service for repairs

    This data will be recorded on the Recovery Well Inspection Log presented as Attachment 2.

- System Failures and Reporting

  - A constant-flow rate should be maintained in each recovery well. The combined flow rate of each recovery well should total the air stripper effluent discharge flow rate which is recorded on a daily basis by SECO Products personnel. Should the effluent discharge flow rate fall by more than five gallons per minute, the following procedures should be performed.

    - Check each recovery well and note which well(s) is malfunctioning. If a recovery well is not operating, check the breaker at the control box. If the well(s) cannot be restarted by flipping the breaker switch, then the following people should be informed within 24 hours.

      - G&M St. Louis: (314) 569-0989

        Mr. Tom Lazarski
        Mr. Douglas Marian

      - Hussmann Corporation: (314) 344-0541

        Mr. Dennis Dubitsky

ATTACHMENT 1

HUSSMANN SECO
TREATMENT UNIT INSPECTION LOG

Daily Inspection Log Month and Year _____

Day	Time	Flow Meter Reading	Gallons Discharged	Water Pressure (psi)	Air Stripper Blower On/Off	Air Stripper Condition	Inspector
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

ATTACHMENT 2

HUSSMANN SECO
RECOVERY WELL INSPECTION LOG

Quarterly Inspection Log Recovery Well:_____ Month and Year:_____

Well	Time	Pump On/Off	Water Meter Reading	Gallons Discharged	Condition	Repairs, if any	Time Out Of Service	Inspector

APPENDIX C

TREATMENT UNIT INSPECTION LOGS - 1990

HUSSM' 'SECO
TREATMENT UN SPECTION LOG

Daily Inspecti Log Month and Year March 1990

Day	Time	Flow Meter Reading	Gallons Discharged	Water Pressure (psi)	Air Stripper Blower On/Off	Air Stripper Condition	Inspector
1	0642	35	1,658,330	18	ON	OK	LC
2	0948	40	1,719,590	22	ON	OK	LC
3							
4							
5	0756	43	1,897,690	24	ON	OK	LC
6	1255	43	1,970,920	25	ON	OK	LC
7	1228	41	2,031,240	21	ON	OK	LC
8	1400	43	2,095,510	21	ON	OK	LC
9	1252	44	2,153,810	24	ON	OK	LC
10							
11							
12	0721	42	2,322,560	25	ON	OK	LC
13	0700	42	2,380,739	24	ON	OK	LC
14	1600	40	2,461,980	23	ON	OK	LC
15	0600	41	2,496,840	24	ON	OK	LC
16	0700	38	2,558,340	21	ON	OK	LC
17							
18							
19	0700	37	2,720,819	20	ON	OK	LC
20	0830	39	2,777,245	19	ON	OK	LC
21	0900	37	2,836,456	20	ON	OK	LC
22	0700	37	2,858,596	19	ON	OK	LC
23	1030	38	2,918,821	18	ON	OK	LC
24							
25							
26	1030	38	3,080,864	19	ON	OK	LC
27	0700	37	3,127,579	19	ON	OK	LC
28	0630	38	3,179,467	20	ON	OK	LC
29	0700	37	3,233,857	18	ON	OK	LC
30	0800	37	3,289,222	19	ON	OK	LC
31							

Daily Inspection Log Month and Year April 1990

TREATMENT UNIT INSPECTION LOG

Day	Time	Flow Meter Reading	Gallons Discharged	Water Pressure (psi)	Air Stripper Blower On/Off	Air Stripper Condition	Inspector
1							
2	0813	37	3,449,110	18	ON	OK	LC
3	1526	36	3,515,690	16	ON	OK	LC
4	1443	37	3,566,530	16	ON	OK	LC
5	0700	36	3,602,581	16	ON	OK	LC
6	0940	37	3,660,390	18	ON	OK	LC
7	—						
8	—						
9	0718	36	3,811,680	18	ON	OK	LC
10	1447	35	3,878,110	17	ON	OK	LC
11	1440	35	3,928,610	15	ON	OK	LC
12	1407	28	3,975990	7	ON	OK	LC
13	0700	28	4,003,949	7	ON	OK	LC
14							
15							
16	1017	28	4,108,190	7	ON	OK	LC
17	1030	23	4,142,336	7	ON	OK	LC
18	0720	23	4,170,030	7	ON	OK	LC
19	0730	34	4,221,505	12	ON	OK	LC
20	10:00	35	4,277,473	15	ON	OK	LC
21							
22							
23	11:35	36	4,440,580	16	ON	OK	LC
24	09:45	34	4,478,700	14	ON	OK	LC
25	10:00	35	4,528,932	15	ON	OK	LC
26	10:27	35	4,579690	15	ON	OK	LC
27	15:38	34	4,640,320	15	ON	OK	LC
28							
29							
30	0700	36	4,778,713	15	ON	OK	LC
31							

HUSSMANN SECO
TREATMENT INSPECTION LOG

Daily Insp n Log Month and Year May 90

Day	Time	Flow Meter Reading	Gallons Discharged	Water Pressure (psi)	Air Stripper Blower On/Off	Air Stripper Condition	Inspector
1	1215	36	4,821,479	16			
2	1348	36	4,885,010	15	ON	OK	LC
3	1200	35	4,931,896	15	ON	OK	LC
4	1030	35	4,978,066	16	ON	OK	LC
5							
6							
7	1045	34	5,124,589	13	ON	OK	LC
8	1100	33	5,172,750	13	ON	OK	LC
9	1205	32	5,224,673	12	ON	OK	LC
10	1230	32	5,274,190	12	ON	OK	LC
11	1400	31	5,325,933	12	ON	OK	LC
12							
13							
14	14:47	32	5,465,240	12	ON	OK	LC
15	1340	32	5,510,820	15	ON	OK	LC
16	1040	35	5,518,890	16	ON	OK	LC
17	0630	Not Operating	5,534,440	0	System Down Due To Flooding		
18	OFF	Flood					
19							
20							
21	OFF	Flood					
22	OFF	Flood					
23	OFF	Flood					
24	OFF	Flood					
25	OFF	Flood					
26							
27							
28	OFF	Flood					
29	OFF	Flood					
30	13:45	32	Same As 5-17-90	14	Started System 13:45 on 5-30-90		
31	0745	33	5572780	16	ON	OK	LC

5-15 & 5-16-90
OFF Due To Storm - System
Turned Back ON @ 9:00 A.M. 5-1
Time System Went
OFF IS UNKNOWN

ON 5-16-90
At 1745 System
Was Shut Down
Because Potential
For Overnight
Flooding of Area
Was Likely LC

ON 5-17-90 At
0630 Inspection
of The Site
Revealed That
Wells 1, 2 & 3
Were Under
Water - System
Remained Off LC

SENT BY:SECO ; 6-29-90 8:32AM ; 3142397859→ 15128837565;# 2

TREATMENT UNIT INSPECTION LOG

Daily Inspection Log Month and Year June 90

Day	Time	Flow Meter Reading	Gallons Discharged	Water Pressure (psi)	Air Stripper Blower On/Off	Air Stripper Condition	Inspector	
1	1330	34	5632880	20	ON	OK	LC	
2			Over Weekend					
3	Due To	Storm A	Power Was off Monday 6-3-90 - Turned			System ON	@ 0845 (LC)	Exact Time Sy
4	0845	34	5,762,490	19	ON @ 0845	OK	LC	Went off Uni
5	0900	32	5,810,660	15	ON	OK	LC	
6	1545	29	5,868,490	12	ON	OK	LC	
7	1200	28	5,899,903	12	ON	OK	LC	
8	1530	37	5,915,650	19	ON	OK	LC	RW#1 Started
9								@ Approx. 1400
10								6-8-90 Sys
11	1415	34	6,064,540	15	ON	OK	LC	Down on 6-
12	0750	34	6,101,060	17	ON	OK	LC	Exact Amou
13	1437	33	6,164,030	14	ON	OK	LC	of Down T
14	1525	32	6,213,908	12	ON	OK	LC	Unknown
15	1447	32	6,258,710	12	ON	OK	LC	
16								
17								
18	1630	32	6,397,768	12	ON	OK	LC	
19	1605	32	6,442,850	12	ON	OK	LC	
20	0950	32	6,475,890	15	ON	OK	LC	
21	0955	30	6,520,185	15	ON	OK	LC	
22	1000	30	6,563,255	15	ON	OK	LC	
23								
24								
25	0850	28	6,690,460	14	ON	OK	LC	
26	0830	28	6,730,930	13	ON	OK	LC	
27	0930	28	6,773,350	13	ON	OK	LC	
28	0950	29	6,815,544	12	ON	OK	LC	
29	0815	29	6,855,240	12	ON	OK	LC	
30								
31								

Daily Inspe n Log Month and Year July 90

Day	Time	Flow Meter Reading	Gallons Discharged	Water Pressure (psi)	Air Stripper Blower On/Off	Air Stripper Condition	Inspector
1							
2	0815	34	6,979,997	20	ON	OK	LC
3	0830	35	7,030,704	21	ON	OK	LC
4	Holiday →						
5	0915	35	7,107,715	20	ON	OK	GB
6	0825	34	7,156,537	20	ON	OK	GB
7							
8							
9	1433	34	7,313,580	20	ON	OK	GB
10	0837	30	7,349,170	18	ON	OK	LC
11	0750	32	7,394,036	18	ON	OK	LC
12	0745	32	7,439,910	17	ON	OK	LC
13	0730	32	7,485,396	18	ON	OK	LC
14							
15							
16	0750	32	7,620,415	21	ON	OK	LC
17	1530	28	7,678,060	19	ON	OK	LC
18	1200	32	7,718,220	20	ON	OK	LC
19	1200	33	7,765,020	20	ON	OK	LC
20	0900	33	7,806,390	20	ON	OK	LC
21							
22							
23	0950	33	7,948,380	22	ON	OK	LC
24	0900	33	7,993,850	21	ON	OK	LC
25	1030	34	8,043,580	22	ON	OK	LC
26	1030	32	8,092,050	22	ON	OK	LC
27	1100	34	8,137,620	21	ON	OK	LC
28							
29							
30	1130	33	8,279,700	22	ON	OK	LC
31	1230	32	8,328,690	21	ON	OK	LC

Daily Inspe. . Log Month and Year Sept. 90

HUSSMANN SECO
TREATMENT U[illegible] NSPECTION LOG

RECEIVED [illegible] 4 1990

Day	Time	Flow Meter Reading	Gallons Discharged	Water Pressure (psi)	Air Stripper Blower On/Off	Air Stripper Condition	Inspector
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19	1600	34	9,144,770	15	ON	OK	LC
20	1430	35	9,190,950	15	ON	OK	LC
21	1630	34	9,244,160	15	ON	OK	LC
22							
23							
24	1630	34	9,390,590	16	ON	OK	LC
25	1500	36	9,439,180	16	ON	OK	LC
26	1400	35	9,490,340	16	ON	OK	LC
27	1530	36	9,543,780	20	ON	OK	LC
28	1200	36	9,587,890	16	ON	OK	LC
29							
30							
31							

9-19-90
System
Started
UP - Tower
Completely
Cleaned out -

Daily Ins on Log Month and Year Oct. 90

HUSSMANN SECO
TREATMENT T INSPECTION LOG

RECEIVED NOV 0 5 19

Day	Time	Flow Meter Reading	Gallons Discharged	Water Pressure (psi)	Air Stripper Blower On/Off	Air Stripper Condition	Inspector
1	1600	35	9,751,750	15	ON	OK	LC
2	1400	35	9,798,220	15	ON	OK	LC
3	1630	34	9,853,870	15	ON	OK	LC
4	1430	35	9,899,090	16	ON	OK	LC
5	1200	35	9,943,180	15	ON	OK	LC
6							
7							
8	1500	36	10,106,220	19	ON	OK	LC
9	1700	37	10,165,030	20	ON	OK	LC
10	1630	37	10,223,550	21	ON	OK	LC
11	1430	36	10,271,270	16	ON	OK	LC
12	1100	35	10,315,760	20	ON	OK	LC
13							
14							
15	0900	38	10,467,890	20	ON	OK	LC
16	0800	39	10,517,380	20	ON	OK	LC
17	0900	39	10,571,770	19	ON	OK	LC
18	1500	39	10,590,010	18	ON	OK	LC
19	1600	38	10,645,290	17	ON	OK	LC
20							
21							
22	1000	38	10,790,840	20	ON	OK	LC
23	0830	36	10,837,320	19	ON	OK	LC
24	1500	37	10,905,990	16	ON	OK	LC
25	1200	38	10,948,900	17	ON	OK	LC
26	1000	38	10,999,430	18	ON	OK	LC
27							
28							
29	0730	36	11,147,460	16	ON	OK	LC
30	0900	35	11,201,740	16	ON	OK	LC
31	1200	37	11,263,640	18	ON	OK	LC

← At 1400 Hrs. ON 10-18-90 Found System Shut Down - Believe It was Caused By Storm ON Evening of 10-17-90 - Turned System ON @ 1410 & Let Run - Took Readings @ 1500 Hrs. - LC

Daily Ins on Log Month and Year Nov. 90

HUSSMANN SEDO
TREATMENT UNIT INSPECTION LOG

RECEIVED DEC 07 1990

Day	Time	Flow Meter Reading	Gallons Discharged	Water Pressure (psi)	Air Stripper Blower On/Off	Air Stripper Condition	Inspector
1	1100	36	11,315,880	18	ON	OK	LC
2	1030	37	11,366,420	19	ON	OK	LC
3							
4							
5	1200	36	11,524,430	19	ON	OK	LC
6	1330	37	11,579,700	20	ON	OK	LC
7	0700	36	11,616,990	20	ON	OK	LC
8	1530	36	11,686,890	20	ON	OK	LC
9	1600	36	11,739,750	20	ON	OK	LC
10							
11							
12	1400	35	11,888,140	15	ON	OK	LC
13	1200	35	11,934,910	15	ON	OK	LC
14	1430	36	11,991,640	15	ON	OK	LC
15	0730	36	12,028,170	20	ON	OK	LC
16	1430	35	12,093,980	17	ON	OK	LC
17							
18							
19	0900	35	12,235,570	19	ON	OK	LC
20	1100	35	12,290,540	19	ON	OK	LC
21	0700	36	12,333,590	20	ON	OK	LC
22	Holiday						
23	Holiday						
24							
25							
26	0930	28	12,606,850	14	ON	OK	LC
27	0800	28	12,644,810	14	ON	OK	LC
28	1030	27	12,688,290	13	ON	OK	LC
29	1630	30	12,780,520	12	ON	OK	LC
30							
31							

SENT BY:SECO ; 1-25-91 2:07PM ; 3142397859→ 15128837565;# 2

D[illegible] spection Log Month and Year Jan. 91

TREA[illegible] NT UNIT INSPECTION LOG

Day	Time	Flow Meter Reading	Gallons Discharged	Water Pressure (psi)	Air Stripper Blower On/Off	Air Stripper Condition	Inspector
1	Holiday						
2	Holiday						
3	0730	10	13,823,420	7	ON	OK	LC
4	0800	11	13,838,850	8	ON	OK	LC
5							
6							
7	0900	11	13,843,240	8	ON	OK	LC
8	1630	10	13,863,190	9	ON	OK	LC
9	0800	12	13,874,160	9	ON	OK	LC
10	0700	12	13,899,330	9	ON	OK	LC
11	1030	13	13,908,850	8	ON	OK	LC
12							
13							
14	0900	12	13,911,260	9	ON	OK	LC
15	0700	18	13,935,540	10	ON	OK	LC
16	0700	18	13,962,260	10	ON	OK	LC
17	1230	19	13,994,870	10	ON	OK	LC
18	0630	19	14,014,300	9	ON	OK	LC
19							
20							
21	0700	16	14,086,070	10	ON	OK	LC
22	0730	20	14,113,140	10	ON	OK	LC
23	1600	22	14,165,740	11	ON	OK	LC
24	0730	25	14,188,390	10	ON	OK	LC
25	0800	25	14,224,540	9	ON	OK	LC
26							
27							
28							
29							
30							
31							

System
Sometime c
Holiday –
Reset @
0700 on 1-

System T
Over wee
Turned on @
0700 on 1-14

APPENDIX D

MONITOR/RECOVERY WELL DATA FORMS - 1990

HUSSI N SECO
MONITOR/RECOVERY WELL DATA

Event Date: 1/29/90 (STATIC WATER LEVELS)

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	STARTING Flow Meter Reading (gal)	STARTING Flow Rate (gpm)	Water Pressure (psi)
MW-1	0743	482.02	Dry						
MW-2	0730	492.43	24.26	468.17					
MW-3	0735	482.81	Dry						
MW-4	0740	481.83	22.03	459.80					
MW-5	0807	484.24	26.37	457.87					
MW-6	0843	493.37	27.16	466.21					
MS-1	0818	482.32	22.82	459.50					
MS-2	0745	482.75	24.80	457.95					
MS-3	0850	492.75	28.55	464.20					
MS-5	0830	491.95	31.66	460.29					
MS-6	0840	492.15	25.84	466.31					
SS-1	0810	483.22	Dry						
SS-2	0827	483.88	Dry						
SS-3	0824	492.14	Dry						
MD-1	0805	482.62	23.20	459.42					
MD-2	0748	482.58	21.98	460.60					
RW-1	0814	479.82	21.76	458.06		off	0	7.0	0
RW-2	0800	479.14	21.31	457.83		off	0	12.0	0
RW-3	0752	478.91	16.82	462.09		off	0	8.0	0
RW-4	0820	483.84	24.08	459.76		off	0	1.5	0
RW-5	0835	486.84	22.37	464.47		off	15863	1.0	0
Dubois Creek	0900	493.27	34.50	458.77					

HUSSI N SECO
MONITOR/RECOVERY WELL DATA

Event Date: 1/29/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1	1641	482.02	Dry						
MW-2	1630	492.43	24.31						
MW-3	1635	482.81	Dry						
MW-4	1639	481.83	22.45						
MW-5	1652	484.24	27.05						
MW-6	1713	493.37	27.16						
MS-1	1658	482.32	23.79						
MS-2	1643	482.75	25.47						
MS-3	1717	492.75	28.59						
MS-5	1705	491.95	32.15						
MS-6	1710	492.15	25.16						
SS-1	1654	483.22	Dry						
SS-2	1700	483.88	Dry						
SS-3	1703	492.14	Dry						
MD-1	1650	482.62	23.10						
MD-2	1645	482.58	21.87						
RW-1	1534	479.82	29.83			ON	—	7.0	15
RW-2	1540	479.14	23.41			ON	—	12.0	10
RW-3	1545	478.91	41.50			ON	—	8.0	10
RW-4	1530	483.84	31.83			ON	—	1.5	15
RW-5	1523	486.84	NO MEAS. taken			off	—	0.0	15

HUSSI N SECO
MONITOR/REC VERY WELL DATA

Event Date: 1/30/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1	0745	482.02	Dry						
MW-2	0735	492.43	24.29						
MW-3	0738	482.81	Dry						
MW-4	0742	481.83	23.02						
MW-5	0758	484.24	27.20						
MW-6	0841	493.37	27.18						
MS-1	0819	482.32	24.35						
MS-2	0748	482.75	25.66						
MS-3	0845	492.75	28.50						
MS-5	0826	491.95	32.83						
MS-6	0839	492.15	25.72						
SS-1	0800	483.22	Dry						
SS-2	0821	483.88	Dry						
SS-3	0823	492.14	Dry						
MD-1	0755	482.62	23.08						
MD-2	0750	482.58	21.85						
RW-1	0816	479.82	28.49			ON	6710	6.0/8.0	15
RW-2	0810	479.14	23.52			ON	12855	11.0/12.0	10
RW-3	0804	478.91	41.68			ON	8830	7.5/8.5	10
RW-4	0832	483.84	31.62			ON	1420	1.25/1.5	15
RW-5	0837	486.84	34.34			off	15892	0.0	15

HUSS' 'N SECO
MONITOR/REC VERY WELL DATA

Event Date: 1/31/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1	0745	482.02	Dry						
MW-2	0735	492.43	24.29						
MW-3	0740	482.81	Dry						
MW-4	0742	481.83	23.15						
MW-5	0802	484.24	27.04						
MW-6	0824	493.37	27.23						
MS-1	0810	482.32	24.95						
MS-2	0750	482.75	25.50						
MS-3	0828	492.75	28.55						
MS-5	0815	491.95	32.48						
MS-6	0822	492.15	25.85						
SS-1	0804	483.22	Dry						
SS-2	0812	483.88	Dry						
SS-3	0814	492.14	Dry						
MD-1	0800	482.62	23.36						
MD-2	0752	482.58	22.15						
RW-1	0808	479.82	30.14			on	16235	7.0	
RW-2	0806	479.14	21.98			off	21063	0.0/20.0	
RW-3	0748	478.91	37.11			on	19010	8.0/9.5	
RW-4	0817	483.84	25.03			off	1714	0.0/1.5	
RW-5	0820	486.84	35.72			off	15900	0.0	
Dubois Creek	0825	493.27	34.53						

reset amp sensitivity for all recovery wells to keep them from shutting off inadvertently.

HUSS/ 'N SECO
MONITOR/REC VERY WELL DATA

Event Date: 2/1/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1	0812	482.02	Dry						
MW-2	0804	492.43	24.29						
MW-3	0807	482.81	Dry						
MW-4	0810	481.83	Dry						
MW-5	0822	484.24	27.80						
MW-6	0838	493.37	27.26						
MS-1	0826	482.32	24.86						
MS-2	0814	482.75	26.25						
MS-3	0840	492.75	28.38						
MS-5	0833	491.95	33.33						
MS-6	0836	492.15	25.79						
SS-1	0824	483.22	Dry						
SS-2	0828	483.88	Dry						
SS-3	0831	492.14	Dry						
MD-1	0820	482.62	23.18						
MD-2	0816	482.58	21.92						
RW-1	0902	479.82	30.91			ON	26970	7.0	25
RW-2	0910	479.14	25.07			ON	48450	19.5	20
RW-3	0916	478.91	40.64			ON	33060	9.0/10.0	27
RW-4	0850	483.84	32.71			ON	3324	1.5	23
RW-5	0845	486.84	33.84			off	15901	0.0	20

Dubois Creek 0920 493.27 35.20

HUSS' 'N SECO
MONITOR/REC VERY WELL DATA

Event Date: 2/9/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1		482.02	Dry						
MW-2		492.43	NO meas. taken						
MW-3		482.81	Dry						
MW-4		481.83	22.70						
MW-5		484.24	28.00						
MW-6		493.37	27.30						
MS-1		482.32	24.50						
MS-2		482.75	26.30						
MS-3		492.75	30.10						
MS-5		491.95	32.90						
MS-6		492.15	25.50						
SS-1		483.22	Dry						
SS-2		483.88	Dry						
SS-3		492.14	Dry						
MD-1		482.62	19.20						
MD-2		482.58	22.10						
RW-1		479.82	NO meas. taken			ON	100230	7.10	20
RW-2		479.14	27.00			ON	252572	20.80	25
RW-3		478.91	42.90			ON	135607	10.60	30
RW-4		483.84	NO meas. taken			Off	9421	0.0	25
RW-5		486.84	NO meas. taken			Off	15956	0.0	25

HUSS' 'N SECO
MONITOR/REC VERY WELL DATA

Event Date: 2/22/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1		482.02	Dry						
MW-2		492.43	NO meas. taken						
MW-3		482.81	Dry						
MW-4		481.83	20.80						
MW-5		484.24	27.00						
MW-6		493.37	26.40						
MS-1		482.32	23.50						
MS-2		482.75	25.20						
MS-3		492.75	28.20						
MS-5		491.95	32.50						
MS-6		492.15	26.10						
SS-1		483.22	Dry						
SS-2		483.88	Dry						
SS-3		492.14	Dry						
MD-1		482.62	23.10						
MD-2		482.58	22.30						
RW-1		479.82	24.20			ON		7.0	
RW-2		479.14	24.50			ON		18.0	
RW-3		478.91	42.20			ON		10.0	
RW-4		483.84	25.00			off		0.0	
RW-5		486.84	31.70			off		0.0	

HUSSI N SECO
MONITOR/RECOVERY WELL DATA

Event Date: 3/1/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1		482.02	22.58						
MW-2		492.43	18.90						
MW-3		482.81	22.08						
MW-4		481.83	17.29'						
MW-5		484.24	24.95						
MW-6		493.37	25.96						
MS-1		482.32	23.04						
MS-2		482.75	23.35						
MS-3		492.75	27.75						
MS-5		491.95	32.85						
MS-6		492.15	25.42						
SS-1		483.22	Dry						
SS-2		483.88	Dry						
SS-3		492.14	Dry						
MD-1		482.62	22.00						
MD-2		482.58	21.75						
RW-1		479.82	20.71			ON	163623	7.0/8.0	
RW-2		479.14	22.29			ON	895778	18.0/22.0	
RW-3		478.91	34.83			ON	452495	10.0/12.00	
RW-4		483.84	33.29			off	24900	—/1.5	
RW-5		486.84	33.21			off	16200	—/1.0	
Dubois Creek		493.27	32.88						

FM cleaned out

HUSS' 'N SECO
MONITOR/REC VERY WELL DATA

Event Date: 3/2/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1		482.02							
MW-2		492.43							
MW-3		482.81							
MW-4		481.83							
MW-5		484.24							
MW-6		493.37							
MS-1		482.32							
MS-2		482.75							
MS-3		492.75							
MS-5		491.95							
MS-6		492.15							
SS-1		483.22							
SS-2		483.88							
SS-3		492.14							
MD-1		482.62							
MD-2		482.58							
RW-1		479.82	24.24					8.0	
RW-2		479.14	22.29					22.0	
RW-3		478.91	42.44					12.0	
RW-4		483.84	37.21					1.5	
RW-5		486.84	35.62					1.0	

HUSSMANN
MONITOR/RECOVERY WELL DATA

Event Date: 3/13/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1	12:25	482.02	22.64'	459.38					
MW-2	10:10	492.43	23.75'	468.68					
MW-3	10:20	482.81	22.06'	460.75					
MW-4	10:30	481.83	17.79'	464.04					
MW-5	11:10	484.24	25.14'	459.10					
MW-6	12:00	493.37	25.79'	467.58					
MS-1	11:30	482.32	23.90'	458.42					
MS-2	12:20	482.75	23.54'	459.21					
MS-3	16:30	492.75	28.17'	464.58					
MS-5	12:10	491.95	33.35'	458.60					
MS-6	11:50	492.15	24.98'	467.17					
SS-1	11:05	483.22	DRY						
SS-2	11:35	483.88	DRY						
SS-3	12:15	492.14	DRY						
MD-1	11:00	482.62	21.46'	461.16					
MD-2	12:30	482.58	21.06'	461.52					
RW-1	11:20	479.82	28.26'	451.56		ON	197200	FM HAD STOPPED	25
RW-2	10:50	479.14	22.50'	456.64		ON	1246240	20.5	25
RW-3	10:40	478.91	42.92'	435.99		ON	652460	11.6	30
RW-4	11:40	483.84	35.00'	448.84		ON	56730	2	25
RW-5	11:45	486.84	35.81'	451.03		OFF	16315	∅	25
BRIDGE	16:40	493.27	31.88'	461.39					

FM CLEANED OUT

HUSSMANN S[illegible]O
MONITOR/RECOVER[illegible] [illegible]ELL DATA

Event Date: 4/3/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1	1042	482.02	15.62'						
MW-2	0920	492.43	22.52'						
MW-3	0924	482.81	16.29'						
MW-4	0928	481.83	13.77'						
MW-5	0948	484.24	20.04'						
MW-6	1012	493.37	23.58'						
MS-1	0957	482.32	18.40'						
MS-2	1039	482.75	18.77'						
MS-3	1016	492.75	25.83'						
MS-5	1004	491.95	23.29'						
MS-6	1008	492.15	23.94'						
SS-1	0950	483.22	DRY						
SS-2	1000	483.88	~~DRY~~ 18.52'						
SS-3	1002	492.14	DRY						
MD-1	0943	482.62	18.60'						
MD-2	1037	482.58	18.75'						
RW-1	0955	479.82	12.42'			OFF	197,201	Ø	⇒ SYSTEM WILL BE CHECKED DURING THE WEEK OF 4/9/90.
RW-2	0940	479.14	17.81'			ON	1,872,040	19.4	
RW-3	0933	478.91	36.58'			ON	1,004,800	13.5	
RW-4	1030	483.84	25.85'			ON	83780	0.8	
RW-5	1023	486.84	35.83'			OFF	16520	Ø	
AIR STRIPPER			—				3,504,820	Σ = 33.7 35 GPM	
BRIDGE			28.62'						

HUS NN SECO
MONITOR/RECOVERY WELL DATA

Event Date: 4/12/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1	10:42	482.02	15.75'	(SOUNDED @ 24.48')					
MW-2	10:50	492.43	22.51'	(SOUNDED @ 31.98')					
MW-3	10:35	482.81	16.40'	(SOUNDED @ 24.52')					
MW-4	10:38	481.83	13.67'	(SOUNDED @ 24.62')					
MW-5	10:26	484.24	20.59'	(SOUNDED @ 25')					
MW-6	0947	493.37	24.17'	(SOUNDED @ 39.42')					
MS-1	10:19	482.32	18.65'						
MS-2	10:40	482.75	19.23'						
MS-3	0943	492.75	25.88'						
MS-5	10:15	491.95	28.29'						
MS-6	0950	492.15	23.79'						
SS-1	10:24	483.22	DRY (SOUNDED @ 17.60')						
SS-2	0940	483.88	18.85'	(SOUNDED @ 22.45')					
SS-3	10:17	492.14	DRY						
MD-1	10:28	482.62	18.77'						
MD-2	10:44	482.58	18.83'						
RW-1	10:21	479.82	12.39'			OFF	197201	ϕ	
RW-2	10:30	479.14	18.25'			ON	2101050	ϕ ⇒	FLOWMETER CLOGGED ⇒ FM OVERDRIVEN; NEW FM INSTALLED & FLOWRATE DECREA TO 12 GPM. TOT=
RW-3	10:33	478.91	37.46'			ON	1153410	11.5	
RW-4	10:10	483.84	23.54'			ON	103310	0.7	
RW-5	10:00	486.84	35.71'			OFF	165597	ϕ	
BRIDGE	0955		29.52'						

HUSSMANN SECI
MONITOR/RECOVERY WE__ DATA

ent Date: JULY 18, 1990

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1	11:23	482.02	13.26'	468.76					
MW-2	10:00	492.43	18.28'	474.15					
MW-3	10:10	482.81	12.96'	469.85					
MW-4	10:15	481.83	11.28'	470.55					
MW-5	10:55	484.24	19.85'	464.39					
MW-6	11:35	493.37	22.56'	470.81					
MS-1	11:27	482.32	18.23'	464.09					
MS-2	11:15	482.75	18.54'	464.21					
MS-3	11:40	492.75	24.11'	468.64					
MS-5	12:05	491.95	27.68'	464.27					
MS-6	11:50	492.15	20.65'	471.50					
SS-1	11:00	483.22	16.37'	466.85					
SS-2	12:10	483.88	17.48'	466.40					
SS-3	11:30	492.14	20.31'	471.83					
MD-1	10:50	482.62	15.19'	467.43					
MD-2	11:20	482.58	13.93'	468.65					
IW-1	11:05	479.82	22.70'	457.12		ON	200722	FM STUCK	
IW-2	10:35	479.14	17.39'	461.75		OFF	——	NO FM; REPLACED ON 7/19	
IW-3	10:20	478.91	24.00'	454.91		ON	2110473	ϕ; FM STUCK?	
IW-4	12:00	483.84	34.84'	449.00		ON	238214	3 GPM	
IW-5	11:52	486.84	34.25'	452.59		OFF	24414	ϕ	
RIDGE	11:45	493.27	31.05'	462.22			~~7715420~~	~~30 GPM~~	
R STRIPPER	12:15						7715420	30 GPM	

HUSSMANN SECO
MONITOR/RECO Y WELL DATA

BY STEVE WEI

Event Date: 8-6-90

Monitor Well	Time	TOC Elevation	Depth To (ft) Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1	1516	482.02	14.45						
MW-2	1525	492.43	19.10						
MW-3	1523	482.81	14.78						
MW-4	1520	481.83	13.42						
MW-5	1545	484.24	19.60						
MW-6	1635	493.37	23.55						
MS-1	1615	482.32	17.95						
MS-2	1570	482.75	18.05						
MS-3	1646	492.75	25.02						
MS-5	1627	491.95	27.52						
MS-6	1631	492.15	22.00						
SS-1	1549	483.22	17.45						
SS-2	1610	483.88	17.95						
SS-3	1625	492.14	20.55						
MD-1	1543	482.62	15.60						
MD-2	1514	482.58	15.05						
RW-1	1553	479.82	22.40				0,222,599	Flow meter not spinning NA	
RW-2	1559	479.14	17.40				0,172,710	23	
RW-3	1603	478.91	26.20				2,250,210	5.5	
RW-4	1619	483.84	30.82				0,300,091	2.5	
RW-5	1641	486.84	18.97				0,024,503	OFF	
AIR STRIPPER	1650						08,626,200	34	

HUSSMANN CO
MONITOR/RECOVERY WELL DATA

Event Date: 10/10/90

Monitor Well	Time	TOC Elevation	Depth To Water (TOC)	Water Elevation	TD Elevation	Pump On/Off	Flow Meter Reading (gal)	Flow Rate (gpm)	Water Pressure (psi)
MW-1	1450	482.02	11.32						
MW-2	1510	492.43	21.55						
MW-3	1505	482.81	18.21						
MW-4	1500	481.83	14.18						
MW-5	1519	484.24	25.38						
MW-6	1555	493.37	24.26						
MS-1	1535	482.32	22.18						
MS-2	1448	482.75	23.88						
MS-3	1600	492.75	20.75						
MS-5	1548	491.95	31.78						
MS-6	1550	492.15	23.19						
SS-1	1525	483.22	17.56						
SS-2	1539	483.88	19.69						
SS-3	1544	492.14	22.03						
MD-1	1515	482.62	19.92						
MD-2	1445	482.58	18.48						
RW-1	1650	479.82	26.37' on 10/15/90			Off	0,222,589	Off	
RW-2	1640	479.14	23.72			On	1,341,420	26.5	
RW-3	1633	478.91	23.07			On	2,515,460	6.1	
RW-4	1617	483.84	35.36			On	0,394,170	2.1	
RW-5	1605	486.84	20.42			Off	0,024,512	OFF	
AIR STRIPPER	1700						10,224,360	32.0	