TABLE 2-1

GROUNDWATER CHEMICALS OF CONCERN - NORTHEAST WELLS (µg/L)
PECHINEY PLASTICS PACKAGING, INC. - DES MOINES, IOWA

Sampling Location	Sampling Date	Acetone	Benzene	2-Butanone (MEK)	Chloroethane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene[a]	Ethylbenzene	4-Methyl-2-Pentanone (MIBK)	Toluene	1,1,1-Trichloroethane	Vinyl Chloride	Xylenes	Arsenic[b]	Barium[b]	Chromium[b]	Lead[b]	Nickel[b]
MD-1	10-23-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	250	NA	5	NA
	12-03-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	<5	293	NA	<5	<50
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	6.8	25	653	NA	22	112
MD-4	10-23-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17	464	NA	18	NA
MD-5	10-23-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23	382	NA	21	NA
	12-02-93	<20	<1	<10	14.3	<1	<1	14.0	<1	<1	<10	<1	<1	**<10**	<1	<5	205	NA	<5	<50
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	19	404	NA	13	57
MD-6	10-23-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	280	NA	11	NA
	12-02-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	<5	159	NA	<5	<50
	08-20-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	3.9	<5	129	NA	<5	<50
MS-1	10-23-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30	594	NA	43	NA
MS-3	10-23-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	321	NA	6	NA
MS-4	10-23-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	102	NA	5	NA
MS-6	10-23-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	289	NA	12	NA
	12-02-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	<5	92	NA	<5	<50
	08-20-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	151	NA	<5	<50
MW-2	05-16-86	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	NA
																			<10[c]	
	06-06-86	<20	<1	<20	<1	NA	NA	<1	<1	<1	<20	<1	<1	<1	<2	NA	NA	NA	<10[c]	NA
	05-04-87	<10	<1	<20	<1	NA	NA	<1	<1	<1	<10	<1	<1	<1	<1	NA	NA	NA	NA	NA
	08-31-89	<10	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	10	<200	NA	29	NA
																4[c]	<200[c]		33[c]	NA
	10-03-89	<10	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	<1	<200	NA	3	NA
																<1[c]	<200[c]		2[c]	
	12-02-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<5	175	NA	<5	<50
	08-19-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	184	NA	9	<50
	08-08-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	6	10	23
	11-14-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	7
	08-15-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	238	NA	18	NA
	11-05-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	209	NA	<5	NA
MW-2B	12-02-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	165	NA	<5	<50
	08-27-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	879	11,200	NA	1,090	2,290
MW-2C	11-14-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	NA	<5	<5	5
	08-15-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	354	NA	<5	NA
	11-05-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	433	NA	<5	NA

TABLE 2-1 (CONTINUED)

GROUNDWATER CHEMICALS OF CONCERN - NORTHEAST WELLS (µg/L)
PECHINEY PLASTICS PACKAGING, INC. - DES MOINES, IOWA

Sampling Location	Sampling Date	Acetone	Benzene	2-Butanone (MEK)	Chloroethane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene[a]	Ethylbenzene	4-Methyl-2-Pentanone (MIBK)	Toluene	1,1,1-Trichloroethane	Vinyl Chloride	Xylenes	Arsenic[b]	Barium[b]	Chromium[b]	Lead[b]	Nickel[b]
MW-3A	05-16-86	42,000	**<50**	7,400	NA	NA	NA	<50	NA	<50	<500	2,200	<50	NA	1,300	NA	NA	NA	40	NA
																			<10[c]	
	06-06-86	37,000	60	14,000	<10	NA	NA	240	**<10**	30	300	2,600	<10	**<10**	1,600	NA	NA	NA	<10[c]	NA
	05-04-87	72,000	52	16,000	<20	NA	NA	100	**<20**	150	3,400	2,600	<20	**<20**	1,100	NA	NA	NA	NA	NA
	08-31-89	2,450	25	649	<100	<10	<10	<10	**<10**	18	<100	130	<10	**<100**	515	182	<200	NA	24	NA
																103[c]	<200[c]		27[c]	NA
	10-03-89	2,260	25	517	<100	<10	<10	<10	**<10**	65	<10	140	<10	**<100**	406	180	300	NA	5	NA
																105[c]	200[c]		1[c]	
	12-01-93	<1,000	95	<500	<500	<50	<50	<50	**<50**	<50	<500	<50	<50	<1	7,240	252	347	NA	5.8	<50
	06-16-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	444	464	NA	39.2	<50
	08-23-99	<10	41.2	<5	<1	<1	<1	<1	<1	13	<5	<1	<1	<1	5,160	358	429	NA	<5	<50
	08-14-02	NA	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	320	483	NA	<5	NA
	11-05-02	NA	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	306	453	NA	<5	NA
MW-4A	05-16-86	<20	<1	<20	<1	NA	NA	4	<1	<1	<10	<1	<1	<1	<2	NA	NA	NA	30	NA
																			<10[c]	
	06-06-86	<20	<1	<20	<1	NA	NA	3	<1	<1	<20	<1	<1	<1	<2	NA	NA	NA	<10[c]	NA
	05-04-87	<10	<1	<20	<1	NA	NA	7	<1	<1	<10	<1	4	<1	<1	NA	NA	NA	NA	NA
	08-31-89	<10	<1	<10	<10	<1	<1	1.2	<1	<1	<10	<1	<1	**<10**	<1	18	<200	NA	12	NA
																1[c]	<200[c]		33[c]	
	10-03-89	<10	<1	<10	<10	<1	<1	2	<1	<1	<10	<1	<1	**<10**	<1	22	<200	NA	1	NA
																5[c]	<200[c]		<1[c]	
	12-02-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	105	398	NA	<5	<50
	06-17-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	86	398	NA	<5	<50
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	19.8	23	250	NA	<5	<50
	08-15-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25	376	NA	6	NA
	11-05-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	212	NA	<5	NA
MW-5	05-07-87	<10	2	<20	<1	NA	NA	<1	<1	2	<10	<1	<1	<1	<1	NA	NA	NA	NA	NA
	06-01-87	<10	<5	<10	<10	NA	NA	<5	<5	<5	<10	<5	<5	**<10**	<5	NA	NA	NA	NA	NA
	08-31-89	<10	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	4	<200	NA	59	NA
																2[c]	<200[c]		27[c]	
	10-03-89	<10	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	2	<2	NA	8	NA
																<1[c]	<200[c]		<1[c]	NA
	12-02-93	<20	<1	<10	13.4	<1	<1	14.1	<1	<1	<10	<1	<1	<1	<1	<5	407	NA	<5	<50
	06-16-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	404	NA	11.8	55
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	8	754	NA	20	98
	08-09-01	<10	<1	<5	<1	<1	<1	1.9	<1	<1	<5	<1	<1	<1	<1	19.3	NA	<5	<5	18
	11-13-01	<10	<1	<5	<1	<1	<1	2.6	<1	<1	<5	<1	<1	<1	<1	10	NA	<5	<5	19
	08-16-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.1	486	NA	5	NA
	11-06-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	475	NA	<5	NA
MW-6A	05-07-87	4,000	250	<1,000	<50	NA	NA	850	**<50**	400	<500	26,000	50	**<50**	<50	NA	NA	NA	NA	NA
	06-01-87	16,000	99	3,800	<100	NA	NA	480	**<50**	370	<100	12,000	88	**<100**	1,900	NA	NA	NA	NA	NA
	08-31-89	13,400	**<100**	4,370	<1000	<100	**<100**	109	**<100**	491	<1,000	7,060	<100	**<1,000**	4,150	52	700	NA	6,800	NA
																29[c]	<200[c]		240[c]	NA

TABLE 2-1 (CONTINUED)

GROUNDWATER CHEMICALS OF CONCERN - NORTHEAST WELLS (µg/L)
PECHINEY PLASTICS PACKAGING, INC. - DES MOINES, IOWA

Sampling Location	Sampling Date	Acetone	Benzene	2-Butanone (MEK)	Chloroethane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene[a]	Ethylbenzene	4-Methyl-2-Pentanone (MIBK)	Toluene	1,1,1-Trichloroethane	Vinyl Chloride	Xylenes	Arsenic[b]	Barium[b]	Chromium[b]	Lead[b]	Nickel[b]
MW-6A (continued)	10-03-89	12,500	**<100**	3,180	<1000	<100	**<100**	115	**<100**	552	<10	6,990	<100	**<1000**	4,650	24 16[c]	700 500[c]	NA	780 35[c]	NA
	12-01-93	4,100	70	1,200	<500	<50	<50	<50	**<50**	790	<500	9,600	<50	<1	6,700	24.1	917	NA	1,160	<50
	08-19-99	<10	14.6	<5	<1	<1	<1	<1	<1	314	<5	762	<1	<1	3,750	84	594	NA	158	<50
MW-6A (Dup)	12-01-93	5,000	73	1,300	<500	<50	<50	<50	**<50**	790	<500	9,600	<50	<1	6,550	25.4	915	NA	1,230	<50
	08-19-99	<10	16.2	<5	<1	<1	<1	<1	<1	312	<5	752	<1	<1	3,730	86	608	NA	158	<50
MW-6B	12-03-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<5	133	NA	<5	<50
	08-20-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	720	NA	<5	78
MW-7A	12-01-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	<5	212	NA	<5	<50
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	64.3	<5	156	NA	<5	<50
	08-09-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	5
	11-13-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	6
MW-8A	12-01-93	<20	<1	<20	<10	<1	<1	31.6	2.3	<1	<10	<1	<1	**<10**	<1	<5	172	NA	5.6	<50
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	289	NA	<5	<50
	08-08-01	<10	<1	<5	<1	<1	<1	1.1	<1	<1	<5	<1	<1	<1	<1	<5	NA	17	27	25
	11-13-01	<10	<1	<5	<1	<1	<1	1.4	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	20
MW-9A	12-01-93	<20	1.1	<10	<10	<1	<1	31.4	2.1	<10	<10	<1	<1	**<10**	<1	<5	251	NA	<5	<50
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	43	421	NA	<5	<50
	08-14-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	98	461	NA	<5	NA
	11-05-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	57	361	NA	<5	NA
MW-9A (Dup)	12-01-93	<20	<1	<10	<10	<1	<1	28.3	2.4	<1	<10	<1	<1	**<10**	<1	<5	245	NA	<5	50
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	40	411	NA	<5	<50
	11-05-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	349	NA	<5	NA
MW-10A	12-01-93	<1,000	**<50**	<500	<500	<50	<50	<50	**<50**	<50	<500	<50	<50	**<10**	<50	9.9	477	NA	<5	58
	06-16-94	<20	<1	<10	<10	<1	<1	17.4	<1	<1	<10	<1	<1	**<10**	<1	NA	NA	NA	NA	NA
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	11.8	18	851	NA	5	67
	08-07-01	<10	<1	<5	<1	<1	<1	6.9	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	7	36
	11-12-01	<10	<1	<5	<1	<1	<1	5.9	<1	<1	<5	<1	<1	<1	<1	7	NA	13	<5	38
	08-15-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	551	NA	<5	NA
	11-04-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	591	NA	<5	NA
MW-10B	12-02-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	<5	255	NA	<5	<50
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	980	NA	<5	50
	08-07-01	99.6	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	34
	11-12-01	44.4	<1	8.4	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	6	NA	<5	<5	23
	08-15-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	420	NA	<5	NA
	11-04-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	459	NA	<5	NA
MW-11A	12-01-93	11,700	1.2	1,500	<10	1.1	1.3	<1	<1	<1	<10	74.0	<1	**<10**	<1	73.9	949	NA	<5	202
	06-16-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	164.5	1,340	NA	6.5	167
	08-19-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	16.4	391	811	NA	<5	60
	08-15-02	NA	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	205	586	NA	<5	NA
	11-04-02	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	341	520	NA	<5	NA

TABLE 2-1 (CONTINUED)

GROUNDWATER CHEMICALS OF CONCERN - NORTHEAST WELLS (µg/L)
PECHINEY PLASTICS PACKAGING, INC. - DES MOINES, IOWA

Sampling Location	Sampling Date	Acetone	Benzene	2-Butanone (MEK)	Chloroethane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene[a]	Ethylbenzene	4-Methyl-2-Pentanone (MIBK)	Toluene	1,1,1-Trichloroethane	Vinyl Chloride	Xylenes	Arsenic[b]	Barium[b]	Chromium[b]	Lead[b]	Nickel[b]
MW-12A	12-03-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	<5	124	NA	<5	<50
	08-20-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	155	NA	<5	<50
	08-07-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	<5
	11-14-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	<5
	08-14-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	93	NA	<5	NA
	11-04-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	94	NA	<5	NA
MW-12B	12-01-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	<5	170	NA	<5	<50
	08-20-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	457	NA	<5	<50
	08-07-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	14
	11-14-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	19
	08-14-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	322	NA	<5	NA
	11-04-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	393	NA	<5	NA
MW-13B	12-02-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	11.2	161	NA	27.7	50
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	1.1	<5	2,430	NA	<5	<50
	08-07-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	6
	11-12-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	5
	08-15-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	177	NA	<5	NA
	11-04-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	241	NA	6	NA
MW-20A	06-16-94	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	<5	349	NA	5.8	<50
	08-19-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	9.5	8	508	NA	7	83
	08-15-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	237	NA	<5	NA
	11-04-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	201	NA	<5	NA
TW-1	05-10-94	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	2.6	<1	**<10**	<1	NA	NA	NA	NA	NA
TW-2	05-10-94	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	2.6	<1	**<10**	<1	NA	NA	NA	NA	NA
TW-3	05-10-94	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	2.6	<1	**<10**	<1	NA	NA	NA	NA	NA
TW-4	05-10-94	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	2.6	<1	**<10**	<1	NA	NA	NA	NA	NA
B-1	06-14-89	5,530	39.8	1,690	<100	<10	<10	11.8	**<10**	193	<10	438	<10	**<100**	1,940	NA	NA	NA	**<1,000[c]**	NA
B-2	06-14-89	18	<1	<10	<10	<1	<1	62.2	9.1	<1	<10	<1	<1	**<10**	1.4	NA	NA	NA	**<1,000[c]**	NA
B-3	06-14-89	<10	<1	<10	12.1	<1	<1	8.9	1.3	<1	<10	<1	<1	**<10**	<1	NA	NA	NA	**<1,000[c]**	NA
B-4	06-14-89	<10	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	**<10**	<1	NA	NA	NA	**<1,000[c]**	NA
B-5	06-14-89	<10	4.0	<10	445	<1	<1	31.5	2.9	<1	<10	<1	<1	**<10**	<1	NA	NA	NA	**<1,000[c]**	NA
B-6	06-14-89	<10	5.9	<10	88	<1	<1	6	<1	<1	<10	<1	<1	**<10**	<1	NA	NA	NA	**<1,000[c]**	NA
B-7	06-15-89	<10	<1	<10	<10	<1	<1	<1	2.8	<1	<10	<1	<1	**<10**	<1	NA	NA	NA	**<1,000[c]**	NA
B-8	06-15-89	<10	<1	<10	<10	<1	<1	3.4	<1	<1	<10	<1	<1	**<10**	<1	NA	NA	NA	**<1,000[c]**	NA

TABLE 2-1 (CONTINUED)

GROUNDWATER CHEMICALS OF CONCERN - NORTHEAST WELLS (µg/L)
PECHINEY PLASTIC PACKAGING, INC. - DES MOINES, IOWA

Sampling Location	Sampling Date	Acetone	Benzene	2-Butanone (MEK)	Chloroethane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene[a]	Ethylbenzene	4-Methyl-2-Pentanone (MIBK)	Toluene	1,1,1-Trichloroethane	Vinyl Chloride	Xylenes	Arsenic[b]	Barium[b]	Chromium[b]	Lead[b]	Nickel[b]
B-9	06-15-89	<10	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	NA	NA	NA	<1,000[c]	NA
B-10	06-15-89	<10	<1	<10	<10	<1	<1	4.2	<1	<1	<10	<1	21.8	<10	<1	NA	NA	NA	<1,000[c]	NA
B-11	06-15-89	<10	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	NA	NA	NA	<1,000[c]	NA
Maximum Contaminant Level		-	5	-	-	600	75	-	7	700	-	1,000	200	2	10,000	50	2,000	100	15	-
Statewide Standard (non-PGWS)		3,500	120	21,000	-	3,200	3,800	3,500	350	3,500	2,800	7,000	1,200	40	70,000	100	10,000	500	300	700
EPA Region III Tap Water Risk-Based Concentration		610	0.32	1,900	3.6	180	0.47	800	0.044	1,300	140	750	3,200	0.015	12,000	0.045	2,600	110	-	730
EPA Region IX Tap Water Preliminary Remediation Goal		610	0.35	1,900	4.6	5.5	0.5	810	0.046	1,300	160	720	540	0.041	1,400	0.045	2,600	-	-	730
EPA Drinking Water Removal Action Level		3,500	100	21,000	-	3,000	750	-	70	1,000	-	2,000	1,000	2	40,000	50	2,000	200	30	500

Notes:

1. µg/L = Micrograms per liter.
2. [a] Also referred to as 1,1-dichloroethylene.
3. [b] Total (unfiltered) metals concentration except where noted otherwise.
4. [c] Dissolved metals concentration.
5. Wells labeled with an "A" and those without letter designations are shallow wells. Wells labeled with a "B" or "C" are deeper wells.
6. Shading indicates concentration exceeds Statewide Standard for a non-Protected Groundwater Source (PGWS).
7. Bold indicates laboratory reporting limit exceeds Statewide Standard for non-PGWS.
8. MEK = Methyl ethyl ketone.
9. MIBK = Methyl isobutyl ketone.
10. NA = Not analyzed.
11. Dup = Duplicate.
12. - = No Maximum Contaminant Level, Standard, Concentration, Goal, or Action Level established.
13. EPA = Environmental Protection Agency.
14. PGWS = Protected Groundwater Source.

TABLE 2-2

GROUNDWATER CHEMICALS OF CONCERN - SOUTHWEST WELLS (µg/L)
PECHINEY PLASTIC PACKAGING, INC. - DES MOINES, IOWA

Sampling Location	Sampling Date	Acetone	Benzene	2-Butanone (MEK)	Chloroethane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene[a]	Ethylbenzene	4-Methyl-2-Pentanone (MIBK)	Toluene	1,1,1-Trichloroethane	Vinyl Chloride	Xylenes	Arsenic[b]	Barium[b]	Chromium[b]	Lead[b]	Nickel[b]
MW-1A	05-16-86	<20	NA	NA	NA	NA	NA	5	9	NA	NA	NA	500	NA	NA	NA	NA	NA	20	NA
																			<10[c]	
	06-06-86	<20	<1	<20	<1	NA	NA	7	6	<1	<20	<1	270	<1	<2	NA	NA	NA	<10[c]	NA
	05-04-87	36	<1	<20	<1	NA	NA	76	51	<1	<10	<1	810	<1	<1	NA	NA	NA	NA	NA
	06-05-87	<25	<13	<25	<25	NA	NA	61	32	<13	<25	<13	510	<25	<13	NA	NA	NA	NA	NA
	08-31-89	<10	<1	<10	<10	<1	<1	20.6	6.5	<1	<10	<1	36.2	<10	<1	2	<200	NA	33	NA
																2[c]	<200[c]		40[c]	NA
	10-03-89	<10	<1	<10	<10	<1	<1	20.1	6.3	<1	<10	<1	<1	<10	<1	<1	<200	NA	13	NA
																<1[c]	<200[c]		3[c]	
	12-01-93	<250	<10	<330	<200	<15	<10	<10	<50	<20	<20	<5	<10	<1	<1	<5	144	NA	7	<50
	08-23-99	<10	<1	<5	<1	<1	<1	6.4	<1	<1	<5	<1	<1	<1	7.6	14	401	NA	26	53
MW-14A	12-01-93	2,500	2.4	410	<10	<1	<1	<1	<1	42.5	80.8	120	<1	<10	191	234	4,740	NA	9.5	<50
	06-16-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	642	3,220	NA	22.2	111
	08-19-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	548	1,120	NA	<5	<50
	08-16-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	496	1,700	NA	<5	NA
	11-05-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	622	1,950	NA	<5	NA
MW-14A (Dup)	08-19-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	545	1,290	NA	<5	<50
MW-15A	12-01-93	<20	<1	<10	<10	<1	<1	<1	<1	3.8	<10	<1	<1	<10	<1	101	443	NA	<5	<50
	06-16-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	150	348	NA	<5	<50
	08-20-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	9	211	NA	<5	<50
	08-08-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	10.1	NA	<5	<5	5
	11-12-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	18	NA	16	<5	10
	08-16-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.6	138	NA	<5	
	11-05-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	125	NA	<5	
MW-15A (Dup)	06-16-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	135.5	351	NA	<5	<50
	12-01-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<1	<1	<10	<1	<5	229	NA	<5	<50
	08-20-99	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	<1	<1	<1	<1	<5	74	NA	<5	<50
	08-08-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	10.9	NA	<5	<5	<5
	11-12-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	8	NA	<5	<5	8
	08-16-02	NA	<1	NA	NA	NA	NA	NA	NA	A	NA	NA	NA	NA	NA	5.8	138	NA	<5	NA
AC-1	05-14-86	<20	NA	NA	<20	NA	NA	NA	NA	NA	160	<1	NA	NA	NA	NA	NA	NA	<10	NA
	06-06-86	<20	<1	<10	<1	NA	NA	<1	<1	<1	140	1	<1	<1	<2	NA	NA	NA	<10[c]	NA
	05-04-87	8,100	<1	2,600	<1	NA	NA	<1	<1	<1	2,700	73	<1	<1	<1	NA	NA	NA	NA	NA
	06-05-87	<10	<5	<10	<10	NA	NA	<5	<5	<5	470	6	<5	<10	<5	NA	NA	NA	NA	NA
	10-03-89	<10	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	<10	7.2	76	<200	NA	<1	NA
																50[c]	<200[c]		<1[c]	

TABLE 2-2 (CONTINUED)

GROUNDWATER CHEMICALS OF CONCERN - SOUTHWEST WELLS (µg/L)
PECHINEY PLASTIC PACKAGING, INC. - DES MOINES, IOWA

Sampling Location	Sampling Date	Acetone	Benzene	2-Butanone (MEK)	Chloroethane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene[a]	Ethylbenzene	4-Methyl-2-Pentanone (MIBK)	Toluene	1,1,1-Trichloroethane	Vinyl Chloride	Xylenes	Arsenic[b]	Barium[b]	Chromium[b]	Lead[b]	Nickel[b]
MW-21A	06-16-94	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	2.6	<1	<10	<1	<5	358	NA	6.4	<50
	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	29	2,120	NA	23	149
	08-09-01	<10	<1	<5	<1	<1	<1	8.0	3.0	<1	<5	<1	<1	<1	<1	5.6	NA	<5	<5	7
	11-13-01	<10	<1	<5	<1	<1	<1	8.7	3.1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	9
	08-16-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	137	NA	<5	NA
	11-06-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	135	NA	<5	NA
MW-21A (Dup)	06-16-94	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	2.6	<1	<10	<1	NA	NA	NA	NA	NA
	08-09-01	<10	<1	<5	<1	<1	<1	8.1	3.1	<1	<5	<1	<1	<1	<1	5.9	NA	<5	<5	7
	11-13-01	<10	<1	<5	<1	<1	<1	8.7	3.2	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	6
	08-16-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	130	NA	<5	NA
Maximum Contaminant Level		-	5	-	-	600	75	-	7	700	-	1,000	200	2	10,000	50	2,000	100	15	-
EPA Drinking Water Removal Action Level		3,500	100	21,000	-	3,000	750	-	70	1,000	-	2,000	1,000	2	40,000	50	2,000	200	30	500
Statewide Standard (non-PGWS)		3,500	120	21,000	-	3,200	3,800	3,500	350	3,500	2,800	7,000	1,200	40	70,000	100	10,000	500	300	700
EPA Region III Tap Water Risk-Based Concentration		610	0.32	1,900	3.6	180	0.47	800	0.044	1,300	140	750	3,200	0.015	12,000	0.045	2,600	110	-	730
EPA Region IX Tap Water Preliminary Remediation Goal		610	0.35	1,900	4.6	5.5	0.5	810	0.046	1,300	160	720	540	0.041	1,400	0.045	2,600	-	-	730

Notes:

1. µg/L = Micrograms per liter.
2. [a] Also referred to as 1,1-dichloroethylene.
3. [b] Total (unfiltered) metals concentration except where noted otherwise.
4. [c] Dissolved metals concentration.
5. Wells labeled with an "A" and those without letter designations are shallow wells. Wells labeled with a "B" or "C" are deeper wells.
6. Shading indicates concentration exceeds Statewide Standard for a non-Protected Groundwater Source (PGWS).
7. Bold indicates laboratory reporting limit exceeds Statewide Standard for non-PGWS.
8. MEK = Methyl ethyl ketone.
9. MIBK = Methyl isobutyl ketone.
10. NA = Not analyzed.
11. Dup = Duplicate.
12. - = No Maximum Contaminant Level, Standard, Concentration, Goal, or Action Level established.
13. EPA = Environmental Protection Agency.
14. PGWS = Protected Groundwater Source.

TABLE 2-2 (CONTINUED)

GROUNDWATER CHEMICALS OF CONCERN - SOUTHWEST WELLS (µg/L)
PECHINEY PLASTIC PACKAGING, INC. - DES MOINES, IOWA

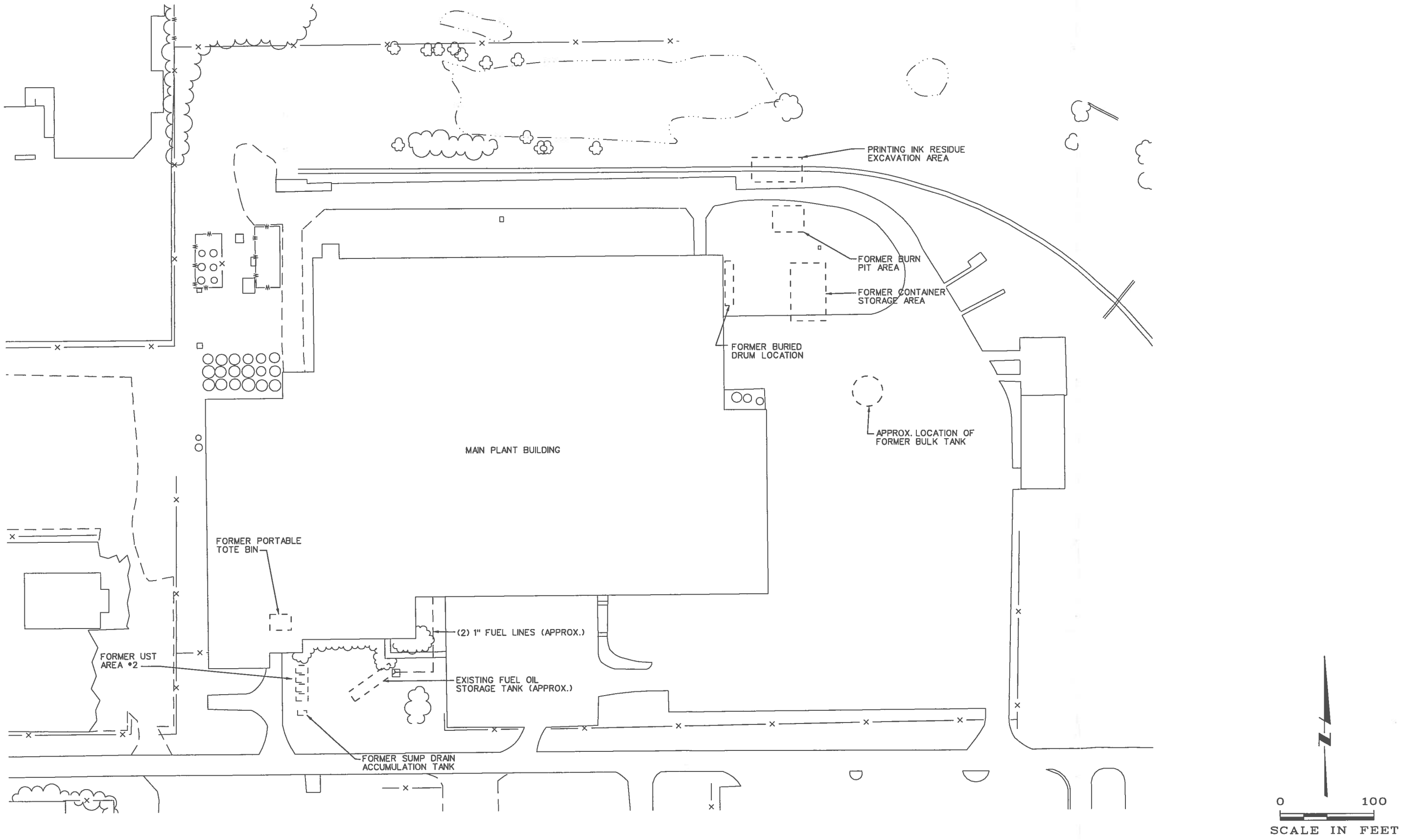
Sampling Location	Sampling Date	Acetone	Benzene	2-Butanone (MEK)	Chloroethane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,1-Dichloroethene[a]	Ethylbenzene	4-Methyl-2-Pentanone (MIBK)	Toluene	1,1,1-Trichloroethane	Vinyl Chloride	Xylenes	Arsenic[b]	Barium[b]	Chromium[b]	Lead[b]	Nickel[b]
MW-16A	12-01-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<5	229	NA	<5	<50
(former AC-1)	08-19-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	74	NA	<5	<50
	08-08-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	<5
	11-12-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	8
	08-16-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	49	NA	<5	NA
	11-05-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	49	NA	<5	NA
AC-2	05-14-86	70	NA	NA	NA	NA	NA	NA	NA	NA	150	430	NA	NA	NA	NA	NA	NA	<10	NA
	06-06-86	<20	<1	<20	<1	NA	NA	<1	<1	<1	<20	1	<1	<1	<2	NA	NA	NA	<10[c]	NA
	05-04-87	54	<1	<20	<1	NA	NA	<1	<1	<1	130	<1	<1	<1	<1	NA	NA	NA	NA	NA
	06-05-87	<10	<5	<10	<10	NA	NA	<5	<5	<5	150	20	<5	<10	<5	NA	NA	NA	NA	NA
	10-03-89	<10	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	39	200	NA	<1	NA
																22[c]	<200[c]		<1[c]	
MW-16B	12-02-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<5	101	NA	<5	<50
(former AC-2)	08-23-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	168	NA	<5	<50
	08-08-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	6
	11-12-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	6	NA	<5	<5	6
	08-16-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	127	NA	5	NA
	11-05-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	16.6	NA	<5	NA
MW-17A	12-02-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	2.1	<10	<1	<5	126	NA	<5	<50
	08-20-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	2.8	<5	229	NA	<5	<50
	08-08-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	12
	11-13-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	15
MW-17A (Dup)	12-02-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	2.4	<10	<1	<5	137	NA	<5	<50
MW-18A	12-01-93	<20	<1	<10	<10	<1	<1	13.0	5.8	<1	<10	<1	13.8	<10	<1	<5	98	NA	<5	<50
	08-19-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	3.4	<5	109	NA	<5	<50
	08-08-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	<5
	11-13-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	157
	08-14-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	78	NA	<5	NA
	11-06-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	82	NA	<5	NA
MW-18B	12-02-93	<20	<1	<10	<10	<1	<1	<1	<1	NA	<10	<1	<1	<10	<1	<5	101	NA	<5	<50
	08-19-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	5.4	<5	490	NA	13	<50
	08-08-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	10.7	NA	<5	<5	<5
	11-13-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	12	NA	<5	<5	11
	08-14-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	531	NA	<5	NA
	11-06-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9	516	NA	<5	NA
MW-19A	12-01-93	<20	<1	<10	<10	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<5	80	NA	<5	<50
	08-19-99	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	62	NA	5	<50
	08-09-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	<5
	11-13-01	<10	<1	<5	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<5	NA	<5	<5	<5
	08-15-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	51	NA	<5	NA
	11-06-02	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	67	NA	5	NA

TABLE 4-1

COMPARISON OF CORRECTIVE MEASURE ALTERNATIVES
PECHINEY PLASTIC PACKAGING, INC.
DES MOINES, IOWA

Criteria	Alternative 1: No Action	Alternative 2: Institutional Controls	Alternative 3: Extraction and Treatment w/ Institutional Controls	Alternative 4: Chemical Oxidation w/ Institutional Controls	Alternative 5: ORC® w/ Institutional Controls
Long-Term Reliability and Effectiveness	Ineffective, risks are not reduced and no controls are implemented.	Effective if institutional controls are kept in place. Offers good protection without remediation. Risk of human exposure unlikely and controls are reliable.	Effective as a method of preventing off-site migration during system operation, but not very effective in mass removal. Contaminant migration off site is currently not a concern. Long-term effectiveness and reliability due to institutional controls.	Effectively oxidizes benzene to inert products. Likely no long-term change to metals condition. Destruction of organic contaminants difficult to achieve due to subsurface heterogeneities that can hinder oxidant delivery. Long-term effectiveness and reliability due to institutional controls.	Will effectively enhance natural biological degradation of benzene. Long-term effectiveness and reliability due to institutional controls.
Reduction in Toxicity, Mobility, or volume of Wastes	No additional reduction confirmed, although natural attenuation may aid in reduction.	No additional reduction confirmed, although natural attenuation should reduce benzene concentrations over time. Previous monitoring already confirmed steady and declining benzene concentrations and confirm COPCs are not migrating off site.	Addresses contaminants in dissolved phase only. Low to moderate reduction of contaminant concentrations in addition to reduction due to natural attenuation. Contaminant concentrations may rebound following treatment depending on contaminant concentration in sorbed phase.	Treats contaminants quickly in both dissolved and sorbed phases by injection of reagents such as hydrogen peroxide or permanganate. Benzene would be destroyed to benign by-products. Arsenic mobility may be increased during and immediately following injection. Large reduction in overall contaminant concentrations; however, contaminants are already at relatively low concentrations. Usually requires more than one injection event.	Treats VOCs such as benzene by slowly releasing oxygen into the groundwater for a period of up to one year, which stimulates biological degradation in the aqueous phase. Usually requires more than one injection event. Large localized reduction in VOCs but metals are not addressed.
Short-Term Effectiveness	No adverse impacts to community or workers because no on-site activity occurs.	Protective to community by preventing access to groundwater for drinking and nondrinking purposes. No adverse impacts to environment, community, and workers because no on-site activity occurs.	Protective during system operation by preventing off-site migration, but possible vapor risk to community and possible exposure of workers due to treatment options. Institutional controls offer protection by preventing access to groundwater. Will never likely remove enough contaminant mass to reach remedial goals. This technology is mainly used for containment of a groundwater contaminant plume	Protective to the environment, but offers little to no more protection to the community than institutional controls without active remediation. Risk of worker exposure during injection, but safety procedures and PPE reduce the risks. No adverse environmental impacts as long as chemicals are kept under control prior to use. Remedial objectives for benzene only can be achieved in one year.	Protective to the environment but offers little to no more protection to the community than institutional controls without active remediation. ORC® material poses few safety concerns to environment and workers. Remedial objectives for benzene only can be achieved in a few years, but periodic groundwater sampling may be required for more than a year to monitor reduction of COPC concentrations.
Implementability	Easy to implement, but it does not offer any protection from COPCs.	Easily implemented. Reliable access restrictions (groundwater ordinance and environmental covenant) should ensure effectiveness without monitoring.	Extraction and treatment difficult to implement. Proven process for dissolved-phase contamination only, but complex treatment and likely extensive ongoing operations and maintenance. May also require coordination/permits with IDNR for extraction wells, the local government for air emissions, and the local sewer utility for discharge permit. Periodic groundwater monitoring required during system operation and extensive monitoring after system shut down. COPC concentrations may rebound over time due to contamination in sorbed phase. Technology is readily and widely available.	Technology of injecting oxidizing chemicals is relatively simple (uses direct push technology). Equipment, supplies, and services are widely and readily available. No system construction required; therefore requiring no operation and maintenance. Technology is reliable, but will require a large amount of chemicals to be injected to treat COPCs over a wide distribution at the site. Periodic groundwater sampling following injection for about 1 year is required to monitor reduction of COPC concentrations. Additional corrective measures can easily be undertaken if necessary following post-remediation monitoring. A permit is required under EPA's underground injection control program.	Technology of injecting ORC® is relatively simple (uses direct push technology). Equipment, supplies, and services are widely and readily available. No system construction required; therefore, requiring no operation and maintenance. Technology is reliable, but will require a large amount of ORC® to be injected to treat COPCs over a wide distribution at the site. Periodic groundwater sampling following injection for more than one year will likely be required to monitor reduction of COPC concentrations. Additional corrective measures can easily be undertaken following post-remediation monitoring if necessary. A permit is required under EPA's underground injection control program.
Cost*	$ 16,000	$ 27,840	$ 1,138,364	$ 151,632	$ 125,172

Notes:
* = Total estimated cost in present day value. Refer to cost estimates in Attachment E for a breakdown of costs (i.e. capital costs, operation and maintenance costs). Costs for site closure (i.e., well abandonment) are included.
COPCs = Chemicals of potential concern.
ORC® = Oxygen Release Compound®.
VOCs = Volatile organic compounds.
EPA = U.S. Environmental Protection Agency.
PPE = Personal protective equipment.
IDNR = Iowa Department of Natural Resources.
PPPI = Pechiney Plastic Packaging, Inc.



MWH	Des Moines Iowa	PECHINEY PLASTIC PACKAGING, INC.	SPECIFIC AREAS OF INVESTIGATION	FIGURE 1

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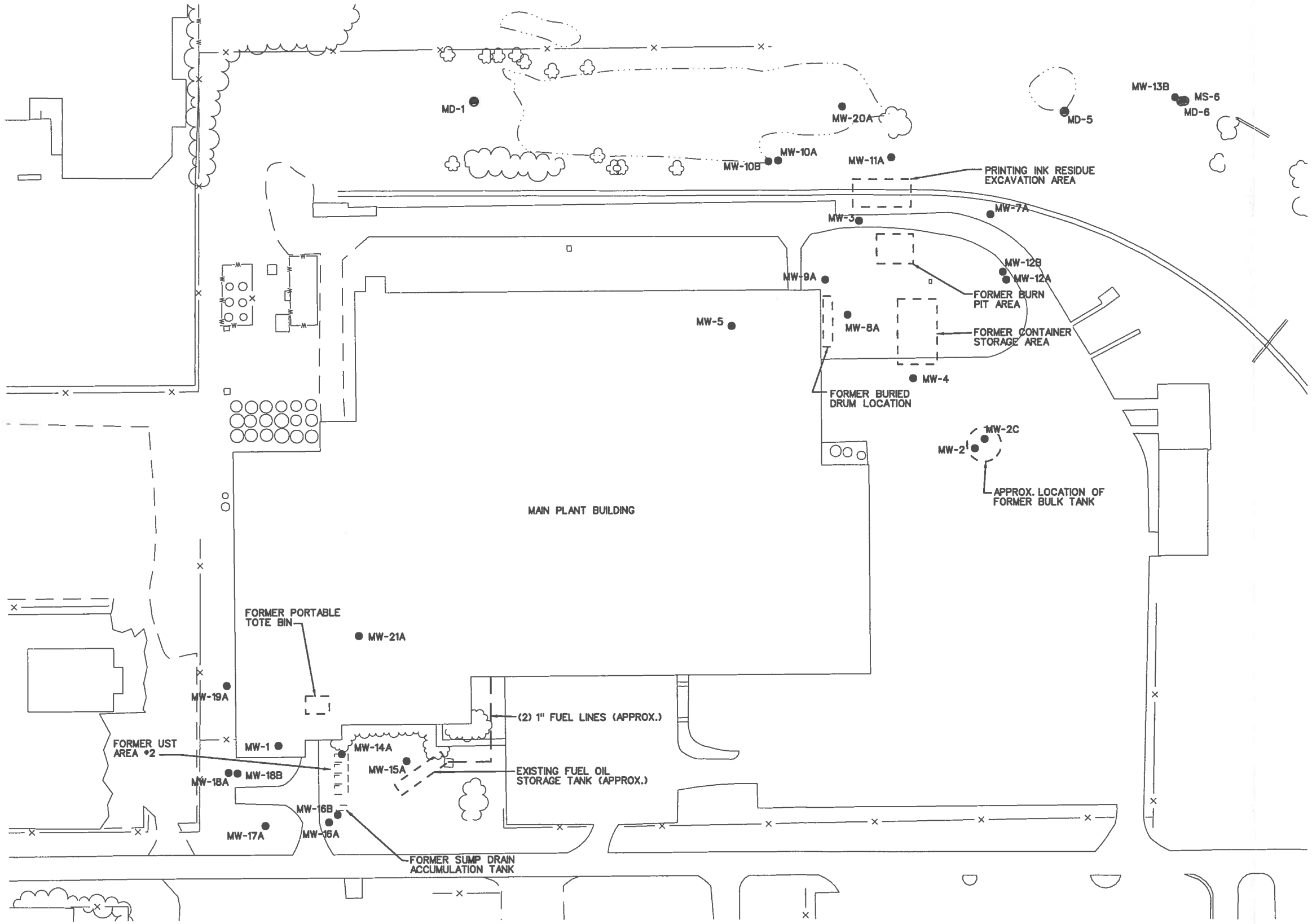

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SCALE IN FEET

LEGEND:

- ● MONITORING WELL
- ● HAMILTON DRAINAGE PROJECT WELL

10/31/02

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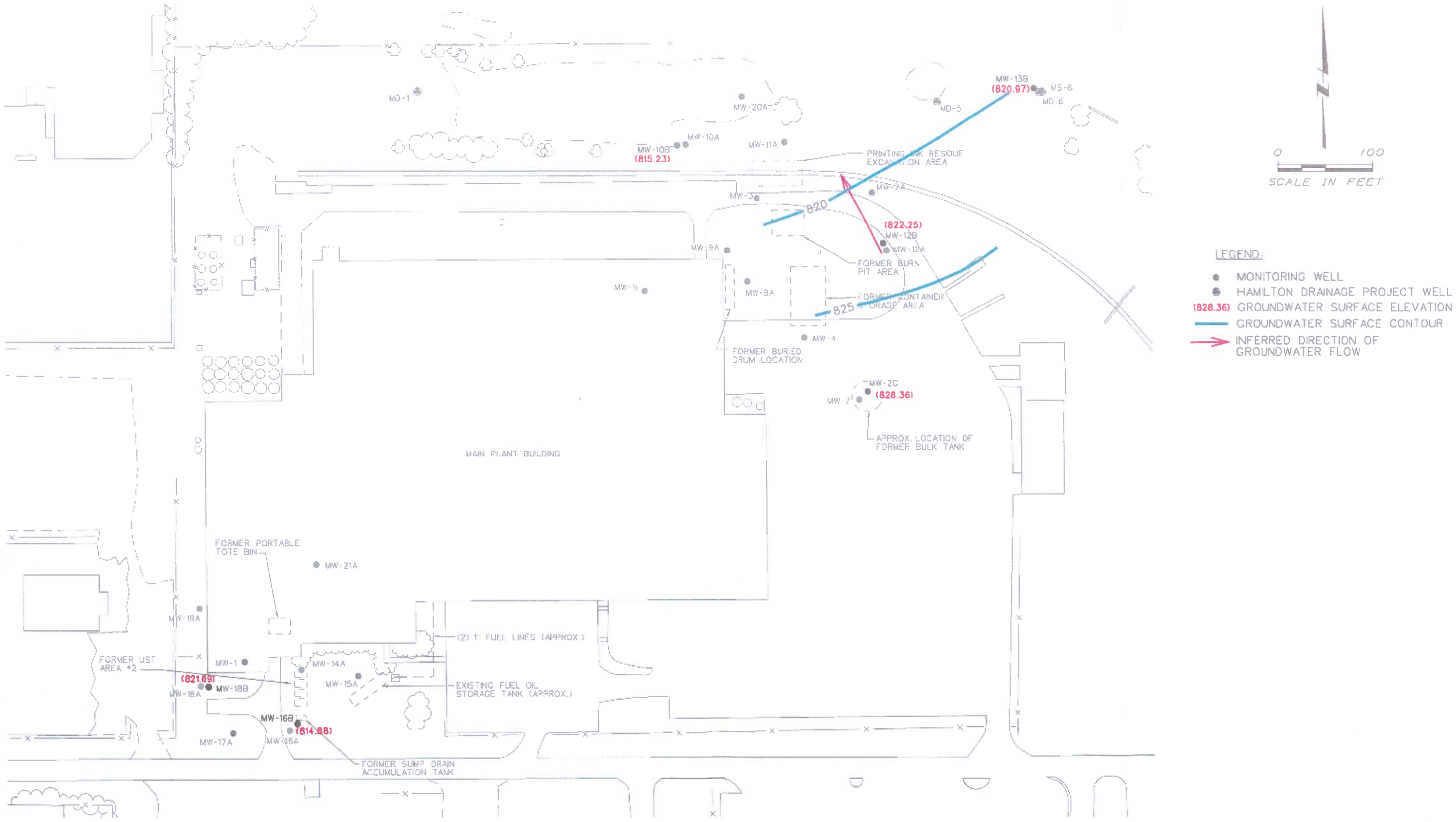
MWH MONTGOMERY WATSON HARZA — Des Moines Iowa	PECHINEY PLASTIC PACKAGING, INC.	MONITORING WELL LOCATIONS	FIGURE 1



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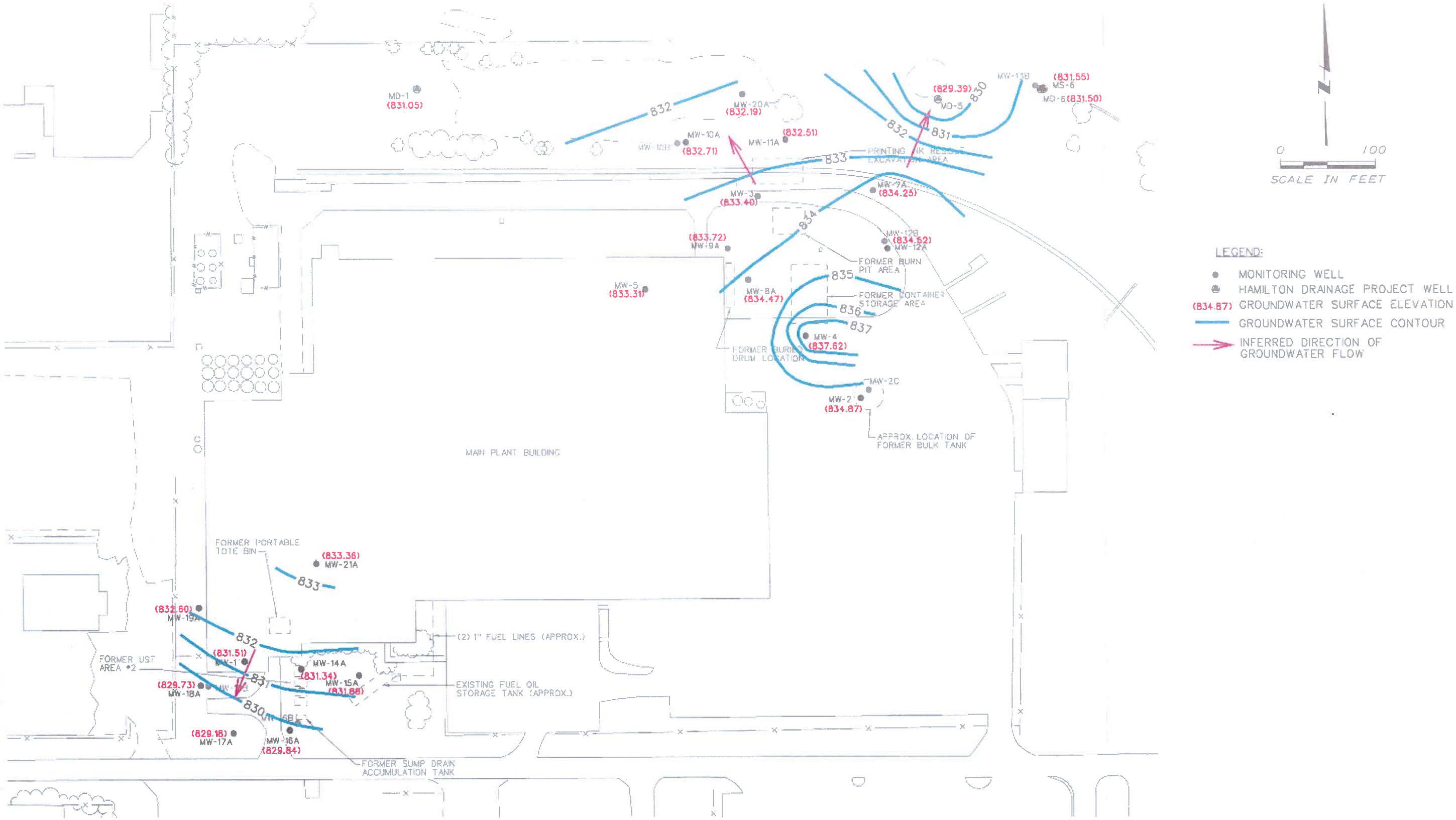
MWH MONTGOMERY WATSON HARZA — Des Moines Iowa	PECHINEY PLASTIC PACKAGING, INC.	"B" AND "C" MONITORING WELL POTENTIOMETRIC SURFACE MAP (11-12-2001)	FIGURE 4-N



MWH
MONTGOMERY WATSON HARZA
Des Moines
Iowa

PECHINEY PLASTIC PACKAGING, INC.

WATER TABLE CONTOURS
(11-12-2001)

FIGURE
4-M

15-JAN-2002

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