Metcalf & Eddy

February 15, 1991

Ms. Sally Averill
United States Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Re: TES X, R05031 - Ekco Housewares
Monthly Ground Water Summary

Dear Sally,

Enclosed is one copy of the monthly ground water database for Ekco Housewares thru December, 1990. Included with the summary tables are graphs that illustrate the changes in contaminant concentrations with time.

If you have any questions, please feel free to contact either Jim Strayton at (614)890-5501 or me at (312)427-8752.

Sincerely,

METCALF & EDDY, INC

Thomas Lentzen

Thomas Lentzen
Regional Project Manager

cc: Fred Norling

TESX, 111 W. Jackson Blvd., 15th Floor, Chicago, IL 60604
TEL: (312) 427-7433—FAX: (312) 427-3283

AWT Affiliates of Air & Water Technologies Corporation

EKCO HOUSEWARES

WELL #: SOUTH WELL

Updated: 30-Jan-91
03:25 PM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	140	39	21	560	580	ND	10
07	06/05/86	86	ND	ND	310	360	ND	30
08	07/15/86	140	27	25	370	400	ND	10
09	08/12/86	120	ND	ND	230	180	ND	30
10	09/05/86	150	33	ND	360	350	ND	30
11	10/08/86	120	20	18	250	280	ND	10
11a	11/11/86	130	29	16	290	320	ND	5
12	12/09/86	160	19	18	300	320	ND	10
13	01/16/87	180	ND	13	260	220	ND	10
14*	02/03/87	120	17	20	240	280	3	10
15	03/05/87	150	16	20	190	200	1	10
16	04/09/87	140	19	21	210	180	1	10
17	05/04/87	110	13	12	160	200	2	10
18	06/04/87	140	20	22	200	230	2	20
19	07/08/87	95	11J	ND	140	210	2	20
20	08/04/87	130	17J	14J	150	180	2	25
21	09/03/87	140	16J	18J	140	150	2	25
22	10/02/87	140	14J	20J	150	150	ND	25
23	11/06/87	110	23J	23J	180	220	1	25
24	12/04/87	110	10J	13J	120	170	2	25
25	01/06/88	140	21J	30	96	170	1	25
26	02/04/88	95	9J	15	87	140	ND	15
27	03/05/88	84	11J	16J	88	130	1	25
28	04/11/88	150	20	20	78	120	1	13
29	05/11/88	110	ND	10J	59	160	2	25
30	06/04/88	79B	12J	11J	38	77	1	25
31	07/30/88	73	7	9	31	70	ND	5
32	08/01/88	51	6	8	30	64	ND	5
33	09/13/88	NO SAMPLE WAS COLLECTED FROM THIS WELL DURING THIS ROUND OF SAMPLING.						
34	11/01/88	47	3	7	13	59	ND	5
35	11/03/88	31	ND	4J	5	18	ND	5
36	12/01/88	40	4J	9	20	50	ND	5
37	01/04/89	No sample was collected during this round.						
38	02/01/89	39	ND	5	10	47	ND	5
39	03/01/89	48	ND	6	15	48	ND	5
40	04/03/89	37	2J	5	8	33	ND	5
41	05/01/89	55	4J	7	13	48	ND	5
42	06/07/89	49	6	7	12	43	ND	5
43	07/24/89	67	40	38	1200	570	ND	50
44	08/15/89	49	3J	8	7	29	ND	5
45	09/12/89	53	ND	6	13	43	ND	5
46	10/06/89	53	3J	6	14	44	ND	5
47	11/03/89	59	6	9	13	40	ND	5
48	12/06/89	60	5	9	16	44	ND	5
49	01/05/90	55	7	7	17	43	ND	5
50	02/01/90	74	ND	7	16	45	ND	5
51	03/05/90	42	5	8	18	44	ND	5
52	04/03/90	59	ND	6	ND	44	ND	5
53	05/11/90	56	5	7	15	48	ND	5
54	06/06/90	66	5	8	16	51	ND	5
55	07/12/90	80	8	10	19	56	ND	5
56	08/07/90	80	9	9	19	56	ND	5
57	09/07/90	71	7	11	17	52	ND	5
58	10/04/90	65	7	8	18	52	ND	5
59	11/09/90	64	9	8	15	36	ND	5
60	12/12/90	65	6	7	21	51	ND	5

Number of Months to Reach MCL's:	linear regression;	exponential regression.
Trichloroethane:	32	68
Trichloroethene:	38	103
Vinyl Chloride:	53	52

NOTES:

ND - Not Detected; Below Detection Limit.

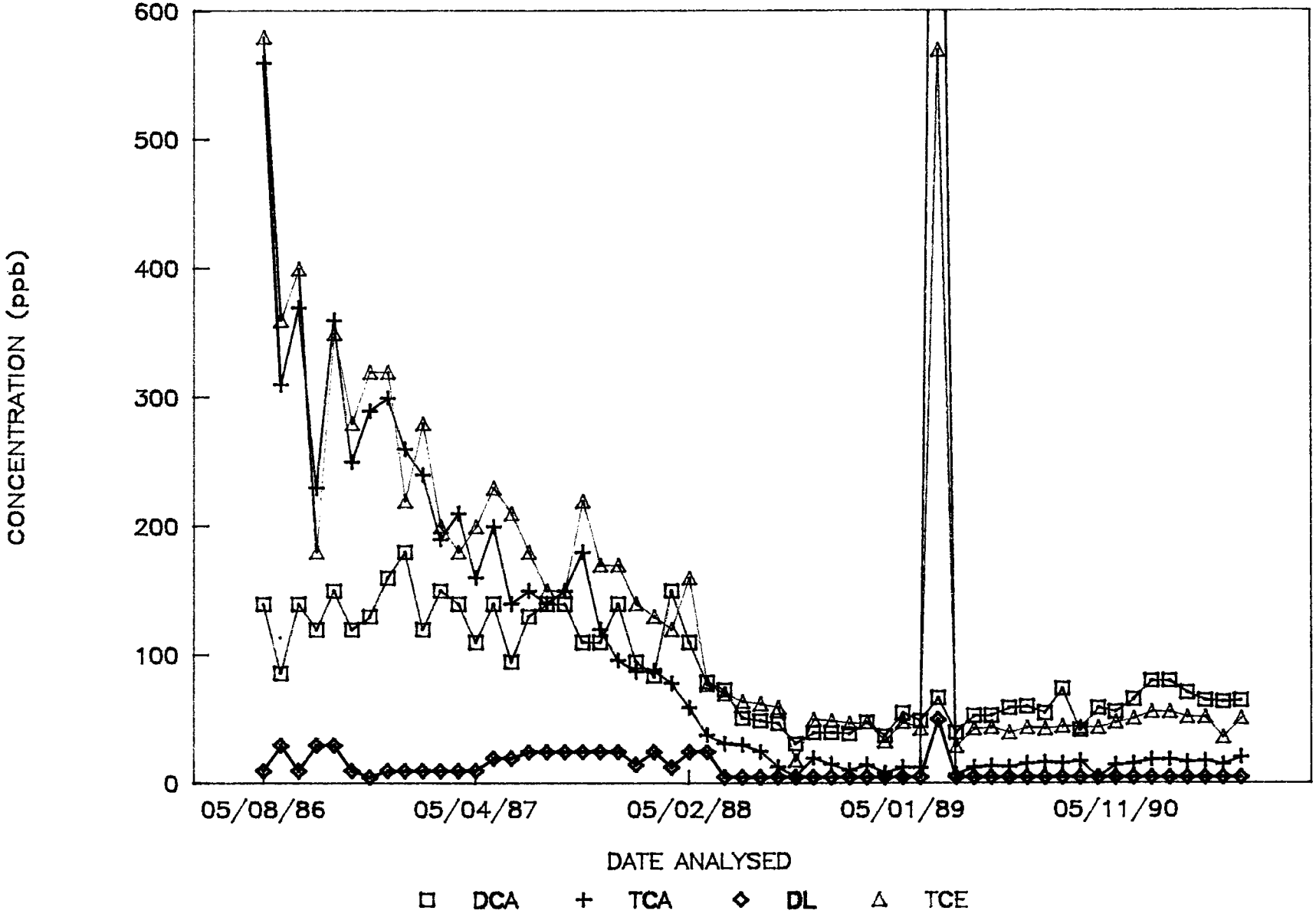
J - Estimated concentration present below MDL.

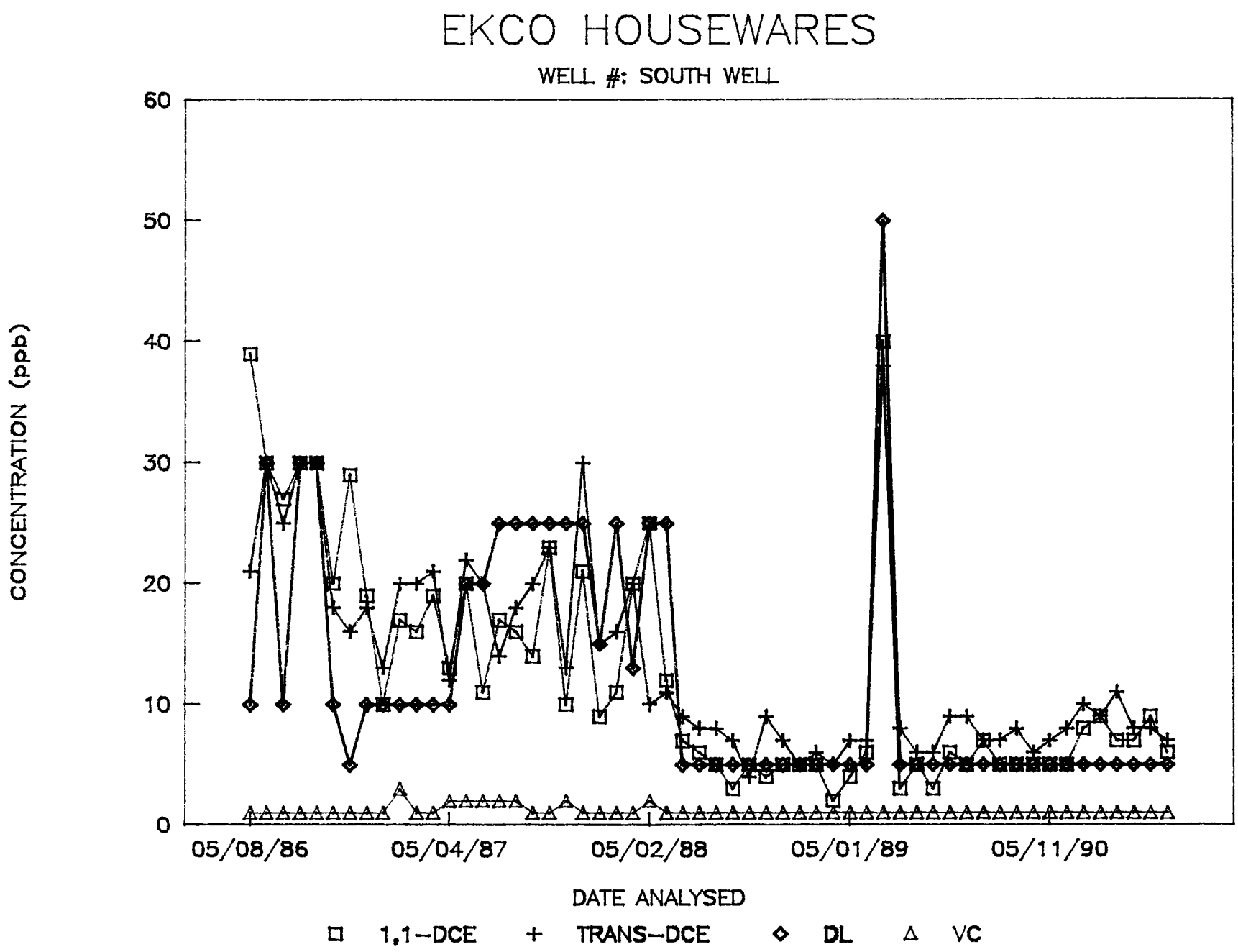
11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

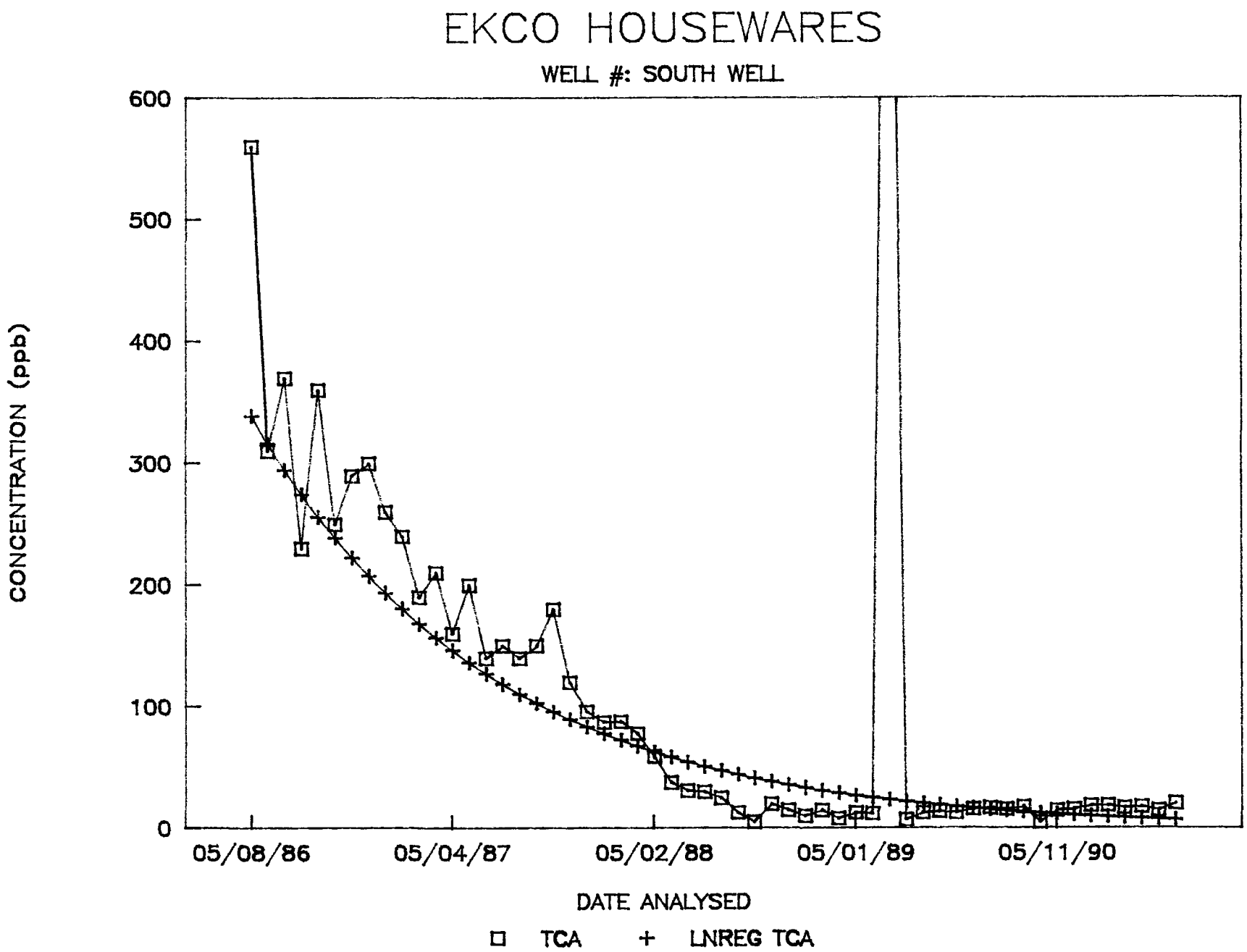
* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

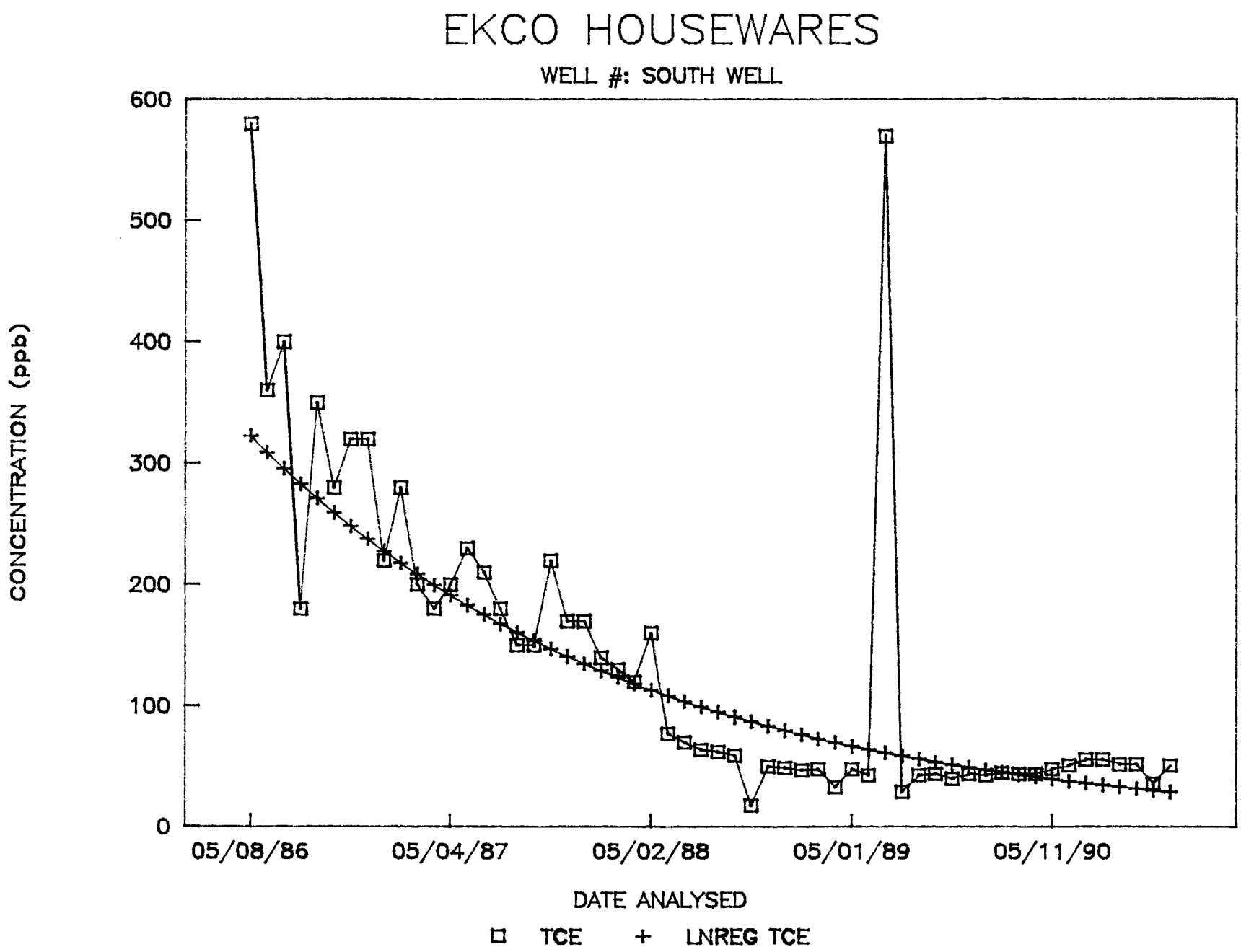
EKCO HOUSEWARES

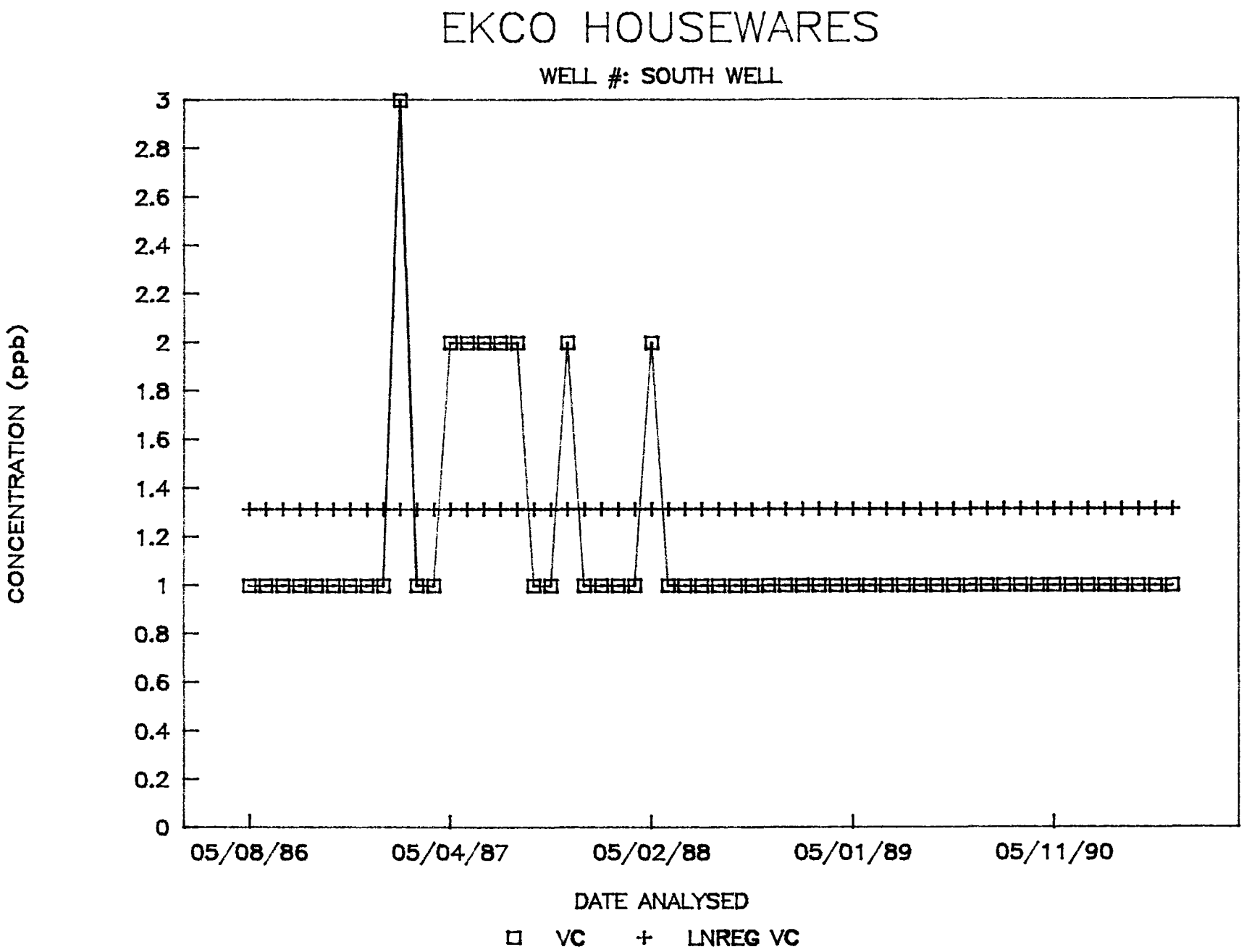
WELL #: SOUTH WELL




EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
60
50
40
30
20
10
0
05/08/86
05/04/87
05/02/88
05/01/89
05/11/90
DATE ANALYSED
1,1-DCE
TRANS-DCE
DL
VC


EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
05/08/86
05/04/87
05/02/88
05/01/89
05/11/90
DATE ANALYSED
TCA
LNREG TCA


EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
05/08/86
05/04/87
05/02/88
05/01/89
05/11/90
DATE ANALYSED
TCE
LNREG TCE


EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
05/08/86
05/04/87
05/02/88
05/01/89
05/11/90
DATE ANALYSED
VC
LNREG VC

EKCO HOUSEWARES

WELL #: W-10

Updated: 30-Jan-91
03:48 PM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	200	ND	8300	3500	ND	200
07	06/05/86	ND	ND	ND	7500	3300	ND	200
08	07/15/86	ND	ND	ND	7000	3400	ND	400
09	08/12/86	ND	ND	ND	6000	1800	ND	400
10	09/05/86	ND	ND	ND	8500	3600	ND	400
11	10/08/86	170	93	80	7800	3700	ND	80
11a	11/11/86	210	160	ND	11000	5100	ND	120
12	12/09/86	220	ND	ND	9200	3900	ND	100
13	01/16/87	ND	ND	ND	8400	3800	ND	100
14*	02/03/87	ND	ND	110	7500	3500	8	100
15	03/05/87	ND	ND	ND	6600	3000	4	100
16	04/09/87	170	ND	ND	7400	2800	6	100
17	05/04/87	ND	ND	ND	4800	2500	8	100
18	06/04/87	150	ND	ND	5600	2300	5	150
19	07/08/87	ND	ND	ND	4400	2400	8	200
20	08/04/87	120J	ND	ND	5300	2200	6	250
21	09/03/87	ND	ND	ND	6800	2700	8	250
22	10/01/87	170J	ND	ND	9300	2600	2	250
23	11/05/87	ND	ND	ND	7400	2700	6	250
24	12/04/87	ND	ND	ND	5500	2400	4	250
25	01/06/88	ND	ND	ND	4400	2200	4	250
26	02/04/88	100J	ND	ND	4800	2200	3	250
27	03/05/88	ND	ND	ND	5600	2100	6	250
28	04/11/88	ND	ND	ND	4000	1600	4	250
29	05/11/88	ND	100J	130J	8200	3000	15	250
30	06/04/88	ND	ND	ND	18000	4700	4	500
31	07/30/88	70J	ND	ND	2700	1300	10	130
32	08/01/88	60J	ND	ND	2600	1200	15	130
33	09/13/88	ND	ND	ND	2300	960	2	250
34	11/01/88	90J	110J	ND	2600	1100	5	120
35	11/03/88	62	ND	26J	1200	600	1	50
36	12/01/88	60	ND	ND	1400	980	7	50
37	01/04/89	52	ND	ND	1400	900	3	100
38	02/01/89	ND	ND	ND	1400	830	+	130
39	03/01/89	90	ND	58J	2100	790	3	60
40	04/03/89	75	ND	35J	2100	840	3	65
41	05/01/89	64	ND	ND	2200	760	4	62
42	06/07/89	57	64	37J	1500	710	2	50
43	07/24/89	45	2J	5	9	33	ND	5
44	08/15/89	65	66	48J	1400	790	ND	50
45	09/12/89	53	ND	ND	1200	570	1	42
46	10/12/89	69	52	48J	1300	580	2	50
47	11/03/89	83	72	56	1300	630	3	50
48	12/06/89	87	38J	52	1500	550	2	50
49	01/05/90	70	37J	48J	1500	690	3	50
50	02/01/90	69	ND	ND	1200	650	4	50
51	03/05/90	110	ND	60	1400	600	+	50
52	04/03/90	ND	ND	ND	1200	630	2	100
53	05/09/90	80	ND	68	1900	800	1	50
54	06/06/90	60	36J	58	1700	740	3	50
55	07/20/90	76	100	72	1600	690	2	50
56	08/08/90	78	50	70	1500	680	ND	50
57	09/07/90	64	32J	80	1300	660	4	50
58	10/05/90	ND	ND	ND	1500	660	3	100
59	11/09/90	92	120	100	1800	660	4	50
60	12/05/90	94	ND	92	2000	880	3	50

Number of Months to Reach MCL's: linear regression; exponential regression.

Trichloroethane:	89	511
Trichloroethene:	67	359
Vinyl Chloride:	108	88

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration; present below MDL.

11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

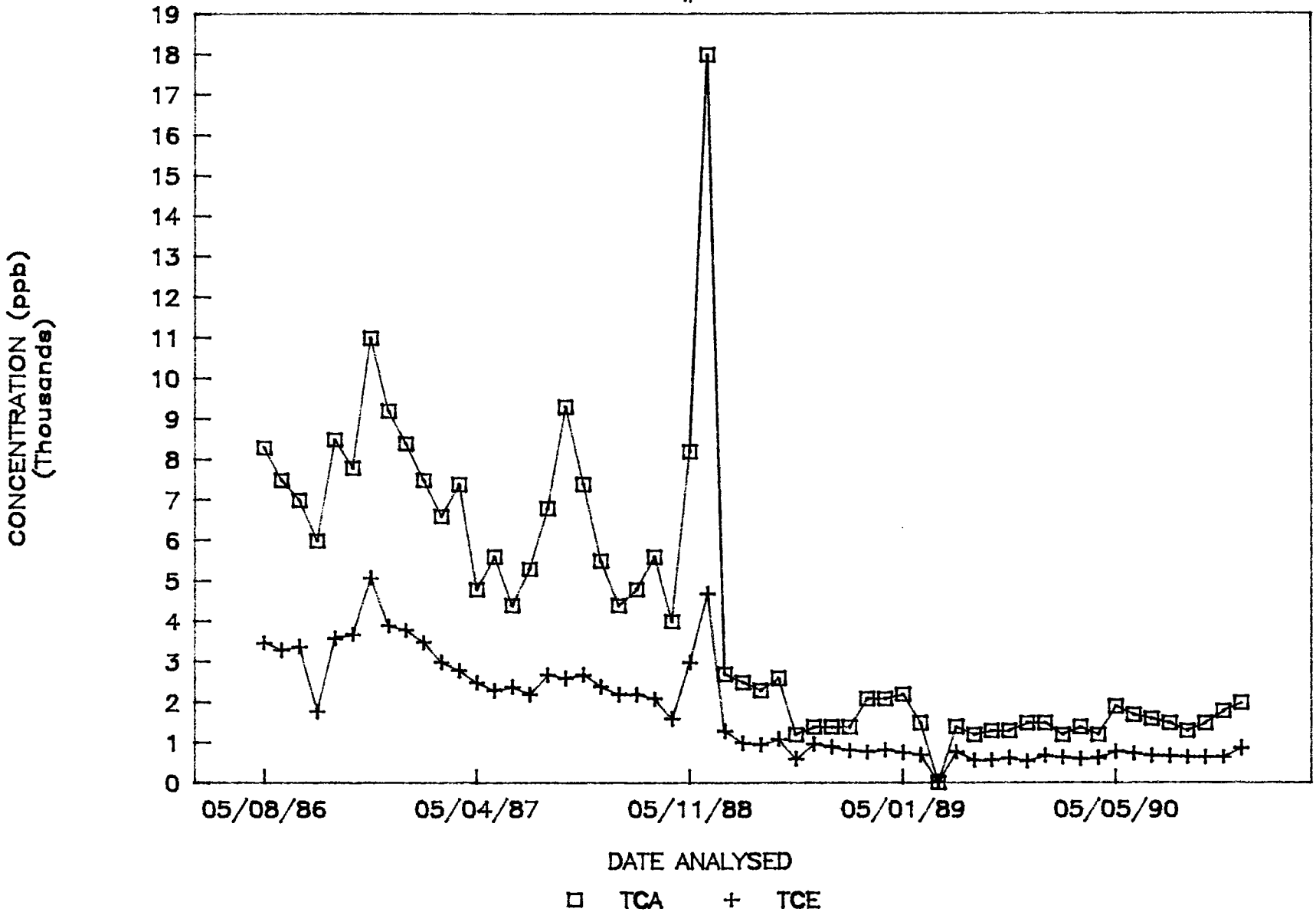
* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

220 ppb Dibromochloromethane estimated to be present in sample set 21.

+ - Not analysed during this round of sampling. No explanation given.

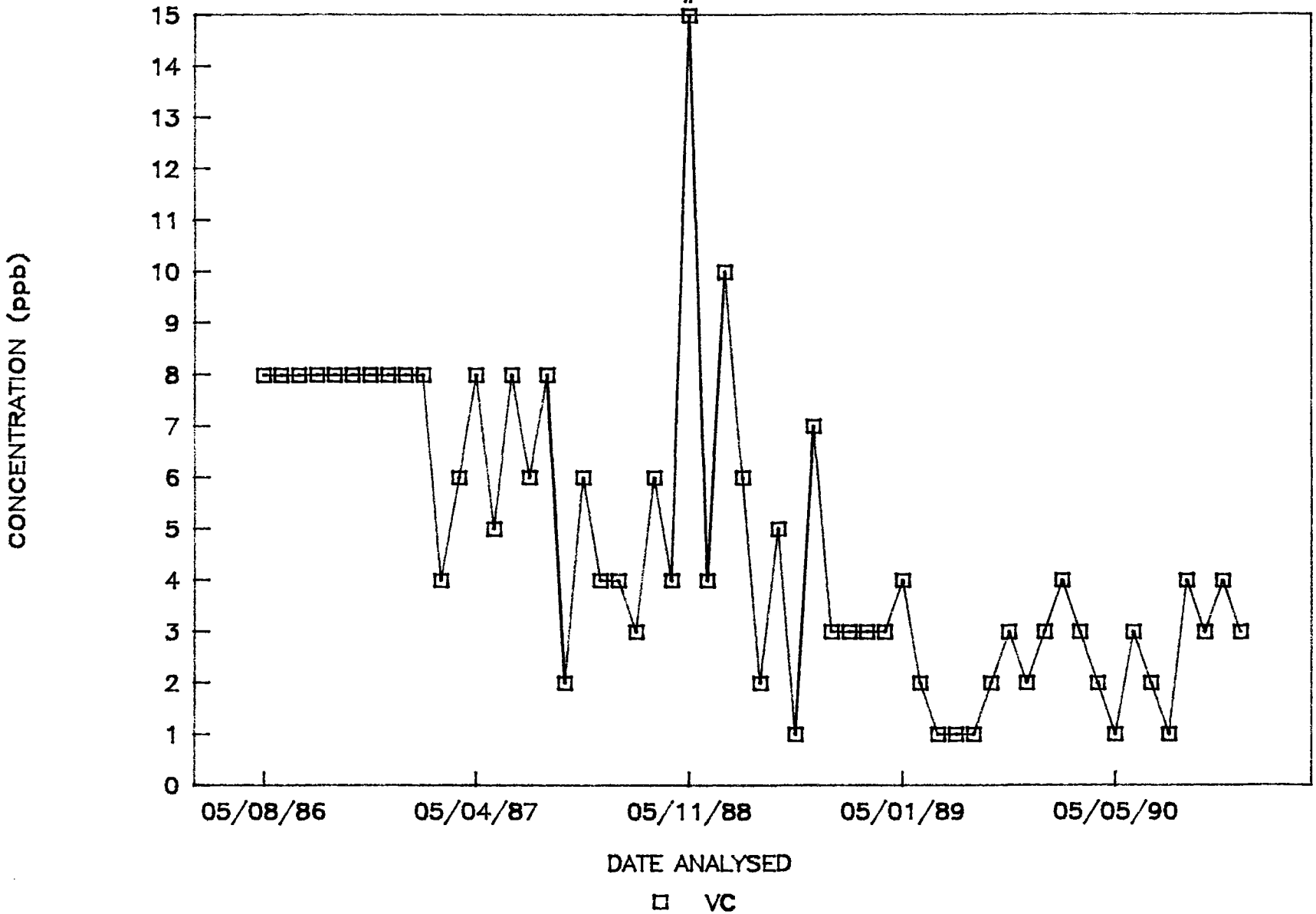
EKCO HOUSEWARES

WELL #: W-10



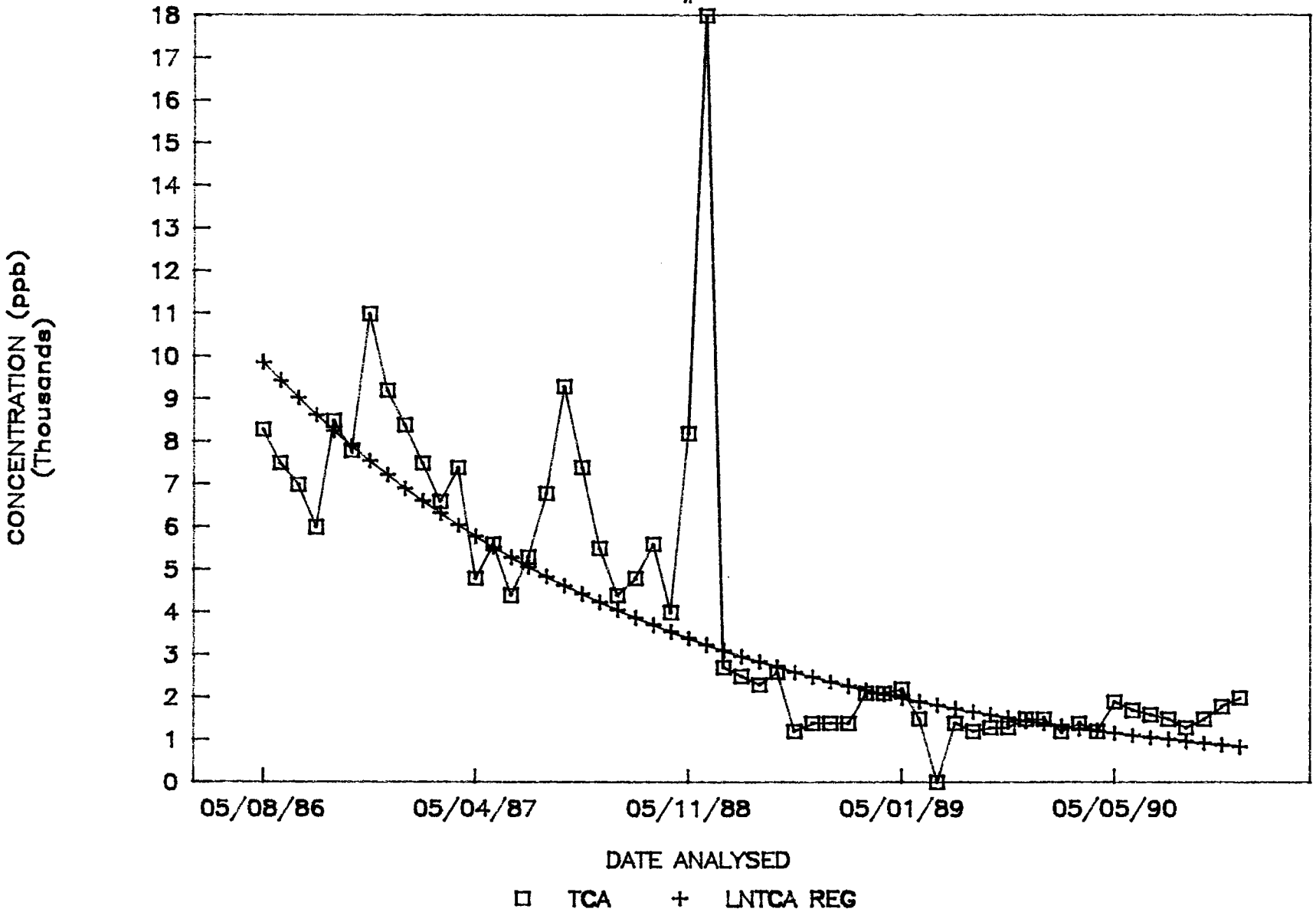
EKCO HOUSEWARES

WELL #: W-10



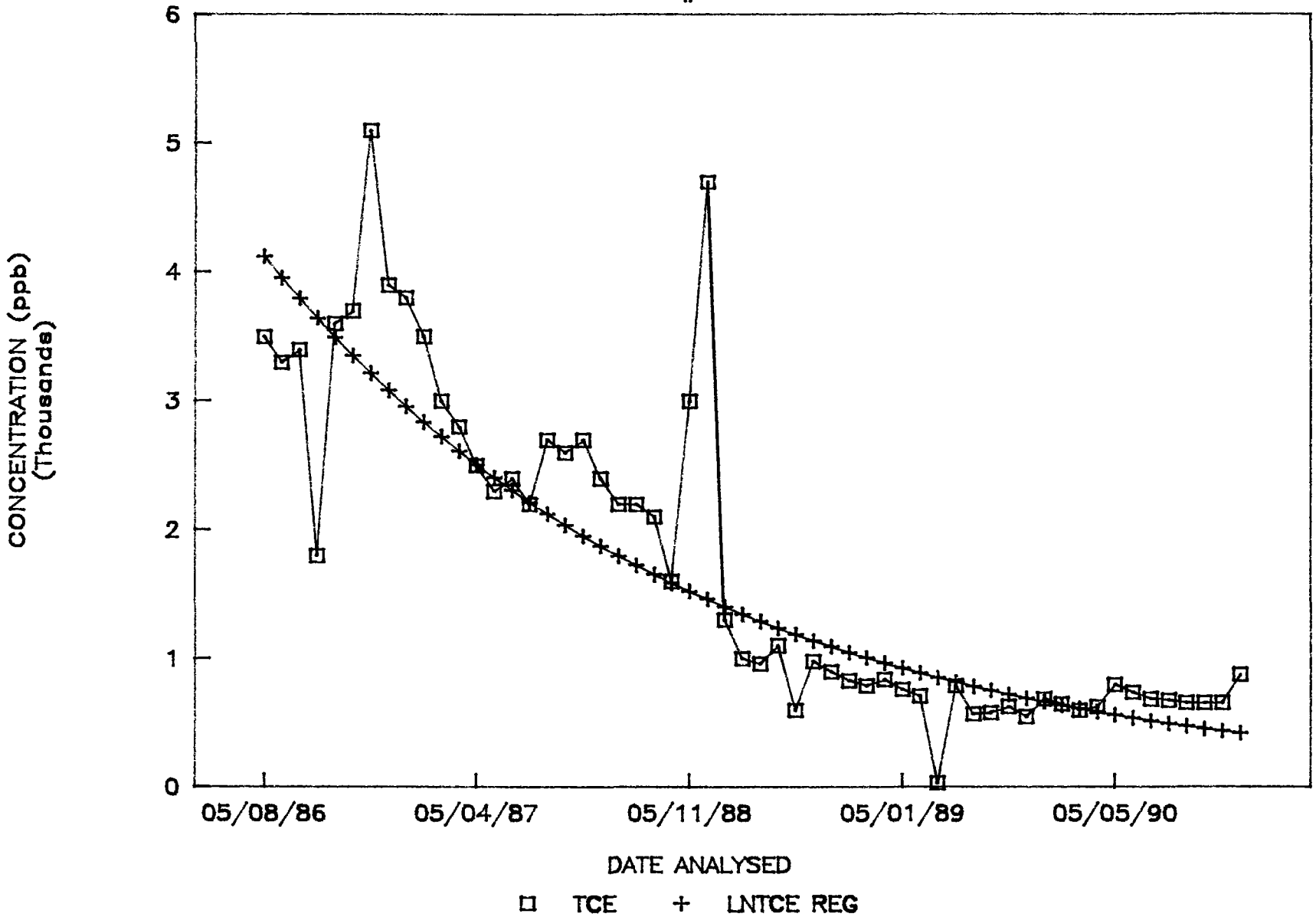
EKCO HOUSEWARES

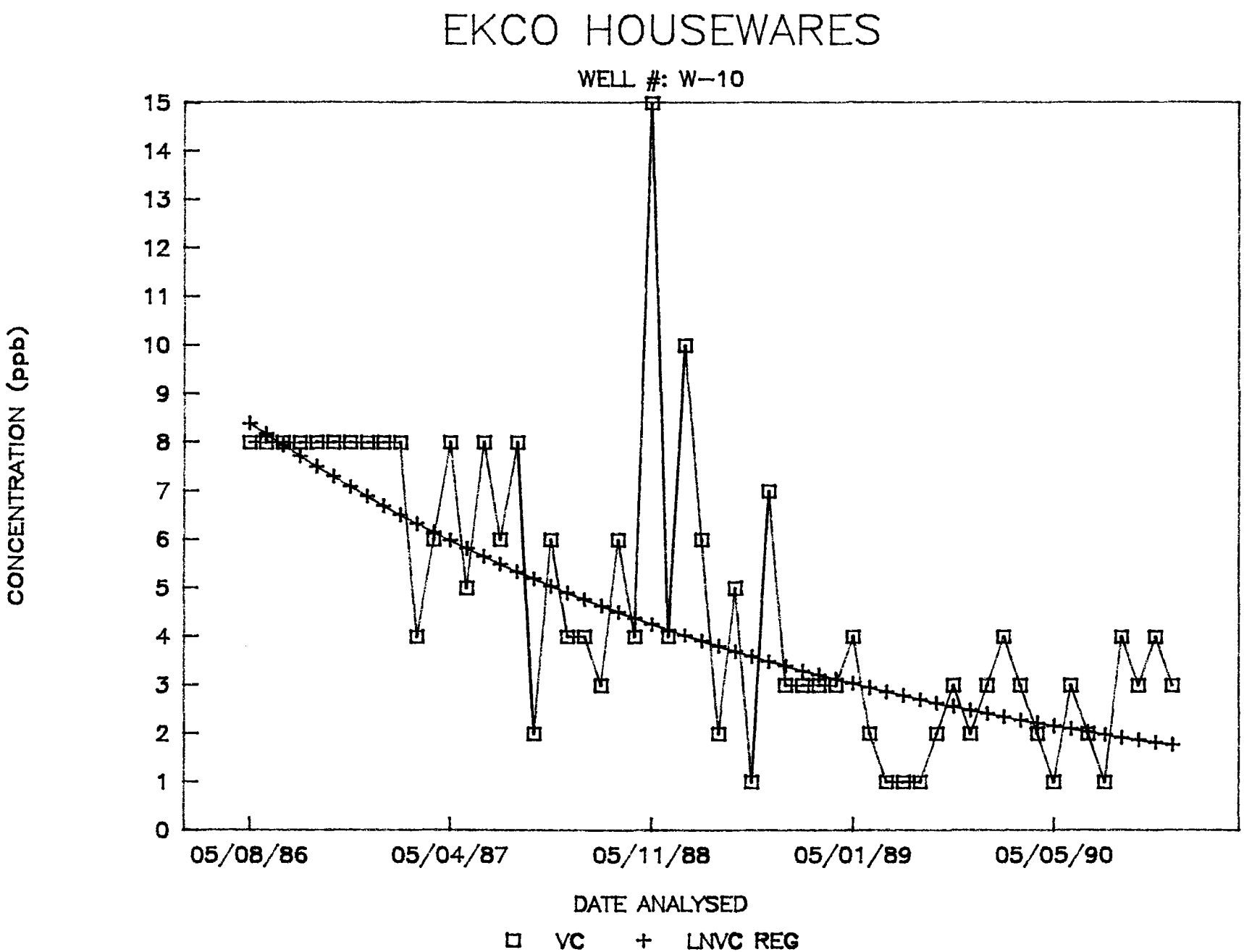
WELL #: W-10



EKCO HOUSEWARES

WELL #: W-10




EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
05/08/86
05/04/87
05/11/88
05/01/89
05/05/90
DATE ANALYSED
VC
LNVC REG

EKCO HOUSEWARES Updated: 30-Jan-91
WELL #: Air Stripper Effluent 03:55 PM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	ND	ND	ND	ND	ND	10
07	06/04/86	ND	ND	ND	ND	3J	ND	10
08	07/15/86	ND	ND	ND	14	18	ND	10
09	08/13/86	ND	ND	ND	ND	ND	ND	10
10	09/05/86	ND	ND	ND	ND	ND	ND	1
11	10/08/86	ND	ND	ND	ND	6J	ND	10
11a	11/11/86	ND	ND	ND	ND	3	ND	1
12	12/09/86	ND	ND	ND	ND	ND	ND	10
13	01/16/87	ND	ND	ND	ND	7J	ND	10
14	02/03/87	ND	ND	ND	ND	7	ND	1
15	03/04/87	ND	ND	ND	ND	ND	ND	1
16	04/07/87	ND	ND	ND	ND	5	ND	1
17	05/04/87	ND	ND	ND	ND	ND	ND	1
18	06/04/87	ND	ND	ND	ND	ND	ND	1
19	07/08/87	ND	ND	ND	ND	36	ND	1
20	08/04/87	ND	ND	ND	4	3	ND	1
21	09/03/87	ND	ND	ND	ND	ND	ND	1
22	10/01/87	ND	ND	ND	ND	ND	ND	1
23	11/05/87	ND	ND	ND	ND	ND	ND	1
24	12/04/87	ND	ND	ND	ND	4	ND	1
25	01/06/88	ND	ND	ND	1	1	ND	1
26	02/04/88	ND	ND	ND	ND	2	ND	1
27	03/05/88	ND	ND	ND	ND	ND	ND	1
28	04/11/88	ND	ND	ND	ND	3	ND	1
29	05/11/88	ND	ND	ND	ND	1	ND	1
30	06/04/88	ND	ND	ND	ND	2	ND	1
31	07/30/88	ND	ND	ND	ND	2J	ND	5
32	08/01/88	ND	ND	ND	ND	5	ND	5
33	09/13/88	ND	ND	ND	ND	22	ND	5
34	11/01/88	ND	ND	ND	ND	ND	ND	5
35	11/03/88	ND	ND	ND	ND	5	ND	5
36	12/01/88	ND	ND	ND	ND	ND	ND	5
37	01/04/89	ND	ND	ND	ND	ND	ND	5
38	02/01/89	ND	ND	ND	ND	ND	+	5
39	03/01/89	ND	ND	ND	ND	ND	ND	5
40	04/03/89	ND	ND	ND	ND	6	ND	5
41	05/01/89	ND	ND	ND	ND	ND	ND	5
42	06/07/89	ND	ND	ND	ND	6	ND	5
43	07/06/89	ND	ND	2J	ND	6	ND	5
44	08/15/89	ND	ND	3J	ND	6	ND	5
45	09/12/89	ND	ND	ND	ND	410	ND	17
46	10/12/89	ND	ND	ND	ND	ND	ND	5
47	11/03/89	ND	ND	ND	ND	4J	ND	5
48	12/06/89	ND	ND	ND	ND	11	ND	5
49	01/05/90	ND	ND	ND	ND	ND	ND	5
50	02/01/90	ND	ND	ND	ND	4J	ND	5
51	03/05/90	ND	ND	ND	ND	ND	+	5
52	04/03/90	ND	ND	ND	ND	ND	ND	5
53	05/09/90	ND	ND	ND	ND	ND	ND	5
54	06/06/90	ND	ND	ND	ND	ND	ND	5
55	07/12/90	ND	ND	ND	ND	ND	ND	5
56	08/07/90	ND	ND	ND	ND	ND	ND	5
57	09/07/90	ND	ND	ND	ND	12	ND	5
58	10/04/90	7	ND	5	ND	58	ND	5
59	11/09/90	5	ND	7	6	10	ND	5
60	12/05/90	14	ND	12	33	47	ND	5

NOTES:

ND - Not detected.

J - Estimated concentration; detected below MDL.

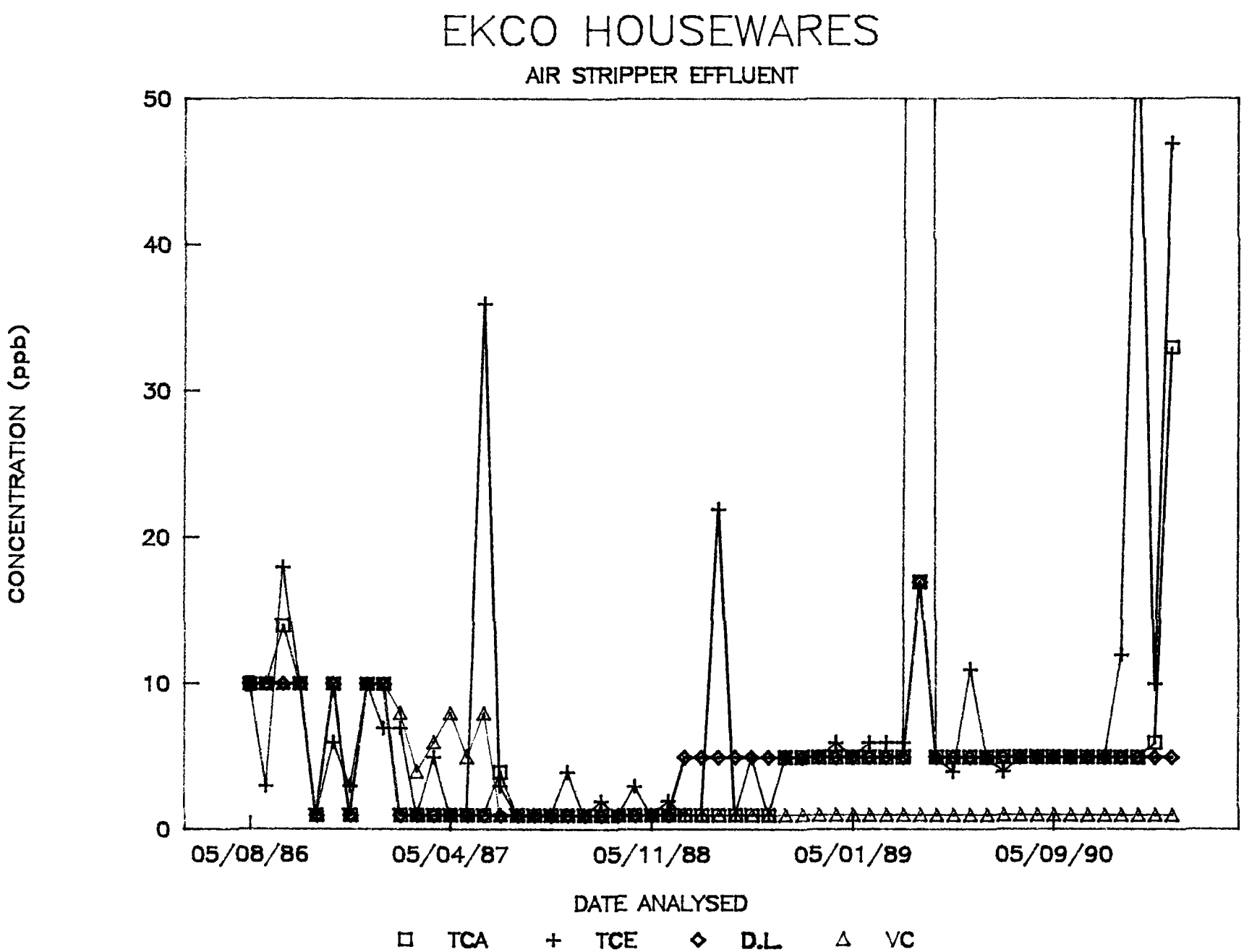
* - from this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

Toluene detected at 1 ppb in sample sets 19 and 21.

Toluene detected at 3 ppb in sample set 48.

Toluene detected at 6 ppb in sample set 28.

+ - Not Analysed


EKCO HOUSEWARES
AIR STRIPPER EFFLUENT
CONCENTRATION (ppb)
50
40
30
20
10
0
05/08/86
05/04/87
05/11/88
05/01/89
05/09/90
DATE ANALYSED
TCA
TCE
D.L.
VC

EKCO HOUSEWARES Updated: 30-Jan-91
WELL #: Outfall 001 04:01 PM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	ND	20	14	150	ND	10
07	06/04/86	ND	ND	ND	27	110	ND	10
08	07/15/86	ND	ND	9J	24	270	ND	10
09	08/13/86	ND	ND	ND	7J	73	ND	10
10	09/05/86	ND	ND	ND	ND	120	ND	10
11	10/03/86	ND	ND	49	91	530	ND	10
11a	11/11/86	ND	ND	2	5	35	ND	1
12	12/09/86	ND	ND	ND	26	43	ND	10
13	01/16/87	ND	ND	ND	ND	20	ND	10
14	02/03/87	ND	ND	ND	ND	22	ND	10
15	03/04/87	ND	ND	2	5	18	ND	1
16	04/11/87	ND	ND	ND	32	830	ND	20
17	05/12/87	ND	ND	ND	2	30	ND	1
18	06/05/87	ND	ND	7J	7J	150	ND	10
19	07/08/87	ND	ND	5J	5J	43	ND	1
20	08/04/87	ND	ND	9J	10J	390	ND	12
21	09/03/87	ND	ND	ND	ND	180	ND	25
22	10/01/87	ND	ND	8	4J	61	ND	5
23	11/05/87	ND	ND	13J	12J	1000	ND	25
24	12/04/87	ND	ND	5	6	150	ND	5
25	01/06/88	ND	ND	2	3	16	ND	1
26	02/04/88	ND	ND	5	11	38	ND	5
27	03/05/88	ND	ND	4J	8	23	ND	5
28	04/11/88	ND	ND	4J	28	47	ND	5
29	05/11/88	ND	ND	ND	ND	1	ND	5
30	06/04/88	ND	ND	4J	27	91	ND	5
31	07/30/88	ND	ND	4J	11	37	ND	5
32	08/01/88	ND	ND	3J	7	21	ND	5
33	09/13/88	ND	ND	ND	8J	90	ND	12
34	11/01/88	ND	ND	4J	4J	40	ND	5
35	11/03/88	ND	ND	ND	10	44	ND	5
36	12/01/88	ND	ND	ND	13	10	ND	5
37	01/04/89	ND	ND	ND	5	9	ND	5
38	02/01/89	ND	ND	ND	ND	12	+	5
39	03/01/89	ND	ND	ND	6	13	ND	5
40	04/03/89	ND	ND	4J	13	55	ND	5
41	05/01/89	ND	ND	4J	44	55	ND	5
42	06/09/89	2J	ND	4J	20	11	ND	5
43	07/06/89	ND	ND	4J	13	13	ND	5
44	08/15/89	ND	ND	ND	9	220	ND	5
45	09/12/89	ND	ND	ND	9	140	ND	5
46	10/12 89	ND	ND	3J	25	98	ND	5
47	11/03/89	ND	ND	3J	13	47	ND	5
48	12/06/89	ND	ND	3J	18	40	ND	5
49	01/05/90	55	7	7	17	43	ND	5
50	02/01/90	ND	ND	ND	12	85	ND	5
51	03/05/90	ND	ND	ND	12	38	+	5
52	04/03/90	ND	ND	ND	ND	45	+	5
53	05/09/90	ND	ND	ND	6	18	ND	5
54	06/06/90	ND	ND	ND	7	36	ND	5
55	07/12/90	ND	ND	ND	4J	9	ND	5
56	08/07/90	ND	ND	ND	10	39	ND	5
57	09/07/90	ND	ND	3J	9	45	ND	5
58	10/04/90	ND	ND	5	8	73	ND	5
59	11/09/90	3J	ND	9	6	85	ND	5
60	12/05/90	+ This sample not collected and analysed this round.						

NOTES:

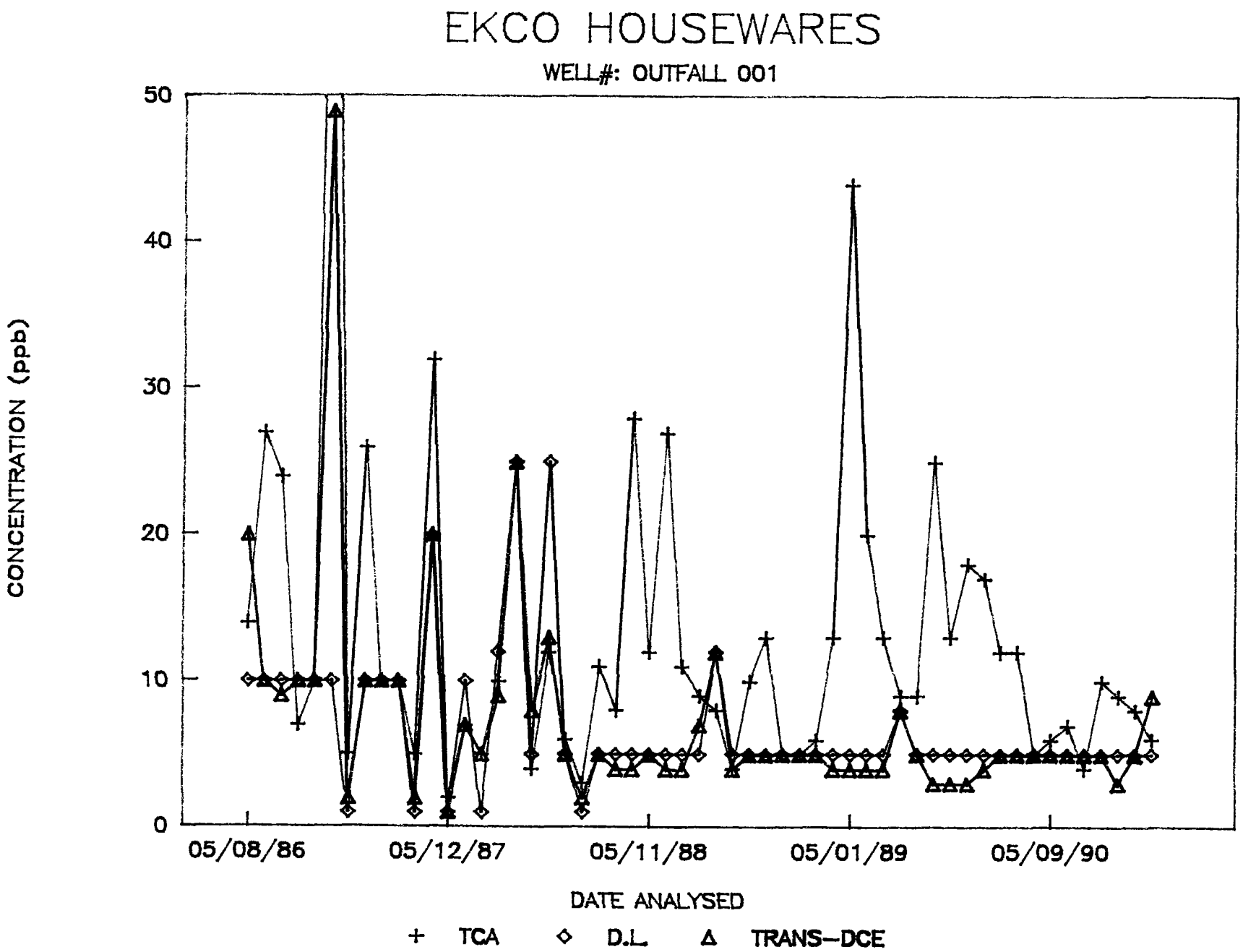
ND - Not detected; below detection limit.

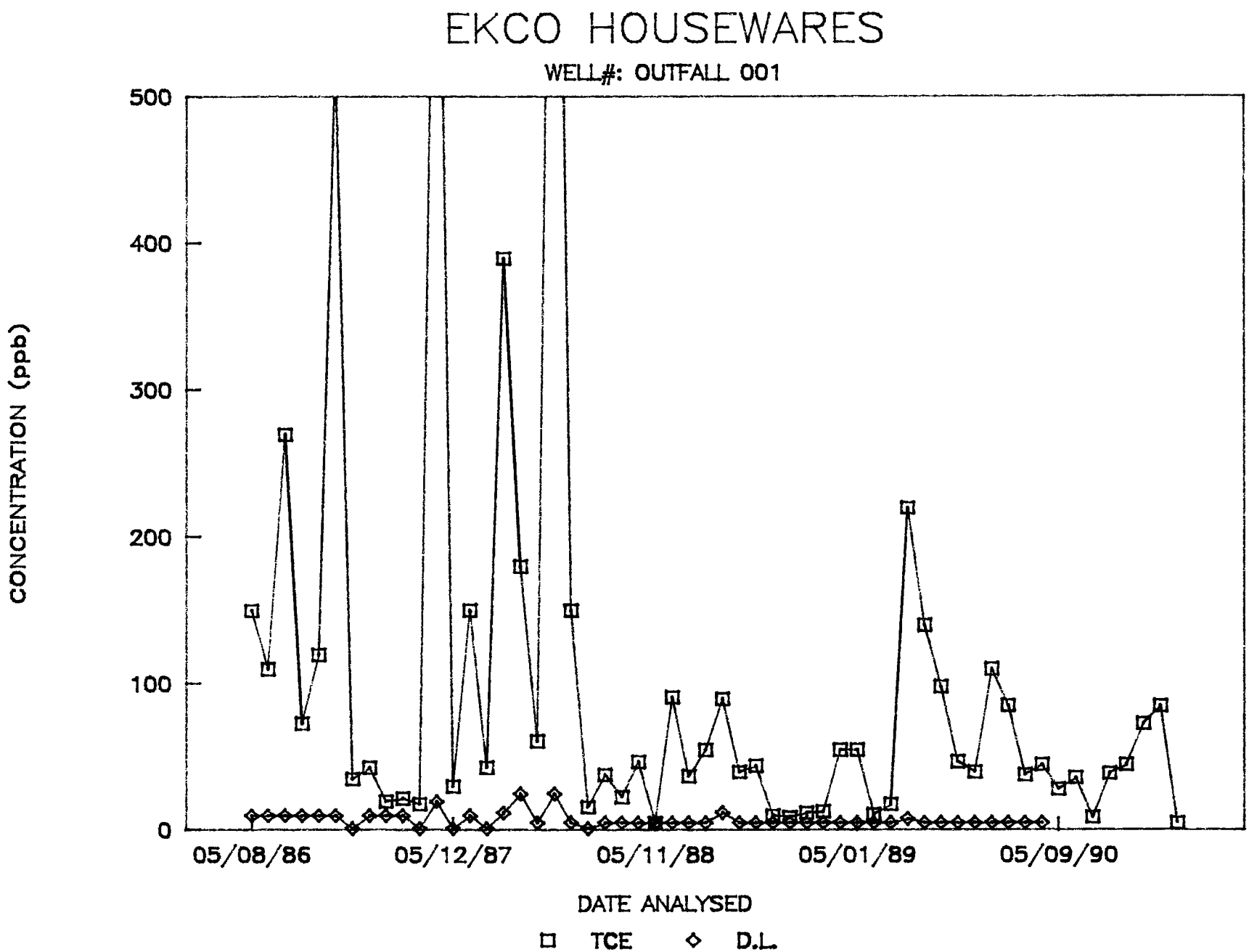
J - Estimated concentration present below MDL.

11a - there are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

+ - Not Analysed.


EKCO HOUSEWARES
WELL#: OUTFALL 001
CONCENTRATION (ppb)
50
40
30
20
10
0
05/08/86
05/12/87
05/11/88
05/01/89
05/09/90
DATE ANALYSED
+ TCA
◇ D.L.
Δ TRANS-DCE


EKCO HOUSEWARES
WELL#: OUTFALL 001
CONCENTRATION (ppb)
500
400
300
200
100
0
05/08/86
05/12/87
05/11/88
05/01/89
05/09/90
DATE ANALYSED
TCE
D.L.

EKCO HOUSEWARES

WELL #: R-1

UPDATED: 30-Jan-91
04:07 PM

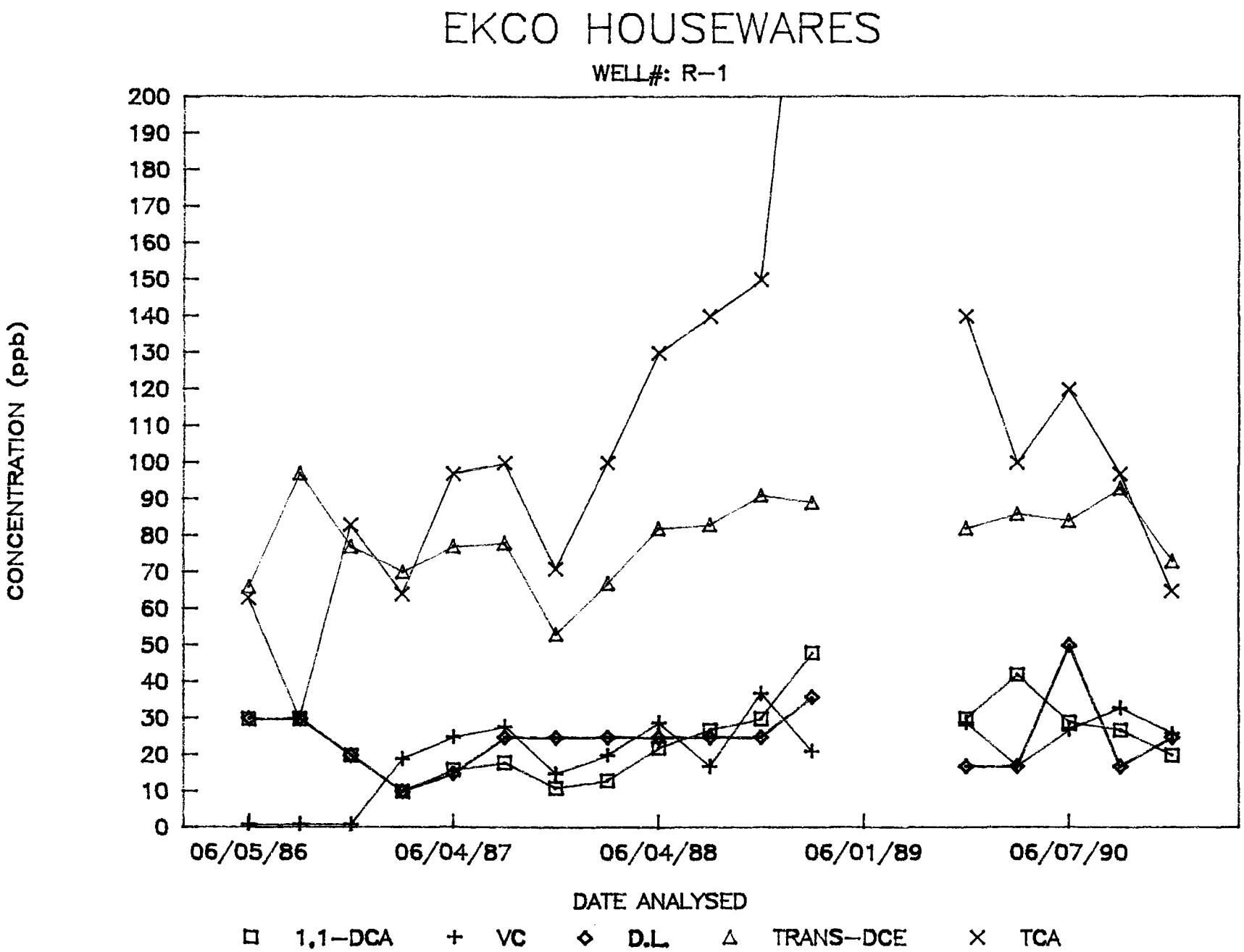
SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
07	06/05/86	ND	ND	66	63	690	ND	30
10	09/05/86	ND	ND	97	ND	730	ND	30
12	12/09/86	ND	ND	77	83	630	ND	20
15*	03/05/87	ND	ND	70	64	490	19	10
18	06/04/87	16	ND	77	97	590	25	15
21	09/03/87	18J	ND	78	100	500	28	25
24	12/04/87	11J	ND	53	71	500	15	25
27	03/05/88	13J	ND	67	100	490	20	25
30	06/04/88	22J	11J	82	130	550	29	25
33	09/13/88	27	ND	83	140	620	17	25
36	12/01/88	30	ND	91	150	710	37	25
39	03/01/89	48	ND	89	280	1000	21	36
42	06/07/89	R-1 ANALYTICAL DATA NOT INCLUDED IN DATA PACKAGE						
45	09/12/89	R-1 ANALYTICAL DATA NOT INCLUDED IN DATA PACKAGE						
48	12/06/89	30	13J	82	140	650	29	17
51	03/05/90	42	9J	86	100	760	17	17
54	06/07/90	29J	ND	84	120	790	27	50
57	09/07/90	27	12J	93	97	660	33	17
60	12/12/90	20J	ND	73	65	670	26	25

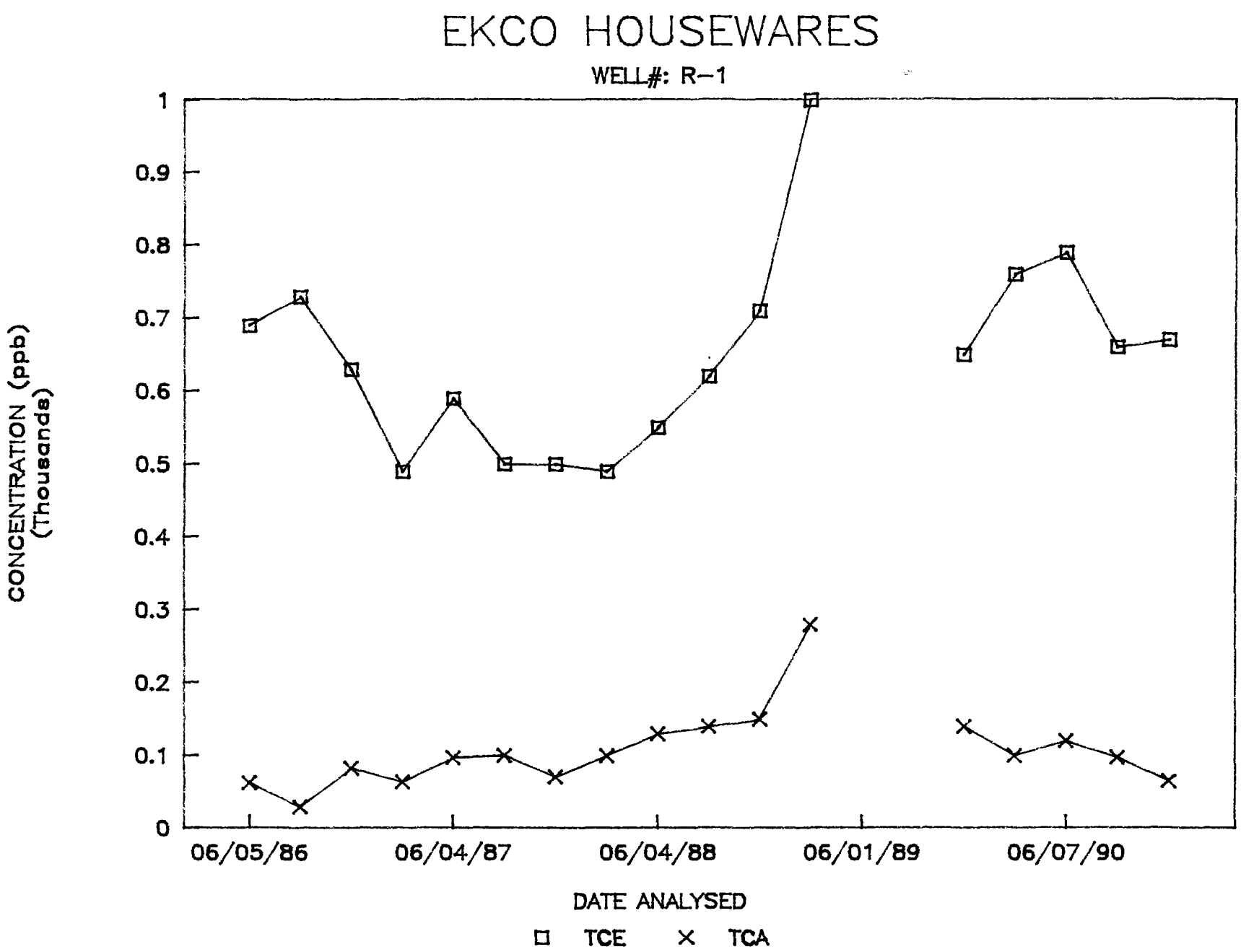
NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration present below MDL.

* - From this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.


EKCO HOUSEWARES
WELL#: R-1
CONCENTRATION (ppb)
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
06/05/86
06/04/87
06/04/88
06/01/89
06/07/90
DATE ANALYSED
1,1-DCA
VC
D.L.
TRANS-DCE
TCA


EKCO HOUSEWARES
WELL#: R-1
CONCENTRATION (ppb)
(Thousands)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
06/05/86
06/04/87
06/04/88
06/01/89
06/07/90
DATE ANALYSED
TCE
TCA

EKCO HOUSEWARES
WELL #: R-2

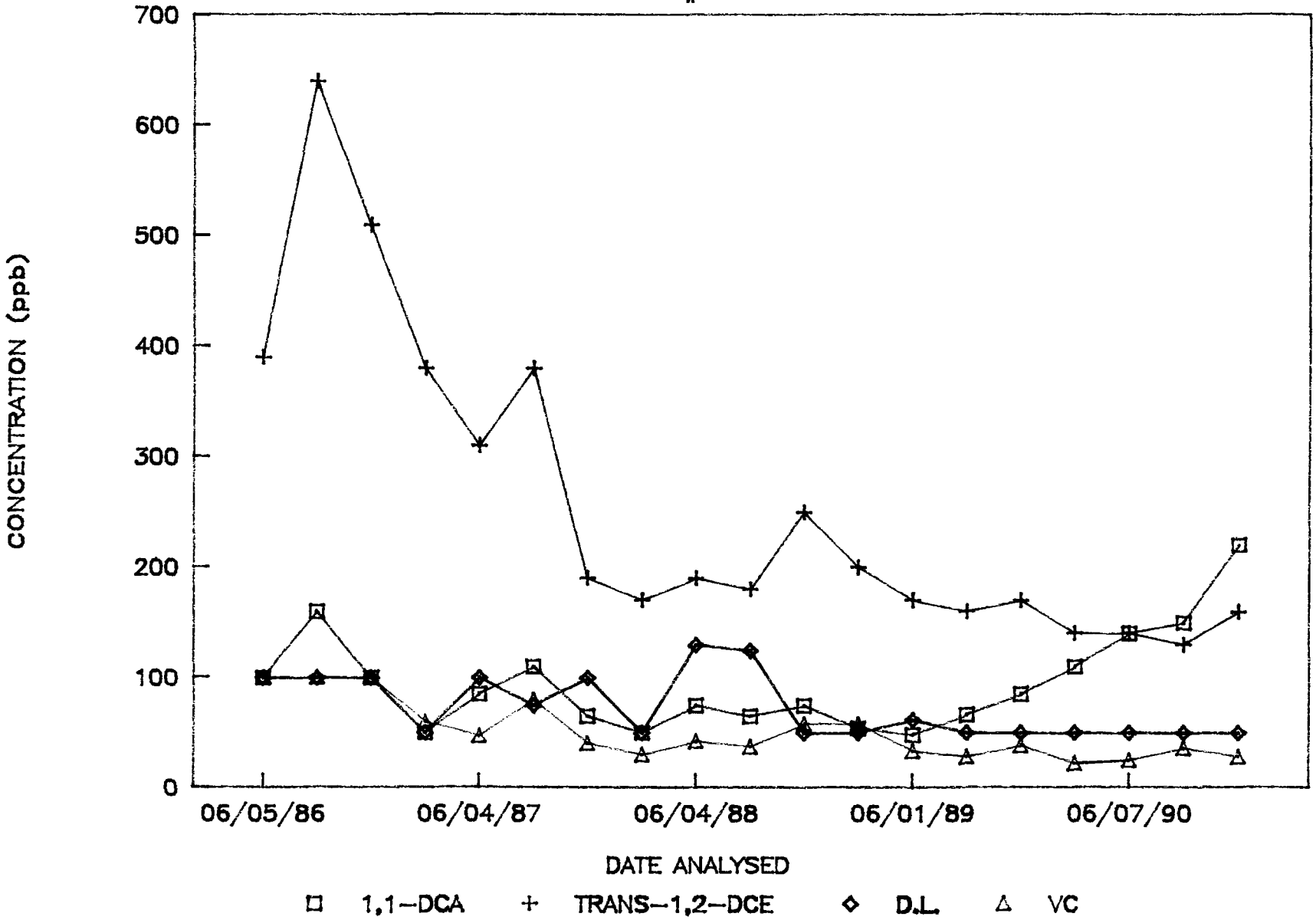
Updated: 30-Jan-91
04:22 PM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	06/05/86	ND	ND	390	ND	2300	ND	100
09	09/05/86	160	ND	640	ND	3400	ND	100
12	12/09/86	ND	ND	510	ND	2800	ND	100
15	03/05/87	ND	ND	380	ND	2200	60	50
18	06/04/87	85	ND	310	ND	2000	47	100
21	09/03/87	110	ND	380	ND	2000	80	75
24	12/04/87	65	ND	190	ND	1200	40	100
27	03/05/88	50	ND	170	ND	1300	30	50
30	06/04/88	75J	ND	190	ND	ND*	42	130
33	09/13/88	65J	ND	180	ND	1300	37	125
36	12/01/88	75	ND	250	ND	2200	58	50
39	03/01/89	54	ND	200	ND	1600	58	50
42	06/07/89	48J	ND	170	ND	1100	33	62
45	09/12/89	66	ND	160	ND	1100	28	50
48	12/06/89	85	ND	170	ND	960	38	50
51	03/05/90	110	ND	140	ND	890	22	50
54	06/07/90	140	ND	140	ND	1000	25	50
57	09/07/90	150	ND	130	ND	970	36	50
60	12/05/90	220	ND	160	ND	1200	28	50

NOTES:
ND - NOT DETECTED/BELOW DETECTION LIMIT
J- ESTIMATED CONCENTRATION, PRESENT BELOW MDL

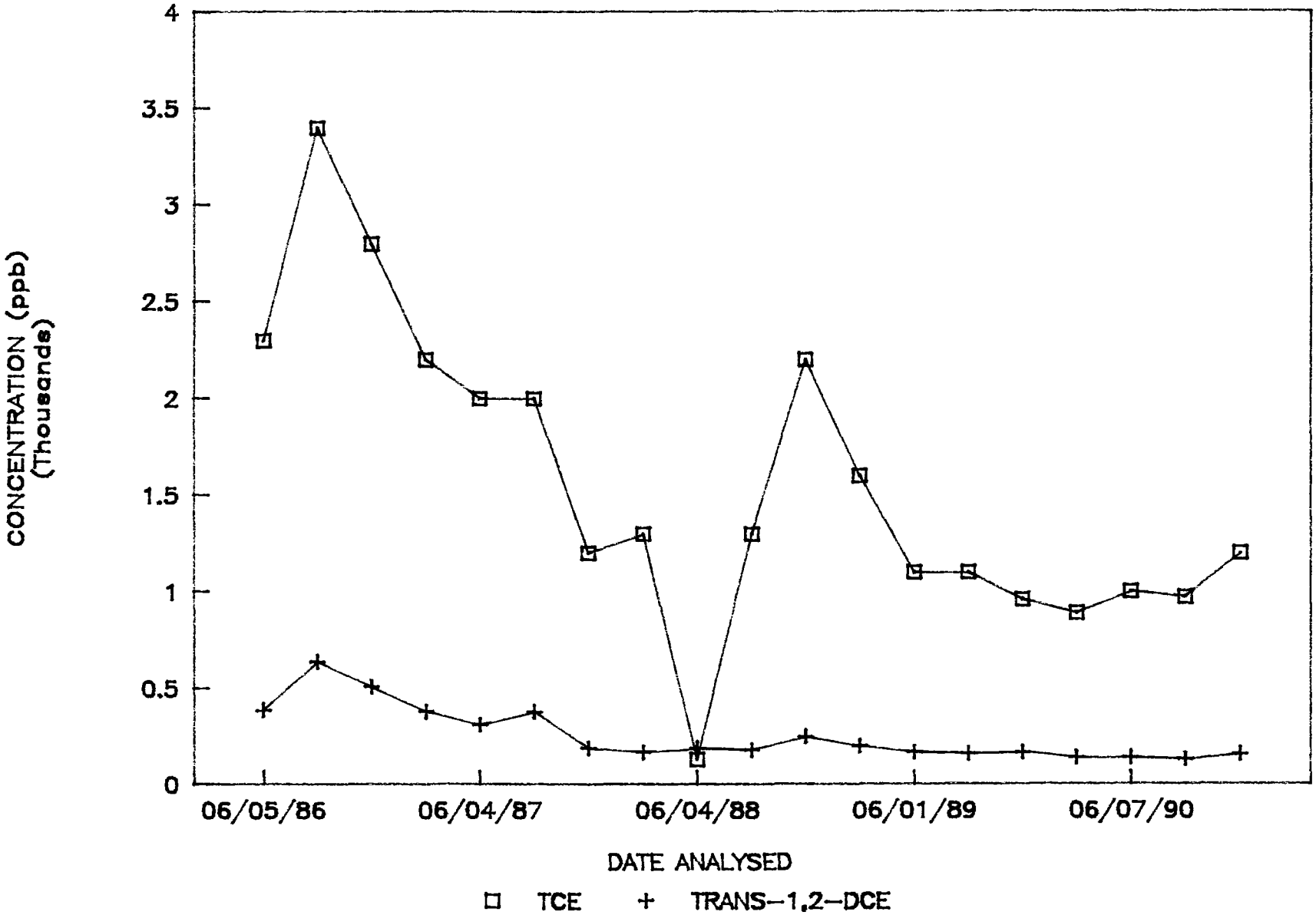
EKCO HOUSEWARES

WELL#: R-2



EKCO HOUSEWARES

WELL#: R-2



EKCO HOUSEWARES

WELL #: R-3

Updated: 30-Jan-91
04:23 PM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	06/04/86	4J	ND	ND	3J	2J	ND	10
09	09/05/86	27	ND	ND	52	14	ND	10
12	12/09/86	16	ND	ND	14	4J	ND	10
15	03/04/87	22	2	ND	23	4	ND	1
18	06/04/87	13	ND	ND	11	2	ND	1
21	09/03/87	21	2	ND	18	4	ND	1
24	12/04/87	28	3	ND	26	7	ND	1
27	03/05/88	13	1	ND	9	3	ND	1
30	06/04/88	12	1	ND	7	4	ND	1
33	09/13/88	39	3J	ND	22	8	ND	5
36	12/01/88	60	6	ND	30	20	ND	5
39	03/01/89	73	ND	7	33	15	ND	5
42	06/12/89	76	4J	ND	27	12	ND	5
45	09/13/89	63	5	ND	23	13	ND	5
48	12/06/89	75	7	ND	32	13	ND	5
51	03/05/90	50	2J	ND	17	8	ND	5
54	06/07/90	38	ND	ND	11	6	ND	5
57	09/07/90	49	ND	3J	12	12	ND	5
60	12/12/90	66	ND	ND	19	15	ND	5

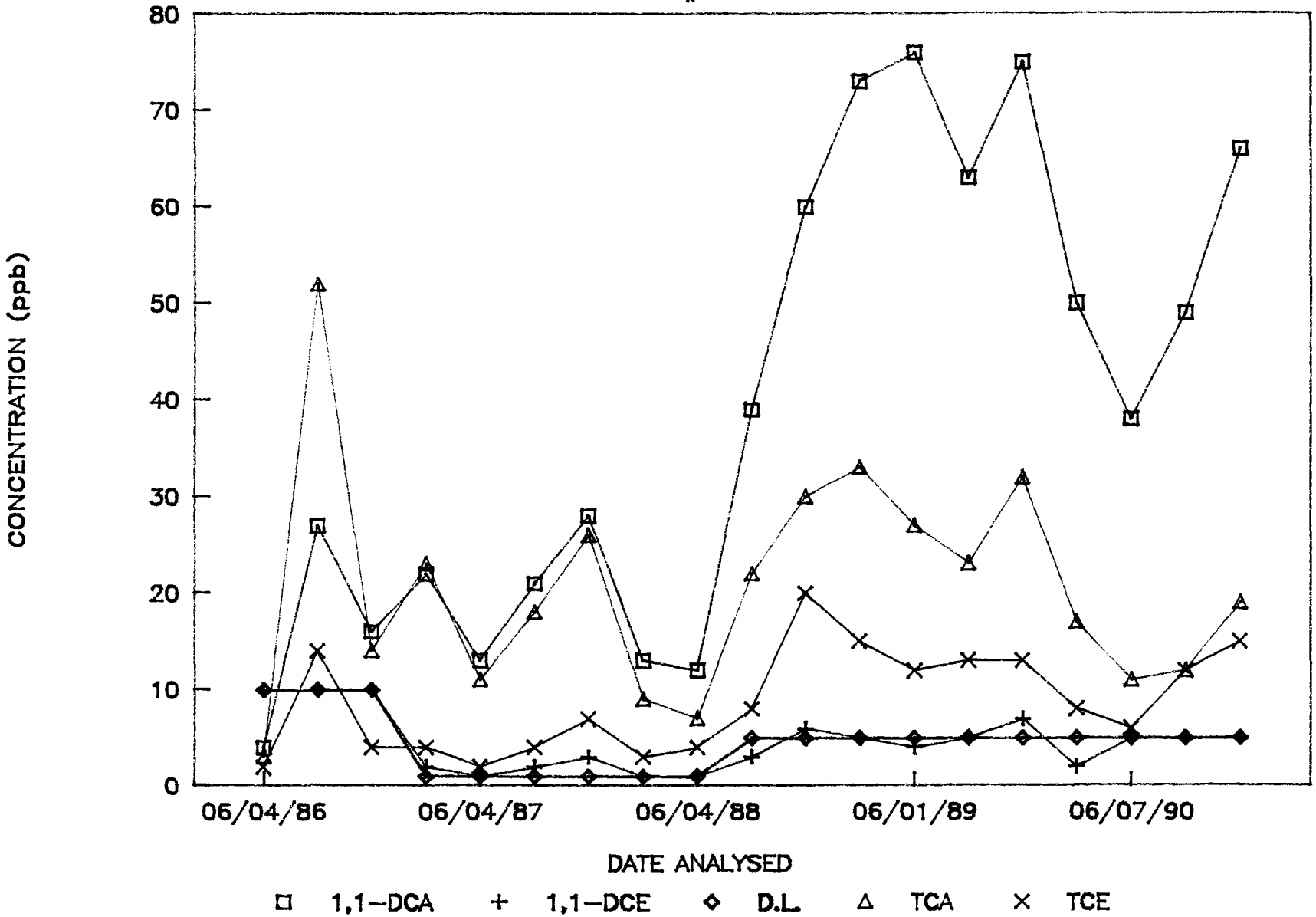
NOTES:

ND - NOT DETECTED/ BELOW DETECTION LIMIT

J - ESTIMATED CONCENTRATION PRESENT BELOW MDL

EKCO HOUSEWARES

WELL#: R-3



EKCO HOUSEWARES

WELL #: R-4

Updated: 30-Jan-91
04:24 PM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	06/04/86	ND	ND	ND	ND	ND	ND	10
09	09/05/86	ND	ND	ND	ND	ND	ND	10
12	12/09/86	ND	ND	ND	ND	ND	ND	10
15	03/04/87	2	ND	ND	ND	ND	ND	1
18	06/05/87	2	ND	ND	ND	ND	ND	1
21	09/03/87	2	ND	ND	ND	ND	ND	1
24	12/04/87	2	ND	ND	ND	ND	ND	1
27	03/05/88	2	ND	ND	ND	ND	ND	1
30	06/04/88	2	ND	ND	ND	ND	1	1
33	09/13/88	ND	ND	ND	ND	ND	0.8J	5
36	12/01/88	ND	ND	ND	ND	ND	ND	5
39	03/01/89	ND	ND	ND	ND	ND	ND	5
42	06/09/89	2J	ND	ND	ND	ND	2	5
45	09/12/89	ND	ND	ND	ND	ND	ND	5
48	12/06/89	ND	ND	ND	ND	ND	ND	5
51	03/05/90	ND	ND	ND	ND	ND	ND	5
54	06/06/90	ND	ND	ND	ND	ND	2	5
57	09/07/90	ND	ND	ND	ND	ND	3	5
60	12/05/90	ND	ND	ND	ND	ND	2	5

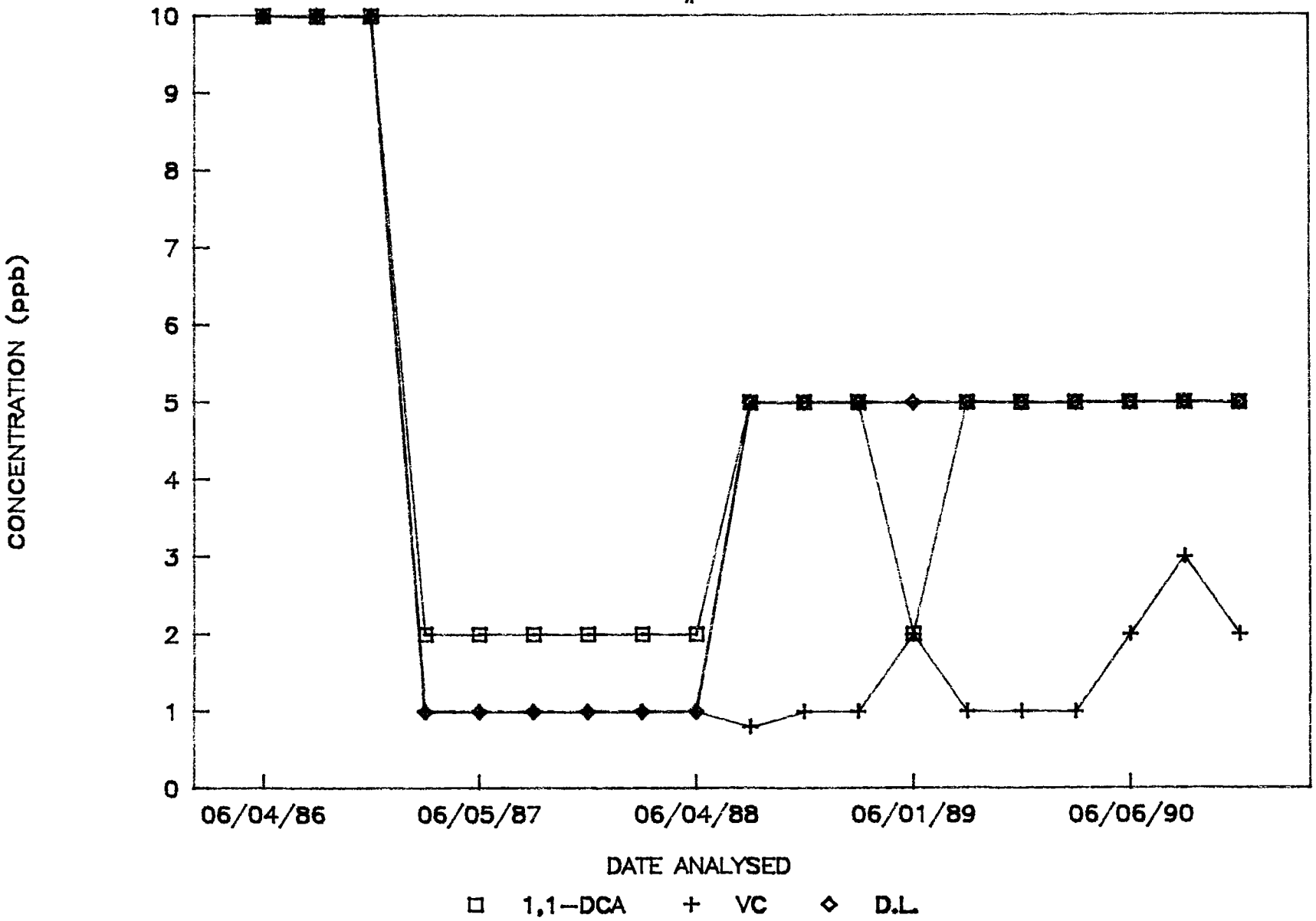
NOTES:

ND - NOT DETECTED/BELOW DETECTION LIMIT

J - ESTIMATED CONCENTRATION PRESENT BELOW MDL.

EKCO HOUSEWARES

WELL#: R-4



M&E

Metcalf & Eddy

February 8, 1990

Ms. Sally Averill, 5HR-12
RCRA Enforcement Section
U.S. Environmental Protection Agency
230 S. Dearborn
Chicago, IL 60604

Subject: EKCO Housewares Ground Water Data
TES X Work Assignment R05031

Dear Sally:

Enclosed are summary tables that include the data you sent me. I still need the monthly data for January through May, 1989 and ~~July~~, 1989. When I receive this data, I will be able to plot new graphs and provide new statistical estimates on the length of time it will take concentrations of contaminants to reach MCL's at current pumping rates.

Please call me at (614) 890-5501 if you have any questions or comments.

Sincerely,

James P. Strayton
Contract Project Manager

Enclosures

2800 Corporate Exchange Drive, Suite 250, Columbus, OH 43231
Telephone: 614-890-5501 — FAX: 614-890-7421

Affiliate of Air & Water Technologies Corporation

Metcalf & Eddy

TES X
111 W. Jackson Blvd., 15th Floor
Chicago, IL 60604
Tel: (312) 427-7433
Fax: (312) 427-3283

February 20, 1990

Ms. Sally Averill
Work Assignment Manager
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, IL 60604

RE: Work Assignment No. R05031 - Ekco Housewares Ground Water Data Summary Tables

Dear Ms. Averill:

Enclosed is a letter from Mr. Jim Strayton and ground water data summary tables regarding the Ekco Housewares site, Work Assignment No. R05031.

If you have any questions, please contact either Jim Strayton at (614)890-5501, or me at (312)427-8752.

Sincerely,

METCALF & EDDY

Susan Lorenz
Senior Environmental Scientist

SL/iso

Enclosure

cc: F. Norling

EKCO HOUSEWARES
WELL #: SOUTH WELL

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	140	39	21	560	580	ND	10
07	06/05/86	86	ND	ND	310	360	ND	30
08	07/15/86	140	27	25	370	400	ND	10
09	08/12/86	120	ND	ND	230	180	ND	30
10	09/05/86	150	33	ND	360	350	ND	30
11	10/08/86	120	20	18	250	280	ND	10
11a	11/11/86	130	29	16	290	320	ND	5
12	12/09/86	160	19	18	300	320	ND	10
13	01/16/87	180	ND	13	260	220	ND	10
14*	02/03/87	120	17	20	240	280	3	10
15	03/05/87	150	16	20	190	200	1	10
16	04/09/87	140	19	21	210	180	1	10
17	05/04/87	110	13	12	160	200	2	10
18	06/04/87	140	20	22	200	230	2	20
19	07/08/87	95	11J	ND	140	210	2	20
20	08/04/87	130	17J	14J	150	180	2	25
21	09/03/87	140	16J	18J	140	150	2	25
22	10/02/87	140	14J	20J	150	150	ND	25
23	11/06/87	110	23J	23J	180	220	1	25
24	12/04/87	110	10J	13J	120	170	2	25
25	01/06/88	140	21J	30	96	170	1	25
26	02/04/88	95	9J	15	87	140	ND	15
27	03/05/88	84	11J	16J	88	130	1	25
28	04/11/88	150	20	20	78	120	1	13
29	05/11/88	110	ND	10J	59	160	2	25
30	06/04/88	79B	12J	11J	38	77	1	25
31	07/30/88	73	7	9	31	70	ND	5
32	08/01/88	51	6	8	30	64	ND	5
33	09/13/88	NO SAMPLE WAS COLLECTED FROM THIS WELL DURING THIS ROUND OF SAMPLING.						
34	11/01/88	47	3	7	13	59	ND	5
35	11/03/88	31	ND	4J	5	18	ND	5
36	12/01/88	40	4J	9	20	50	ND	5
37								
38								
39								
40								
41								
42	06/07/89	49	6	7	12	43	ND	5
43								
44	08/15/89	49	3J	8	7	29	ND	5
45	09/12/89	53	ND	6	13	43	ND	5
46	10/06/89	53	3J	6	14	44	ND	5
47	11/03/89	59	6	9	13	40	ND	5
48	12/06/89	60	5	9	16	44	ND	5

NOTES:

ND - Not Detected; Below Detection Limit.

J - Estimated concentration present below MDL.

11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

EKCO HOUSEWARES
WELL #: W-10

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	200	ND	8300	3500	ND	200
07	06/05/86	ND	ND	ND	7500	3300	ND	200
08	07/15/86	ND	ND	ND	7000	3400	ND	400
09	08/12/86	ND	ND	ND	6000	1800	ND	400
10	09/05/86	ND	ND	ND	8500	3600	ND	400
11	10/08/86	170	93	80	7800	3700	ND	80
11a	11/11/86	210	160	ND	11000	5100	ND	120
12	12/09/86	220	ND	ND	9200	3900	ND	100
13	01/16/87	ND	ND	ND	8400	3800	ND	100
14*	02/03/87	ND	ND	110	7500	3500	8	100
15	03/05/87	ND	ND	ND	6600	3000	4	100
16	04/09/87	170	ND	ND	7400	2800	6	100
17	05/04/87	ND	ND	ND	4800	2500	8	100
18	06/04/87	150	ND	ND	5600	2300	5	150
19	07/08/87	ND	ND	ND	4400	2400	8	200
20	08/04/87	120J	ND	ND	5300	2200	6	250
21	09/03/87	ND	ND	ND	6800	2700	8	250
22	10/01/87	170J	ND	ND	9300	2600	2	250
23	11/05/87	ND	ND	ND	7400	2700	6	250
24	12/04/87	ND	ND	ND	5500	2400	4	250
25	01/06/88	ND	ND	ND	4400	2200	4	250
26	02/04/88	100J	ND	ND	4800	2200	3	250
27	03/05/88	ND	ND	ND	5600	2100	6	250
28	04/11/88	ND	ND	ND	4000	1600	4	250
29	05/11/88	ND	100J	130J	8200	3000	15	250
30	06/04/88	ND	ND	ND	18000	4700	4	500
31	07/30/88	70J	ND	ND	2700	1300	10	130
32	08/01/88	60J	ND	ND	2600	1200	15	130
33	09/13/88	ND	ND	ND	2300	960	2	250
34	11/01/88	90J	110J	ND	2600	1100	5	120
35	11/03/88	62	ND	26J	1200	600	1	50
36	12/01/88	60	ND	ND	1400	980	7	50
37								
38								
39								
40								
41								
42	06/07/89	57	64	37J	1500	710	2	50
43								
44	08/15/89	65	66	48J	1400	790	ND	50
45	09/12/89	53	ND	ND	1200	570	1	42
46	10/12/89	69	52	48J	1300	580	2	50
47	11/03/89	83	72	56	1300	630	3	50
48	12/06/89	87	38J	52	1500	550	2	50

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration; present below MDL.

11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

220 ppb Dibromochloromethane estimated to be present in sample set 21.

EKCO HOUSEWARES
WELL #: Air Stripper Effluent

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	ND	ND	ND	ND	ND	10
07	06/04/86	ND	ND	ND	ND	3J	ND	10
08	07/15/86	ND	ND	ND	14	18	ND	10
09	08/13/86	ND	ND	ND	ND	ND	ND	10
10	09/05/86	ND	ND	ND	ND	ND	ND	1
11	10/08/86	ND	ND	ND	ND	6J	ND	10
11a	11/11/86	ND	ND	ND	ND	3	ND	1
12	12/09/86	ND	ND	ND	ND	ND	ND	10
13	01/16/87	ND	ND	ND	ND	7J	ND	10
14	02/03/87	ND	ND	ND	ND	7	ND	1
15	03/04/87	ND	ND	ND	ND	ND	ND	1
16	04/07/87	ND	ND	ND	ND	5	ND	1
17	05/04/87	ND	ND	ND	ND	ND	ND	1
18	06/04/87	ND	ND	ND	ND	ND	ND	1
19	07/08/87	ND	ND	ND	ND	36	ND	1
20	08/04/87	ND	ND	ND	4	3	ND	1
21	09/03/87	ND	ND	ND	ND	ND	ND	1
22	10/01/87	ND	ND	ND	ND	ND	ND	1
23	11/05/87	ND	ND	ND	ND	ND	ND	1
24	12/04/87	ND	ND	ND	ND	4	ND	1
25	01/06/88	ND	ND	ND	1	1	ND	1
26	02/04/88	ND	ND	ND	ND	2	ND	1
27	03/05/88	ND	ND	ND	ND	ND	ND	1
28	04/11/88	ND	ND	ND	ND	3	ND	1
29	05/11/88	ND	ND	ND	ND	1	ND	1
30	06/04/88	ND	ND	ND	ND	2	ND	1
31	07/30/88	ND	ND	ND	ND	2J	ND	5
32	08/01/88	ND	ND	ND	ND	5	ND	5
33	09/13/88	ND	ND	ND	ND	22	ND	5
34	11/01/88	ND	ND	ND	ND	ND	ND	5
35	11/03/88	ND	ND	ND	ND	5	ND	5
36	12/01/88	ND	ND	ND	ND	ND	ND	5
37								
38								
39								
40								
41								
42	06/07/89	ND	ND	ND	ND	6	ND	5
43								
44	08/15/89	ND	ND	3J	ND	6	ND	5
45	09/12/89	ND	ND	ND	ND	410	ND	17
46	10/12/89	ND	ND	ND	ND	ND	ND	5
47	11/03/89	ND	ND	ND	ND	4J	ND	5
48	12/06/89	ND	ND	ND	ND	11	ND	5

NOTES:
ND - Not detected.
J - Estimated concentration; detected below MDL.
* - from this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.
Toluene detected at 1 ppb in sample sets 19 and 21.
Toluene detected at 3 ppb in sample set 48.
Toluene detected at 6 ppb in sample set 28.

EKCO HOUSEWARES
WELL #: Outfall 001

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	ND	20	14	150	ND	10
07	06/04/86	ND	ND	ND	27	110	ND	10
08	07/15/86	ND	ND	9J	24	270	ND	10
09	08/13/86	ND	ND	ND	7J	73	ND	10
10	09/05/86	ND	ND	ND	ND	120	ND	10
11	10/03/86	ND	ND	49	91	530	ND	10
11a	11/11/86	ND	ND	2	5	35	ND	1
12	12/09/86	ND	ND	ND	26	43	ND	10
13	01/16/87	ND	ND	ND	ND	20	ND	10
14	02/03/87	ND	ND	ND	ND	22	ND	10
15	03/04/87	ND	ND	2	5	18	ND	1
16	04/11/87	ND	ND	ND	32	830	ND	20
17	05/12/87	ND	ND	ND	2	30	ND	1
18	06/05/87	ND	ND	7J	7J	150	ND	10
19	07/08/87	ND	ND	5J	5J	43	ND	1
20	08/04/87	ND	ND	9J	10J	390	ND	12
21	09/03/87	ND	ND	ND	ND	180	ND	25
22	10/01/87	ND	ND	8	4J	61	ND	5
23	11/05/87	ND	ND	13J	12J	1000	ND	25
24	12/04/87	ND	ND	5	6	150	ND	5
25	01/06/88	ND	ND	2	3	16	ND	1
26	02/04/88	ND	ND	5	11	38	ND	5
27	03/05/88	ND	ND	4J	8	23	ND	5
28	04/11/88	ND	ND	4J	28	47	ND	5
29	05/11/88	ND	ND	ND	ND	1	ND	5
30	06/04/88	ND	ND	4J	27	91	ND	5
31	07/30/88	ND	ND	4J	11	37	ND	5
32	08/01/88	ND	ND	3J	7	21	ND	5
33	09/13/88	ND	ND	ND	8J	90	ND	12
34	11/01/88	ND	ND	4J	4J	40	ND	5
35	11/03/88	ND	ND	ND	10	44	ND	5
36	12/01/88	ND	ND	ND	13	10	ND	5
37								
38								
39								
40								
41								
42	06/09/89	2J	ND	4J	20	11	ND	5
43								
44	08/15/89	ND	ND	ND	9	220	ND	5
45	09/12/89	ND	ND	ND	9	140	ND	5
46	10/12 89	ND	ND	3J	25	98	ND	5
47	11/03/89	ND	ND	3J	13	47	ND	5
48	12/06/89	ND	ND	3J	18	40	ND	5

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration present below MDL.

11a - there are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

EKCO HOUSEWARES
WELL #: R-1

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
07	06/05/86	ND	ND	66	63	690	ND	30
10	09/05/86	ND	ND	97	ND	730	ND	30
12	12/09/86	ND	ND	77	83	630	ND	20
15*	03/05/87	ND	ND	70	64	490	19	10
18	06/04/87	16	ND	77	97	590	25	15
21	09/03/87	18J	ND	78	100	500	28	25
24	12/04/87	11J	ND	53	71	500	15	25
27	03/05/88	13J	ND	67	100	490	20	25
30	06/04/88	22J	11J	82	130	550	29	25
33	09/13/88	27	ND	83	140	620	17	25
36	12/01/88	30	ND	91	150	710	37	25
39	03/ /89							
42	06/07/89	R-1 ANALYTICAL DATA NOT INCLUDED IN DATA PACKAGE						
45	09/12/89	R-1 ANALYTICAL DATA NOT INCLUDED IN DATA PACKAGE						
48	12/06/89	30	13J	82	140	650	29	17

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration present below MDL.

* - From this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

EKCO HOUSEWARES
WELL #: R-2

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	06/05/86	ND	ND	390	ND	2300	ND	100
09	09/05/86	160	ND	640	ND	3400	ND	100
12	12/09/86	ND	ND	510	ND	2800	ND	100
15	03/05/87	ND	ND	380	ND	2200	60	50
18	06/04/87	85	ND	310	ND	2000	47	100
21	09/03/87	110	ND	380	ND	2000	80	75
24	12/04/87	65	ND	190	ND	1200	40	100
27	03/05/88	50	ND	170	ND	1300	30	50
30	06/04/88	75J	ND	190	ND	ND*	42	130
33	09/13/88	65J	ND	180	ND	1300	37	125
36	12/01/88	75	ND	250	ND	2200	58	50
39	03/ /89							
42	06/07/89	48J	ND	170	ND	1100	33	62
45	09/12/89	66	ND	160	ND	1100	28	50
48	12/06/89	85	ND	170	ND	960	38	50

NOTES:
ND - NOT DETECTED/BELOW DETECTION LIMIT
J- ESTIMATED CONCENTRATION, PRESENT BELOW MDL

EKCO HOUSEWARES
WELL #: R-3

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	06/04/86	4J	ND	ND	3J	2J	ND	10
09	09/05/86	27	ND	ND	52	14	ND	10
12	12/09/86	16	ND	ND	14	4J	ND	10
15	03/04/87	22	2	ND	23	4	ND	1
18	06/04/87	13	ND	ND	11	2	ND	1
21	09/03/87	21	2	ND	18	4	ND	1
24	12/04/87	28	3	ND	26	7	ND	1
27	03/05/88	13	1	ND	9	3	ND	1
30	06/04/88	12	1	ND	7	4	ND	1
33	09/13/88	39	3J	ND	22	8	ND	5
36	12/01/88	60	6	ND	30	20	ND	5
39	03/ /89							
42	06/12/89	76	4J	ND	27	12	ND	5
45	09/13/89	63	5	ND	23	13	ND	5
48	12/06/89	75	7	ND	32	13	ND	5

NOTES:
ND - NOT DETECTED/ BELOW DETECTION LIMIT
J - ESTIMATED CONCENTRATION PRESENT BELOW MDL

EKCO HOUSEWARES
WELL #: R-4

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	06/04/86	ND	ND	ND	ND	ND	ND	10
09	09/05/86	ND	ND	ND	ND	ND	ND	10
12	12/09/86	ND	ND	ND	ND	ND	ND	10
15	03/04/87	2	ND	ND	ND	ND	ND	1
18	06/05/87	2	ND	ND	ND	ND	ND	1
21	09/03/87	2	ND	ND	ND	ND	ND	1
24	12/04/87	2	ND	ND	ND	ND	ND	1
27	03/05/88	2	ND	ND	ND	ND	ND	1
30	06/04/88	2	ND	ND	ND	ND	1	1
33	09/13/88	ND	ND	ND	ND	ND	0.8J	5
36	12/01/88	ND	ND	ND	ND	ND	ND	5
39	03/ /88							
42	06/09/89	2J	ND	ND	ND	ND	2	5
45	09/12/89	ND	ND	ND	ND	ND	ND	5
48	12/06/89	ND	ND	ND	ND	ND	ND	5

NOTES:
ND - NOT DETECTED/BELOW DETECTION LIMIT
J - ESTIMATED CONCENTRATION PRESENT BELOW MDL.

EKCO HOUSEWARES
TOTAL VOC's: SOUTH WELL

SAMPLING EVENT	DATE ANALYSED	TOTAL VOC's
05	05/08/86	1340
06	06/05/86	756
07	07/15/86	910
08	08/12/86	530
09	09/05/86	873
10	10/08/86	688
11	11/11/86	785
12	12/09/86	817
13	01/16/87	673
14	02/03/87	680
15	03/05/87	577
16	04/09/87	571
17	05/04/87	497
18	06/04/87	614
19	07/08/87	458
20	08/04/87	493
21	09/03/87	466
22	10/01/87	474
23	11/06/87	557
24	12/04/87	425
25	01/06/88	458
26	02/05/88	346
27	03/05/88	330
28	04/07/88	389
29	05/08/88	341
30	06/04/88	218
31	07/30/88	190
32	08/01/88	159
33	09/13/88	NS
34	11/08/88	129
35	11/12/88	58
36	12/07/88	123
37	01/ /89	
38	02/ /89	
39	03/ /89	
40	04/ /89	
41	05/ /89	
42	06/07/89	117
43	07/ /89	
44	08/15/89	87
45	09/12/89	115
46	10/05/89	120
47	11/03/89	127
48	12/14/89	134

EKCO HOUSEWARES
TOTAL VOC's: WELL W-10

SAMPLING EVENT	DATE ANALYSED	TOTAL VOC's
05	05/08/86	12000
06	06/05/86	10800
07	07/15/86	10400
08	08/12/86	7800
09	09/05/86	12100
10	10/08/86	11843
11	11/11/86	16470
12	12/09/86	13320
13	01/16/87	12200
14	02/03/87	11118
15	03/05/87	9604
16	04/09/87	10376
17	05/04/87	7308
18	06/04/87	8055
19	07/08/87	6808
20	08/04/87	7626
21	09/03/87	9728
22	10/01/87	12072
23	11/06/87	10106
24	12/04/87	7904
25	01/06/88	6604
26	02/05/88	7103
27	03/05/88	7706
28	04/11/88	5604
29	05/11/88	11445
30	06/04/88	22704
31	07/30/88	4080
32	08/01/88	3875
33	09/13/88	3262
34	11/08/88	3905
35	11/12/88	1889
36	12/07/88	2447
37	01/ /89	
38	02/ /89	
39	03/ /89	
40	04/ /89	
41	05/ /89	
42	06/07/89	2370
43	07/ /89	
44	08/15/89	2369
45	09/12/89	1824
46	10/12/89	2051
47	11/03/89	2144
48	21/06/89	2229

EKCO HOUSEWARES
TOTAL VOC's: OUTFALL

SAMPLING EVENT	DATE ANALYSED	TOTAL VOC's
05	05/08/86	184
06	06/05/86	137
07	07/15/86	303
08	08/12/86	80
09	09/05/86	120
10	10/08/86	670
11	11/11/86	42
12	12/09/86	69
13	01/16/87	20
14	02/03/87	22
15	03/05/87	25
16	04/09/87	862
17	05/04/87	32
18	06/04/87	164
19	07/08/87	53
20	08/04/87	409
21	09/03/87	180
22	10/01/87	73
23	11/06/87	1025
24	12/04/87	161
25	01/06/88	21
26	02/05/88	54
27	03/05/88	35
28	04/07/88	79
29	05/11/88	12
30	06/04/88	122
31	07/30/88	52
32	08/01/88	31
33	09/13/88	22
34	11/08/88	48
35	11/12/88	54
36	12/07/88	23
37		
38		
39		
40		
41		
42	06/09/89	37
43		
44	08/15/89	229
45	09/12/89	149
46	10/12/89	126
47	11/03/89	63
48	12/06/89	61

M&E

Metcalf & Eddy

February 8, 1990

RECEIVED
FEB 11 1991
OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V

Ms. Sally Averill
U.S. Environmental Protection Agency
Region V, 5HR-12
230 South Dearborn St.
Chicago, IL 60604

SUBJECT: Monthly Ground Water Summary for Ekco Housewares; TES X Work Assignment R05031.

Dear Sally:

Enclosed is one copy of the monthly ground water database for Ekco Housewares thru January, 1991. Included with the summary tables are graphs that illustrate the changes in contaminant concentrations with time.

If you have any questions or comments concerning the data or any other aspect of this project please call me at (614) 890-5501.

Sincerely,

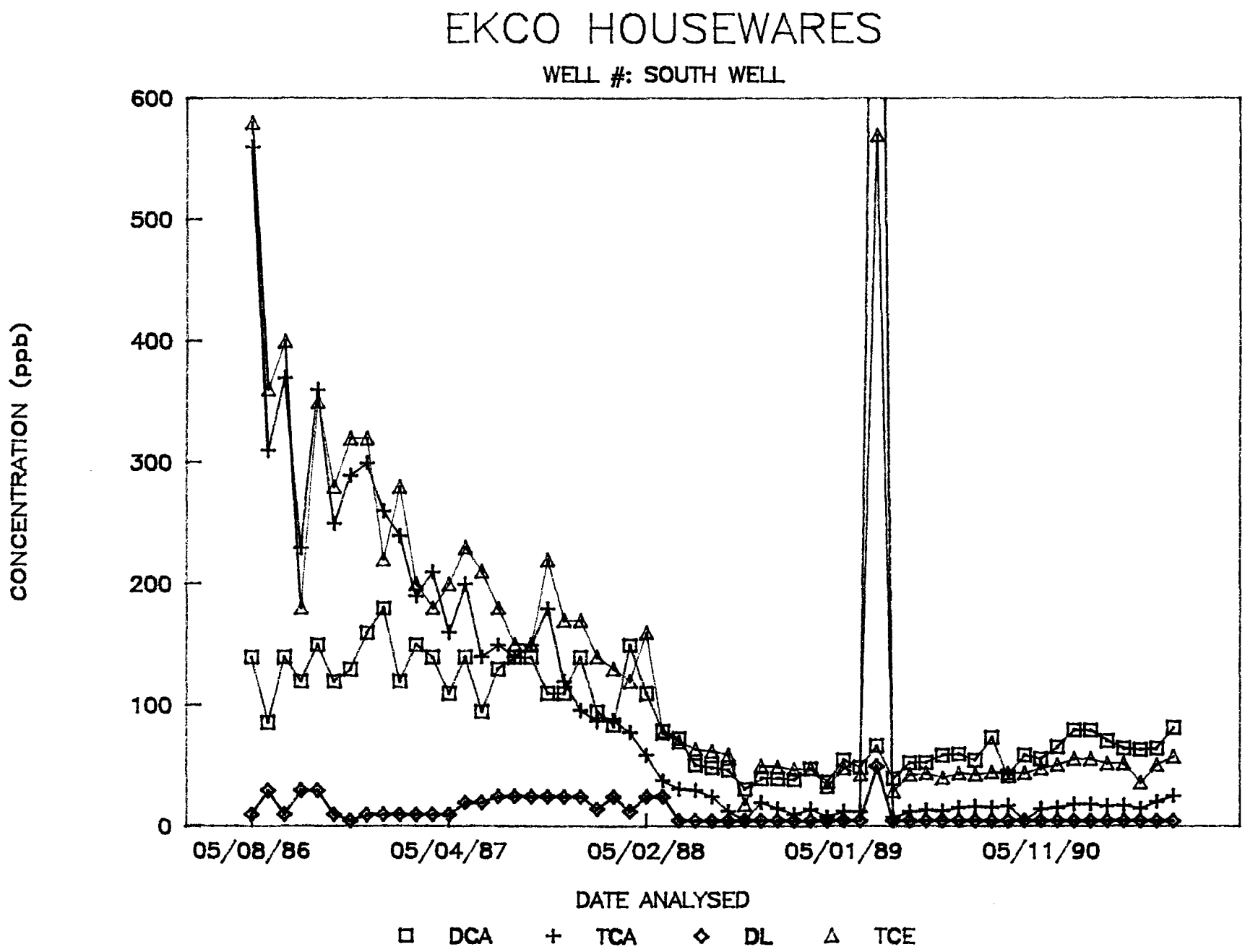
James P. Strayton
Contractor Project Manager

cc: T. Lentzen
TES X file

Recycled Paper

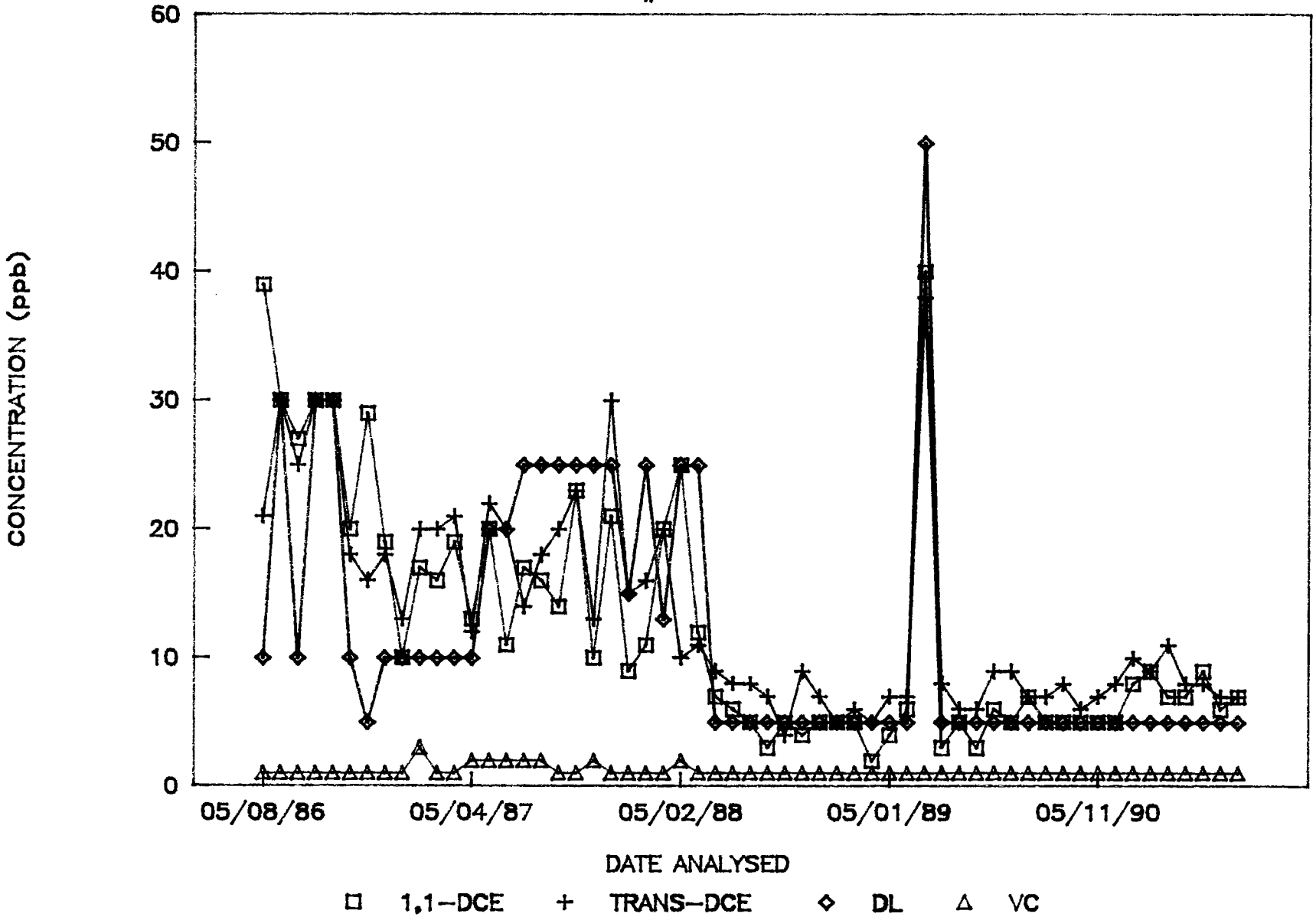
2800 Corporate Exchange Drive, Suite 250, Columbus, OH 43231
Telephone: 614 890-5501—FAX: 614 890-7421

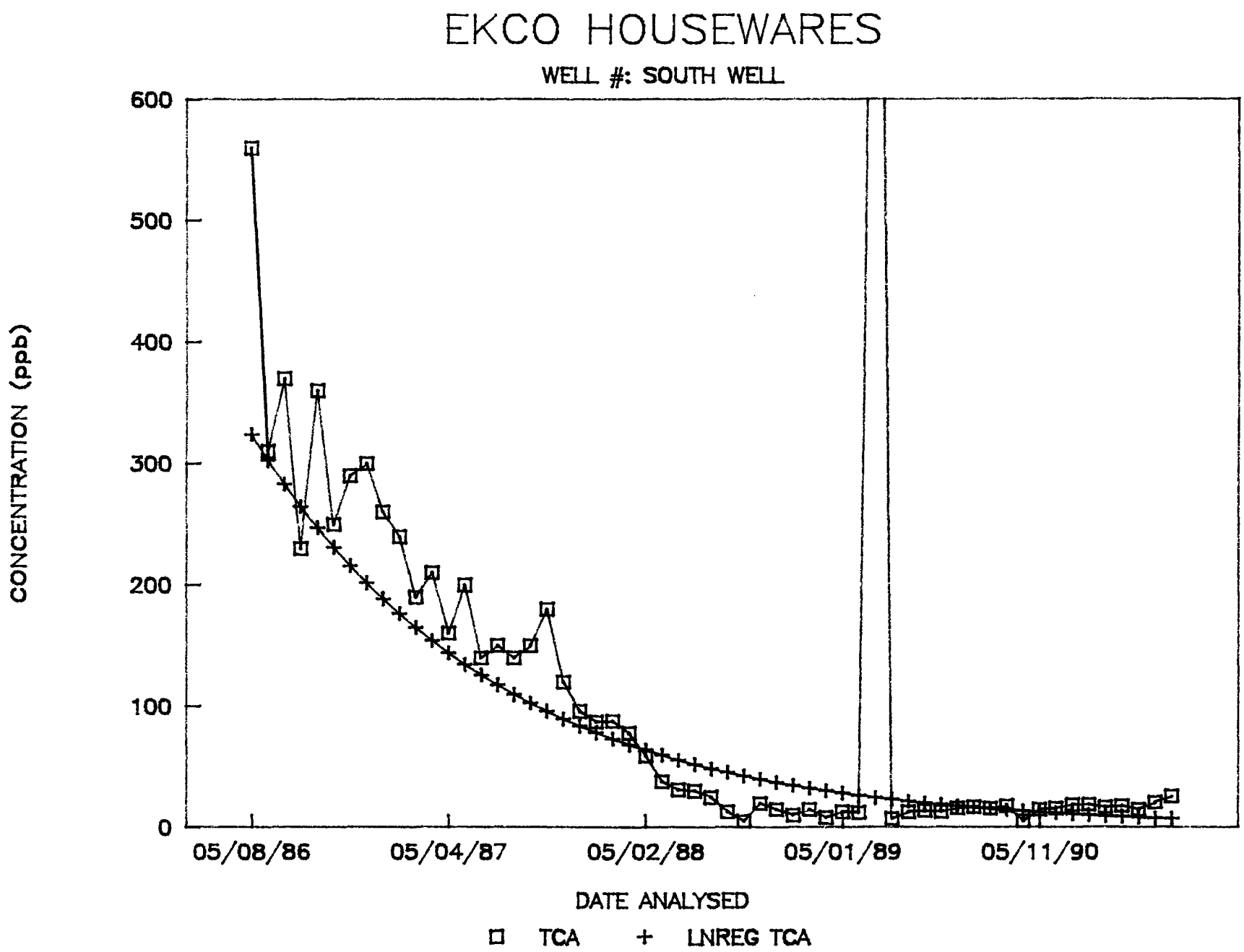
AWT Affiliates of Air & Water Technologies Corporation


EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
05/08/86
05/04/87
05/02/88
05/01/89
05/11/90
DATE ANALYSED
DCA
TCA
DL
TCE

EKCO HOUSEWARES

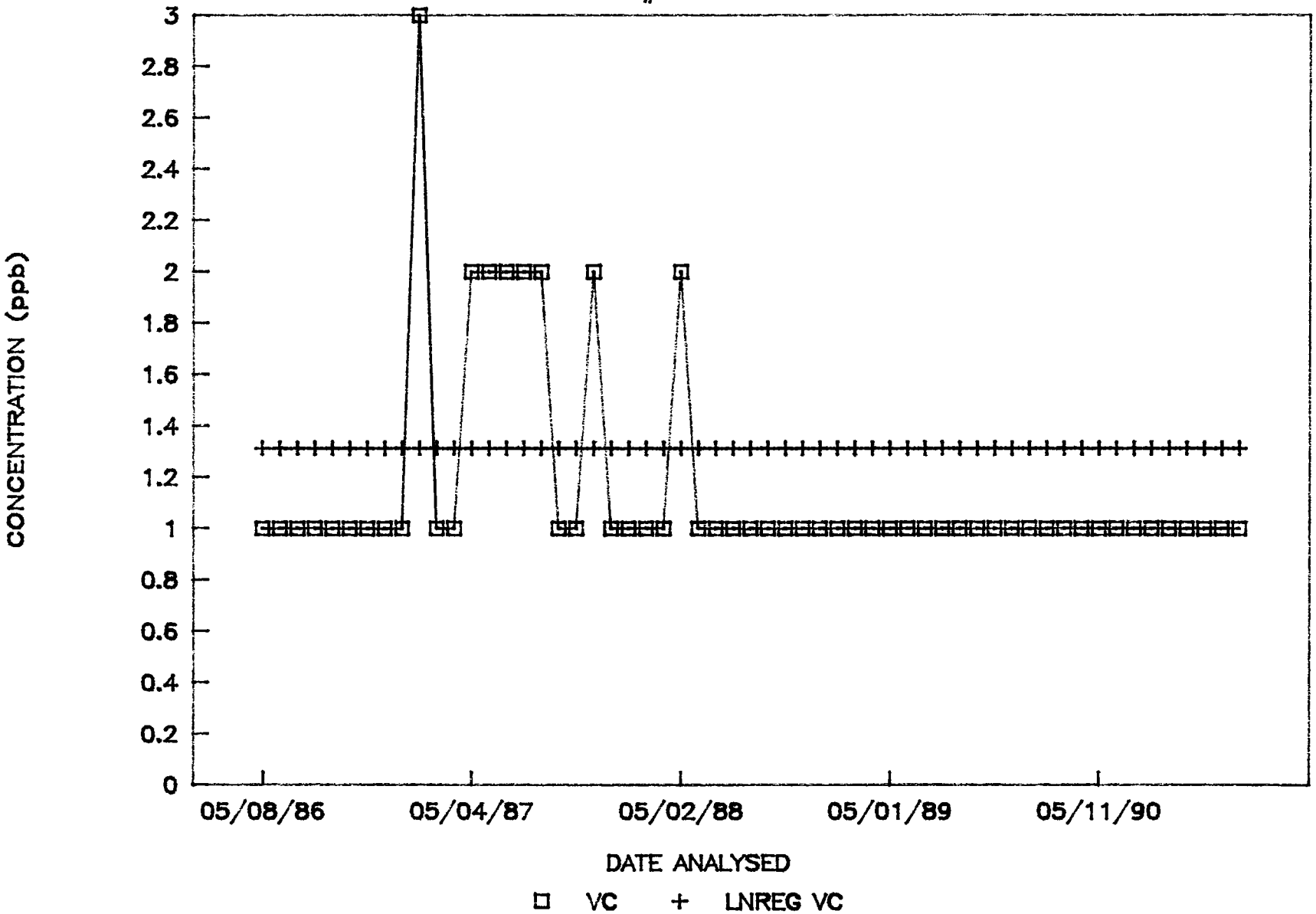
WELL #: SOUTH WELL

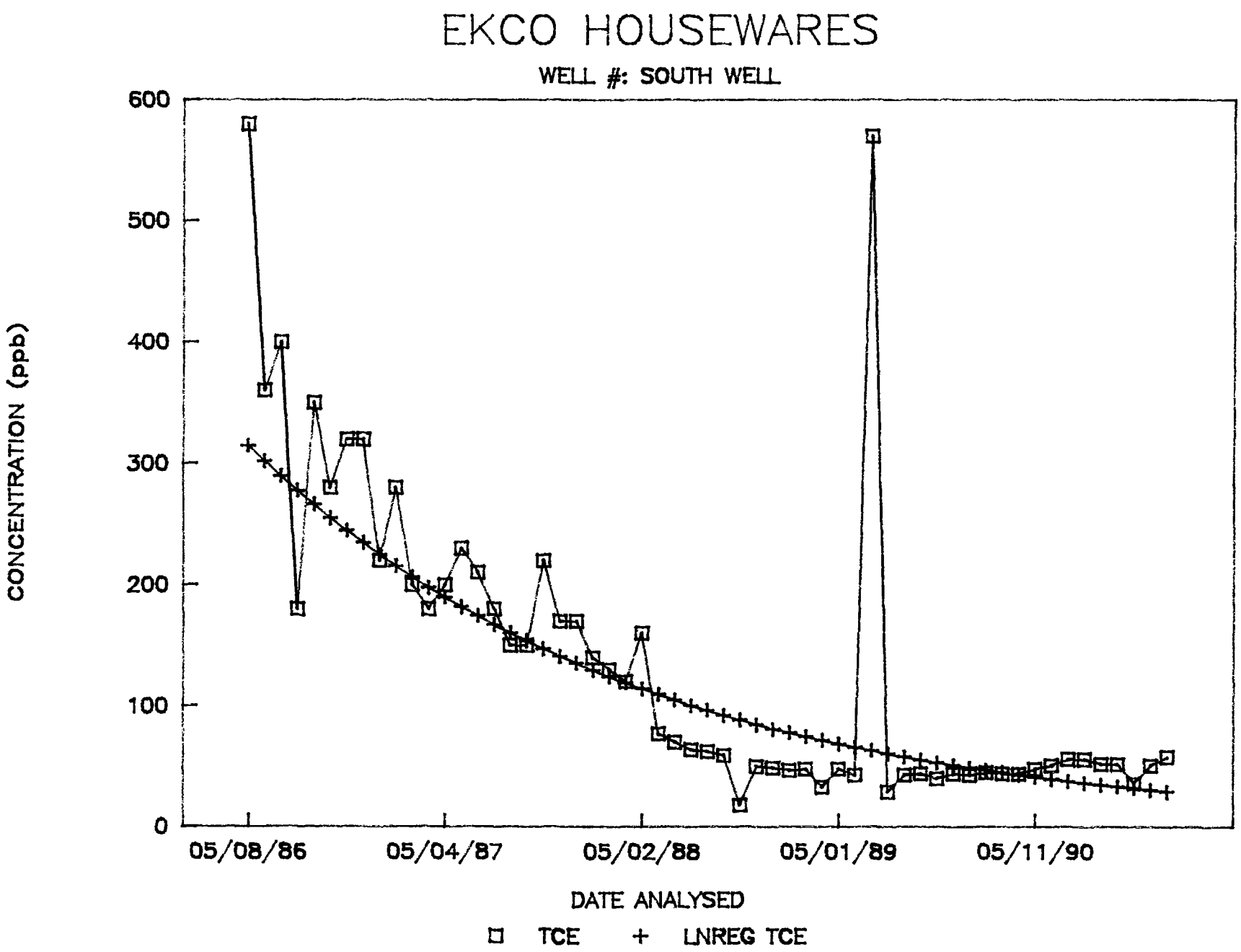



EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
05/08/86
05/04/87
05/02/88
05/01/89
05/11/90
DATE ANALYSED
TCA
LNREG TCA

EKCO HOUSEWARES

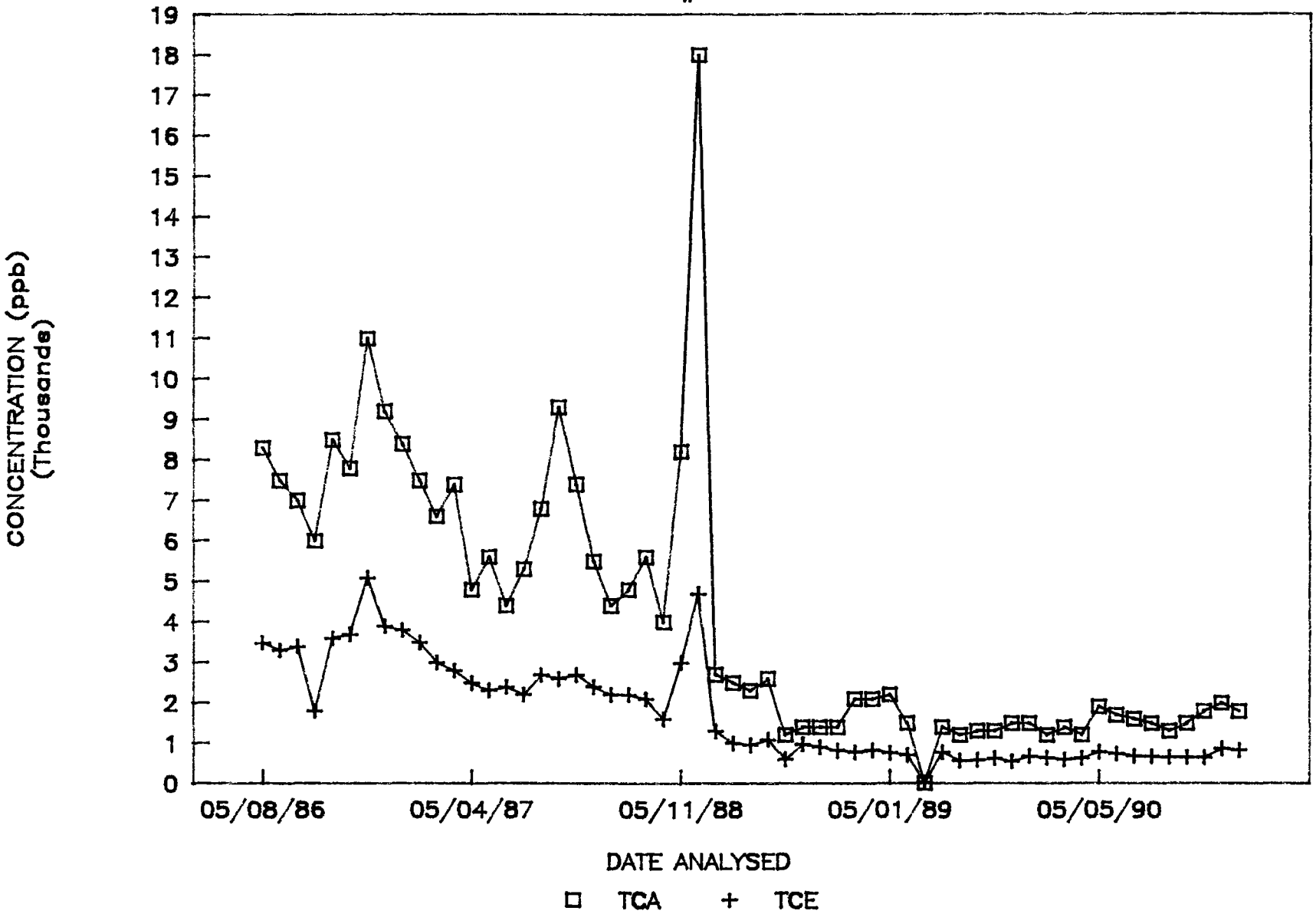
WELL #: SOUTH WELL




EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
05/08/86
05/04/87
05/02/88
05/01/89
05/11/90
DATE ANALYSED
TCE
LNREG TCE

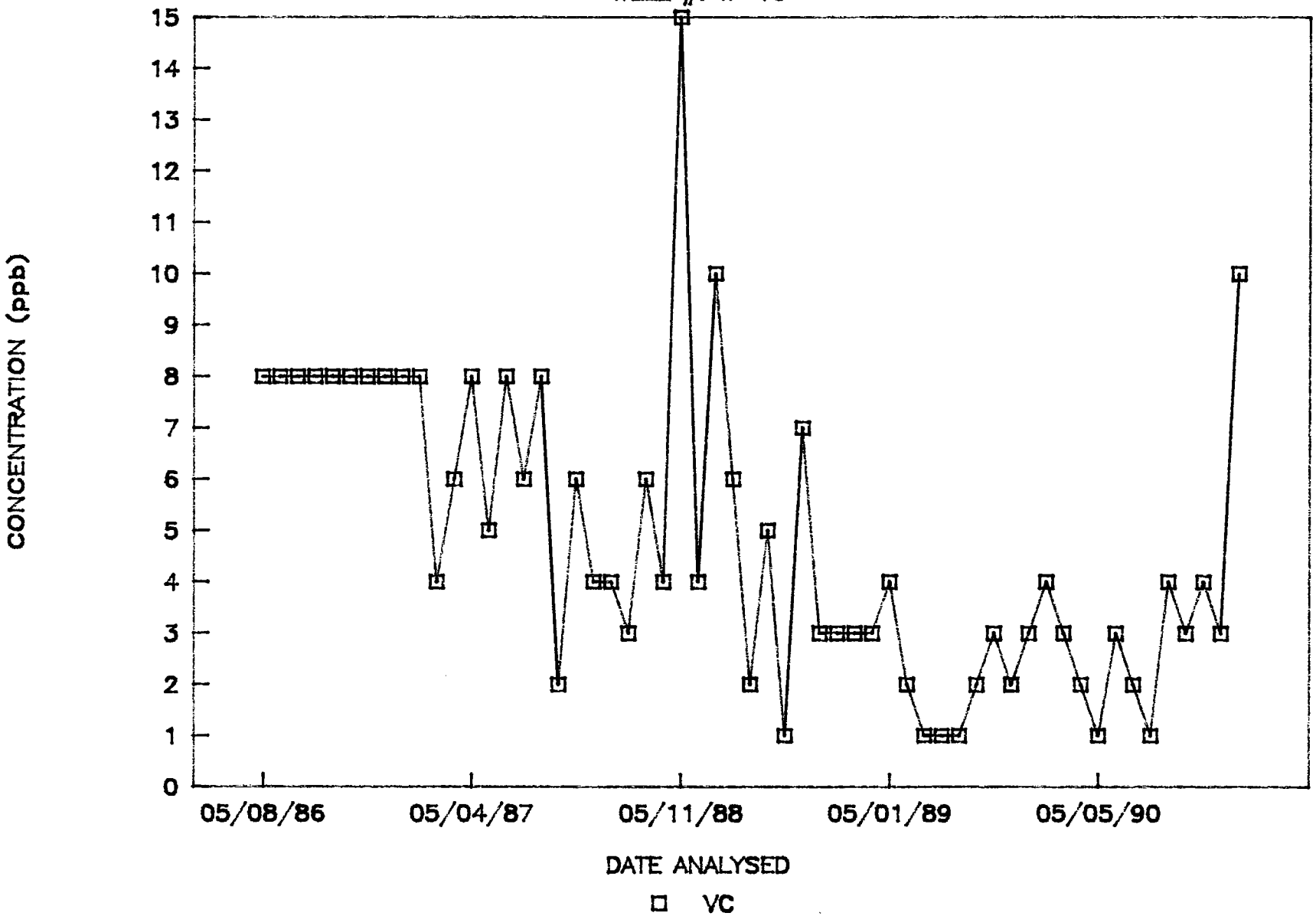
EKCO HOUSEWARES

WELL #: W-10



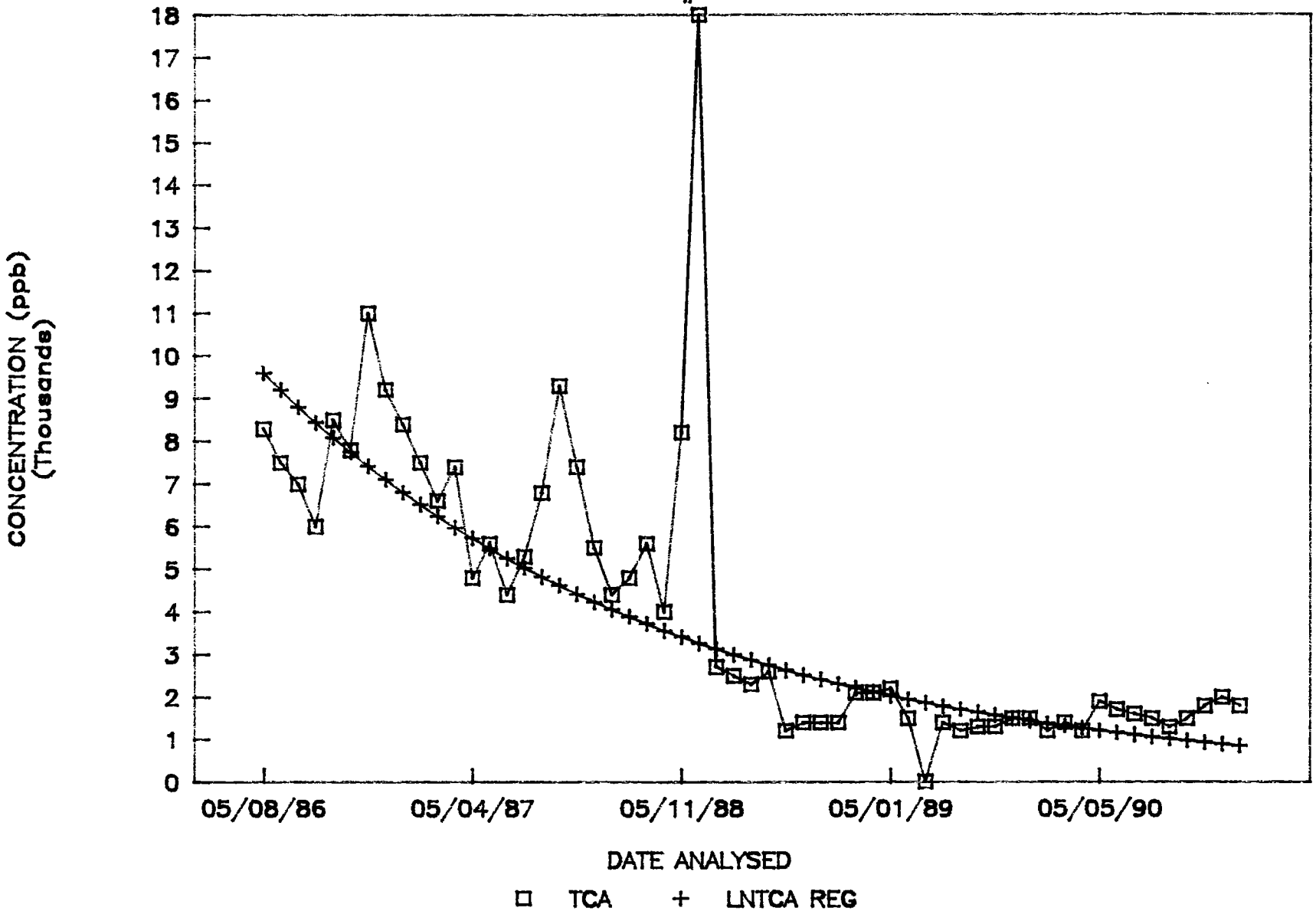
EKCO HOUSEWARES

WELL #: W-10



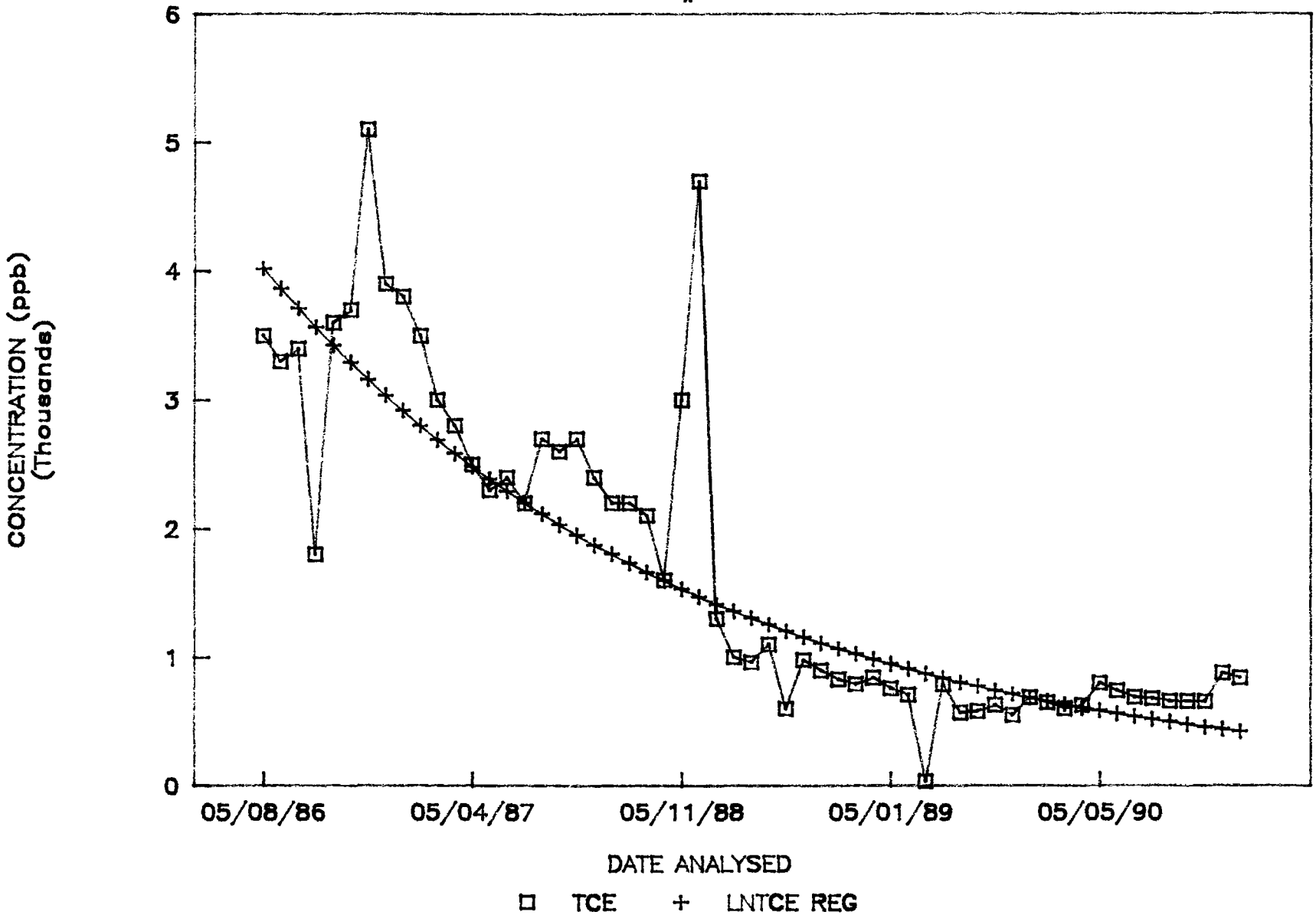
EKCO HOUSEWARES

WELL #: W-10



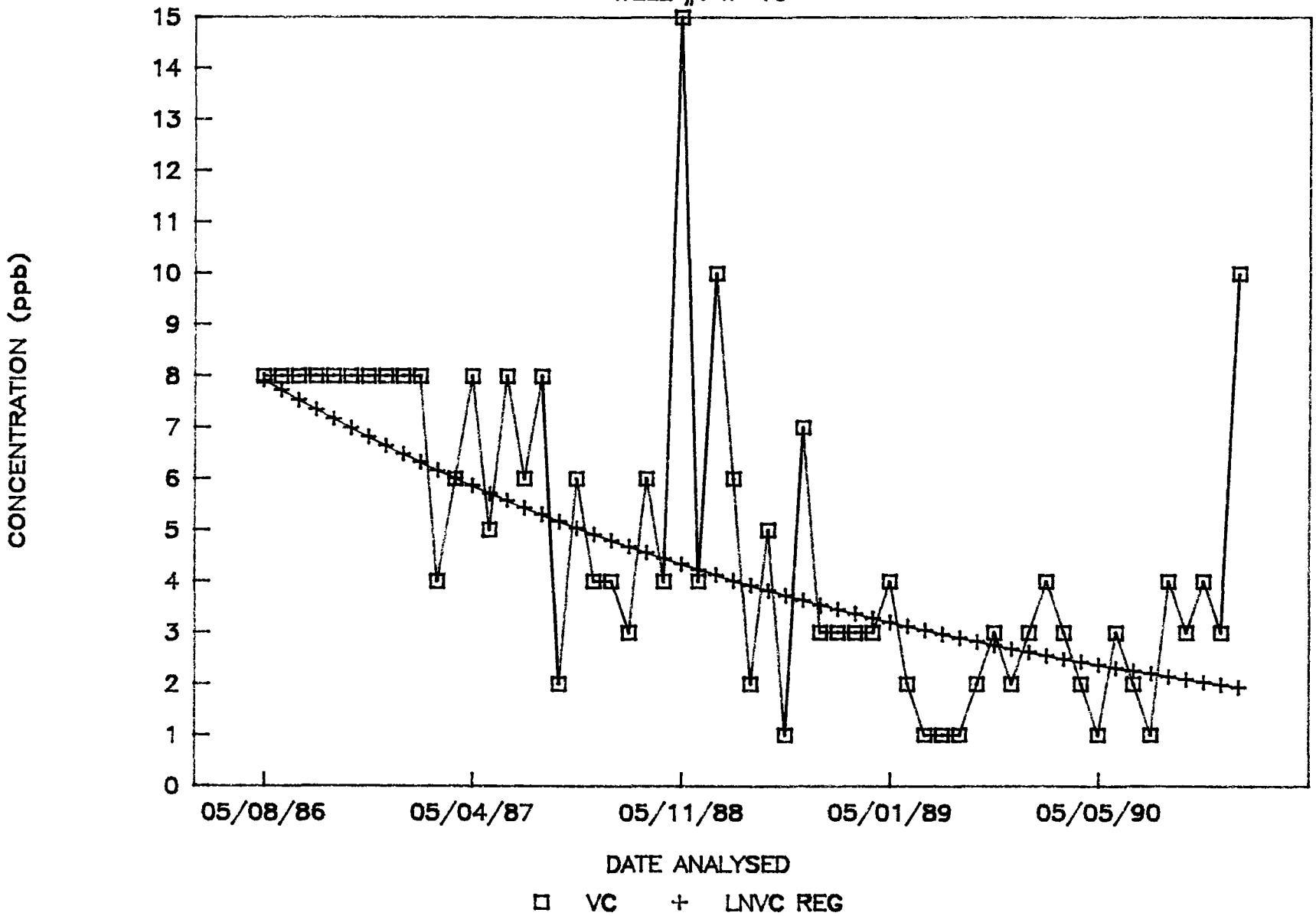
EKCO HOUSEWARES

WELL #: W-10



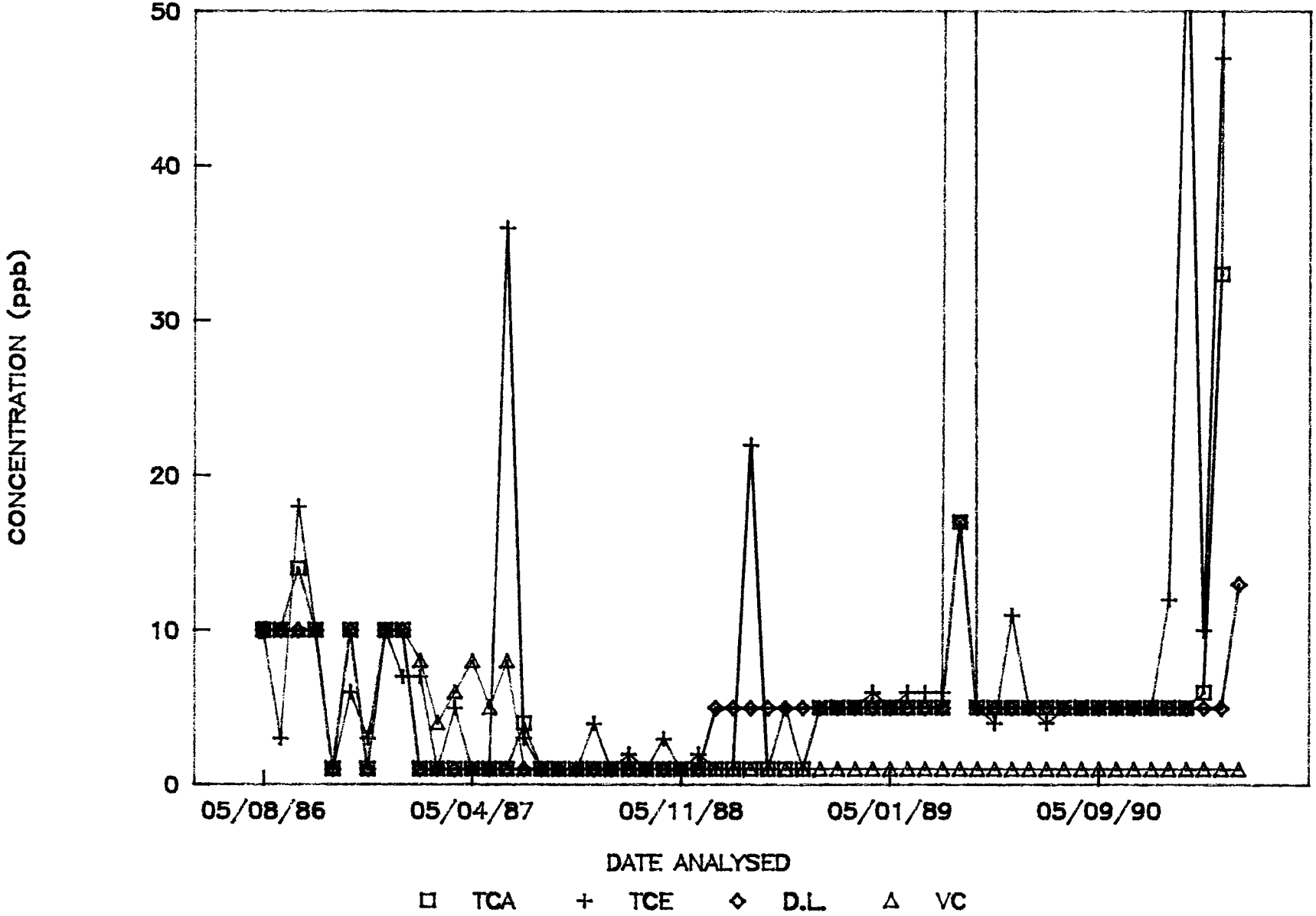
EKCO HOUSEWARES

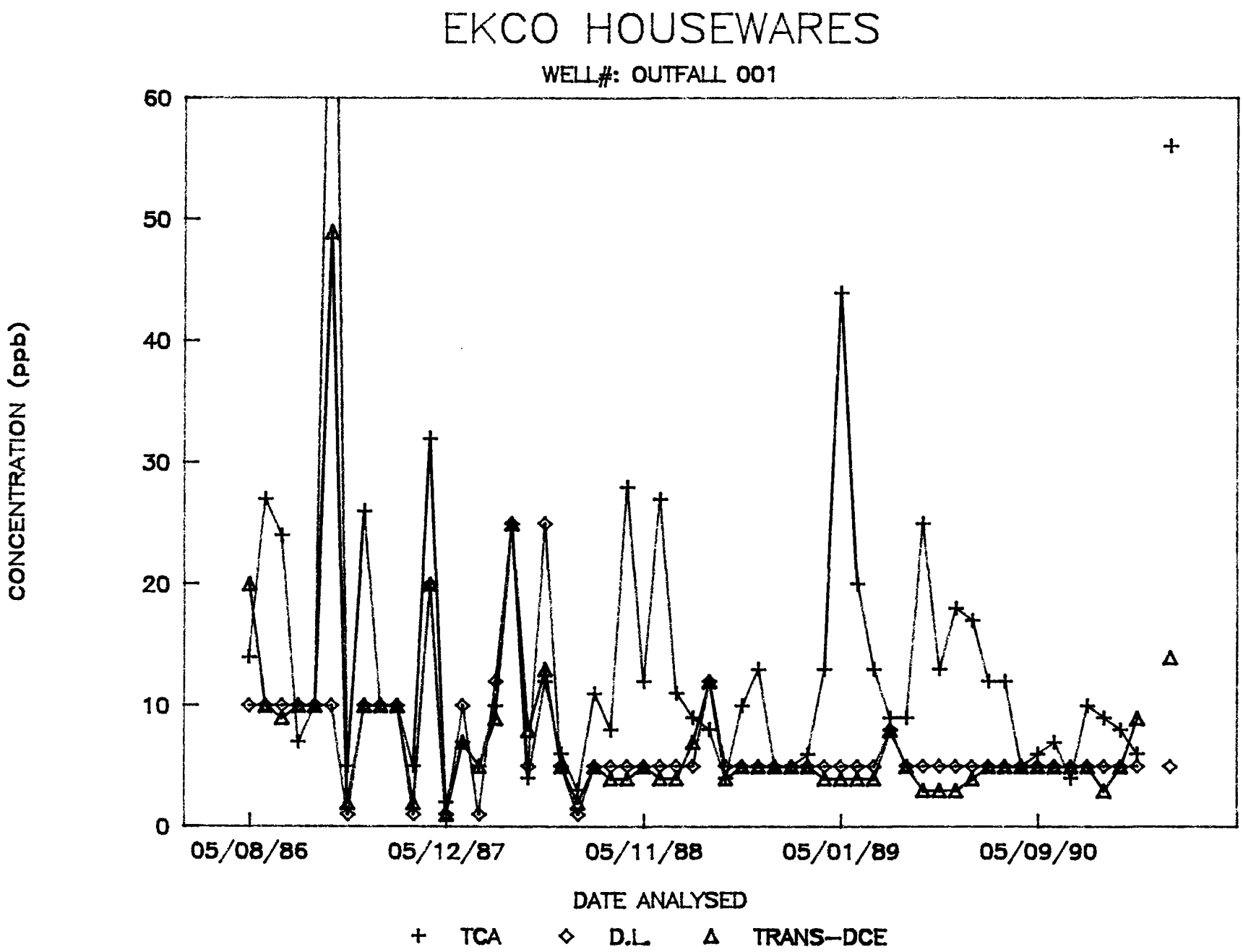
WELL #: W-10

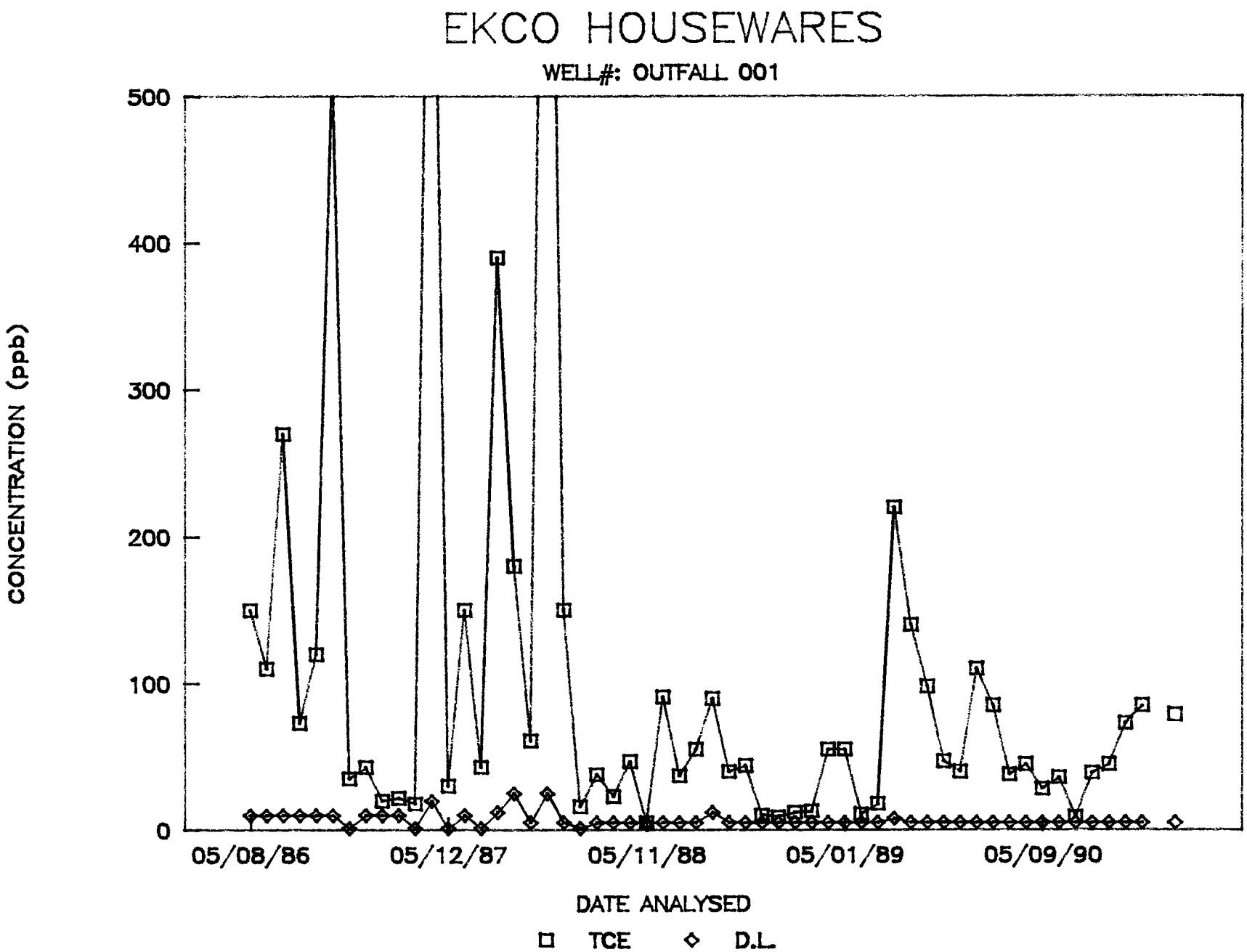


EKCO HOUSEWARES

AIR STRIPPER EFFLUENT




EKCO HOUSEWARES
WELL#: OUTFALL 001
CONCENTRATION (ppb)
60
50
40
30
20
10
0
05/08/86
05/12/87
05/11/88
05/01/89
05/09/90
DATE ANALYSED
+ TCA
◇ D.L.
Δ TRANS-DCE


EKCO HOUSEWARES
WELL#: OUTFALL 001
CONCENTRATION (ppb)
500
400
300
200
100
0
05/08/86
05/12/87
05/11/88
05/01/89
05/09/90
DATE ANALYSED
TCE
D.L.

EKCO HOUSEWARES Updated: 08-Feb-91
WELL #: SOUTH WELL 11:37 AM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	140	39	21	560	580	ND	10
07	06/05/86	86	ND	ND	310	360	ND	30
08	07/15/86	140	27	25	370	400	ND	10
09	08/12/86	120	ND	ND	230	180	ND	30
10	09/05/86	150	33	ND	360	350	ND	30
11	10/08/86	120	20	18	250	280	ND	10
11a	11/11/86	130	29	16	290	320	ND	5
12	12/09/86	160	19	18	300	320	ND	10
13	01/16/87	180	ND	13	260	220	ND	10
14*	02/03/87	120	17	20	240	280	3	10
15	03/05/87	150	16	20	190	200	1	10
16	04/09/87	140	19	21	210	180	1	10
17	05/04/87	110	13	12	160	200	2	10
18	06/04/87	140	20	22	200	230	2	20
19	07/08/87	95	11J	ND	140	210	2	20
20	08/04/87	130	17J	14J	150	180	2	25
21	09/03/87	140	16J	18J	140	150	2	25
22	10/02/87	140	14J	20J	150	150	ND	25
23	11/06/87	110	23J	23J	180	220	1	25
24	12/04/87	110	10J	13J	120	170	2	25
25	01/06/88	140	21J	30	96	170	1	25
26	02/04/88	95	9J	15	87	140	ND	15
27	03/05/88	84	11J	16J	88	130	1	25
28	04/11/88	150	20	20	78	120	1	13
29	05/11/88	110	ND	10J	59	160	2	25
30	06/04/88	79B	12J	11J	38	77	1	25
31	07/30/88	73	7	9	31	70	ND	5
32	08/01/88	51	6	8	30	64	ND	5
33	09/13/88	NO SAMPLE WAS COLLECTED FROM THIS WELL DURING THIS ROUND OF SAMPLING.						
34	11/01/88	47	3	7	13	59	ND	5
35	11/03/88	31	ND	4J	5	18	ND	5
36	12/01/88	40	4J	9	20	50	ND	5
37	01/04/89	No sample was collected during this round.						
38	02/01/89	39	ND	5	10	47	ND	5
39	03/01/89	48	ND	6	15	48	ND	5
40	04/03/89	37	2J	5	8	33	ND	5
41	05/01/89	55	4J	7	13	48	ND	5
42	06/07/89	49	6	7	12	43	ND	5
43	07/24/89	67	40	38	1200	570	ND	50
44	08/15/89	49	3J	8	7	29	ND	5
45	09/12/89	53	ND	6	13	43	ND	5
46	10/06/89	53	3J	6	14	44	ND	5
47	11/03/89	59	6	9	13	40	ND	5
48	12/06/89	60	5	9	16	44	ND	5
49	01/05/90	55	7	7	17	43	ND	5
50	02/01/90	74	ND	7	16	45	ND	5
51	03/05/90	42	5	8	18	44	ND	5
52	04/03/90	59	ND	6	ND	44	ND	5
53	05/11/90	56	5	7	15	48	ND	5
54	06/06/90	66	5	8	16	51	ND	5
55	07/12/90	80	8	10	19	56	ND	5
56	08/07/90	80	9	9	19	56	ND	5
57	09/07/90	71	7	11	17	52	ND	5
58	10/04/90	65	7	8	18	52	ND	5
59	11/09/90	64	9	8	15	36	ND	5
60	12/12/90	65	6	7	21	51	ND	5
61	01/08/91	82	7	7	26	58	ND	5

	Number of Months to Reach MCL's	
	Linear Regression	Exponential Regression
Trichloroethane:	55	76
Trichloroethene:	57	103
Vinyl Chloride:	-74	-83

NOTES:

ND - Not Detected; Below Detection Limit.

J - Estimated concentration present below MDL.

11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

- The negative numbers listed for the vinyl chloride regressions indicate that its concentrations are staying the same or increasing with time.

EKCO HOUSEWARES

WELL #: W-10

Updated: 08-Feb-91
12:44 PM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	200	ND	8300	3500	ND	200
07	06/05/86	ND	ND	ND	7500	3300	ND	200
08	07/15/86	ND	ND	ND	7000	3400	ND	400
09	08/12/86	ND	ND	ND	6000	1800	ND	400
10	09/05/86	ND	ND	ND	8500	3600	ND	400
11	10/08/86	170	93	80	7800	3700	ND	80
11a	11/11/86	210	160	ND	11000	5100	ND	120
12	12/09/86	220	ND	ND	9200	3900	ND	100
13	01/16/87	ND	ND	ND	8400	3800	ND	100
14*	02/03/87	ND	ND	110	7500	3500	8	100
15	03/05/87	ND	ND	ND	6600	3000	4	100
16	04/09/87	170	ND	ND	7400	2800	6	100
17	05/04/87	ND	ND	ND	4800	2500	8	100
18	06/04/87	150	ND	ND	5600	2300	5	150
19	07/08/87	ND	ND	ND	4400	2400	8	200
20	08/04/87	120J	ND	ND	5300	2200	6	250
21	09/03/87	ND	ND	ND	6800	2700	8	250
22	10/01/87	170J	ND	ND	9300	2600	2	250
23	11/05/87	ND	ND	ND	7400	2700	6	250
24	12/04/87	ND	ND	ND	5500	2400	4	250
25	01/06/88	ND	ND	ND	4400	2200	4	250
26	02/04/88	100J	ND	ND	4800	2200	3	250
27	03/05/88	ND	ND	ND	5600	2100	6	250
28	04/11/88	ND	ND	ND	4000	1600	4	250
29	05/11/88	ND	100J	130J	8200	3000	15	250
30	06/04/88	ND	ND	ND	18000	4700	4	500
31	07/30/88	70J	ND	ND	2700	1300	10	130
32	08/01/88	60J	ND	ND	2600	1200	15	130
33	09/13/88	ND	ND	ND	2300	960	2	250
34	11/01/88	90J	110J	ND	2600	1100	5	120
35	11/03/88	62	ND	26J	1200	600	1	50
36	12/01/88	60	ND	ND	1400	980	7	50
37	01/04/89	52	ND	ND	1400	900	3	100
38	02/01/89	ND	ND	ND	1400	830	+	130
39	03/01/89	90	ND	58J	2100	790	3	60
40	04/03/89	75	ND	35J	2100	840	3	65
41	05/01/89	64	ND	ND	2200	760	4	62
42	06/07/89	57	64	37J	1500	710	2	50
43	07/24/89	45	2J	5	9	33	ND	5
44	08/15/89	65	66	48J	1400	790	ND	50
45	09/12/89	53	ND	ND	1200	570	1	42
46	10/12/89	69	52	48J	1300	580	2	50
47	11/03/89	83	72	56	1300	630	3	50
48	12/06/89	87	38J	52	1500	550	2	50
49	01/05/90	70	37J	48J	1500	690	3	50
50	02/01/90	69	ND	ND	1200	650	4	50
51	03/05/90	110	ND	60	1400	600	+	50
52	04/03/90	ND	ND	ND	1200	630	2	100
53	05/09/90	80	ND	68	1900	800	1	50
54	06/06/90	60	36J	58	1700	740	3	50
55	07/20/90	76	100	72	1600	690	2	50
56	08/08/90	78	50	70	1500	680	ND	50
57	09/07/90	64	32J	80	1300	660	4	50
58	10/05/90	ND	ND	ND	1500	660	3	100
59	11/09/90	92	120	100	1800	660	4	50
60	12/05/90	94	ND	92	2000	880	3	50
61	01/08/91	100	ND	100	1800	840	10	50

	Number of Months to Reach MCL's	
	Linear Regression	Exponential Regression
Trichloroethane:	61	180
Trichloroethene:	61	172
Vinyl Chloride:	60	60

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration; present below MDL.

11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

220 ppb Dibromochloromethane estimated to be present in sample set 21.

+ - Not analysed during this round of sampling. No explanation given.

EKCO HOUSEWARES Updated: 08-Feb-91
WELL #: Air Stripper Effluent 12:48 PM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	ND	ND	ND	ND	ND	10
07	06/04/86	ND	ND	ND	ND	3J	ND	10
08	07/15/86	ND	ND	ND	14	18	ND	10
09	08/13/86	ND	ND	ND	ND	ND	ND	10
10	09/05/86	ND	ND	ND	ND	ND	ND	1
11	10/08/86	ND	ND	ND	ND	6J	ND	10
11a	11/11/86	ND	ND	ND	ND	3	ND	1
12	12/09/86	ND	ND	ND	ND	ND	ND	10
13	01/16/87	ND	ND	ND	ND	7J	ND	10
14	02/03/87	ND	ND	ND	ND	7	ND	1
15	03/04/87	ND	ND	ND	ND	ND	ND	1
16	04/07/87	ND	ND	ND	ND	5	ND	1
17	05/04/87	ND	ND	ND	ND	ND	ND	1
18	06/04/87	ND	ND	ND	ND	ND	ND	1
19	07/08/87	ND	ND	ND	ND	36	ND	1
20	08/04/87	ND	ND	ND	4	3	ND	1
21	09/03/87	ND	ND	ND	ND	ND	ND	1
22	10/01/87	ND	ND	ND	ND	ND	ND	1
23	11/05/87	ND	ND	ND	ND	ND	ND	1
24	12/04/87	ND	ND	ND	ND	4	ND	1
25	01/06/88	ND	ND	ND	1	1	ND	1
26	02/04/88	ND	ND	ND	ND	2	ND	1
27	03/05/88	ND	ND	ND	ND	ND	ND	1
28	04/11/88	ND	ND	ND	ND	3	ND	1
29	05/11/88	ND	ND	ND	ND	1	ND	1
30	06/04/88	ND	ND	ND	ND	2	ND	1
31	07/30/88	ND	ND	ND	ND	2J	ND	5
32	08/01/88	ND	ND	ND	ND	5	ND	5
33	09/13/88	ND	ND	ND	ND	22	ND	5
34	11/01/88	ND	ND	ND	ND	ND	ND	5
35	11/03/88	ND	ND	ND	ND	5	ND	5
36	12/01/88	ND	ND	ND	ND	ND	ND	5
37	01/04/89	ND	ND	ND	ND	ND	ND	5
38	02/01/89	ND	ND	ND	ND	ND	+	5
39	03/01/89	ND	ND	ND	ND	ND	ND	5
40	04/03/89	ND	ND	ND	ND	6	ND	5
41	05/01/89	ND	ND	ND	ND	ND	ND	5
42	06/07/89	ND	ND	ND	ND	6	ND	5
43	07/06/89	ND	ND	2J	ND	6	ND	5
44	08/15/89	ND	ND	3J	ND	6	ND	5
45	09/12/89	ND	ND	ND	ND	410	ND	17
46	10/12/89	ND	ND	ND	ND	ND	ND	5
47	11/03/89	ND	ND	ND	ND	4J	ND	5
48	12/06/89	ND	ND	ND	ND	11	ND	5
49	01/05/90	ND	ND	ND	ND	ND	ND	5
50	02/01/90	ND	ND	ND	ND	4J	ND	5
51	03/05/90	ND	ND	ND	ND	ND	+	5
52	04/03/90	ND	ND	ND	ND	ND	ND	5
53	05/09/90	ND	ND	ND	ND	ND	ND	5
54	06/06/90	ND	ND	ND	ND	ND	ND	5
55	07/12/90	ND	ND	ND	ND	ND	ND	5
56	08/07/90	ND	ND	ND	ND	ND	ND	5
57	09/07/90	ND	ND	ND	ND	12	ND	5
58	10/04/90	7	ND	5	ND	58	ND	5
59	11/09/90	5	ND	7	6	10	ND	5
60	12/05/90	14	ND	12	33	47	ND	5
61	01/08/91	50	ND	32	330	220	ND	13

NOTES:

ND - Not detected.

J - Estimated concentration; detected below MDL.

* - from this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

Toluene detected at 1 ppb in sample sets 19 and 21.

Toluene detected at 3 ppb in sample set 48.

Toluene detected at 6 ppb in sample set 28.

+ - Not Analysed

EKCO HOUSEWARES Updated: 08-Feb-91
WELL #: Outfall 001 12:58 PM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	ND	20	14	150	ND	10
07	06/04/86	ND	ND	ND	27	110	ND	10
08	07/15/86	ND	ND	9J	24	270	ND	10
09	08/13/86	ND	ND	ND	7J	73	ND	10
10	09/05/86	ND	ND	ND	ND	120	ND	10
11	10/03/86	ND	ND	49	91	530	ND	10
11a	11/11/86	ND	ND	2	5	35	ND	1
12	12/09/86	ND	ND	ND	26	43	ND	10
13	01/16/87	ND	ND	ND	ND	20	ND	10
14	02/03/87	ND	ND	ND	ND	22	ND	10
15	03/04/87	ND	ND	2	5	18	ND	1
16	04/11/87	ND	ND	ND	32	830	ND	20
17	05/12/87	ND	ND	ND	2	30	ND	1
18	06/05/87	ND	ND	7J	7J	150	ND	10
19	07/08/87	ND	ND	5J	5J	43	ND	1
20	08/04/87	ND	ND	9J	10J	390	ND	12
21	09/03/87	ND	ND	ND	ND	180	ND	25
22	10/01/87	ND	ND	8	4J	61	ND	5
23	11/05/87	ND	ND	13J	12J	1000	ND	25
24	12/04/87	ND	ND	5	6	150	ND	5
25	01/06/88	ND	ND	2	3	16	ND	1
26	02/04/88	ND	ND	5	11	38	ND	5
27	03/05/88	ND	ND	4J	8	23	ND	5
28	04/11/88	ND	ND	4J	28	47	ND	5
29	05/11/88	ND	ND	ND	ND	1	ND	5
30	06/04/88	ND	ND	4J	27	91	ND	5
31	07/30/88	ND	ND	4J	11	37	ND	5
32	08/01/88	ND	ND	3J	7	21	ND	5
33	09/13/88	ND	ND	ND	8J	90	ND	12
34	11/01/88	ND	ND	4J	4J	40	ND	5
35	11/03/88	ND	ND	ND	10	44	ND	5
36	12/01/88	ND	ND	ND	13	10	ND	5
37	01/04/89	ND	ND	ND	5	9	ND	5
38	02/01/89	ND	ND	ND	ND	12	+	5
39	03/01/89	ND	ND	ND	6	13	ND	5
40	04/03/89	ND	ND	4J	13	55	ND	5
41	05/01/89	ND	ND	4J	44	55	ND	5
42	06/09/89	2J	ND	4J	20	11	ND	5
43	07/06/89	ND	ND	4J	13	13	ND	5
44	08/15/89	ND	ND	ND	9	220	ND	5
45	09/12/89	ND	ND	ND	9	140	ND	5
46	10/12 89	ND	ND	3J	25	98	ND	5
47	11/03/89	ND	ND	3J	13	47	ND	5
48	12/06/89	ND	ND	3J	18	40	ND	5
49	01/05/90	55	7	7	17	43	ND	5
50	02/01/90	ND	ND	ND	12	85	ND	5
51	03/05/90	ND	ND	ND	12	38	+	5
52	04/03/90	ND	ND	ND	ND	45	+	5
53	05/09/90	ND	ND	ND	6	18	ND	5
54	06/06/90	ND	ND	ND	7	36	ND	5
55	07/12/90	ND	ND	ND	4J	9	ND	5
56	08/07/90	ND	ND	ND	10	39	ND	5
57	09/07/90	ND	ND	3J	9	45	ND	5
58	10/04/90	ND	ND	5	8	73	ND	5
59	11/09/90	3J	ND	9	6	85	ND	5
60	12/05/90	+ This sample not collected and analysed this round.						
61	01/08/91	15	ND	14	56	79	ND	5

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration present below MDL.

11a - there are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

+ - Not Analysed.

EKCO HOUSEWARES Updated: 10-Dec-90
WELL #: Outfall 001 09:07 AM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	ND	20	14	150	ND	10
07	06/04/86	ND	ND	ND	27	110	ND	10
08	07/15/86	ND	ND	9J	24	270	ND	10
09	08/13/86	ND	ND	ND	7J	73	ND	10
10	09/05/86	ND	ND	ND	ND	120	ND	10
11	10/03/86	ND	ND	49	91	530	ND	10
11a	11/11/86	ND	ND	2	5	35	ND	1
12	12/09/86	ND	ND	ND	26	43	ND	10
13	01/16/87	ND	ND	ND	ND	20	ND	10
14	02/03/87	ND	ND	ND	ND	22	ND	10
15	03/04/87	ND	ND	2	5	18	ND	1
16	04/11/87	ND	ND	ND	32	830	ND	20
17	05/12/87	ND	ND	ND	2	30	ND	1
18	06/05/87	ND	ND	7J	7J	150	ND	10
19	07/08/87	ND	ND	5J	5J	43	ND	1
20	08/04/87	ND	ND	9J	10J	390	ND	12
21	09/03/87	ND	ND	ND	ND	180	ND	25
22	10/01/87	ND	ND	8	4J	61	ND	5
23	11/05/87	ND	ND	13J	12J	1000	ND	25
24	12/04/87	ND	ND	5	6	150	ND	5
25	01/06/88	ND	ND	2	3	16	ND	1
26	02/04/88	ND	ND	5	11	38	ND	5
27	03/05/88	ND	ND	4J	8	23	ND	5
28	04/11/88	ND	ND	4J	28	47	ND	5
29	05/11/88	ND	ND	ND	ND	1	ND	5
30	06/04/88	ND	ND	4J	27	91	ND	5
31	07/30/88	ND	ND	4J	11	37	ND	5
32	08/01/88	ND	ND	3J	7	21	ND	5
33	09/13/88	ND	ND	ND	8J	90	ND	12
34	11/01/88	ND	ND	4J	4J	40	ND	5
35	11/03/88	ND	ND	ND	10	44	ND	5
36	12/01/88	ND	ND	ND	13	10	ND	5
37	01/04/89	ND	ND	ND	5	9	ND	5
38	02/01/89	ND	ND	ND	ND	12	+	5
39	03/01/89	ND	ND	ND	6	13	ND	5
40	04/03/89	ND	ND	4J	13	55	ND	5
41	05/01/89	ND	ND	4J	44	55	ND	5
42	06/09/89	2J	ND	4J	20	11	ND	5
43	07/06/89	ND	ND	4J	13	13	ND	5
44	08/15/89	ND	ND	ND	9	220	ND	5
45	09/12/89	ND	ND	ND	9	140	ND	5
46	10/12 89	ND	ND	3J	25	98	ND	5
47	11/03/89	ND	ND	3J	13	47	ND	5
48	12/06/89	ND	ND	3J	18	40	ND	5
49	01/05/90	55	7	7	17	43	ND	5
50	02/01/90	ND	ND	ND	12	85	ND	5
51	03/05/90	ND	ND	ND	12	38	+	5
52	04/03/90	ND	ND	ND	ND	45	+	5
53	05/09/90	ND	ND	ND	6	18	ND	5
54	06/06/90	ND	ND	ND	7	36	ND	5
55	07/12/90	ND	ND	ND	4J	9	ND	5
56	08/07/90	ND	ND	ND	10	39	ND	5
57	09/07/90	ND	ND	3J	9	45	ND	5
58	10/04/90	ND	ND	5	8	73	ND	5

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration present below MDL.

11a - there are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

+ - NOT Analysed

EKCO HOUSEWARES Updated: 10-Dec-90
WELL #: Air Stripper Effluent 09:09 AM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	ND	ND	ND	ND	ND	10
07	06/04/86	ND	ND	ND	ND	3J	ND	10
08	07/15/86	ND	ND	ND	14	18	ND	10
09	08/13/86	ND	ND	ND	ND	ND	ND	10
10	09/05/86	ND	ND	ND	ND	ND	ND	1
11	10/08/86	ND	ND	ND	ND	6J	ND	10
11a	11/11/86	ND	ND	ND	ND	3	ND	1
12	12/09/86	ND	ND	ND	ND	ND	ND	10
13	01/16/87	ND	ND	ND	ND	7J	ND	10
14	02/03/87	ND	ND	ND	ND	7	ND	1
15	03/04/87	ND	ND	ND	ND	ND	ND	1
16	04/07/87	ND	ND	ND	ND	5	ND	1
17	05/04/87	ND	ND	ND	ND	ND	ND	1
18	06/04/87	ND	ND	ND	ND	ND	ND	1
19	07/08/87	ND	ND	ND	ND	36	ND	1
20	08/04/87	ND	ND	ND	4	3	ND	1
21	09/03/87	ND	ND	ND	ND	ND	ND	1
22	10/01/87	ND	ND	ND	ND	ND	ND	1
23	11/05/87	ND	ND	ND	ND	ND	ND	1
24	12/04/87	ND	ND	ND	ND	4	ND	1
25	01/06/88	ND	ND	ND	1	1	ND	1
26	02/04/88	ND	ND	ND	ND	2	ND	1
27	03/05/88	ND	ND	ND	ND	ND	ND	1
28	04/11/88	ND	ND	ND	ND	3	ND	1
29	05/11/88	ND	ND	ND	ND	1	ND	1
30	06/04/88	ND	ND	ND	ND	2	ND	1
31	07/30/88	ND	ND	ND	ND	2J	ND	5
32	08/01/88	ND	ND	ND	ND	5	ND	5
33	09/13/88	ND	ND	ND	ND	22	ND	5
34	11/01/88	ND	ND	ND	ND	ND	ND	5
35	11/03/88	ND	ND	ND	ND	5	ND	5
36	12/01/88	ND	ND	ND	ND	ND	ND	5
37	01/04/89	ND	ND	ND	ND	ND	ND	5
38	02/01/89	ND	ND	ND	ND	ND	+	5
39	03/01/89	ND	ND	ND	ND	ND	ND	5
40	04/03/89	ND	ND	ND	ND	6	ND	5
41	05/01/89	ND	ND	ND	ND	ND	ND	5
42	06/07/89	ND	ND	ND	ND	6	ND	5
43	07/06/89	ND	ND	2J	ND	6	ND	5
44	08/15/89	ND	ND	3J	ND	6	ND	5
45	09/12/89	ND	ND	ND	ND	410	ND	17
46	10/12/89	ND	ND	ND	ND	ND	ND	5
47	11/03/89	ND	ND	ND	ND	4J	ND	5
48	12/06/89	ND	ND	ND	ND	11	ND	5
49	01/05/90	ND	ND	ND	ND	ND	ND	5
50	02/01/90	ND	ND	ND	ND	4J	ND	5
51	03/05/90	ND	ND	ND	ND	ND	+	5
52	04/03/90	ND	ND	ND	ND	ND	ND	5
53	05/09/90	ND	ND	ND	ND	ND	ND	5
54	06/06/90	ND	ND	ND	ND	ND	ND	5
55	07/12/90	ND	ND	ND	ND	ND	ND	5
56	08/07/90	ND	ND	ND	ND	ND	ND	5
57	09/07/90	ND	ND	ND	ND	12	ND	5
58	10/04/90	7	ND	5	ND	58	ND	5

NOTES:

ND - Not detected.

J - Estimated concentration; detected below MDL.

* - from this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

Toluene detected at 1 ppb in sample sets 19 and 21.

Toluene detected at 3 ppb in sample set 48.

Toluene detected at 6 ppb in sample set 28.

+ - NOT Analysed

EKCO HOUSEWARES
WELL #: W-10

Updated: 10-Dec-90
08:42 AM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	200	ND	8300	3500	ND	200
07	06/05/86	ND	ND	ND	7500	3300	ND	200
08	07/15/86	ND	ND	ND	7000	3400	ND	400
09	08/12/86	ND	ND	ND	6000	1800	ND	400
10	09/05/86	ND	ND	ND	8500	3600	ND	400
11	10/08/86	170	93	80	7800	3700	ND	80
11a	11/11/86	210	160	ND	11000	5100	ND	120
12	12/09/86	220	ND	ND	9200	3900	ND	100
13	01/16/87	ND	ND	ND	8400	3800	ND	100
14*	02/03/87	ND	ND	110	7500	3500	8	100
15	03/05/87	ND	ND	ND	6600	3000	4	100
16	04/09/87	170	ND	ND	7400	2800	6	100
17	05/04/87	ND	ND	ND	4800	2500	8	100
18	06/04/87	150	ND	ND	5600	2300	5	150
19	07/08/87	ND	ND	ND	4400	2400	8	200
20	08/04/87	120J	ND	ND	5300	2200	6	250
21	09/03/87	ND	ND	ND	6800	2700	8	250
22	10/01/87	170J	ND	ND	9300	2600	2	250
23	11/05/87	ND	ND	ND	7400	2700	6	250
24	12/04/87	ND	ND	ND	5500	2400	4	250
25	01/06/88	ND	ND	ND	4400	2200	4	250
26	02/04/88	100J	ND	ND	4800	2200	3	250
27	03/05/88	ND	ND	ND	5600	2100	6	250
28	04/11/88	ND	ND	ND	4000	1600	4	250
29	05/11/88	ND	100J	130J	8200	3000	15	250
30	06/04/88	ND	ND	ND	18000	4700	4	500
31	07/30/88	70J	ND	ND	2700	1300	10	130
32	08/01/88	60J	ND	ND	2600	1200	15	130
33	09/13/88	ND	ND	ND	2300	960	2	250
34	11/01/88	90J	110J	ND	2600	1100	5	120
35	11/03/88	62	ND	26J	1200	600	1	50
36	12/01/88	60	ND	ND	1400	980	7	50
37	01/04/89	52	ND	ND	1400	900	3	100
38	02/01/89	ND	ND	ND	1400	830	+	130
39	03/01/89	90	ND	58J	2100	790	3	60
40	04/03/89	75	ND	35J	2100	840	3	65
41	05/01/89	64	ND	ND	2200	760	4	62
42	06/07/89	57	64	37J	1500	710	2	50
43	07/24/89	45	2J	5	9	33	ND	5
44	08/15/89	65	66	48J	1400	790	ND	50
45	09/12/89	53	ND	ND	1200	570	1	42
46	10/12/89	69	52	48J	1300	580	2	50
47	11/03/89	83	72	56	1300	630	3	50
48	12/06/89	87	38J	52	1500	550	2	50
49	01/05/90	70	37J	48J	1500	690	3	50
50	02/01/90	69	ND	ND	1200	650	4	50
51	03/05/90	110	ND	60	1400	600	+	50
52	04/03/90	ND	ND	ND	1200	630	2	100
53	05/09/90	80	ND	68	1900	800	1	50
54	06/06/90	60	36J	58	1700	740	3	50
55	07/20/90	76	100	72	1600	690	2	50
56	08/08/90	78	50	70	1500	680	ND	50
57	09/07/90	64	32J	80	1300	660	4	50
58	10/05/90	ND	ND	ND	1500	660	3	100
59	11/ /90							

Number of Months to Reach MCL's: linear regression; exponential regression.

Trichloroethane:	89	511
Trichloroethene:	67	359
Vinyl Chloride:	108	88

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration; present below MDL.

11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

220 ppb Dibromochloromethane estimated to be present in sample set 21.

+ - Not analysed during this round of sampling. No explanation given.

EKCO HOUSEWARES — Updated: 07-Dec-90
WELL #: SOUTH WELL — 10:31 AM

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	140	39	21	560	580	ND	10
07	06/05/86	86	ND	ND	310	360	ND	30
08	07/15/86	140	27	25	370	400	ND	10
09	08/12/86	120	ND	ND	230	180	ND	30
10	09/05/86	150	33	ND	360	350	ND	30
11	10/08/86	120	20	18	250	280	ND	10
11a	11/11/86	130	29	16	290	320	ND	5
12	12/09/86	160	19	18	300	320	ND	10
13	01/16/87	180	ND	13	260	220	ND	10
14*	02/03/87	120	17	20	240	280	3	10
15	03/05/87	150	16	20	190	200	1	10
16	04/09/87	140	19	21	210	180	1	10
17	05/04/87	110	13	12	160	200	2	10
18	06/04/87	140	20	22	200	230	2	20
19	07/08/87	95	11J	ND	140	210	2	20
20	08/04/87	130	17J	14J	150	180	2	25
21	09/03/87	140	16J	18J	140	150	2	25
22	10/02/87	140	14J	20J	150	150	ND	25
23	11/06/87	110	23J	23J	180	220	1	25
24	12/04/87	110	10J	13J	120	170	2	25
25	01/06/88	140	21J	30	96	170	1	25
26	02/04/88	95	9J	15	87	140	ND	15
27	03/05/88	84	11J	16J	88	130	1	25
28	04/11/88	150	20	20	78	120	1	13
29	05/11/88	110	ND	10J	59	160	2	25
30	06/04/88	79B	12J	11J	38	77	1	25
31	07/30/88	73	7	9	31	70	ND	5
32	08/01/88	51	6	8	30	64	ND	5
33	09/13/88	NO SAMPLE WAS COLLECTED FROM THIS WELL DURING THIS ROUND OF SAMPLING.						
34	11/01/88	47	3	7	13	59	ND	5
35	11/03/88	31	ND	4J	5	18	ND	5
36	12/01/88	40	4J	9	20	50	ND	5
37	01/04/89	No sample was collected during this round.						
38	02/01/89	39	ND	5	10	47	ND	5
39	03/01/89	48	ND	6	15	48	ND	5
40	04/03/89	37	2J	5	8	33	ND	5
41	05/01/89	55	4J	7	13	48	ND	5
42	06/07/89	49	6	7	12	43	ND	5
43	07/24/89	67	40	38	1200	570	ND	50
44	08/15/89	49	3J	8	7	29	ND	5
45	09/12/89	53	ND	6	13	43	ND	5
46	10/06/89	53	3J	6	14	44	ND	5
47	11/03/89	59	6	9	13	40	ND	5
48	12/06/89	60	5	9	16	44	ND	5
49	01/05/90	55	7	7	17	43	ND	5
50	02/01/90	74	ND	7	16	45	ND	5
51	03/05/90	42	5	8	18	44	ND	5
52	04/03/90	59	ND	6	ND	44	ND	5
53	05/11/90	56	5	7	15	48	ND	5
54	06/06/90	66	5	8	16	51	ND	5
55	07/12/90	80	8	10	19	56	ND	5
56	08/07/90	80	9	9	19	56	ND	5
57	09/07/90	71	7	11	17	52	ND	5
58	10/04/90	65	7	8	18	52	ND	5
59	11/ /90							

Sally,
I was in town for meetings on another site and thought I'd stop by. Here are the updated tables for EKCO. I'll try & get the graphs to you sometime next week. If there is anything else I can do for you, let me know.
– Jim Stratton

Number of Months to Reach MCL's:	linear regression;	exponential regression.
Trichloroethane:	32	68
Trichloroethene:	38	103
Vinyl Chloride:	53	52

NOTES:

ND - Not Detected; Below Detection Limit.

J - Estimated concentration present below MDL.

11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

M&E ®
METCALF & EDDY
2800 Corporate Exchange Drive
Suite 250
Columbus, Ohio 43231
(614) 890-5501

LETTER OF TRANSMITTAL

11/1/90 — Date
151031-0001-626 — Our Job No.

Attention

Re: GROUND WATER DATABASE - EKCO HOUSEWARES

TO SALLY AVERILL
U.S. EPA, REGION V
5HR-12
230 S. DEARBORN ST.
CHICAGO, IL 60604

WE ARE SENDING YOU the following items:
[X] Attached
[ ] Under separate cover via
[ ] Prints
[ ] Sepias
[ ] Copy of letter
[ ] Specifications
[ ] Shop drawings
[ ]

No. Of. COPIES	DATE	REV.	NO.	TITLE or DESCRIPTION
1	11/1/90			SUMMARY TABLES - MONTHLY GROUND WATER MONITORING AT EKCO HOUSEWARES.

THESE ARE TRANSMITTED as checked below:
[ ] For your information
[ ] For approval
[ ] For comment
[X] For your use
[ ] As per your request
[ ] For review and comment

RECEIVED
NOV 05 1990
OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V

[ ] PRINTS RETURNED AFTER LOAN TO US

REMARKS SALLY,
ENCLOSED ARE THE SUMMARY TABLES FOR THE GROUND WATER MONITORING AT EKCO HOUSEWARES. THE GRAPHS WILL BE SENT TO YOU NEXT WEEK. I'LL BE IN CHICAGO ON 11/9 & WILL TRY TO STOP BY. I HAVEN'T RECEIVED ANY DATA FROM SEPTEMBER OR OCTOBER YET. WHEN I GET IT, I'LL REVISE THE TABLES AND GRAPHS.

Copies to T. LENTZEN, M&E TES X

Signed: Jim Strayton

Form No. 195N
(Rev. 11/89)

If enclosures are not as noted, kindly notify us at once.

EKCO HOUSEWARES
WELL #: SOUTH WELL

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	140	39	21	560	580	ND	10
07	06/05/86	86	ND	ND	310	360	ND	30
08	07/15/86	140	27	25	370	400	ND	10
09	08/12/86	120	ND	ND	230	180	ND	30
10	09/05/86	150	33	ND	360	350	ND	30
11	10/08/86	120	20	18	250	280	ND	10
11a	11/11/86	130	29	16	290	320	ND	5
12	12/09/86	160	19	18	300	320	ND	10
13	01/16/87	180	ND	13	260	220	ND	10
14*	02/03/87	120	17	20	240	280	3	10
15	03/05/87	150	16	20	190	200	1	10
16	04/09/87	140	19	21	210	180	1	10
17	05/04/87	110	13	12	160	200	2	10
18	06/04/87	140	20	22	200	230	2	20
19	07/08/87	95	11J	ND	140	210	2	20
20	08/04/87	130	17J	14J	150	180	2	25
21	09/03/87	140	16J	18J	140	150	2	25
22	10/02/87	140	14J	20J	150	150	ND	25
23	11/06/87	110	23J	23J	180	220	1	25
24	12/04/87	110	10J	13J	120	170	2	25
25	01/06/88	140	21J	30	96	170	1	25
26	02/04/88	95	9J	15	87	140	ND	15
27	03/05/88	84	11J	16J	88	130	1	25
28	04/11/88	150	20	20	78	120	1	13
29	05/11/88	110	ND	10J	59	160	2	25
30	06/04/88	79B	12J	11J	38	77	1	25
31	07/30/88	73	7	9	31	70	ND	5
32	08/01/88	51	6	8	30	64	ND	5
33	09/13/88	NO SAMPLE WAS COLLECTED FROM THIS WELL DURING THIS ROUND OF SAMPLING.						
34	11/01/88	47	3	7	13	59	ND	5
35	11/03/88	31	ND	4J	5	18	ND	5
36	12/01/88	40	4J	9	20	50	ND	5
37	01/04/89	No sample was collected during this round.						
38	02/01/89	39	ND	5	10	47	ND	5
39	03/01/89	48	ND	6	15	48	ND	5
40	04/03/89	37	2J	5	8	33	ND	5
41	05/01/89	55	4J	7	13	48	ND	5
42	06/07/89	49	6	7	12	43	ND	5
43	07/24/89	67	40	38	1200	570	ND	50
44	08/15/89	49	3J	8	7	29	ND	5
45	09/12/89	53	ND	6	13	43	ND	5
46	10/06/89	53	3J	6	14	44	ND	5
47	11/03/89	59	6	9	13	40	ND	5
48	12/06/89	60	5	9	16	44	ND	5
49	01/05/90	55	7	7	17	43	ND	5
50	02/01/90	74	ND	7	16	45	ND	5
51	03/05/90	42	5	8	18	44	ND	5
52	04/03/90	59	ND	6	ND	44	ND	5
53	05/11/90	56	5	7	15	48	ND	5
54	06/06/90	66	5	8	16	51	ND	5
55	07/12/90	80	8	10	19	56	ND	5
56	08/07/90	80	9	9	19	56	ND	5
57	09/ /90							
58	10/ /90							

Number of Months to Reach MCL's:	linear regression;	exponential regression.
Trichloroethane:	32	68
Trichloroethene:	38	103
Vinyl Chloride:	53	52

NOTES:

ND - Not Detected; Below Detection Limit.

J - Estimated concentration present below MDL.

11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

EKCO HOUSEWARES
WELL #: W-10

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	200	ND	8300	3500	ND	200
07	06/05/86	ND	ND	ND	7500	3300	ND	200
08	07/15/86	ND	ND	ND	7000	3400	ND	400
09	08/12/86	ND	ND	ND	6000	1800	ND	400
10	09/05/86	ND	ND	ND	8500	3600	ND	400
11	10/08/86	170	93	80	7800	3700	ND	80
11a	11/11/86	210	160	ND	11000	5100	ND	120
12	12/09/86	220	ND	ND	9200	3900	ND	100
13	01/16/87	ND	ND	ND	8400	3800	ND	100
14*	02/03/87	ND	ND	110	7500	3500	8	100
15	03/05/87	ND	ND	ND	6600	3000	4	100
16	04/09/87	170	ND	ND	7400	2800	6	100
17	05/04/87	ND	ND	ND	4800	2500	8	100
18	06/04/87	150	ND	ND	5600	2300	5	150
19	07/08/87	ND	ND	ND	4400	2400	8	200
20	08/04/87	120J	ND	ND	5300	2200	6	250
21	09/03/87	ND	ND	ND	6800	2700	8	250
22	10/01/87	170J	ND	ND	9300	2600	2	250
23	11/05/87	ND	ND	ND	7400	2700	6	250
24	12/04/87	ND	ND	ND	5500	2400	4	250
25	01/06/88	ND	ND	ND	4400	2200	4	250
26	02/04/88	100J	ND	ND	4800	2200	3	250
27	03/05/88	ND	ND	ND	5600	2100	6	250
28	04/11/88	ND	ND	ND	4000	1600	4	250
29	05/11/88	ND	100J	130J	8200	3000	15	250
30	06/04/88	ND	ND	ND	18000	4700	4	500
31	07/30/88	70J	ND	ND	2700	1300	10	130
32	08/01/88	60J	ND	ND	2600	1200	15	130
33	09/13/88	ND	ND	ND	2300	960	2	250
34	11/01/88	90J	110J	ND	2600	1100	5	120
35	11/03/88	62	ND	26J	1200	600	1	50
36	12/01/88	60	ND	ND	1400	980	7	50
37	01/04/89	52	ND	ND	1400	900	3	100
38	02/01/89	ND	ND	ND	1400	830	+	130
39	03/01/89	90	ND	58J	2100	790	3	60
40	04/03/89	75	ND	35J	2100	840	3	65
41	05/01/89	64	ND	ND	2200	760	4	62
42	06/07/89	57	64	37J	1500	710	2	50
43	07/24/89	45	2J	5	9	33	ND	5
44	08/15/89	65	66	48J	1400	790	ND	50
45	09/12/89	53	ND	ND	1200	570	1	42
46	10/12/89	69	52	48J	1300	580	2	50
47	11/03/89	83	72	56	1300	630	3	50
48	12/06/89	87	38J	52	1500	550	2	50
49	01/05/90	70	37J	48J	1500	690	3	50
50	02/01/90	69	ND	ND	1200	650	4	50
51	03/05/90	110	ND	60	1400	600	+	50
52	04/03/90	ND	ND	ND	1200	630	2	100
53	05/09/90	80	ND	68	1900	800	1	50
54	06/06/90	60	36J	58	1700	740	3	50
55	07/20/90	76	100	72	1600	690	2	50
56	08/08/90	78	50	70	1500	680	ND	50
57	09/ /90							
58	10/ /90							

Number of Months to Reach MCL's: linear regression; exponential regression.

Trichloroethane:	89	511
Trichloroethene:	67	359
Vinyl Chloride:	108	88

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration; present below MDL.

11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

220 ppb Dibromochloromethane estimated to be present in sample set 21.

+ - Not analysed during this round of sampling. No explanation given.

EKCO HOUSEWARES

WELL #: Air Stripper Effluent

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	ND	ND	ND	ND	ND	10
07	06/04/86	ND	ND	ND	ND	3J	ND	10
08	07/15/86	ND	ND	ND	14	18	ND	10
09	08/13/86	ND	ND	ND	ND	ND	ND	10
10	09/05/86	ND	ND	ND	ND	ND	ND	1
11	10/08/86	ND	ND	ND	ND	6J	ND	10
11a	11/11/86	ND	ND	ND	ND	3	ND	1
12	12/09/86	ND	ND	ND	ND	ND	ND	10
13	01/16/87	ND	ND	ND	ND	7J	ND	10
14	02/03/87	ND	ND	ND	ND	7	ND	1
15	03/04/87	ND	ND	ND	ND	ND	ND	1
16	04/07/87	ND	ND	ND	ND	5	ND	1
17	05/04/87	ND	ND	ND	ND	ND	ND	1
18	06/04/87	ND	ND	ND	ND	ND	ND	1
19	07/08/87	ND	ND	ND	ND	36	ND	1
20	08/04/87	ND	ND	ND	4	3	ND	1
21	09/03/87	ND	ND	ND	ND	ND	ND	1
22	10/01/87	ND	ND	ND	ND	ND	ND	1
23	11/05/87	ND	ND	ND	ND	ND	ND	1
24	12/04/87	ND	ND	ND	ND	4	ND	1
25	01/06/88	ND	ND	ND	1	1	ND	1
26	02/04/88	ND	ND	ND	ND	2	ND	1
27	03/05/88	ND	ND	ND	ND	ND	ND	1
28	04/11/88	ND	ND	ND	ND	3	ND	1
29	05/11/88	ND	ND	ND	ND	1	ND	1
30	06/04/88	ND	ND	ND	ND	2	ND	1
31	07/30/88	ND	ND	ND	ND	2J	ND	5
32	08/01/88	ND	ND	ND	ND	5	ND	5
33	09/13/88	ND	ND	ND	ND	22	ND	5
34	11/01/88	ND	ND	ND	ND	ND	ND	5
35	11/03/88	ND	ND	ND	ND	5	ND	5
36	12/01/88	ND	ND	ND	ND	ND	ND	5
37	01/04/89	ND	ND	ND	ND	ND	ND	5
38	02/01/89	ND	ND	ND	ND	ND	+	5
39	03/01/89	ND	ND	ND	ND	ND	ND	5
40	04/03/89	ND	ND	ND	ND	6	ND	5
41	05/01/89	ND	ND	ND	ND	ND	ND	5
42	06/07/89	ND	ND	ND	ND	6	ND	5
43	07/06/89	ND	ND	2J	ND	6	ND	5
44	08/15/89	ND	ND	3J	ND	6	ND	5
45	09/12/89	ND	ND	ND	ND	410	ND	17
46	10/12/89	ND	ND	ND	ND	ND	ND	5
47	11/03/89	ND	ND	ND	ND	4J	ND	5
48	12/06/89	ND	ND	ND	ND	11	ND	5
49	01/05/90	ND	ND	ND	ND	ND	ND	5
50	02/01/90	ND	ND	ND	ND	4J	ND	5
51	03/05/90	ND	ND	ND	ND	ND	+	5
52	04/03/90	ND	ND	ND	ND	ND	ND	5
53	05/09/90	ND	ND	ND	ND	ND	ND	5
54	06/06/90	ND	ND	ND	ND	ND	ND	5
55	07/12/90	ND	ND	ND	ND	ND	ND	5
56	08/07/90	ND	ND	ND	ND	ND	ND	5
57	09/ /90							
58	10/ /90							

NOTES:

ND - Not detected.

J - Estimated concentration; detected below MDL.

* - from this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

Toluene detected at 1 ppb in sample sets 19 and 21.

Toluene detected at 3 ppb in sample set 48.

Toluene detected at 6 ppb in sample set 28.

+ - NOT Analysed

EKCO HOUSEWARES
WELL #: Outfall 001

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	ND	20	14	150	ND	10
07	06/04/86	ND	ND	ND	27	110	ND	10
08	07/15/86	ND	ND	9J	24	270	ND	10
09	08/13/86	ND	ND	ND	7J	73	ND	10
10	09/05/86	ND	ND	ND	ND	120	ND	10
11	10/03/86	ND	ND	49	91	530	ND	10
11a	11/11/86	ND	ND	2	5	35	ND	1
12	12/09/86	ND	ND	ND	26	43	ND	10
13	01/16/87	ND	ND	ND	ND	20	ND	10
14	02/03/87	ND	ND	ND	ND	22	ND	10
15	03/04/87	ND	ND	2	5	18	ND	1
16	04/11/87	ND	ND	ND	32	830	ND	20
17	05/12/87	ND	ND	ND	2	30	ND	1
18	06/05/87	ND	ND	7J	7J	150	ND	10
19	07/08/87	ND	ND	5J	5J	43	ND	1
20	08/04/87	ND	ND	9J	10J	390	ND	12
21	09/03/87	ND	ND	ND	ND	180	ND	25
22	10/01/87	ND	ND	8	4J	61	ND	5
23	11/05/87	ND	ND	13J	12J	1000	ND	25
24	12/04/87	ND	ND	5	6	150	ND	5
25	01/06/88	ND	ND	2	3	16	ND	1
26	02/04/88	ND	ND	5	11	38	ND	5
27	03/05/88	ND	ND	4J	8	23	ND	5
28	04/11/88	ND	ND	4J	28	47	ND	5
29	05/11/88	ND	ND	ND	ND	1	ND	5
30	06/04/88	ND	ND	4J	27	91	ND	5
31	07/30/88	ND	ND	4J	11	37	ND	5
32	08/01/88	ND	ND	3J	7	21	ND	5
33	09/13/88	ND	ND	ND	8J	90	ND	12
34	11/01/88	ND	ND	4J	4J	40	ND	5
35	11/03/88	ND	ND	ND	10	44	ND	5
36	12/01/88	ND	ND	ND	13	10	ND	5
37	01/04/89	ND	ND	ND	5	9	ND	5
38	02/01/89	ND	ND	ND	ND	12	+	5
39	03/01/89	ND	ND	ND	6	13	ND	5
40	04/03/89	ND	ND	4J	13	55	ND	5
41	05/01/89	ND	ND	4J	44	55	ND	5
42	06/09/89	2J	ND	4J	20	11	ND	5
43	07/06/89	ND	ND	4J	13	13	ND	5
44	08/15/89	ND	ND	ND	9	220	ND	5
45	09/12/89	ND	ND	ND	9	140	ND	5
46	10/12 89	ND	ND	3J	25	98	ND	5
47	11/03/89	ND	ND	3J	13	47	ND	5
48	12/06/89	ND	ND	3J	18	40	ND	5
49	01/05/90	55	7	7	17	43	ND	5
50	02/01/90	ND	ND	ND	12	85	ND	5
51	03/05/90	ND	ND	ND	12	38	+	5
52	04/03/90	ND	ND	ND	ND	45	+	5
53	05/09/90	ND	ND	ND	6	18	ND	5
54	06/06/90	ND	ND	ND	7	36	ND	5
55	07/12/90	ND	ND	ND	4J	9	ND	5
56	08/07/90	ND	ND	ND	10	39	ND	5
57	09/ /90							
58	10/ /90							

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration present below MDL.

11a - there are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

+ - NOT Analysed

EKCO HOUSEWARES
WELL #: R-1

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
07	06/05/86	ND	ND	66	63	690	ND	30
10	09/05/86	ND	ND	97	ND	730	ND	30
12	12/09/86	ND	ND	77	83	630	ND	20
15*	03/05/87	ND	ND	70	64	490	19	10
18	06/04/87	16	ND	77	97	590	25	15
21	09/03/87	18J	ND	78	100	500	28	25
24	12/04/87	11J	ND	53	71	500	15	25
27	03/05/88	13J	ND	67	100	490	20	25
30	06/04/88	22J	11J	82	130	550	29	25
33	09/13/88	27	ND	83	140	620	17	25
36	12/01/88	30	ND	91	150	710	37	25
39	03/01/89	48	ND	89	280	1000	21	36
42	06/07/89	R-1 ANALYTICAL DATA NOT INCLUDED IN DATA PACKAGE						
45	09/12/89	R-1 ANALYTICAL DATA NOT INCLUDED IN DATA PACKAGE						
48	12/06/89	30	13J	82	140	650	29	17
51	03/05/90	42	9J	86	100	760	17	17
54	06/07/90	29J	ND	84	120	790	27	50

NOTES:

ND - Not detected; below detection limit.

J - Estimated concentration present below MDL.

* - From this point on the detection limit for VC is 1 ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

EKCO HOUSEWARES
WELL #: R-2

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	06/05/86	ND	ND	390	ND	2300	ND	100
09	09/05/86	160	ND	640	ND	3400	ND	100
12	12/09/86	ND	ND	510	ND	2800	ND	100
15	03/05/87	ND	ND	380	ND	2200	60	50
18	06/04/87	85	ND	310	ND	2000	47	100
21	09/03/87	110	ND	380	ND	2000	80	75
24	12/04/87	65	ND	190	ND	1200	40	100
27	03/05/88	50	ND	170	ND	1300	30	50
30	06/04/88	75J	ND	190	ND	ND*	42	130
33	09/13/88	65J	ND	180	ND	1300	37	125
36	12/01/88	75	ND	250	ND	2200	58	50
39	03/01/89	54	ND	200	ND	1600	58	50
42	06/07/89	48J	ND	170	ND	1100	33	62
45	09/12/89	66	ND	160	ND	1100	28	50
48	12/06/89	85	ND	170	ND	960	38	50
51	03/05/90	110	ND	140	ND	890	22	50
54	06/07/90	140	ND	140	ND	1000	25	50

NOTES:
ND - NOT DETECTED/BELOW DETECTION LIMIT
J- ESTIMATED CONCENTRATION, PRESENT BELOW MDL

EKCO HOUSEWARES
WELL #: R-3

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	06/04/86	4J	ND	ND	3J	2J	ND	10
09	09/05/86	27	ND	ND	52	14	ND	10
12	12/09/86	16	ND	ND	14	4J	ND	10
15	03/04/87	22	2	ND	23	4	ND	1
18	06/04/87	13	ND	ND	11	2	ND	1
21	09/03/87	21	2	ND	18	4	ND	1
24	12/04/87	28	3	ND	26	7	ND	1
27	03/05/88	13	1	ND	9	3	ND	1
30	06/04/88	12	1	ND	7	4	ND	1
33	09/13/88	39	3J	ND	22	8	ND	5
36	12/01/88	60	6	ND	30	20	ND	5
39	03/01/89	73	ND	7	33	15	ND	5
42	06/12/89	76	4J	ND	27	12	ND	5
45	09/13/89	63	5	ND	23	13	ND	5
48	12/06/89	75	7	ND	32	13	ND	5
51	03/05/90	50	2J	ND	17	8	ND	5
54	06/07/90	38	ND	ND	11	6	ND	5

NOTES:
ND - NOT DETECTED/ BELOW DETECTION LIMIT
J - ESTIMATED CONCENTRATION PRESENT BELOW MDL

EKCO HOUSEWARES
WELL #: R-4

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	06/04/86	ND	ND	ND	ND	ND	ND	10
09	09/05/86	ND	ND	ND	ND	ND	ND	10
12	12/09/86	ND	ND	ND	ND	ND	ND	10
15	03/04/87	2	ND	ND	ND	ND	ND	1
18	06/05/87	2	ND	ND	ND	ND	ND	1
21	09/03/87	2	ND	ND	ND	ND	ND	1
24	12/04/87	2	ND	ND	ND	ND	ND	1
27	03/05/88	2	ND	ND	ND	ND	ND	1
30	06/04/88	2	ND	ND	ND	ND	1	1
33	09/13/88	ND	ND	ND	ND	ND	0.8J	5
36	12/01/88	ND	ND	ND	ND	ND	ND	5
39	03/01/89	ND	ND	ND	ND	ND	ND	5
42	06/09/89	2J	ND	ND	ND	ND	2	5
45	09/12/89	ND	ND	ND	ND	ND	ND	5
48	12/06/89	ND	ND	ND	ND	ND	ND	5
51	03/05/90	ND	ND	ND	ND	ND	ND	5
54	06/06/90	ND	ND	ND	ND	ND	2	5

NOTES:
ND - NOT DETECTED/BELOW DETECTION LIMIT
J - ESTIMATED CONCENTRATION PRESENT BELOW MDL.

METCALF & EDDY
2800 Corporate Exchange Drive
Suite 250
Columbus, Ohio 43231
(614) 890-5501

LETTER OF TRANSMITTAL

6/1/90 — Date
150031 / R05031 — Our Job No.

Attention

TO Sally Averill,
5HR-12

Re: Elco Housewares Ground Water Data

RECEIVED
JUN 4 1990
OFFICE OF RCRA
WASTE MANAGEMENT DIVISION
EPA, REGION V

WE ARE SENDING YOU the following items:
- [x] Attached
- [ ] Under separate cover via
- [ ] Prints
- [ ] Sepias
- [ ] Copy of letter
- [ ] Specifications
- [ ] Shop drawings
- [ ]

No. Of. COPIES	DATE	REV.	NO.	TITLE or DESCRIPTION
1	6/1/90			Plots of Monthly Ground Water Data.

THESE ARE TRANSMITTED as checked below:

- [ ] For your information
- [ ] For approval
- [ ] For comment
- [x] For your use
- [ ] As per your request
- [ ] For review and comment
- [ ]
- [ ] PRINTS RETURNED AFTER LOAN TO US

REMARKS Sally,
Enclosed are the graphs of the groundwater data from Elco through April. The summary tables will follow.

Copies to

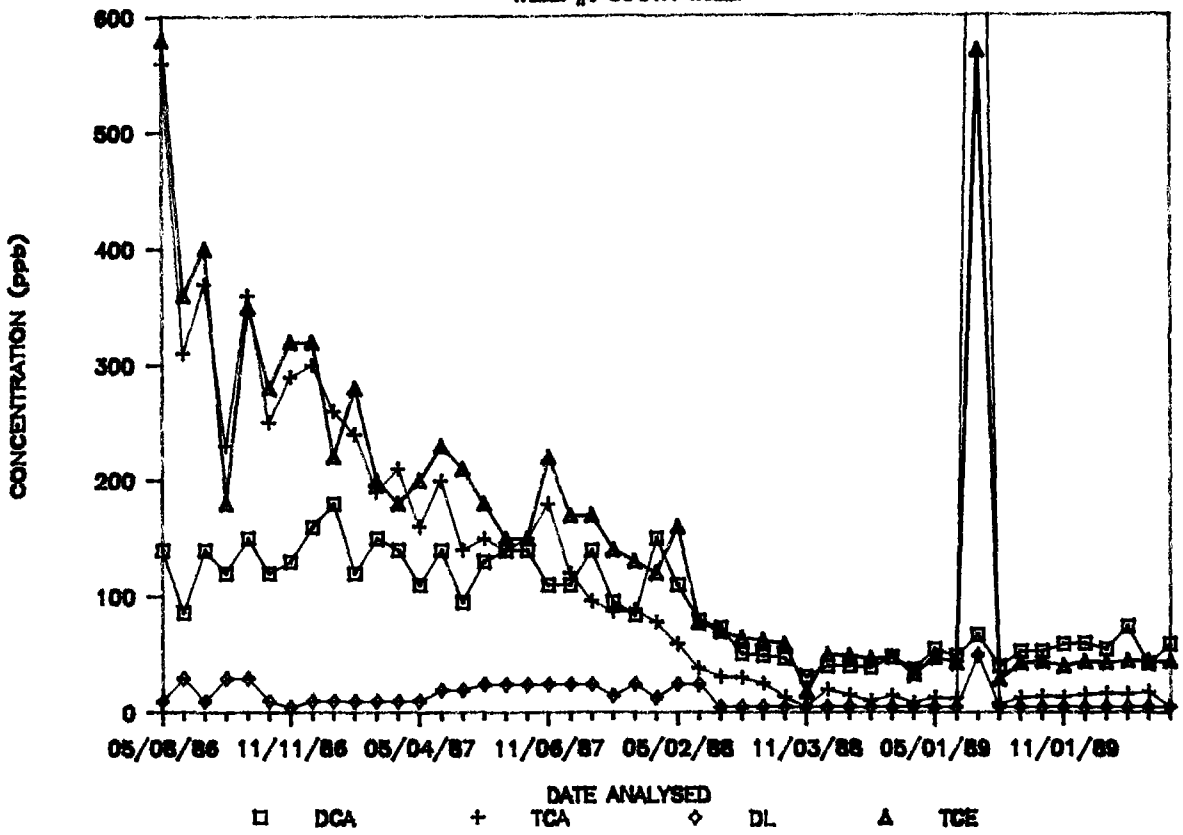
Signed: James R. Stein

Form No. 195N
(Rev. 11/89)

If enclosures are not as noted, kindly notify us at once.

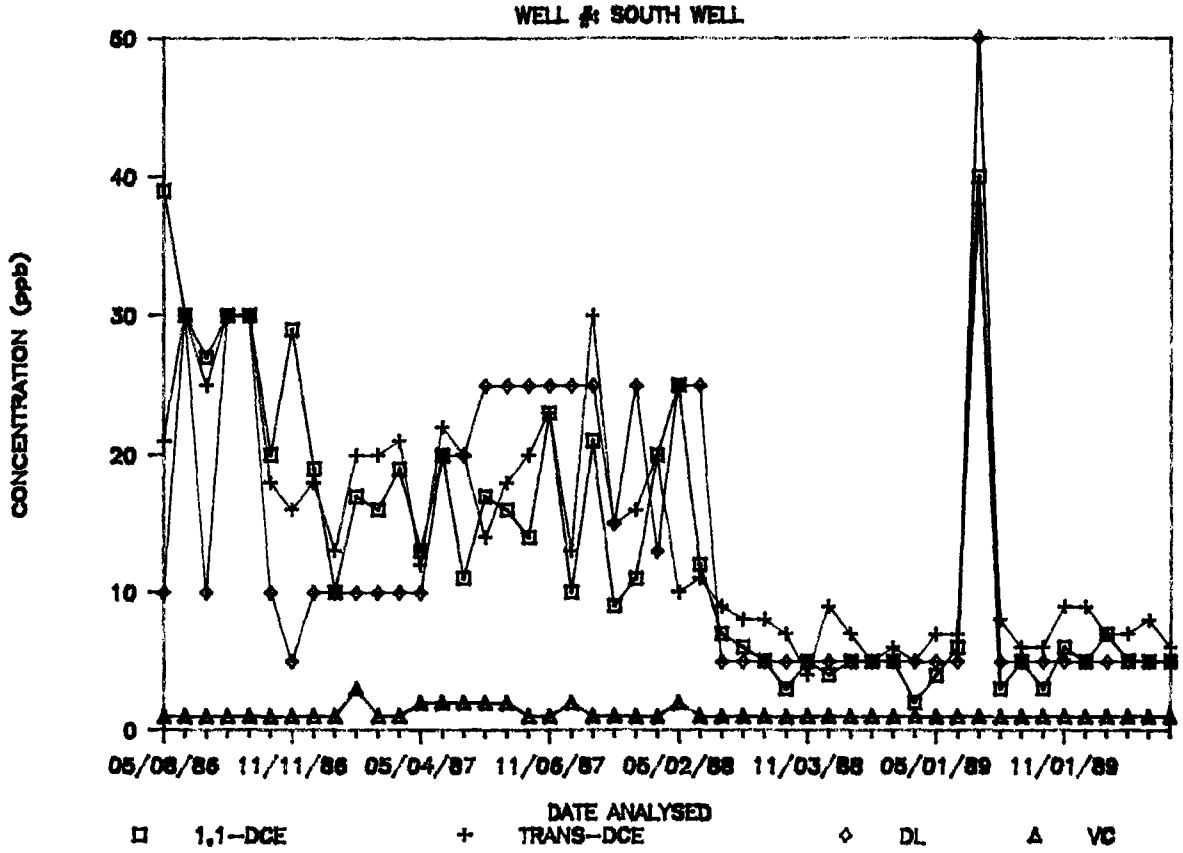
EKCO HOUSEWARES

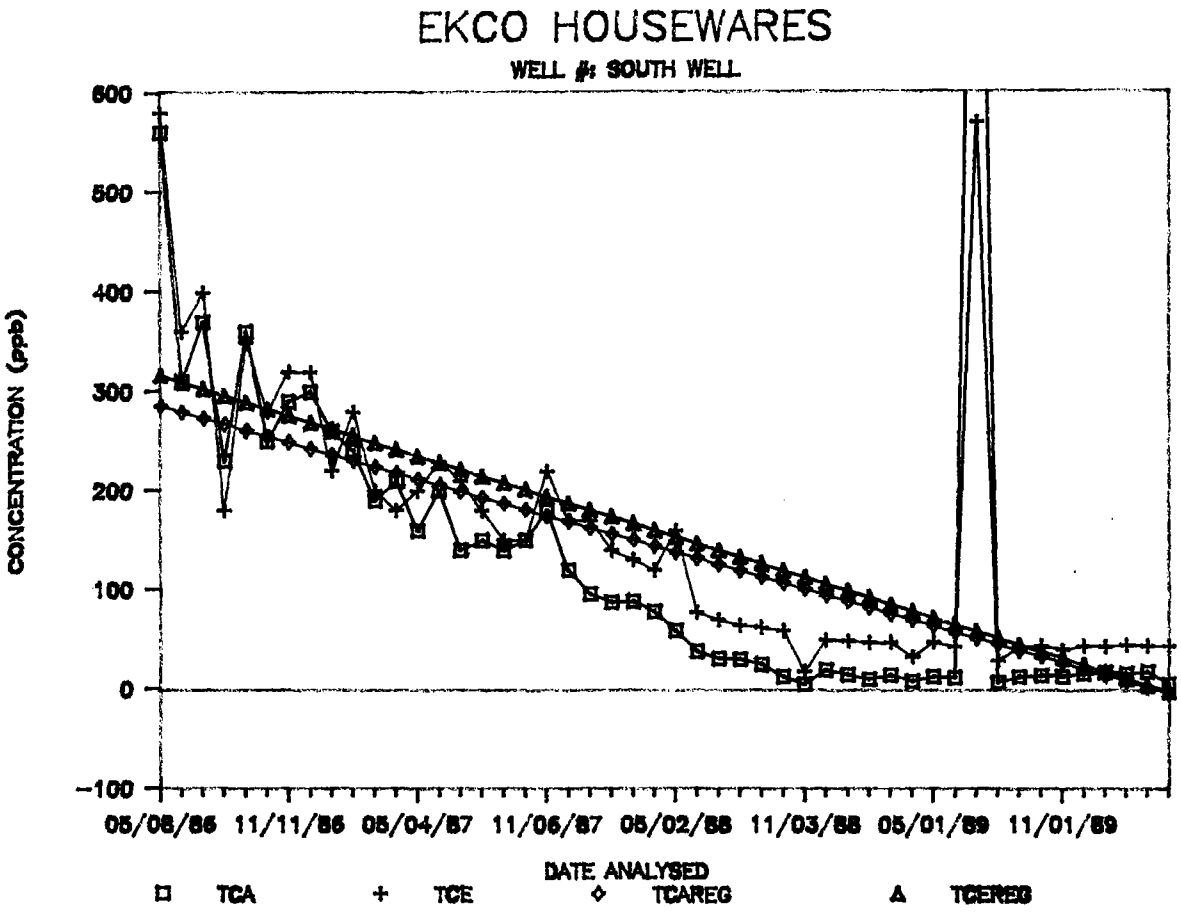
WELL #: SOUTH WELL

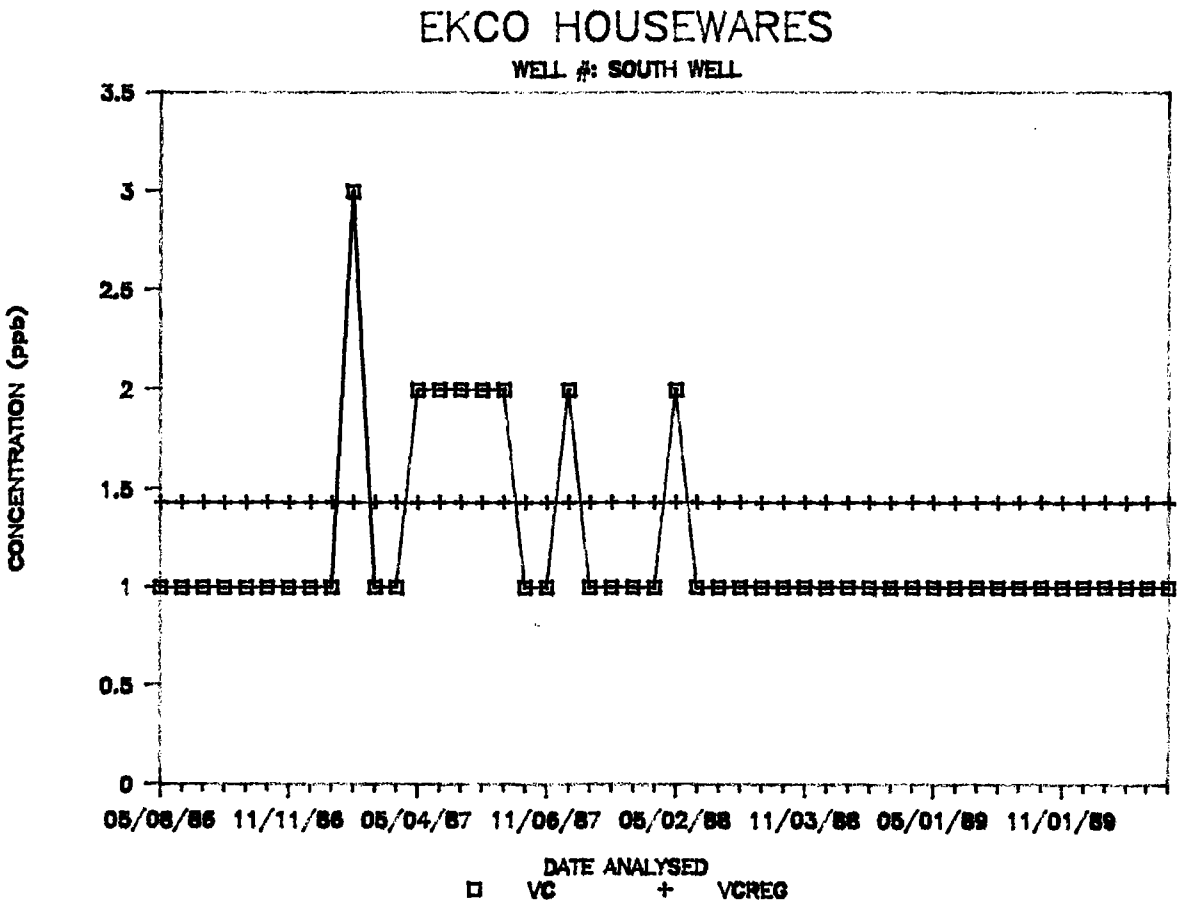


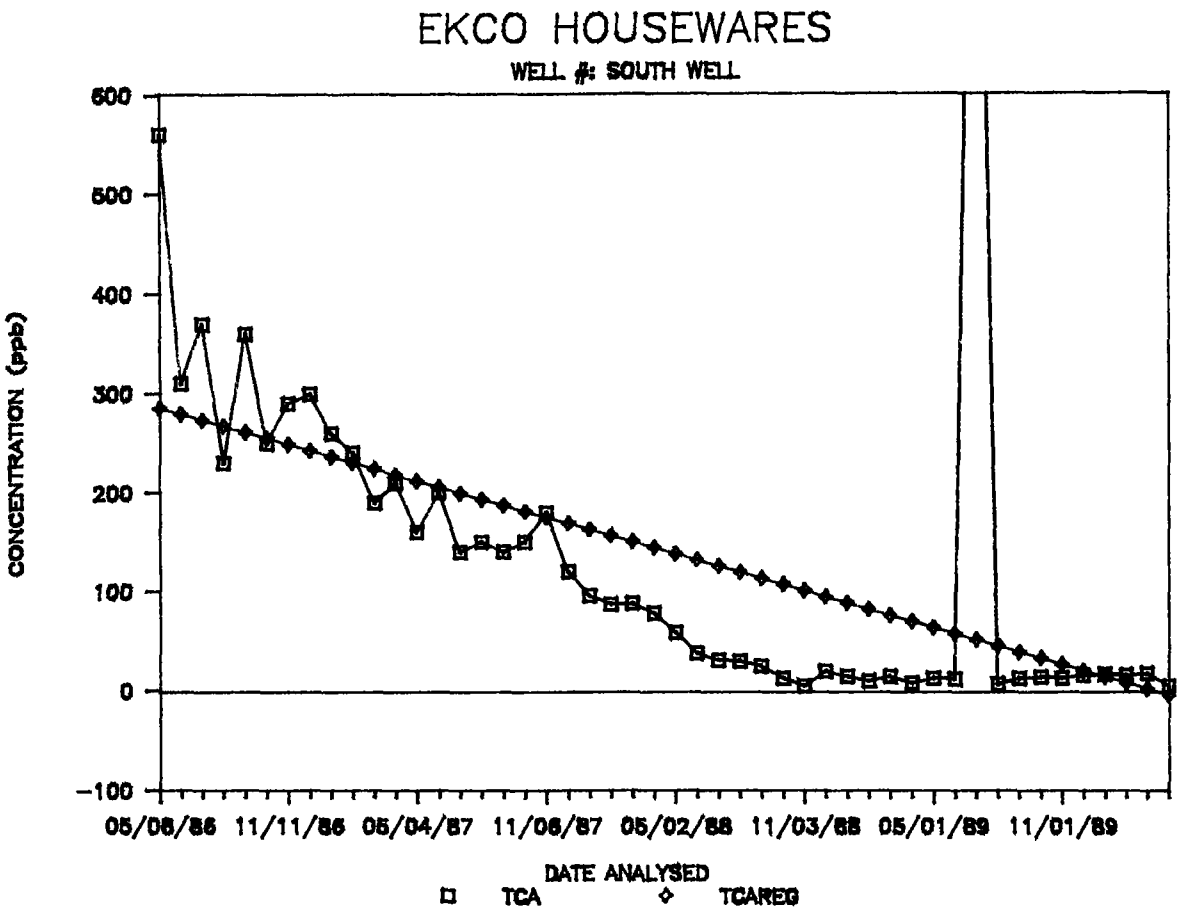
EKCO HOUSEWARES

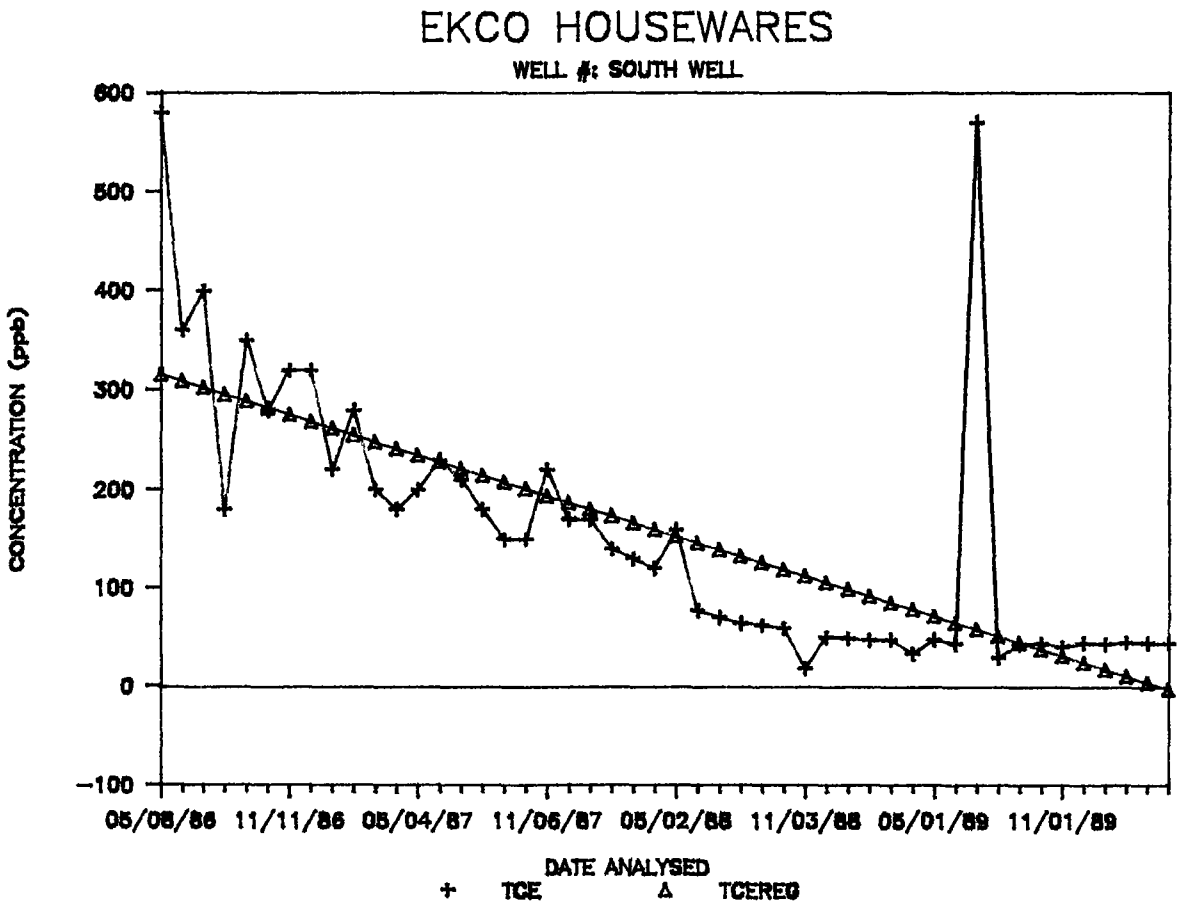
WELL #: SOUTH WELL

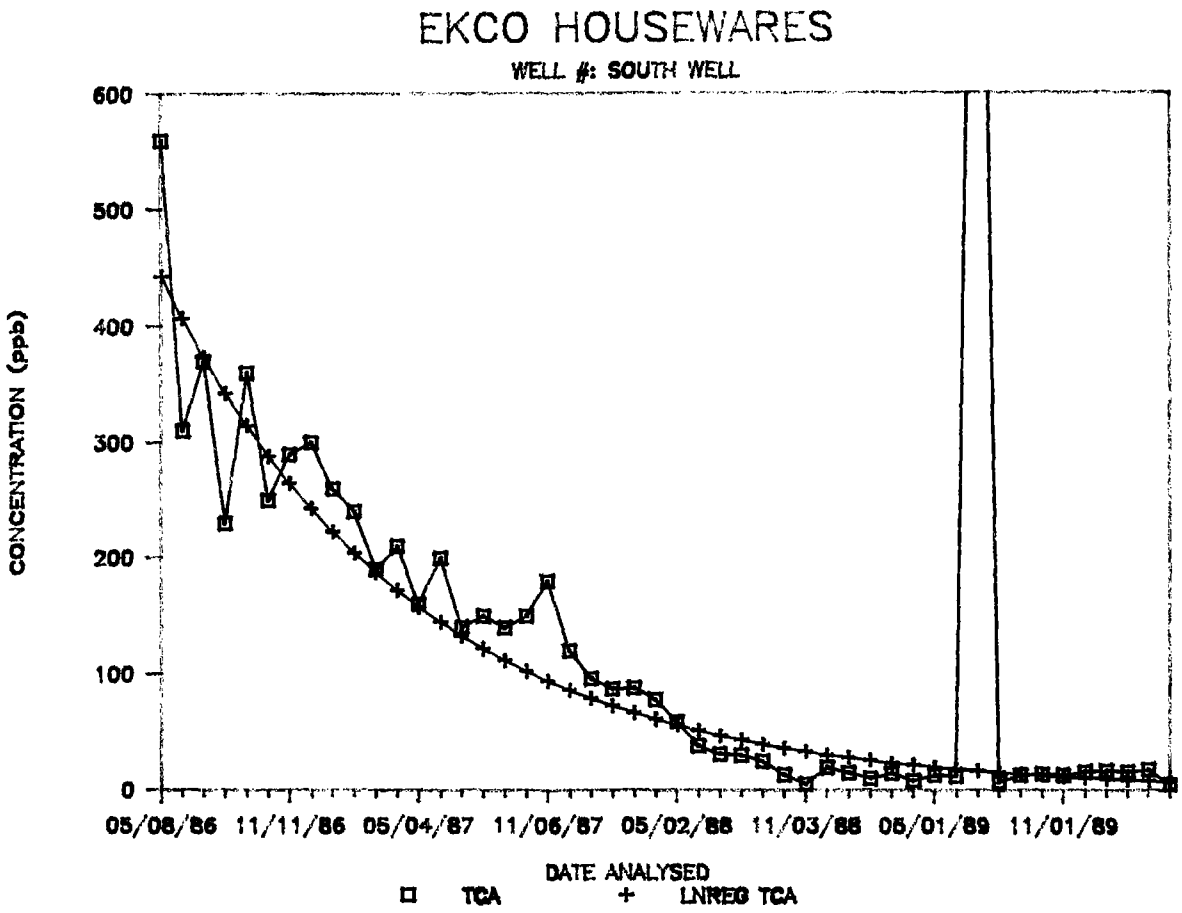


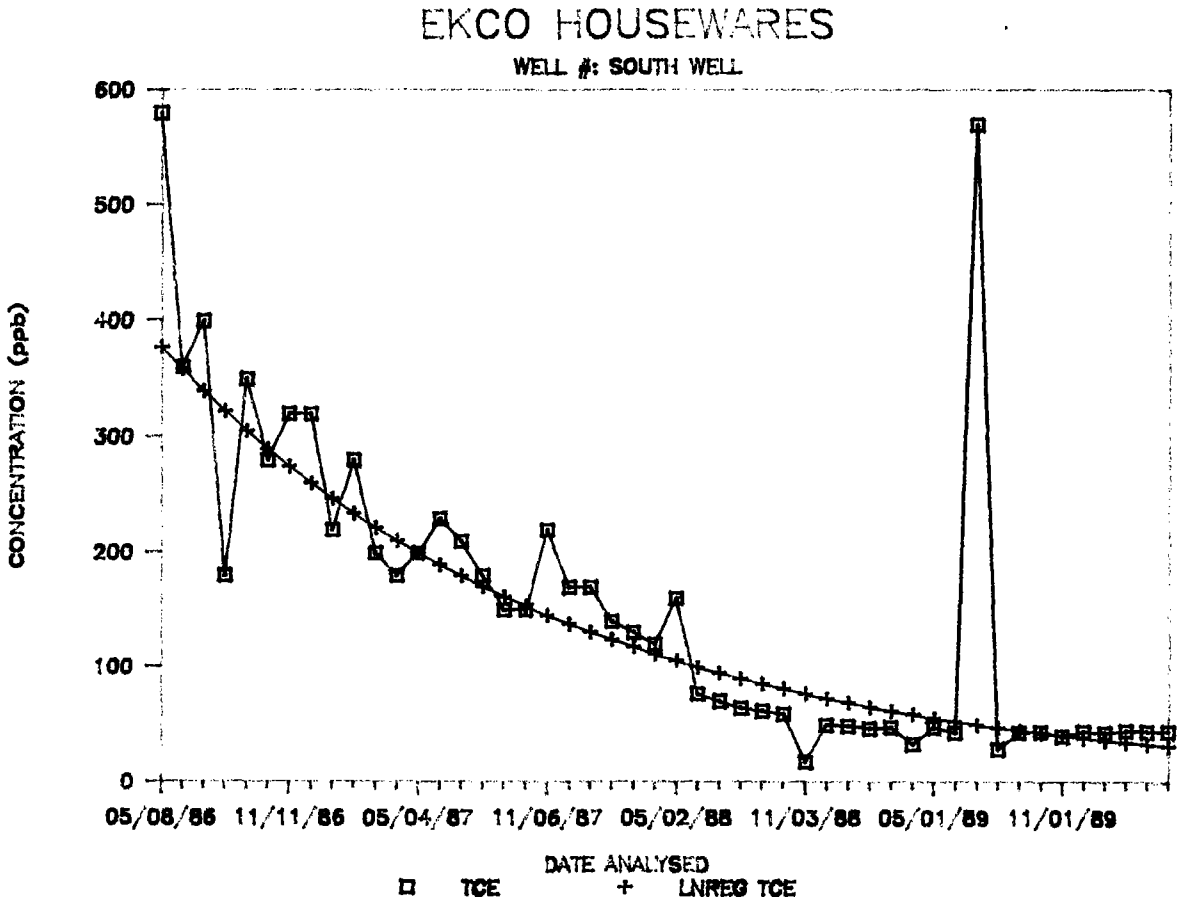

EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
-100
05/08/86 11/11/86 05/04/87 11/06/87 05/02/88 11/03/88 05/01/89 11/01/89
DATE ANALYSED
TCA
TCE
TCAREG
TCEREG


EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
3.5
3
2.5
2
1.5
1
0.5
0
05/08/86 11/11/86 05/04/87 11/06/87 05/02/88 11/03/88 05/01/89 11/01/89
DATE ANALYSED
VC
VCREG


EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
-100
05/06/86 11/11/86 05/04/87 11/06/87 05/02/88 11/03/88 05/01/89 11/01/89
DATE ANALYSED
TCA
TCAREG

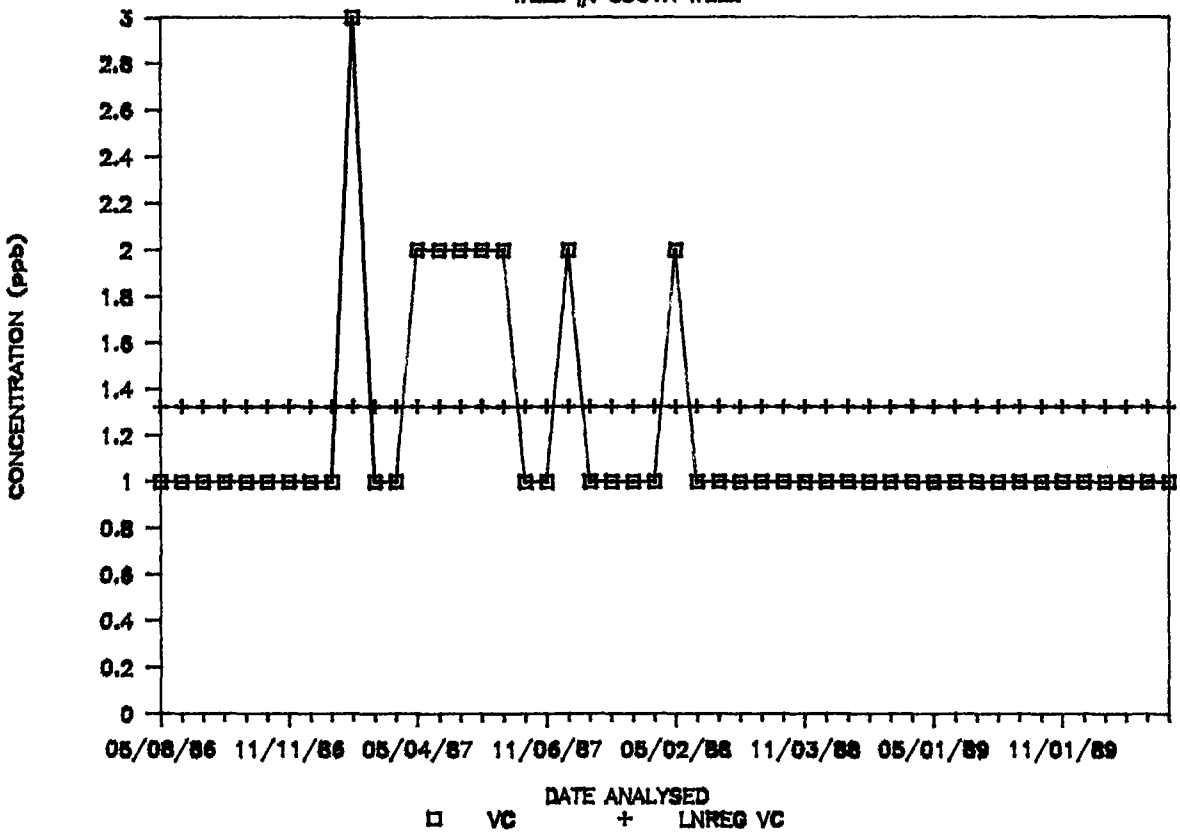

EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
-100
05/06/86 11/11/86 05/04/87 11/06/87 05/02/88 11/03/88 05/01/89 11/01/89
DATE ANALYSED
TCE
TCEREG

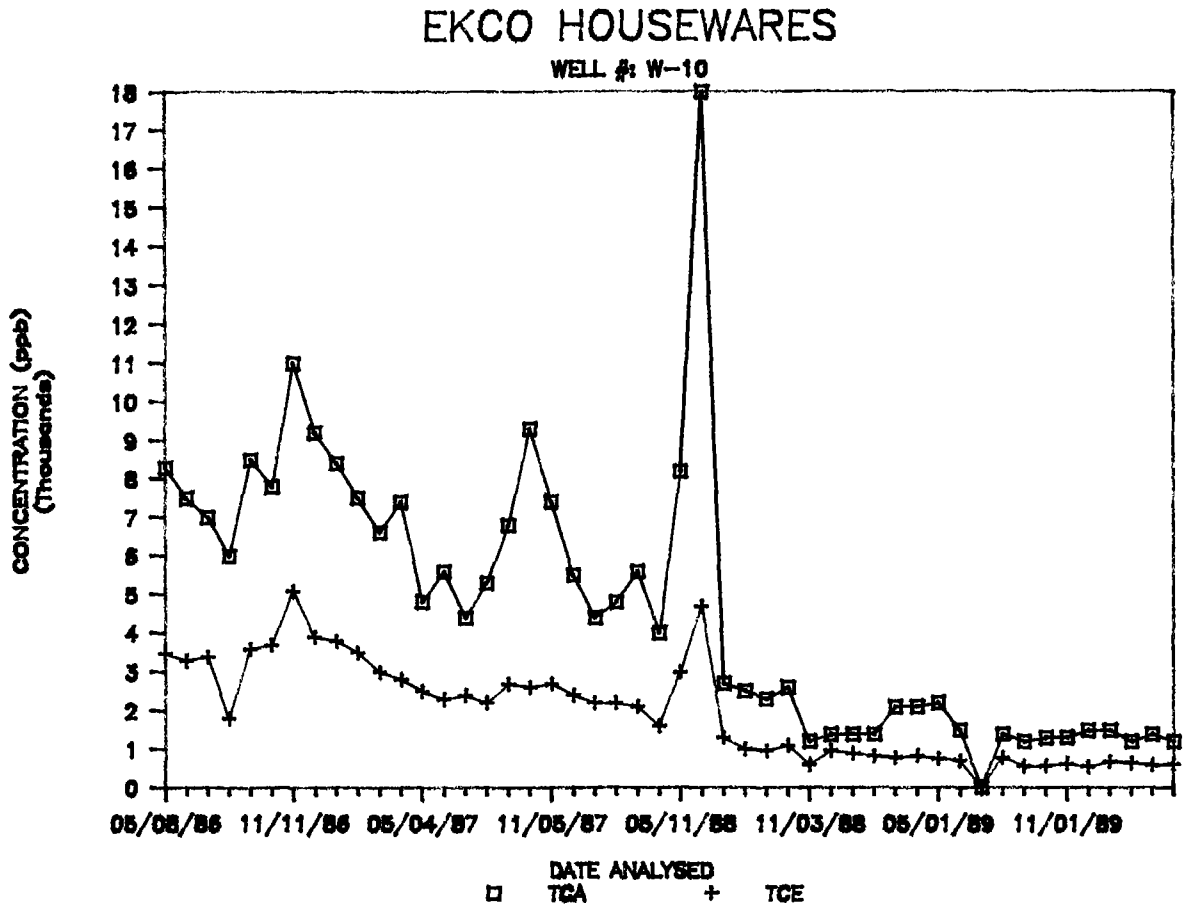

EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
05/08/86 11/11/86 05/04/87 11/06/87 05/02/88 11/03/88 05/01/89 11/01/89
DATE ANALYSED
TCA
LNREG TCA

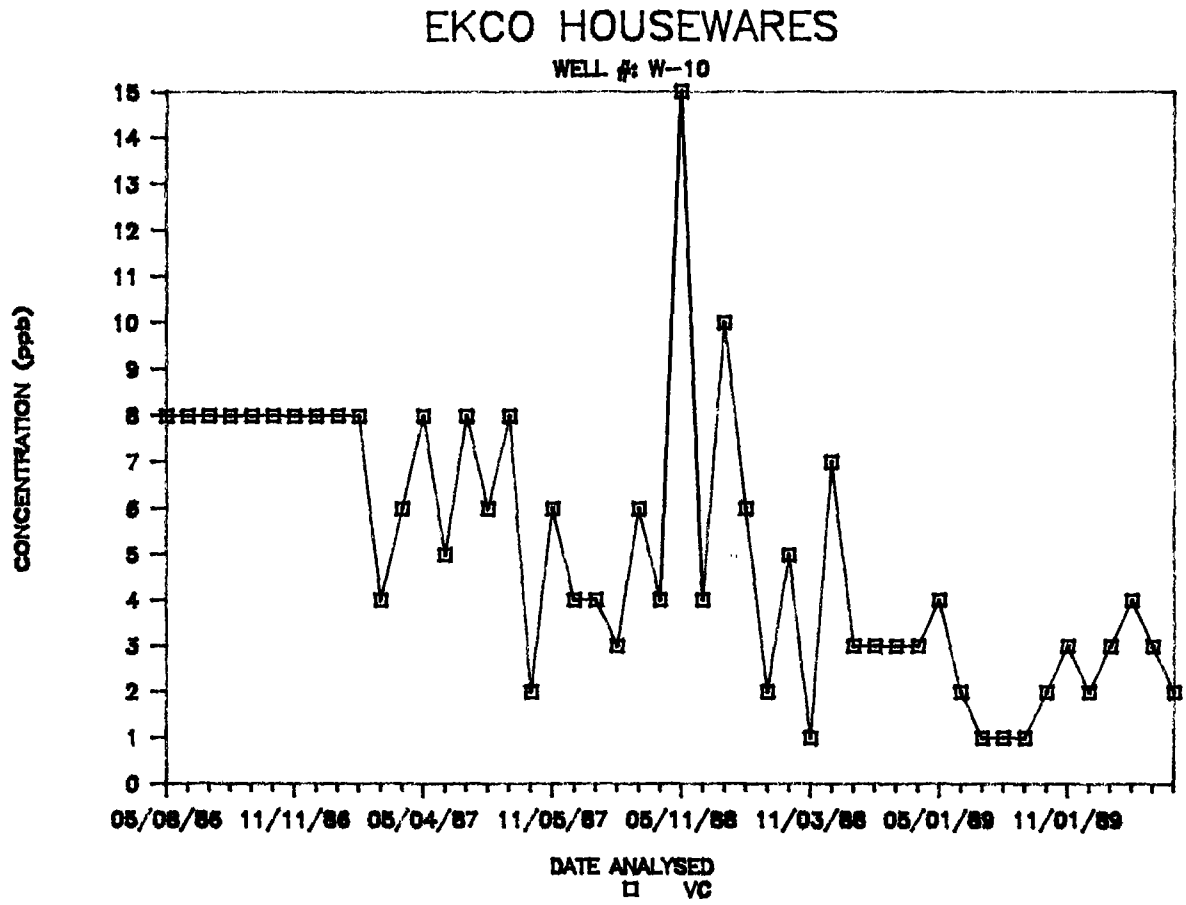

EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
05/08/86 11/11/86 05/04/87 11/06/87 05/02/88 11/03/88 05/01/89 11/01/89
DATE ANALYSED
TCE
LNREG TCE

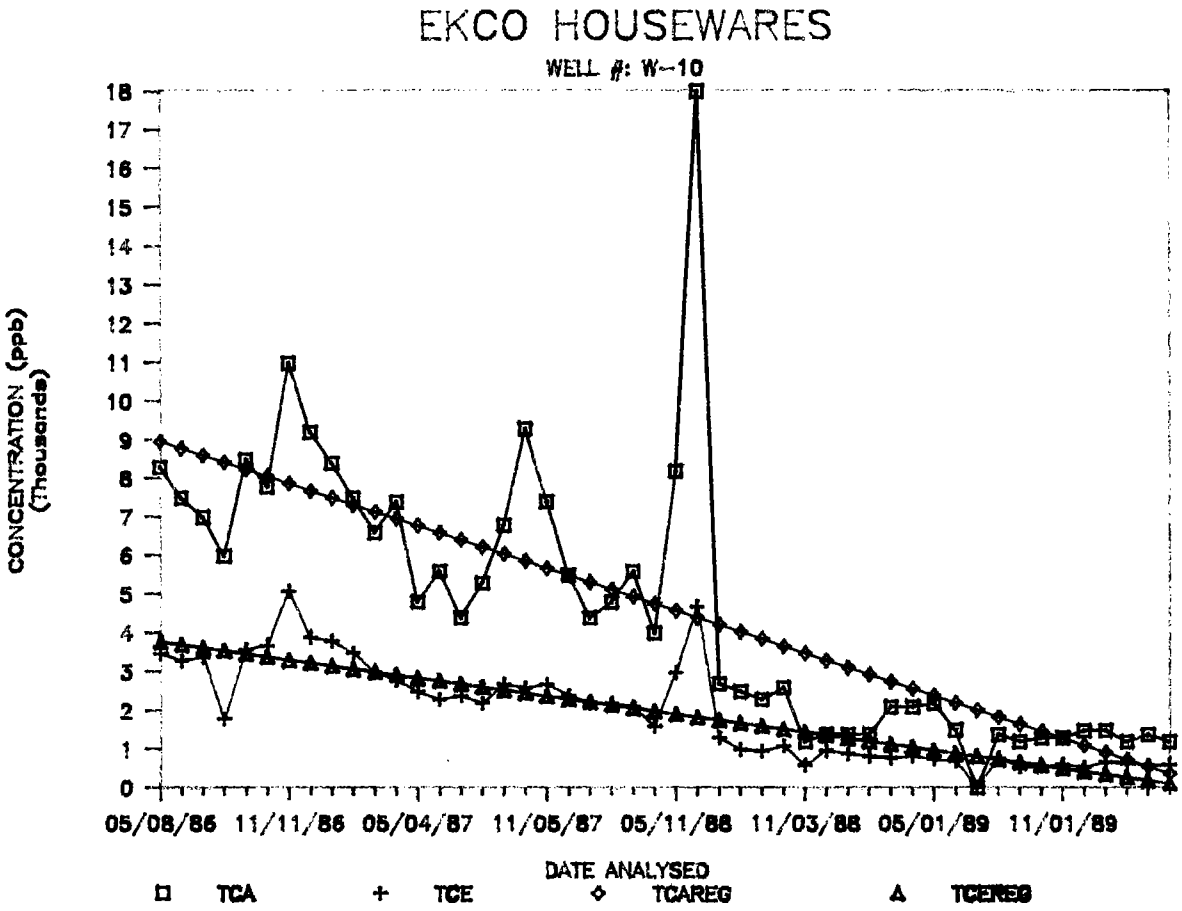
EKCO HOUSEWARES

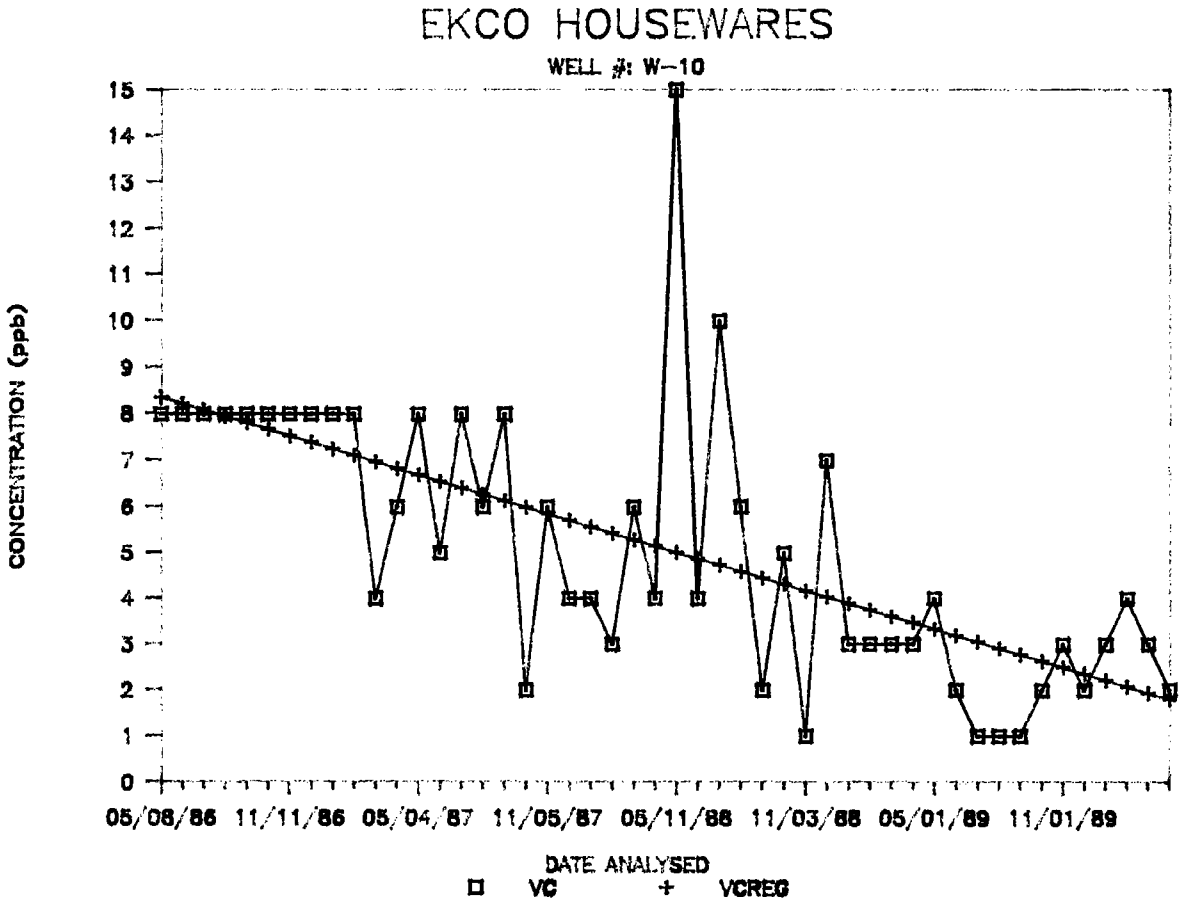
WELL #: SOUTH WELL

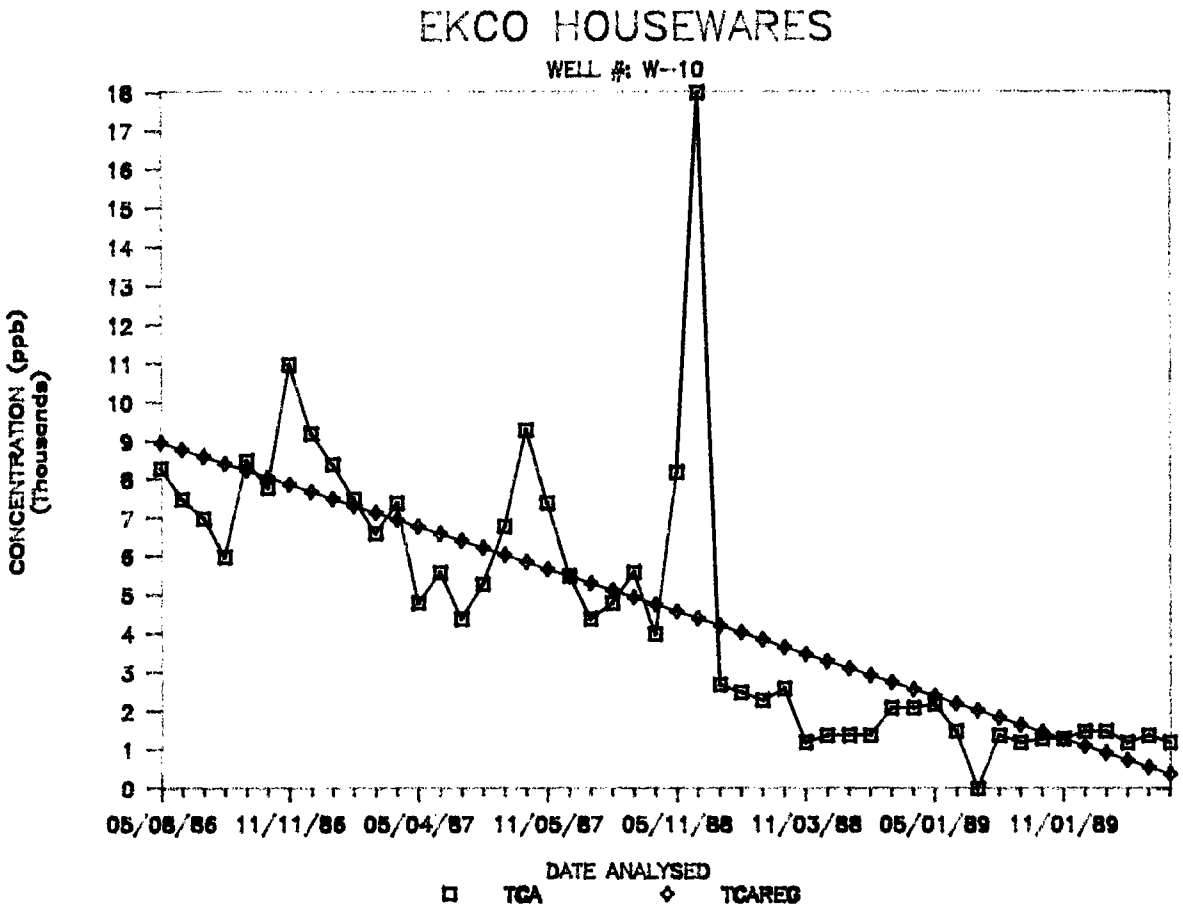


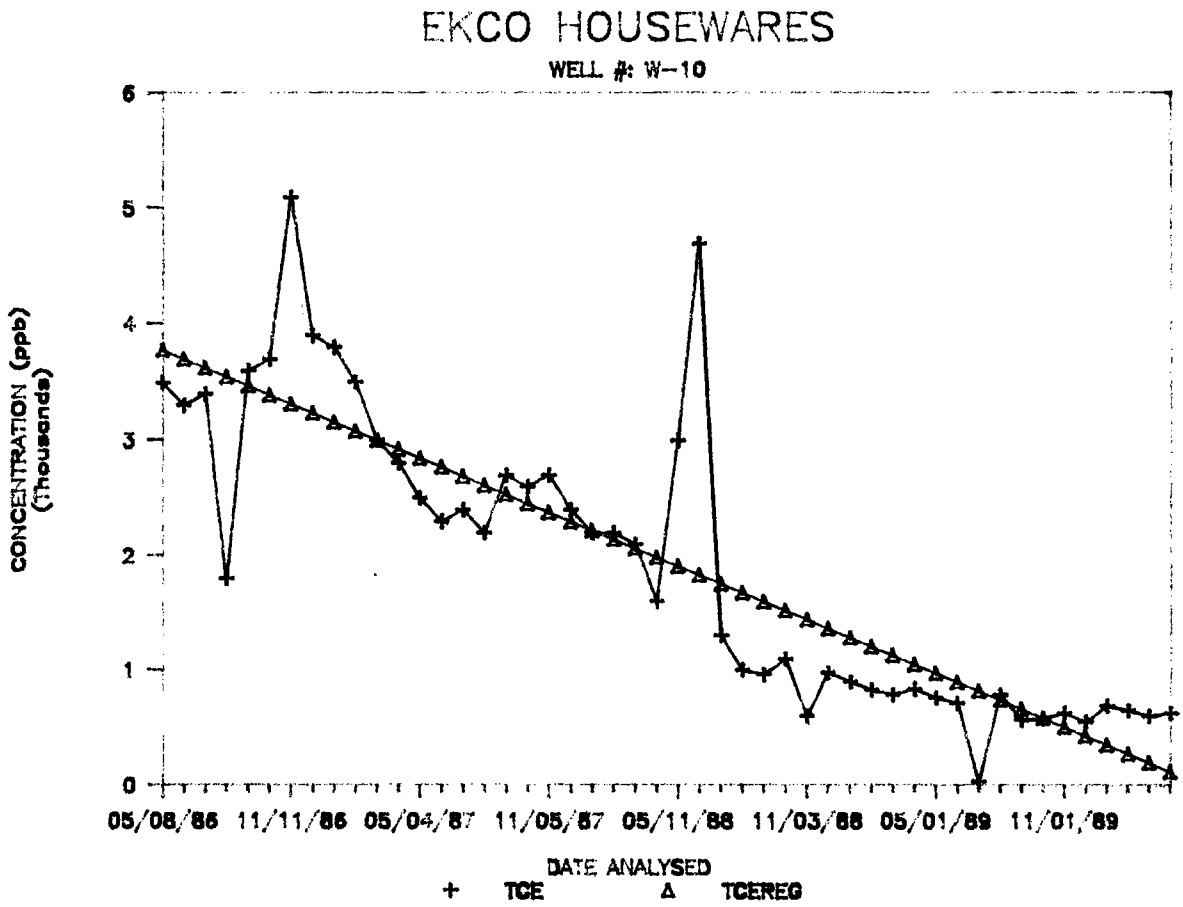

EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
(Thousands)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
05/08/86
11/11/86
05/04/87
11/05/87
05/11/88
11/03/88
05/01/89
11/01/89
DATE ANALYSED
TCA
TCE

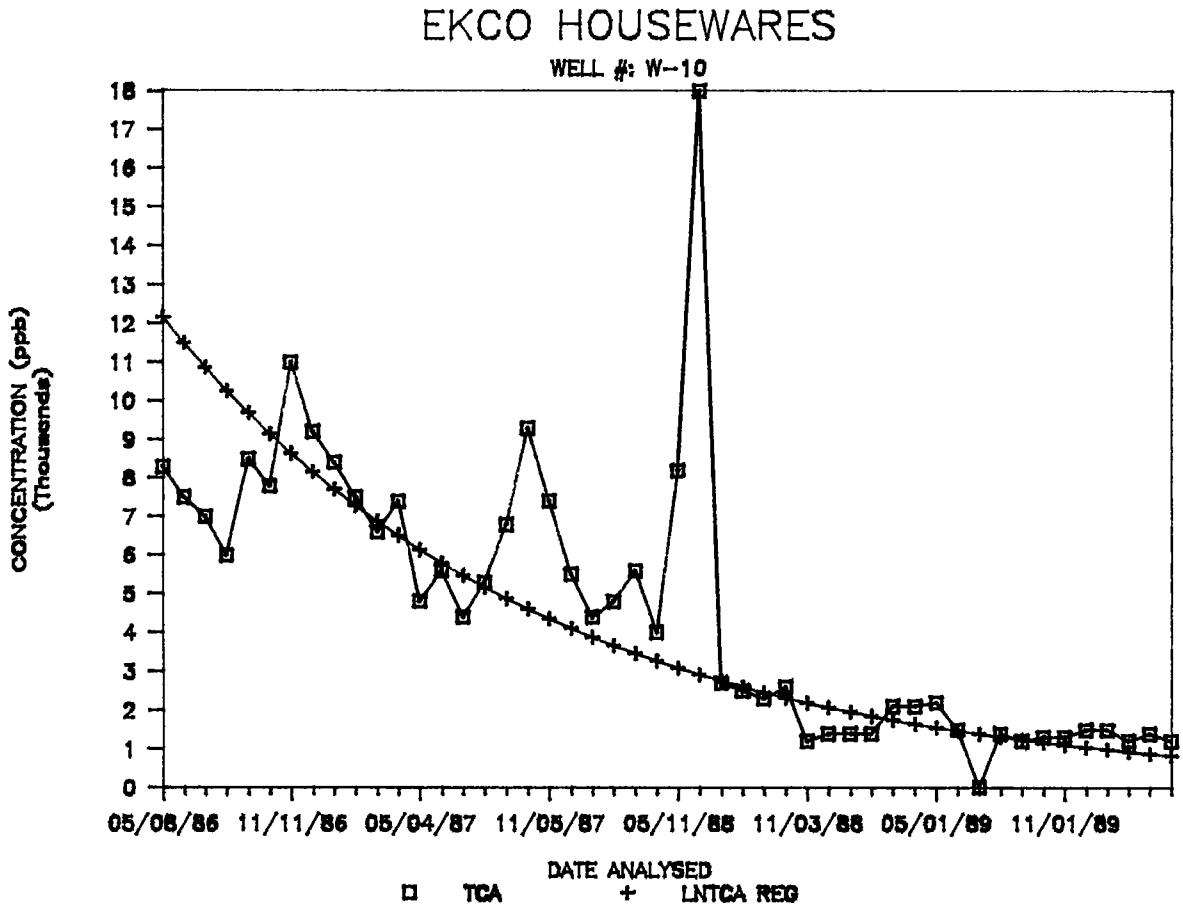

EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
05/08/86
11/11/86
05/04/87
11/05/87
05/11/88
11/03/88
05/01/89
11/01/89
DATE ANALYSED
VC

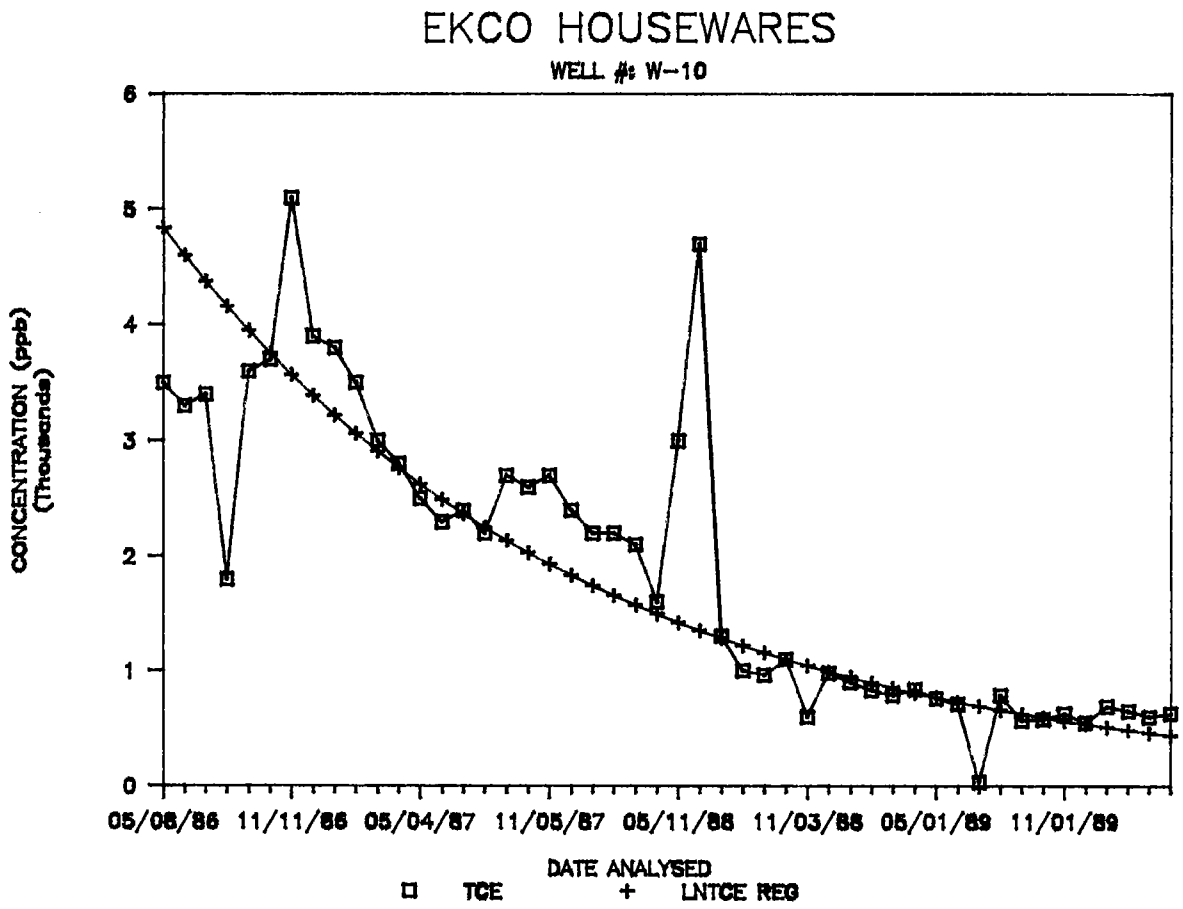

EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
(Thousands)
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
05/08/86 11/11/86 05/04/87 11/05/87 05/11/88 11/03/88 05/01/89 11/01/89
DATE ANALYSED
TCA
TCE
TCAREG
TCEREG


EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
05/08/86 11/11/86 05/04/87 11/05/87 05/11/88 11/03/88 05/01/89 11/01/89
DATE ANALYSED
VC
VCREG


EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
(Thousands)
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
05/08/86
11/11/86
05/04/87
11/05/87
05/11/88
11/03/88
05/01/89
11/01/89
DATE ANALYSED
TCA
TCAREG

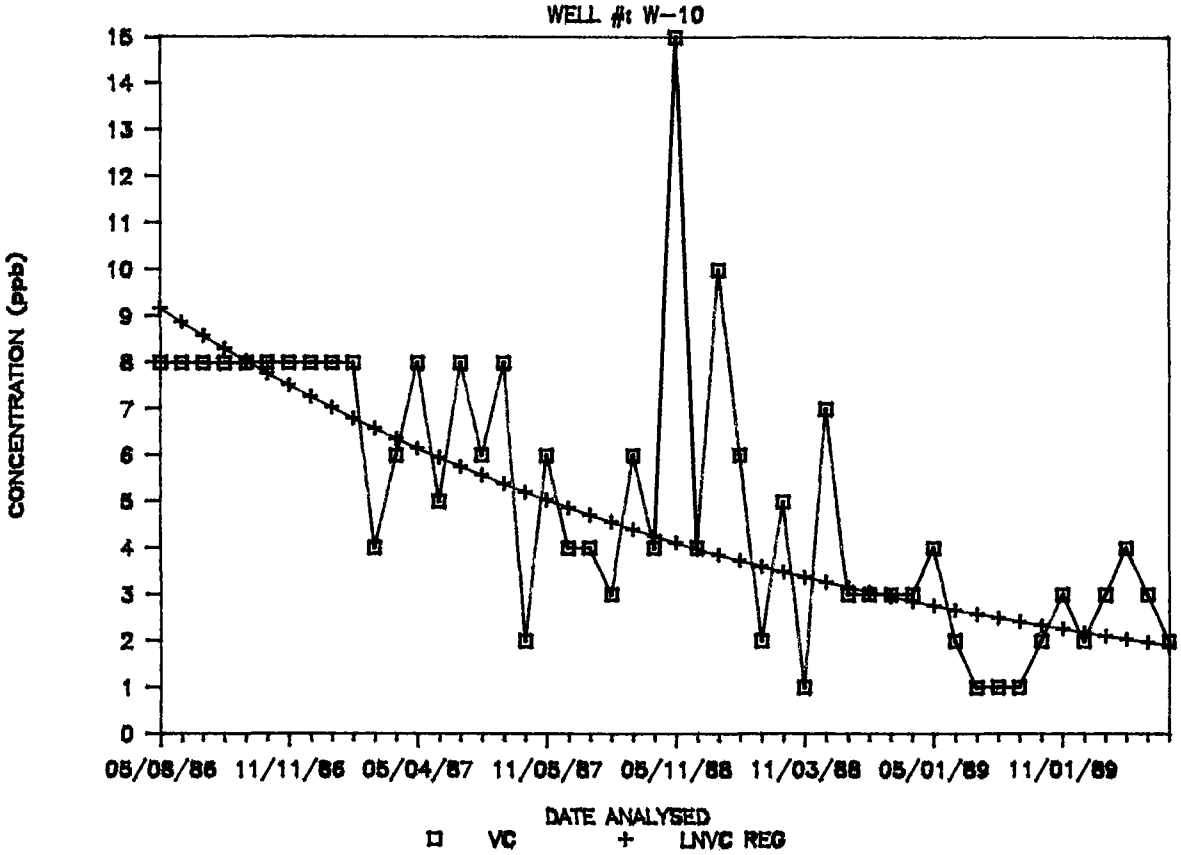

EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
(Thousands)
6
5
4
3
2
1
0
05/08/86
11/11/86
05/04/87
11/05/87
05/11/88
11/03/88
05/01/89
11/01/89
DATE ANALYSED
TCE
TCEREG


EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
(Thousands)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
05/06/86
11/11/86
05/04/87
11/05/87
05/11/88
11/03/88
05/01/89
11/01/89
DATE ANALYSED
TCA
LNTCA REG


EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
(Thousands)
0
1
2
3
4
5
6
05/06/86
11/11/86
05/04/87
11/05/87
05/11/88
11/03/88
05/01/89
11/01/89
DATE ANALYSED
TCE
LNTCE REG

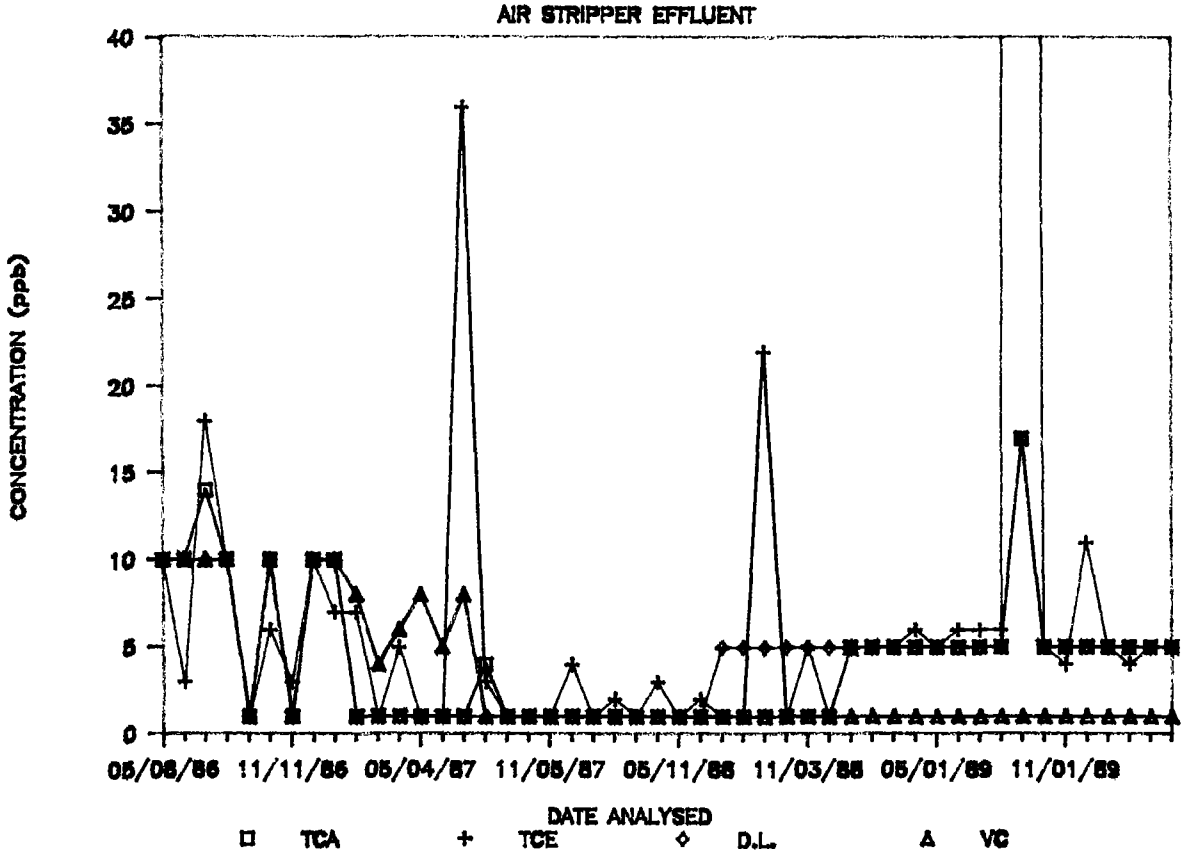
EKCO HOUSEWARES

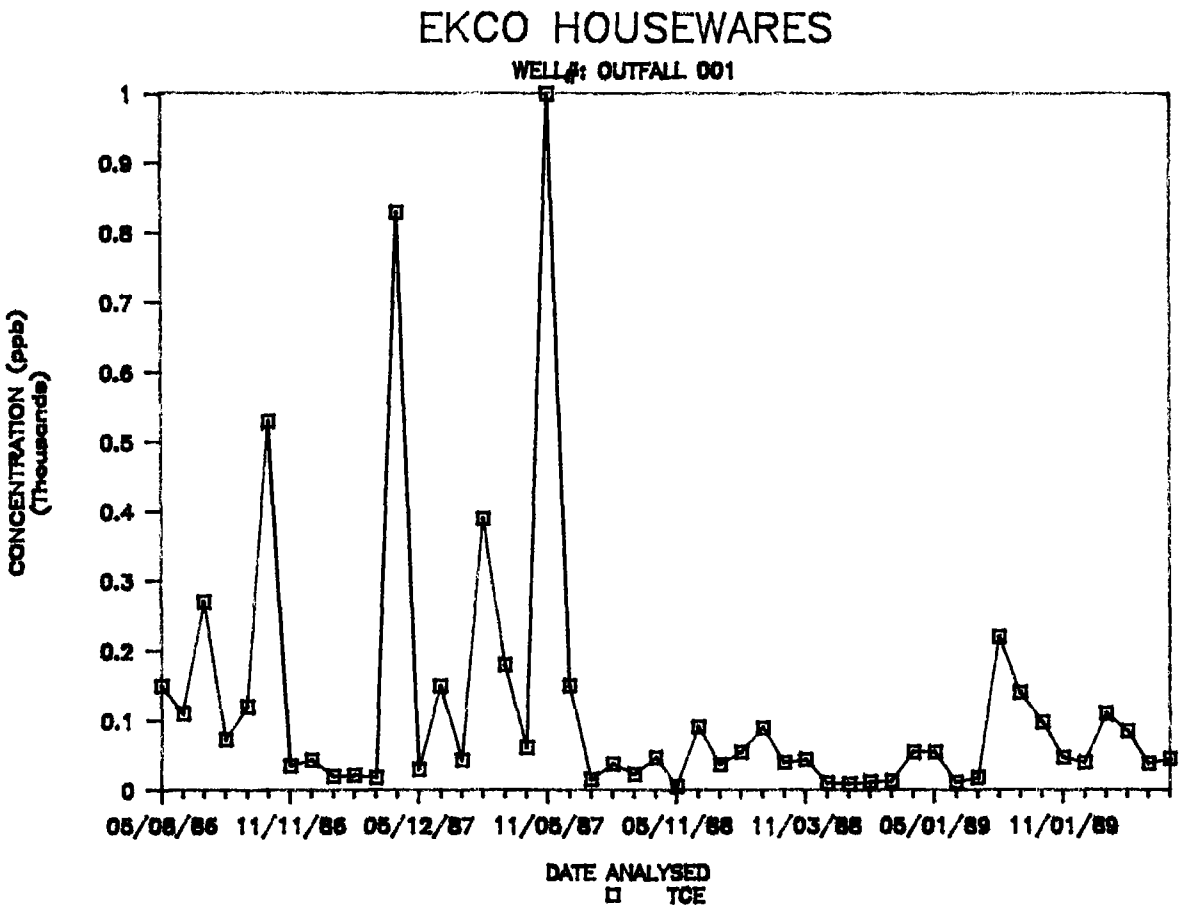
WELL #: W-10

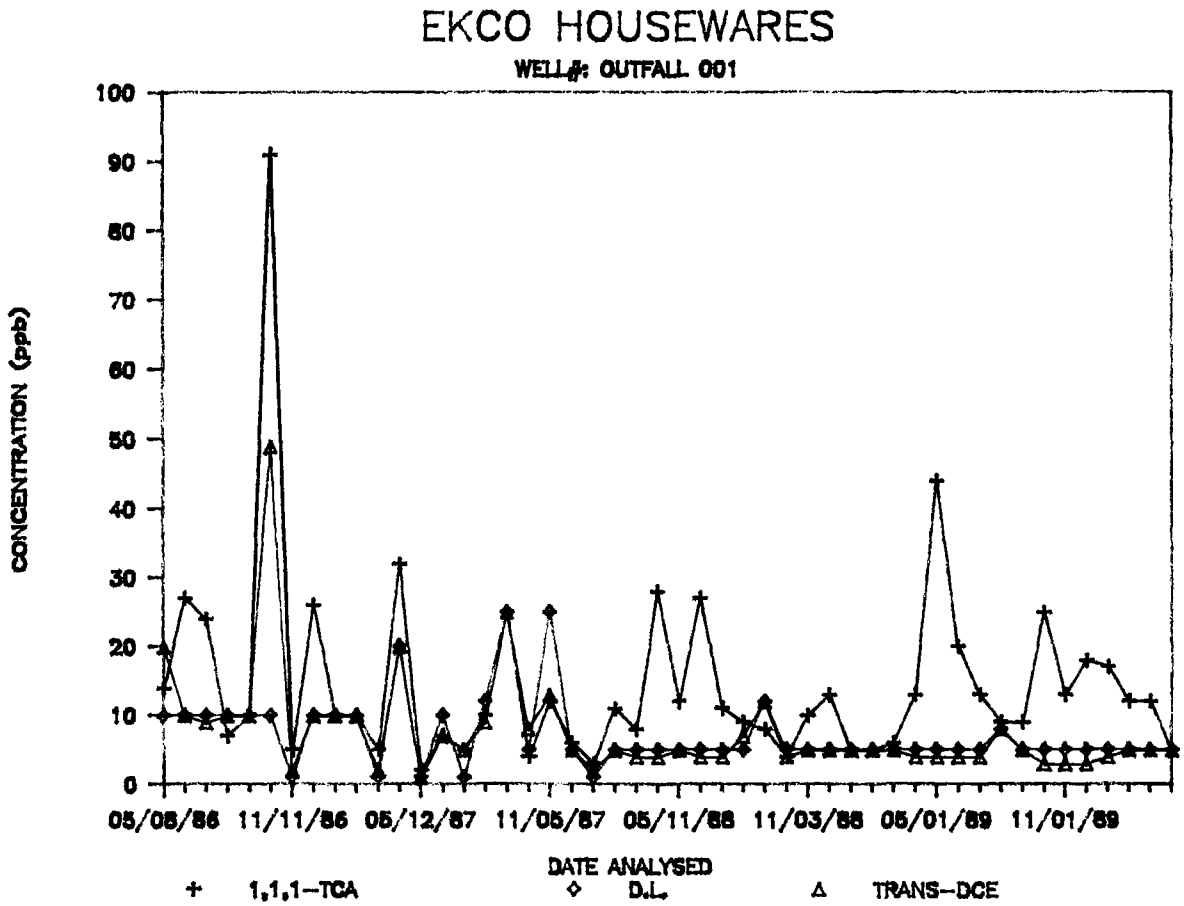


EKCO HOUSEWARES

AIR STRIPPER EFFLUENT

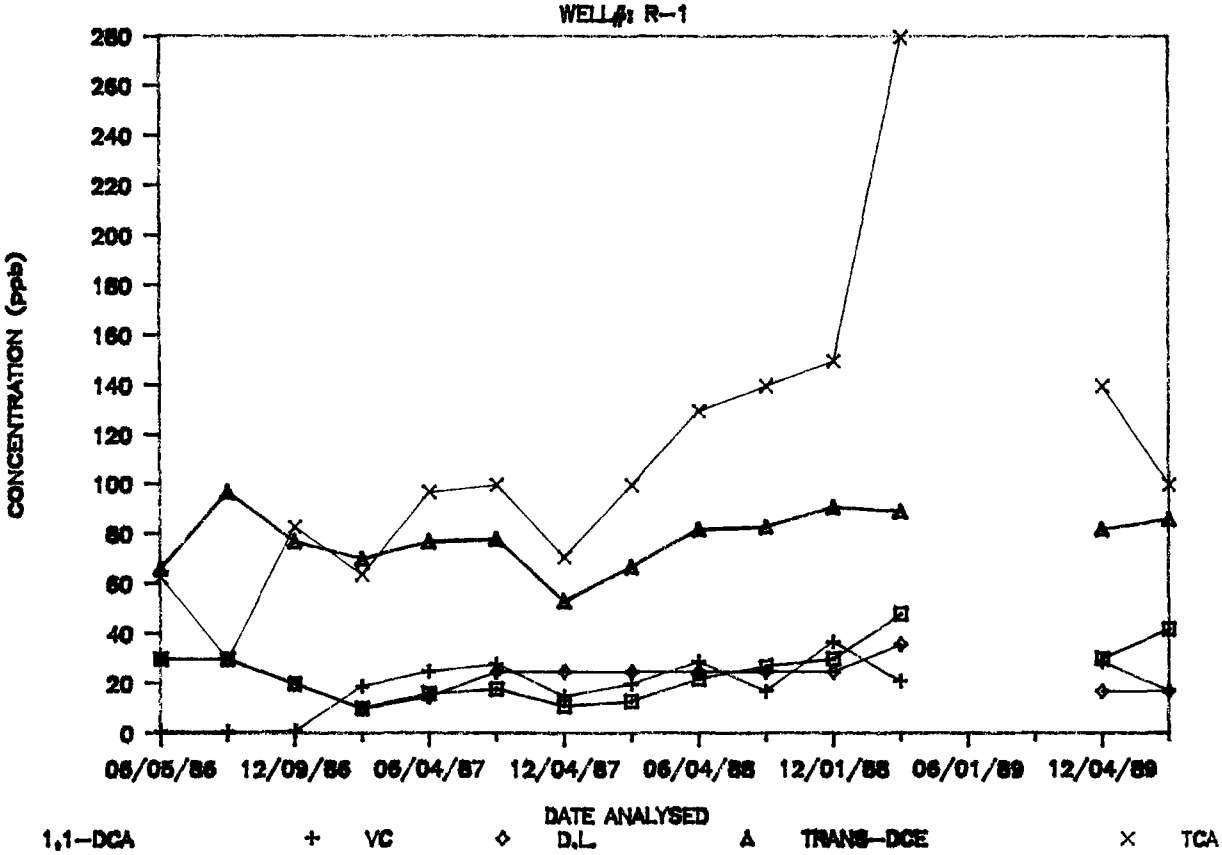



EKCO HOUSEWARES
WELL#: OUTFALL 001
CONCENTRATION (ppb)
(Thousands)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
05/08/86 11/11/86 05/12/87 11/05/87 05/11/88 11/03/88 05/01/89 11/01/89
DATE ANALYSED
TCE


EKCO HOUSEWARES
WELL#: OUTFALL 001
CONCENTRATION (ppb)
100
90
80
70
60
50
40
30
20
10
0
05/08/86 11/11/86 05/12/87 11/05/87 05/11/88 11/03/88 05/01/89 11/01/89
DATE ANALYSED
1,1,1-TCA
D.L.
TRANS-DCE

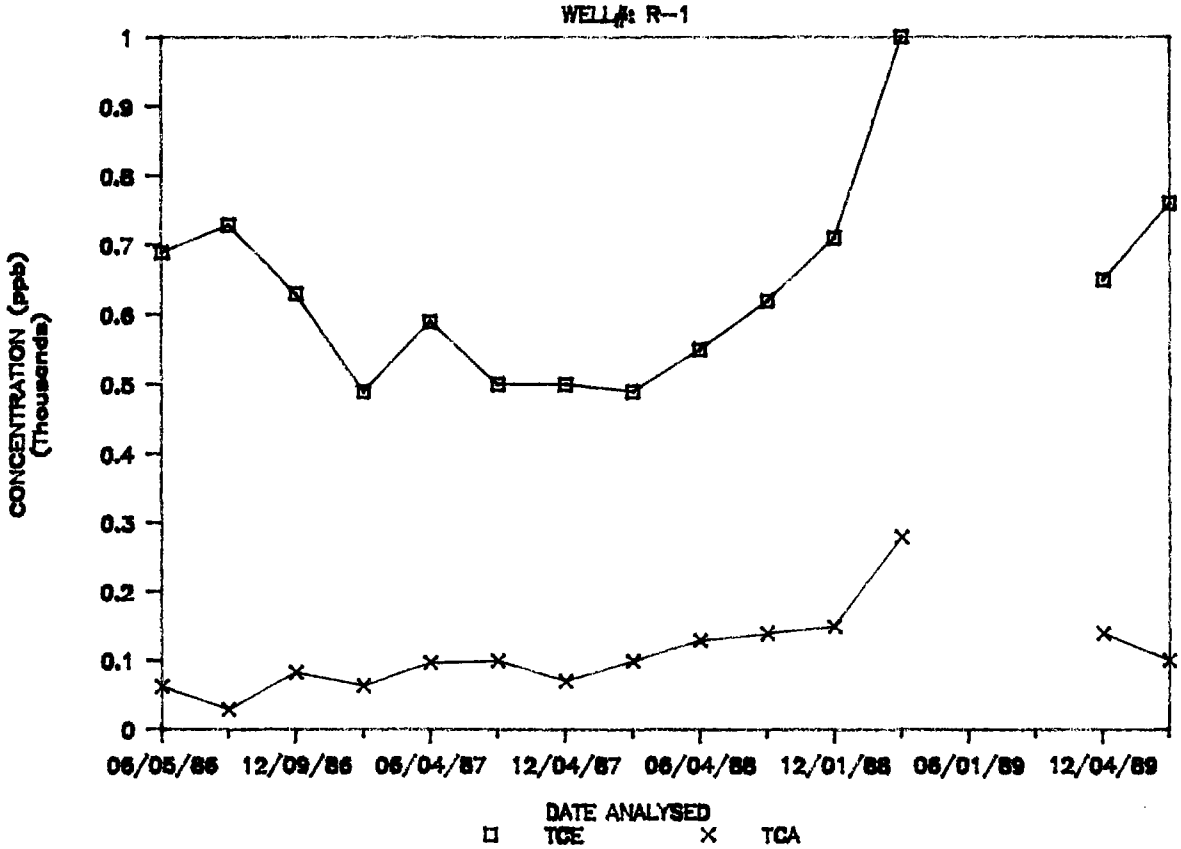
EKCO HOUSEWARES

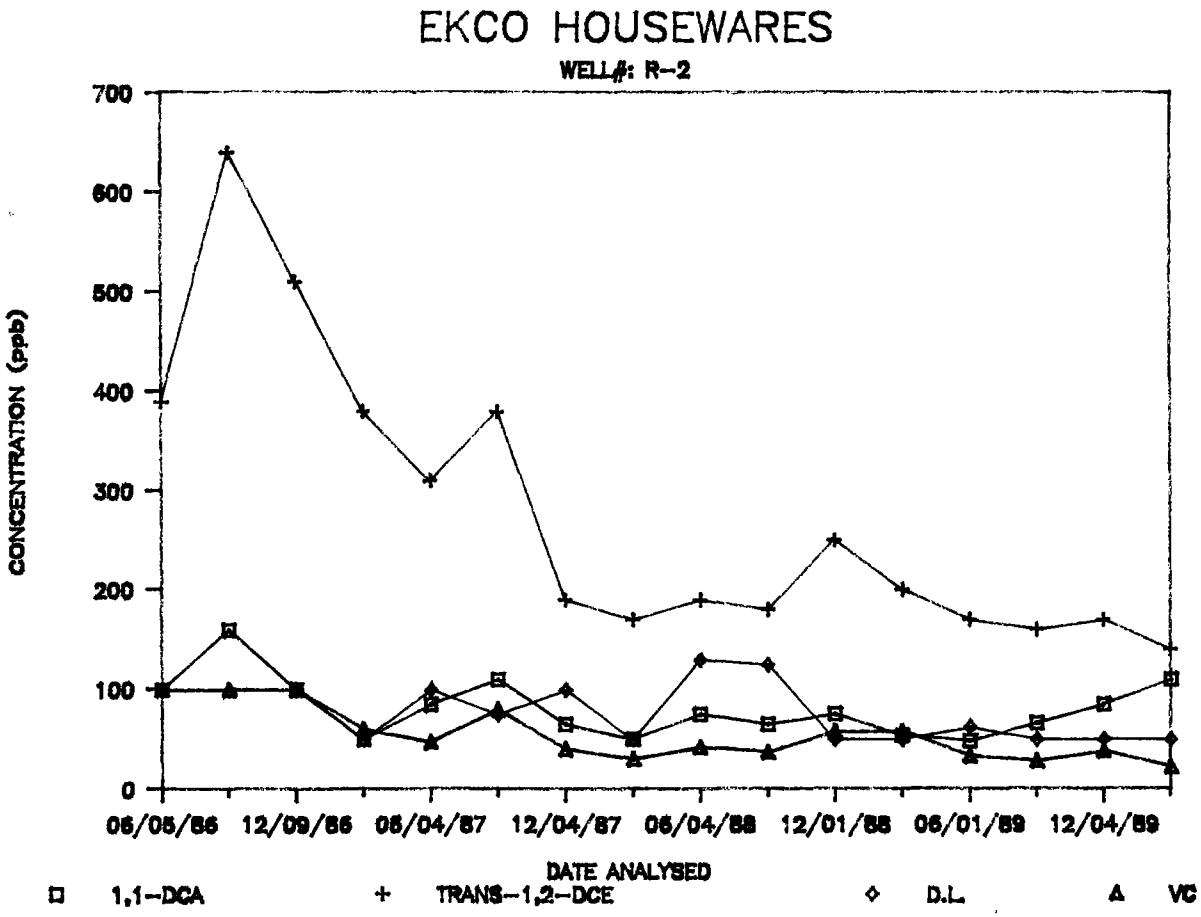
WELL#: R-1

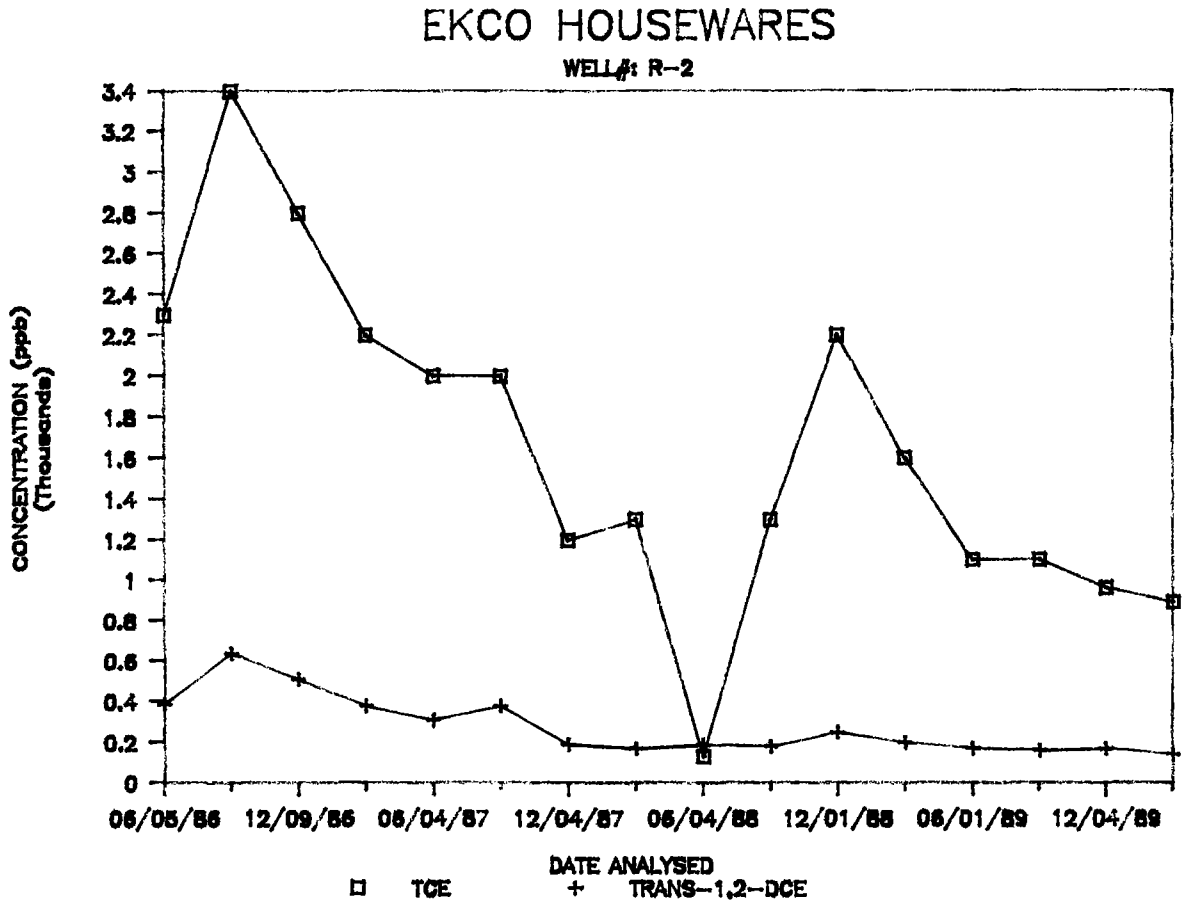


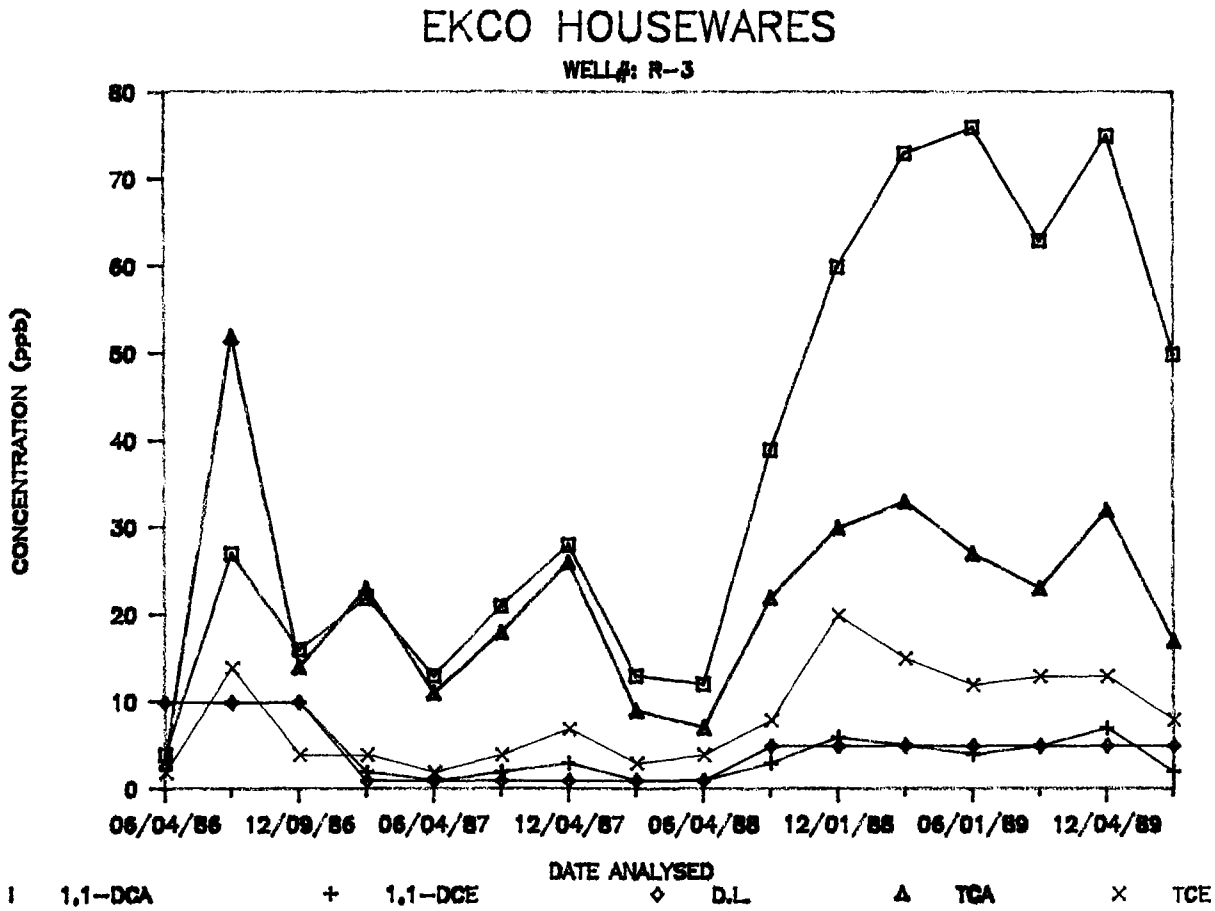
EKCO HOUSEWARES

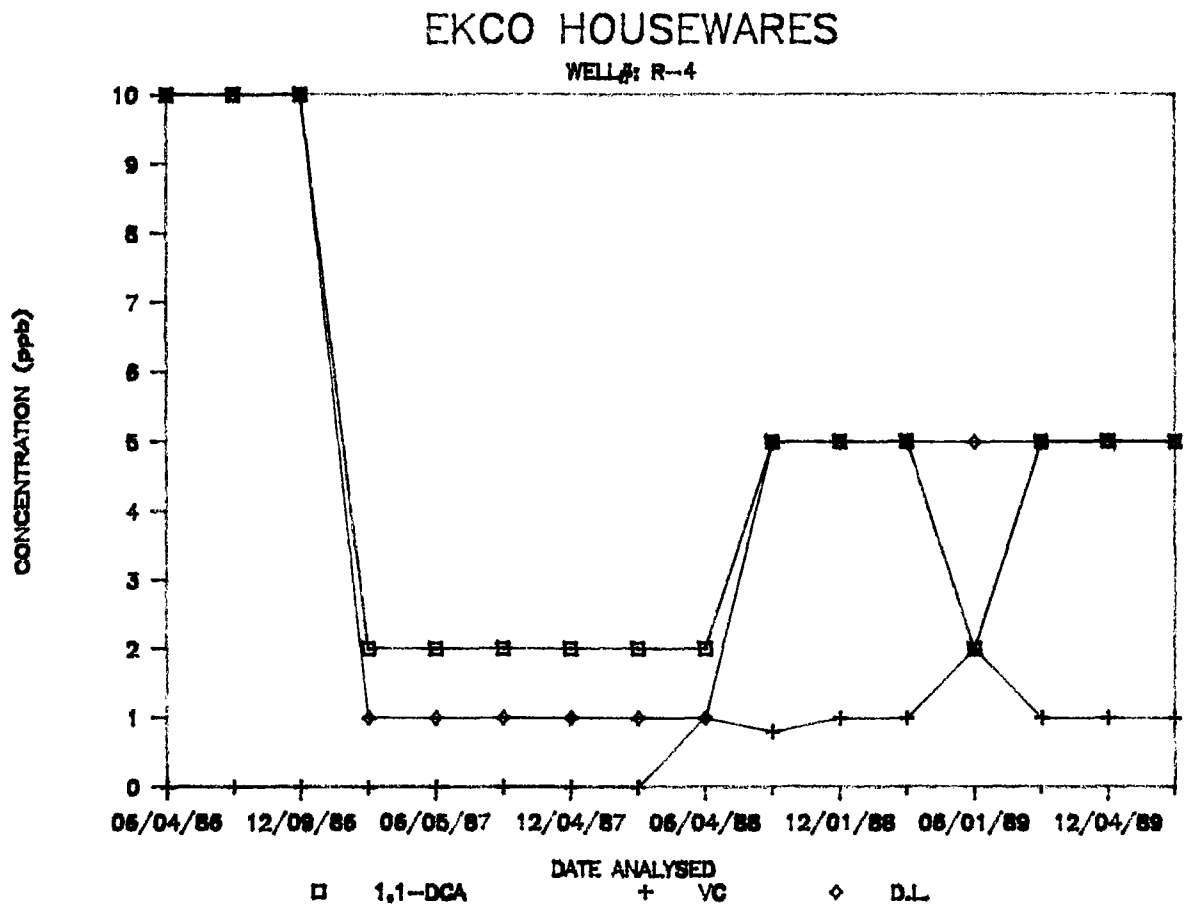
WELL#: R-1




EKCO HOUSEWARES
WELL#: R-2
CONCENTRATION (ppb)
700
600
500
400
300
200
100
0
06/05/86
12/09/86
06/04/87
12/04/87
06/04/88
12/01/88
06/01/89
12/04/89
DATE ANALYSED
1,1-DCA
TRANS-1,2-DCE
D.L.
VC


EKCO HOUSEWARES
WELL#: R-2
CONCENTRATION (ppb)
(Thousands)
3.4
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
06/05/86
12/09/86
06/04/87
12/04/87
06/04/88
12/01/88
06/01/89
12/04/89
DATE ANALYSED
TCE
TRANS-1,2-DCE


EKCO HOUSEWARES
WELL#: R-3
CONCENTRATION (ppb)
80
70
60
50
40
30
20
10
0
06/04/86
12/09/86
06/04/87
12/04/87
06/04/88
12/01/88
06/01/89
12/04/89
DATE ANALYSED
1,1-DCA
1,1-DCE
D.L.
TCA
TCE


EKCO HOUSEWARES
WELL#: R-4
CONCENTRATION (ppb)
10
9
8
7
6
5
4
3
2
1
0
06/04/86
12/09/86
06/05/87
12/04/87
06/04/88
12/01/88
06/01/89
12/04/89
DATE ANALYSED
1,1-DCA
VC
D.L.

M&E

Metcalf & Eddy

6480 BUSCH BOULEVARD
SUITE 200
COLUMBUS, OHIO 43229
TELEPHONE (614) 436-5550

August 8, 1988

RECEIVED
AUG 11 1988
OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V

Mr. Walter Nied
RCRA Enforcement
U.S. EPA Region V
230 S. Dearborn
Chicago, Illinois 60604

Re: WA 483 - EKCO Housewares Groundwater Data

Dear Wally:

Enclosed please find our results and findings of the linear and exponential regression analyses performed on the pumping wells at EKCO, well W-10 and the South Well.

Based on current data and calculations, clean-up to Maximum Concentration Limits (MCL's) could take up to 43 years. Linear decline data for the two pumping wells indicate that the MCL's for TCE, TCA, and Vinyl Chloride could be reached in three to five years from initial pumping of the South Well, and five to nine years in well W-10.

Using exponential decline data for the two wells the South Well will reach MCL's in five to nine years, and well W-10 will reach MCL's in 35 to 45 years.

Vinyl Chloride shows an increase in the South Well, possibly because it is being produced as a degradation product as well as being pumped out. A decline in Vinyl Chloride is indicated in well W-10. The first nine data points are estimates of the Vinyl Chloride concentration, which affects the data trend in an erroneous fashion.

An exponential regression yields a better curve fit and more closely matches the physical mechanisms driving the decline of the contaminants. Concentration is driven by three components, dispersion, withdrawals from the system, and advection. The primary drive mechanism in the latter part of clean-up is dispersion, which is a second derivative in the contamination function. A curve fit of concentration vs. time is therefore at minimum a second order (x^2) relationship.

Please feel free to contact me if you have any questions or comments.

Sincerely,

James P. Strayton
Geologist

CC: M. Eggert, OEPA
G. Myers, M&E
T. Struttman, M&E

EKCO HOUSEWARES
WELL #: SOUTH WELL

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	140	39	21	560	580	ND	10
07	06/05/86	86	ND	ND	310	360	ND	30
08	07/15/86	140	27	25	370	400	ND	10
09	08/12/86	120	ND	ND	230	180	ND	30
10	09/05/86	150	33	ND	360	350	ND	30
11	10/08/86	120	20	18	250	280	ND	10
11a	11/11/86	130	29	16	290	320	ND	5
12	12/09/86	160	19	18	300	320	ND	10
13	01/16/87	180	ND	13	260	220	ND	10
14*	02/03/87	120	17	20	240	280	3	10
15	03/05/87	150	16	20	190	200	1	10
16	04/09/87	140	19	21	210	180	1	10
17	05/04/87	110	13	12	160	200	2	10
18	06/04/87	140	20	22	200	230	2	20
19	07/08/87	95	11J	ND	140	210	2	20
20	08/04/87	130	17J	14J	150	180	2	25
21	09/03/87	140	16J	18J	140	150	2	25
22	10/02/87	140	14J	20J	150	150	ND	25
23	11/06/87	110	23J	23J	180	220	1	25
24	12/04/87	110	10J	13J	120	170	2	25
25	01/06/88	140	21J	30	96	170	1	25
26	02/04/88	95	9J	15	87	140	ND	15
27	03/05/88	84	11J	16J	88	130	1	25
28					75	140	1	
29	05/02/88	110	ND	10J	59	160	2	25

Number of Months to Reach MCL's:	linear regression;	exponential regression.
Trichloroethane:	32	68
Trichloroethene:	38	103
Vinyl Chloride:	53	52

NOTES:

ND - Not Detected; Below Detection Limit.

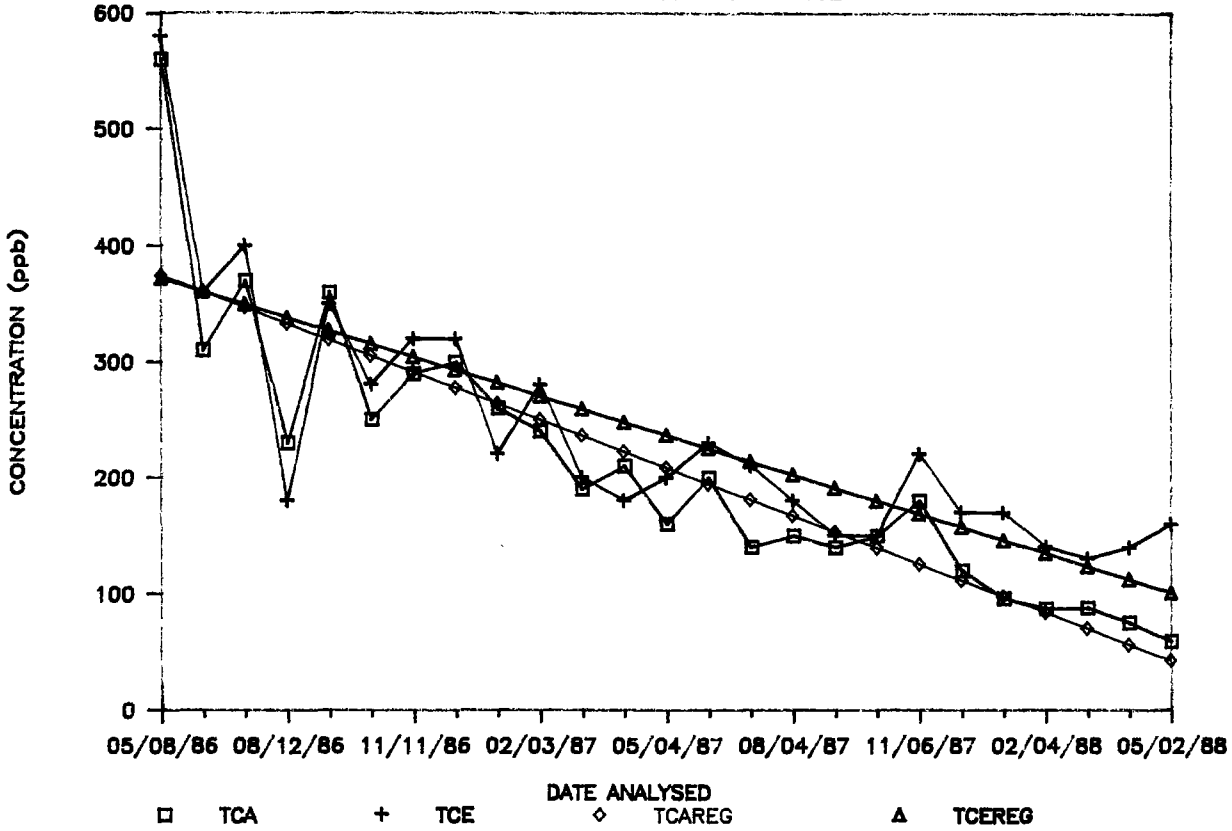
J - Estimated concentration present below MDL.

11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.

* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.

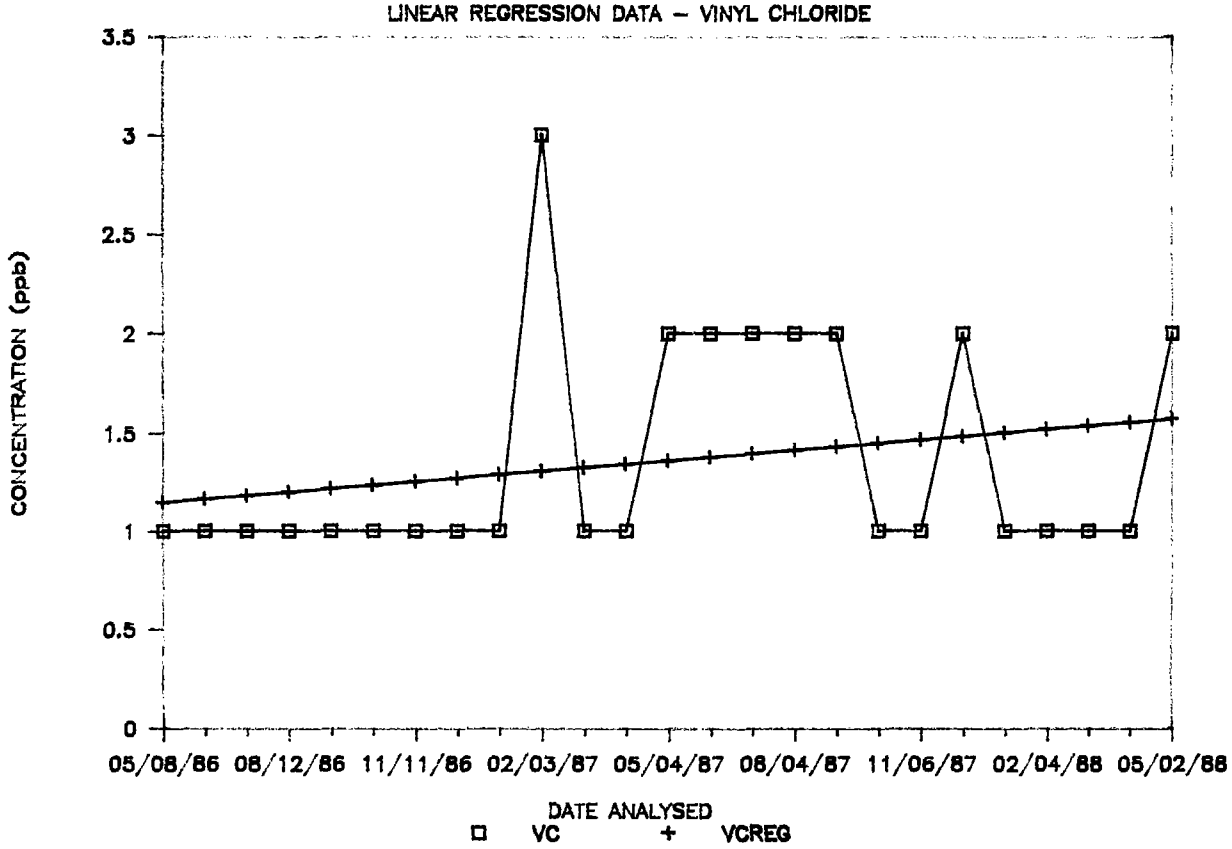
EKCO HOUSEWARES — SOUTH WELL

LINEAR REGRESSION DATA — TCA & TCE



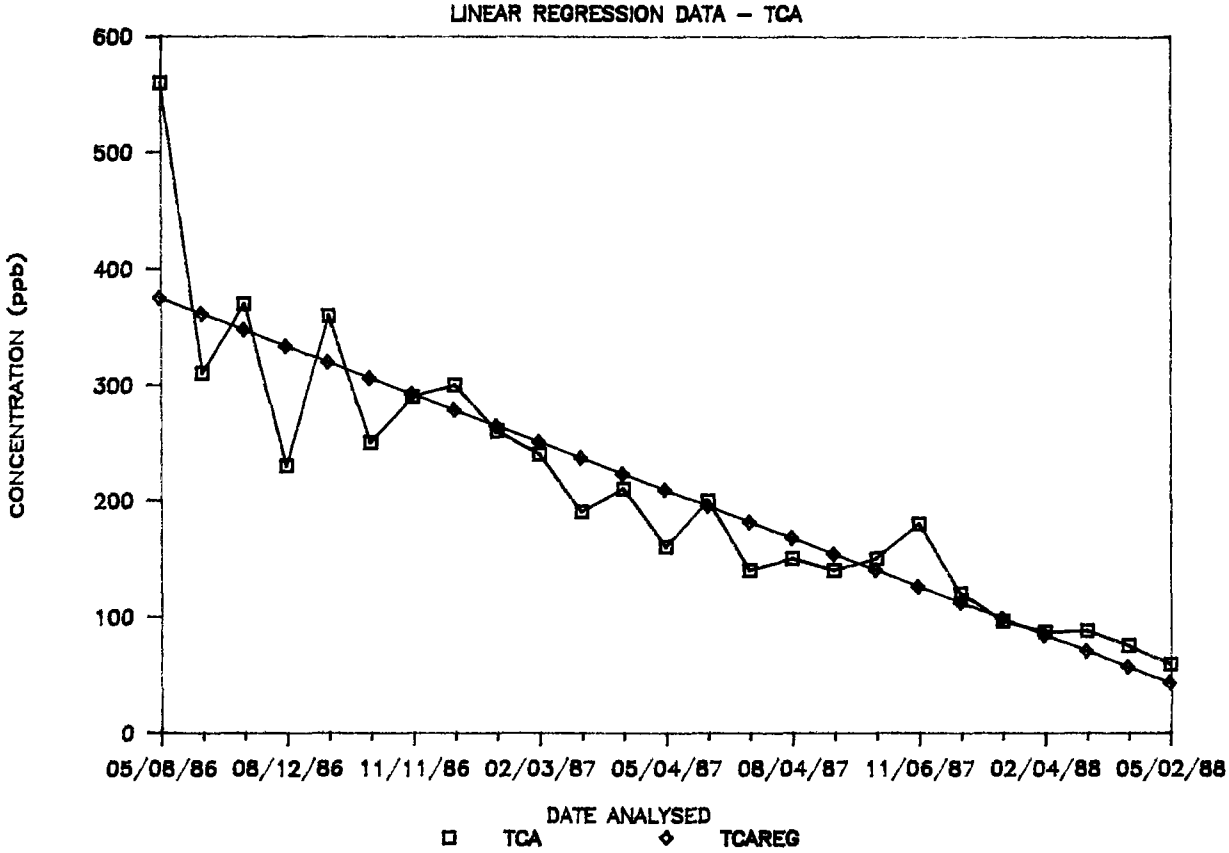
EKCO HOUSEWARES SOUTH WELL

LINEAR REGRESSION DATA — VINYL CHLORIDE



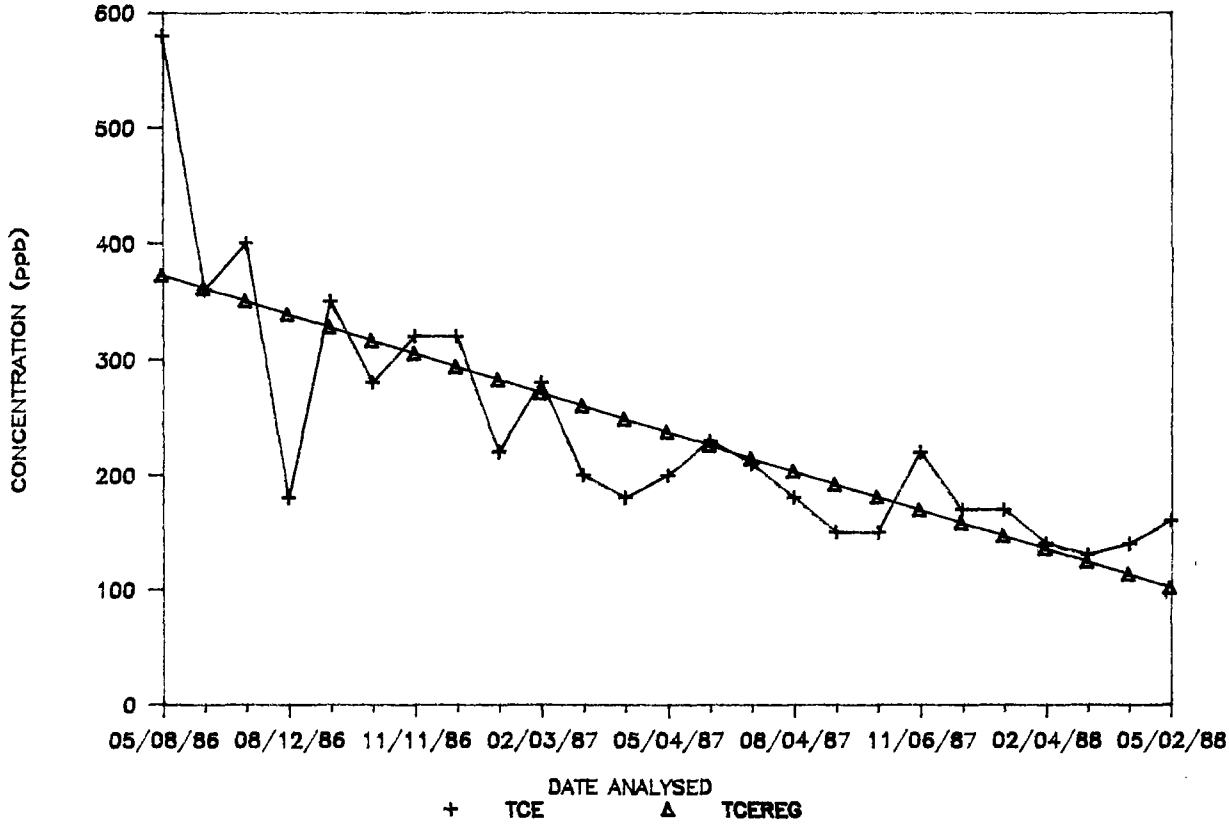
EKCO HOUSEWARES – SOUTH WELL

LINEAR REGRESSION DATA – TCA



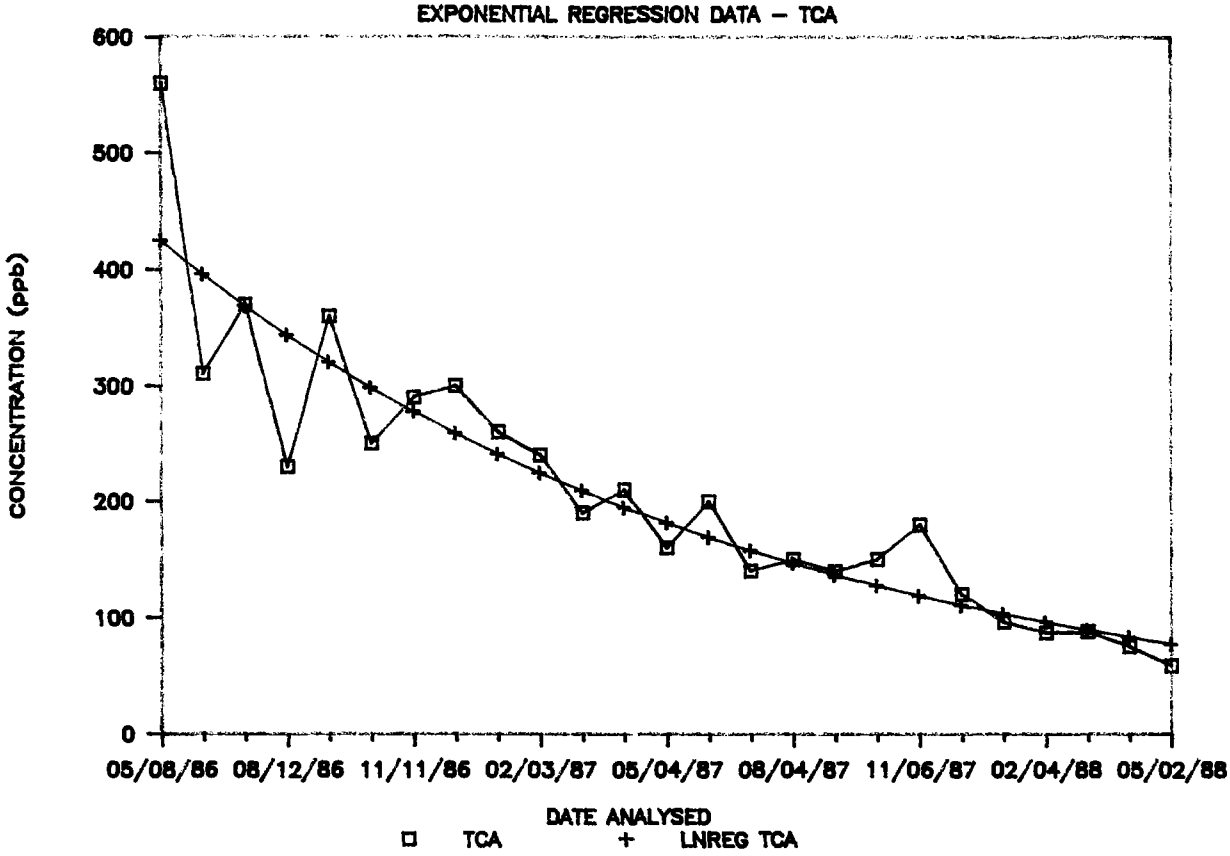
EKCO HOUSEWARES – SOUTH WELL

LINEAR REGRESSION DATA – TCE



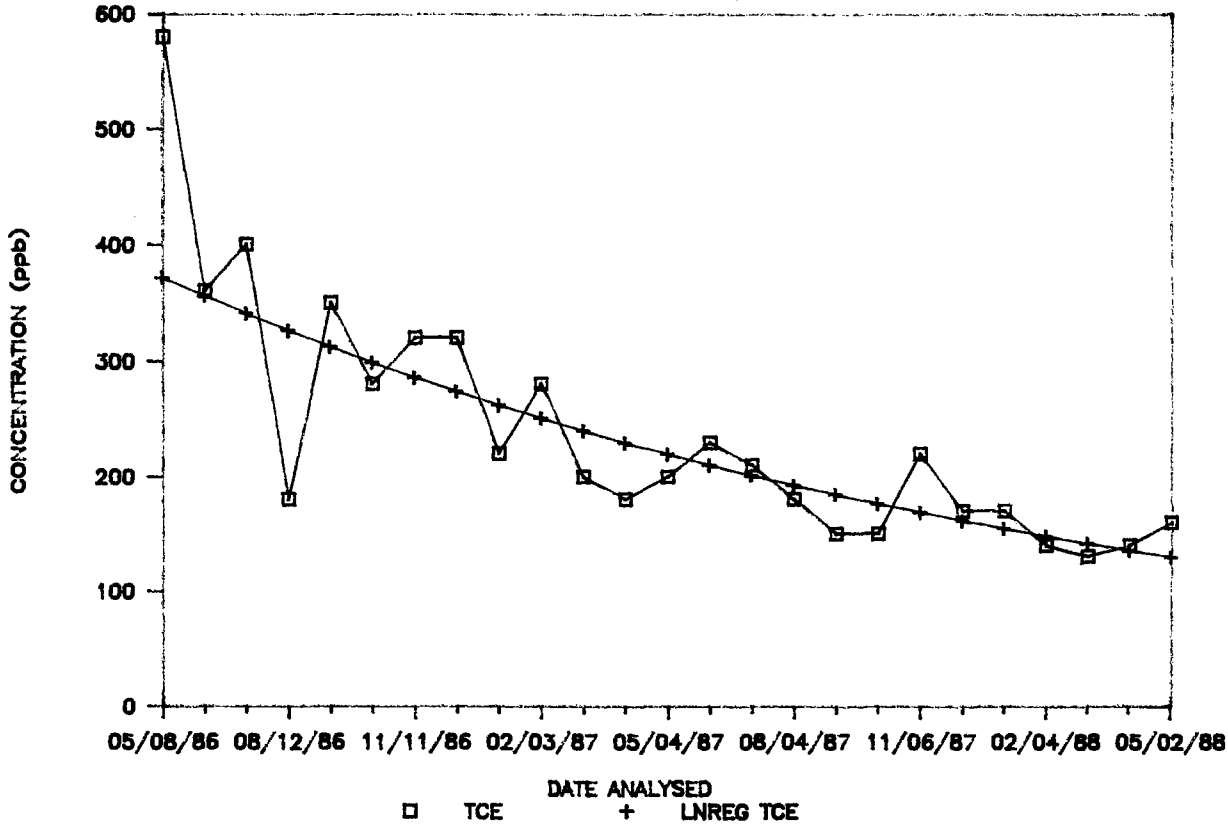
EKCO HOUSEWARES – SOUTH WELL

EXPONENTIAL REGRESSION DATA – TCA

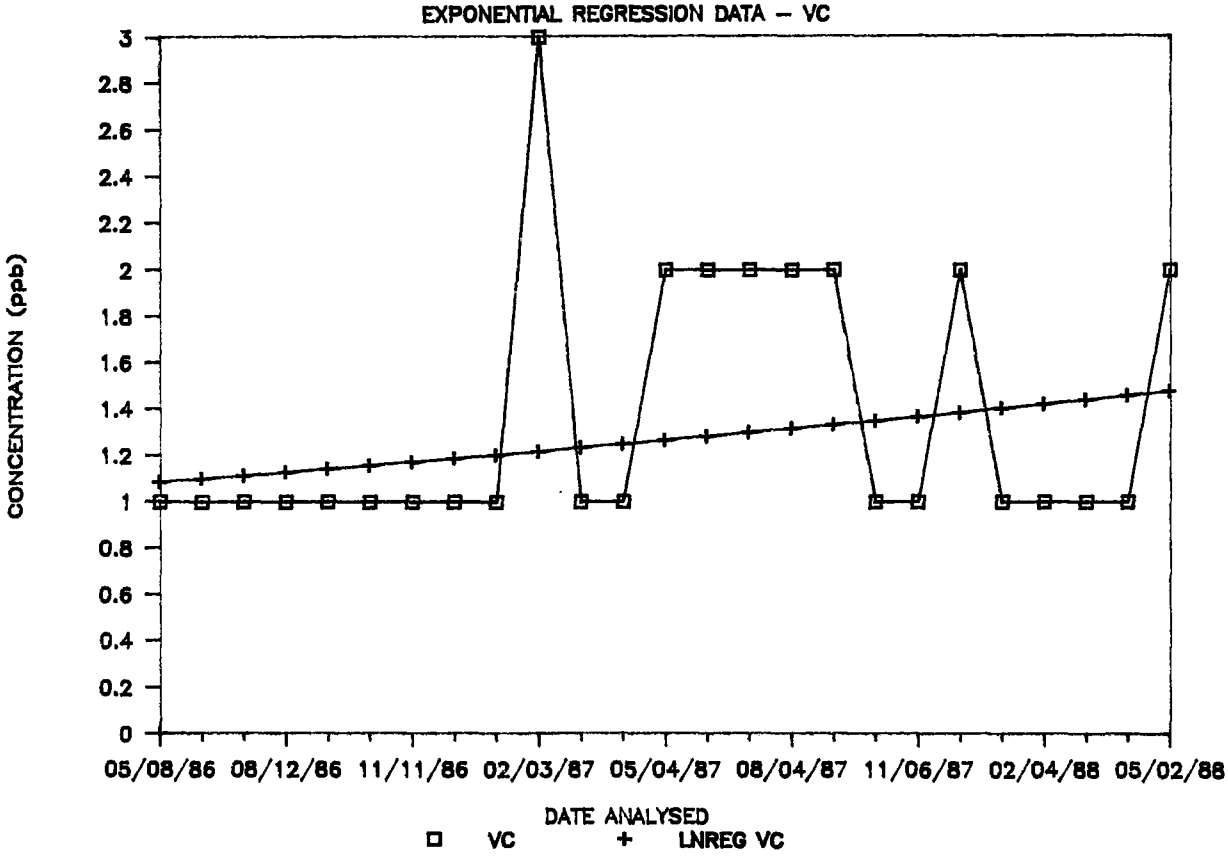


EKCO HOUSEWARES – SOUTH WELL

EXPONENTIAL REGRESSION DATA – TCE



EKCO HOUSEWARES – SOUTH WELL



EKCO HOUSEWARES
WELL #: W-10

SAMPLING EVENT	DATE ANALYSED	1,1-DCA	1,1-DCE	TRANS-1,2-DCE	1,1,1-TCA	TCE	VC	D.L.
06	05/08/86	ND	200	ND	8300	3500	ND	200
07	06/05/86	ND	ND	ND	7500	3300	ND	200
08	07/15/86	ND	ND	ND	7000	3400	ND	400
09	08/12/86	ND	ND	ND	6000	1800	ND	400
10	09/05/86	ND	ND	ND	8500	3600	ND	400
11	10/08/86	170	93	80	7800	3700	ND	80
11a	11/11/86	210	160	ND	11000	5100	ND	120
12	12/09/86	220	ND	ND	9200	3900	ND	100
13	01/16/87	ND	ND	ND	8400	3800	ND	100
14*	02/03/87	ND	ND	110	7500	3500	8	100
15	03/05/87	ND	ND	ND	6600	3000	4	100
16	04/09/87	170	ND	ND	7400	2800	6	100
17	05/04/87	ND	ND	ND	4800	2500	8	100
18	06/04/87	150	ND	ND	5600	2300	5	150
19	07/08/87	ND	ND	ND	4400	2400	8	200
20	08/04/87	120J	ND	ND	5300	2200	6	250
21	09/03/87	ND	ND	ND	6800	2700	8	250
22	10/01/87	170J	ND	ND	9300	2600	2	250
23	11/05/87	ND	ND	ND	7400	2700	6	250
24	12/04/87	ND	ND	ND	5500	2400	4	250
25	01/06/88	ND	ND	ND	4400	2200	4	250
26	02/05/88	100J	ND	ND	4800	2200	3	250
27	03/05/88	ND	ND	ND	5600	2100	6	250
28	04/ /88				6500	2500	9	250
29	05/11/88	ND	100J	130J	8200	3000	15	250

Number of Months to Reach MCL's: linear regression; exponential regression.

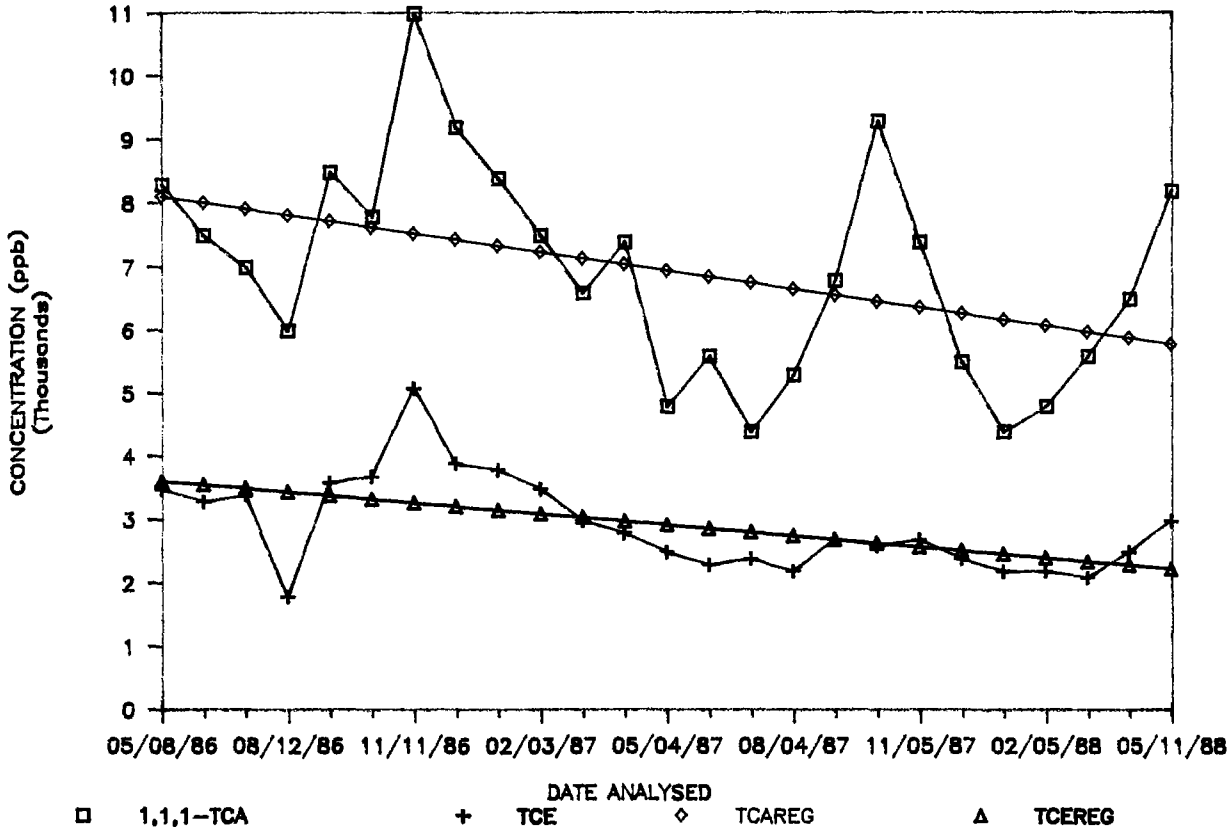
Trichloroethane:	89	511
Trichloroethene:	67	359
Vinyl Chloride:	108	88

NOTES:

ND - Not detected; below detection limit.
J - Estimated concentration; present below MDL.
11a - There are two reports numbered 11. The second one has been numbered 11a by M&E in order to differentiate between the two.
* - From this point on the detection limit for VC is 1ppb. In all previous reports the detection limit is the same as the one listed for the other constituents.
220 ppb Dibromochloromethane estimated to be present in sample set 21.

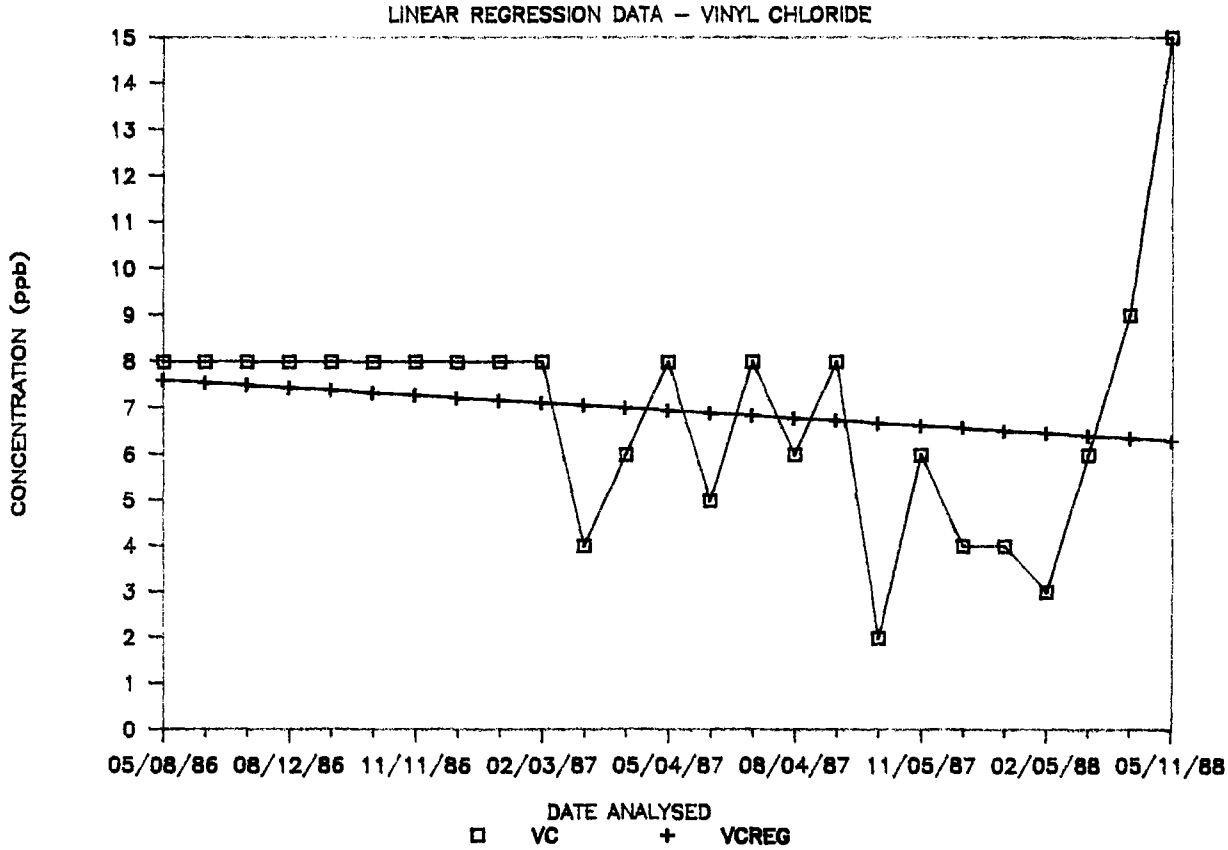
EKCO HOUSEWARES – WELL W–10

LINEAR REGRESSION DATA – TCA & TCE



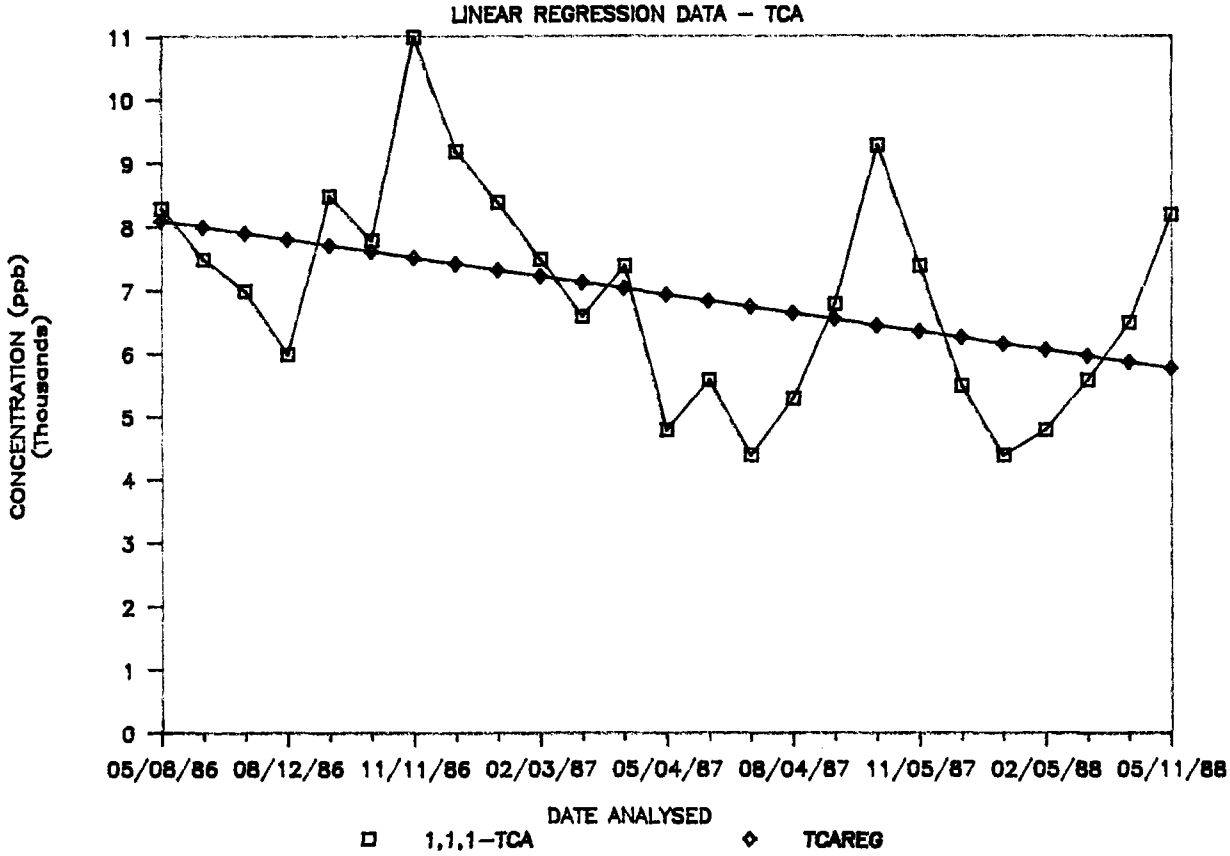
EKCO HOUSEWARES – WELL W–10

LINEAR REGRESSION DATA – VINYL CHLORIDE



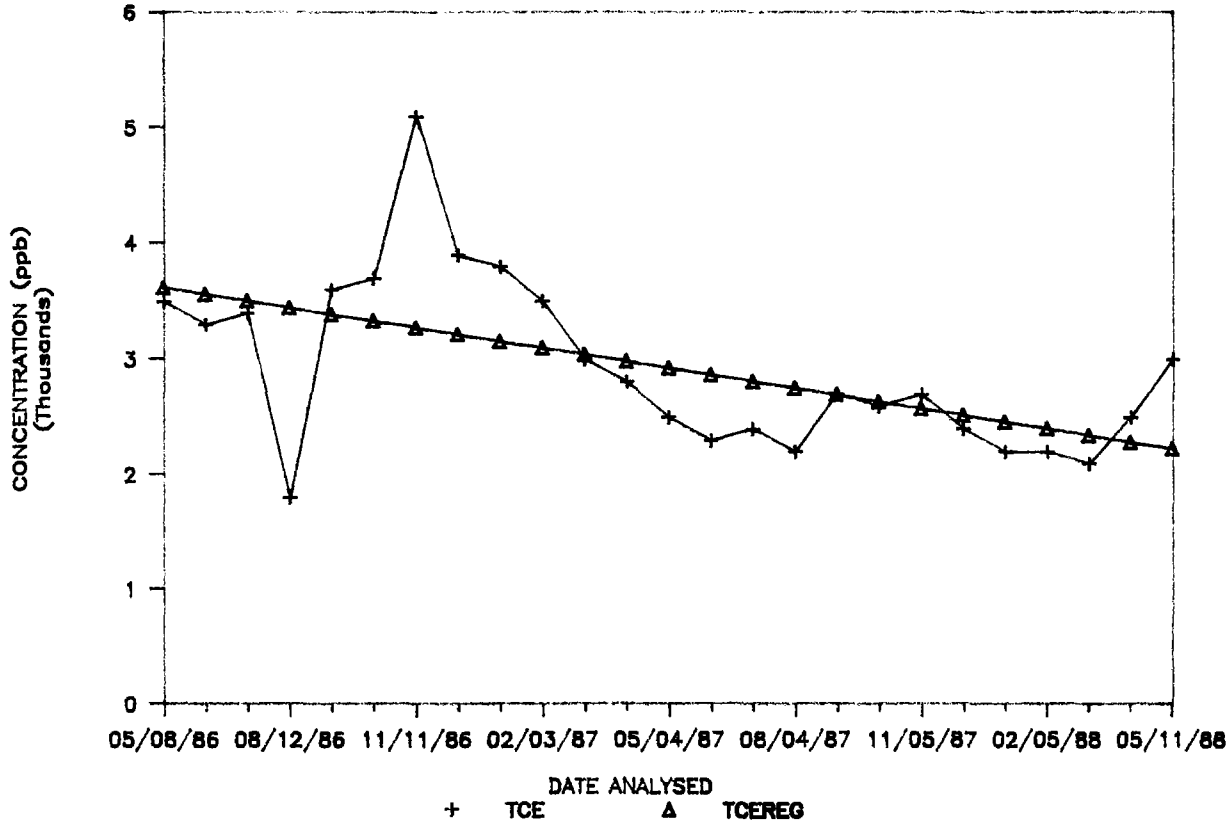
EKCO HOUSEWARES – WELL W–10

LINEAR REGRESSION DATA – TCA



EKCO HOUSEWARES – WELL W–10

LINEAR REGRESSION DATA – TCE



Metcalf & Eddy
Hazardous Waste
Management Division

6480 BUSCH BOULEVARD
SUITE 120
COLUMBUS, OHIO 43229
TELEPHONE (614) 436-5550

April 4, 1988

RECEIVED
APR 10 1988
U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
OFFICE OF THE DIRECTOR

Mr. Walter Nied
U.S. EPA
230 S. Dearborn
Chicago, Illinois 60604

Re: Ekco Housewares Analyses

Dear Wally:

Enclosed please find one copy of plots of the latest Ekco Housewares analytical data. Also included are three new plots of the total VOC's in the South Well, Well W-10, and the outfall. Please note that the values plotted as equal to the detection limit (DL) are listed in the analytical data as not detected. Those values that are plotted below the detection limit are listed as estimates in the analytical data.

If you have any questions, please feel free to call me at (614) 436-5550.

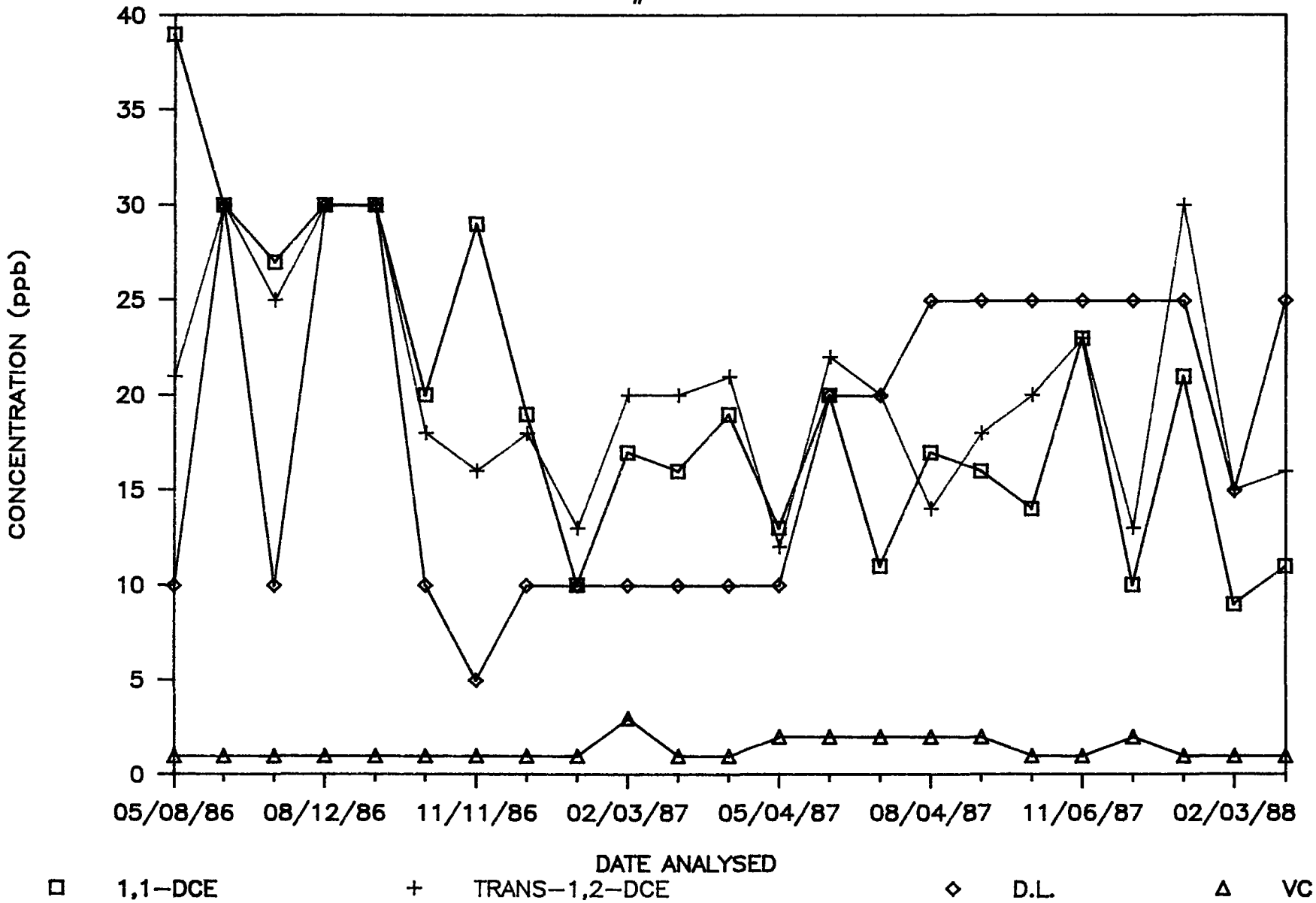
Sincerely,

Gerald R. Myers
Project Manager

GRM:pp

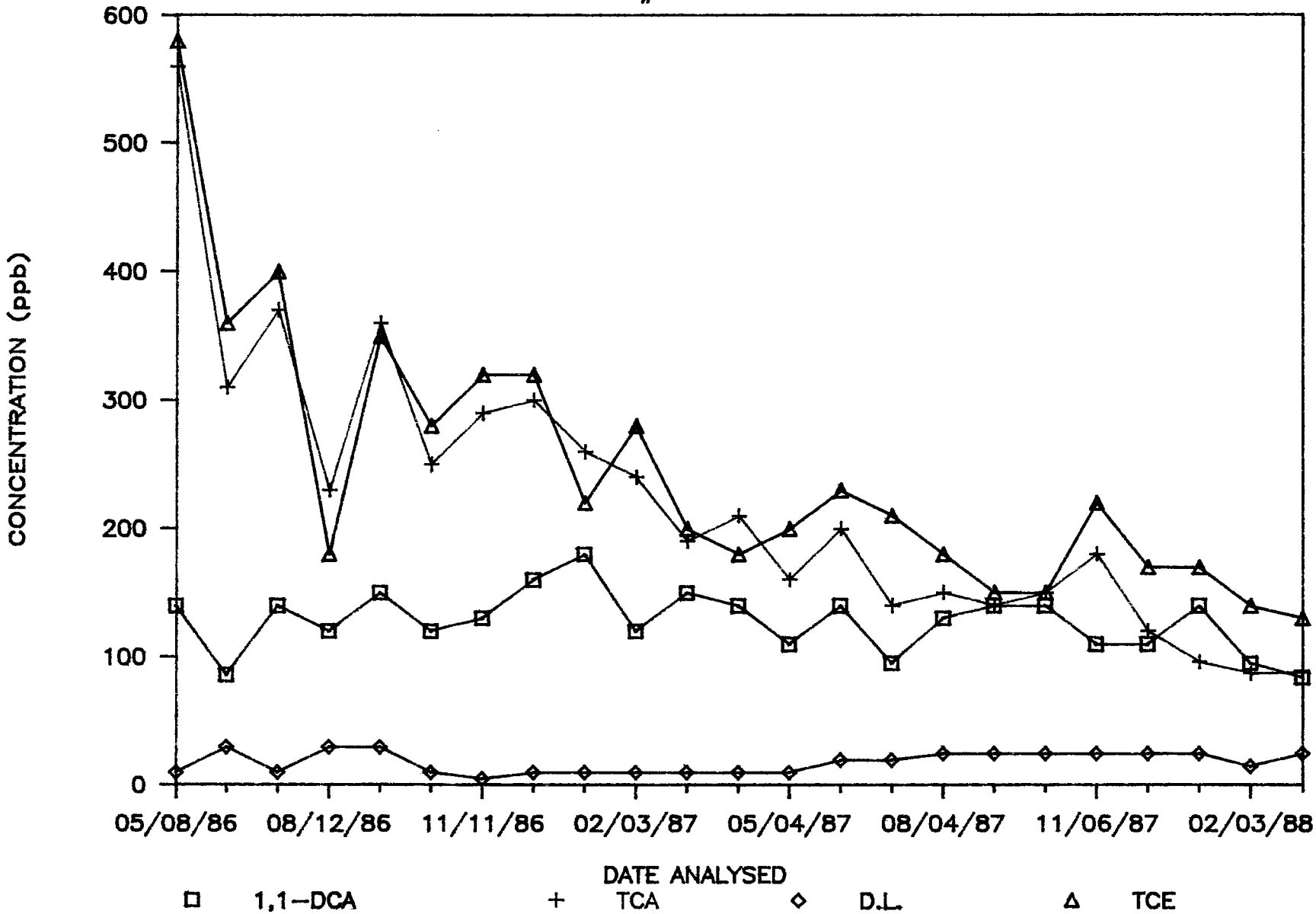
EKCO HOUSEWARES

WELL #: SOUTH WELL



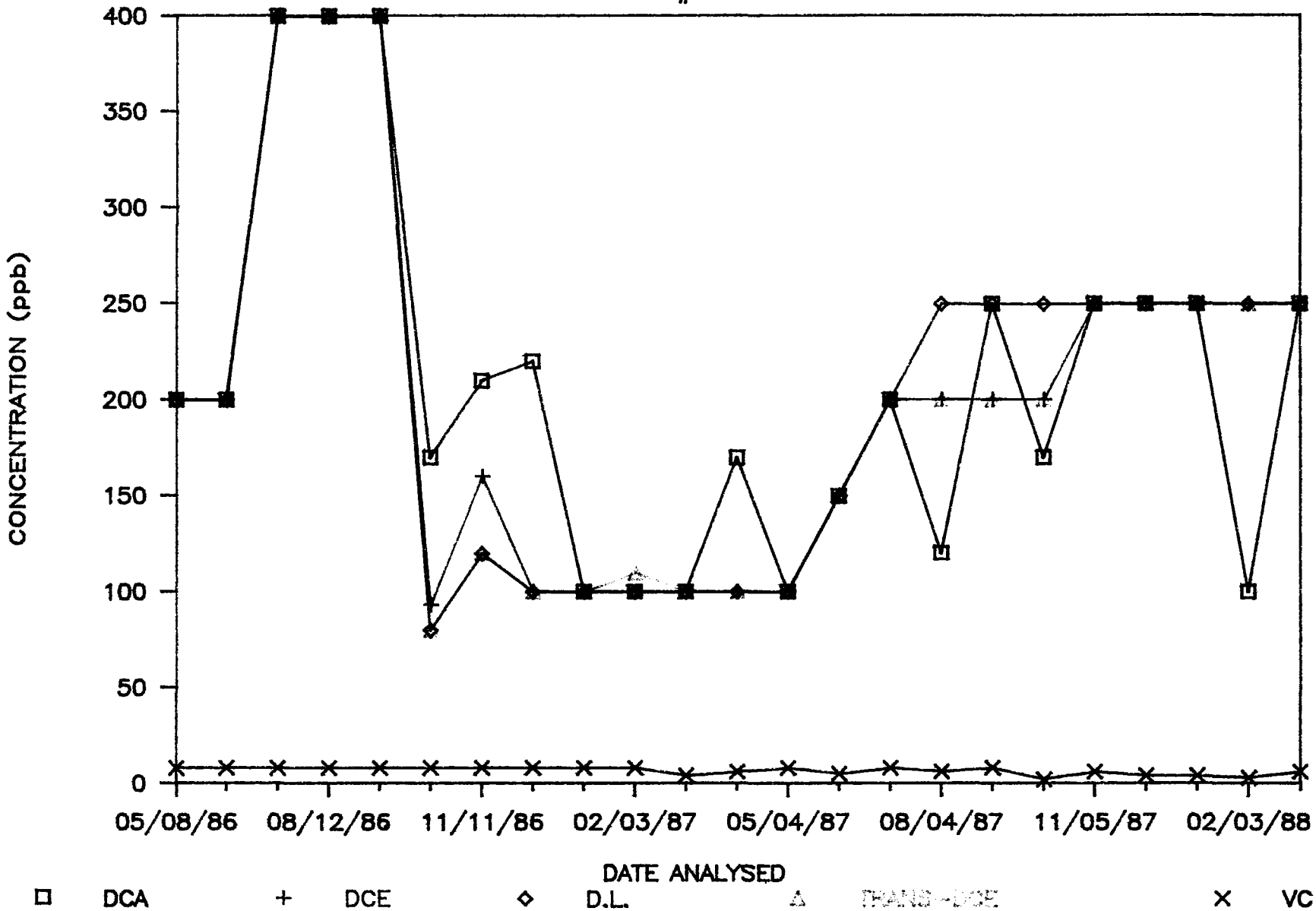
EKCO HOUSEWARES

WELL #: SOUTH WELL



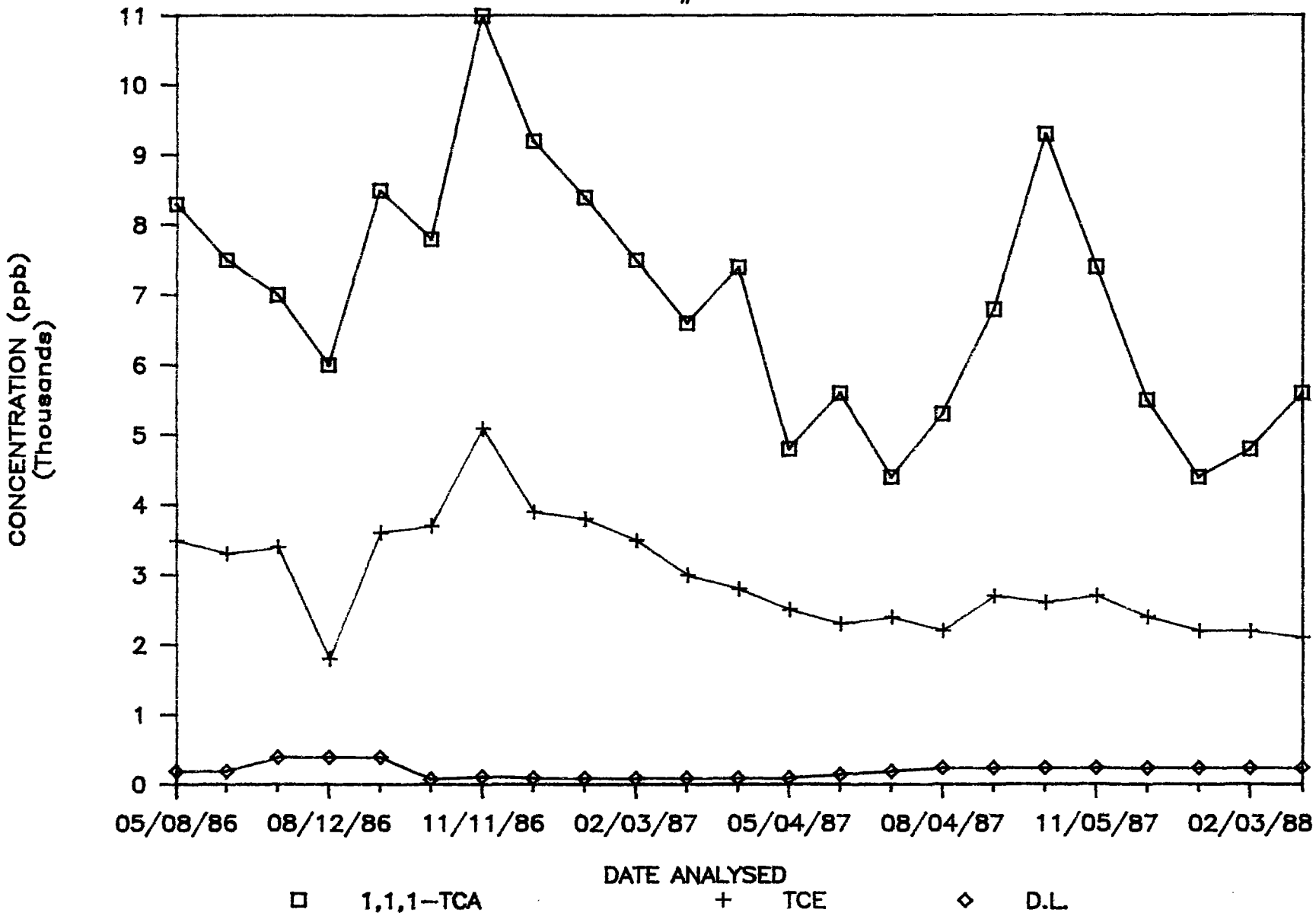
EKCO HOUSEWARES

WELL #: W-10



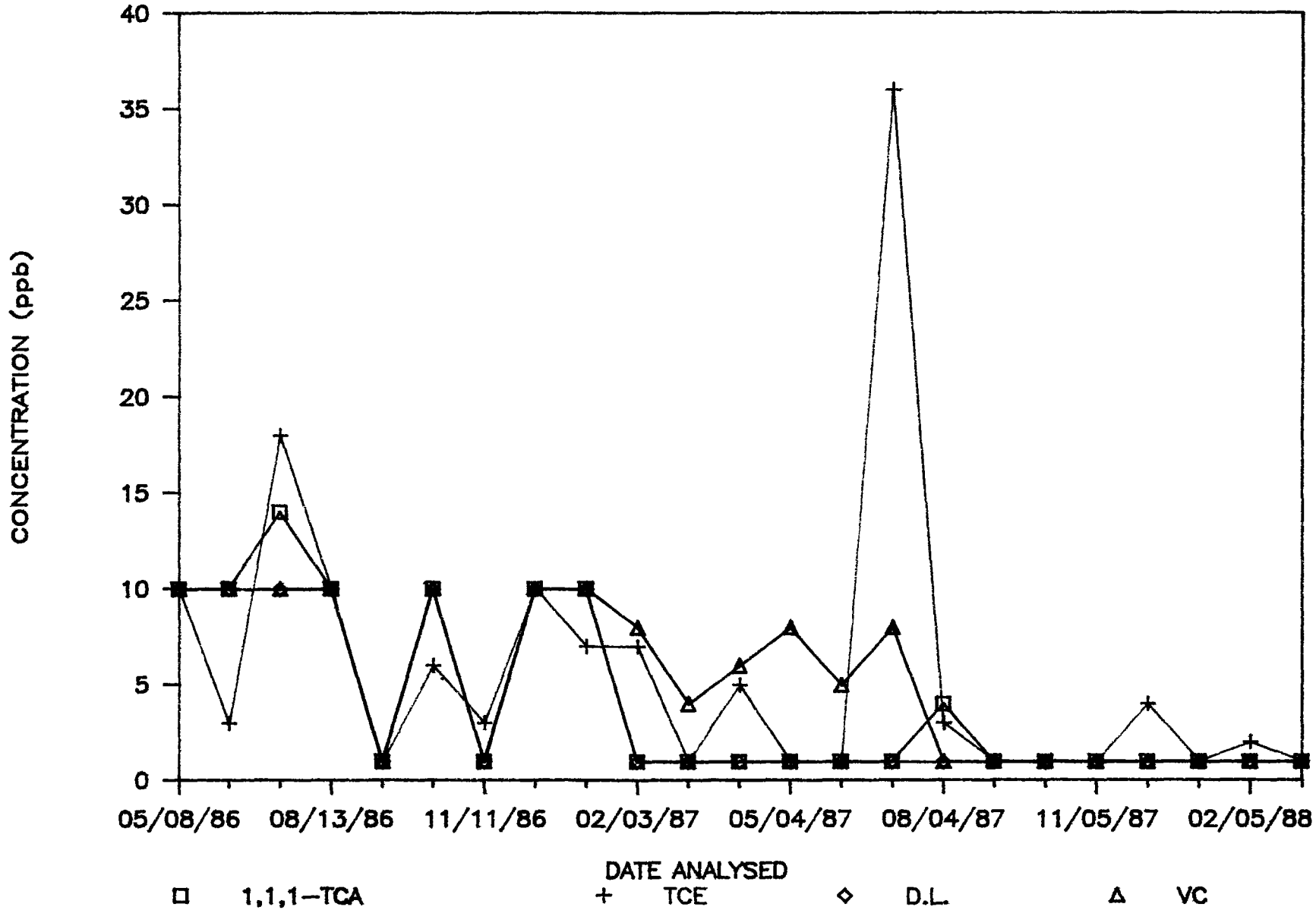
EKCO HOUSEWARES

WELL #: W-10



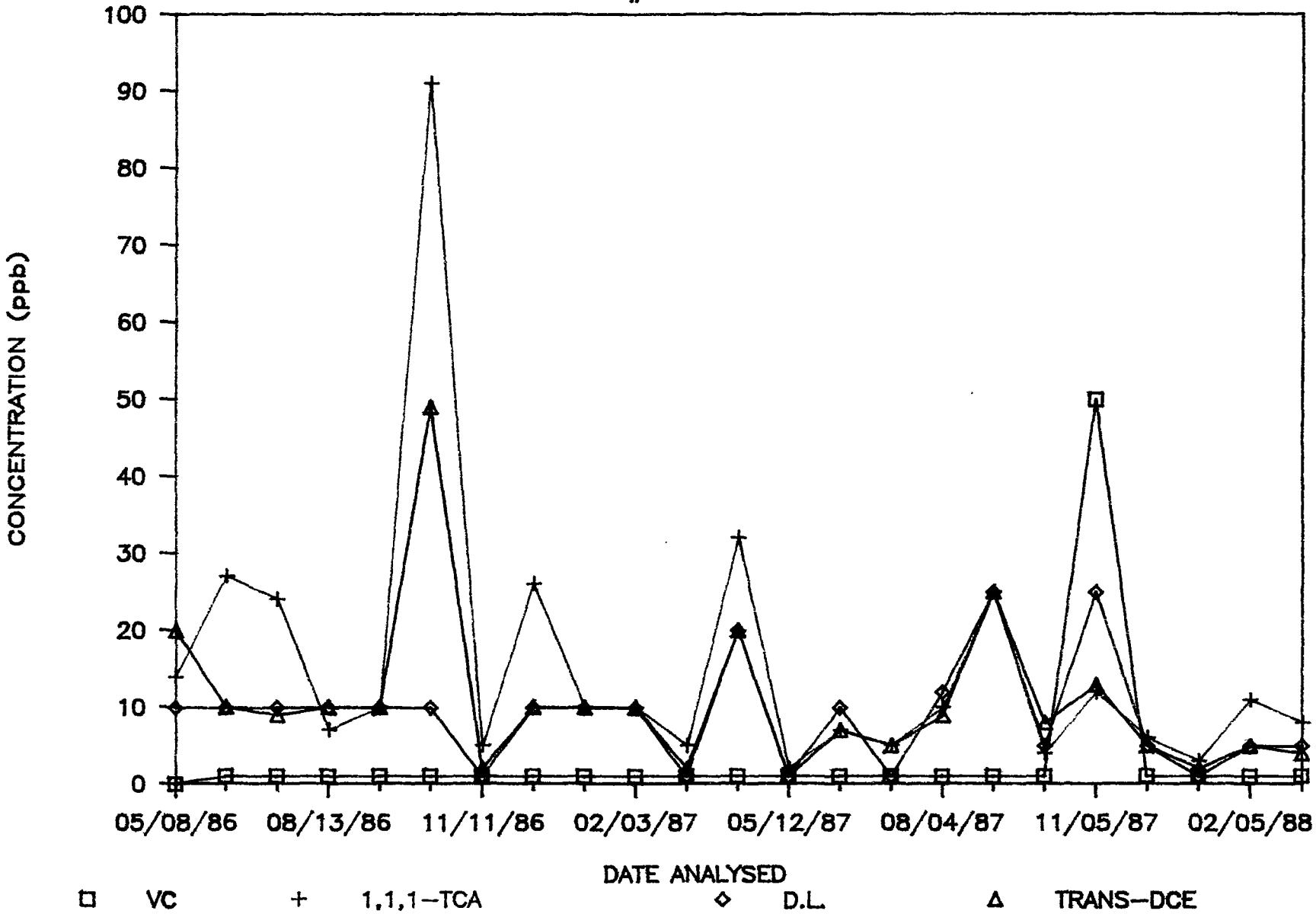
EKCO HOUSEWARES

AIR STRIPPER EFFLUENT



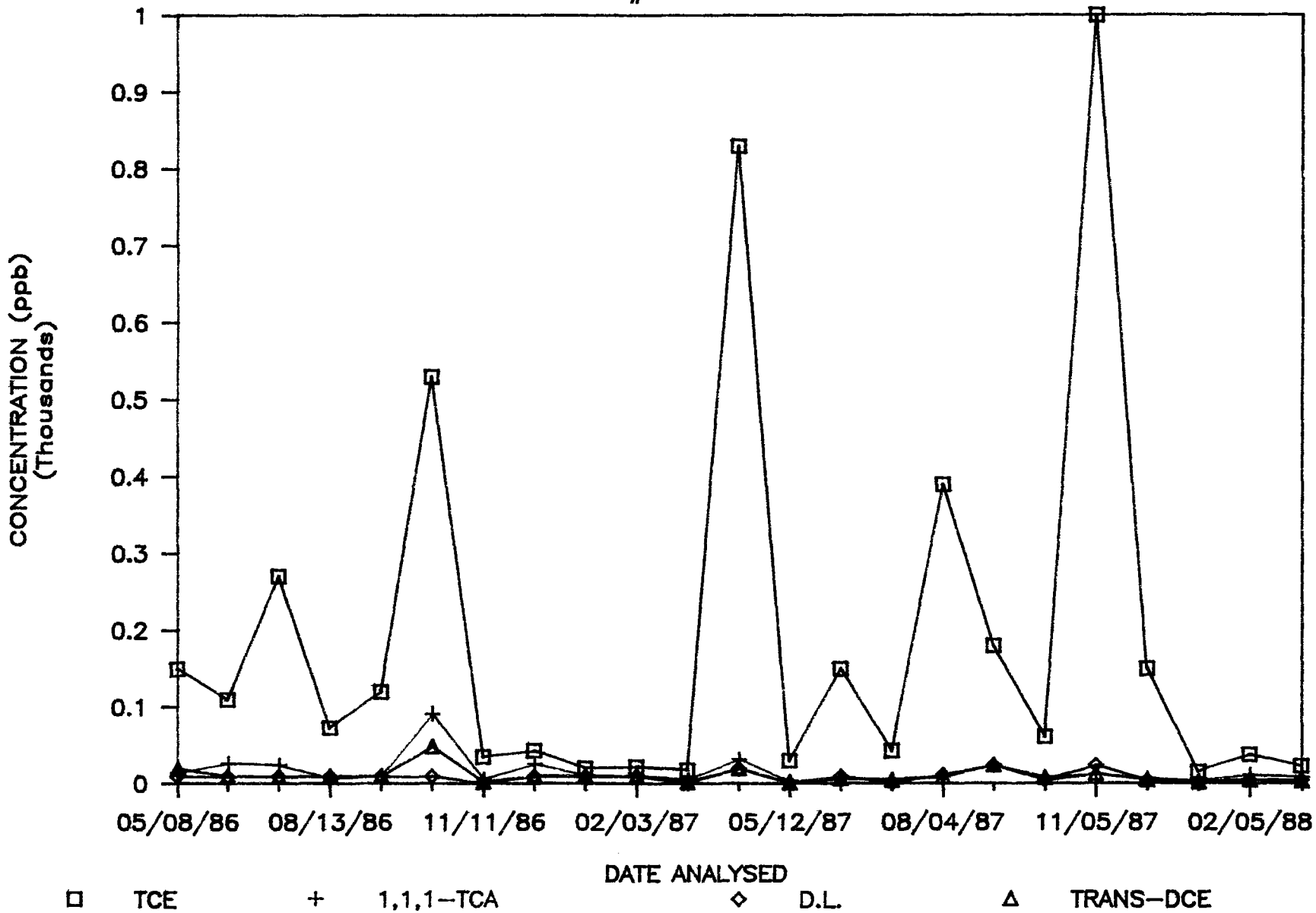
EKCO HOUSEWARES

WELL#: OUTFALL 001



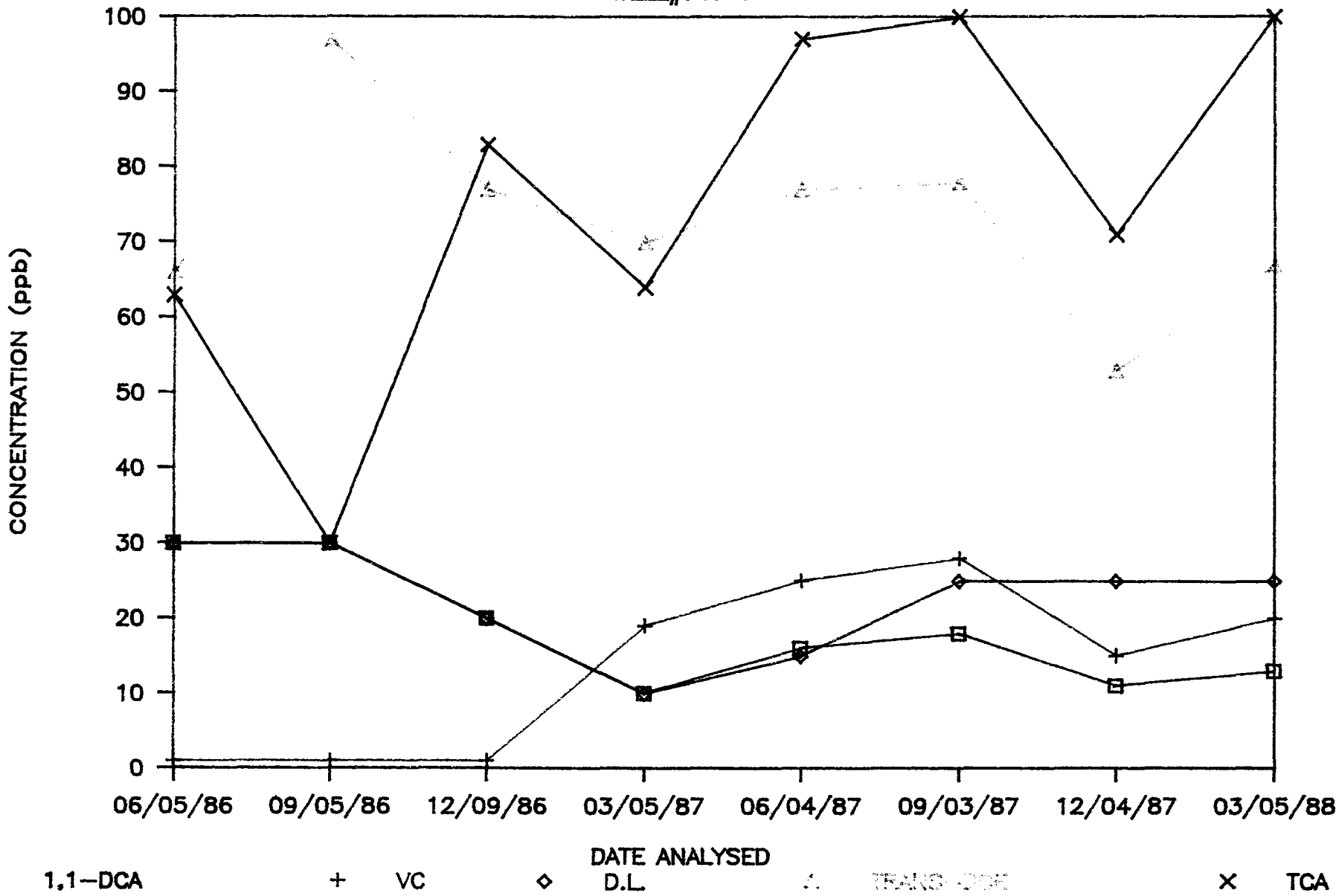
EKCO HOUSEWARES

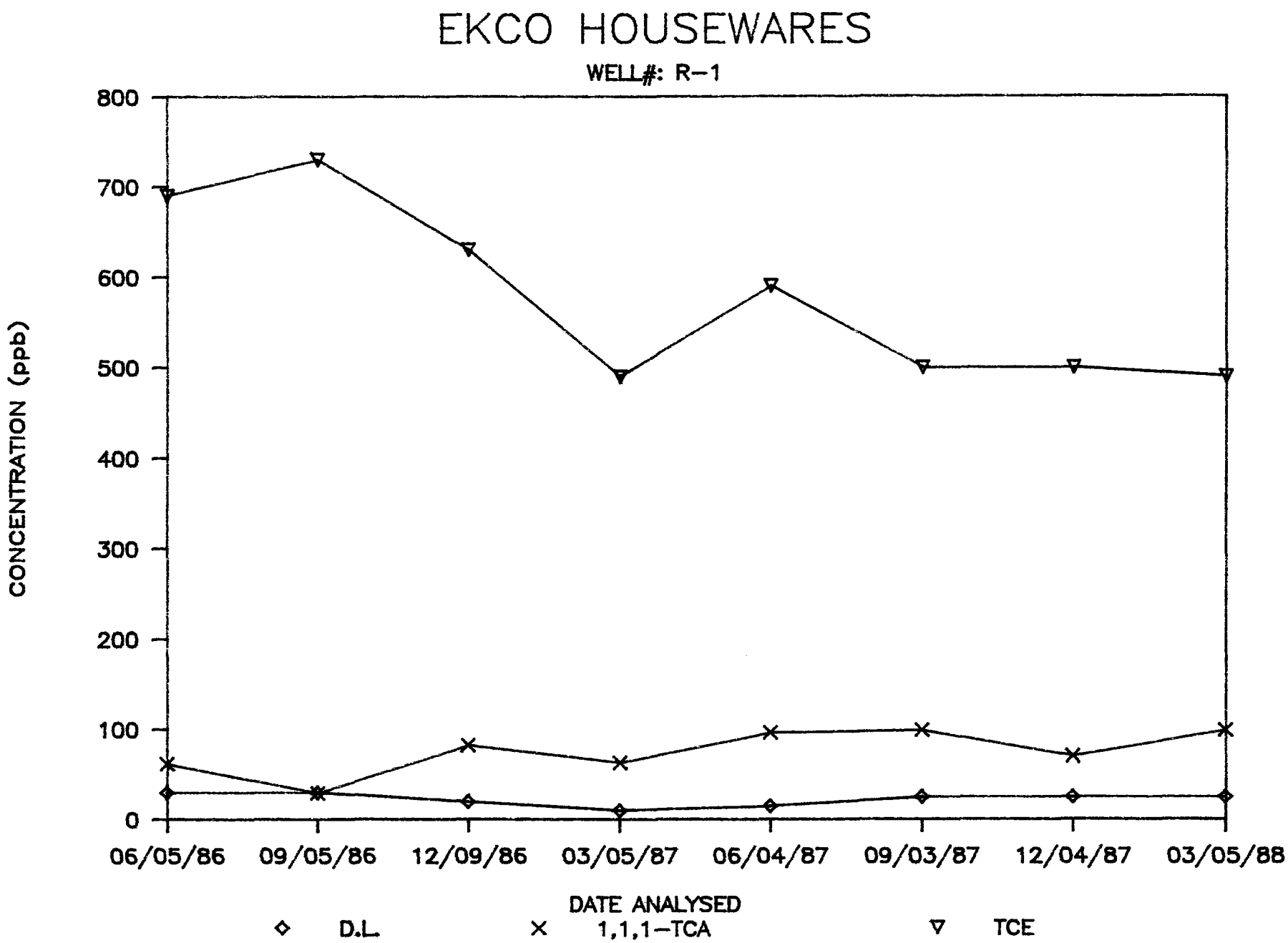
WELL#: OUTFALL 001



EKCO HOUSEWARES

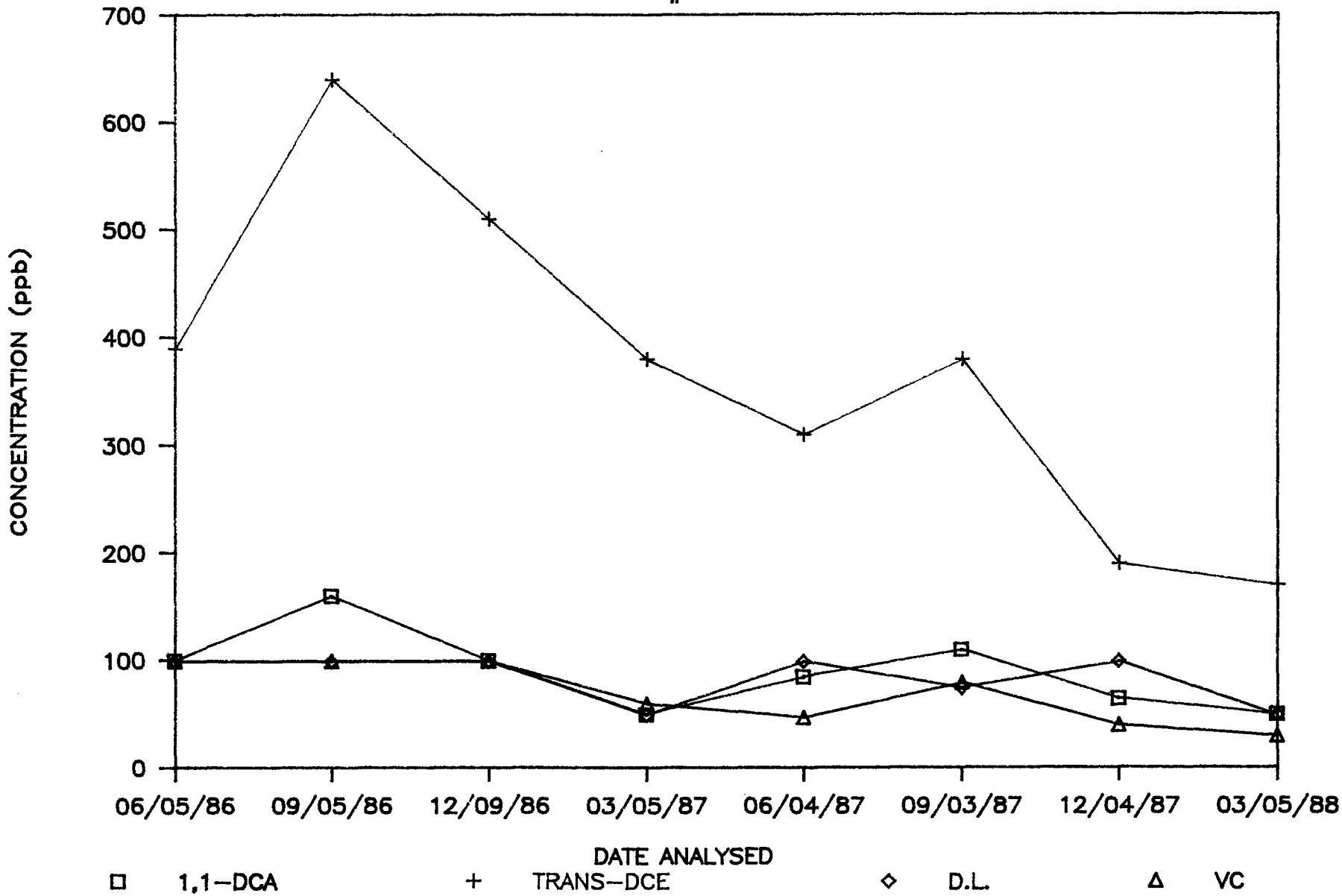
WELL#: R-1




EKCO HOUSEWARES
WELL#: R-1
CONCENTRATION (ppb)
800
700
600
500
400
300
200
100
0
06/05/86
09/05/86
12/09/86
03/05/87
06/04/87
09/03/87
12/04/87
03/05/88
DATE ANALYSED
D.L.
1,1,1-TCA
TCE

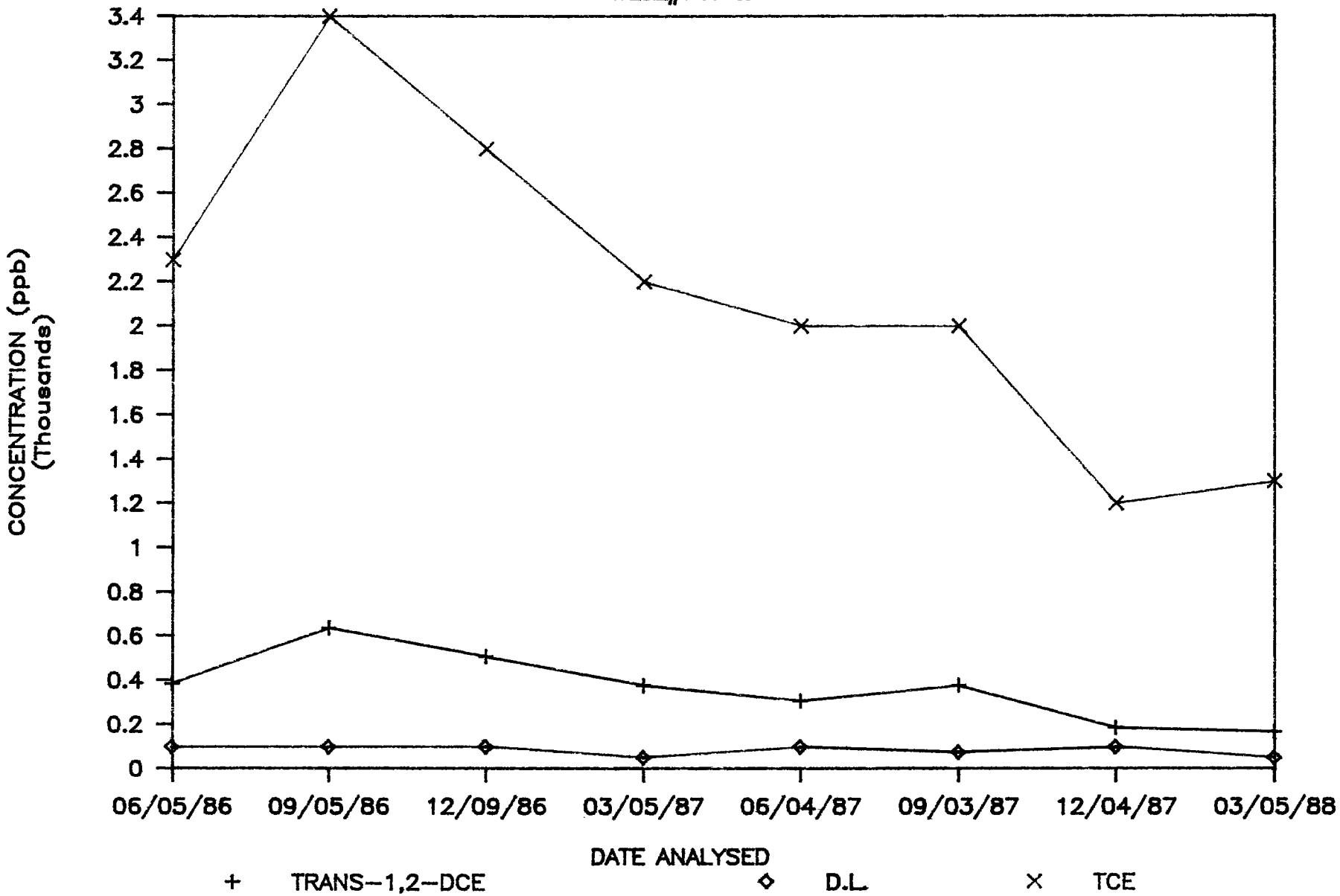
EKCO HOUSEWARES

WELL#: R-2



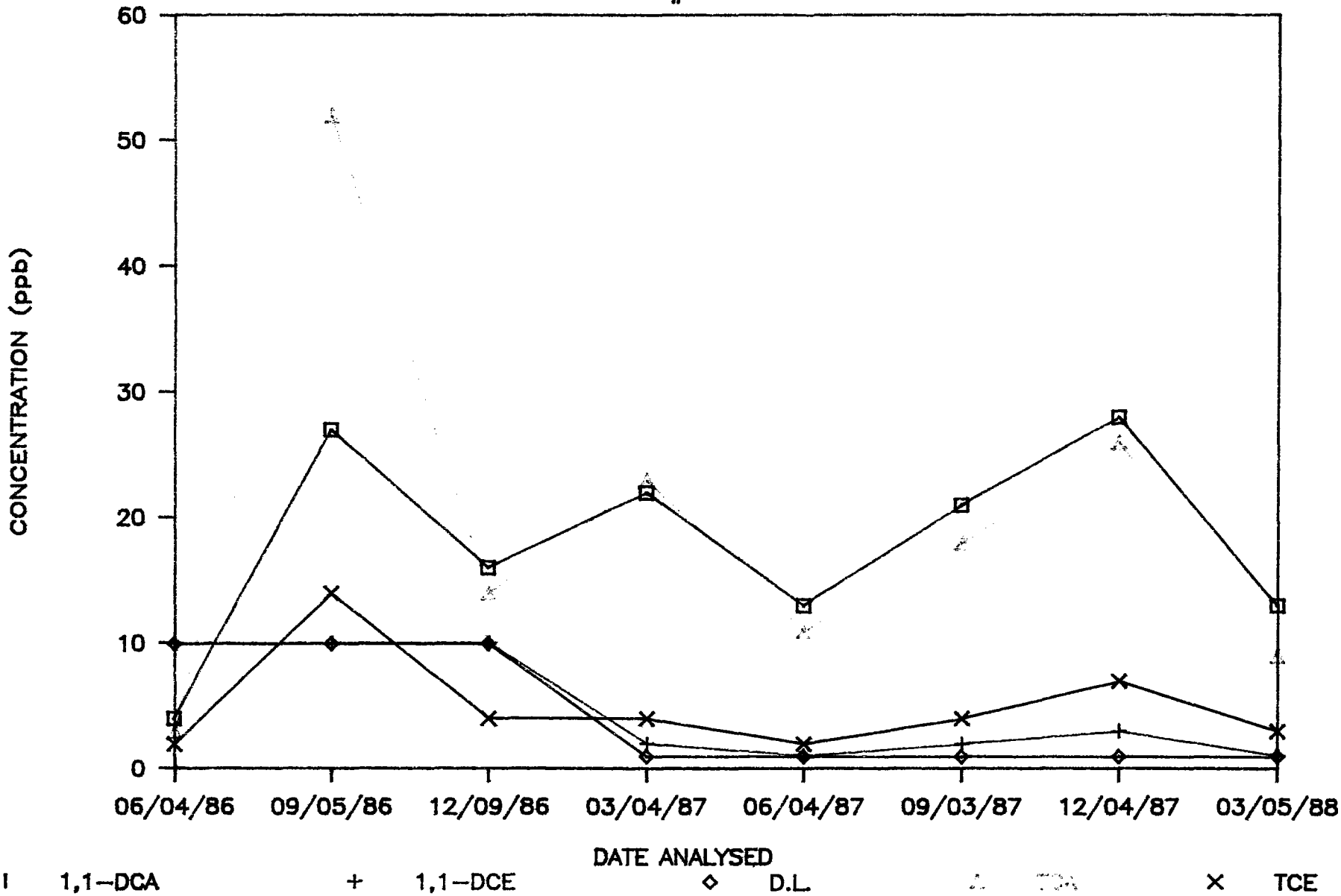
EKCO HOUSEWARES

WELL#: R-2



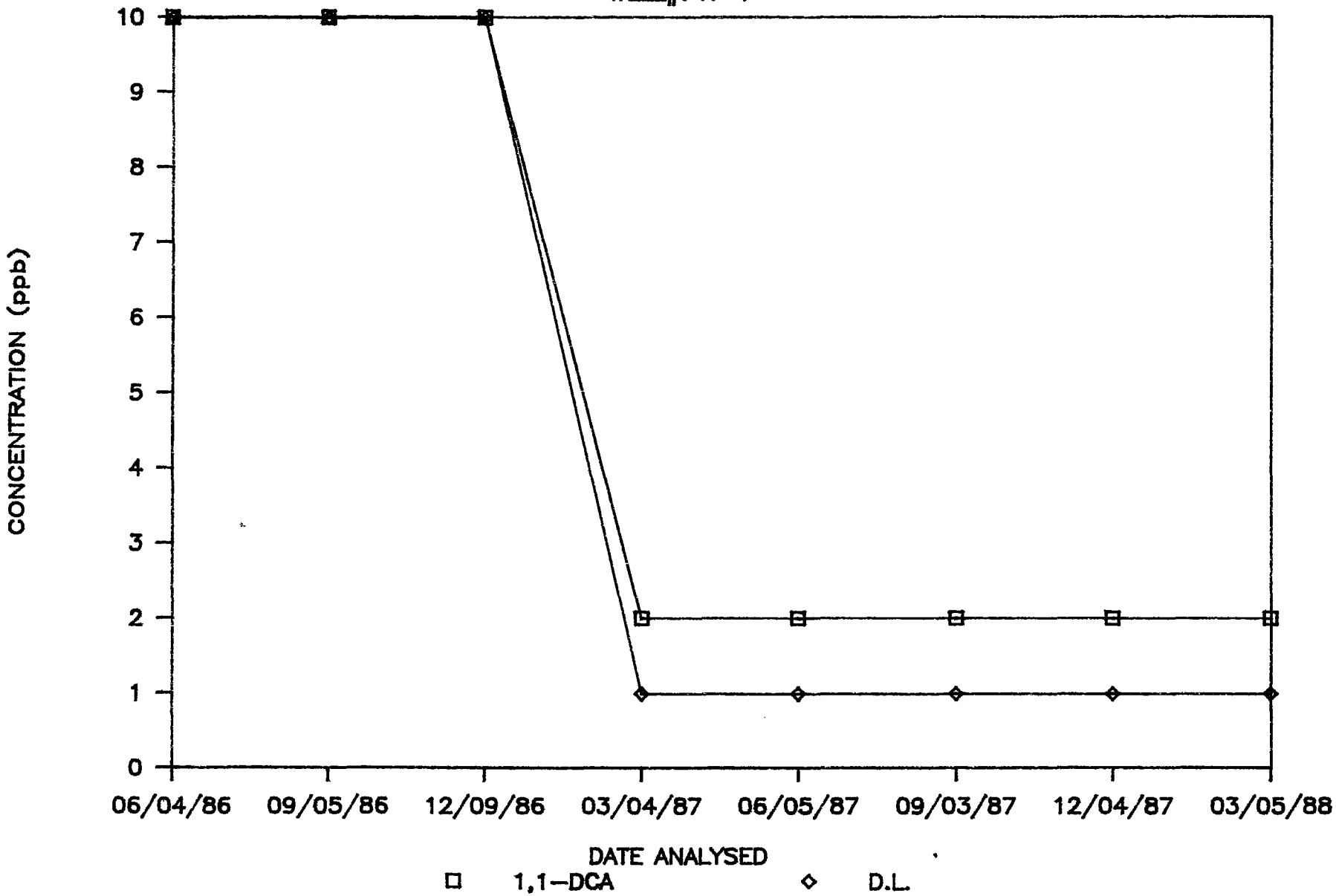
EKCO HOUSEWARES

WELL#: R-3



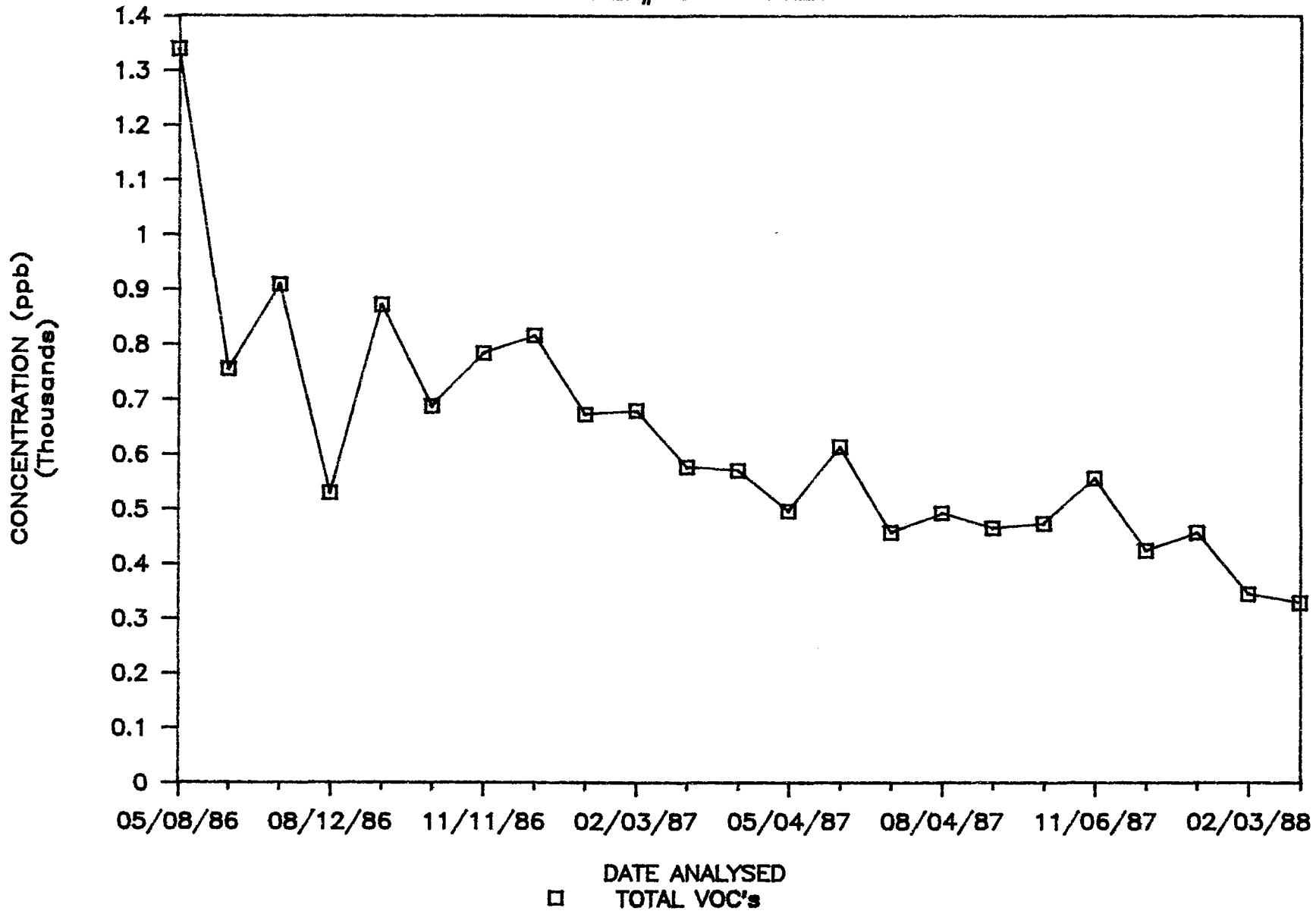
EKCO HOUSEWARES

WELL#: R-4



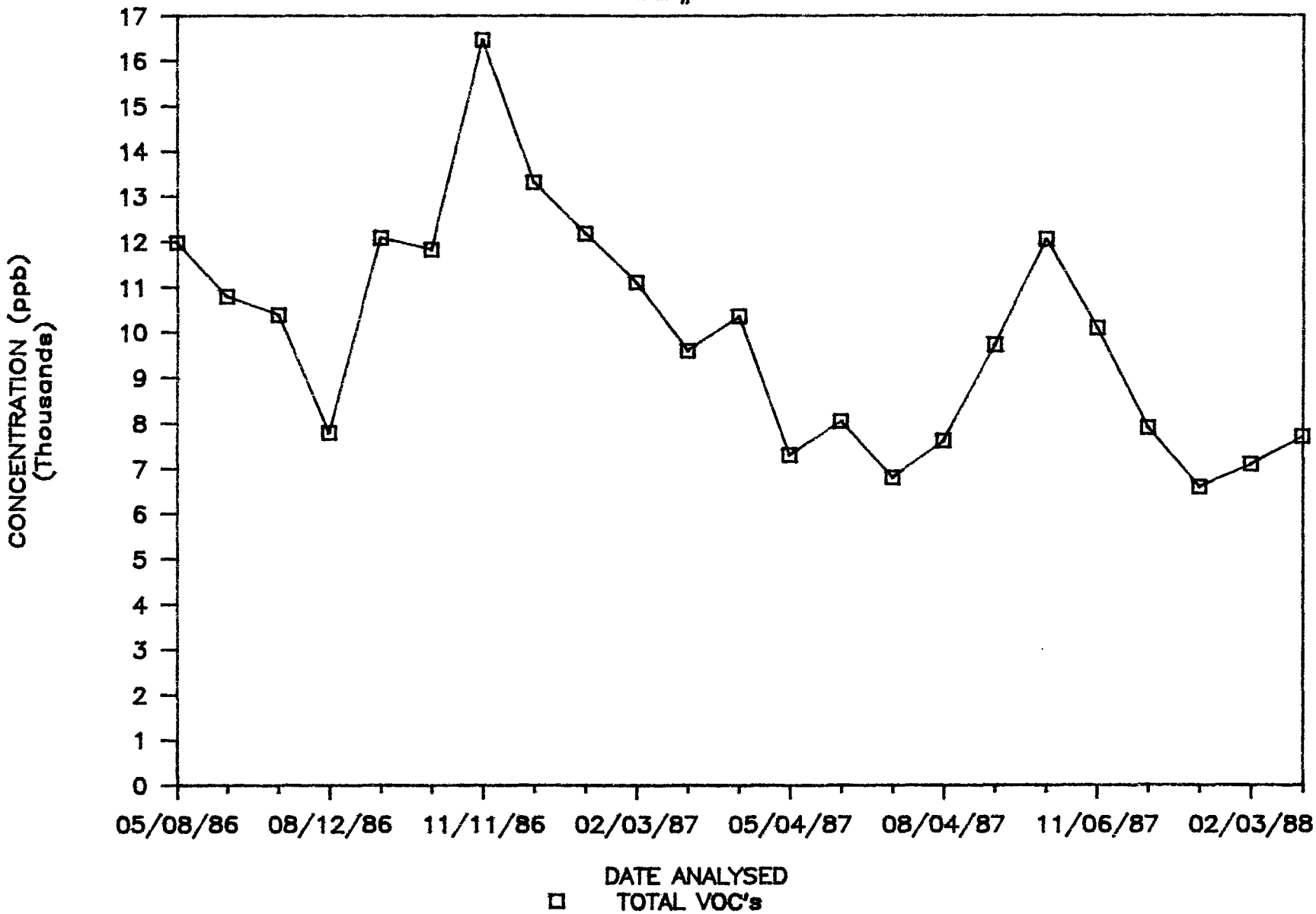
EKCO HOUSEWARES

WELL #: SOUTH WELL



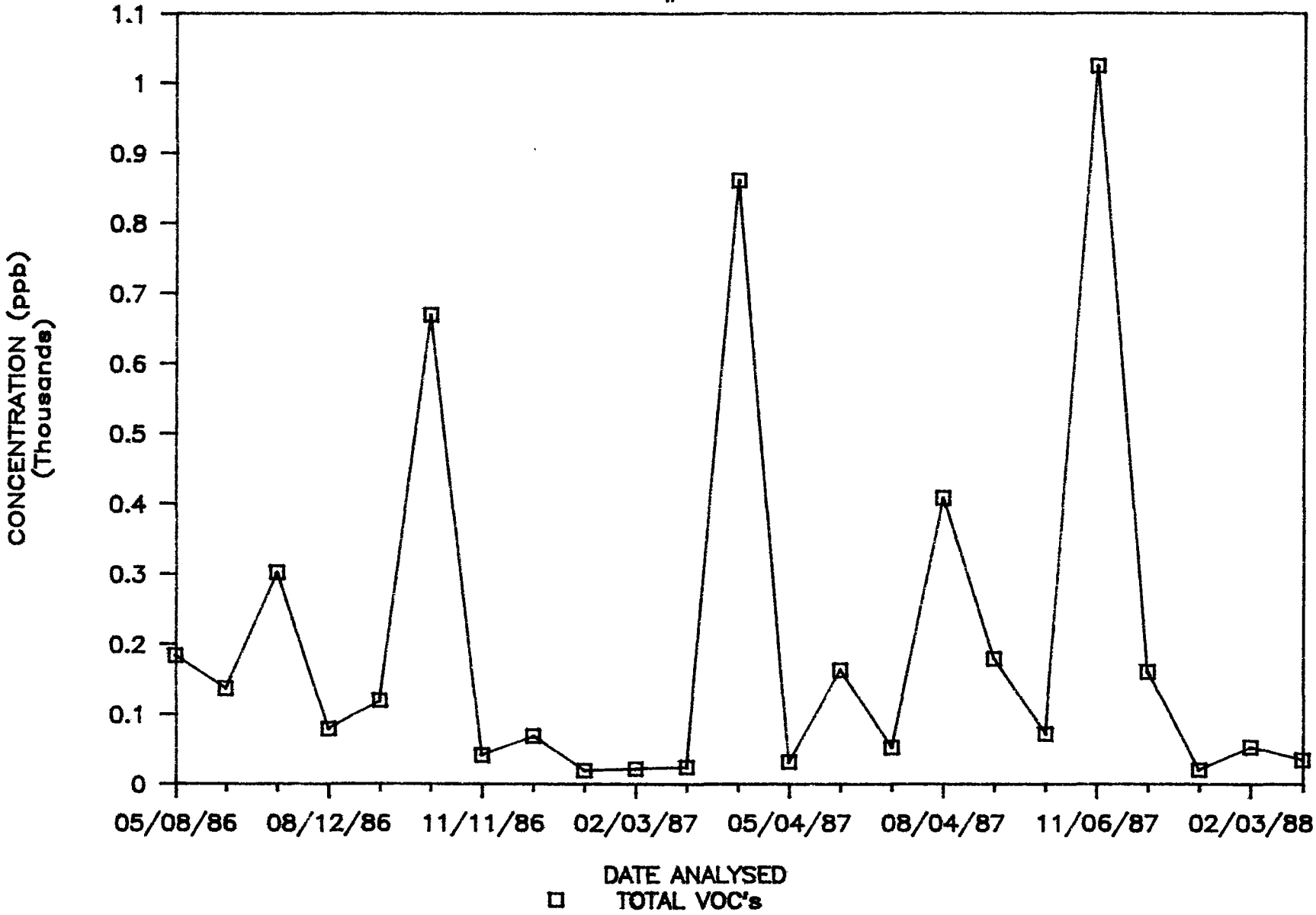
EKCO HOUSEWARES

WELL #: W-10



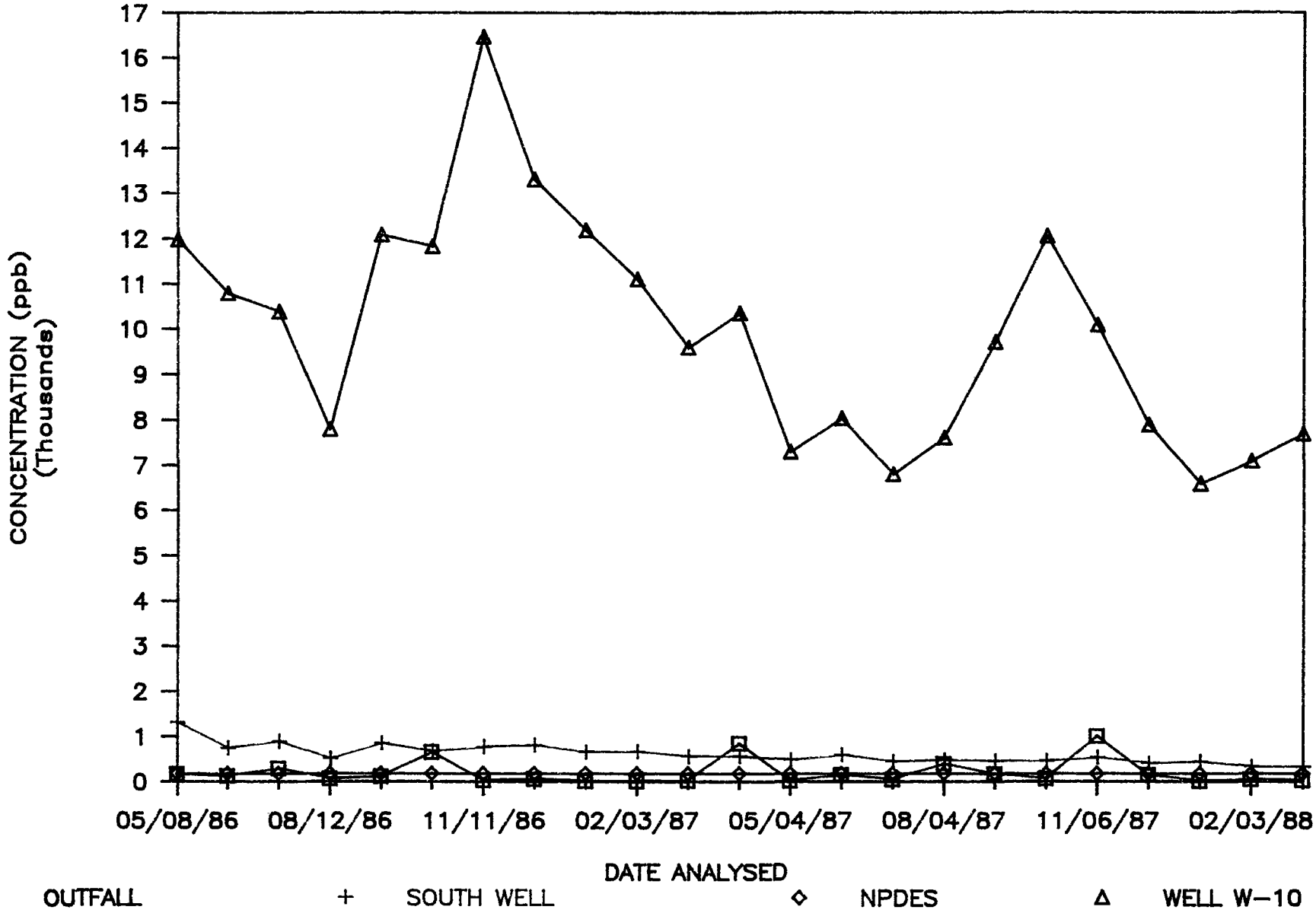
EKCO HOUSEWARES

WELL #: OUTFALL



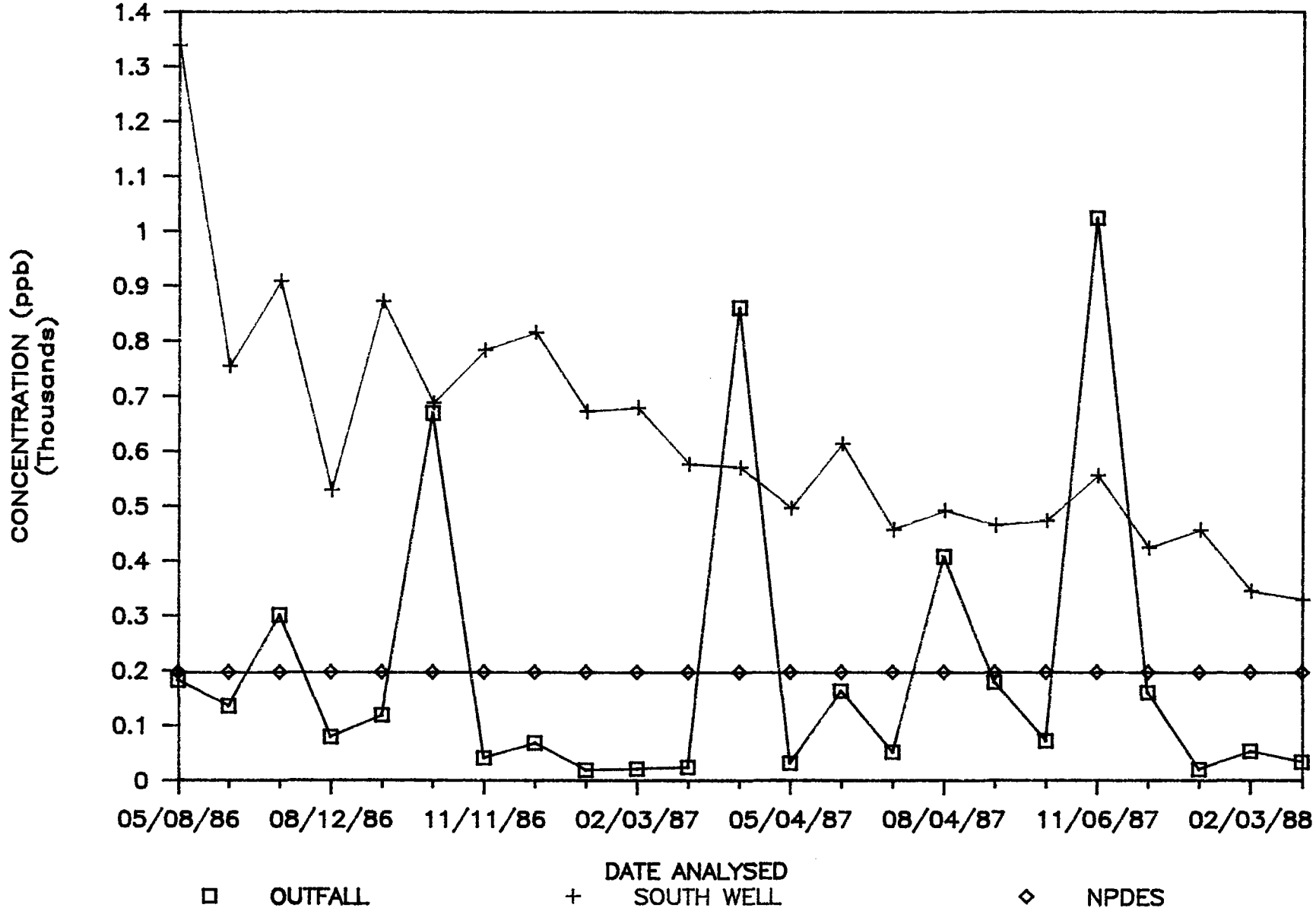
EKCO HOUSEWARES

TOTAL VOC's

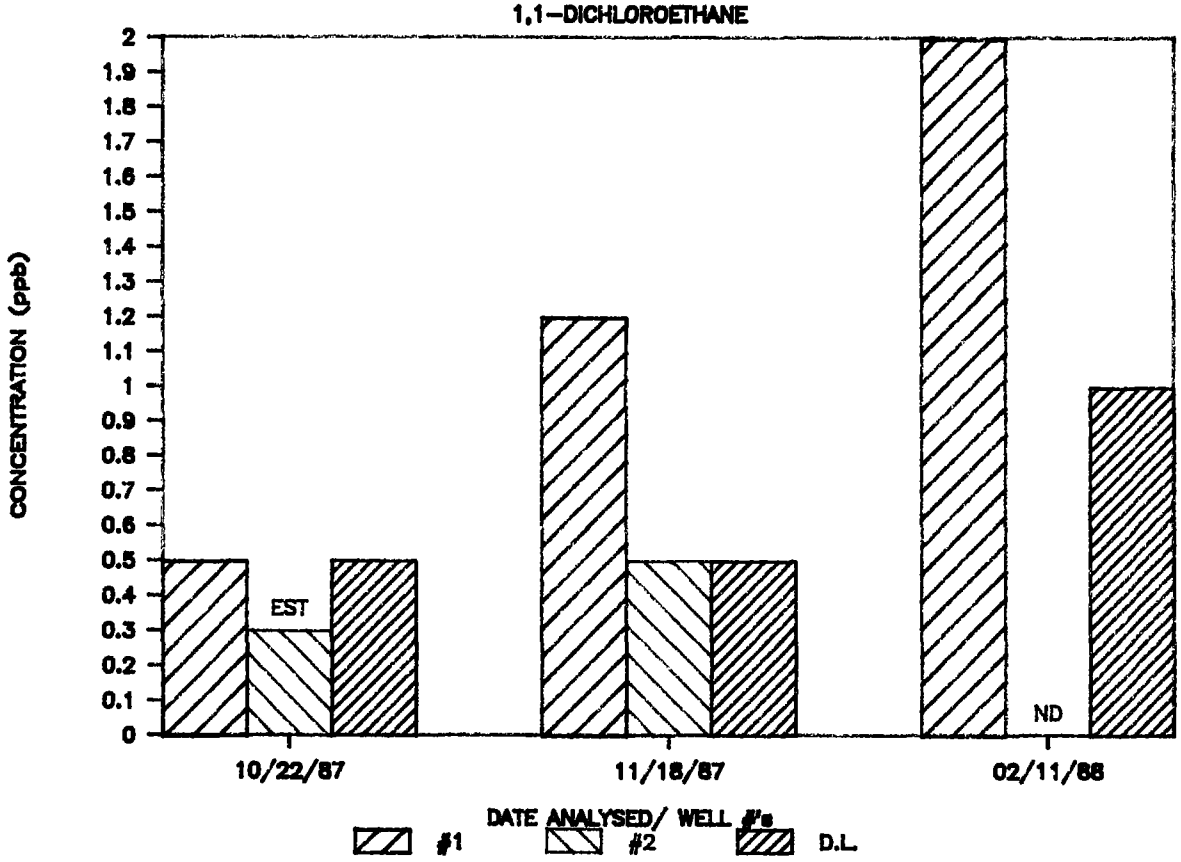


EKCO HOUSEWARES

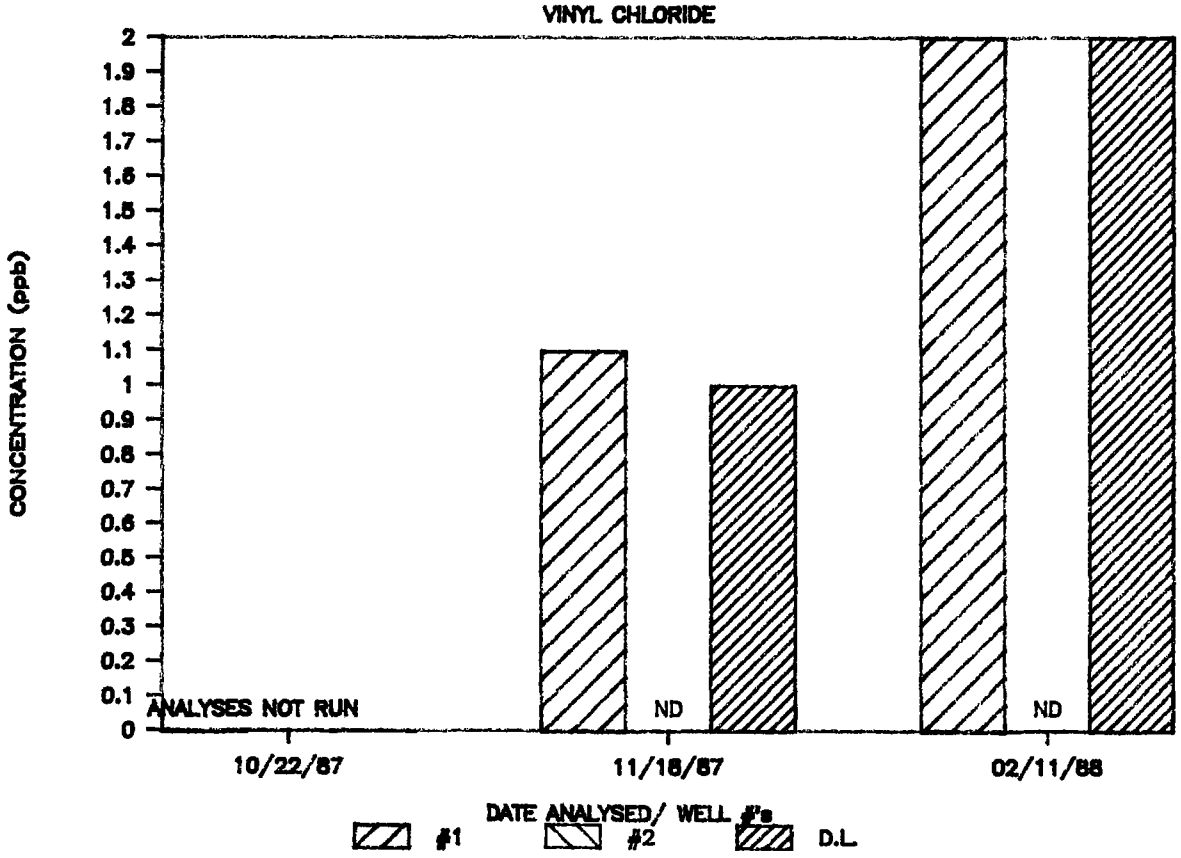
TOTAL VOC's



OHIO WATER SERVICE



OHIO WATER SERVICE



Metcalf & Eddy
Hazardous Waste
Management Division

6480 BUSCH BOULEVARD
SUITE 120
COLUMBUS, OHIO 43229
TELEPHONE (614) 436-5550

February 11, 1988

RECEIVED
FEB 17 1988
U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
OFFICE OF THE DIRECTOR

Mr. Walter Nied
RCRA Enforcement Section
U.S. EPA Region V
230 South Dearborn Street
Chicago, IL 60604

Subject: January 1988 Groundwater Data

Dear Wally:

Enclosed please find one copy of plots from the latest Ekco Housewares analytical data. Also included are three new plots of the total VOC's in the south well, well W-10, and the outfall. Please note that values plotted as equal to the detection limit (D.L.) are listed in the analytical data as not detected. Those values that are plotted below the detection limit are listed as estimates in the analytical data.

If you have any questions, please feel free to call me at (614) 436-5550.

Sincerely,

James P. Stanton for

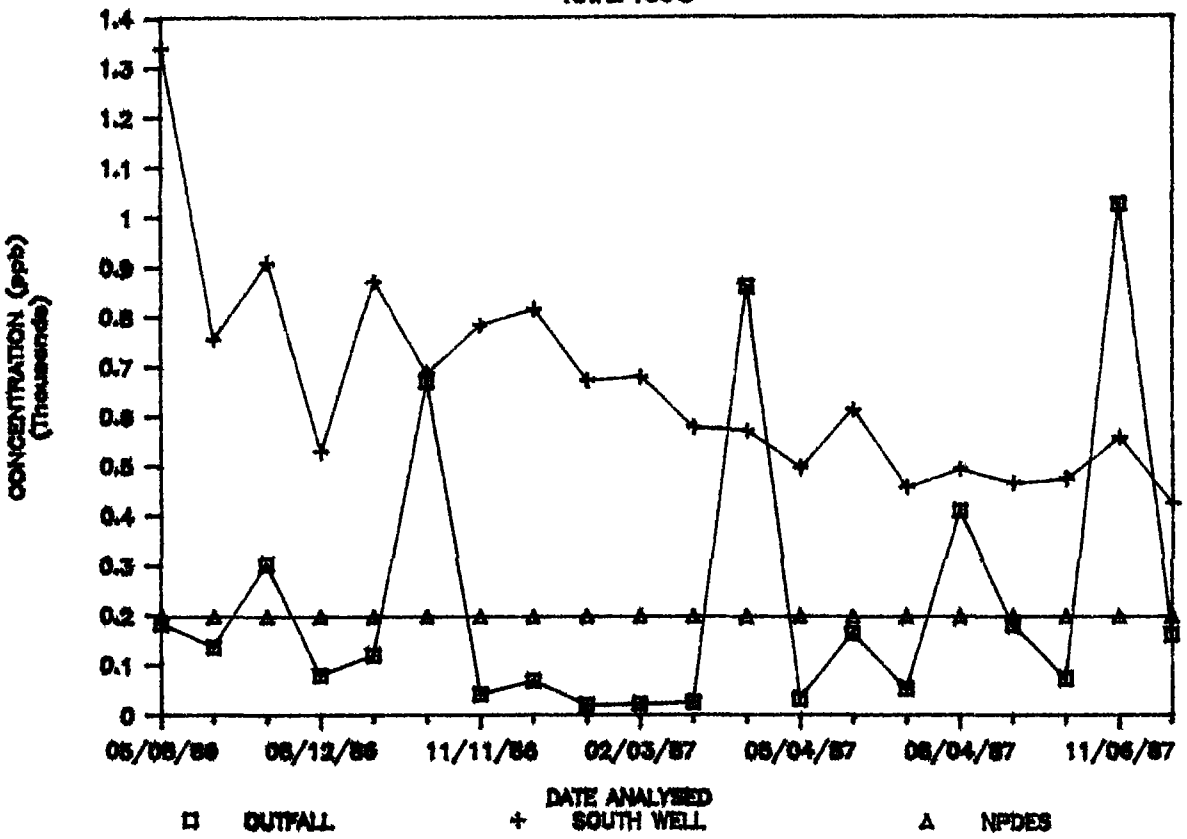
Jerry Myers
Work Assignment Manager

JM:vh

Enclosure

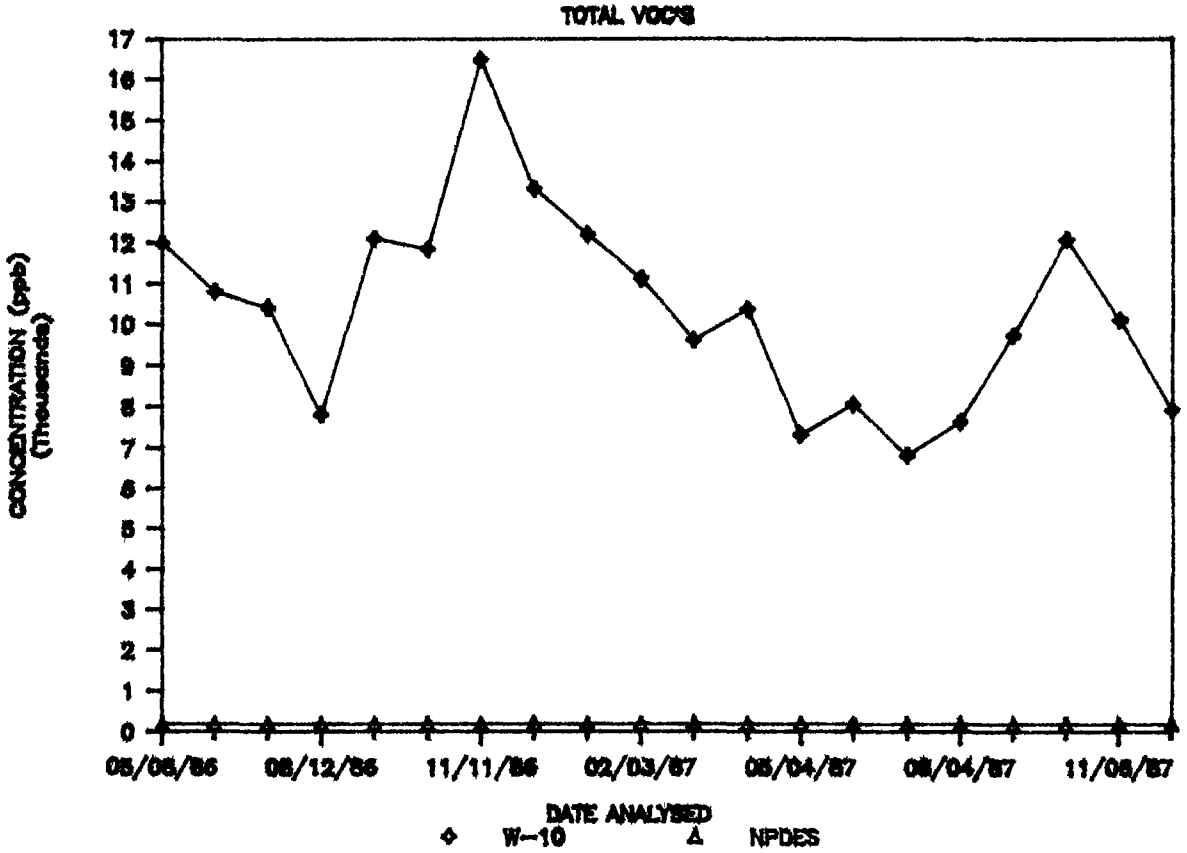
EKCO HOUSEWARES

TOTAL VOC'S



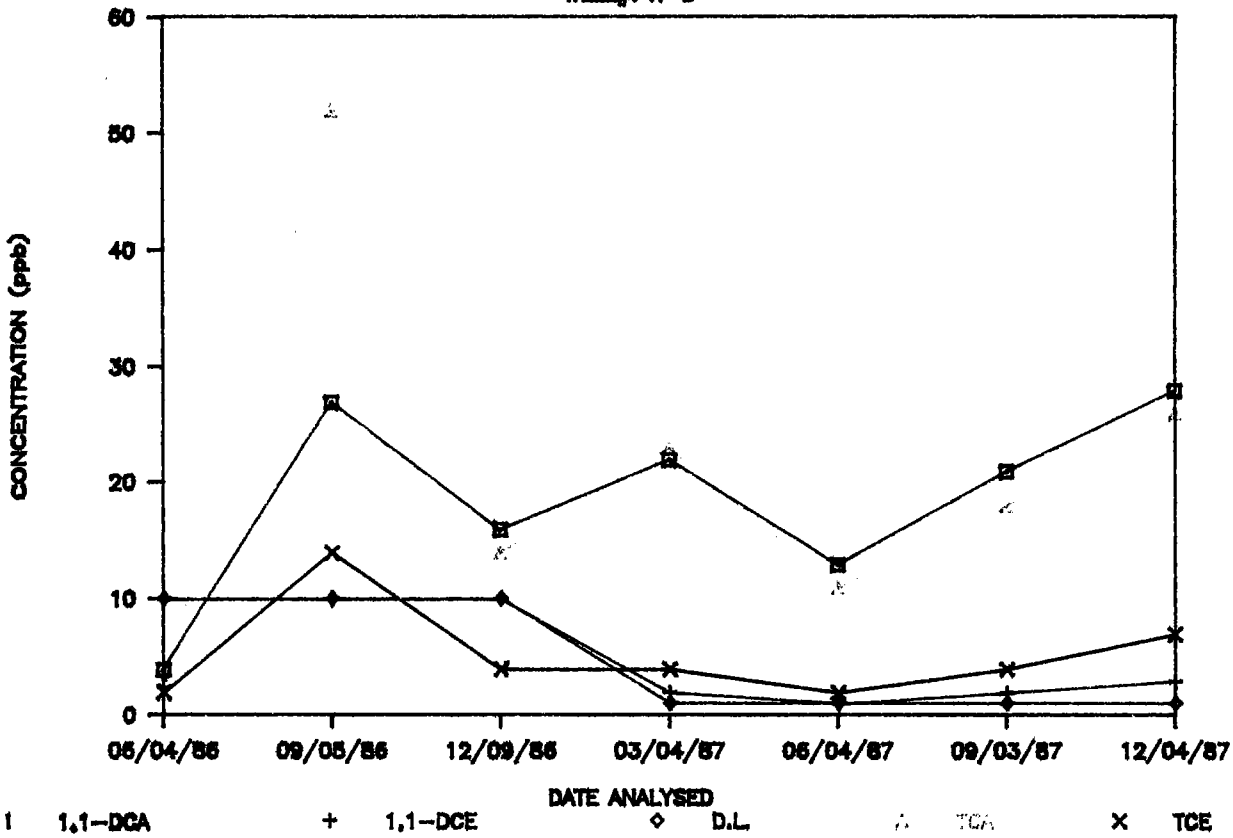
EKCO HOUSEWARES

TOTAL VOC'S



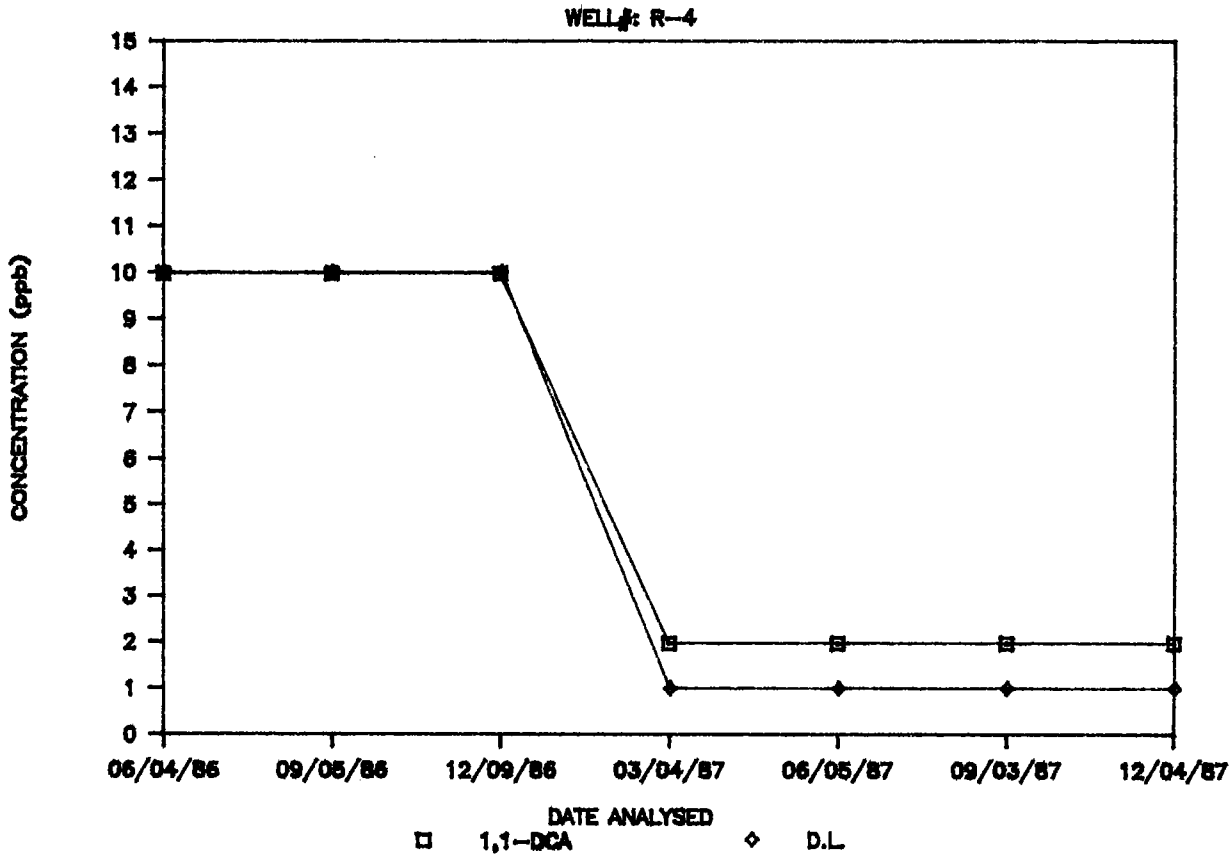
EKCO HOUSEWARES

WELL#: R-3



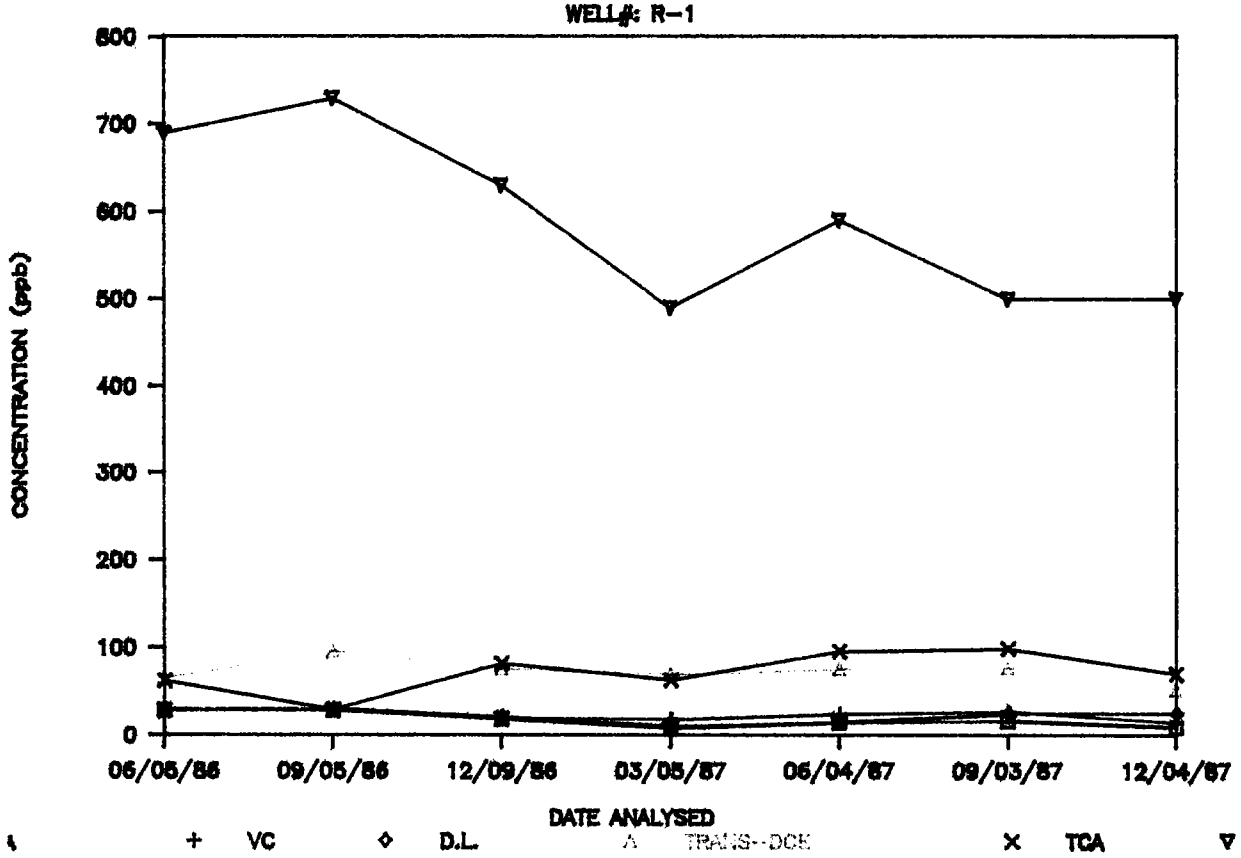
EKCO HOUSEWARES

WELL#: R-4



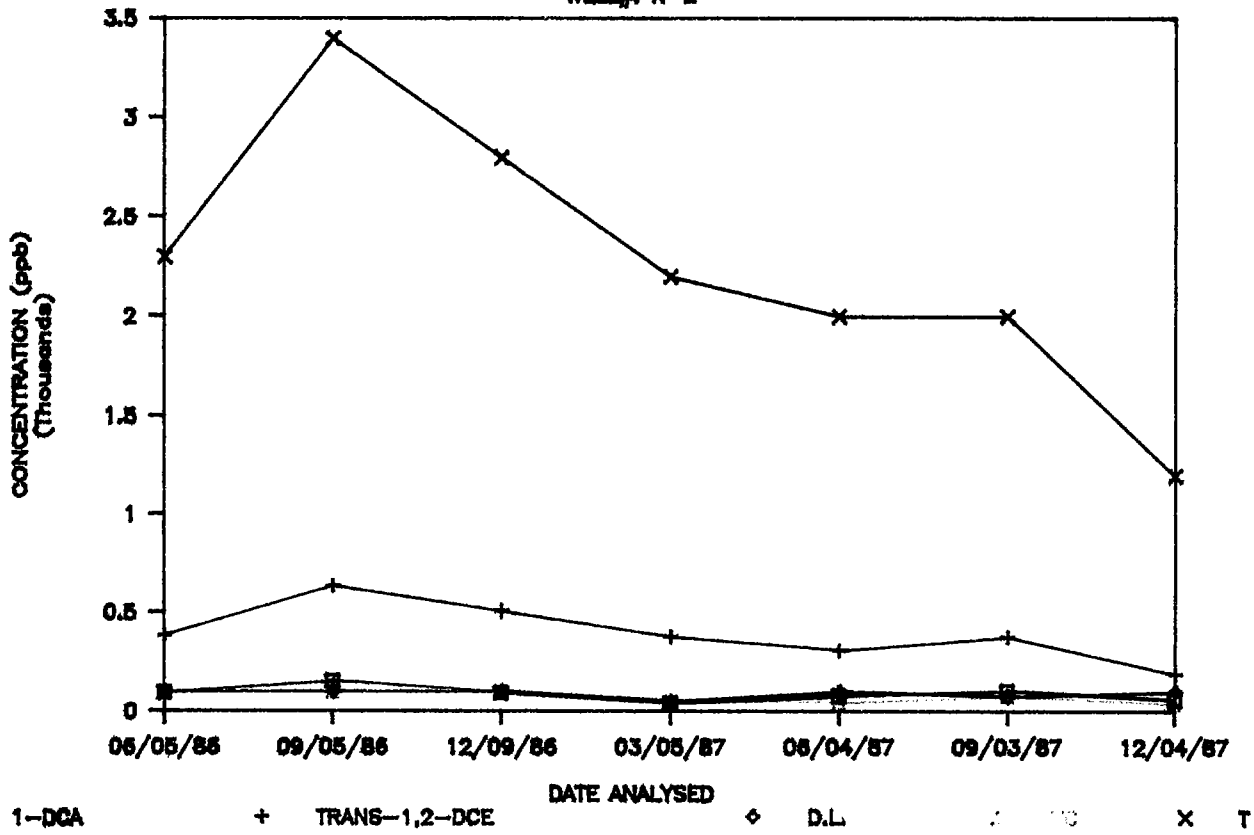
EKCO HOUSEWARES

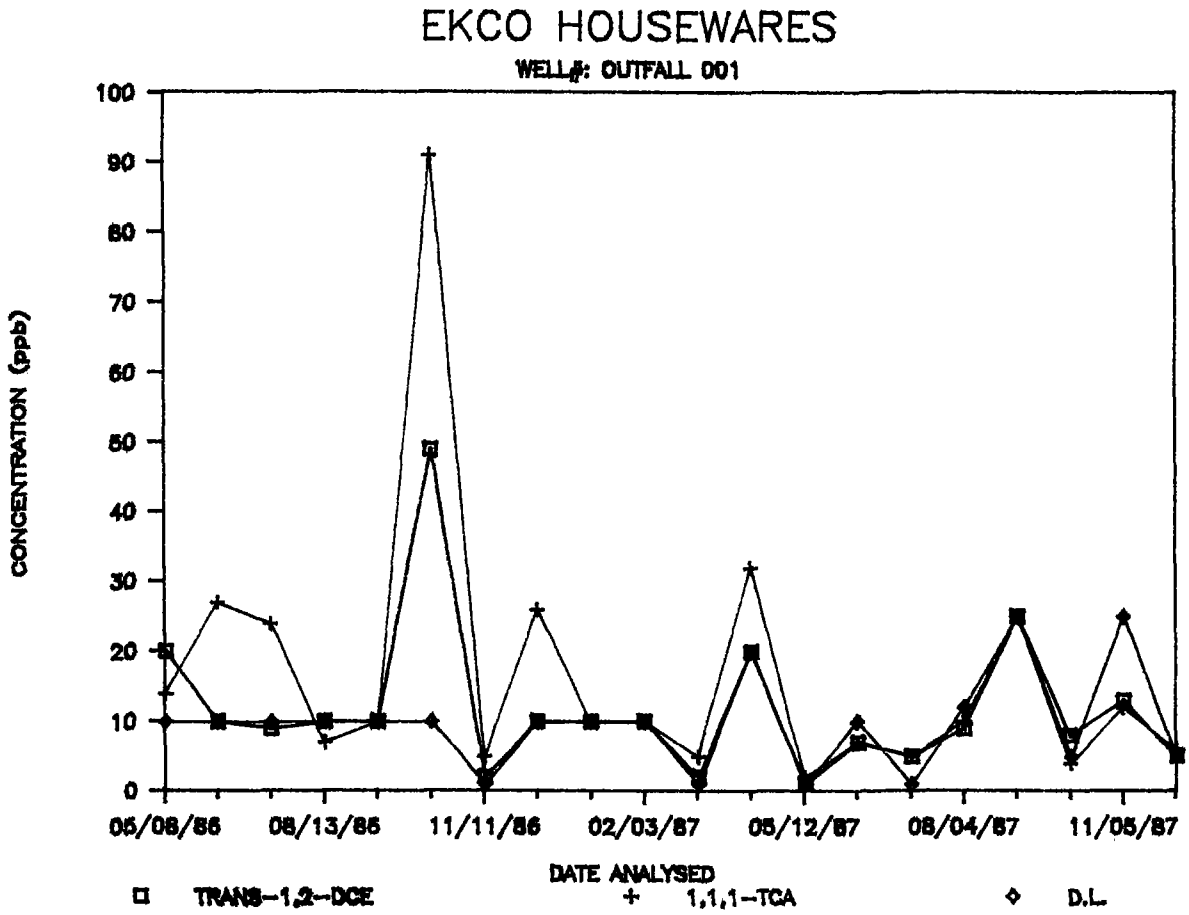
WELL#: R-1

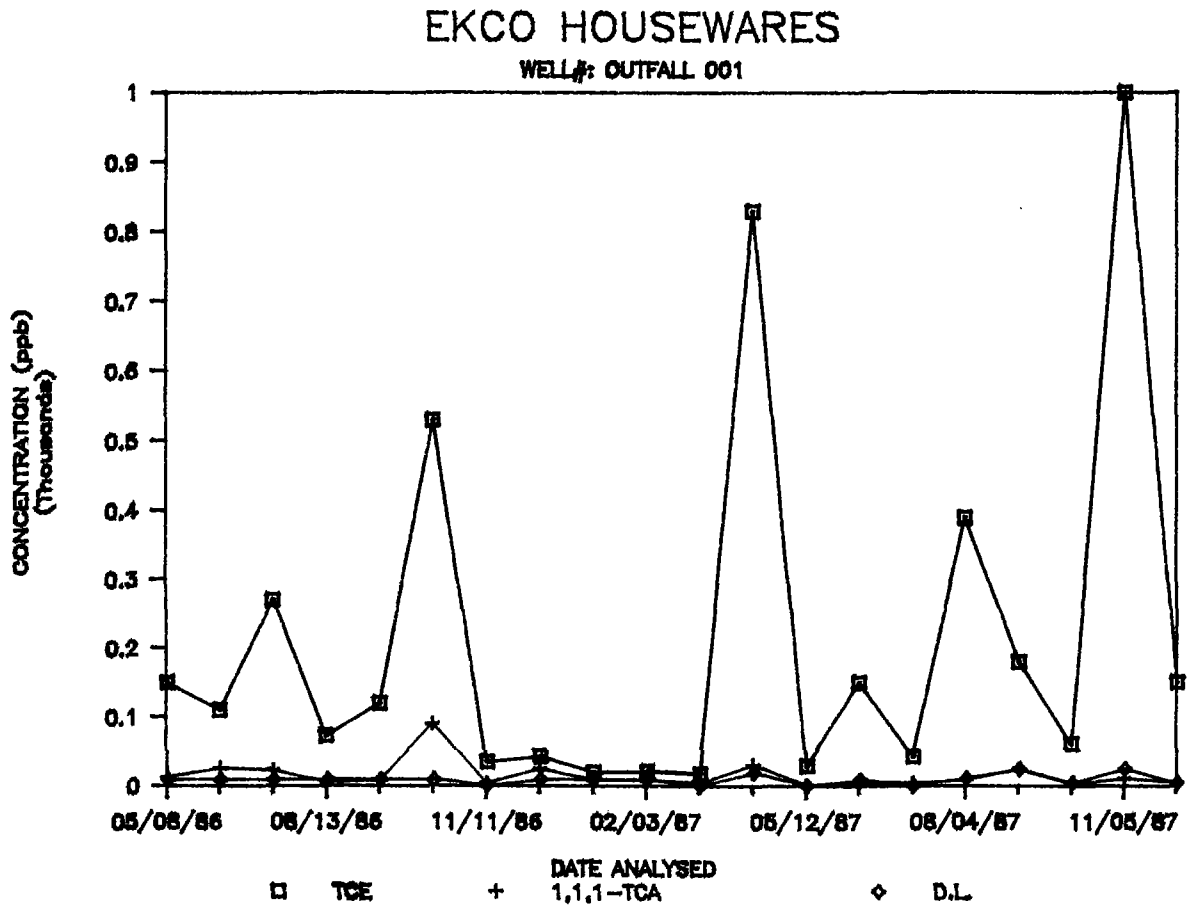


EKCO HOUSEWARES

WELL#: R-2

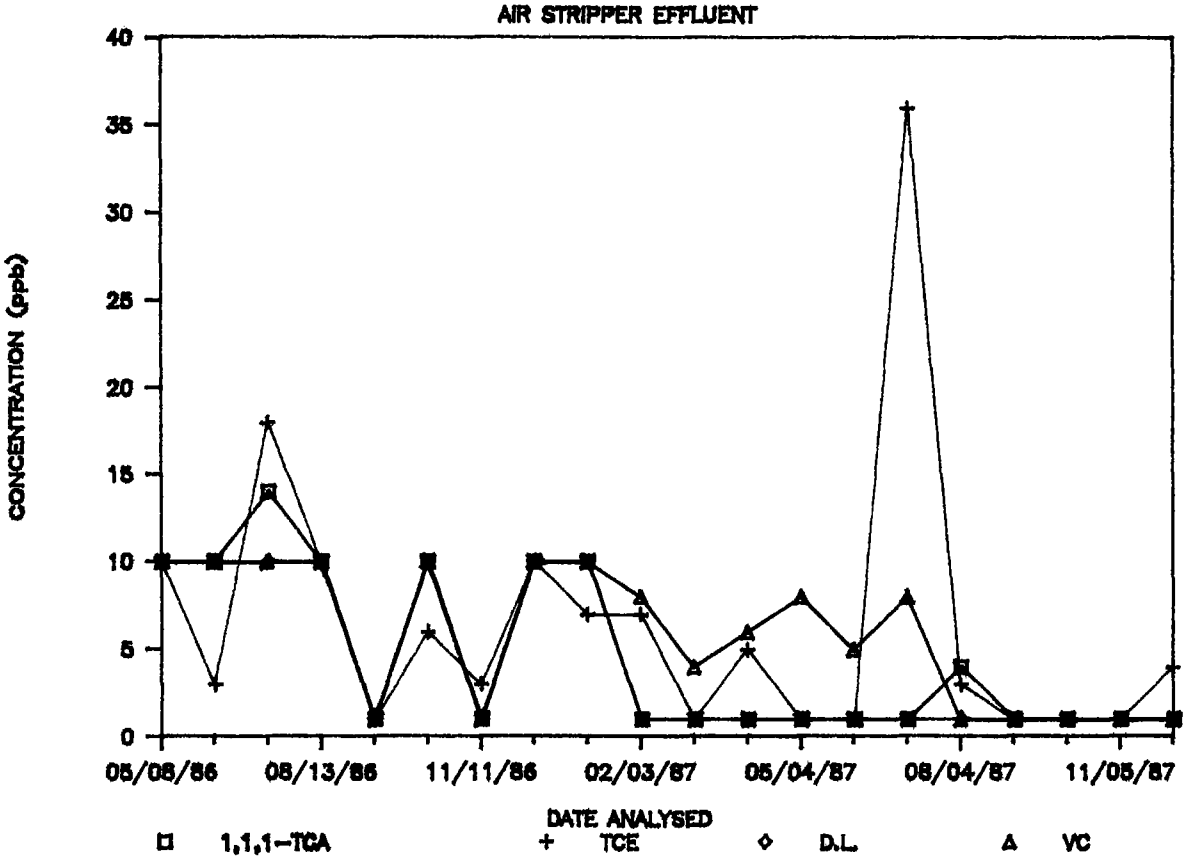



EKCO HOUSEWARES
WELL#: OUTFALL 001
CONCENTRATION (ppb)
100
90
80
70
60
50
40
30
20
10
0
05/08/86
08/13/86
11/11/86
02/03/87
05/12/87
08/04/87
11/05/87
DATE ANALYSED
TRANS-1,2-DCE
1,1,1-TCA
D.L.


EKCO HOUSEWARES
WELL#: OUTFALL 001
CONCENTRATION (ppb)
(Thousands)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
05/08/86
08/13/86
11/11/86
02/03/87
05/12/87
08/04/87
11/05/87
DATE ANALYSED
TCE
1,1,1-TCA
D.L.

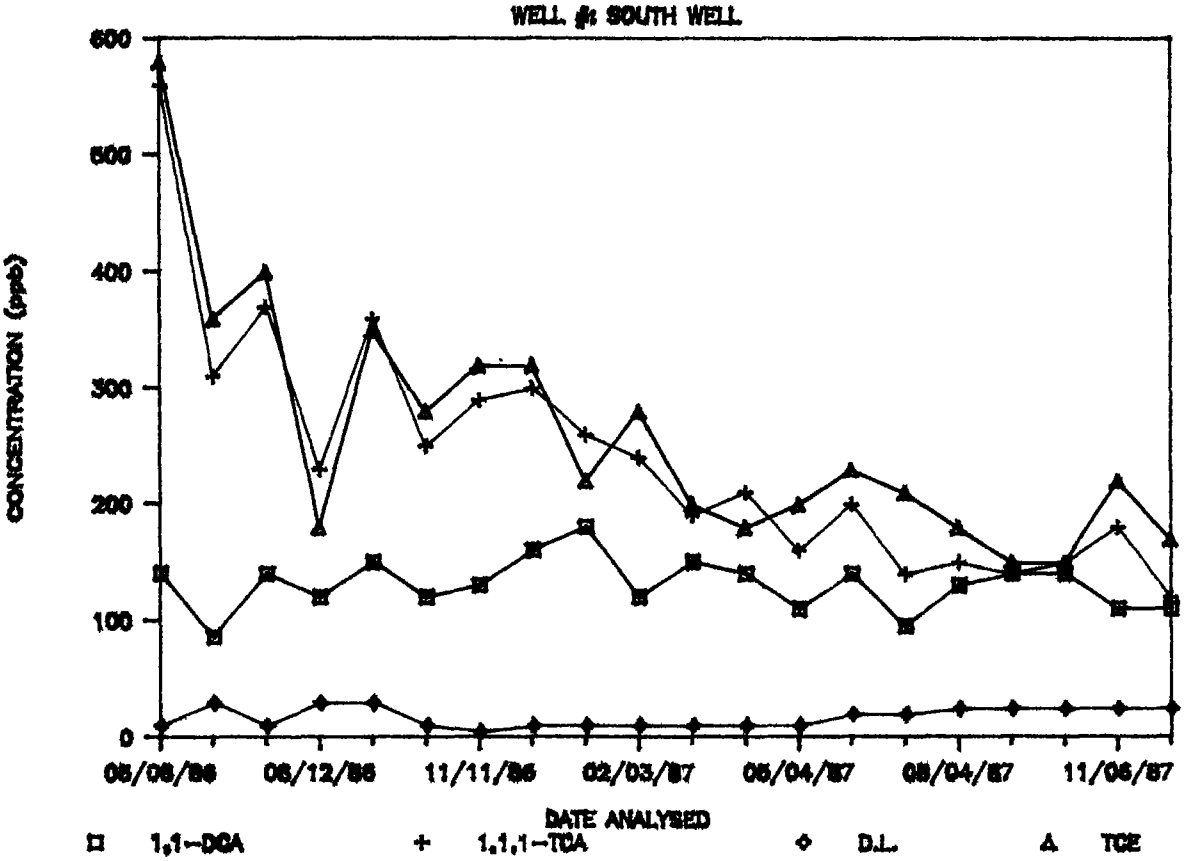
EKCO HOUSEWARES

AIR STRIPPER EFFLUENT



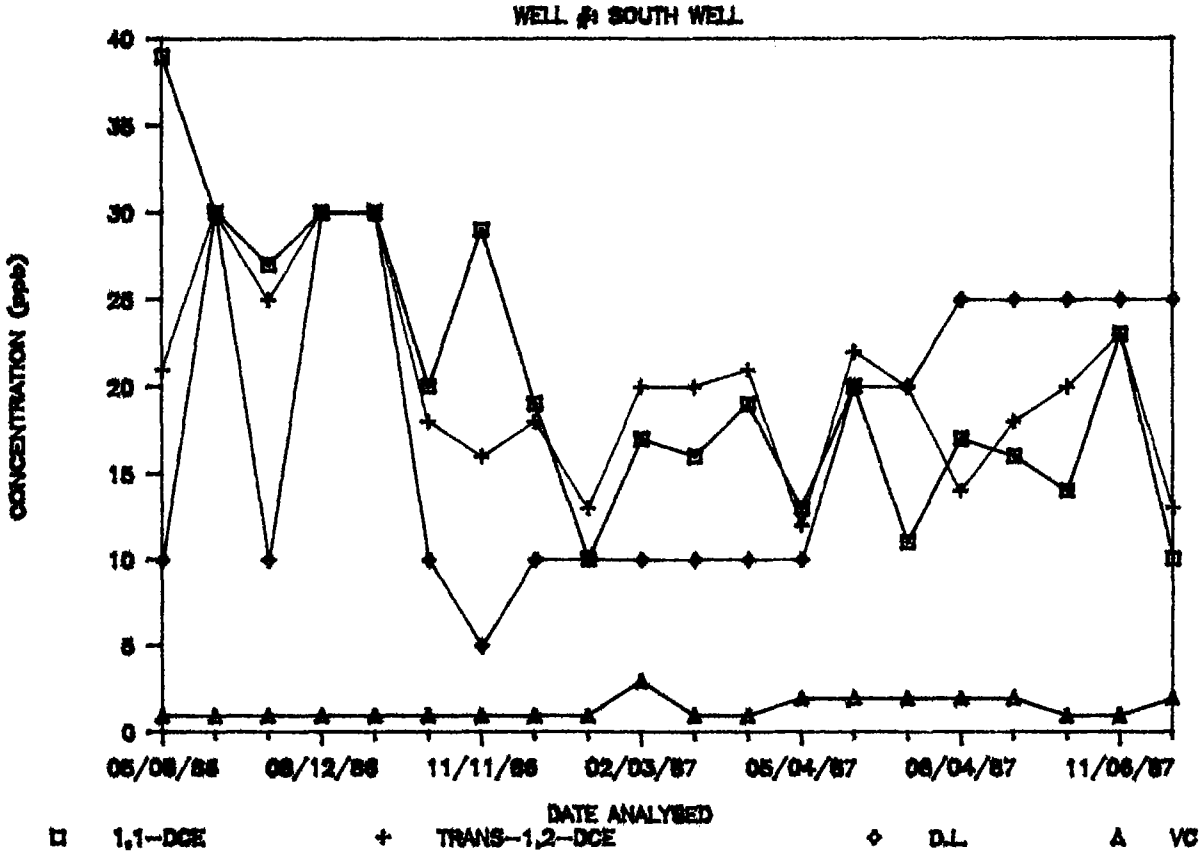
EKCO HOUSEWARES

WELL #: SOUTH WELL



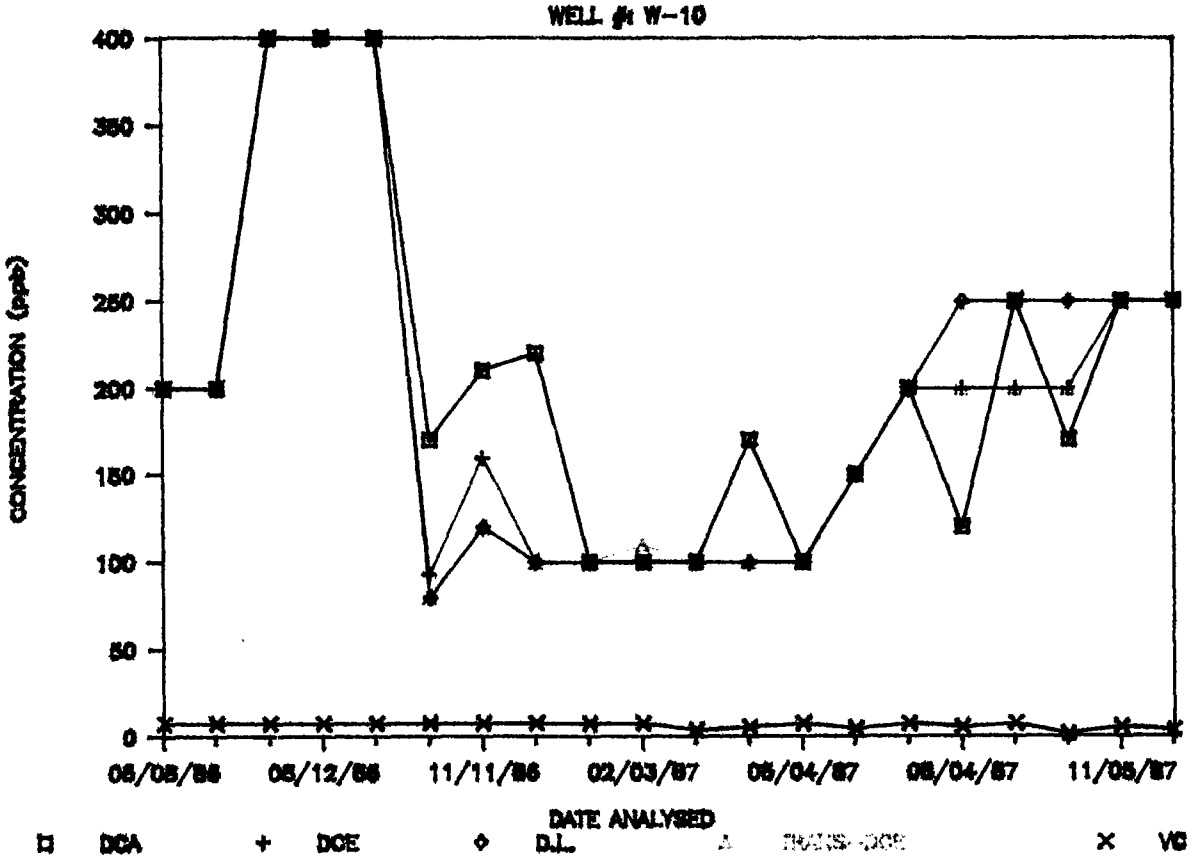
EKCO HOUSEWARES

WELL #: SOUTH WELL



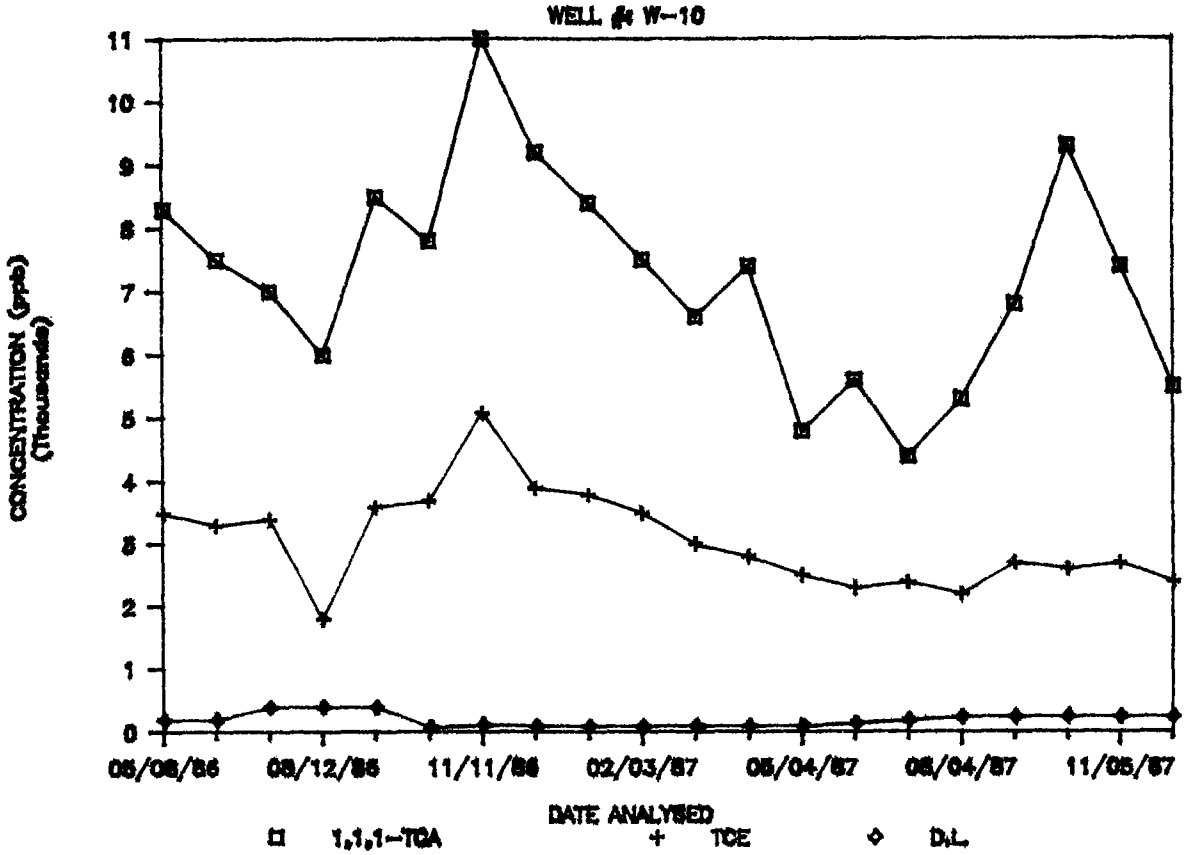
EKCO HOUSEWARES

WELL #: W-10



EKCO HOUSEWARES

WELL #: W-10



Metcalf & Eddy
Hazardous Waste
Management Division

6480 BUSCH BOULEVARD
SUITE 120
COLUMBUS, OHIO 43229
TELEPHONE (614) 436-5550

January 20, 1988

Mr. Walter Nied
U.S. EPA - Region V
230 South Dearborn Street
Chicago, Illinois 60604

RECEIVED
JAN 2 1 1988
U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
OFFICE OF THE DIRECTOR

RE: Ekco Housewares Analysis

Dear Mr. Nied:

Enclosed please find one copy of plots of the latest Ekco Housewares Analytical Data. Also included are three new plots of the total VOC's in the south well, well W-10, and the outfall. Please note that values plotted as equal to the detection limit (D.L.) are listed in the analytical data as not detected. Those values that are plotted below the detection limit are listed as estimates in the analytical data.

If you have any questions, please feel free to call me at (614) 436-5550.

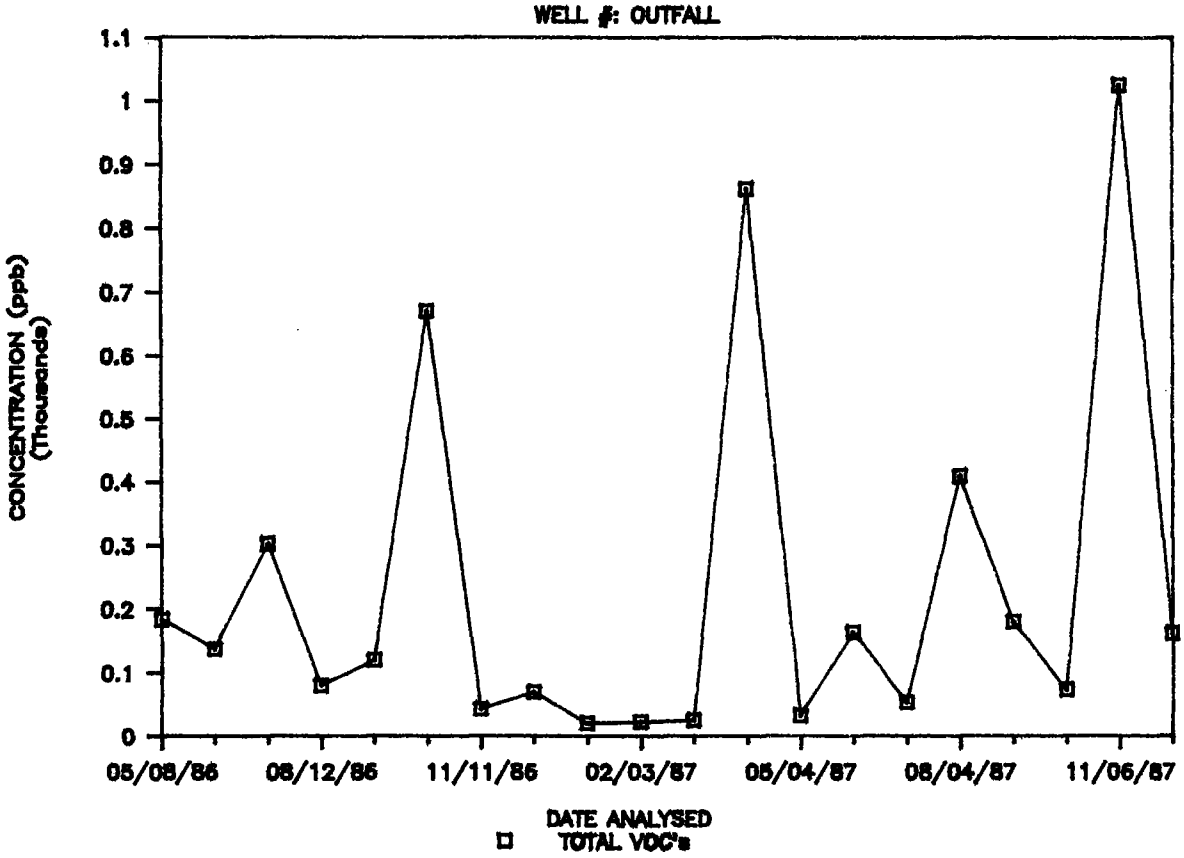
Sincerely,

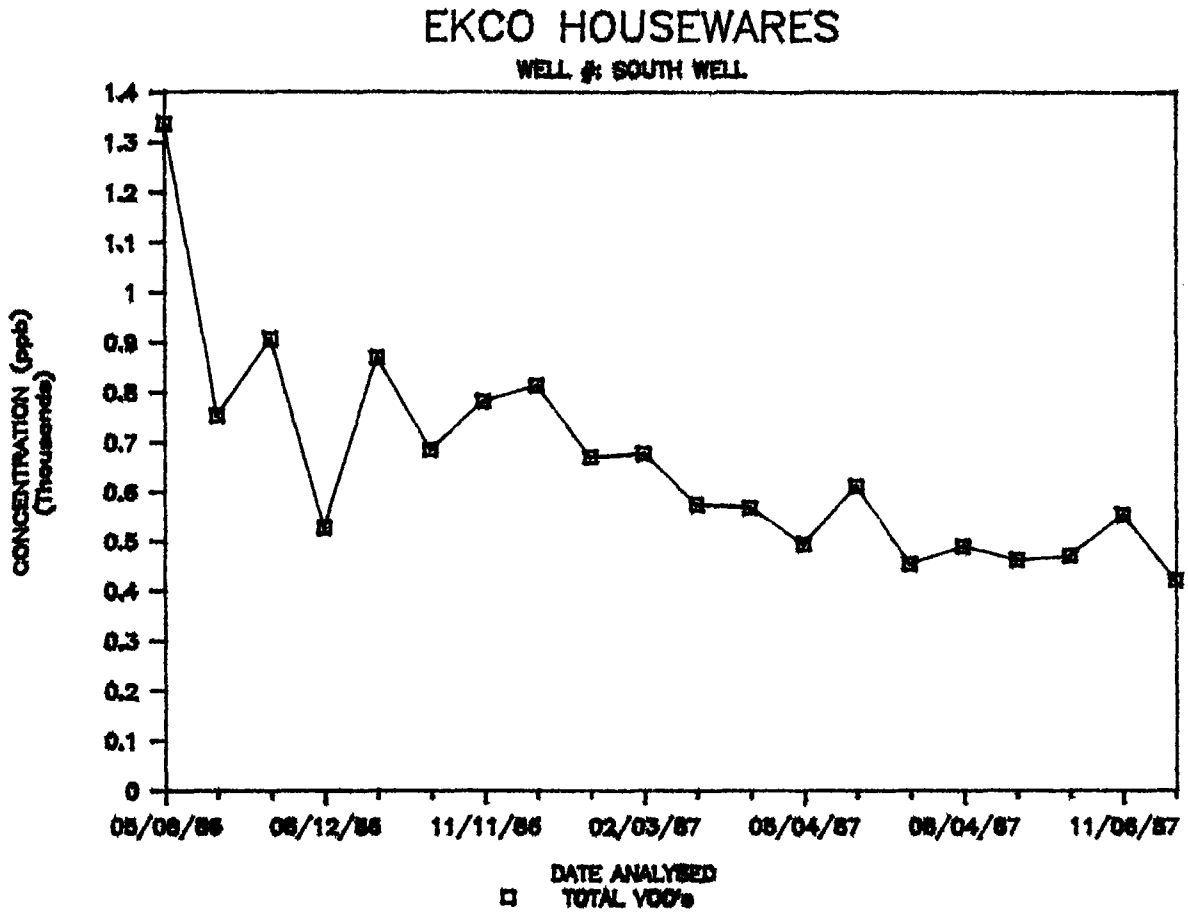
Gerald R. Myers

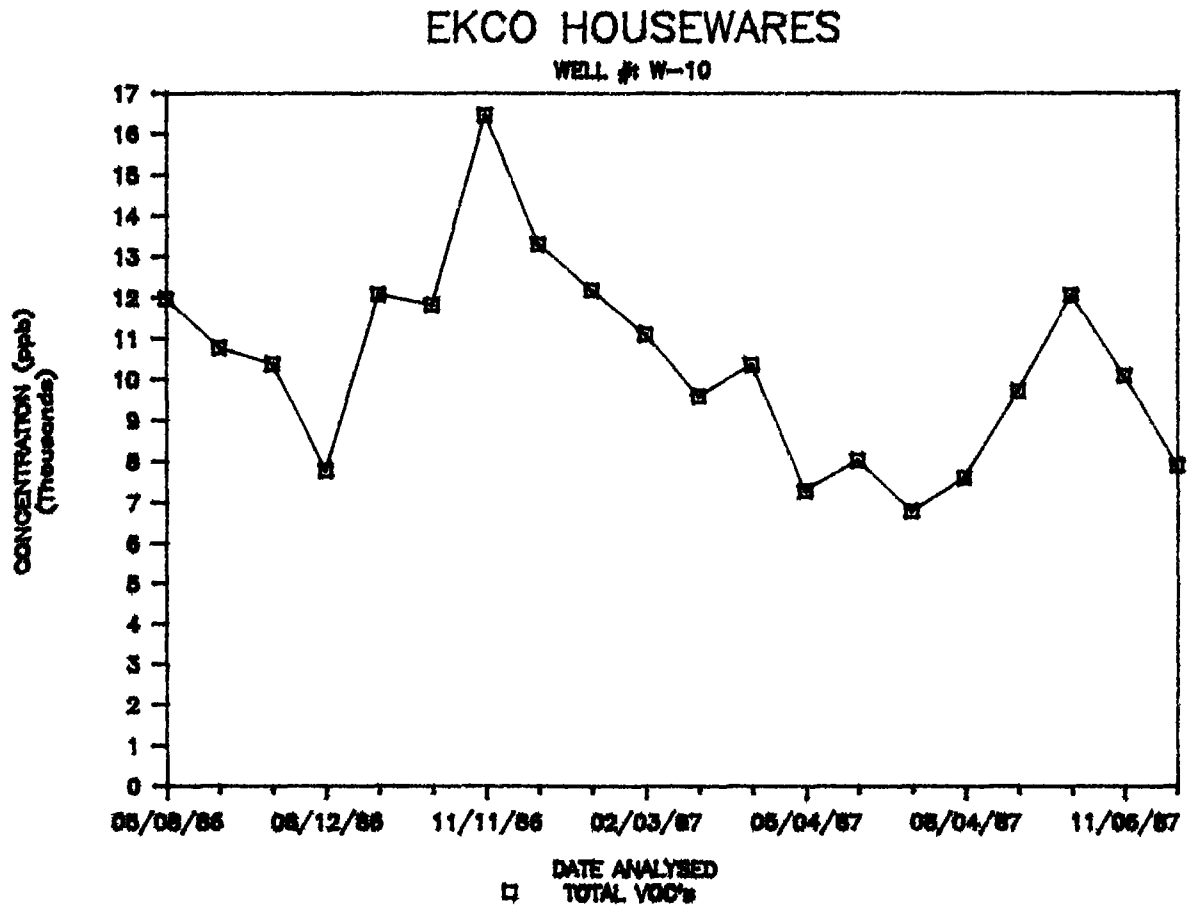
GRM:gem

cc: J. Myers
File

EKCO HOUSEWARES

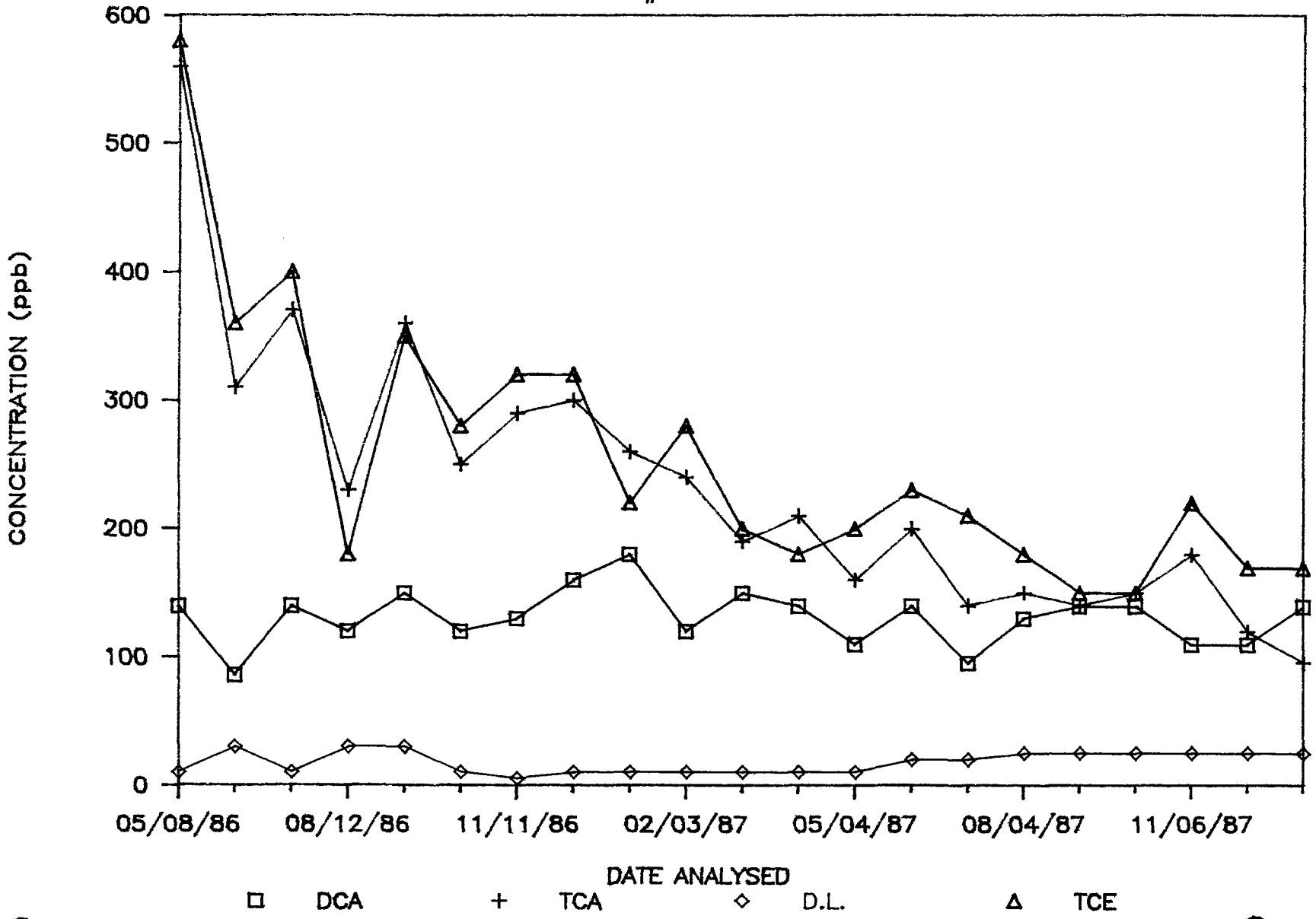



EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
(Thousands)
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
05/08/86
08/12/86
11/11/86
02/03/87
05/04/87
08/04/87
11/06/87
DATE ANALYSED
TOTAL VOC's


EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
(Thousands)
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
05/08/86
08/12/86
11/11/86
02/03/87
05/04/87
08/04/87
11/06/87
DATE ANALYSED
TOTAL VOC's

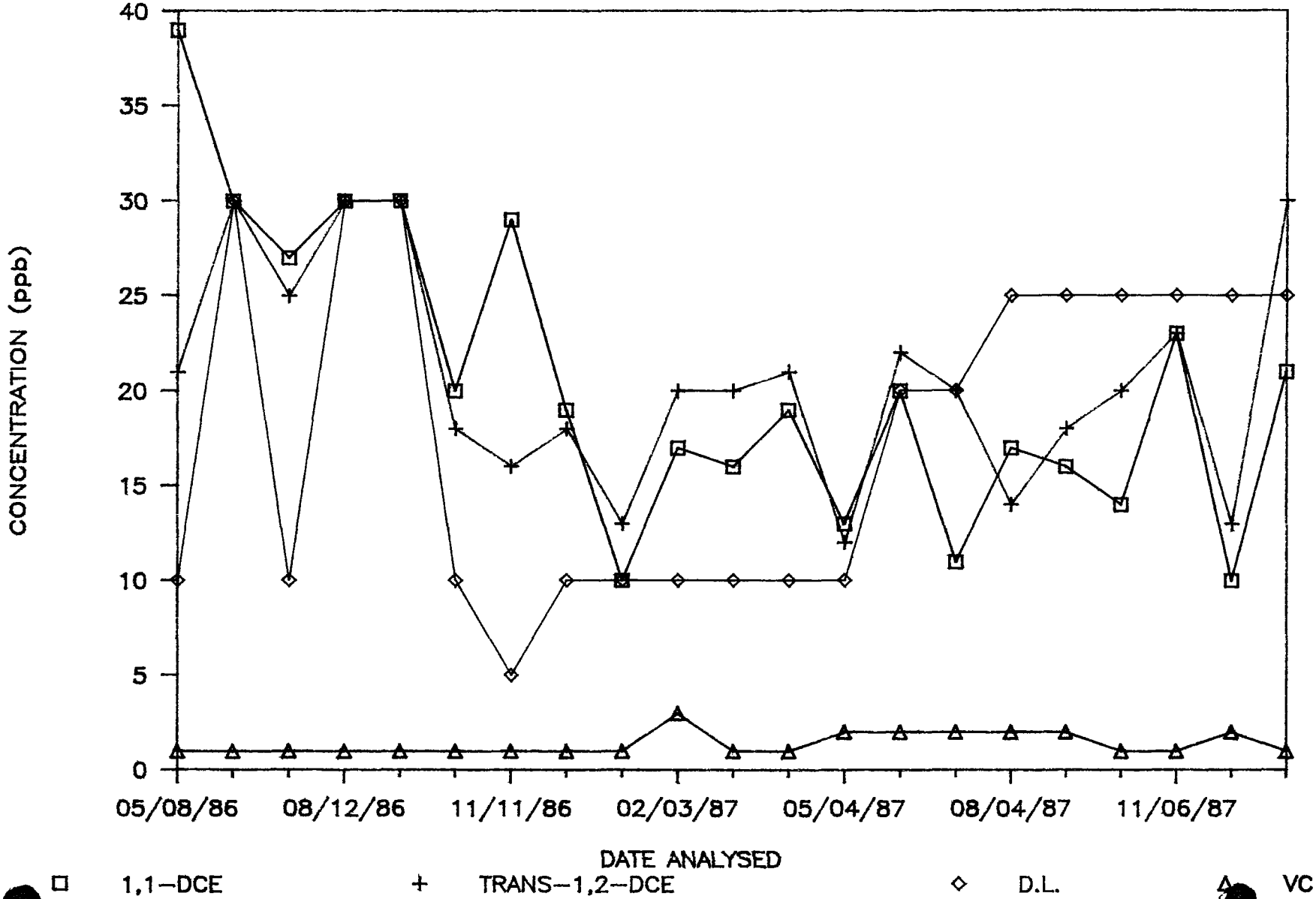
EKCO HOUSEWARES

WELL #: SOUTH WELL



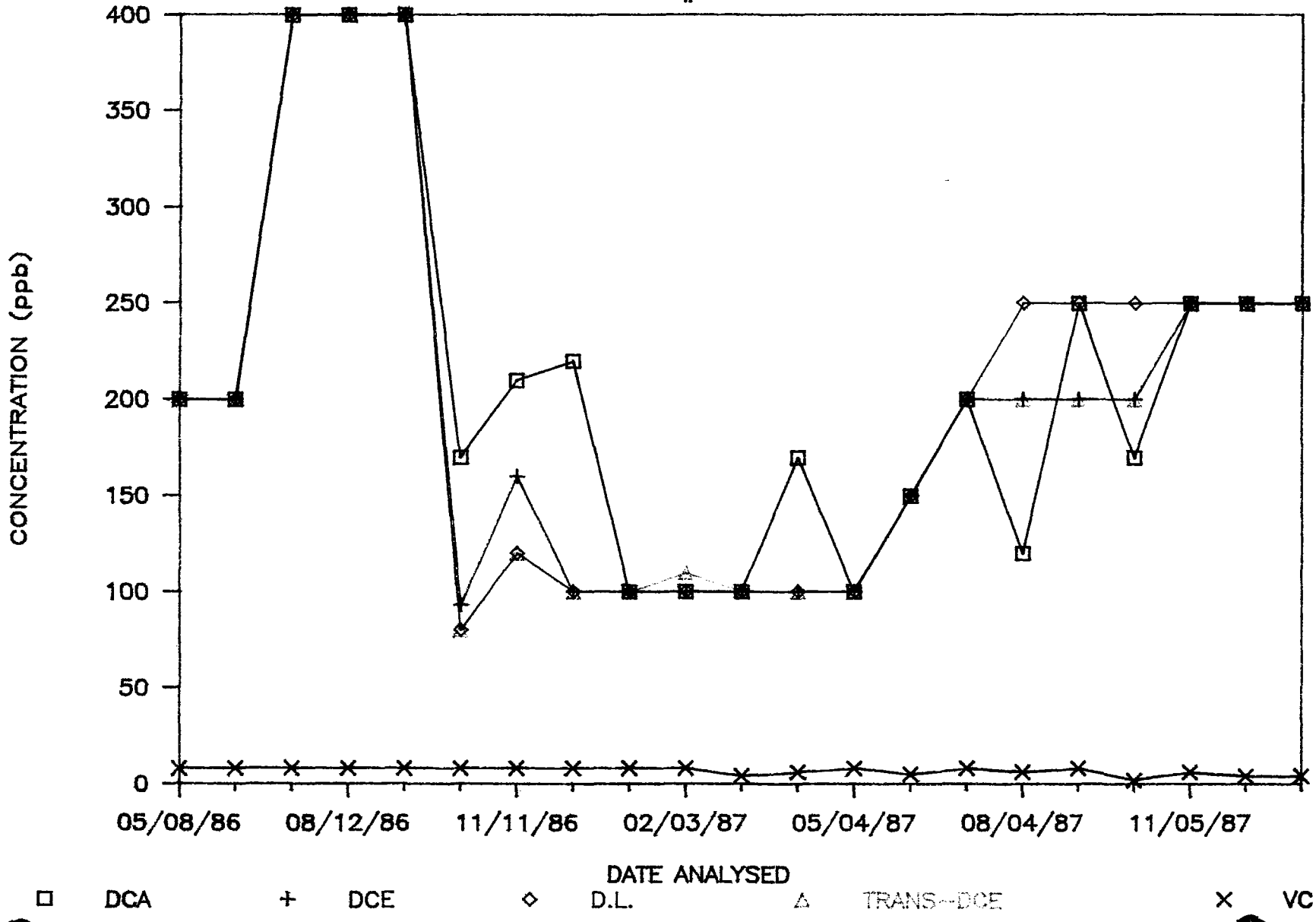
EKCO HOUSEWARES

WELL #: SOUTH WELL



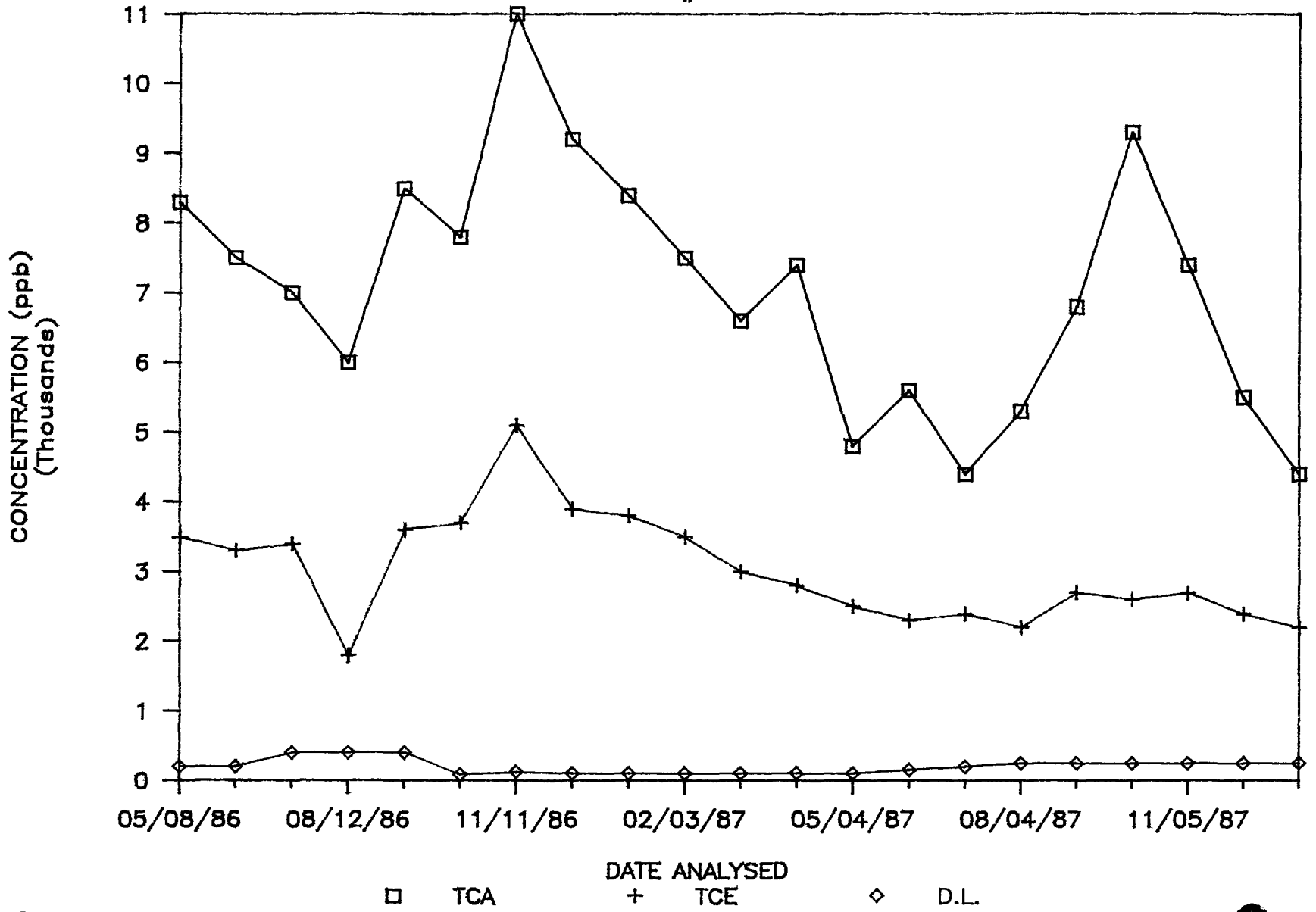
EKCO HOUSEWARES

WELL #: W-10



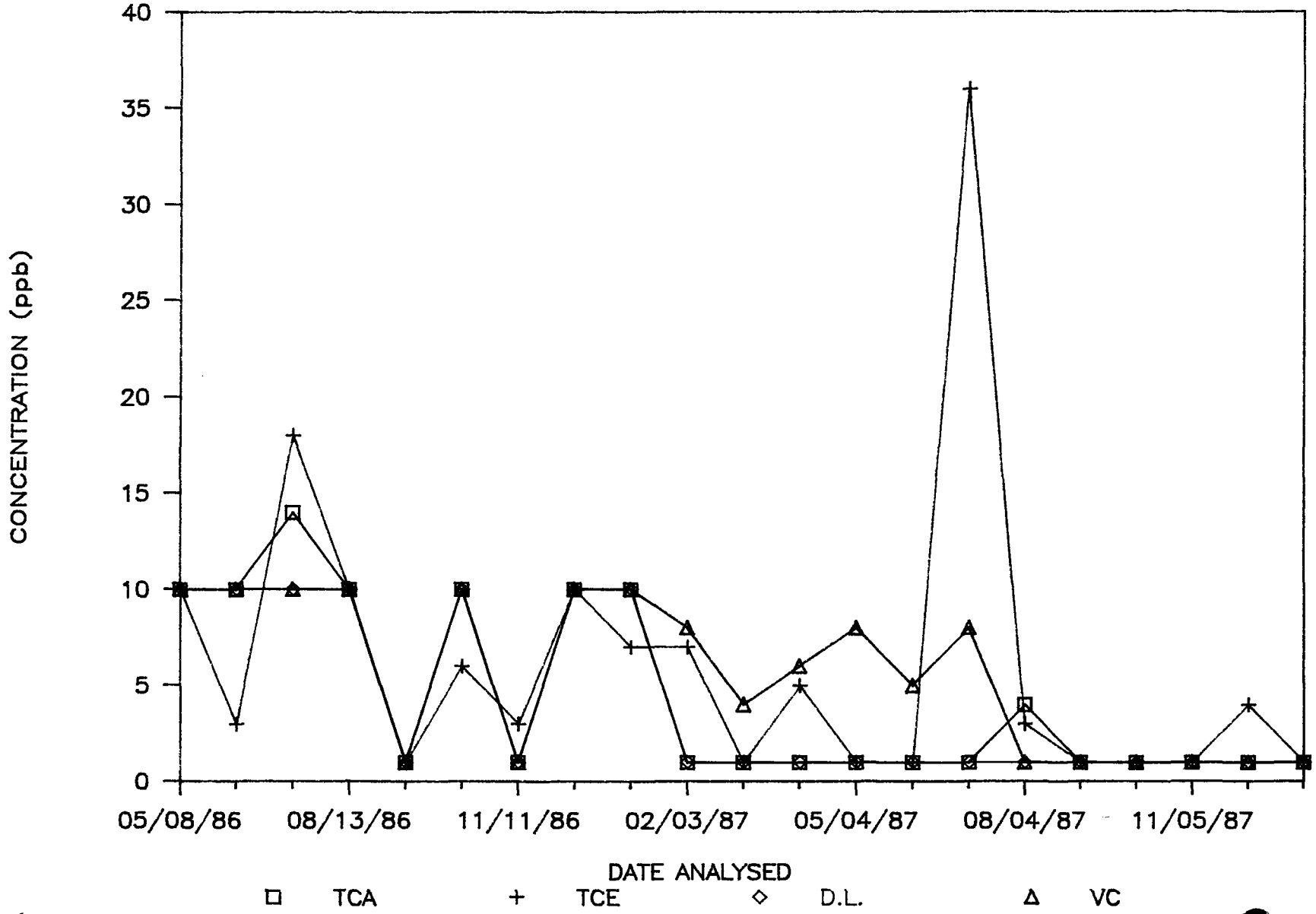
EKCO HOUSEWARES

WELL #: W-10



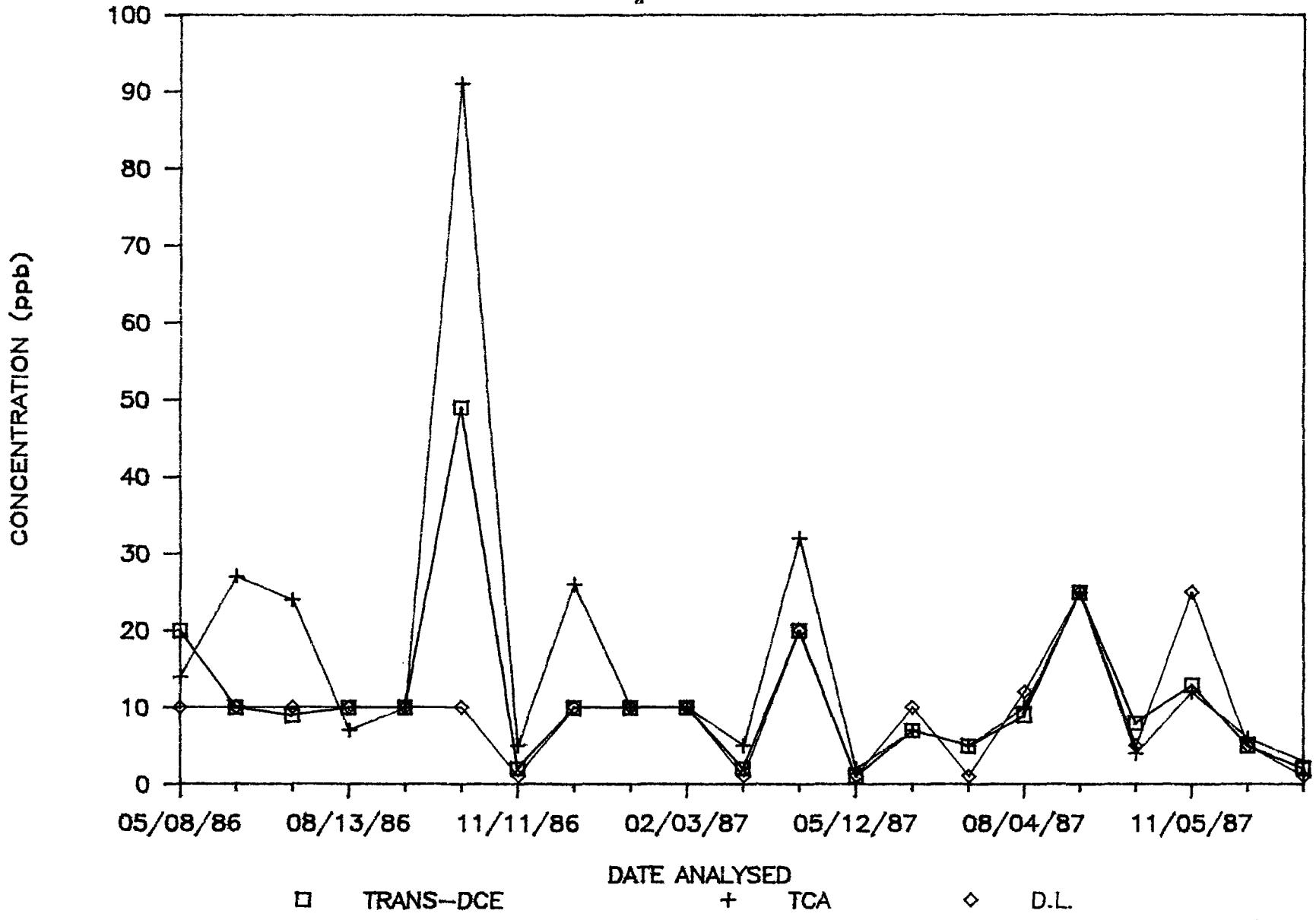
EKCO HOUSEWARES

AIR STRIPPER EFFLUENT



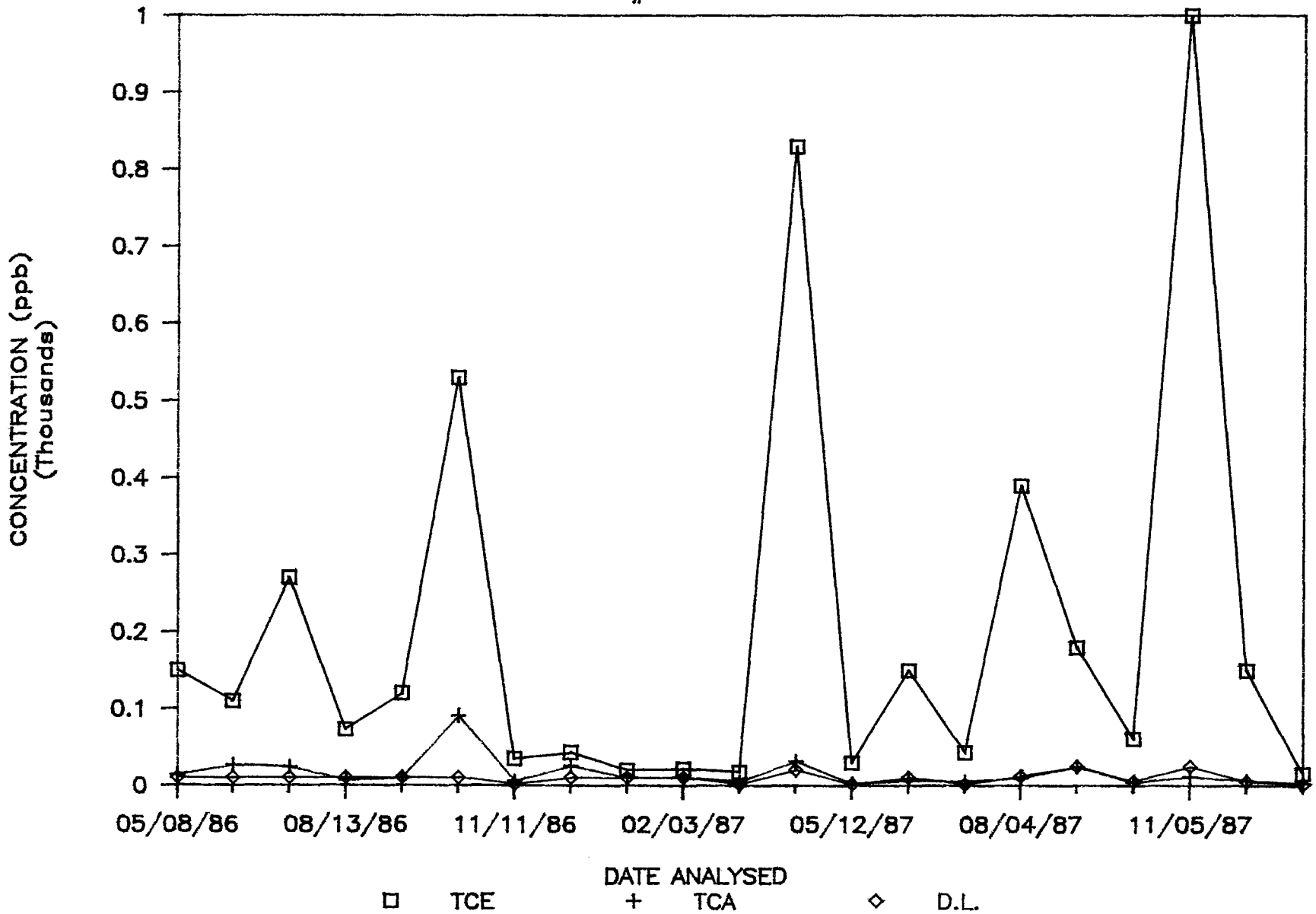
EKCO HOUSEWARES

WELL#: OUTFALL 001



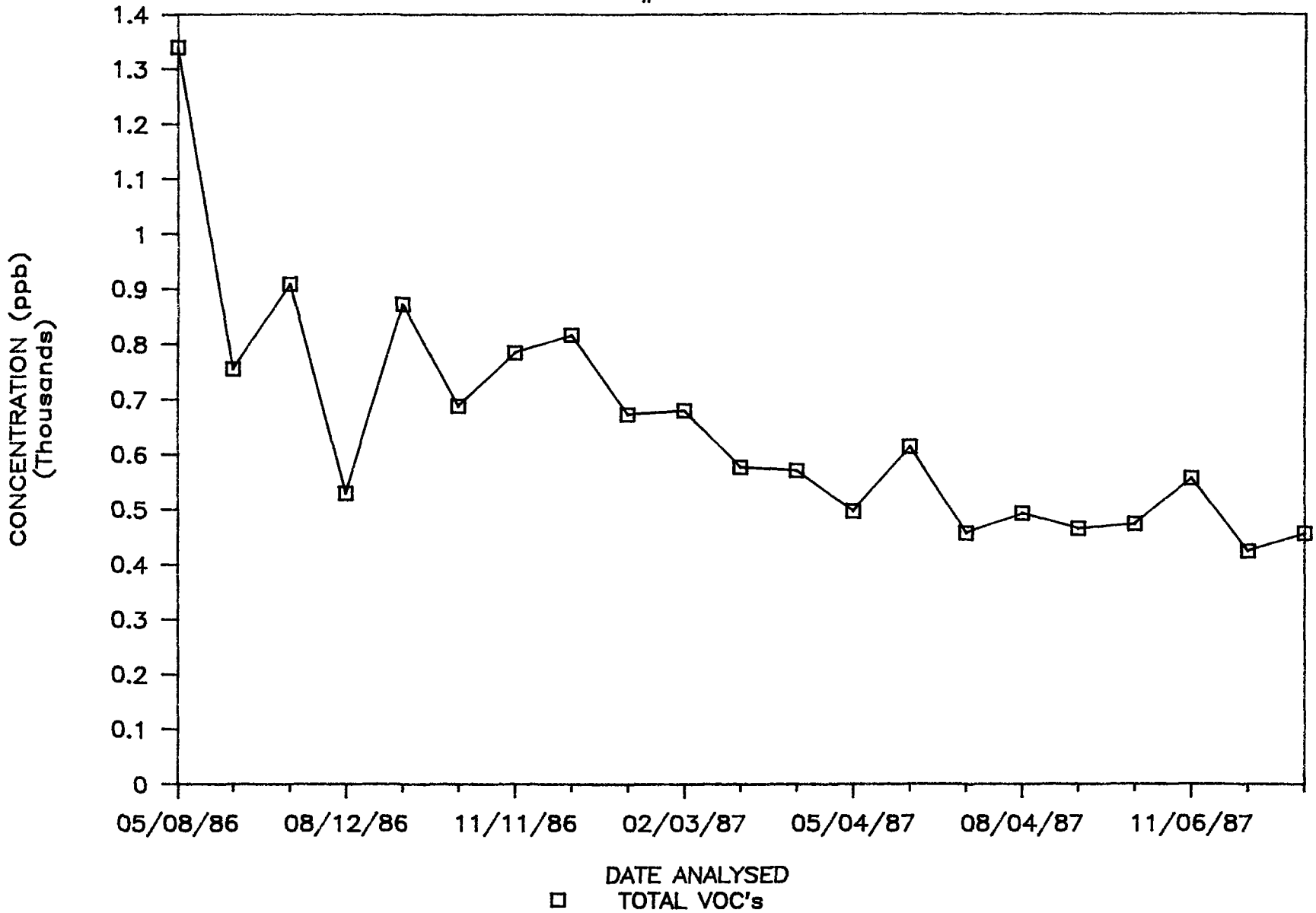
EKCO HOUSEWARES

WELL#: OUTFALL 001



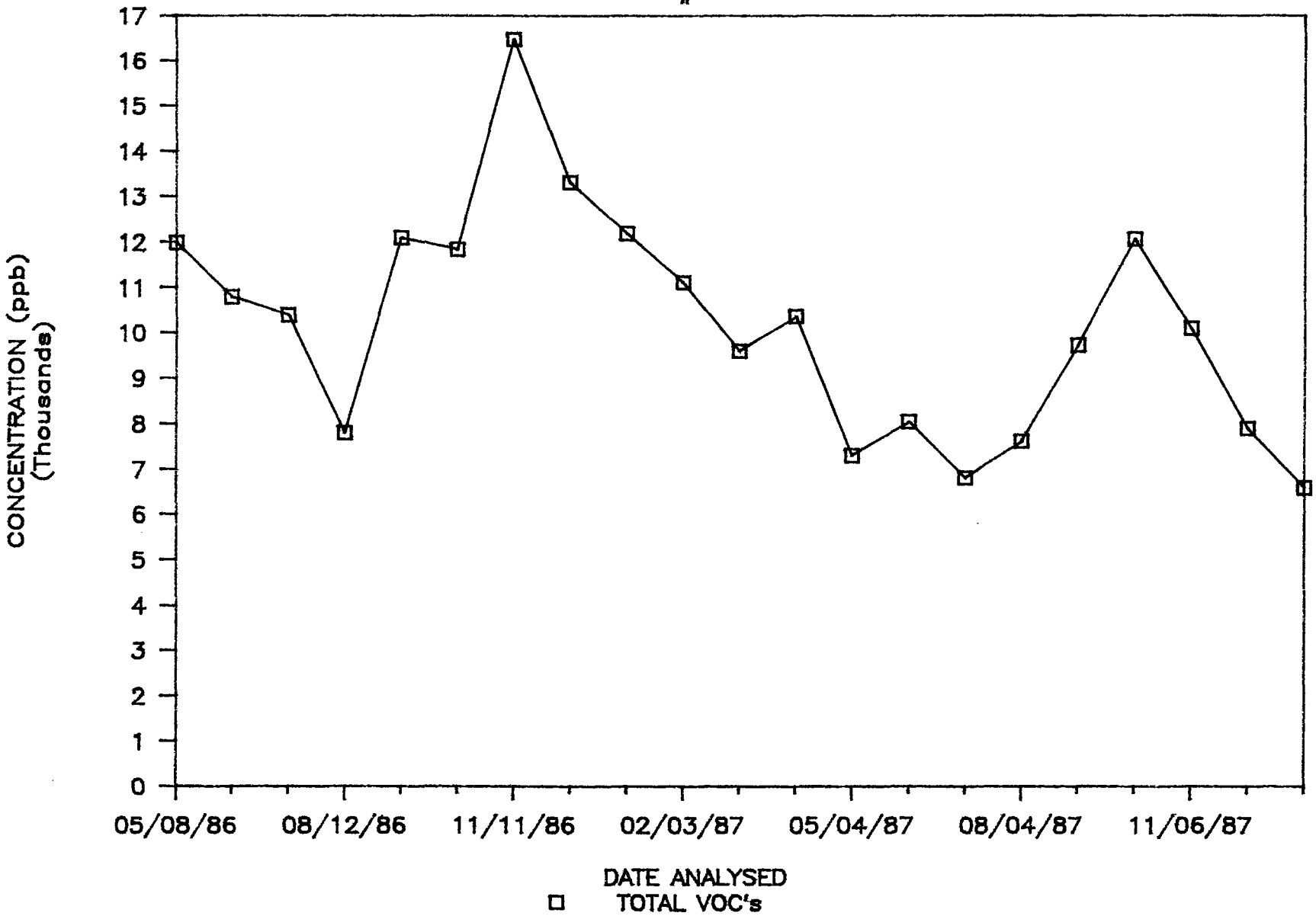
EKCO HOUSEWARES

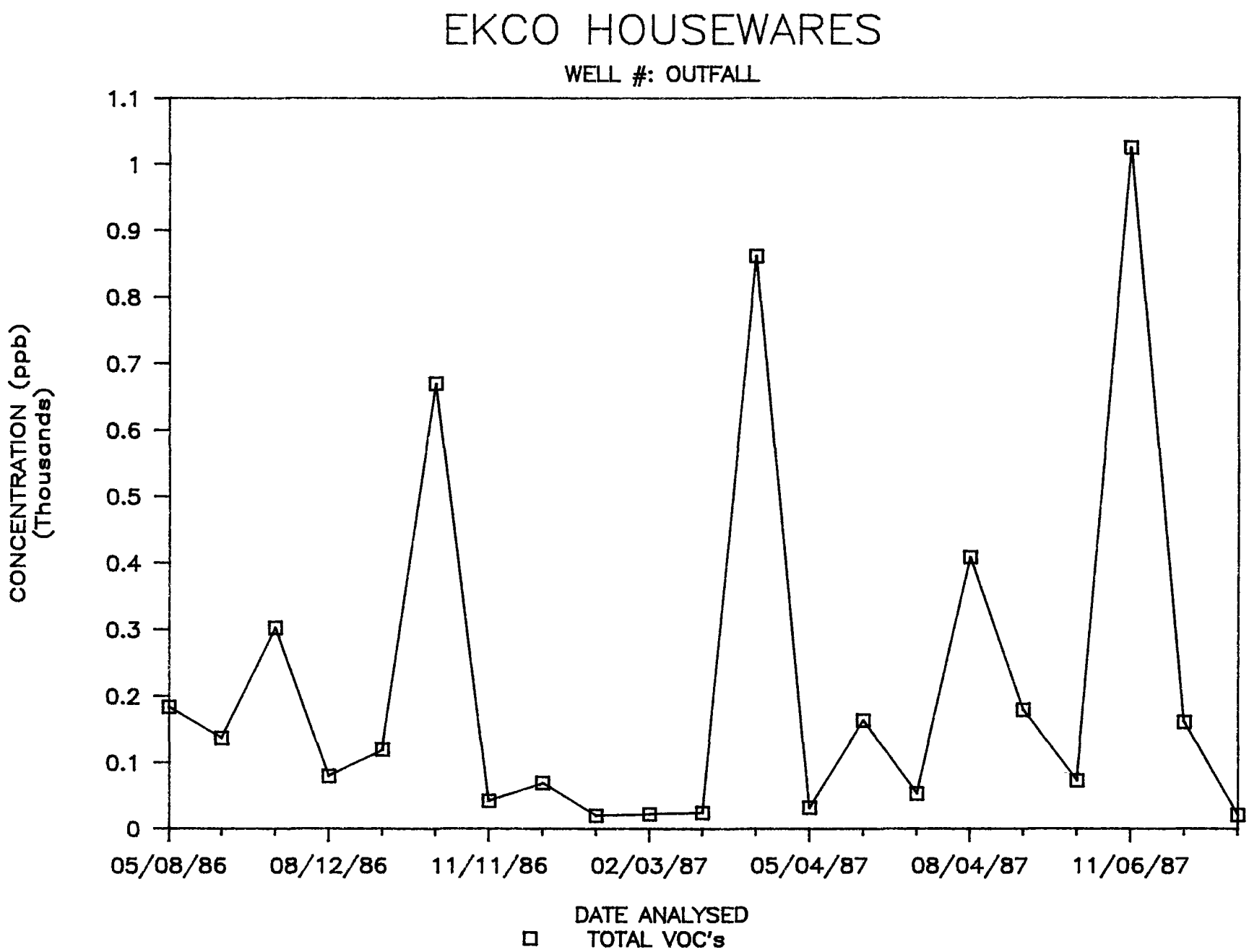
WELL #: SOUTH WELL



EKCO HOUSEWARES

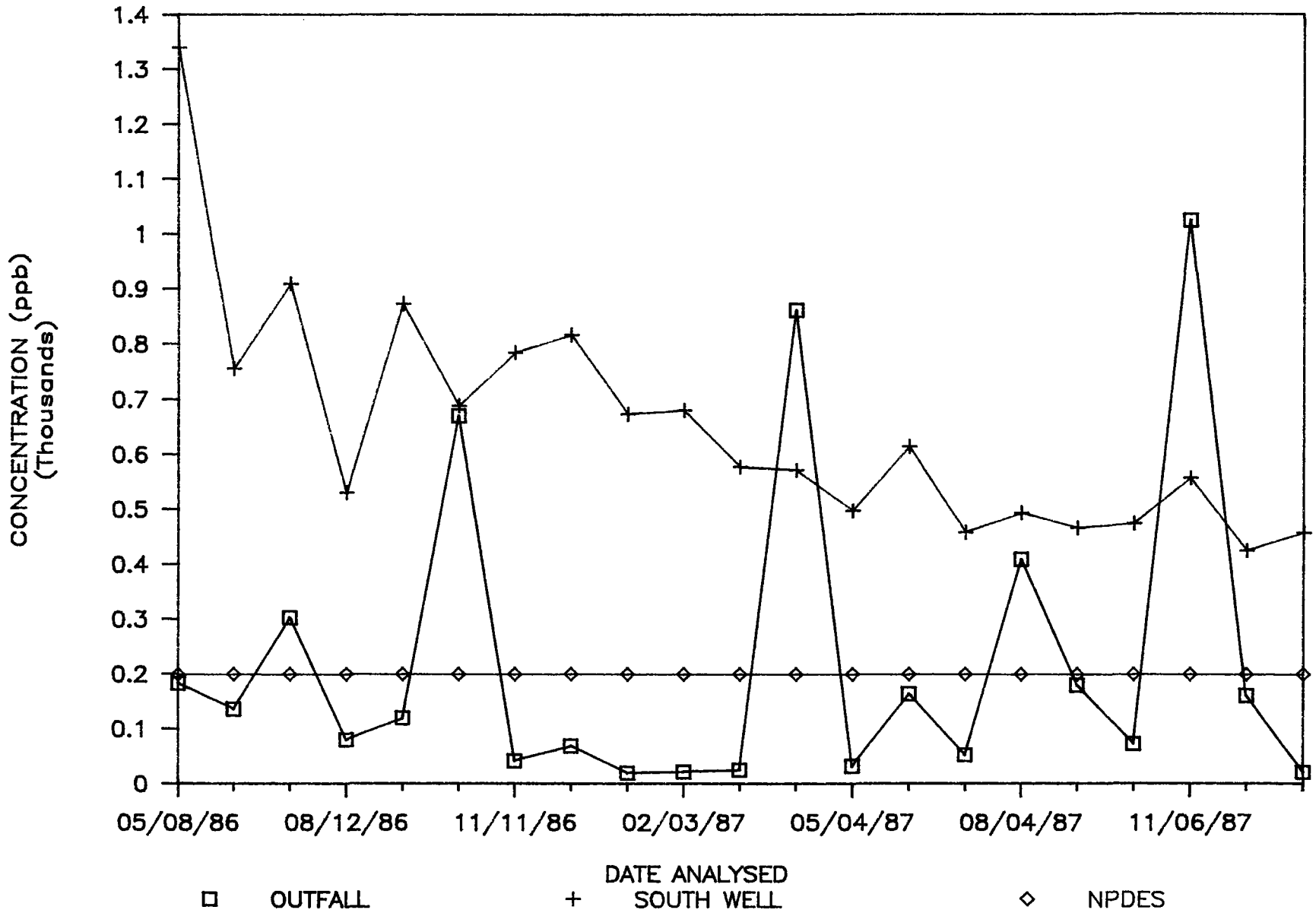
WELL #: W-10




EKCO HOUSEWARES
WELL #: OUTFALL
CONCENTRATION (ppb)
(Thousands)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
05/08/86
08/12/86
11/11/86
02/03/87
05/04/87
08/04/87
11/06/87
DATE ANALYSED
TOTAL VOC's

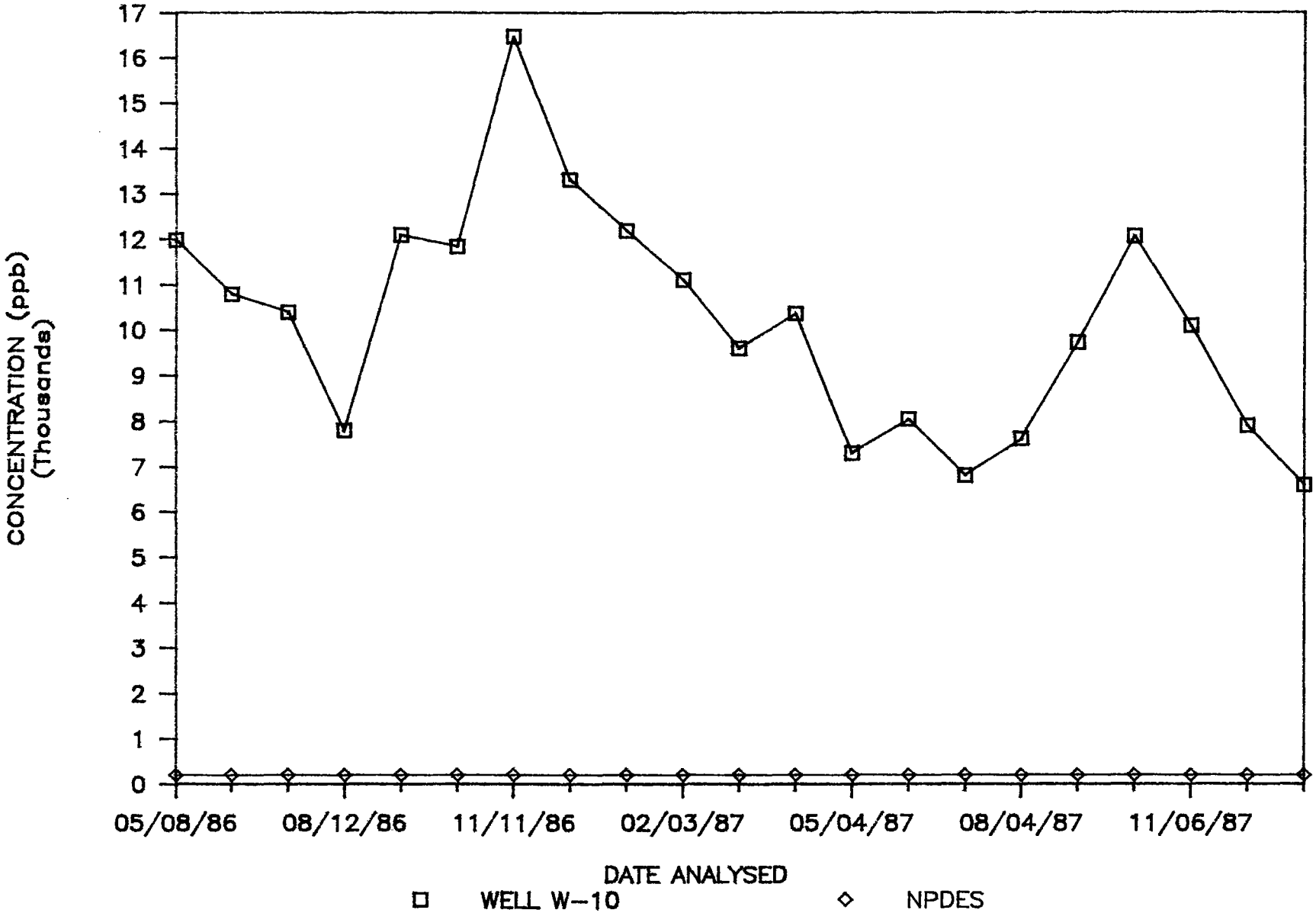
EKCO HOUSEWRES

TOTAL VOC's



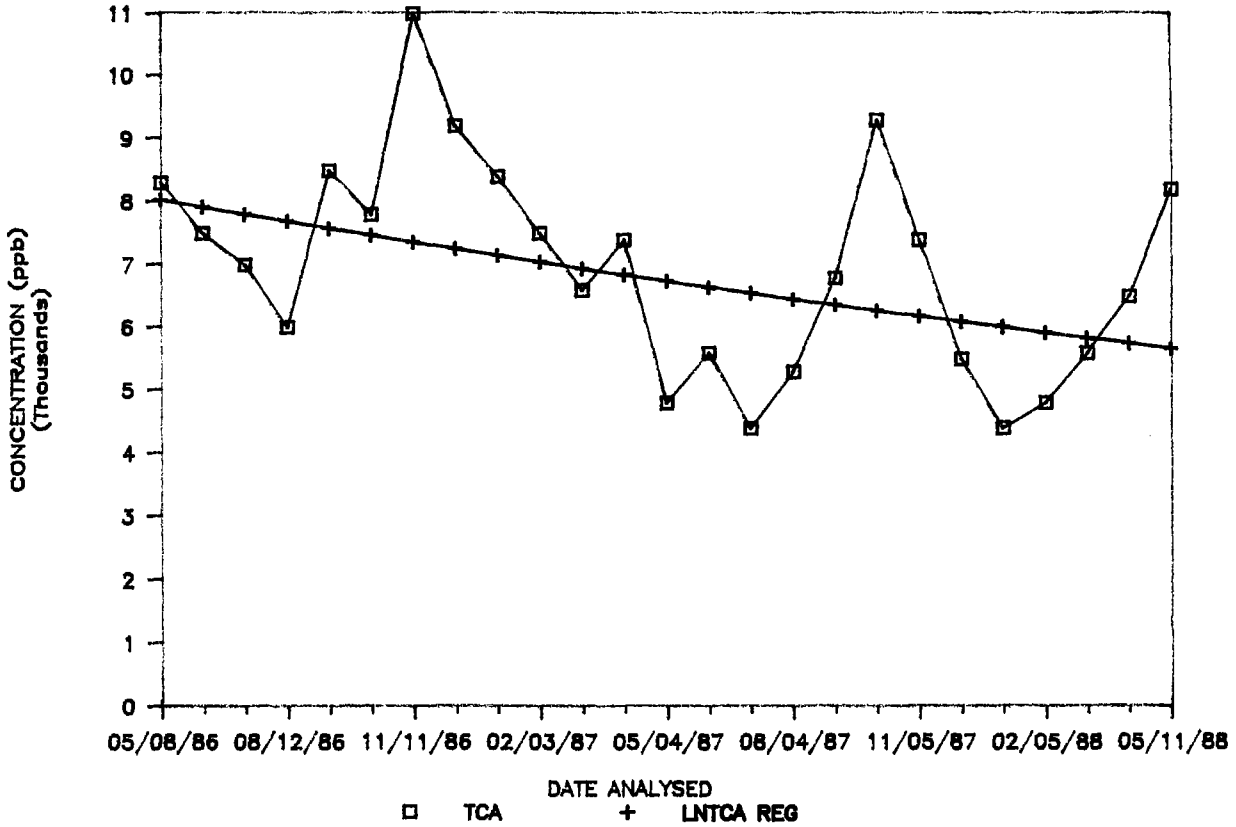
EKCO HOUSEWRES

TOTAL VOC's



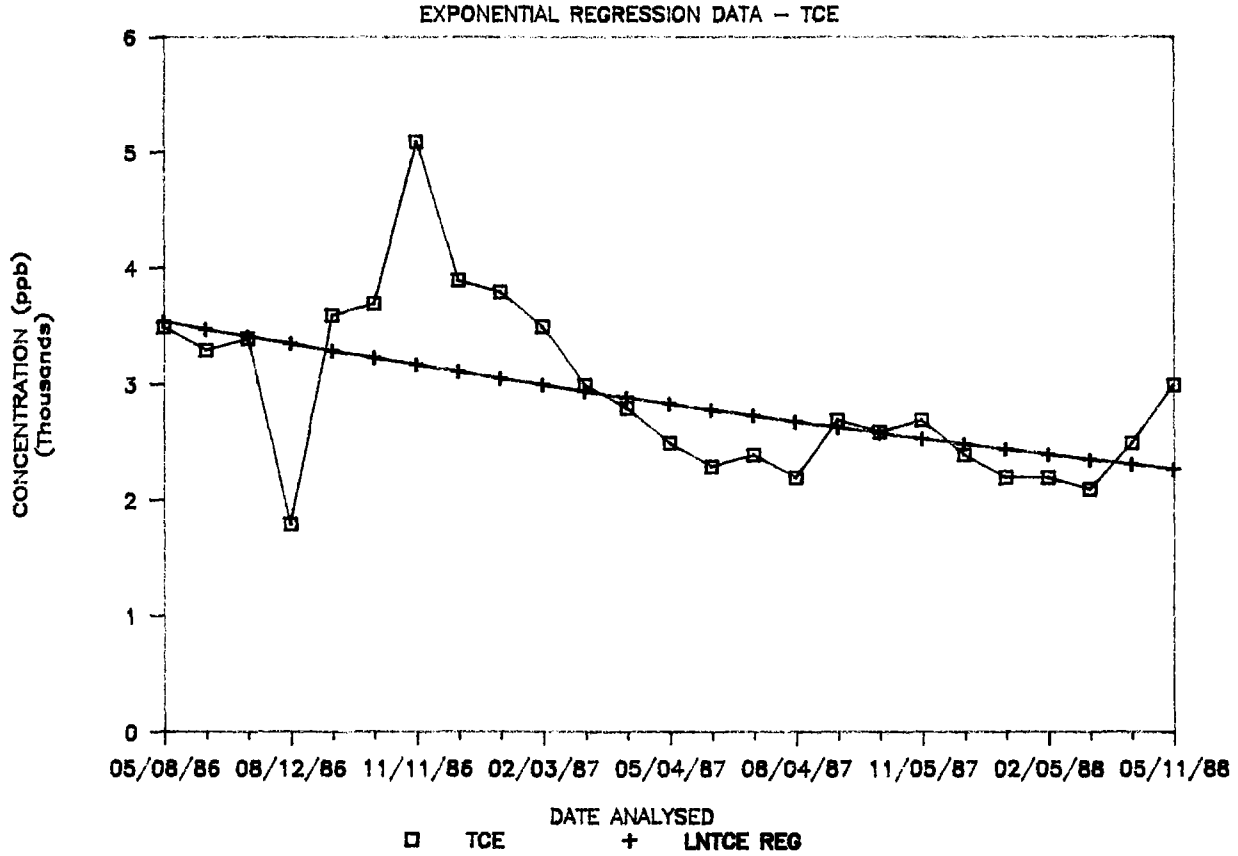
EKCO HOUSEWARES – WELL W–10

EXPONENTIAL REGRESSION DATA – TCA

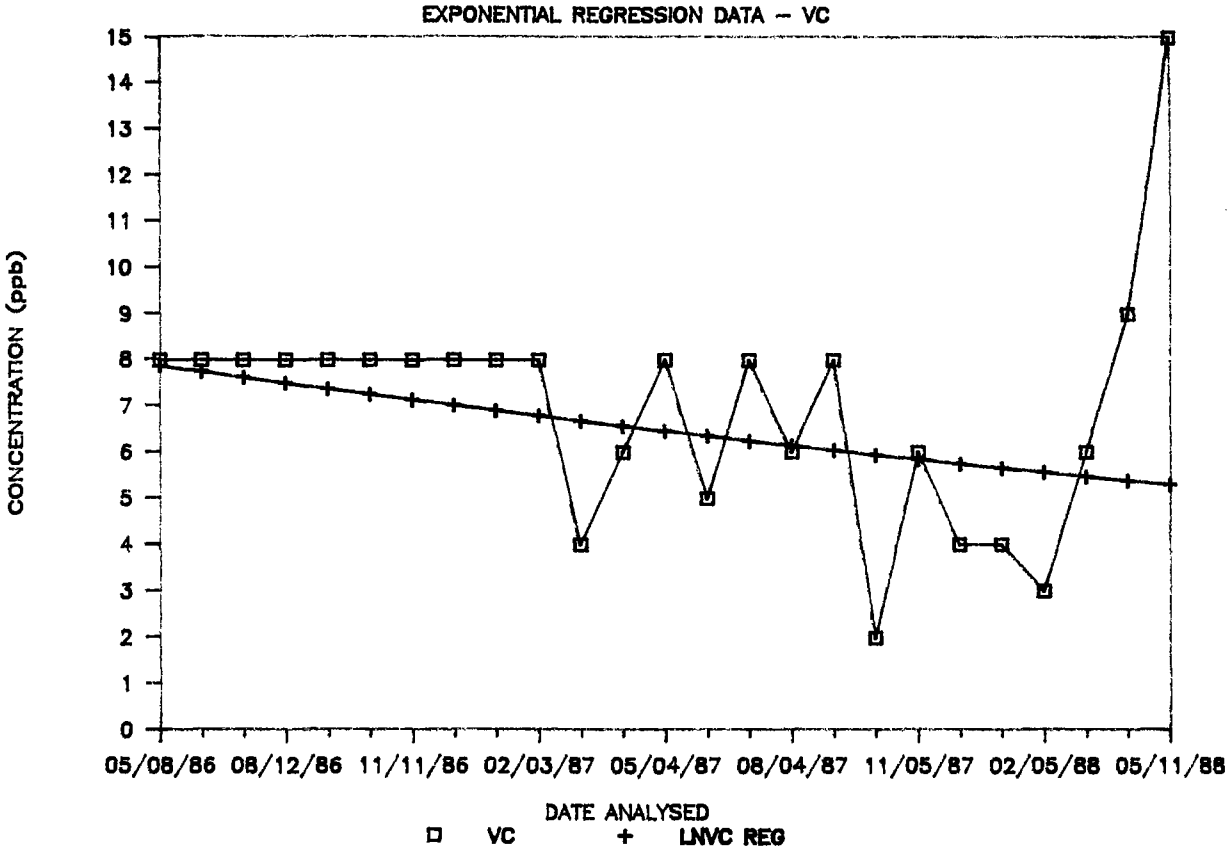


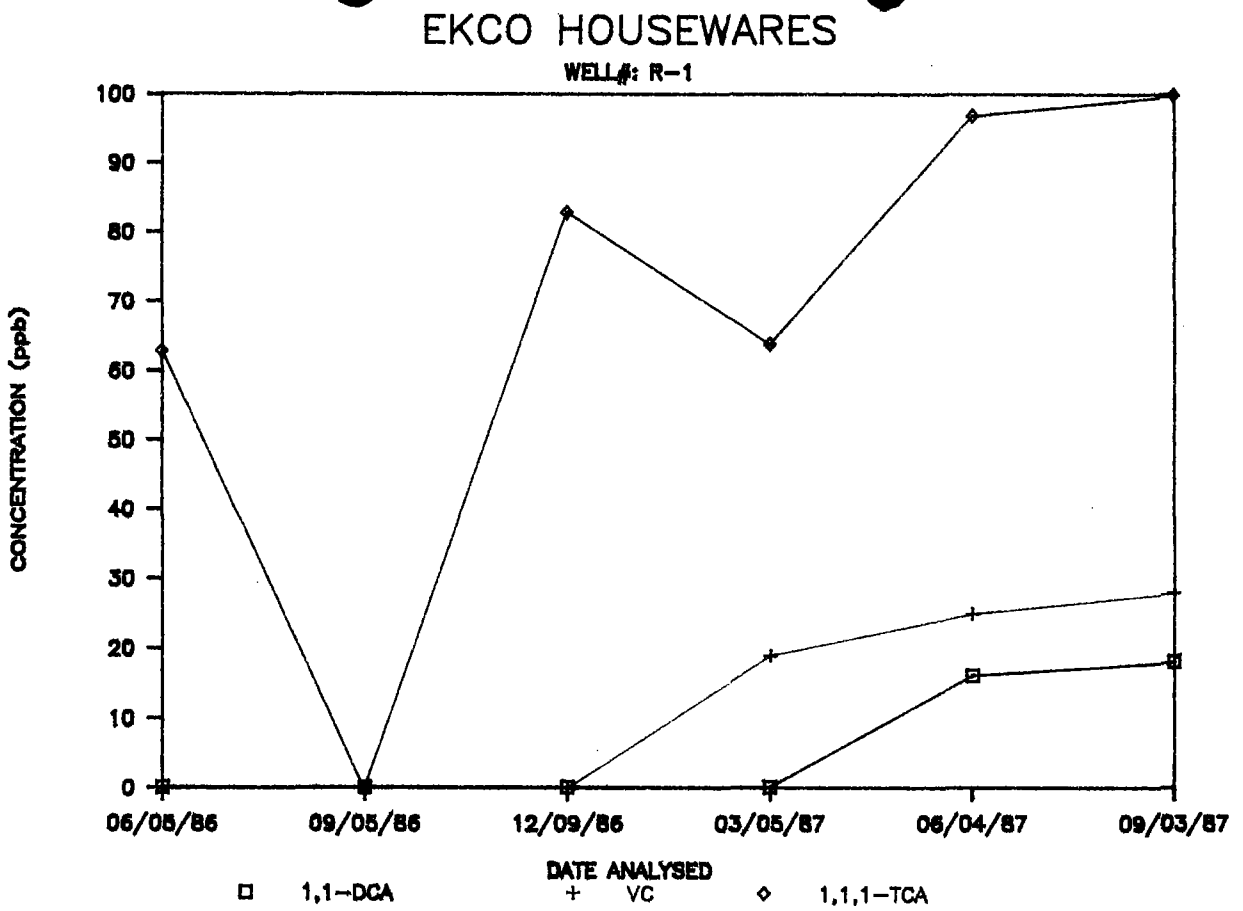
EKCO HOUSEWARES – WELL W–10

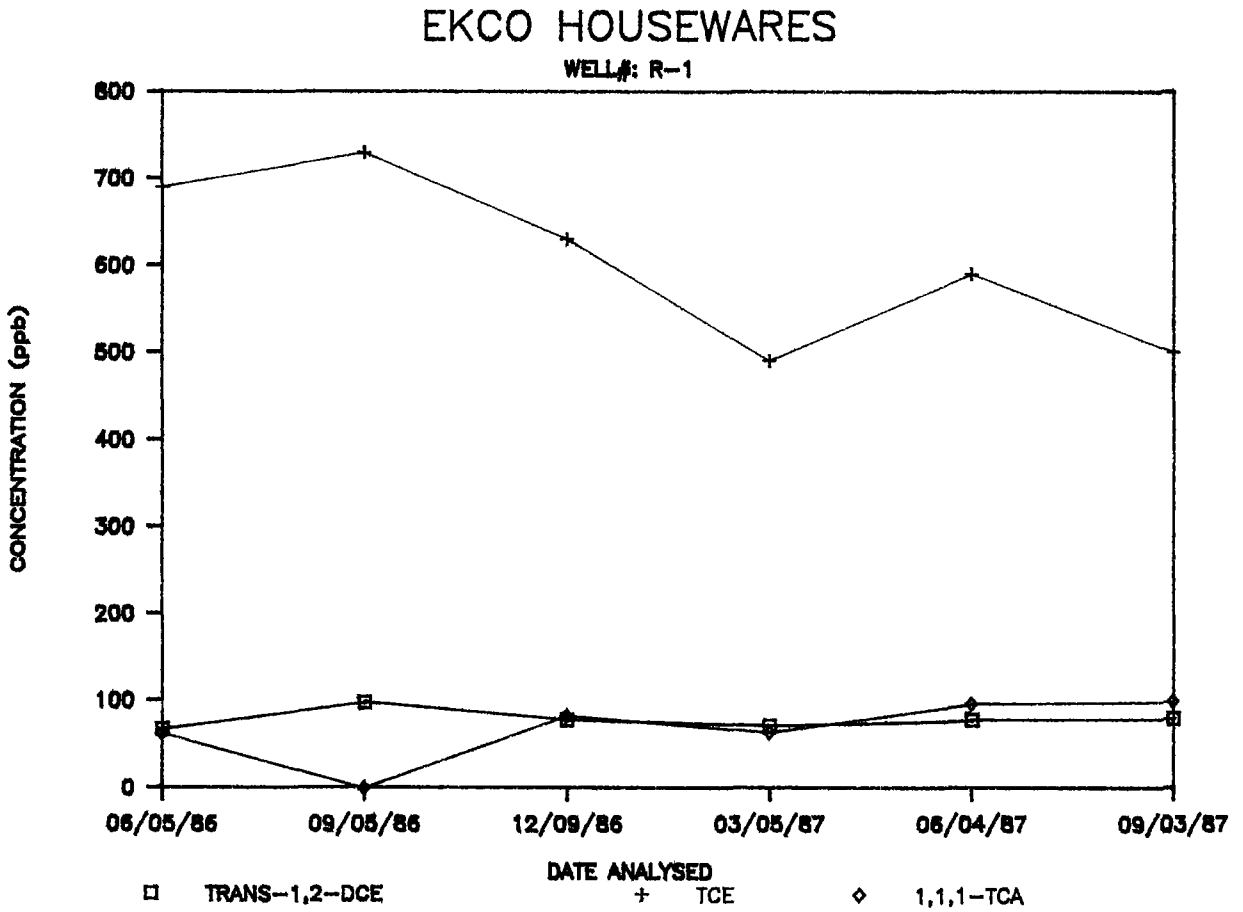
EXPONENTIAL REGRESSION DATA – TCE

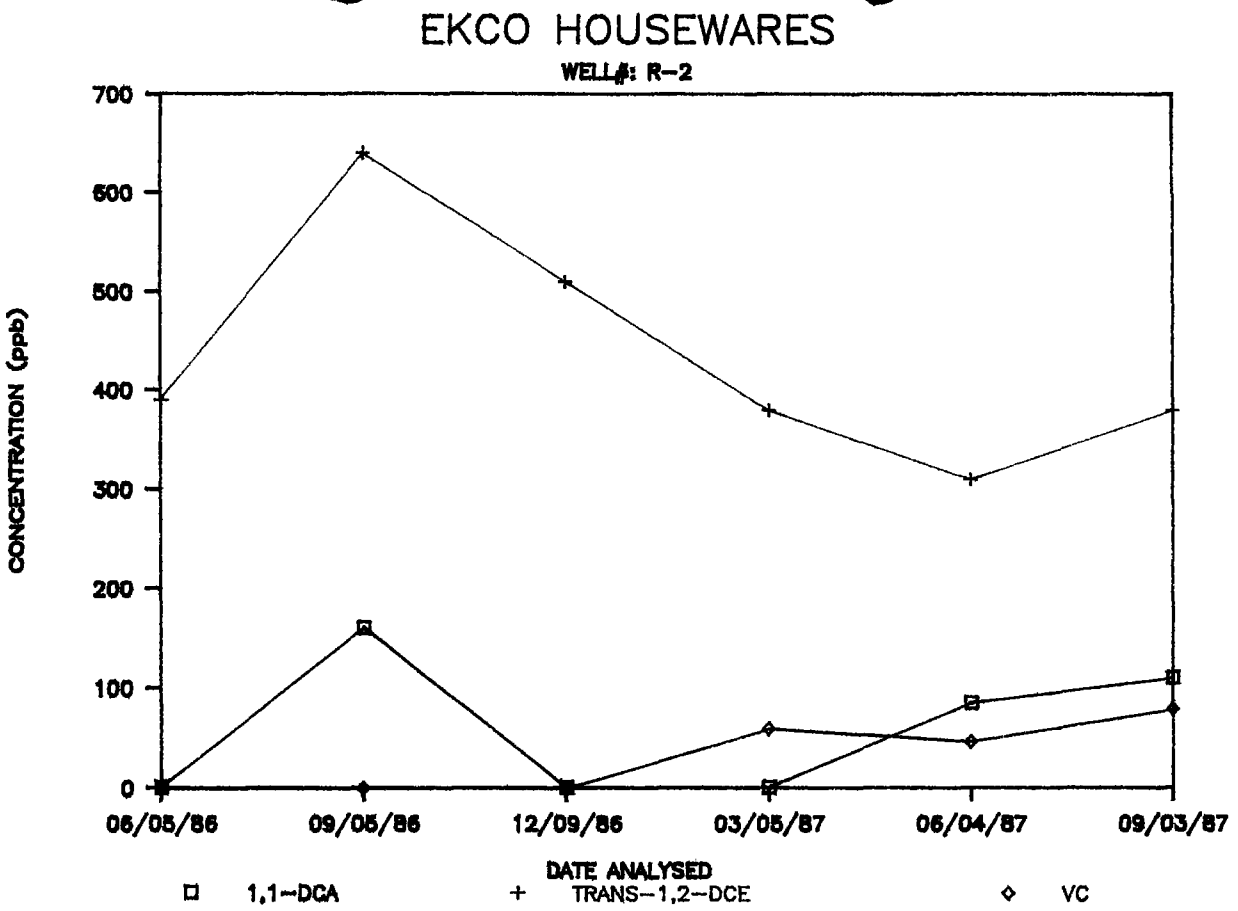


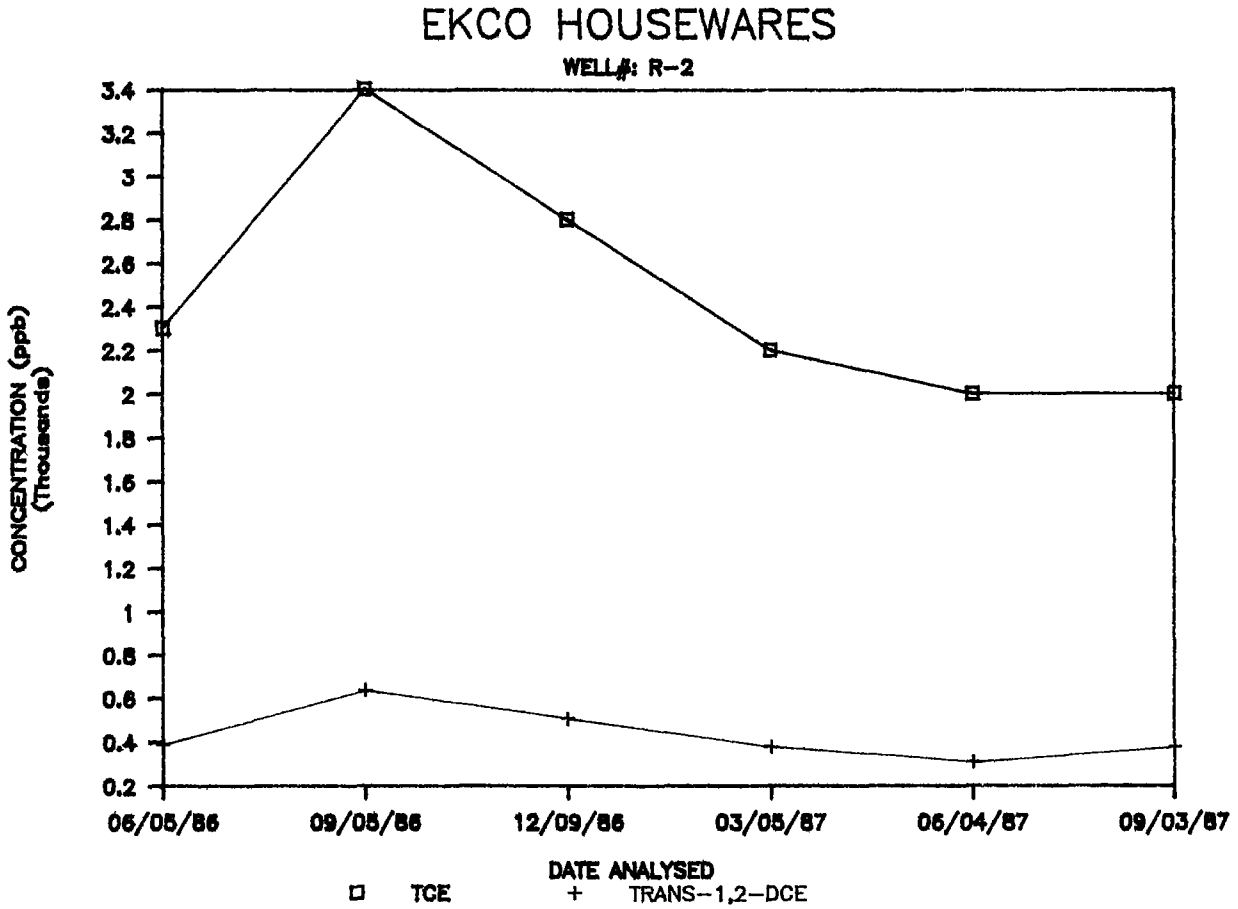
EKCO HOUSEWARES – WELL W–10




EKCO HOUSEWARES
WELL#: R-1
CONCENTRATION (ppb)
100
90
80
70
60
50
40
30
20
10
0
06/05/86
09/05/86
12/09/86
03/05/87
06/04/87
09/03/87
DATE ANALYSED
1,1-DCA
VC
1,1,1-TCA

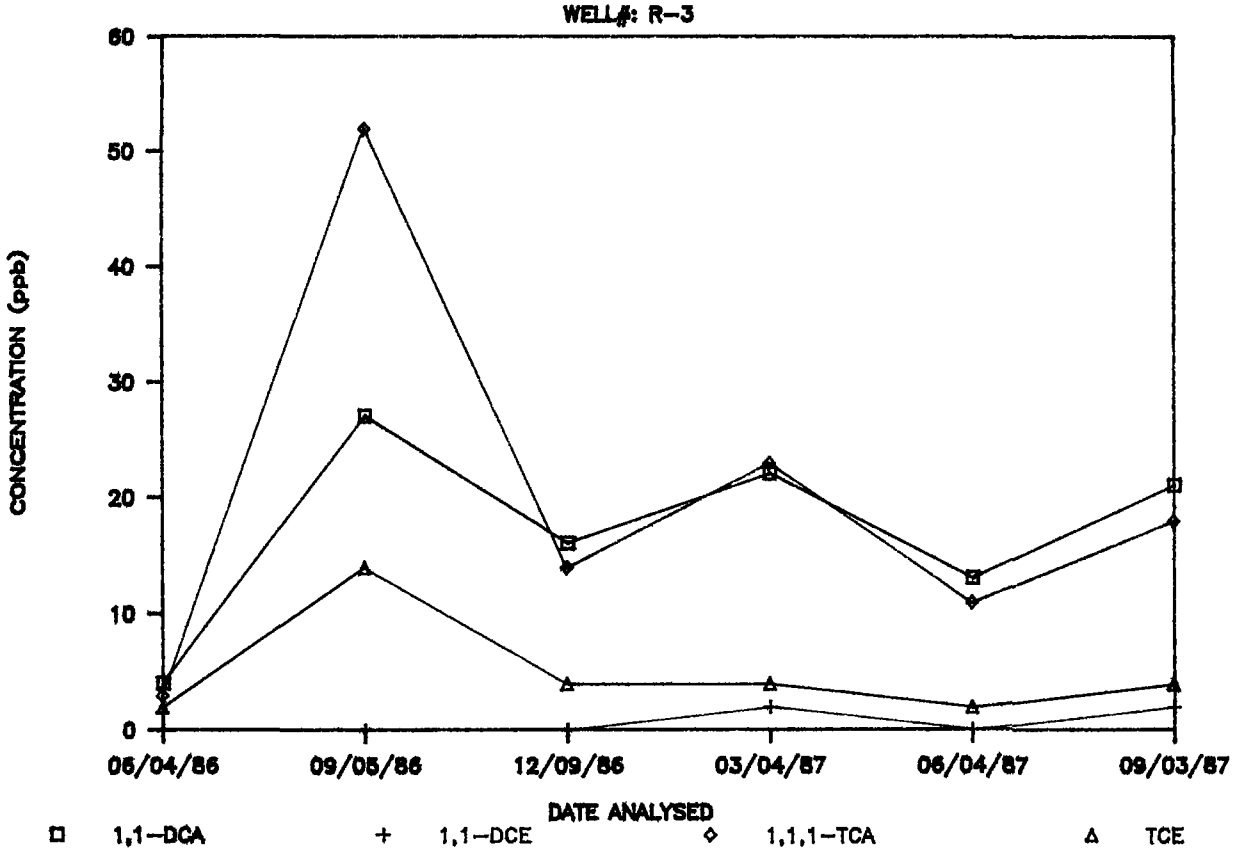

EKCO HOUSEWARES
WELL#: R-1
CONCENTRATION (ppb)
800
700
600
500
400
300
200
100
0
06/05/86
09/05/86
12/09/86
03/05/87
06/04/87
09/03/87
DATE ANALYSED
TRANS-1,2-DCE
TCE
1,1,1-TCA


EKCO HOUSEWARES
WELL#: R-2
CONCENTRATION (ppb)
700
600
500
400
300
200
100
0
06/05/86
09/05/86
12/09/86
03/05/87
06/04/87
09/03/87
DATE ANALYSED
1,1-DCA
TRANS-1,2-DCE
VC


EKCO HOUSEWARES
WELL#: R-2
CONCENTRATION (ppb)
(Thousands)
3.4
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
06/05/86
09/05/86
12/09/86
03/05/87
06/04/87
09/03/87
DATE ANALYSED
TCE
TRANS-1,2-DCE

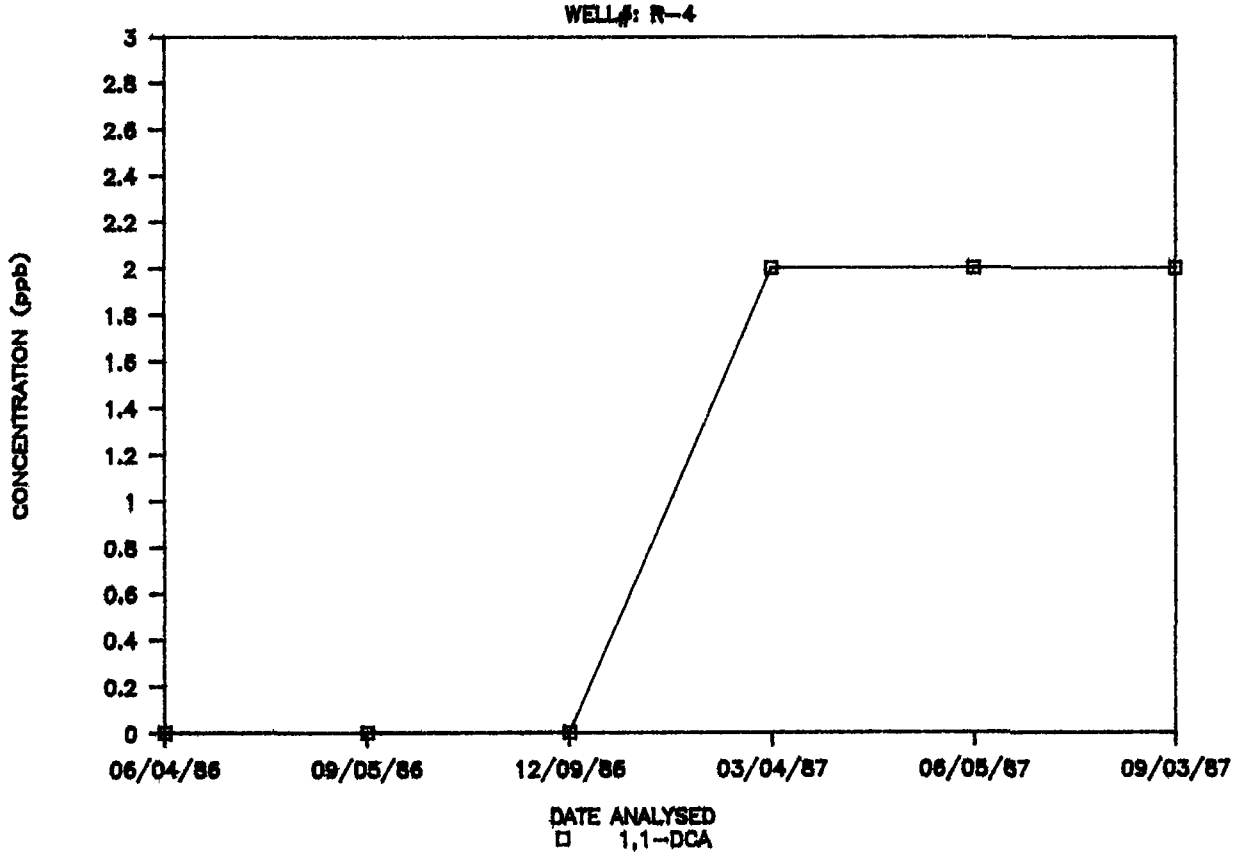
EKCO HOUSEWARES

WELL#: R-3



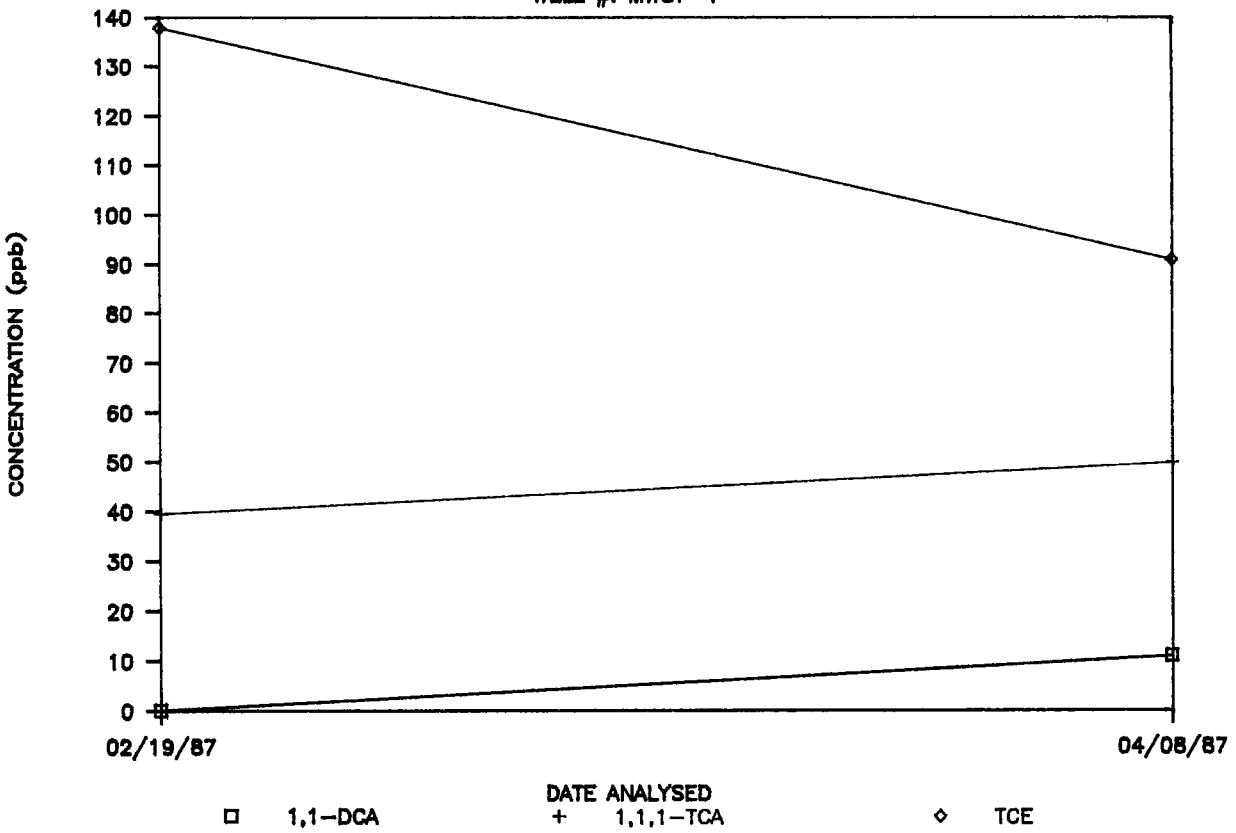
EKCO HOUSEWARES

WELL#: R-4



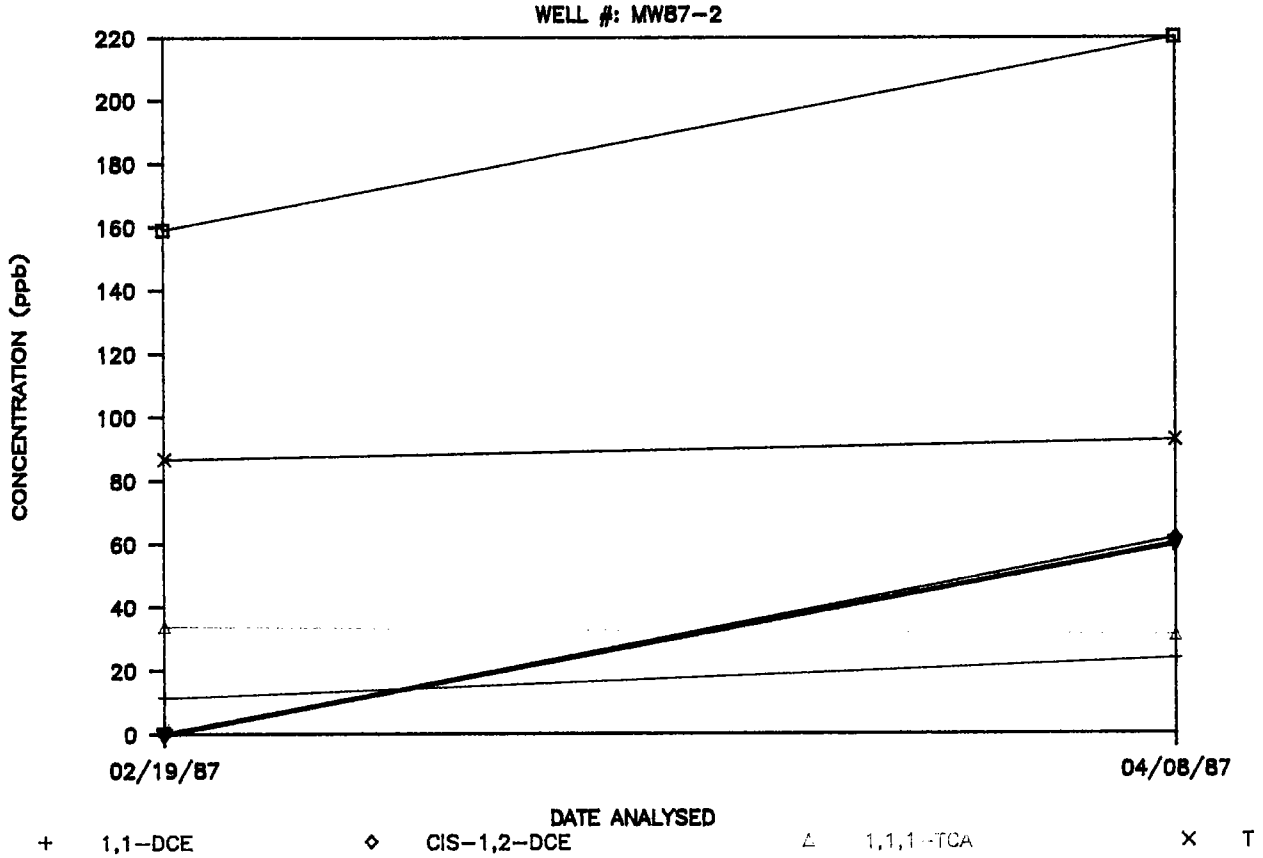
EKCO HOUSEWARES

WELL #: MW87-1



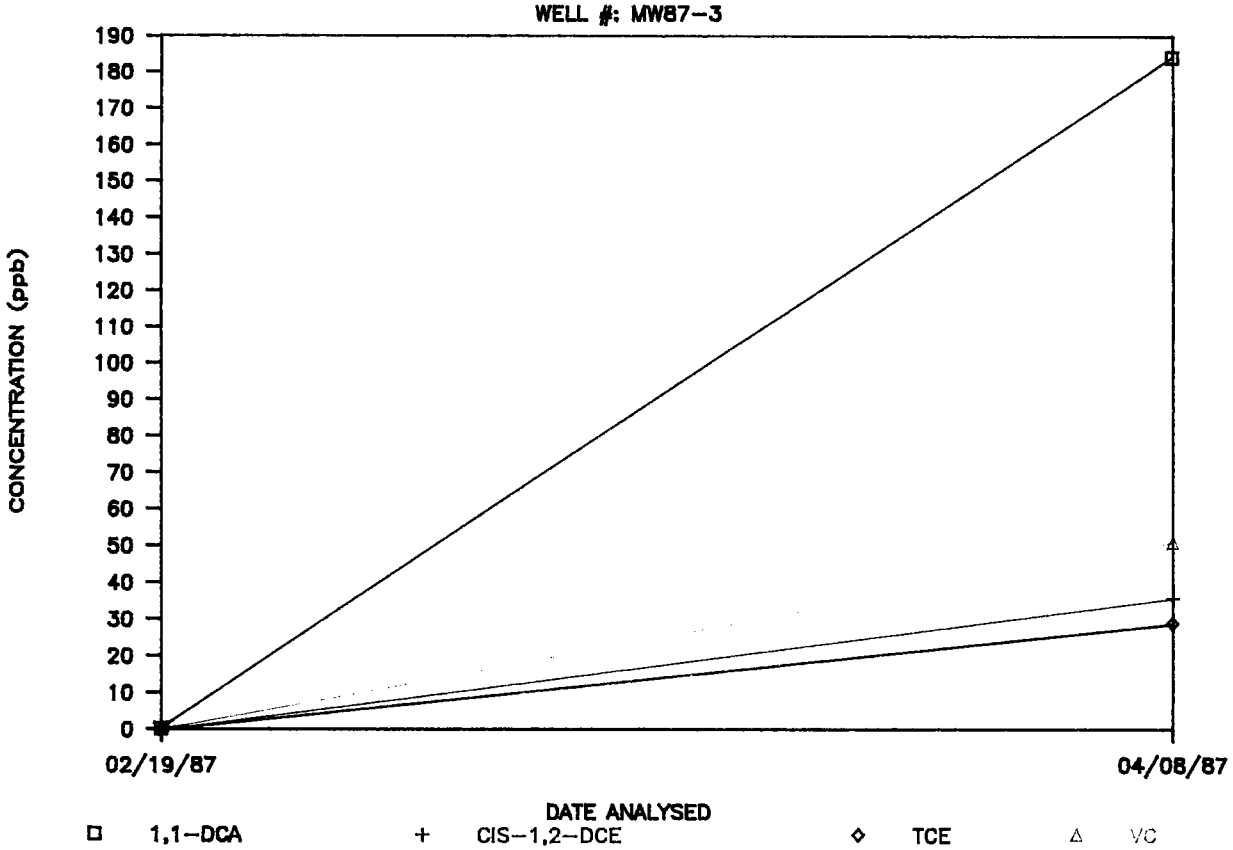
EKCO HOUSEWARES

WELL #: MW87-2



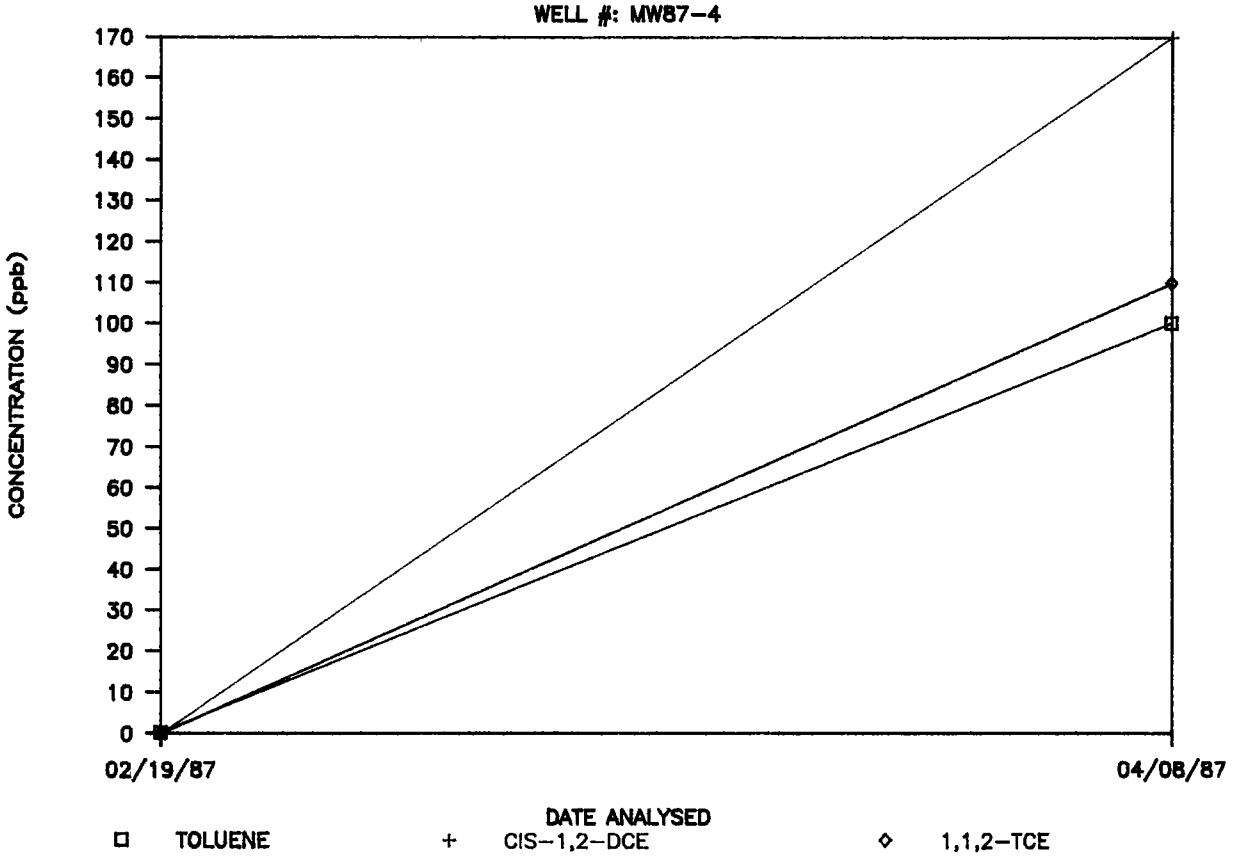
EKCO HOUSEWARES

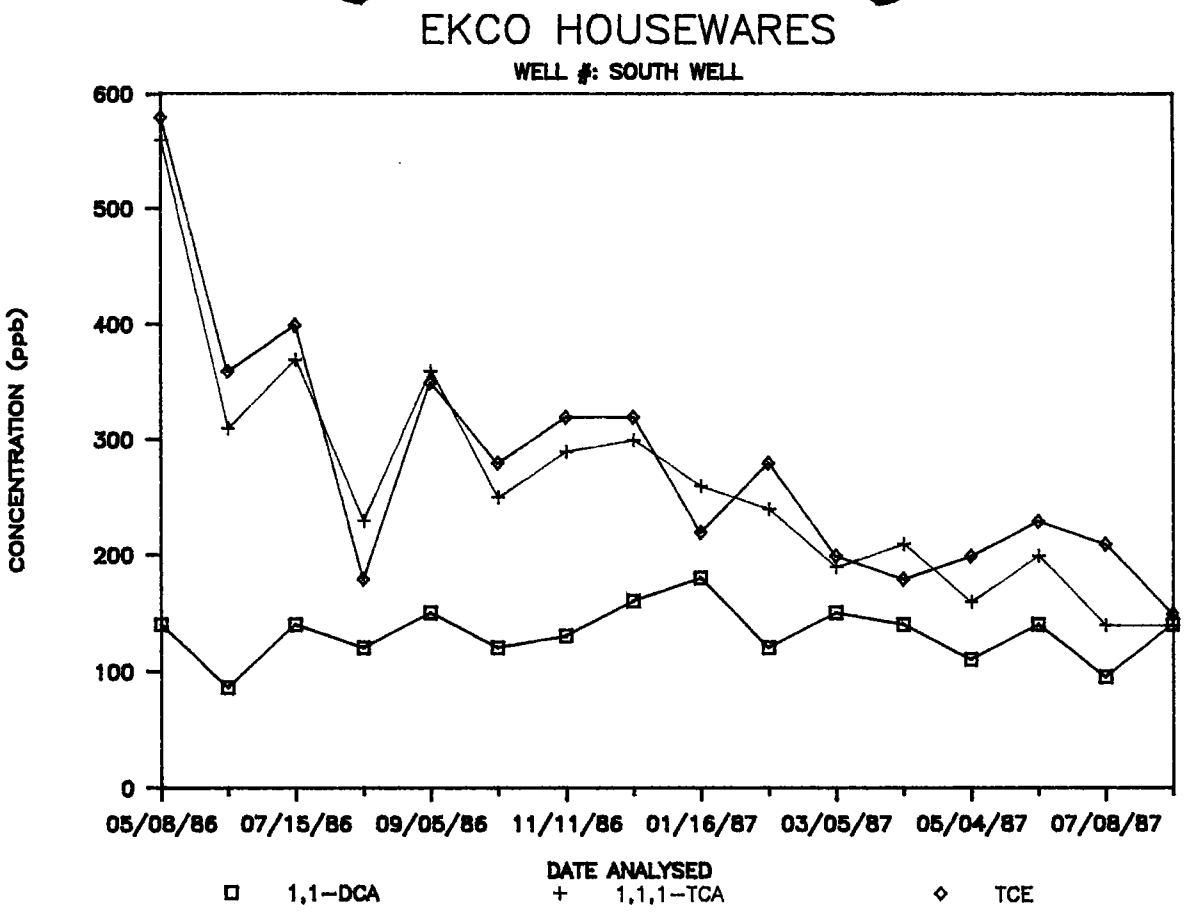
WELL #: MW87-3

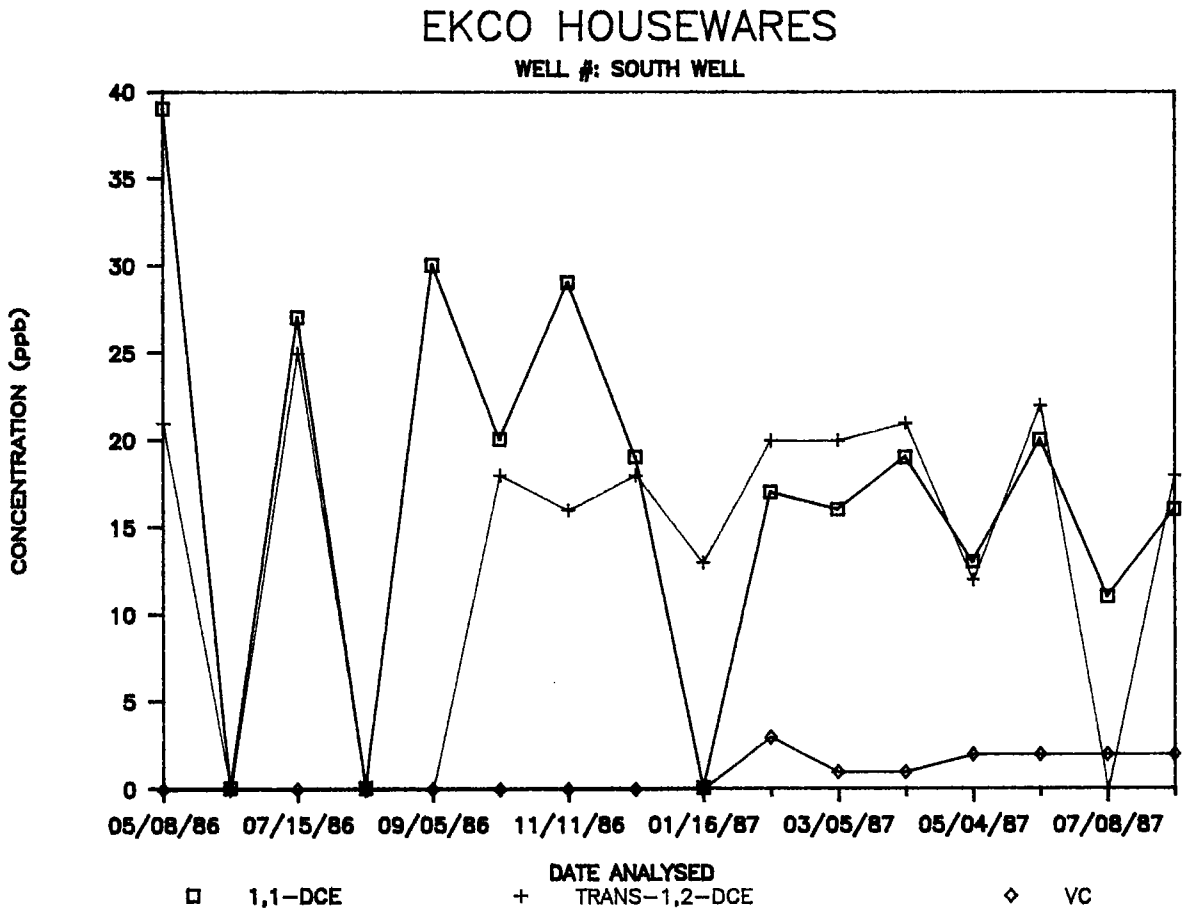


EKCO HOUSEWARES

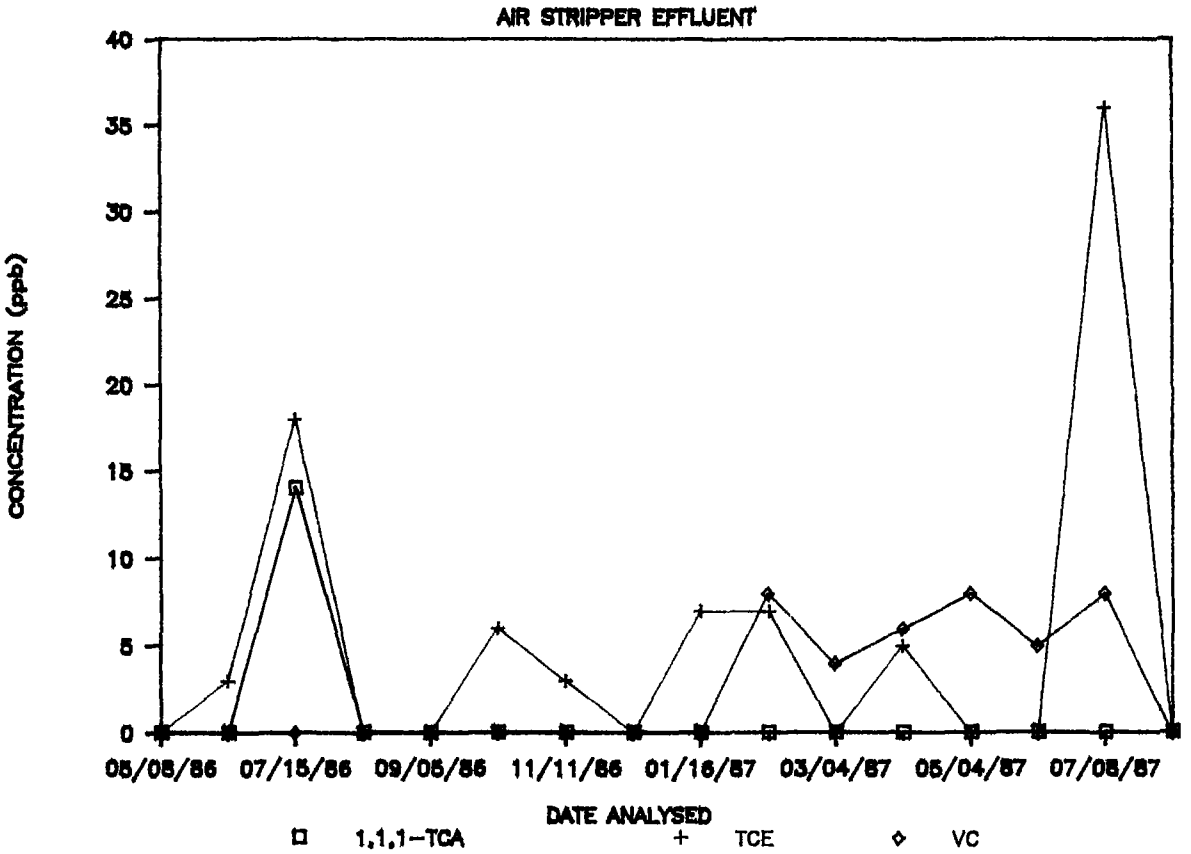
WELL #: MW87-4

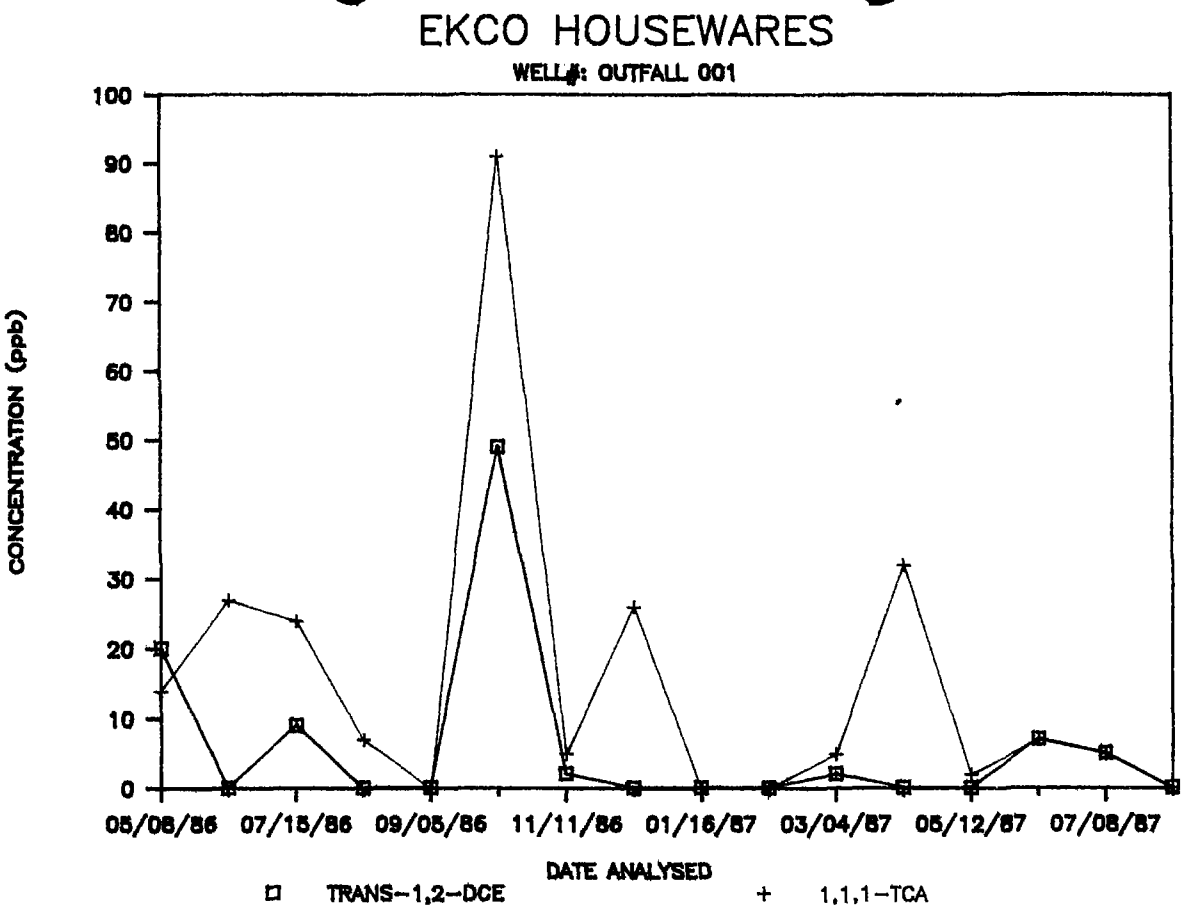


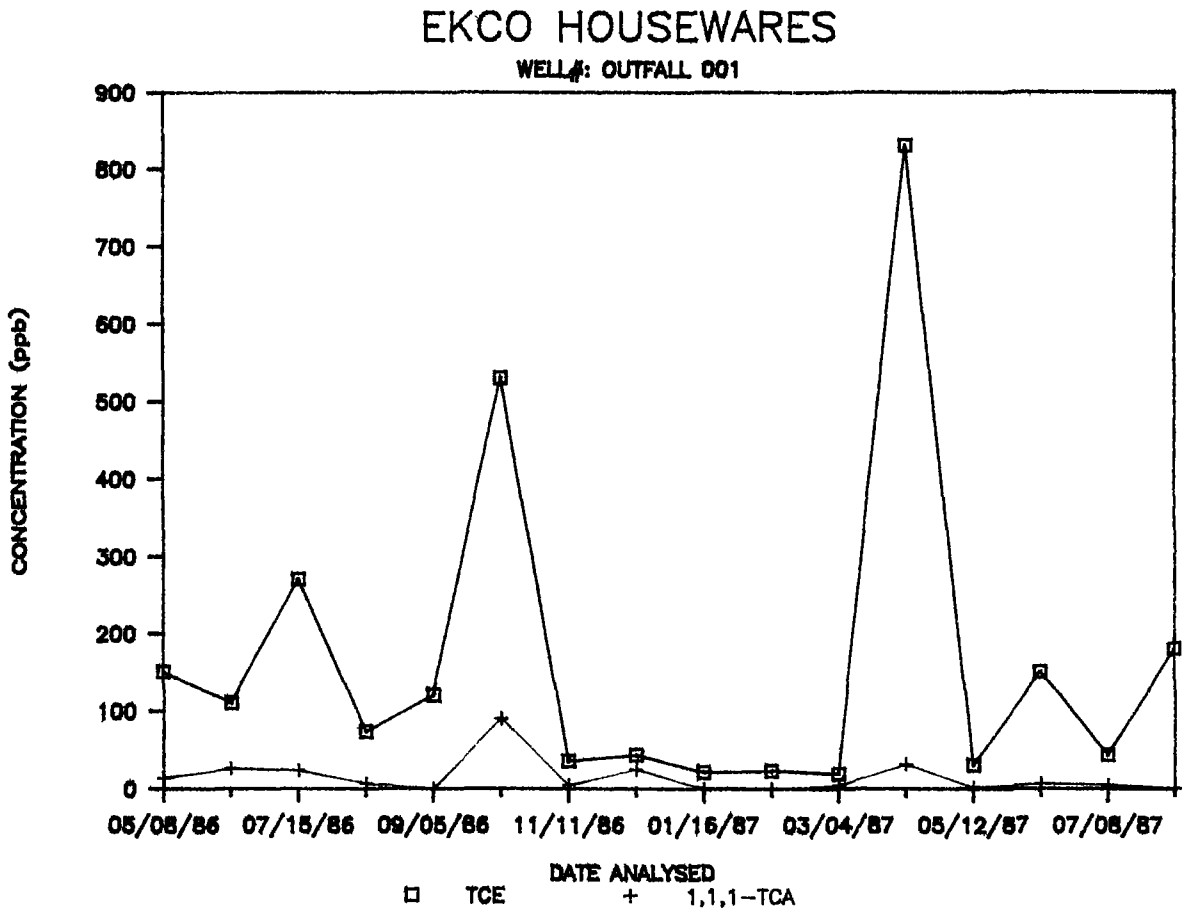

EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
600
500
400
300
200
100
0
05/08/86
07/15/86
09/05/86
11/11/86
01/16/87
03/05/87
05/04/87
07/08/87
DATE ANALYSED
1,1-DCA
1,1,1-TCA
TCE

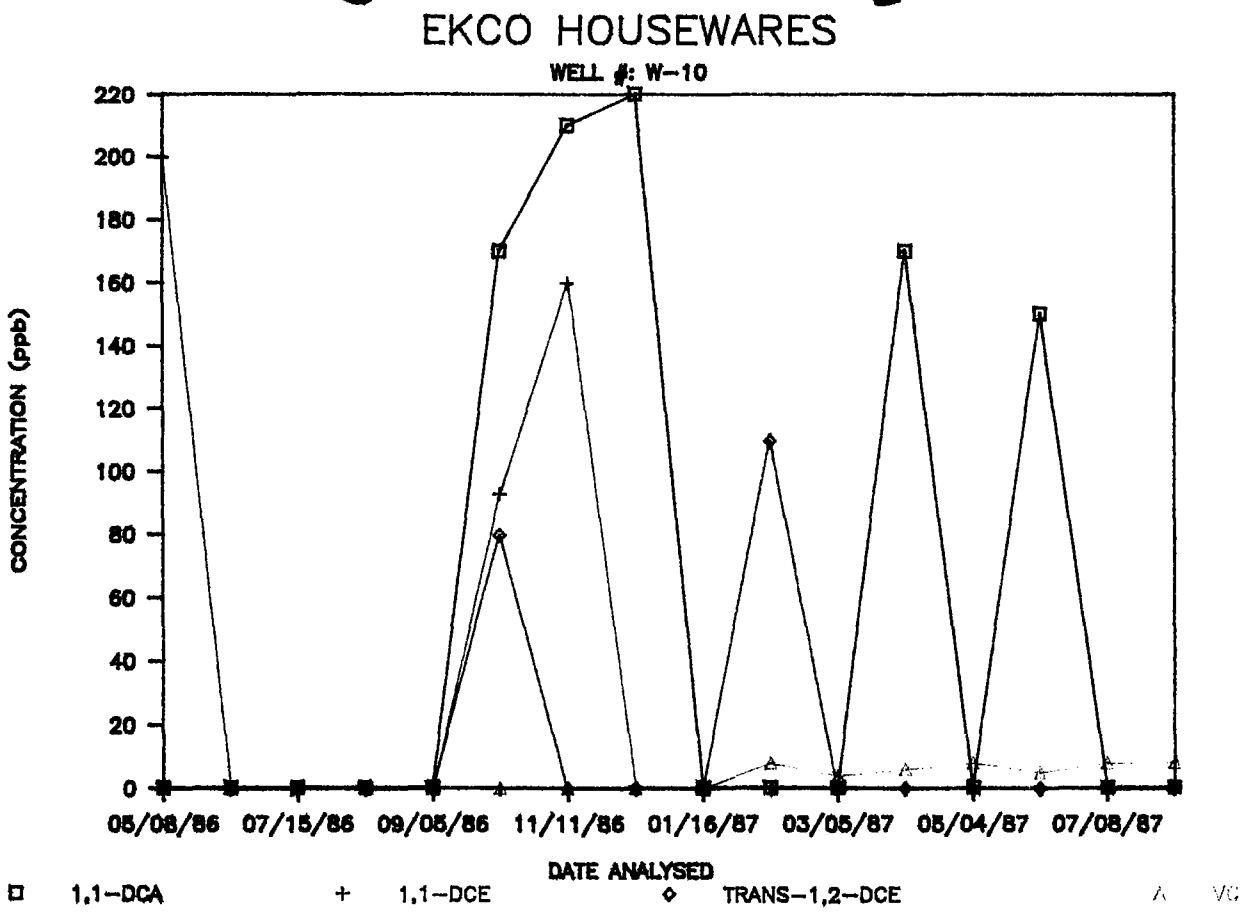

EKCO HOUSEWARES
WELL #: SOUTH WELL
CONCENTRATION (ppb)
40
35
30
25
20
15
10
5
0
05/08/86
07/15/86
09/05/86
11/11/86
01/16/87
03/05/87
05/04/87
07/08/87
DATE ANALYSED
1,1-DCE
TRANS-1,2-DCE
VC

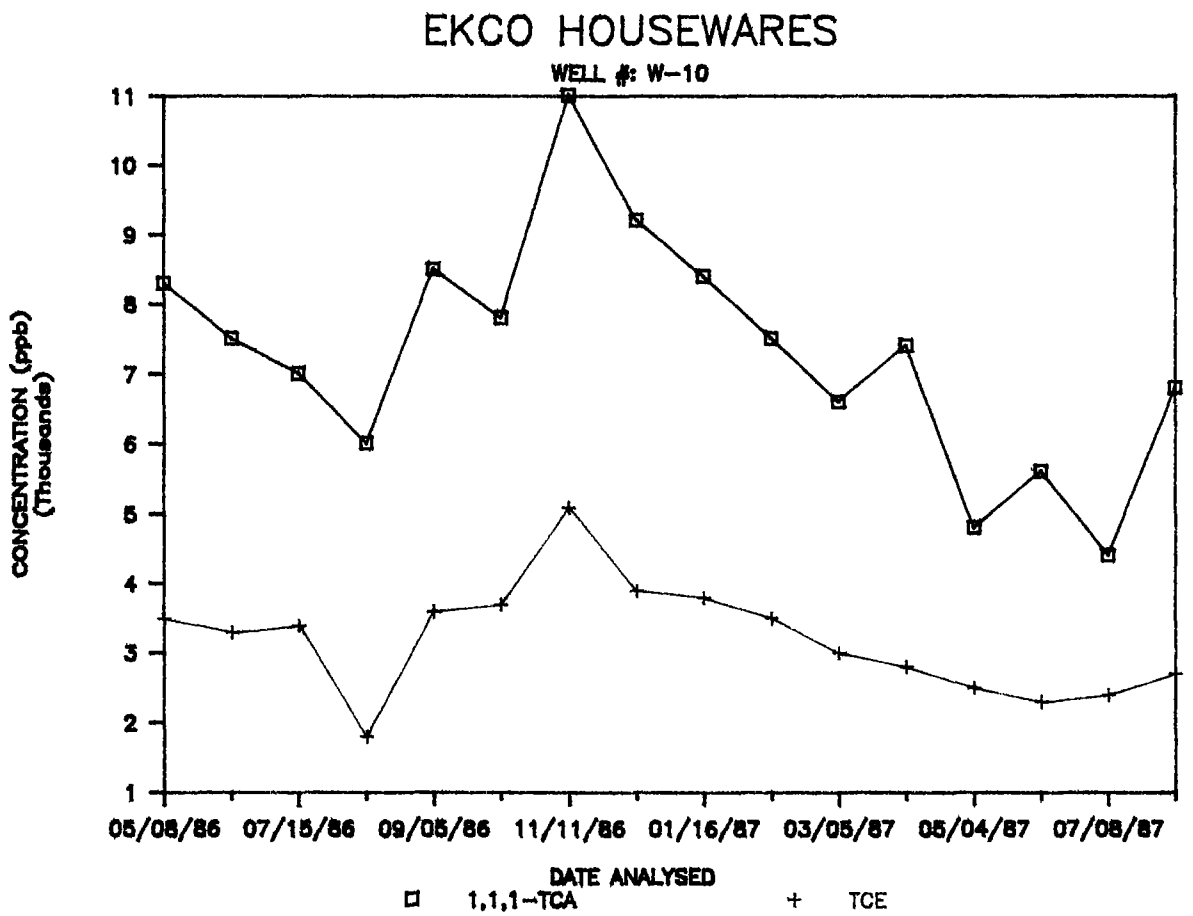
EKCO HOUSEWARES




EKCO HOUSEWARES
WELL#: OUTFALL 001
CONCENTRATION (ppb)
100
90
80
70
60
50
40
30
20
10
0
05/08/86
07/15/86
09/05/86
11/11/86
01/16/87
03/04/87
05/12/87
07/08/87
DATE ANALYSED
TRANS-1,2-DCE
1,1,1-TCA


EKCO HOUSEWARES
WELL#: OUTFALL 001
CONCENTRATION (ppb)
900
800
700
600
500
400
300
200
100
0
05/08/86
07/15/86
09/05/86
11/11/86
01/16/87
03/04/87
05/12/87
07/08/87
DATE ANALYSED
TCE
1,1,1-TCA


EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
220
200
180
160
140
120
100
80
60
40
20
0
05/08/86
07/15/86
09/05/86
11/11/86
01/16/87
03/05/87
05/04/87
07/08/87
DATE ANALYSED
1,1-DCA
1,1-DCE
TRANS-1,2-DCE
VC


EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
(Thousands)
11
10
9
8
7
6
5
4
3
2
1
05/08/86
07/15/86
09/05/86
11/11/86
01/16/87
03/05/87
05/04/87
07/08/87
DATE ANALYSED
1,1,1-TCA
TCE

[redacted]

SILICONE SOLVENT BLEND

LINES 1-2-3

(SOUTH TANK) EKCO

OHD 045 205 424

1990

SOLVENT BLEND FOR SILICONE

Old Line

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
8-15	204542.2	10351.1				
8-15 x	204617.2 750	9601.1	1 batch		250# rec	
8-16	204718.2 1010	8591.1	2 batch		10# [illegible]	
8-17	204794.2 760	7831.1	1 batch		260# rec	
8-21 x	204929.9 1357	6474.1	2 batch	82# gun clean	275# rec.	
8-21 x	204979.9 500	5974.1	1 BATCH			
8-22 X	205033.0 531	5443.1	1 BATCH		31# rec.	
8-23 x	205133.0 1000	4443.1	2 batch			
8-24 x	205183.0 500	3943.1	1 BATCH			
8-24	205183.0	3514.0	20	53L		
8-24 X	205233.1 501	3063.0	1 BATCH			
8-25 X	205733.1 50	2563	1 BATCH	16½"		
8-27	205733.1	13113.F	61"	1972	8/27/90	1500

1990

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
7-16 x	203003.1 1000	5248.1	2 Batches			
7-17 x	203054.1 510	4738.1		10# clean		
7-18 x	203130.1 760	3978.1		260# rec.		
7-19 x	203181.8 517	3461.1		17# rec.		
7-20 x	203231.8 500	2961.1				
7-23 X	203 2819-500	2461.1				
7-24 X	203 3472-653	1808.1	14 / Batch	158# Rec		
7-24	2033472	12196.1	55	1834	7/24/90	1500
7-25 X	2034116 644	11552.1	1 Batch	x 144# R.C.		
7-26 X	2034678 562	10990.1	1 Batch	x 62# Clean		
7-27 X	2035680 1002	9988.1	2 Batch			
7-30 X	203618.1 501	9487.1				
7-30 X	203745.6 1275	8212.1	2batch	x 275# rec		
8-1 X	203848.4 1028	7184.1	2batch	28# Cleaning	guns	
8-2 X	203898.4 500	6684.1				
8-3 X	203948.4 500	6184.1				
8-6	203993.7 453	5731.1		x 275# rec	178# Purge	
8.6	203993.7	4309.10	23	648		
8-6 X	204043.8 501	3808.2	23"			
8-7 X	204096.1 523	3285.2		23# Gun Clean		
8-7 X	204165.2 691	2594.2		191# Purge	S.U.	
8-8 X	204241.2 760	1834.2		260# rec		
8-9 X	204291.2 500	1334.2				
8-9	204291.2	1286.1	59	1934	8/9/90	1500
8-10 X	204341.2 500	1236.1	1 batch			
8-11 X	204391.2 500	1186.1	1 Batch			
8-13 X	204392.2 10	1185.1		10# Gun Clean		
8-13 X	204492.2 1000	1085.1	2 batch			
8-14 X	204542.2 500	1035.1	1 batch			

1990

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
6-9X	200745.1 500	7419.1				
6-12X	200800.2 551	6868.1				
6-13X	200952.9 1527	5341.1	3 batch		27# clean	
6-15X	201103.1 1502	3839.1	3 BATCH			
6-15X	201153.6 505	3334.1				
6-16X	201203.7 501	2833.1				
6-16X	201253.8 501	2333.1				
ADJ	201253.8	2154.6	14"	324		
6-19X	201308.3 545	1609.6				
ADJ	201308.3	11523.7	53	1778	6/19/90	1500
6-19X	201358.4 501	11322.7				
6-20X	201408.4 500	10822.7				
6-21X	201508.4 1000	9822.7	2 batch			
6-22X	201608.4 1000	8822.7	2 batch			
6-25X	201664.4 560	8262.7		60# clean ✓		
6-25X	201694.4 300	7962.7		300# rec. ✓		
6-26X	201907.5 2131	5831.7	4 batchs	131# clean ✓		
6-28X	202041.8 1343	4488.7	2 batch	343 rec. ✓		
6-29X	202141.8 1000	3488.7	22"		2 batch	
7-2X	202191.8 500	2988.7				
7-3X	202241.8 500	2488.7				
7-3	202241.8	12867.1	59	1934	7/3/90	1500
7-6X	202407.1 1653	11208.1	3 batch	153# clean		
7-7X	202484.5 775	10433.1	1 batch	275# rec		
7-10X	202540.1 556	9877.1		56# clean		
7-10X	202644.8 1047	8830.1	2 BATCH	47 rec.		
7-12X	202703.0 582	8248.1		582 clean ✓		
7-13X	202803.0 1000	7248.1	2 batch			
7-14X	202903.0 1000	6248.1	2 batch			

1990

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
5-7-90	198604.5	7692.0	36	1150		
5-7 x	198705.8 1113	6579.0	2batch		13 clean	
5-8 x	198808.8 1030	5549.0	2batch		30# clean	
5-9 x	198888.5 797	4752.0	1batch		297# rec.	
5-10 x	198999.6 1111	3641.0	2batch		111# clean	
5-11 x	199079.6 800	2841.0	1 batch		300# rec.	
5-12 x	199147.2 676	2165.0			176# rec	
5-14	199197.2 500	1665.0				
5-14	199197.2	12382.30	56	1862	5/14/90	
5-15 x	199299.8 1020	11362.3	2BATCH			
5-16 x	199349.8 506	10856.3	1BATCH			
5-17 x	199449.8 1000	9856.3	2BATCH			
5-18 x	199549.8 1000	8856.3	2batch			
5-19 x	199599.8 500	8356.3				
5-21 x	199677.4 776	7580.3	1batch		276# rec	
5-22 x	199731.4 540	7040.3	1BATCH		40# rec	
5-23 x	199831.4 1000	6040.3	2batch			
5-24 x	199909.2 778	5262.3	1BATCH		278 lb. Rec	
5-25 x	200013.3 1041	4221.3	2BATCH			
5-29 x	200067.4 541	3680.3	1 BATCH			
5-30 x	200167.4 1000	2680.3	2batch			
5-31 x	200267.4 1000	1680.3	2batch			
6-1	200267.7	12196.1	55	1834	6/1/90	1500
6-1 x	200317.4 500	11696.1				
6-4 x	200367.4 500	11196.1				
6-5 x	200444.9 775	10421.1	1batch		275# rec.	
6-6 x	200544.9 1000	9421.1	2batch			
6-7 x	200644.9 1000	8421.1	2batch			
6-8 x	200695.1 502	7919.1	1 batch			

1990

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
3-27	196313.0	7251.2				
3-28 X	196413.1 1001	6250.2	2 BATCHES			
3-29 X	196500.6 875	5375.2	2 batches 2nd batch 375# Ekon Solv 5.6# Q-1			
3-30 X	196626.9 1263	4112.2	22½	625		
4-2 X	196726.9 1000	3112.2	2 batch start 5.8# Q-1			
4-3 X	196776.9 500	2612.2				
4-4 X	196826.9 500	2112.2				
4-4	196826.9	12861.1	59	1934	4/4/90	1500
4-6 X	197026.9 2000	10861.1	3 batch		500 purge	Solv.
4-12 X	197126.9 1000	9861.1	2 batch			
4-12 X	197226.9 1000	8861.1	2 batch			
4-16 X	197326.9 1000	7861.1	2 batch			
4-17 X	197426.9 1000	6861.1	2 batch			
4-18 X	197528.5 1016	5845.1	2 batch		16# Clean	
4-19 X	197578.5 500	5345.1				
4-20 X	197684.8 1063	4282.1	2 batch		63# Clean	
4-23 X	197787.2 1024	3258.1	2 BATCH			
4-23 X	197793.3 61	3197.1			61# Clean	
4-24 X	197843.3 500	2697.1				
4-25 X	197943.3 1000	1697.1	2 batch			
4-26 X	198043.3 1000	697.1	2 batch			
4-27	198043.3	13300.0	63	2000	4/27/90	2000
4-27 X	198095.3 516	12784.0		16 Clean		
4-28 X	198145.3 500	12284.0				
4-30 X	198198.3 530	11754		30# Clean		
5-1 X	198284.4 861	10893.0	1 batch	200# rec.	161# Clean	
5-2 X	198387.5 1031	9862.0	2 batch	31# Clean		
5-3 X	198504.5 1170	8692.0	2 batch	75# rec.	43# Clean	
5-4 X	198604.5 1000	7692.0	2 batch			

K-001

SOLVENT BLEND FOR SILICONE

1990

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
2-15	194420.4		5500.9				
2-16X	194526.4	1060	4440.9	2 batch		60# clean	
2-19x	194602.4	760	3680.9			960# rec.	
2-20x	194655.0	526	3154.9			26# rec.	
2-21x	194705.0	500	2654.9				
2-22x	194755.0	500	2154.9	14	324		
2-26	194805.8		13113.8	61	1972	2/26/90	1500
2-26x	194805.8	508	12605.8			8# clean	
2-27x	194905.8	1000	11605.8	2 batch	1972	[illegible]	1500
2-28x	194958.8	530	11075.8			30# clean	
3-1x	195038.8	800	10275.8	1 batch		300# clean	
3-2x	195138.8	1000	9275.8				
3-5+	195190.5	517	8275.8				
3-5+	195240.5	500	7775.8	This mix was 350# flakes 3# Q-1			
3-6x	195340.5	1000	6775.8				
3-7x	195390.5	500	6275.8				
3-8x	195440.5	500	5775.8				
3-9x	195490.5	500	5275.8				
3-12X	195552.9	624	4651.8			124# clean	
3-13X	195652.9	1000	3651.8	2 batch			
3-14X	195702.9	500	3151.8				
3-15	195702.9		13353.20	64	2008	3/16/90	1379 gal
3-19x	195809.7	1068	12285.2	2 batches New formula 535# flakes			68# clean
3-20x	195954.0	1443	10842.2	1 batch	943# purge & clean		
3-21x	196054.0	1000	9842.2	2 batch			
3-22X	196104.1	501	9341.2	1 batch			
3-22x	196155.8	518	8823.2	1 batch			
3-26x	196263.0	1072	7751.2	2 BATCH			
3-27x	196313.0	500	7251.2	1 BATCH			

1990

SOLVENT BLEND. FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
1-11	192331.5	6035.2				
1-12 x	192431.5 1000	5035.2	2 batch			
1-15 X	192487.7 562	4473.2			60 clean	
1-16 X	192587.7 1000	3473.2	2 batch			
1-17 X	192687.7 1000	2473.2	2 batch			
1-18 X	192787.7 1000	1473.2				
1-19 X	192837.7 500	973.2				
1-22	192837.7	11823.7	53#	1778		
1-23 X	192939.7 1002	10821.7				
1-24 x	193018.2 785	10036.3	1 batch		285# rec	
1-24 x	193023.2 50	9986.7			50# rec	
1-25 x	193123.2 1000	8986.7	2 batch			
1-26 x	193223.2 1000	7986.7	2 batch			
1-29 X	193334.9 1117	6869.7	2 batch		117 rec	
1-30 X	193434.9 1000	5869.7		844 g		
1-31 x	193565.9 1310	4559.7	2 batch		300# rec 10# clean	
2-1 x	193618.9 530	4029.7			30# rec.	
2-2 X	193719.9 1010	3019.7	2 batch		10# clean	
2-5 x	193769.9 500	2519.7				
2-6	193769.9	12009.9	54	1806	2/6/90	1500
2-6 X	193869.9 1000	11009.9	2 batch			
2-7 X	193919.9 500	10509.9				
N 2-8 X	193969.9 500	10009.0				
N 2-9 X	194070.0 1001	9008.0	2 batch			
N 2-12 X	194130.3 603	8405.9			Purge Solv.	
2-12 X	194207.8 775	7630.9			275# rec.	
2-13 X	194270.4 630	7000.9			130# rec	
2-14 X	194320.4 500	6500.9				
2-15 X	194420.4 1000	5500.9	2 batch			

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
12-1 59	190295.1		7660.9				
12-4 x	190346.4	513	7167.9		13# clean		
12-5 x	190421.4	750	6417.9	1 batch		250# rec.	
12-7 x	190580.0	1586	4831.9				
12-8 x	190684.0	1040	3791.9	2 batch			
12-11 x	190734.0	500	3291.9	19"			
12-11	190734.0		13353.20	64	2008	12/11	1500
12-12 x	190784.0	500	12853.2				
12-13 x	190889.1	1051	11802.2	2 batch		51# clean	
12-14 x	190939.1	500	11302.2				
12-14 x	190989.1	500	10802.2				
12-15 x	191089.1	1000	9802.2	2 batch			
12-18 x	191099.4	1030	8772.2			purge Solv.	
12-19 x	191149.5	500	8271.2				
12-19 x	191199.6	501	7770.2				
12-20 x	191299.7	1001	6769.2	2 batch			
12-21 x	191399.7	1000	5769.2	2 batch			
12-22 x	191449.7	500	5269.2				
12-28 x	191549.7	1000	4269.2	2 batch			
12-29 x	191599.7	500	3769.2				
12-29	191599.7		13353.20	64	2000	12/29	1500
12-29 x	191649.7	500	12853.2				
1-3 x	191776.2	1265	11588.2	2 batch		265 rec.	
1-4 x	191881.5	1053	10535.2			53# rec.	
1-5 x	191981.5	1000	9535.2	2 batch			
1-8 x	192031.5	500	9035.2				
1-9 x	192131.5	1000	8035.2	2 batch			
1-10 x	192231.5	1000	7035.2				
[illegible] x	192331.5	1000	6035.2	2 batch			

1989

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
10-30	188540.8	4120.8				
10-31X	188590.0 500	3620.8				
11-1 X	188690.0 1000	2620.8	2 batch			
11-1 X	188695.9 59	2561.8			59# clean	
11-2 X	188745.9 500	2061.8	13½			
11-2 X	188773.4 275	1786.8			275# rec	
11-2 X	188823.4 500	1286.8				
11-3 X	188873.4 500	786.8				
11-3	188873.4	11610.9	52	1746	11/3/89	1500
11-6 X	1889737 1000	10610.9	2 Batch			
11-7 X	1890347 610	10000.9	1 Batch.		[illegible] 250#.	
11 8 X	1891396 1049	8951.9	2 batch		49# clean	
11-9 X	189189.6 500	8451.9				
11-9 X	189239.6 500	7951.9				
11-10 X	189289.6 500	7451.9				
11-10 X	189357.6 680	6771.9				
11-13 X	189408.0 504	6267.9				
11-14 X	189508.2 1002	5265.9				
11-15 X	189609.2 1010	4255.9				
11-16 X	189709.4 1002	3253.9				
11-17 X	189810.8 1014	2239.9				
11-20 X	189862.2 514	1725.9	1 batch		14# clean	
11-20	189862.2	12009.9	54	1806	11/20/89	1500
11-20 X	189912.2 500	11509.9				
11-21 X	190013.7 1015	10494.9	2 batch		15# rec.	
11-22 X	190068.0 543	9951.9			43# clean	
11-30 X	190170.0 1020	8931.9	2 batch		20# clean	
12-1 X	190295.1 1251	7680.9	2 batch		251# rec	

1989

SOLVENT BLEND FOR SILICONE

OLD [illegible]NE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANTITY
9-18	186324.7	5508.7		824		
9-21	186326.2	5346.6	27	804		
9-28X	186409.5 833	4513.6	25		333 Refill	Purge Drum
10-3	186411.1	4814.6	25	724		
10-3X	186511.1 1000	3814.6				
10-4X	186692.2 1811	2003.6	2batch		811# purge	Solv. + clean
10-5X	186821.2 1290	713.6	2batch		290 rec.	
		11398.1	51	1714		
10-6 x	1000		2batch			
10-9X	187055.5 1250		2batch		250 rec.	
10-10 AM	187055.5 ADJ.	8272.6	38"	1244		
10-10X	187110.5 550	7722.6			50# rec.	
10-11 X	187211.5 1110	6612.6				
10-12X	187339.0 1275	5337.6	2batch		275# rec	
10-13X	187439.0 1000	4337.6	2 batch			
10-16X	187553.0 1140	3197.6	2batch		140# rec.	
10-17X	187641.5 885		1 batch 385# in drum to make room for refill			
10-17	187641.5	13113.8	61	1972	10/17/89	1500
10-17X	187716.7 752	12361.8	1 batch		252# rec.	
10-18 X	187729.2 125	12236.8	115# + 385# = 1batch		10# rec	
10-18X	187779.2 500	11736.8				
10-19X	187829.4 502	11234.8				
10-20X	187929.4 1000	10234.8	2batch			
10-23X	188054.4 1250	8984.8	2batch		250# rec.	
10-24X	188155.4 1010	7974.8	2batch		10# clean	
10-25X	188258.2 1028	6946.8	2batch		28# clean	
10-26X	188385.2 1270	5676.8	2batch		270# rec	
10-27X	188435.8 506	5170.8				
10-30	188540.8 1050	4120.8	2batch		50# clean	

Metcalf & Eddy

MEMORANDU

FILE:

TO: Walter Nied

FROM: Gerry Myers

DATE: December 9, 1987

SUBJECT: Ekco Housewares Analyses

OFFICE: 230 S. Dearborn, Chicago, IL

COMPANY: U.S. EPA

Enclosed please find one copy of plots of the latest Ekco Housewares Analytical data. Also included are three new plots of the total VOC's in the south well, Well W-10, and the outfall. Please note that values plotted as equal to the detection limit (D.L.) are listed in the analytical data as not detected. Those values that are plotted below the detection limit are listed as estimates in the analytical data.

If you have any questions, please feel free to call me at (614) 436-5550.

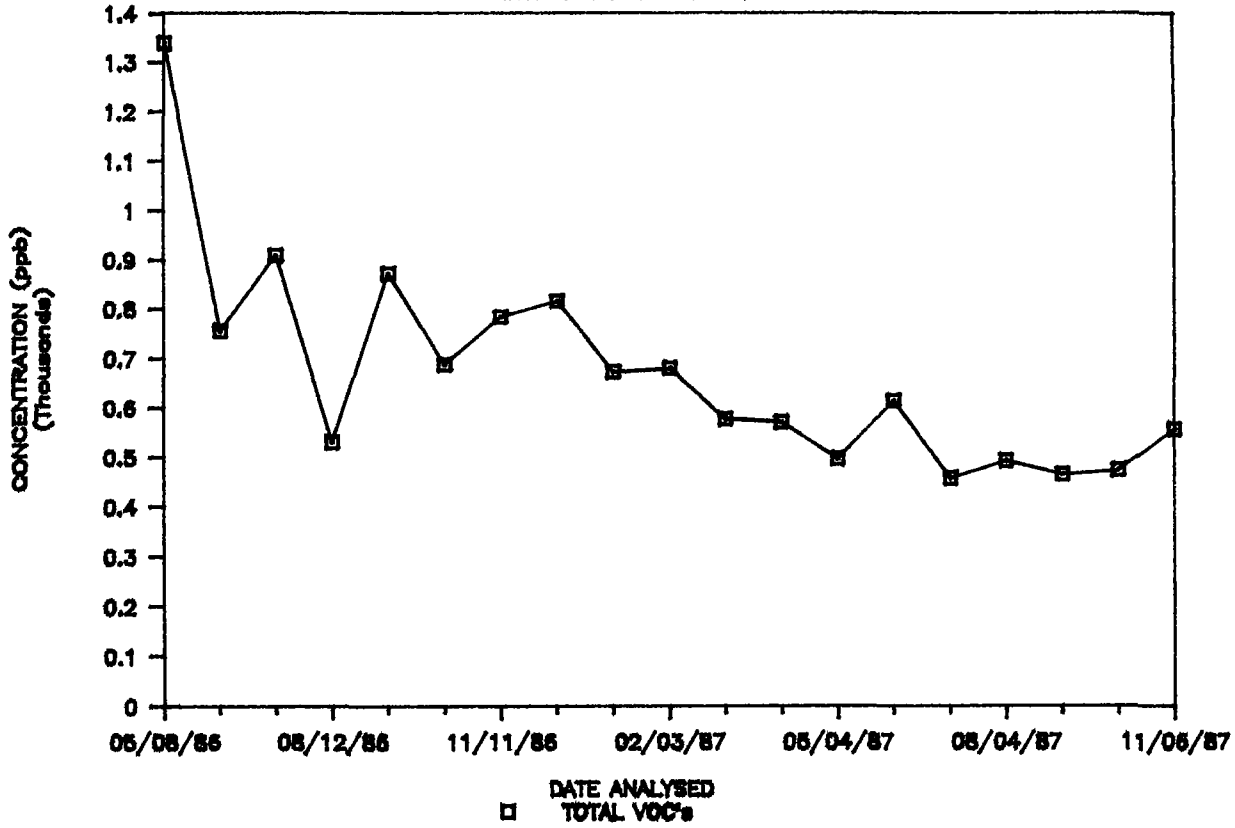
:yh

RECEIVED
DEC 10 1987
U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
OFFICE OF THE DIRECTOR

172

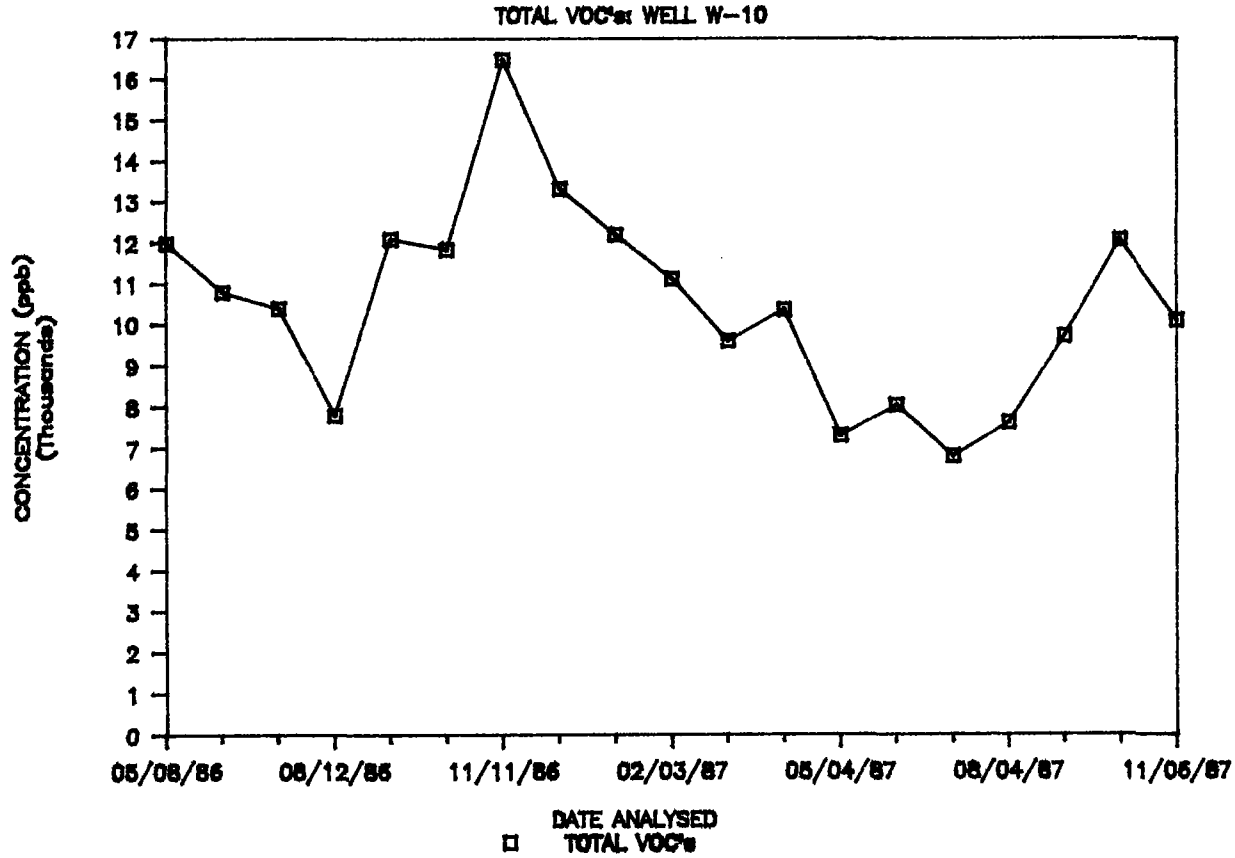
EKCO HOUSEWARES

TOTAL VOC's: SOUTH WELL

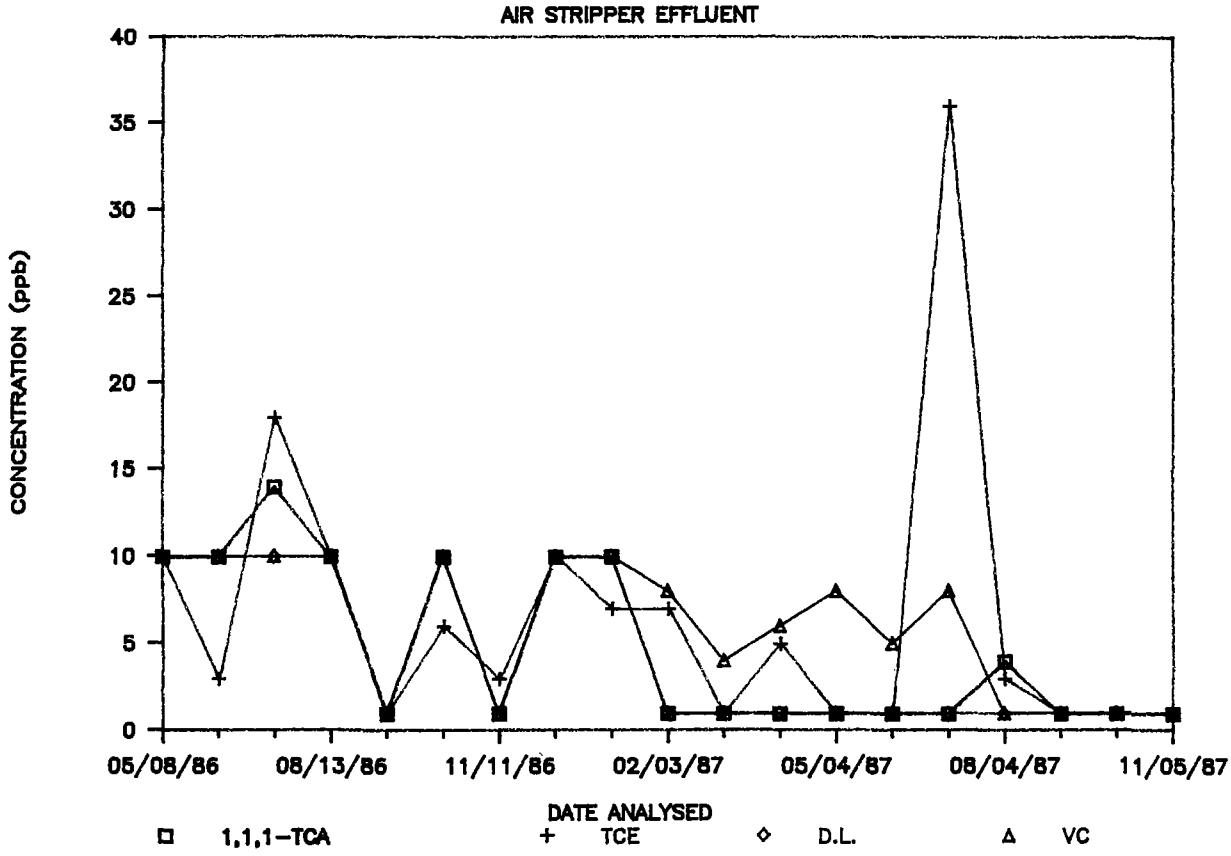


EKCO HOUSEWARES

TOTAL VOC's: WELL W-10

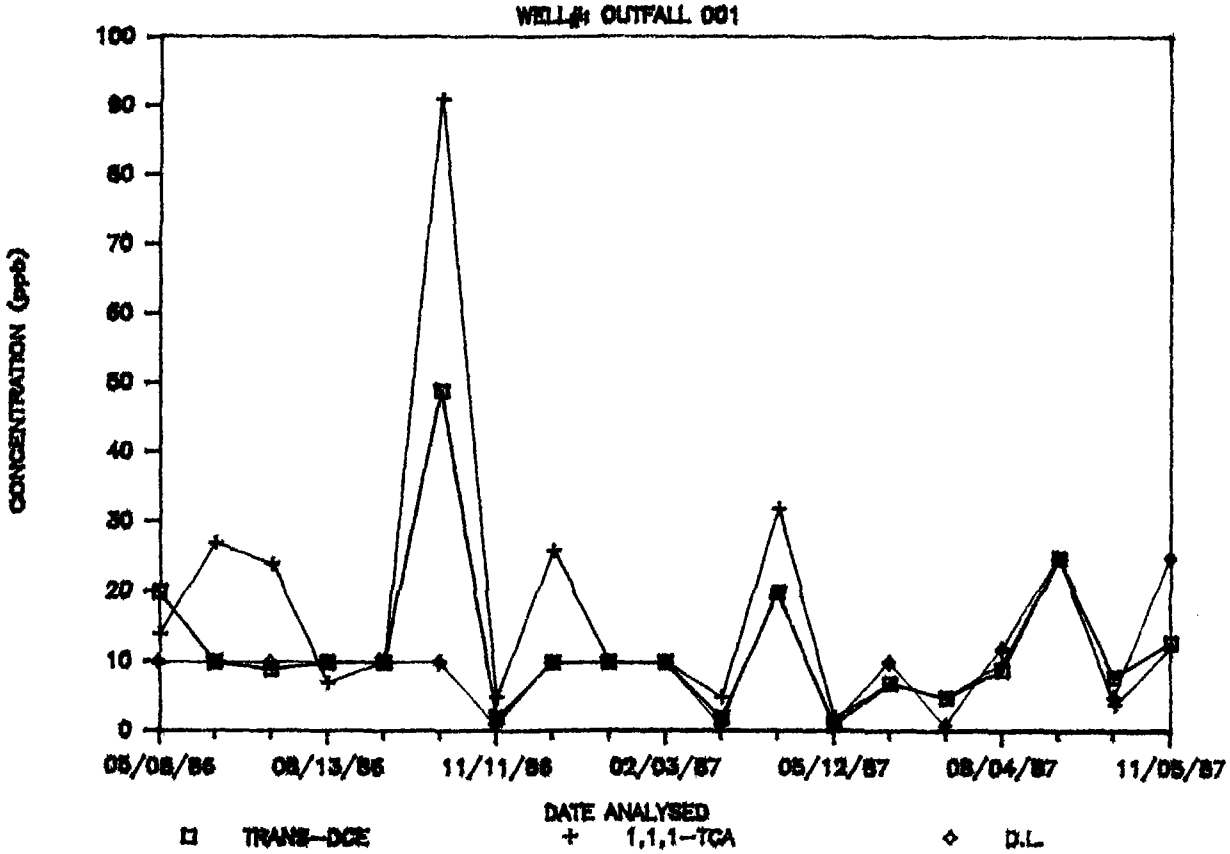


EKCO HOUSEWARES



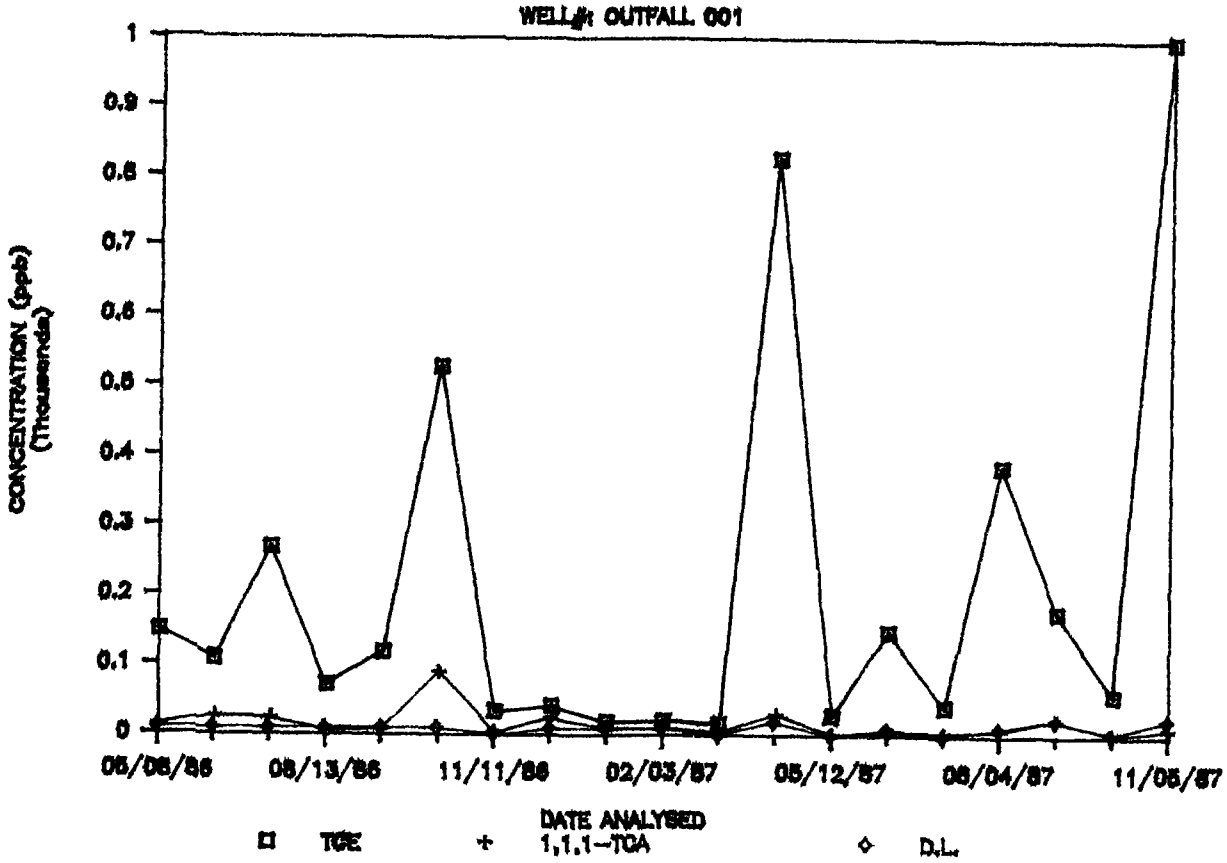
EKCO HOUSEWARES

WELL#: OUTFALL 001

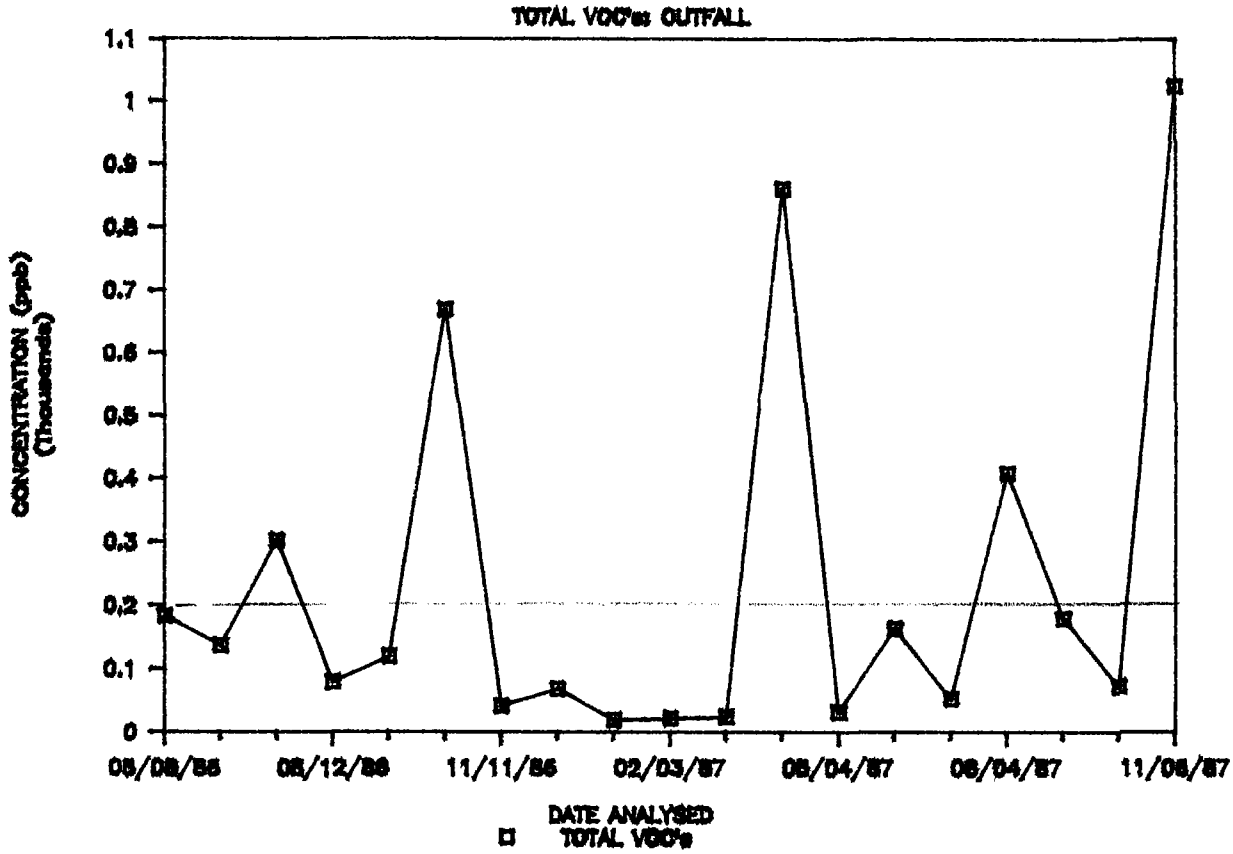


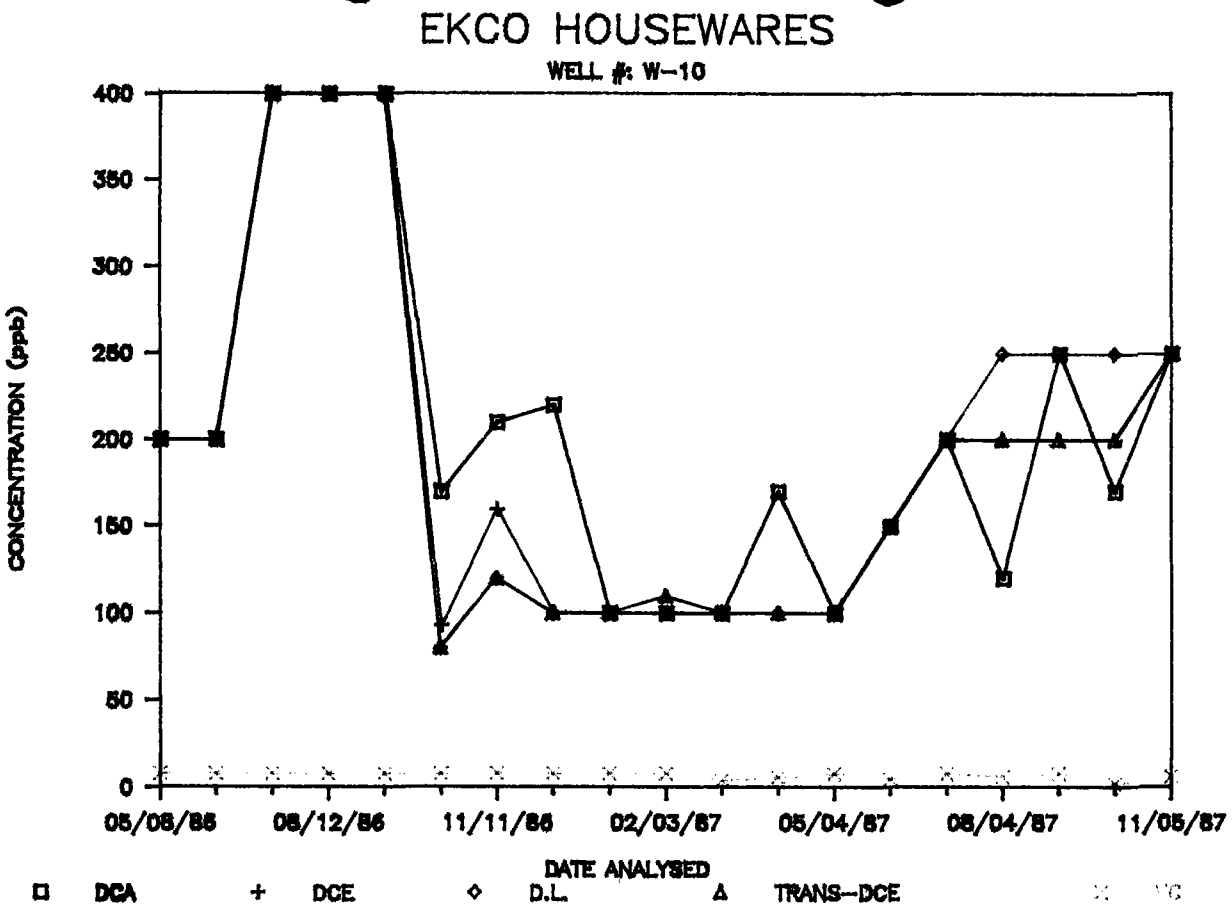
EKCO HOUSEWARES

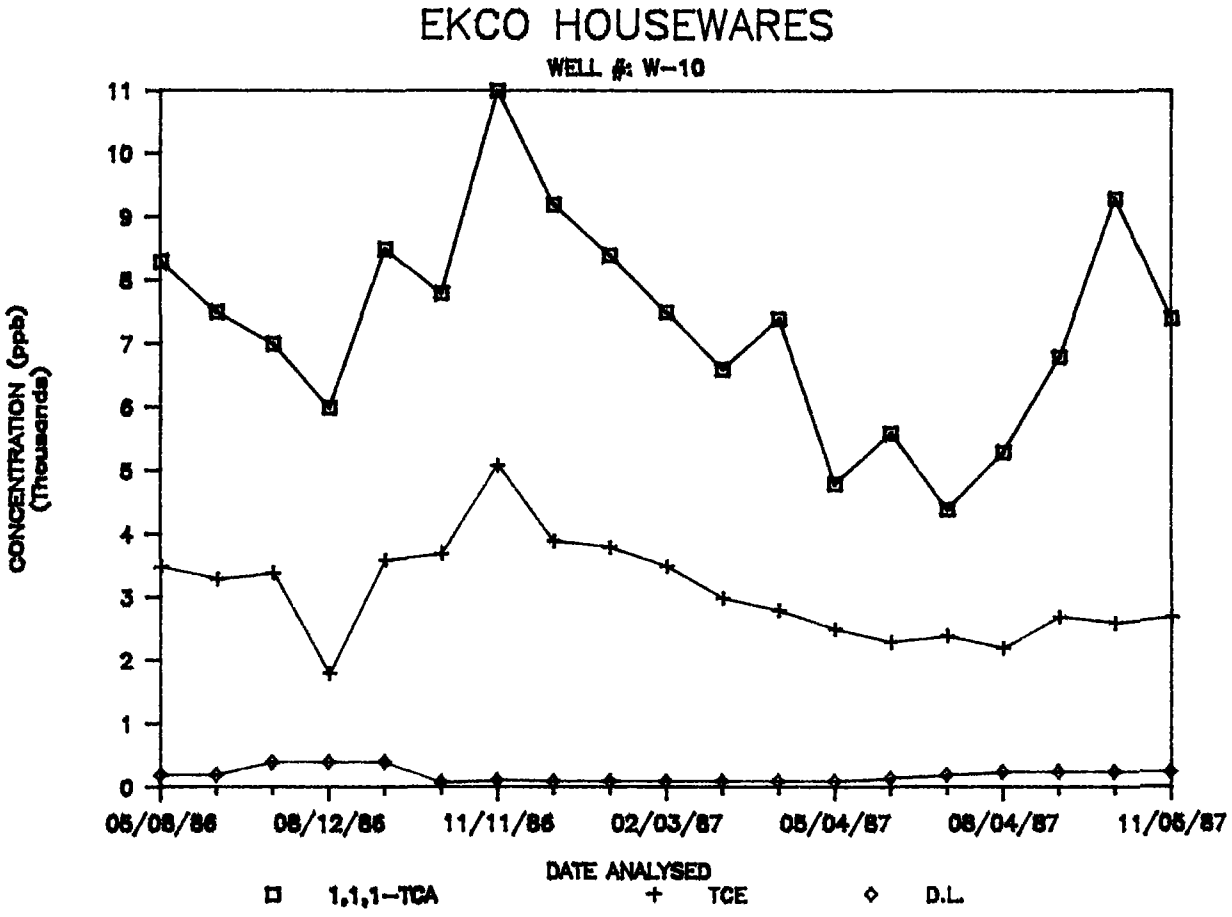
WELL#: OUTFALL 001



EKCO HOUSEWARES

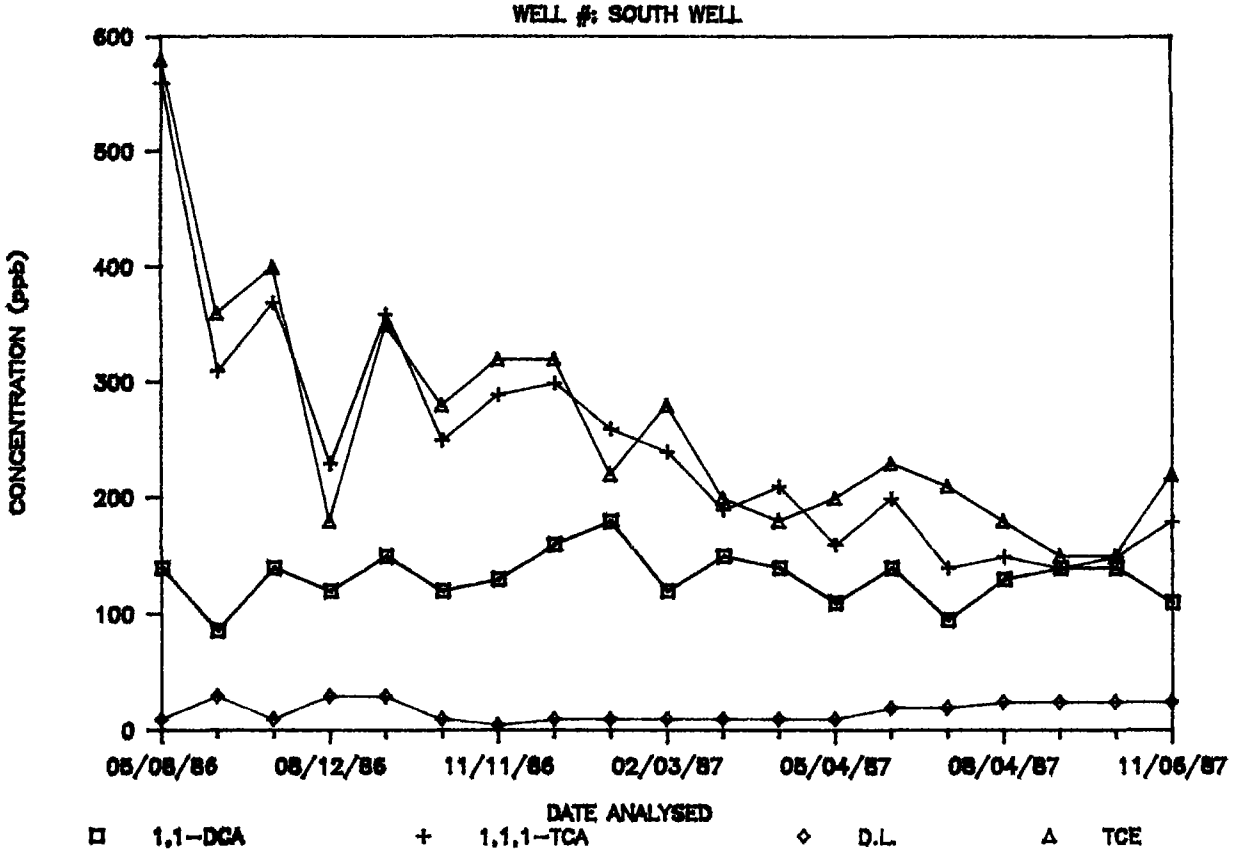



EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
400
350
300
250
200
150
100
50
0
05/08/86
08/12/86
11/11/86
02/03/87
05/04/87
08/04/87
11/05/87
DATE ANALYSED
DCA
DCE
D.L.
TRANS-DCE


EKCO HOUSEWARES
WELL #: W-10
CONCENTRATION (ppb)
(Thousands)
11
10
9
8
7
6
5
4
3
2
1
0
05/08/86
08/12/86
11/11/86
02/03/87
05/04/87
08/04/87
11/05/87
DATE ANALYSED
1,1,1-TCA
TCE
D.L.

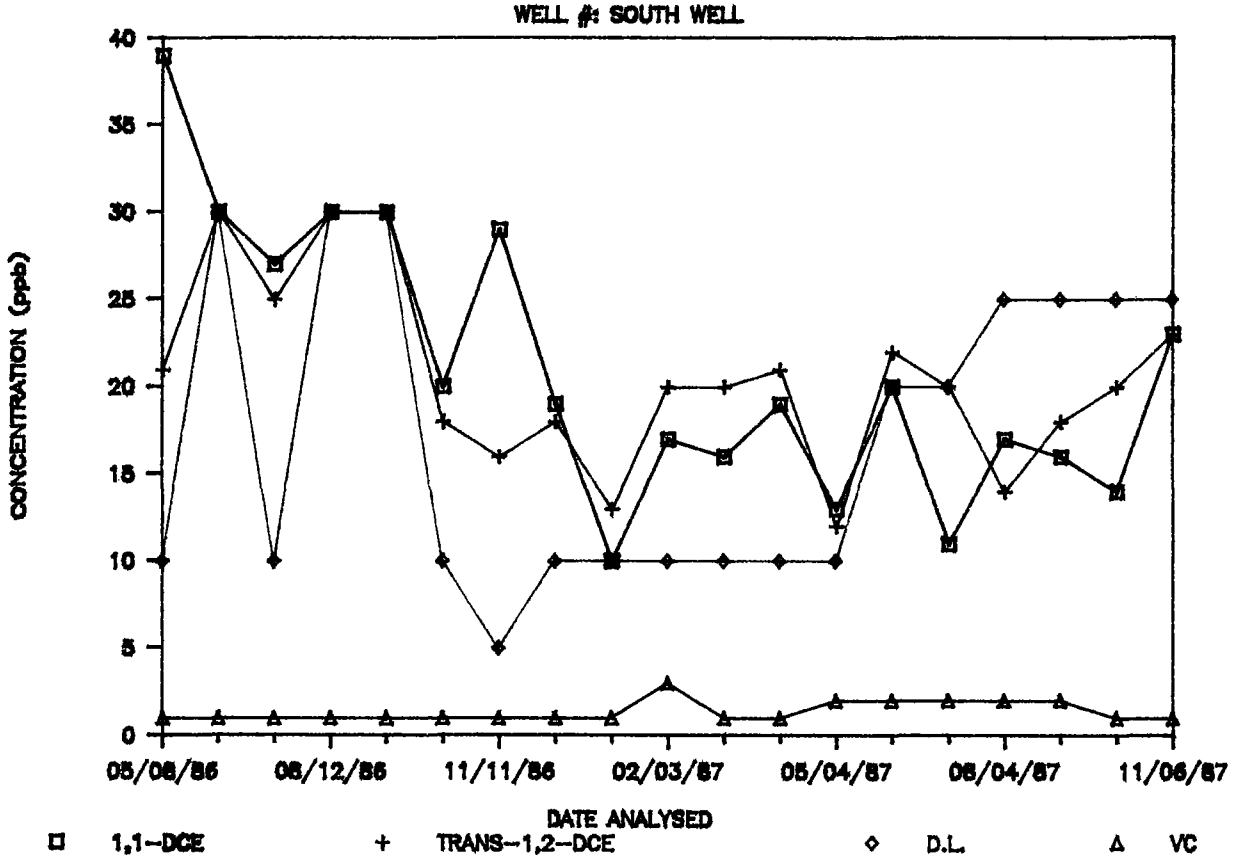
EKCO HOUSEWARES

WELL #: SOUTH WELL



EKCO HOUSEWARES

WELL #: SOUTH WELL



1989

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
8-10	183744.6	3448.9				
8-15	183949.6 2050		4 batchs			
8-15	183949.6	10959.2	49	1648	8/15/89	1500
8-15	184016.2 1060	10299.2			160# rec	
8-16 X	184116.4 1002	9297.2	2batch			
8-17 X	184218.0 1016	8281.2	2batch		16# clean	
8-18 X	184318.0 1000	7281.2	2batch			
8-21 X	184424.6 1066	6215.2	2batch		66# clean	
8-22 X	184524.6 1000	5215.2	2batch			
8-23 X	184624.6 1000	4215.2				
8-24 X	184776.1 1515	2700.2	3batch		15# clean	
8-25 X	184876.1 1000	1700.2				
8-25	184876.1	10028.2	45	1508	8/25	1500
8-29 X	185055.1 1790	8238.2		3batch	290# rec	
8-30 X	185206.1 1510	6728.2		3batch	10# clean	
8-31 X	185306.1 1000	5728.2		2batch		
9-1 X	185406.1 1000	4728.2		2batch		
9-6 X	185427.2 200	Solvent to purge Lines				
9-5 X	185527.2 1000	3528.2		2batch		
9-6 X	185643.2 1160	2368.2		2batch	160# clean	
9-7 X	185693.2 500	1868.2				
9-7	185678.2	11823.7	53	1778	9/7/89	1500
9-7 X	185743.2 500	11323.7				
9-8 X	185868.2 1250	10073.7		2batch	250# rec	
9-12 X	186046.7 1785	8288.7	3batch		285 rec	
9-13 X	186097.7 510	7778.7				
9-14 X	186197.7 1000	6778.7				
9-15 X	186324.7 1270	5508.7	2batch		270# rec	

1989

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
7-7	181507.6 100	5669.8				
7-10 X	181608.9 1013	4656.8			#13 clean	
7-11 X	181660.4 515	4141.8			15# clean	
7-12 X	181765.1 1047	3094.8	2 batch		47# clean	
7-13 X	181867.1 1020	2074.8			20# clean	
7-14	181867.1	12009.9				
7-17 X	181967.1 1000	11009.9				
7-17 X	181973.5 64	10945.9				
7-18 X	182073.5 1000	9945.9				
7-19 X	182152.0 785	9160.9			285# rec	
7-20 X	182263.2 1112	8048.9	2 batch		112# rec.	
7-21 X	182367.5 1043	7005.9			10# clean	
7-24 X	182442.5 750	6255.9			250# rec.	
7-25 X	182543.0 1005	5255.9				
7-26 X	182643.0 1000	4255.9				
7-27 X	182719.5 765	3490.9			265# rec	
7-27 X	182769.5 500	2990.9				
7-28 X	182869.5 1000	1990.9				
7-31 X	182928.4 589	1401.9			89# rec	
7-31	182928.4	11610.9	52	1746	7/31	1500
7-31 X	182978.4 500	11110.9				
8-1 X	183105.9 1275	9835.9	2 batch		275# rec.	
8-2 X	183164.9 590	9245.9			70# rec.	
8-3 X	183265.9 1010	8235.9	2 batch		[illegible] clean	
8-4 X	183343.4 775	7460.9			275# rec	
8-7 X	183444.6 1012	6448.9	2 batch		12# clean	
8-8 X	183544.6 1000	5448.9				
8-10 X	183744.6 2000	3448.9	4 batch's			

1989 SOLVENT BLEND FOR SILICONE SOUTH OLD LINE 2000

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
5-24	179336.2	5585.3				
5-25X	179437.4 1012	4573.3	2batch		12# CLEAN	
5-26X	179487.4 500	4073.3				
6-5 X	179541.6 542	3531.3			42# CLEAN	
6-6 X	179641.6 1000	2531.3	2batch			
6-7	179741.6 1000	1531.3				
6-8 +	179741.6	12861.1	59	1934	6-8-89	1500
6-8 +	179848.6 1070	11791.1	2 batch		70# CLEAN	
6-9 +	179948.6 1000	10791.1	2batch			
6-12 X	180040 554	10237.1	1 batch		54# Clean	
6-13 X	180083.5 795	9442.1	1batch		295# rec	
6-14 X	180249.3 1658	7784.1	3batch		158# rec	
6-15 X	180299.3 500	7284.1				
6-16 X	180401.3 1020	6264.1	2BATCH			
6-20 X	180501.3 1000	5264.1	2 batch			
6-21 X	180601.3 1000	4264.1	2batch			
6-22 X	180702.3 1010	4163.1	2batch			
6-23	180753.1 580	3583.1				
6-26	180803.1 500				9c# ?	
6-26	180803.1	12714.8	58	1912	6/26	1500
6-27 X	180854.6 515	12199.8			15# CLEAN	
6-27 X	180904.6 500	11699.8				
6-28 X	181007.6 1030	10669.8			30# CLEAN	
6-29 X	181107.6 1000	9669.8	2batch			
6-30 X	181207.6 1000	8669.8				
7-5 X	181307.6 1000	7669.8				
7-6 X	181407.6 1000	6669.8				
7-7 X	181507.6 1000	5669.8				

1989

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
4-21	177457.6		5080.6	26	764		
4-24 x	177507.8	500	4580.6				
4-24 x	177557.8	500	4080.6				
4-25 x	177583.4	256	3824.6		256 rec		
4-25 x	177633.6	502	3322.6				
4-26	177633.6		12861.1	59	1934	4/26/89	1500
4-26 x	177683.6	500	12361.1				
4-27 x	177817.2	1336	11025.1	2 batch	336 rec.		
4-28 x	177896.6	794	10231.1		275 REC		
4-28 x	177946.6	500	9731.1				
5-1 x	178057.0	1104	8627.1	2 batch	104# rec		
5-2 x	178107.0	500	8127.1				
5-3 x	178157.0	500	7627.1				
5-4 x	178264.0	1070	6557.1	2 batch	70# clean		
5-5 x	178323.3	593	5964.1	29½	73# clean	900	
5-8 x	178423.3	1000	4964.1	2 batch			
5-9 x	178523.5	1002	3962.1	2 batch			
5-10 x	178623.5	1000	2962.1				
5-11 x	178728.7	1052	1910.1		52# clean		
5-12 x	178778.7	500	1410.1				
5-12	178778.7		11185.3	50	1682	5/12/89	1510
5-12 x	178831.8	531	10654.3				
5-15 x	178881.8	500	10154.3				
5-16 x	178931.8	500	9654.3				
5-18 x	179031.8	1000	8654.3	2 batch			
5-19 x	179084.9	531	8123.3		31# clean		
5-22 x	179186.2	1031	7092.3		31# clean		
5-23 x	179286.2	1001	6085.3		7# "		
5-24 x	179336.2	500	5585.3				

1989

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
3-21	175791.0		11823.7	53	1772	3/21	1500
3-21 x	175841.0	500	11323.7				
3-22 x	175941.0	1000	10323.7				
3-23 x	175991.0	500	9823.7				
3-23 x	176041.0	500	9323.7				
3-27 x	176147.0	1060	8263.7	2 batch	# 60 clean		
3-28 x	176197.0	500	7763.7				
3-29 x	176248.3	513	7263.7		13# clean		
3-29 x	176350.3	1020	6243.7		20# clean		
3-30 x	176480.8	1305	4938.7	2 batch	275# rec	35# clean	
3-31 x	176532.1	513	4425.7		13# clean		
4-3 x	176592.6	605	3820.7		105# rec		
4-4 x	176642.6	500	3320.7				
4-5 x	176720.1	775	2545.7	1 batch	275# rec		
4-5 x	176770.1	500	2045.7				
4-6 x	176826.1	560	1485.7		60# rec		
4-7 x	176877.1	510	985.7				
4-7	176877.1		11398.1	51	1714	4/7/89	1500
4-10 x	176958.1	809	10589.1	1 batch	307# rec		
4-11 x	177068.1	1100	9489.1	2 batch	100# rec		
4-12 x	177118.1	500	8989.1				
4-13 x	177168.1	500	8489.1				
4-14 x	177218.0	500	7989.1				
4-17 x	177268.0	500	7489.1				
4-18 x	177318.0	500	6345.1		194# clean		
4-19 x	Meter Broke	500	5845.1				
4-20 x		1000	4845.1				
4-21 x		500	4345.1				
4-21 x		500	3845.1				

1989 SOLVENT BLEND FOR SILICONE

OLD Line

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
2-10-89	174084.4	7870.3				
2-13X	174162.4 780	7090.3	1 batch	275# rec	5# clean	
2-14X	174220.4 580	6510.3	1 batch	80# rec		
2-15X	174320.4 1000	5510.3	2 batch			
2-17X	174372.7 523	4987.3		23# clean		
2-20X	174427.7 550	4437.3		50# clean		
2-21X	174507.7 800	3637.3	1 batch	300# rec.		
2-22X	174563.7 560	3077.3	1 batch (R)	50# Rec	10# clean	
2-23X	174644.7 810	2267.3	1 batch	250# rec	60# clean	
2-24X	174697.2 528	1742.3		25# Rec		
2-27X	174747.2 500	1242.3				
2-27	174747.2	11823.7	53	1778	2/27/89	1500
2-28X	174812.2 650	11173.7	1 batch 1	130# Rec 20# Clean		
3-1 X	174862.2 500	10673.7				
3-2X	174916.6 544	10129.7	1 batch	44 clean		
3-3X	174966.6 500	9629.7				
3-6X	175029.4 628	9001.7		128# clean		
3-7X	175079.4 500	8501.7				
3-8X	175132.1 527	7974.7				
3-9X	175182.1 500	7474.7				
3-10X	175235.1 530	6944.7		30# clean		
3-14X	175306.1 710	6234.7		210# rec		
3-15X	175413.6 1075	5159.7		60# rec	15# clean	
3-16X	175541.1 1275	3884.7	2 batch	275# rec		
3-17X	175646.1 1050	2834.7	2 batch	50# rec		
3-20	175713.5 675	2159.7		175# ?		
3-21	175791.0 775	1384.7		275 rec		
3-21	175791.0	11823.7	53	1778	3/21	1500

1989 172938.5 87913

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
1-10-89	172399.0		4289.6				
1-11 X	172449.0	500	3789.6				
1-12 X	172499.0	500	3289.6				
1-13 X	172549.0	500	2789.6				
1-13	172549.0		12938.10	60	1954	1/13/89	1500
1-13 X	172599.0	500	12494.10				
1-16 X	172661.0	620	11874.1		112# rec		
1-18 X	172811.0	1500	10374.1		3 BATCH		
1-19 X	172938.5	1275	9099.1	2 batch	275 rec.		
1-20 X	172988.5	500	8599.1		132#		
1-23	172988.5		8599.1	40			
1-23 X	173097.0	1085	7514.1	2 batch	85# clean		
1-24 X	173147.0	500	7014.1				
1-25 X	173223.0	760	6254.1		260# rec		
1-26 X	173323.8	1008	5246.1	2 batch	8# clean		
1-27 X	173373.8	500	4746.1				
ADJ	173373.8		5080.6	26			
1-30 X	173458.8	850	4230.6		850# purge solv.		
1-30 X	173514.2	554	3676.6		54# rec.		
1-31 X	173594.2	700	2976.6		200# rec		
2-1 X	173634.2	500	2476.5	56	1862	2/1/89	500
2-1	173634.2		12382.3				
2-2 X	173691.8	576	11806.3		76# rec		
2-3 X	173741.8	500	11306.3				
2-7 X	173870.1	1283	10023.3	2 batch	225# rec	58# clean	
2-8 X	173983.4	1133	8890.3	2 batch	133# rec		
2-9 X	174034.4	510	8380.3		19# rec		
2-10 X	174084.4	500	7870.3	1 batch			

1988

SOLVENT BLEND FOR SILICONE

1988 OLD Line

DATE	METER	LBS	INCHES	GAL	REFILL DATE	QUANITY
12-6-88	170817.4	9445.9				
12-7 X	170874.4 570	8875.9		70# Rec.		
12-8 x	170924.4 500	8375.9				
12-9 x	170947.9 235	8140.9		rec.		
12-9 x	170997.9 500	7640.9				
12-12 x	171047.9 500	7140.9				
12-14 x	171158.9 1110	6030.9	2 batch	110# rec		
12-15 x	171238.4 795	5235.9		295# rec		
12-16 x	171299.4 560	4675.9		60# Rec & Clean		
12-17 X	171346.3 519	4156.9		19# Clean		
12-19 X	171399.3 530	3626.9		30# clean		
12-20 X	171449.3 500	3126.9				
12-20	171449.3 338	12861.10	58½	1934	338 Rec	
12-20	171536.8 537	12324.1		37# Cleaning		
12-21 X	171588.3 515	11809.1		15# clean		
12-22 X	171638.3 500	11309.1				
12-27 X	171702.3 640	10669.1		140# rec		
12-28 x	171829.8 1275	9394.1		275# rec		
12-29 X	171879.8 500	8894.1				
12-30 x	171981.3 1015	7879.1	2 batch	15# rec		
12-30-88	172009.1 265	7614.1	Solvent to purge Lines + Clean tank			
1-4-88	172059.1 500	7114.1				
1-5 X	172113.8 547	6567.1		47# rec	1989	
1-6 X	172165.0 512	6055.1		12# rec		
1-7 X	172215.0 500	5555.1				
1-9 X	172266.7 517	5038.1		17# Clean		
ADJ	172266.7	5612.6	28"	844 gal		
1-10 x	172349.0 823	4789.6		323# rec		
1-[illegible] x	172399.0 500	4289.6				

1988

SOLVENT BLEND FOR SILICONE

OLD SOUTH LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
10-25	169068.9	6433.6				
10-25 x	169118.9 500	5933.6				
10-26 x	169232.5 1136	4797.6	2 batch	136# rec.		
10-27 x	169310.0 775	4022.6		275# rec.		
10-28 x	169360.0 500	3522.6				
10-31 x	169473.5 1135	2387.6	2 batch	135# rec		
11-1 x	169523.5 500	1887.6				
11-1	169523.5	12196.1	55	1834		
11-1 x	169593.5 700	11496.1		200# rec		
11-3 x	169721.0 1275	10221.1	2 batch	275# rec		
11-4 x	169771.0 500	9721.1				
11-4 X	169816.0 450	9271.1		250# rec	200 purge	Sal
11-7 X	169879.8 648	8623.1		145# rec		
11-8 X	169929.8 500	8123.1				
11-9 X	169979.8 500	7623.1				
11-10 X	170068.3 885	6738.1	1 Batch at South End + 350# added to 150# in a drum at the North end for a batch at North end.			35# clean
11-11 X	170145.8 775	5963.1		275# rec		
11-11 X	170195.8 500	5463.1				
11-14 X	170251.8 560	4903.1				
11-15 x	170303.3 515	4388.1		15# rec		
11-16 X	170353.3 500	3888.1				
11-17 X	170408.3 550	3338.1		50# rec		
11-18 X	170508.3 1000	2338.1	2 BATCHES			
11-21 X	170647.3 390	1948.1		390# rec.		
11-22 x	170600.9 536	1412.1	1 BATCH			
11-22	170600.9	11610.9	52	1746	11/22/88	1500
11-22 x	170650.9 500	11110.9				
11-5 X	170715.8 649	10461.9		149# clean		
[illegible]	170817.4 1016	[illegible]	2 batch	16# clean		

1988

SOLVENT BLEND FOR SILICONE

SOUTH OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
9-20	167429.4		12361.1				
9-21 X	167493.9	645	11716.1		145# rec		
9-21 X	167543.9	500	11216.1				
9-22 X	167625.9	820	10396.1		320# rec		
9-23 X	167711.0	851	9545.1		351# rec		
9-26 X	167764.9	539	9006.1		39# rec		
9-27 X	167844.9	800	8206.1		300# rec		
9-27 X	167894.9	500	7706.1				
9-28 X	167944.9	500	7206.1				
9-29 X	168002.4	575	6631.1				
9-30 X	168052.4	500	6131.1				
10-1 X	168102.4	500	5631.1				
10-3 X	168152.4	500	5131.1				
10-5 X	168308.5	1561	3570.1	2 batches	61# rec		
10-6 X	168358.5	500	3070.1	19	49#		
10-7	168358.5		13353.2	64	2000	10/7/88	1500
10-10 X	168408.5	500	12853.2				
10-11 X	168458.5	500	12353.2				
10-12 X	168583.5	1250	11103.2	2 batch	250# rec.		
10-13 X	168670.0	865	10238.2	1 batch	365# rec.		
10-14 X	168730.0	600	9638.2		100# rec		
10-17 X	168783.0	530	9108.2	1 batch	30# cleaning		
10-18 X	168833.0	500	8608.2	1 batch			
10-19 X	168883.0	500	8108.2	1 batch			
10-20 X	168941.4	584	7524.2		84# Cleaning		
10-24	168991.4	500	7024.2				
ADJ	168991.4		7208.6	34	108#		
10-24 X	169041.4	500	6708.6				
10-25 X	169068.9	275	6433.6		275# rec.		

1988

SOLVENT BLEND FOR SILICONE

SOUTH OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
8-17	165471.1		11398.1				
8-18X	165629.2	1581	9817.1	3batches @ 500# batch		91 rec	
8-19X	165729.2	1000	8817.1	2batches			
8-22X	165829.2	1000	7817.1				
8-23X	165838.2	590	7227.1			90# rec	
8-24X	166023.0	1348	5879.1	2batches		348# rec	
8-26X	166074.5	515	5364.1			15# clean	
8-29X	166144.6	701	4663.1	1batch		201# rec	
8-29X	166194.6	500	4163.1				
8-29X	166244.6	500	3663.1				
8-30X	166299.6	550	3113.1				
8-31	166299.6		13220.2	62	1988	8/31/88	1500
9-1 X	166402.1	1075	12145.2	2batch		25# rec.	
9-2 X	166505.1	1030	11115.2	2batch		30# rec	
9-6X	166565.1	600	10515.2				
9-6X	166615.1	500	10015.2				
9-7 X	166665.1	500	9515.2				
9-7 X	166715.1	500	9015.2				
9-8 X	166815.1	1000	8015.2	2batch			
9-9 X	166865.1	500	7515.2				
9-12X	166915.1	500	7015.2				
9-14X	167067.4	1523	5492.2	3batchs	850	23# rec	
9-15X	167117.4	1040	4052.2	40# 2 clean totes			
9-16X	167278.6	1072	2980.0	2batch		72# rec	
9-19X	167329.4	508	2472.0	1batch		8# Cleaning	
9-19X	167379.4	500	1972.0				
9-20	167379.4		12861.1	59	1934	9/20	1500
9-20X	167429.4	500	12361.1				

1988

SOLVENT BLEND FOR SILICONE

SOUTH OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
7-20	163736.3	7834.3				
7.20 X	163786.3 500	7334.3				
7-21 X	163836.3 500	6834.3				
7-22 X	163886.3 500	6334.3				
7-25 x	163944.2 579	5755.3			79# Cleaning	
7-26 x	163994.2 500	5255.3				
7-27 x	164094.2 1000	4255.3	2 batch			
7-28 X	164145.9 517	3738.3			17 clean	
7-29 X	164245.9 1000	2738.3	2 batch			
7-30 x	164295.9 500	2238.3				
8-1 X	164374.5 786	1452.3			286# rec	
8-1	164374.5	12009.9	54	18 ct	8/1/88	
8-2 X	164535.4 1609	10400.9	3 batch's		109# rec	
8-3 X	164588.9 535	9865.9			35# rec.	
8-3 X	164663.9 750	9115.9			250# rec.	
8-4 X	164766.0 1021	8094.9			21# rec	
8-5 X	164816.0 500	7594.9				
8-8 X	164878.6 626	6968.9	To CLEAN	TOOLS		
8-8 x	164881.1 25	6943.9	" "	"		
8-8 x	164964.7 836	6107.9			336# rec	
8-8 x	165014.7 500	5607.9				
8-9 X	165064.7 500	5107.9				
8-10 X	165116.9 522	4585.9			22# rec	
8-10 X	165169.1 522	4063.9				
8-12 X	165219.1 500	3563.9	ORDER SOLVENT BLEND	8/15		
8-15 x	165284.1 650	2913.9			150# rec	
8-16 X	165368.6 845	2068.9			345# rec	
8-16 X	165421.1 525	1543.9			25# rec	
8-17 X	165471.1 500	1043.9	10" (1330)			
8-17	165471.1	11398.1	51"	1714		

1988

SOLVENT BLEND FOR SILICONE

OLD L[illegible]

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
6-21	162321.5	4667.1				
6-22X	162383.7 622	4047.1	1 batch			
6-23X	162483.7 1000	3047.1	1 batch +	500# in drums	122# rec	
6-23	162453.7	13300.0	63	2000	6/23	1500
6-23X	162523.7 400	12300.0			30# rec.	
6-23X	162573.7 500	11800.0	1 batch		100# mire drum cut	
6-24	162578.0 43			43 rec.	so they could get	
6-27	162578.0	12382.3	56	1862	the tank filled.	
7-5X	162634.2 562	11820.3	2		(IN DRUMS)	
7-6X	162724.2 900	10920.3	2			
7-7X	162824.2 1000	9920.3	2			
7-8X	162924.2 1000	8920.3	2			
7-11X	162975.2 510	8410.3			10# (PAN)	
7-11X	163025.2 500	7910.3				
7-12X	163125.2 1000	6910.3	2			
7-13X	163180.5 553	6357.3	32"		53# rec	
7-13X	163231.5 510	5857.3			10# rec	
7-14X	163281.5 500	5357.3				
7-14	163281.5	12382.3	56	1862	7/14/88	1000
7-14X	163331.5 500	11882.3				
7-15X	163381.5 500	11382.3				
7-15X	163431.5 500	10882.3				
7-16X	163481.5 500	10382.5				
7-18X	163531.5 500	9882.3				
7-18X	163581.5 500	9382.3				
7-19X	163631.5 500	8882.3				
7-19X	163681.5 500	8382.3				
7-20X	163736.3 548	7834.3			48# Cleaning	

1988

SOLVENT BLEND FOR SILICONE OID LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
5-26	160623.5	4922.3				
5-27 X	160723.5 1000	3922.3				
5-31 X	160851.0 1275	2647.3	2 batch		275# rec	
6-1 X	160901.0 500	2147.3				
6-1	160901.0	11823.7	53	1778	6/1/88	1500
6-1 X	160955.2 542	11281.7			42# rec	
6-1 X	161005.2 500	10781.7				
6-2 X	161105.2 1000	9781.7				
6-3 X	161155.2 500	9281.7				
6-3 X	161205.2 500	8781.7				
6-6 X	161319.0 1138	7643.7	2 batch		138# rec	
6-7 X	161399.0 800	6843.7	1 batch		300# rec	
6-7 X	161449.0 500	6343.7				
6-8 X	161499.0 500	5843.7				
	161499.0	12861.1	59	1934	6/8/88	1000
6-8 X	161551.5 525	12361.1				
6-9 X	161630.5 790	11571.1			290# rec	
6-9 X	161684.7 542	11029.1			42# rec	
6-10 X	161734.7 500	10529.1				
6-13 X	161787.7 530	9999.1			30# rec	
6-14 X	161837.7 500	9499.1				
6-15 X	161920.7 830	8669.1			333# rec	
6-15 X	161970.7 500	8169.1				
6-16 X	162071.5 1008	7169.1	2 batch		8# rec.	
6-17 X	162121.5 500	6669.1				
6-17 X	162171.5 500	6169.1				
6-20 X	162221.5 500	5669.1				
6-21 X	162321.5 1000	4669.1				

1988

SOLVENT BLEND FOR SILICONE OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
4-22	158953.8		11046.7				
4-26 x	159003.8	500	10546.7				
4-27 x	159054.7	509	10037.7		9# cleaning	START Ferro	PAINT
4-28 x	159104.7	500	9537.7				
4-29 x	159154.8	501	9036.7				
5-2 x	159205.8	510	8526.7				
5-3 x	159255.8	500	8026.7				
5-5 x	159305.8	500	7526.7				
5-5 x	159335.8	300	7226.7			300# rec	
5-6 X	159438.8	1030	6196.7	2batch			
5-9 x	159488.8	500	5696.7				
5-10 x	159549.3	605	5091.7			105# rec	
5-11 x	159603.5	542	4549.7			42 clean	
5-11 x	159653.5	500	4049.7				
5-12 x	159703.5	500	3549.7				
5-13 x	159755.2	523	3026.7			23# rec.	
5-16 X	159805.2	500	2526.7				
5-17 x	159877.6	724	1802.7			224 rec	
5-17	159877.6		12382.3	56	1862	5/17	1500
5-18 x	159977.6	1000	11382.3	2batch			
5-19 x	160077.6	1000	10382.3	2 batch			
5-20 X	160183.6	1060	9322.3				
5-23 X	160288.6	1050	8272.3	2batch		50# rec.	
5-24 x	160392.6	1040	7232.3			40# rec.	
5-25 x	160462.6	700	6532.3			200# rec.	
5-25 x	160512.5	500	6032.3				
5-26 X	160623.5	1110	4922.3	2batch		110# rec	

1988

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
3-14	157354.1	9160.7		1360		
3-14 x	157473.6 795	8365.7			295# rec	
3-15 x	157529.4 558	7807.7			50# rec	
3-17 x	157629.4 1000	6807.7	2 batch			
3-18 x	157679.4 500	6307.7				
3-21 x	157729.4 500	5807.7				
3-22 x	157787.4 580	5227.7			8# rec	
3-23 x	157837.4 500	4727.7				
3-23	157937.4	11827.3	53	1778	3/23/88	1000
3-24 x	157887.4 500	11327.3				
3-28 x	157968.0 806	10521.3			306# rec	
3-29 x	158018.0 500	10021.3				
3-30 x	158068.0 500	9521.3				
3-31 x	158118.0 500	9021.3				
4-5 x	158220.0 1020	8001.3	2 batch		20# rec	
4-5 x	158290.0 700	7301.3	1 batch		200# rec	
4-6 x	158340.0 500	6801.3				
4-7 x	158390.0 500	6301.3				
4-8 x	158463.0 730	5571.3			230# rec	
4-12 x	158567.7 1047	4524.3	2 batch		47# rec	
4-13 x	158696.7 1290	3234.3	2 batch		290 rec	
4-15 x	158746.7 500	2734.3				
4-15	158746.7	13117.7	61	1972	4/15/88	1500
4-20 x	158853.8 1071	12046.7	2 batch		71# rec.	
4-21 x	158903.8 500	11546.7				
4-22 x	158953.8 500	11046.7				

1988

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
2-5	155913.0		6395.0				
2-8 x	155963.0	500					
2-9	155963.0		13117.7	61	1972	2/9/88	1000
2-9 x	156015.0	520	12597.7				
2-10 x	156065.0	500	12097.7				
2-11 x	156123.3	583	11514.7			23# ?	
2-12 x	156173.3	500	11014.7				
2-15 x	156226.3	530	10484.7				
2-16 x	156276.3	500	9984.7				
2-17 x	156331.8	555	9429.7			55# CLEAN	
2-18 x	156381.8	500	8929.7				
2-19 X	156431.8	500	8429.7				
2-22 x	156506.8	750	7679.7			250# rec. x	
2-24 X	156609.3	1025	6654.7			25# rec	
2-25 X	156677.5	682	5972.7	good		182# rec	
2-26 X	156727.5	500	5472.7				
2-29 X	156796.6	691	4781.7			191# rec	
2-29 X	156852.6	560	4221.7			10# rec	
3-1	156852.6	ADJ	4563.3	24	686		
3-1 X	156902.6	500	4063.3				
3-2 x	157005.6	1030	3033.3		30# Cleaning		
3-3 X	157056	500	2533.3				
3-3	157055.6		12545.7	57	1886	3/3/88	1500
3-4 X	157105.6	500	12045.7				
3-7 x	157155.6	500	11545.7				
3-9 x	157255.6	1000	10545.7				
3-10 x	157289.1	335	10210.7			355# rec	
3-10 x	157339.1	500	9710.7				
[illegible]-11 x	157394.1	550	9160.7			50# rec	

1988

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
1-6-88	154212.1		12865.0	59	1934	1/6/88	1500
1-6 x	154218.1	60	12859.0			60# rec.	
1-7 x	154270.0	519	12340.0			19# clean	
1-7 x	154297.5	275	12065.0			275# rec	
1-8 x	154347.5	500	11565.0				
1-12 x	154447.5	1000	10565.0	2batch			
1-13 x	154512.0	645	9920.0			145# rec	
1-13 x	154632.0	1200	8720.0	2batch		200# rec	
1-14 x	154682.0	500	8220.0				
1-15 x	154732.0	500	7720.0				
1-18 x	154791.5	631	7089.0			131# rec	
1-19 x	154841.5	500	6589.0				
1-20 x	154891.5	500	6089.0				
1-20 x	154967.5	760	5329.0			260# rec	
1-21 x	155095.0	1275	4054.0	2batch		275# rec	
1-22 x	155145.0	500	3554.0				
1-25 x	155199.0	540	3014.0			40# clean	
1-26 x	155252.7	537	2477.0			37# clean	
1-27	155252.7		12998.0	60	1954	1/27/88	1500
1-27 x	155303.7	510	12488.0				
1-27 x	155353.7	500	11988.0				
1-28 x	155453.7	1000	10988.0				
1-29 x	155503.7	500	10488.0				
2-1 x	155557.0	533	9955.0			33# clean	
2-1 x	155607.0	500	9455.0	42	1398		
2-2 x	155709.5	1025	8430.0	2batch		25# clean	
2-3 x	155759.5	500	7930.0				
2-4 x	155859.5	1000	6930.0	32"			
2-5	155863.0						
2-5 x	155913.0	535	6395.0				

1987

SOLVENT BLEND FOR SILICONE

1987 OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
12-8-87	152568.7		8468.2				
12-8 x	152617.8	500	7968.2				
12-9 x	152667.8	500	7468.2				
12-9 x	152717.8	500	6968.2				
12-10 x	152767.8	500	6468.2				
12-11 x	152869.2	1014	5454.2	2 batch	1 batch No pmt.	14# clean	
12-12 x	152919.2	500	4954.2				
12-14 x	152998.2	790	4164.2			290# rec	
12-15 x	153048.8	560	3604.2			60# rec	
12-16 x	153192.7	739	2865.2			239# rec	
12-16 x	153172.7	500	2365.2				
12-17 x	153222.7	500	1865.2				
12-17	153222.7		12386.0	56	1862	12/17/87	1500
12-17 x	153287.7	650	11736.0	1 batch		150# rec	
12-18 x	153337.7	500	11236.0				
12-21 x	153387.7	500	10736.0				
12-21 x	153437.7	500	10236.0				
12-22 X	153487.7	500	9736.0				
12-22 X	153537.7	500	9236.0				
12-23 x	153587.7	500	8736.0				
12-23 X	153662.7	750	7986.0				
12-28 x	153718.9	562	7424.0			62# Cleaning	
12-28 X	153768.0	(500)	6924.0				
12-29 X	153819.0	500	6424.0				
12-29 X	153869.0	500	5924.0				
12-30 x	1539190	500	5424.0				
1-4 X	154027.0	1080	4344.0			80# clean	1988
1-5 x	154159.4	1324	3020.0	1 batch North, 1 batch South		324 rec.	
[illegible] x	154212.1	527	2493.0			27# rec	

1987

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
11-10	151290.1		6881.7				
11-11 X	151340.1	500	5881.7				
11-11 X	151390.1	500	5381.7		37 barrells	pnt. Left	
11-12 X	151440.1	500	4881.7				
11-13 X	151492.1	520	4361.7			20# CLEAN	
11-13 X	151609.1	1150	3211.7	IN drums, There will be 1 batch		made from this	Solv. on 11/13
11-13	151607.1		13357.2	64	2008	11/13/87	[redacted] 1350
11-16 X	151622.5	154	13203.2	1 batch 154# + 346# in drums from 11/13			
11-17 X	151672.5	500	12703.2				
11-17 X	151697.5	250	12453.2			250# rec	
11-17 X	151747.5	500	11953.2				
11-18 X	151772.2	247	11706.2	1 batch 247# + 253# in drums from 11/13/87			
11-18 X	151822.2	500	11206.2				
11-19 X	151872.2	500	10706.2				
11-19 X	151922.2	500	10206.2				
11-20 X	151974.6	524	9682.2			34# clean	
11-20 X	152024.6	500	9182.2				
11-24	152024.6	INV	9299.5	42	1398		
11-30 X	152079.8	552				52# clean	
	152079.8		13357.2	64	2000	11/30/87	500
11-30 X	152129.8	500	12857.2				
12-1 X	152179.8	500	12357.2				
12-1 X	152204.8	250	12107.2			250# rec	
12-1 X	152254.8	500	11607.2				
12-2 X	152304.8	500	11107.2				
12-3 X	152409.8	1050	10057.2	2 batch		50# rec'	
12-4 X	152465.8	560	9497.2			60# clean	
12-5 X	152515.8	500	8997.2				
[redacted]-7 X	152568.7	529	8468.2			29# clean	

1987

SOLVENT BLEND FOR SILICONE

old line

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
10-13	149501.3		3522.5				
10-14 x	149557.3	510	3012.5				
10-15 x	149607.3	500	2512.5				
10-15	149607.3		13117.7	61	1972	10/15/87	1500
10-16 x	149852.1	248	10669.7	3 Batches Plus a fuck up of 448#			
10-19 x	149913.4	613	10056.7	1 batch END of Ferro Pot. 113# clean			
10-20 x	150028.5	1151	8905.7	2 batchs	151# clean		
10-21 x	150081.0	525	8405.7				
10-22 x	150131.0	500	7905.7				
10-22 x	150181.0	500	7405.7				
10-23 x	150231.0	500	6905.7				
10-26 X	150337.0	1060	5845.7		60# clean		
10-27 X	150492.0	1550	4295.7	3 batches	50# clean		
10-30 x	150544.6	1026	3269.7	2 Batches			
11-2 x	150646.0	1014	2255.7	2 batch			
11-2	150666.0	200				200# rec.	
11-2	150666.0		13117.7	61	1972	11/2/87	1500
11-3 X	150716.1	501	12616.7				
11-3 X	150796.1	800	11816.7	1 batch		300# rec.	
11-4 x	150846.1	500	11316.7				
11-4 x	150896.1	500	10816.7				
11-4 x	150901.6	55	10766.7				
11-5 x	150951.6	500	9766.7				
11-6 x	151001.6	500	9266.7				
11-6 x	151051.6	500	8766.7				
11-9 X	151107.6	560	8206.7	1 batch		60# rec.	
11-9 X	151157.6	500	7706.7				
11-[illegible] x	151210.1	525	7181.7			25# clean	
[illegible] x	151290.1	800	6381.7		250# rec. 50# clean		

1987

SOLVENT BLEND FOR SILICONE

[redacted] LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
9-11	147559.4		12804.0				
9-14 x	147579.4	200	12604.0	plus 300# drawn out on		9-11/87 batch	
9-14 x	147629.4	500	12104.0				
9-15 x	147744.4	1150	10954.0	2 batch		150# rec	
9-16 x	147844.4	1000	9954.0				
9-17 x	147951.4	1070	8884.0	2 batch		70# rec	
9-18 x	148001.4	500	8384.0				
9-18 x	148051.4	500	7834.0			[redacted]	
9-21 x	148101.4	500	7134.0	1 batch			
9-22 x	148154.7	533	6601.0			33# clean	
9-23 x	148204.7	500	6101.0				
9-23 x	148254.7	500	5601.0				
9-24 x	148374.7	1200	4401.0	2 batch		200# rec	
9-25 x	148506.7	1320	3081.0	2 batch		275# rec	45# clean
9-26	148506.7		3312.7	19"	498 gal		
9-28 x	148562.2	555	2757.7			25# rec	20# clean
9-29 x	148638.6	764	1993.7	1 batch		264# rec	
9-29	148638.6		1199.8	55	1834	[redacted] 9/29	1500
9-29 x	148688.6	500	11699.5				
10-1 x	148847.6	1590	10109.5	3 batch		90# clean	
10-1 x	148897.6	500	9609.5				
10-1 x	148947.6	500	9109.5				
10-5 x	149047.6	1000	8109.5	2 batch			
10-6 x	149149.6	1020	7089.5	2 batch			
10-8 x	149303.8	1542	5547.5	3 batch		42# clean	
10-9 x	149353.8	500	5047.5				
10-12 x	149403.8	500	4547.5				
10-12 x	149453.8	500	4047.5				
[redacted]13	149506.3	525	3522.5			25# clean	

1987

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
8-17	145794.8		7254.5				
8-18 x	145844.8	500	6784.5				
8-18 x	145917.3	725	6059.5			225# rec	
8-19 x	146022.5	1052	5007.5		2 batch	30# rec	22# clean
8-19	146022.5		11401.5	51	1714	8-19	1000
8-19 x	146072.5	500	10901.5				
8-20 x	146194.0	1215	9686.5		2 batch	200# purge drum	15# clean
8-21 x	146294.0	1000	8686.5				
8-24 x	146345.0	510	8176.5				
8-25 x	146395.0	500	7676.5				
8-26 x	146498.7	1037	6639.5	2 batch		37# clean	
8-26 x	146521.2	225	6414.5			225# rec	
8-27 x	146577.1	559	5855.5	1 batch		40# rec	19# clean
8-27 x	146627.1	500	5355.5				
8-28 x	146699.6	725	4630.5			225# perlam	
8-31 x	146762.7	631	3999.5	1 batch		115# perlam	16# clean
8-31 x	146812.7	500	3499.5				
9-1 x	146912.7	1000	2499.5	2 batch			
9-2 x	146962.7	500	1999.5				
9-2	146962.7		12013.5	54	1806	9/2	1500
9-3 x	147093.5	1308	10705.5	2 batch		290# rec	18# clean
9-4 x	147168.5	500	9955.5	1 batch			
9-8 x	147307.9	2144	8811.5	3 batch			144 cleaning purge
9-9 x	147377.9	700	8111.5			200# rec	
9-11 +	147479.4	1015		2 batch		16# rec	
	147479.4		13304.0	63	2000	9/11/87	
9-11 +	147559.4	800		1 batch + 300# in drum to make room in TANK			

1987

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
7-21	143398.6		9890.5				
7-22 x	143500.1	1015	8875.5	2BATCHES			
7-23 x	143650.1	1500	7375.5	3 Batches			
7-24 x	143750.1	1000	6375.5	2Batch			
7-27 x	1439000	1499	4876.5	3 batch			
7-28 x	144002.6	1026	3850.5	2batch			
7-29 x	144126.2	1236	2614.5			225# rec	
7-30 x	144286.0	1598	1016.5	3 batch		106# CLEAN	
7-31 X	144336.0	500	516.5				
7-31	144336.0		11188.7	50	1682	7/31/87	1500
7-31 X	144386.0	500	10688.7				
8-3 X	144497.6	1116	9572.7	2 batch		116# CLEAN	
8-4 X	144649.2	1516	8056.7	3 batch		16# CLEAN	
8-5 X	144699.2	500	7556.7	34			
8-5 X	144749.2	500	7056.7				
8-6 X	144899.2	1500	5556.7		3 batches		
8-7 X	144949.2	500	5056.7				
8-7 X	144999.2	500	4556.7				
8-10 X	145049.2	500	4056.7	22"	610		
8-10 X	145099.2	500	3556.7				
8-11 X	145226.7	1275	2281.7	14"		2batches 275# rec	
8-12 X	1453334	1067	1214.7	9" 2batch		27# CLEAN	40#
8-12 X	145383.4	500	714	6"			
8-12	145383.4	ADJ.	11401.5	51"	1714	8-12-87	
8-13 X	145433.4	500	10901.5				
8-14 X	145569.6	1362	9539.5		2batch	31.2# rec.	
8-17 X	145689.6	1203	8336.5			203# rec.	
8-17 X	145794.8	1052	7284.5		2batch	52# CLEAN	

1987

SOLVENT BLEND FOR SILICONE Old line

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
6-16 87	140685.2	6283.6				
6-17 x	140735.2 500	5783.6				
6-17 x	140785.2 500	5283.6				
6-19 x	141064.6 2794	2489.6	5 bAtches		274# Cleanning	
6-22 x	141170-6 1060	1429.6				
6-22	141170.6	11614.4	52	1746	6/22/87	1500 gal
6-23 X	141273-1 1025	10589.4	2 BATCHES			
6-24 X	141375-0 1019	9570.4	2 Batches			
6-25 X	141477-5 1025	8545.4	2 Batches			
6-26 X	141579-0 1015	7530.4	2 Batches			
6-29 x	141635-0	6970.4				
6-30	141845.5 2105	4865.4	4 batches		105# clean	
7-1 x	141945.5 x1000	3865.4				
7-2 x	142045.5 x1000	2865.4				
7-6	142045.5	13117.7	61	1972	7/6/87	1500
7-6 x	142152.7 1072	12045.7	2 bAt.		72# rec	
7-7 x	142304.7 1520	10525.7	3 bAtches		20# rec	
7-8 x	142407.7 1030	9495.7	2 bAtch			
7-9 x	142660.8 2531	6964.7	5 bAtches			
7-10 x	142720.8 600	6364.7	1 Batch	100# Cleanning		
7-13 x	142820.8 1000	5364.7				
7-14 x	142921.8 1010	4354.7	2 bAtch			
7-15 x	143023.1 1013	3341.7	2 bAtch			
7-17 x	143186.3 1632	1709.7	3 BATCHES			
7-20	143186.3	120135.	54	1806	7/20/87	1500
7-20 x	143298.6 1123	10890.5	2 BATCHES			
7-21 x	143398.6 1000	9890.5	2 bAtch			

1986 SOLVENT BLEND FOR SILICONE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
ADJ 10-24	128703.3		11009.0				
10-27 X	128848.0	1447	9562.0.	2 batch	250 rec	11# clean	
10-28 X	128912.8	648	8914.0		50# rec	30# clean	
10-29 X	129053.9	1411	7503.0		275# rec		
10-30 X	129137.5	836	6667.0		250# rec	18# clean	
ADJ	129137.5		13357.2	64	2008	10/31/86	1000
10-31 X	129197.6	601	12756.2			33# clean	
11-3 X	129259.4	618	12138.2		50# rec		
11-4 X	129353.0	936	11202.2		300# rec	18# clean	
11-6 X	129474.6	1216	9986.2	2 batch		80# clean	
11-8	129534.6	600	9386.2	3 drum purge			
11-7 X	129675.8	1412	7974.2	2 batch	215# rec		
11-10 X	129735.4	596	7378.2			28# clean	
11-11 X	129827.2	918	6460.2		60# rec	250# rec	40# clean
11-12	129834.2	70	13357.2	64	2008	11/12/86	1004
11-13 X	129842.0	578	12779.2				
11-17 X	129954.2	622	12157.2			54# clean	
11-18 X	130011.0	568	11589.2				
11-19 X	130067.8	568	11021.2	END of	Hardcote		
11-19 X	130117.8	500	10521.2				
11-20 X	130193.7	759	9762.2		200 rec	59# clean	

1986

SOLVENT BLEND FOR SILICONE

OLD Line

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
9-22	126716.1	10237.0				
9-23	126782.5 664	9573.0			50# rec	46# clean
9-23	126864.2 817	8756.0			250# rec	
9-24	126921.1 569	8187.0				
9-29	127010.3 892	7295.0			250 purge barrel	74# ch
9-30	127067.1 568	6727.0				
10-1	127183.7 1166	5561.0			30# clean	
10-2	127240.5 568					
10-2		11827.3	53	1778	10-2-86	1000
10-2	127297.3 568	11259.3				
10-3	127411.5 1142	10117.3	2 batches		5# jeff rec	
10-6	127528.1 1166	8951.3	2 batches		30# clean	
10-7	127659.2 1311	7640.3	2 batch		175# rec	
10-9	127716.0 568	7072.3	1 batch			
10-10	127772.8 568	6504.3				
10-13	127912.0 1452	5052.3	2 batch	250# rec	61# clean	
10-14	127991.5 735	4317.3	1 batch	167# clean		
ADJ.	127991.5	11188.7	50	1682	10/14/86	1000
10-14	128016.6 251	10937.7		rec. 250#		
10-15	128133.8 1172	9765.7	2 batch	25# rec	10# clean	
10-16	128267.5 1337	8428.7	2 batch	200 rec.		
10-17	128381.2 1137	7291.7	2 batch			
10-20	128444.7 635	6656.7		35 rec	22# clean	
10-21	128504.4 597	6059.7				
ADJ	128504.4	12998.0	60	1954	10/21/86	1000
10-22	128587.2 828	12170.0		260 Rec		
10-23	128645.2 580	11590.0		12 clean		
10-24	128703.3 581	11009.0		23# clean		

1986

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
[illegible]	[illegible]	11412.6				
8-22	124768.1 1725	9687.6	[illegible]			
8-25	124833.0 649	9038.6	1 Batch 81# Cleaning			
8-26	124889.8 568	8470.6				
8-26	124974.1 843	7627.6			275 rec	
8-28	125121.4 1473	6154.6	2 batch		[illegible]	75 clean
8-29	125180.2 588	5566.6	19½ gals. pnt			20 clean
9-2	125239.0 588	4978.6				
9-3	125367.2 1282	3696.6	2 batches 1 HC	1 [illegible]		214# Purge
9-4	125446.6 794	2902.6				225# rec
ADJ	125446.6	9289.5	42	1398	9/4/86	1000
9-5	125621.5 1749	7550.5		2 batches	338 [illegible]	275# rec
9-8	125691.0 695	6855.5			50# clean	75# rec
ADJ	125691.0	12386.0	56	1862	9/9/86	1000
9-9	125854.2 1632	10754.0				300# Rec.
9-10	125911.5 573	10181.0				
9-11	126000.1 886	9295.0	1 batch from outside tank	1 batch from Holding drums		
9-12	126119.7 1196	8099.0	60# clean 2 batches			250# rec
9-15	126182.6 629	7470.0	111# clean		50# rec	68# clean.
9-16	126242-6 600	6870.0				
9-17	126358.2 1156	5714.0	2 Batch			
9-18	126440.0 818	4896.0			250# rec	
9-18	126440	12998.0	60	1954	9/18/86	1000
9-18	126502.4 624	12374.0			56# clean	
9-19	126656.0 1536	10838.0	2 Batches	200# Rec		
9-22	126716.1 601	10237.0			33# clean	
				9-23 50#		

1986

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
7-23	122570.4 ADJ	10412.2				
7-24 X	122632.4 620	9792.2		50# rec		
7-25 X	122689.9 575	9217.2				
7-25 X	122746.8 569	8648.2				
7-28 X	122862.8 1160	7488.2		2 batches	22# clean	
7-29 X	122949.6 868	6620.2		300 rec		
7-29 X	123007.5 579	6041.2		10 clean		
7-30 X	123124.3 1168	4873.2		2 batch 30# clean		
7-31 X	123181.1 568	4305.2				
7-31	123181.1	11188.7	50	1682	7/31/86	1000
8-1 X	123237.9 568	10620.7				
8-4 X	123397.7 1598	9022.7	2 batches	275# rec 190# purge Solv.		
8-5 X	123490.5 928	8094.7		25# rec	300# rec	35 cleaning
8-5 X	123540.5 500	7594.7				
8-6 X	123597.3 568	7026.7				
8-6	123610.8 135	6891.7			75# rec	65 clean
8-6 X	123668.6 578	6313.7				
8-7 X	123725.4 568	5745.7				
8-8 X	123782.2 568	5177.7				
8-8 ADJ	123782.2 ADJ	12013.5	54	1806	8/8/86	1000
8-11 X	123842.0 598	11415.5		30# clean		
8-12 X	123942.8 1008	10407.5		2 batches		
8-13 X	124048.0 1052	9355.5		52# cleaning		
8-14 X	124175 1271	8084.5	2 batches	271# purge		
8-15 X	124225.1 501	7583.5				
8-15 X	124275.0 499	7084.5				64# cleaning
8-18 X	124408.2 1332	5752.5	2 batches, 1 500#	solv. the 2nd 568# Solv. + Hardcote		200# rec
8-[illegible] X	124465.0 568	5184.5				
8-[illegible] X	124595.6 1306	[illegible]			20# clean	[illegible]0# rec
			58	1912	8-19	1000

1986

SOLVENT BLEND FOR SILICONE

OID NC

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
6-24	120745.8		7202.7	2 Batches			
6-25	120859.4	1136	7066.7		150# Rec		
6-26	120931.2	718	6348.7				
6-27	121000.5	693	5655.7		125#		
6-30	121058.0	580	5075.7				
6-30	121[illegible]	ADJ	11827.3	53	1778	6/30/86	1000
6-30	121114.8	568	11259.3				
7-1	121171.6	568	10691.3				
7-1	121230.6	590	10101.3		30# CLEAN		
7-2	121345.0	1144	8957.3	2 batches	[illegible]		
7-2	121372.5	275	8682.3		Reclaim		
7-3	121442.3	698	7984.3		100# rec	30# cleaning	
7-7	121558.2	1159	6825.3	2 batches		23# CLEAN	
7-8	121696.9	1387	5438.3	2 batches	250# Rec.		
7-9	121753.9	570	4868.3	before solvent refill			
7-9	121753.9	ADJ	11614.4	52	1741	7/9/86	1000
7-10	121770.8	169	11445.4	1st batch made with purge Solv. +169# CLEAN Solv. 3 bags Flak			
7-10	121881.4	1106	10339.4	2nd batch 60# into rec batch on 7/8		150# Rec today, 225# purge drum	
7-11	121938.2	568	9771.4				103# cleaning
7-15	1220245	863	8908.4		50# rec		The End
7-16	122171.6	1475	7433.4	2 batch	275# rec. 50# rec	14# clean	
7-17	122232.4	608	6825.4		25# rec	15# cleanning	
7-18	122289.2	568	6257.4				
7-18	122289.2		13224.2	62	1988	7/18/86	1000
7-21	122346.0	568	12656.2				
7-21	122402.8	568	12088.2				
7-22	122487.6	848	11240.2		250 Rec	[illegible]	
7-23	122570.4	828	10412.2		50# rec	200# Rec	[illegible]

1986

SOLVENT BLEND FOR SILICONE

old line

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
5-29	119054.8		11243.0				
5-30	119111.6	56.8	10675.0				
6-3	119158.1	465	10210.6 Batch, 5 bags flake made with purge			Solv. 465# To fill two new purge dr	
6-4	119214.9	568	9642.0				
6-4	119274.7	598	9044.0				
6-5	119331.5	568	8476.0				
6-6	119404.7	732	7744.0		150# rec	14# cleaning	
6-9	119465.3	606	7138.0				
6-9	119542.1	768	6370.0		200# rec		
6-10	119599.9	578	5792.0				
6-10	119599.9		12545.7	57	1886	6/10/86	1000
6-11	119713.5	1136	11409.7		2-Batch		
6-12	119772.6	591	10818.7				
6-12	119857.4	848	9970.7		280# rec		
6-13	119924.4	670	9300.7		50# rec	50# cleaning	
6-16	119981.2	568	8732.7				
6-16	120037.8	566	8166.7				
6-16	120056.3	185	7981.7		175# rec		
6-17	120177.9	1216	6765.7	2 batches	25#	55 cleaning	
6-18	120254.7	768	5997.7		200# purge barrel		
6-19	120311.5	568	5429.7				
6-19	120311.5		12545.7	56 1/2	1886	6/19/86	1000
6-19	120390.8	793	11752.7		225# rec		
6-20	120510.9	1201	10551.7	2 batches	50# rec	3# cleaning	
6-20	120535.8	249	10302.7	Cleaning			
6-23	120605.2	694	9608.7		125# rec		
6-24	120745.8	1406	8202.7	2 Batches	215	55# cleaning	

1986

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
4-24	117263.3		11614.4	52	1746	4/24	1000
4-25	117352.1	888	10726.4			300# rec	
4-28	117416.8	647	10079.4				
4-30	117535.4	1187	8892.4			(2 Rec)	
4-30	117560.4	250	8642.4			250# Rec.	
4-30	117612.2	568	8074.4				
5-1	117679.0	618	7456.4			50# rec	
5-2	117742.3	633	6823.4				
5-5	117822.4	801	6022.4			225# Rec	
5-5	117822.4		13224.2	62	1788	5-5-86	1000
5-6	117898.1	757	12467.8			175# recd	
5-7	117961.4	633	11834.8			30# rec	
5-8	118019.9	585	11249.8				
5-9	118077.5	576	10673.8				
5-12	118154.4	769	9904.8			200# rec	
5-13	118268.8	1144	8760.8		2 batches		
5-14	118330.2	614	8146.8				
5-15	118405.0	748	7398.8			175# rec	
5-16	118481.0	760	6638.8			125# rec	17# clean
5-19	118537.8	568	6070.8				
5-21	118596.0	582	5488.8			14# rec	
5-22	118734	1380	4108.8		2 batches	250# purge barrell	
5-23	118814.3	803	3305.8			225 rec	
5-27	118872.1	578	2727.8				
5-28	118940.5	684	2043.8	[illegible] refill		116 cleaning	
5-29	118940.5		12386.0	56	1862	5-28-86	1500
5-29	118998.0	575	11811.0				
5-29	119054.8	568	11243.0				

1986

SOLVENT BLEND FOR SILICONE

OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
3-31 HX	115722.5	568	5951.3				
3-31	115722.5		13357.2	64	2008	3/31/86	1076
4-1 HX	115806.9	844	12513.2		275# rec		
4-2 HX	115868.2	613	11900.2		25# rec		
4-2 HX	115925.0	568	11332.2				
4-3 HX	116009.3	843	10489.2		275# rec		
4-4 HX	116067.1	578	9911.2				
4-7 HX	116125.8	587	9324.2				
4-8 HX	116183.5	577	8747.2				
4-8 HX	116260.3	768	7979.2		200# rec		
4-9 HX	116336.4	761	7218.2		90# rec		
4-10 HX	116438.4	1020	6198.2		390# rec		
4-11 HC	116570.8	1324	4874.2		750# 3 purge drums		
4-14	116580.0		11827.3	53	1778	4/14	1000
4-14 HX	116580.0	92	11735.3		476# old purge solv. used for this mix		
4-15 HX	116667.8	878	10857.3		275# rec		
4-15 HX	116749.7	819	10038.3		250# rec		
4-16 HX	116812	623	9415.3		50# rec		
4-17 HX	116868.8	568	8847.3				
4-18 HX	116926.6	568	8279.3				
4-21 HX	116984.2	576	7703.3				
4-21 ADJ	116984.2		7749.6	36	1165		
4-21 HX	117041.0	568	7181.6				
4-22 HX	117141.5	1005	6176.6		2 batches rec. 200# each		
4-23 HX	117206.3	648	5528.6		75# Rec		
4-24 HX	117263.3	570	4958.6				
4-24	117263.3	ADJ	11614.4	52	1746	4/24	1000

1986 SOLVENT BLEND FOR SILICONE OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
2-28	114170.5		7648.5				
2-28 HX	114227.4	569	7079.5				
2-28 HX	114299.1	719	6362.5		150# rec		
3-3 x	114349.1	500	5794.5				
3-3	114349.1		12718.6	58.5	1912	3/3/86	1000
3-3 x	114402.1	530	12188.6				
3-3 x	114454.4	523	11665.6				
3-4 x	114504.4	500	11165.6				
3-5 X	114555.0	510	10655.6				
3-10 HX	114659.9	1049	9606.5		568# solvent for batch	275# rec	
3-11 HX	114724.2	643	8963.5			75# rec	
3-12 HX	114802.0	778	8185.5			200# rec	
3-13 HX	114873.3	713	7472.5			100# rec	
3-14 HX	114930.1	568	6904.5				
3-14 +	114957.1	270	6634.5			250# Rec	
3-17 HX	115014.4	573	6061.5				
3-17 HX	115071.2	568	5493.5				END of the 4 drums of H.C. delivered 2-2
3-18	115071.2		12995.0	60	1954	3/18/86	1000
3-18 HX	115158.5	873	12125.0			250# Rec 50#	
3-19 HX	115220.3	618	11507.0			50# Rec	
3-20 HX	115277.1	568	10939.0				
3-21 HX	115337.4	603	10336.0				
3-21 X	115362.4	250	9586.0			250# rec	
3-24	115362.4	ADJ	9552.3	43	1436		
3-25 HX	115476.0	2 Batches 1136	8416.3	[illegible]	[illegible]		
3-26 HX	115589.6	1136	7280.3		300# in drum, will use 3-27 to make batch	100 rec	88# for cleaning
3-27 HX	115665.7	2 batches 761	6519.3		1886 plus the above to make 1 batch		

1986 SOLVENT BLEND FOR SILICONE OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
1-31	112632.2		9552.3	43	1436	1/31/86	1000
	112712.2	80	9472.3	PURGE SOLVENT			
2-3 HC	112745.5	333	9139.3		250# rec	mix made with purge solu. 4 bag fl	
2-4 HC	112870.7	1252	7887.3		75# rec	2 batches	
2-5 HC	112955.0	843	7044.3		275# rec		
2-6 HC	113012.7	577	6467.3				
2-7 HC	113070.4	580	5887.3				
2-10	113070.4		11827.3	53	1778	2/10/86	1000
2-10 HC	113144.7	743	11084.3		175# rec		
2-11 HC	113226.4	817	10267.3		250# purge barrel		
2-12 HC	113287.7	613	9654.3				
2-12	113312.3	246	9408.3		Cleaning		
2-13	113362.3	500	8908.3				
2-14	113418.8	565	8343.3				
2-14 HC	113481.6	628	7715.3		50# rec		
2-18 HC	113631.8	2 batch 1502	6213.3		300# rec		
2-19 HC	113689.6	578	5635.8				
2-20 HC	113734.0	5 bags 444	5191.3		250# rec	189 LB. + 379 LB. purge solvent	
2-20	113734.0		12013.5	54	1806	2/20/86	1000
2-21 HC	113790.8	568	11445.5				
2-22 HC	113852.6	618	10827.5				
2-24	113902.6	500	10327.5				
2-25	113970.6	680	9647.5		175# rec		
2-26	4 New Drums of HC 1st half of New Drums						
2-26 HC	114027.4	568	9079.5				
2-27 HC	114084.2	568	8511.5				
2-27 HC	114161.0	768	7743.5		200# rec		
2-28	114170.5	95	7648.5				

[redacted]

SILICONE SOLVENT BLEND

LINES 4 & 5

(NORTH TANK)

EKCO

OHD 045 205 424

1990 SOLVENT BLEND FOR SILICONE

NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
7/24	497255		12709.0				
7-24X	498425	1170	11539,0	2 BATCHES	170# Clean		
7-25X	498486	653	11478.0	NOT RESULTS	92# clean 61 B/R		
7-26X	499078	592#	10886.0 1 Batch	B/S	2 Batch B/R	35# Cleaning	
7-27X	499608	530	10356.0 1 Batch	B/S	1 Batch B/R		
7-30X	500108	500	9856.0				
8-2X	500823	715	9141.0	1-batch	85.5 B/R	129.5 clean	
8-3X	501450	627	8514.0	1 batch	79#? 28.5 B/R batch		
8-6X	501950	500	8008.0	27"	1201		
8-7X	502050	100	7908.0	28 1/2# BR mix	71 1/2# clean		
8-8X	502109	590	7318.0	28 1/2# BR mix	61.5# clean		
8-9X	502650	541					
8-9	502650		19777.0	61	2943	8/9/90	1800
8-10X	503150	500	19277.0	1 batch			
8-11X	503462	312	18965.0		300# purge	12# guns	
8-13X	503472	10	18955.0				10# clean
8-14X	504048	576	18379.0	1 batch	76# clean		
8-15X	504558	510	17869.0	1 batch	10# clean		
8-17X	505642	1084	16785.0	2 batch	84# clean		
8-20X	506152	510	16275.0	1 Batch	10# clean		
8-21X	506654	502	15773.0	1 batch	2# clean		
8-22X	507163	509	15264.0	1 Batch	9# Clean		
8-24X	507715	550	14714.0	1 Batch	50# CLEAN		
8-25	508302	589		1 Batch	89# Clean		
8-27	508810	508			8# Clean		
	508881						

1990

SOLVENT BLEND FOR SILICONE

NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
5-7-90	482575		7642.0	26	1142		
5-10 X	483366	791	6851.0	1 batch		291# purge	
5-14	483366		17057.0	51	2558	5/14/90	1500
5-15 X	483919	553	16504.0			53# Clean	
5-16 X	484458	539	15965.0			39# Clean	
5-18 X	484488	30	15935.0			30# Clean	
5-21 X	485017	529	15406.0	1 batch		29# Clean	
5-30 X	486344	1327	14079.0	2 batch		327 purge Solv	
5-31 X	486404	600	13479.0	1 batch		100# Cleaning	
6-5 X	486904	500	12979.0				
6-6 X	487464	560	12419.0			60# Clean	
6-8 X	487485	21	12398.0				
6-9 X	487985	500	11898.0				
6-10 X	488185	200	11698.0			200# purge Solv.	
6-11 X	488685	500	11198.0				
6-12 X	489200	515	10683.0				
6-18 X	490166	966	9717.0				
6-20 X	490840	674	9043.0	1 Batch	74# for B/R mixes and cleaning		
6-22 X	491530	690	8353.0				
6-23 X	492059	529	7824.0		29# Clean		
6-26 X	493073	1014	6810	2 batch	14# clean		
6-29 X	493642	569	6241		69# clean		
7-3 X	494248	606			100# Clean		
7-3	494248		15716	47	2357	7/3/90	1506
7-6 X	494836	588	15128		88# Clean		
* 7-10 X	495430	594	14534		X 94# B/R Mixes		
7-12 X	496059	629	13905		X 29# B/R mix		
7-13 X	496619	560	13345		60# Clean		
7-	497255	636	12709		28#	108# Clean	

1990 SOLVENT BLEND FOR SILICONE K-002

NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
2-13	471561		10812.0				
2-14	472077	516	10296.0			16# clean	
2-16 X	472632	555	9741.0	4 blk. mixes = 16#	407# purge	Solv.	132# clean
2-21 X	472713	81	9660.0	2 batchs Black		27# clean	
2-22 X	473213	500	9160.0				
2-22 X	473238	25	9135.0	1 batch Black mix 27 gals			31# clean
2-23 X	473322	84	9051.0	2 batch Black mix total 54 gals.		53# solv. Blnd.	
2-26	473322		15716.0	47	2357	2/26/90	1000
2-28 X	473387	65	15656.0	1 blk mix			
3-2 X	473531	144	15512.0	66# Blk mix		78 clean	
3-5 X	474131	600	14912.0	1 batch B/S		100# purge Solv.	
3-9 X	474366	235	14677.0	135# for Black mixes		100# clean	
3-13 X	474424	58	14619.0			58# clean	
3-14 X	474501	77	14542.0	53# solvent for B/R mix		24# clean	
3-15	474-01		15716.0	47	2357	3/15/90	1 21 gal
4-6 X	476344	1843	13873.0	2 B/S batches	843# clean,	purge solv.	Exp mixes
4-9 X	476856	512	13361.0				
4-11 X	477356	500	12861.0				
4-16 X	478004	648	12213.0	1 batch	51# sample mix	97# clean	
4-18 X	478512	508	11705.0		8# clean		
4-20 X	479027	515	11190.0		15# clean		
4-26 X	480033	1006	10184.0	1 batch	506# purge & cleaning		
4-27 X	480388	355	9829.0	?			
4-27 X	480888	500	9329.0	1 batch			
4-30 X	481416	528	8801.0		28# clean		
5-1 X	481916	500	8301.0				
5-4 X	482575	659	7642.0	1 batch the rest for B/R mixes & clean			

1990

SOLVENT BLEND FOR SILICONE New Line

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
12-28	454944		16230.0				
12-28	455444	500	15730.0				
12-29	455944	500	15230.0				
12-29	455944		17057.0	51	2558	12/29	255
1-3 89 X	456570	626	16431.0			126 clean	
1-4 X	457570	1000	15431.0	2 batch			
1-8 X	458621	1051	14380.0	2 batch		51# rec.	
1-9 X	459121	500	13880.0				
1-11 X	459651	530	13350.0			30# clean	
1-15 X	460154	503	12847.0				
1-16 X	460654	500	12347.0				
1-17 X	461654	1000	11347.0	2 batch			
1-18 X	462195	541	10806.0			41# clean	
1-19 X	462695	500	10306.0				
1-22 X	463695	1000	9306.0	2 batch			
1-23 X	464210	515	8791.0			15# clean	
1-24 X	464710	500	8291.0				
1-25 X	465260	510	7781.0			10# clean	
1-26 X	465760	500	7281.0				
1-29 X	466279	519	6762.0	No charcol		19# clean	
1-30 X	467279	1000	5762.0	2 batch	855 gal		
1-31 X	467789	510	5252.0			10# clean	
2-1 X	468290	501	4751.0				
2-5 X	468864	574	4177			74# clean	
2-6	468864		13509.0	41	2026	2/6/90	1500
N 2-6 X	469364	500	13009.0				
N 2-8 X	470031	667	12342.0				
2-[illegible] X	471053	1022	11320.0	2 batch		22# clean	
2-[illegible] X	471561	508	10812.0			8# clean	

1990

SOLVENT BLEND FOR SILICONE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
6-7	2 B/R mixes 25gal	1..201, 11.25gal. 1-1-1,	1.25gal. B/R solu.	48fl. oz DB, 2# blk pig.	11oz Cob.	1# 5oz Q-1
6-8	4 B/R mixes					
6-9X	2 B/R mixes 25gals	.201, 11.25gal	1-1-1, 1.25gal B/R solu.	48fl oz DBE,	11oz Cob.	1# 3 oz Q-1
6-12X	2 B/R mix 25gals	.201, 12g. 1-1-1,	48fl oz DBE,	5oz Cob, 1.25#	Q-1, 375 mls.	ATF
6-13X	2 B/R mixes	SAME AS	Above			
6-14X	2 B/R mixes	SAME AS	Above			
6-15X	1 B/R					
6-16X	1 B/R					

1990

K-002

SOLVENT BLEND FOR SILICONE

Black mix Baker's B/R

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
5-3 Y	N/C B/R 10gal. .015, 10gal. .200, 4gal. Blnd. solv., 2# DBE, 2.8gal Ferro solv., .5# Q-1, 4oz Cob					
5-4 X	C B/R mix 8.4# resin, 9gal. .015, 13.5gals .200, 3# DBE, .5# Q-1, 4oz Cob., 9gal 1-1-1, 350mL ATF, 1gal. 36oz Ferro Solv					
5-6 X	C B/R mix Same as above					
5-7 X	C B/R mix 11.25# resin, 12gal. .015, 18gal. .200, 4.01# DBE, 1# 11oz Q-1, 12oz Cob. 450mL, 12gal. 1-1-1, 1gal 77oz Ferro					
5-7 X	Same as above					
5-8 X	Clear mix Exp.	10gal. 1-1-1, 600mL ATF				
5-10 X	Modified .201 mix	10gal. .201, 5gal 1-1-1, 1½# DBE, 6oz Q1, 4oz Cob.				
5-10 X	Latest B/R Mix	1 mix				
5-11 X	Latest B/R mix	1 mix				
5-14 Y	Double mix B/R	24gal. .015, 36gal. .200, 22.5# resin, 8.02# DBE9, 3# 6oz. Q1, 1.5# cobalt, 900mL ATF, 24gal. .111, 3gal. 26oz Ferro Sol				
5-14 X	New 201 mix 5/14/90	27gal. .201, 13.5gals. 1-1-1, 3# 12oz DBE, 1# 5oz Q1, 11oz Cob. 1032mL ATF				
5-15 X	Triple batch New .201	81gal. .201, 40.5gals 1-1-1, 11# 4oz DBE, 3# 15oz Q1, 33oz Cob 3096mL ATF				
5-16 X	B/R Mix	23gal. .201, 11½gal. 1-1-1, 18oz Q-1, 10oz Cob., 3# 3oz DBE, 300mL ATF				
5-17 X	B/R Mix	27gal. .201, 13.5# 1-1-1, 3# 12oz DBE, 1# 5oz Q-1, 11oz Cob. 432mL ATF				
5-22 X	2 B/R mixes	25gal. .201, 12.5gal. 1-1-1, 3# 7oz DBE, 1# 4oz Q-1, 11oz cob. ½gal. Alum 500mL AT				
5-22 X	2 B/R mixes	20gal. .201, 10gal. 1-1-1, 2# 12oz DBE, 16oz Q-1, 9oz Cob. 300mL ATF				
5-23 X	2 B/R mixes	25gal. .201, 12.5gal. 1-1-1, 3# 7oz DBE, 1# 4oz Q-1, 11oz Cob., 250mL ATF				
5-23 X	2 B/R mixes	20gal. .201, 10gal. 1-1-1, 2# 12oz DBE, 16oz Q-1, 9ozs Cob., 200mL ATF				
5-25 X	New .201 conc., at 45gals each					
5-25 X	2 B/R mixes	25gal. .201, 12.5gal. 1-1-1, 3# 7ozs DBE, 1# 4ozs Q-1, 11ozs Cob. ½gal. Alum 250mL AT				
5-29	1 small B/R mix	10gal. .201, 5gal. 1-1-1, 1# 6oz DBE, 10oz Q-1, 4.5oz Cob. 100mL ATF				
5-30 X	3 B/R mixes	approx. 3000mL ATF				
5-31 X	Partial B/R mix	12gal. .201, 6gal. 1-1-1, 1# 11oz DBE, 9oz Q-1, 5oz Cob. 31oz Alum. 200mL ATF				
6-1 X	2 mix 50gal 201	25gal 111	ATF 500mL	DBE9 6.14oz Cob	22oz.	
6-1 X	1 mix 25gal 201	12.5 111	ATF 250mL	DBE9 3.7oz Cob 11oz		
6-4 X	1 Partial B/R mix	15.5gal. .201, 7.75gal. 1-1-1, 2# 2oz DBE, 12oz Q-1, 7oz Cob. 1000mLs ATF				
6-6 X	1 Partial B/R New conc. 6-6	15gal. .201, 7.5gal. 1-1-1, 2# 1oz DBE, 12oz Q-1, 7oz Cob. 300mL ATF				
6-[illegible] X	1 B/R mix 25gals.	.201, 11.25gal. 1-1-1, 3# 55oz DBE, 1# 4oz Q-1, 11oz Cob., 1.25gal Ferro Solv. 250mL ATF				

K-002

1990

SOLVENT BLEND FOR SILICONE

BLACK MIX BAKERS BR

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
2-28 X	Double mix B/R	20-20 CONC.				
3-2 X	Double Mix B/R	20-20 CONC				
3-5 X	Single mix B/R	10-10 -CONC.				
3-7 X	Double Mix B/R	20-20 CONC				
3-9 X	Double Mix B/R	20-20 CONC.				
3-13 X	a different Black Mix 13½ gal B/R CONC. 9 gal. B/S CONC. 3# DBE-9 8oz Q1					
3-14 X	Double Mix B/R	20-20 CONC.		300 ML ATF	8.4# resin flake	4oz Cob.
3-18 X	Experimental Black Mix 13 gal. 800.000 CONC. - 8 gal. 800.015 CONC.					
3-21 X	experimental Black Mix 20 gal. 800.200 - 8 gal 800.015					
3-23 X	Exp. mix 66# resin - 20 gal 800.015 - 30 gal. 800.200 - 20 gal 1-1-1-6.69# DBE, 1# 2 oz Q-1, 12 oz Cobalt, 700 ml A.T.F.					
3-26 X	20 gal. 800.201 - 9.5 gal. 1-1-1, 2# 12 oz DBE, 4 oz cobalt, 1# Q-1					
4-2 X	61¼# resin, 1.6 gals 800.015, 1.5# DBE. 62# Q-1, 13# cob, 5.75 gal 111, 31.6# B/S solu.					
4-16 X	Exp. B/S mix 132.25# resin - 51.63# Blnd solu: 4.05 gal. Ferro Solu - 1.43 gal .201 - 1.35# Q-1 - .63# cob. - 12.66 gal 1-1-1-5# DBE					
4-16 X	2 B/R mixes 40 gal. .201 - 19 gal. 1-1-1 - 5# 8 oz DBE - 8 oz Cob. - 2# Q-1 - 400 ml ATF					
4-19 X	1 B/R mix 15 gal. 201 - 9 gal, 1-1-1, 2# DBE, 4 oz Cob., 12 oz Q-1, 200 ml ATF					
4-20 X	1 B/R mix 23.15 gal. .201 - 7.72 gal. .211 - 18.52 gal. 1-1-1 - 4# 3 oz DBE - 1# 10 oz Q-1 - 6 oz Cob. - 300 ml. ATF					
4-21 X	1 B/R mix 10 gal. .201 - 3 gal. 43.5 oz .211 CONC. - 8 gal. 1-1-1 - 1¾# DBE - 10.6 oz Q-1, 3.7 oz Cob., 2 gal. Ferro Solv.					
4-21 X	1 B/R mix 15 gal. .201, - 5 gal. .211, 12 gal. 1-1-1, 2# 10 oz DBE, 1# Q-1, 5.5 oz Cob. 3 gal. Ferro solu.					
4-21 X	added to past mix; 39.67# resin, 15.49# B/S solu. 1.21 gal. Ferro solu., 1.5# DBE, .42# Q1, .19 Cob., 3.8 gal. 1-1-1					
4-21 X	Aluminum Mix; 90# resin, 2.7 gal. B/R solu., 34.36 B/S solu., 88# Q1, 2.25 DBE, 8.77 gal. 1-1-1, .04 oz Cob.					
4-25 X	New B/R mix 20 gal .201 10 gal. 1-1-1, 2.75# DBE, 1# Q1, 4 oz Cob.					
4-25 X	" " " 5 gal. .201, 2.5 gal. 1-1-1, 11 oz DBE, .25# Q1, 1 oz Cob.					
4-26 X	" " " 20 gal. .201, 8 gal. 1-1-1, 2.75# DBE, 1# Q1, 4 oz Cob., 7 oz ATF, 3.5 gal Ferro Solv.					
4-27 X	" " " " → SAME as Above					
4-27 X	" " " " → SAME as Above					
4-28 X	" " " 13 gal. .201 5.2 gal, 1-1-1, 1.83# DBE, 10 oz Q1, 3 oz Cob, 130 ml. ATF, 2.25 gal Ferro					
5-[illegible] X	B/R mix 11.25# resin, 12 gal. .015 CONC, 18 gal. .200 CONC 4# DBE, 1.69# Q-1, 12 oz Cob. [illegible] ml ATF, 15.5 gal					
5-[illegible] X	Non compliant B/R mix 10 gals .015 CONC., 10 gals .200 CONC, 4 gals. B/S solu., 2.5 gals. B/R solu., 2# DBE, 4 oz Q1, 4 oz Cob.					

1989

SOLVENT BLEND FOR SILICONE

NEW LINE

DATE 89	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
10-30	437064		7117.0				
10-31X	438064	1000	6117.0				
11-1 X	439653	1589	4528.0	3batch's		39# clean	
11-3X	440153	500	4028.0	s			
11-3	440153		17270.0	52	2605	11/3	2000
11-6 X	440659	506	16764.0	1batch		6# Clean	
11-7 Y	441160	501	16263.0	1 batch			
11-8 X	441660	500	15763.0	1 batch			
11-9 X	442180	520	15243.0	1 batch		20# Clean	
11-10X	442714	534	14709.0			61# Cleaning	
11-17X	443775	1061	13648.0				
11-17X	444275	500	13148.0	1 batch			
11-20X	444786	511	12637.0	1 batch		11# clean	
11-21X	445286	500	12137.0				
11-30X	446298	1012	11125.0	2batch		12# clean	
12-4X	446808	510	10615.0			10# clean	
12-5X	447308	500	10115.0				
12-6X	447808	500	9615.0				
12-7X	448350	542	9073.0				
12-11X	449376	1026	8047.0	2batch		26 Clean	
12-12X	449876	500	7547.0				
12-14X	450886	1010	6537.0	2batch		10# clean	
12-18X	451386	500	6037.0				
12-19X	452409	1023	5014.0	2Batch			
12-20X	452919	510	4504.0			10# clean	
12-22X	453943	1024	3480.0	1 batch		524# purge Solv.	
12-27	454444	501					
12-27	454444		16730.0	50	2509	12/27/8	2000
12-28	454944	500	16230.0				

1989

SOLVENT BLEND FOR SILICONE

New Line

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
9-11 89	421604	9112.0				
9-12 X	422615 1011	8101.0	1 Batch		511 purge Solv.	
9-13 X	423115 500	7601.0				
9-14 X	423615 500	7101.0				
9-15 X	424617 1002	6099.0		925		
9-15	424617	6075.0	22	911		
10-3 X	425656 1039	5036.0	2 batch		39# rec.	
10-3	425656	4968.0	19	745		
10-5 X	426657 1001	3967.0	2 batch			
10-6 X	427308 651	3316.0				
10-6 X	427808 500	2816.0				
10-6	427808	2016.0				
10-9	427808	16403.0	49	2460		
10-9 X	428808 1000	15403.0	2 Batch			
10-10 X	429308 500	14903.0				
10-12 X	429820 512	14391.0				
10-13 X	430330 510	13881.0				
10-17 X	430930 630	13251.0		[illegible]	130# clean	
10-18 X	431992 1062	12189.0	2 batch		62# clean	
10-20 X	433024 1032	11157.0	2 batch		32# clean	
10-23 X	434054 1030	10127.0	2 batch		30# Clean	
10-24 X	434555 501	9626.0				
10-25 X	435062 507	9119.0				
10-26 X	436062 1000	8119.0	2 batch			
10-27 X	436564 502	7617.0				
10-30 X	437064 500	7117.0				

1989

SOLVENT BLEND FOR SILICONE NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
8-1 89	40305.5		14508.0				
8-2 X	40355.4	500	14008.0				
8-3 X	40405.4	500	13508.0				
8-4 X	40457.2	518	12990.0			19 CLEAN	
8-7 X	405337	765	12225.0			265# purge	Sol.
8-8 X	405837	500	11725.0				
8-10 X	406406	569	11156.0			69# CLEAN	
8-11 X	407406	1000	10156.0				
8-14 X	407925	519	9637.0			19# CLEAN	
8-15 X	408935	1010	8627.0				
8-15	408935	ADJ	6855.0	25"	1283		
8-16 X	409435	500	6335.0				
8-18 X	409495	60	6275.0			60# CLEAN	
8-21 X	410508	1013	5262.0	2 batch		13# CLEAN	
8-22 X	411008	500	4762.0				
8-23 X	411508	500	4262.0				
8-24 X	412046	538	3724.0			38 CLEAN	
8-25 X	413046	1000	2724.0				
8-25	413046		1770.0	53	2650	8/25	2000
8-28 X	413555	509	1716.1.0				
8-29 X	414575	1020	16141.0			20# CLEAN	
8-30 X	415575	1000	15141.0	2 batch			
8-31 X	416077	502	14639.0				
9-1 X	417077	1000	13639.0				
9-5 X	418586	1509	12130.0	2 batch		509 purge Sol.	
9-6 X	419086	500	11630.0				
9-7 X	419586	500	11130.0				
9-8 X	420604	1018	10112.0	2 batch		18# CLEAN	
9-11 X	421604	1000	9112.0	2 batch			

1989

SOLVENT BLEND FOR SILICONE

New Line

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
6-22 89	386223	6948.0				
6-23X	386756.0 533	6415.0			33# CLEAN	
6-26	387256.0 500					
6-26	387256.0	17057.0	51	2558		
6-27x	388256.0 1000	16057.0				
6-28x	388787.0 531	15526.0			31# CLEAN	
6-30X	389787.0 1000	14526.0				
7-5 x	390377.0 590	13936.0			90# CLEAN	
7-6 x	390877.0 500	13436.0				
7-7 x	391388.0 511	12925.0			11# CLEAN	
7-10 x	391903.0 515	12410.0			15# CLEAN	
7-11 X	392952.0 1049	11361.0				
7-12X	393961.0 1009	10352.0				
7-13X	394462.0 501	9851.0				
7-14 X	395471.0 1009	8842.0			9# CLEAN	
7-17 x	395974.0 503	8339.0				
7-18 X	397022.0 1048	7291.0			48# CLEAN	
7-19 X	397522.0 500	6791.0				
7-20x	398022.0 500	6291.0				
7-21x	398522.0 500	5791.0				
7-21	398522.0	19017.0	58	2509	7-21-89	2000
7-24X	399031.0 509	18508.0				
7-25X	400031.0 1000	17508.0				
7-26X	400531.0 500	17008.0				
7-27X	401031.0 500	16508.0				
7-28X	401531.0 500	16008.0				
7-28+	40205.5 500	15508.0	to purge lines			
7-[illegible] x	40255.5 500	15008.0				
[illegible] x	40305.5 500	14508.0				

1989

SOLVENT BLEND FOR SILICONE

NORTH 3000
New Line

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
4-18 89	368519		11155.0				
4-21 X	369021	502	10653.0				
4-25 X	370313	1292	9361.0	2 batch	292# ?		
4-26 X	370813	500	8861.0				
4-27 X	371315	502	8359.0				
5-1 X	371836	521	7838.0		21# ? CL		
5-2 X	372336	500	7338.0				
5-4 X	372862	526	6812.0		26# ? CL		
5-5 X	373384	522	6290.0		22# ? CL		
5-8 X	373884	500	5790.0	22	911		
5-10 X	374394	510	5280.0				
	37394.0		18777.0	57	2816	5/20/89	2014
5-15 X	374894	500	18277.0				
5-16 X	375394	500	17777.0				
5-17 X	375909	515	17262.0		15# CLEAN		
5-19 X	376460	551	16711.0		51# CLEAN		
5-25 X	377523	1063	15648.0	2 batch	63# CLEAN		
6-1 X	378523	1000	14648.0	2 batch			
6-5 X	379073	550	14098.0		50# CLEAN		
6-7 X	380123	1050	13048.0		50# CLEAN		
6-8 X	380623	500	12548.0				
6-9 X	381135	512	12036.0		12# CLEAN		
6-12 X	381637	502	11534.0	1 batch			
6-13 X	382637	1000	10534.0				
6-14 X	383137	500	10034.0				
6-16 X	383668	531	9503.0		31 CLEAN		
6-19 X	384168	500	9003.0				
6-20 X	385186	1018	7985.0	2 batch	18# CLEAN		
6-22 X	386223	1037	6948.0	2 batch	37# CLEAN		

1989

SOLVENT BLEND FOR SILICONE

NEW LINE 1989

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
1-18-89	353630.		15403.0				
1-19 X	354130	500	14903.0				
1-20 X	354630	500	14403.0				
1-23	354630		14636.0	44	2195		
1-25 X	355682	1052	13584.0		52# clean		
1-27 X	356193	500	13084.0	SOLVENT to	PURGE LINES		
1-30 X	356693	500	12584.0				
1-31 X	357698	1005	11579.0	2 batch	5# clean		
2-2 X	358209	511	11068.0		11# clean		
2-3 X	358719	510	10558.0				
2-6 X	358850	131	10427.0	100# solvent, the rest was purge	Solv. 6 bags flakes 31# clean		
2-8 X	359350	500	9927.0				
2-9 X	359850	500	9427.0				
2-14 X	360860	1010	8417.0	2 batch	10# clean		
2-16 X	361885	1025	7392.0	2 batch	25# clean		
2-20 X	362410	525	6867.0		25# clean		
2-22 X	362910	500	6367.0	1 batch			
2-23 X	362957	47	6320.0		47# clean		
2-27 X	363957	1000	5320.0	2 batch			
2-27	363957	"	15716.0	47	2357	2/27/89	1500
3-16 X	364457	500	15216.0				
3-28 X	364957	500	14716.0				
4-4 X	366008	1051	13665.0	1 batch	551 purge drums		
4-5 X	366508	500	13165.0				
4-12 X	367008	500	12665.0				
4-13 X	367509	500	12165.0				
4-17 X	368019	510	11655.0		10# clean		
4-18 X	368519	500	11155.0				

1988

SOLVENT BLEND FOR SILICONE

New Line

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
12-6 88	339493		5947.0				
12-7 X	340009	516	5431.0		16# CLEAN		
12-8 X	340509	500	4931.0				
12-9 X	341009	500	4431.0				
12-12	341009		17370.0	52	2605	12/12/88	2000
12-12 X	341539	530	16840.0		30# clean		
12-13 X	342079	540	16300.0		40# CLEAN		
12-14 X	342589	510	15790.0		10# CLEAN		
12-15 X	343096	507	15283.0		7# CLEAN		
12-16 X	343596	500	14783.0				
12-17 X	344096	500	14283.0				
12-19 X	344596	500	13783.0				
12-20 X	345596	1000	12783.0		2 batches		
12-21 X	346098	502	12281.0				
12-22 X	346627	529	11752.0		29# CLEAN		
12-27 X	347127	500	11252.0				
12-28 X	347636	509	10743.0		9# CLEAN		
12-30 X 89	347655	19	10724.0		19# CLEAN		
1-4 X	348801	1146	9578.0	2 batch	46# CLEAN		
1-6 X	349801	1000	8578.0	2 batch			
1-7 X	350099	298	8280.0		purge drum		
1-9 X	350599	500	7780.0				
1-10 X	351099	500	7280.0				
1-11 X	351599	500	6780.0				
1-12 X	352130	531	6280.0		31# CLEAN		
1-13 X	352630	500	5780.0				
1-13	352630		16403	49	2460	1/13/89	1500
1-17 X	353630	1000	15403.0		2 batch		

1988

SOLVENT BLEND FOR SILICONE

NORTH NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
10-14 88	324142		11512.0				
10-18 X	324678	536	10976.0	1 batch			
10-19 X	325181	503	10473.0	1 batch	3# Cleaning		
10-20 X	325701	520	9953.0	1 batch	20# Cleaning		
10-21 X	326201	500	9453.0	1 batch			
10-24 X	326701	500	8953.0				
ADJ	326701		8795.0	29	1378		
10-25 X	327701	1000	7795.0				
10-26 X	328701	1000	6795.0				
10-27 X	329234	533	6262.0		33# clean		
10-31 X	329764	530	5732.0				
11-1 X	330324	560	5172.0		60# clean		
11-2 X	330893	569	4603.0		69# clean		
11-3	330893		14636.0	44	2195		
11-3 X	331895	1002	13634.0				
11-4 X	332395	500	13134.0				
11-7 X	333425	1030	12104.0	2 batch	30# clean		
11-9 X	334428	1003	11011.0	2 batch	3# clean		
11-11 X	334936	507	10504.0		7# clean		
11-14 X	335436	500	10004.0				
11-15 X	335936	500	9504.0				
11-16 X	336436	500	9004.0				
11-17 X	336953	517	8487.0		17# clean		
11-18 X	337453	500	7987.0				
11-21 X	337953	500	7487.0				
11-23 X	337993	40	7447.0		40# clean		
12-5 X	339493	500	6947.0				
12-6 X	338993	500	6447.0				
[illegible]6 X	339493	500	5947.0				

1988

SOLVENT BLEND FOR SILICONE

NORTH

NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
9-6 88	308351		10401.0				
9-6 X	308861	510	9891.0			10# clean	
9-7 X	309361	500	9391.0				
9-8 X	309882	521	8870.0			21# clean	
9-9 X	310382	500	8370.0				
9-12 x	310882	500	7870.0				
9-13 x	311382	500	7370.0				
9-14 X	311909	527	6843.0		1025	27# clean	
9-16 X	312465	556	6287.0			56 clean	
9-19 X	313493	1028	5259.0	1 batch →		500# purge Sol.	28# Cleaning
9-20 X	314493	1000	4259.0	2 batch			
9-20	314493.		14263.0	43	2139	9/20	1500
9-22 X	315493	1000	13263.0	2 batch			
9-23 X	315995	502	12761.0				
9-23	316295	300	12461.0			purge Solv.	
9-26 x	317305	1010	11451.0	2 batch		10# clean	
9-27 x	317805	500	10951.0				
9-28 x	318305	500	10451.0				
9-30 X	318937	632	9819.0			132#?	
10-3 x	319437	500	9319.0				
10-4 X	320018	581	8738.0			81# clean	
10-5 X	320618	500	8238.0				
10-6 X	321018	500	7738.0	27	1207		
10-7	321018	[illegible]	14636.0	44	2195	10/7/88	1000
10-10 x	322088	1070	13566.0	2 batches		70# clean	
10-11 x	322588	500	13066.0				
10-12 x	323088	500	12566.0				
10-13 X	323588	500	12066.0				
10-14 X	324142	554	11512.0			54# clean	

1988

SOLVENT BLEND FOR SILICONE

NORTH NEW LINE

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
7-19 88	291224.0	18310.0				
7-20 X	291724.0 500	17810.0				
7-21 X	292223.0 500	17310.0				
7-26 X	292744.0 521	16789.0			21# Cleaning	
7-27 X	293546.0 802	15987.0			302?	
7-28 X	294066.0 520	15467.0			20# clean	
7-29 X	295066.0 1000	14467.0				
8-2 X	295566.0 500	13967.0				
8-3 X	296607.0 1041	12926.0	2batch		41# clean	
8-4 X	297107.0 500	12426.0				
8-8 X	297637.0 530	11896.0			30# clean	
8-10 X	298658.0 1021	10875.0			21# clean	
8-11 X	299658.0 1000	9875.0	2batch			
8-12 X	300166.0 508	9367.0			8# clean	
8-15 X	300680.0 514	8853.0			14# clean	Added 1500 gal for north tank
8-16 X	301695.0 1015	7838.0	26" 7645		15# clean	
8-17	301695.0	17057.0	51	2558	8/17/88	
8-18 X	302220.0 525	16532.0			25# clean	
8-19 X	303260 1040	15492.0	2batch		40# clean	
8-23 X	303800 540	14952.0			40# clean	
8-24 X	304300 500	14452.0				
8-25 X	305300 1000	13452.0				
8-26 X	305800 500	12952.0				
8-29 X	306341 541	12411.0	1batch		41# clean	
8-30 X	306851 510	11901.0				
8-31 X	307351 500	11401.0				
9-1 X	307851 500	10901.0				
9-2	308351 500	10401.0				

1988

SOLVENT BLEND FOR SILICONE

New Line

DATE	METER	LBS	INCHES	GAL.	REFILL DATE	QUANITY
5-13	274625.0	11295.0				
5-17X	275125.0 500	10795.0				
5-23X	275805.0 680	10115.0			18# purge Solv.	
5-31X	276805.0 1000	9115.0	2 batch			
6-1 X	277306.0 501	8614.0	1 batch			
6-2 X	277806.0 500	8114.0				
6-6 X	278806.0 1000	7114.0				
6-7 X	279336.0 530	6584.0			30# clean	
	279336.0	15716.0				
6-9 X	279836.0 500	15216.0	47	2357	6/2/87	1500
6-10X	280336.0 500	14716.0				
6-13X	281078.0 742	13974.0			242 purge Solv.	
6-14X	282078.0 1000	12974.0	2 batch			
6-16X	282578.0 500	12474.0				
6-17X	283078.0 500	11974.0				
6-20X	283578.0 500	11474.0				
6-20X	284579.0 1000	10474.0	2 Batch			
6-22X	285108.0 529	9945.0			29# clean	
6-23X	286134.0 1026	8919.0	2 batch		26# clean	
6-27	286136.0	8189.0	30	1978		
7-5X	287136.0 1000	8189.0	2 batch			
7-6X	287636.0 500	7689.0				
7-7X	288136.0 500	7189.0				
7-11 X	288636.0 500	6689.0				
7-13	289636.0 1000	5689.0	2 22"			
7-14	289636.0	19897.0	63	2984	7/14/88	2000
7-15X	290223.0 587	19310.0		87# clean		
7-15X	290724 500	18810.0				
7-[illegible]X	291224 500	18310.0				

1988

SOLVENT BLEND FOR SILICONE

New line

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
2-23 88	261218.0		14192.0				
2-25 X	261718.0	500	13692.0	20 40 gal			
2-21 X	262218.0	500	13192.0				
2-29 X	262718.0	500	12692.0				
3-1	262718.0		13129.0	40	1969		
3-2 X	263254.0	536	12593.0	31# Cleaning			
3-3 X	263754.0	500	12093.0				
3-4 X	264254.0	500	11593.0				
3-7 X	264754.0	500	11093.0				
3-8 x	265824.0	1070	10027.0	26 Batch		70 Clean	
3-9 x	266324.0	500	9527.0				
3-10 x	266824.0	500	9027.0				
3-11 X	267544.0	920	8807.0				
3-14 X	268044.0	500	8307.0		1200		
3-15 X	268544.0	500	7807.0				
3-17 X	269044.0	500	7307.0				
3-21 x	269544.0	500	6807.0				
3-22 x	270044.0	500	6307.0				
3-23 X	270544.0	500	5807.0				
3-23	270544.0		15356.0	46	2303	3/23	1500
3-24	271044.0	500	14856.0				
3-25 X	271545.0	501	14355.0				
3-28	271575.0	30	14325.0			30# ? Cleaning	
4-15 X	272575.0	1000	13325.0				
4-21 x	273105.0	530	12795.0			30#? Clean	
5-3 x	273625.0	520	12295.0				
5-5 X	274125.0	500	11795.0				
5-13 X	274625.0	500	11295.0				

1988

SOLVENT BLEND FOR SILICONE

1988
NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
1-15 88	246545		5981.0				
1-18x	247045	500	5481.0				
1-18	247045		15356.0	46	2304	1/18/88	2000
1-19x	247545	500	14856.0	17	[illegible]	[illegible]	[illegible]
1-20x	248545	1000	13856.0				
1-21 X	249047	502	13354.0				
1-22 x	249547	500	12854.0				
1-25 x	250547	1000	11854.0	2 batch			
1-26 X	251048	501	11353.0	--			
1-27 x	251548	500	10853.0				
1-28 x	252048	500	10353.0				
1-29 X	253048	1000	9353.0				
2-1 X	253548	500	8853.0	29½	1330		
2-2 X	254048	500	8353.0				
2-3 X	254548	500	7853.0				
2-4 X	255633	1085	6768.0		85# Cleaning		
2-5 X	256133	500	6268.0	20"			
2-9 x	256633	500	5768.0	7	[illegible]	[illegible]	
2-9	256633		18777.0	57	2816	2/5/88	2000
2-10 x	257133	500	18277.0				
2-11 x	257633	500	17777.0				
2-12 x	258133	500	17277.0				
2-16 x	259658	525	16752.0				
2-17 X	259218	560	16192.0				
2-18 X	259718	500	15692.0				
2-19 x	260218	500	15192.0				
2-22 x	260718	500	14692.0				
2-23 x	261218	500	14192.0				

1987

SOLVENT BLEND FOR SILICONE

1987 NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
12-8 '87	231957.0		17003.0	11575.0			
12-8 x	232448	500	16503.0	11075.0			
12-9 x	232978	530	15973.0	10545.0			
12-10 x	233478	500	15473.0	10045.0			
12-11 x	233978	500	14973.0	9545.0			
12-12 x	234478	500	14473.0	9045.0			
12-14 x	235004	526	13947.0	8519.0		26# CLEAN	
12-15 x	235504	500	13447.0	8019.0			
12-16 x	236004	500	12947.0	7519.0			
12-17 x	236504	500	12447.0	7019.0			
12-18 x	237034	530	11917.0	6489.0			
12-21 x	237734	700	11217.0	5789.0		200# CLEAN	
12-22 x	238234	500	10717.0	5289.0			
12-23	238734	500	10217.0	4789.0			
12-28 x	239234	500	9717.0	4289.0			
12-29 x	239780	546	9171.0	3743.0		46# Clean	1987
12-30 x	240280	500	8671.0	3243.0			
1-4-88	240337	570	8101.0	2673.0		70# CLEAN	1988
1-4 x	240837	500	7601.0	2173.0			
1-5 x	241357	520	7081	1653.0			
1-6	241357.0		11169.0	35	1675	~~46# CLEAN~~	1500
1-6 x	241905	548	10621.0			1/6/88	
1-7 x	242905	1000	9621.0				
1-11 x	243405	500	9121.0				
1-12 x	243905	500	8621.0				
1-13 x	244985	1080	7541.0		1 batch, the rest Purge Solv.		
1-14 x	245545	560	6981.0			60# CLEAN	
1-15 x	246545	1000	5981.0	2 batch			

1987

SOLVENT BLEND FOR SILICONE

NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
10-30 87	220287		13970.0				
11-2 ✓	220850	563	13407.0		63# CLEAN		
11-3 x	221350	500	12907.0				
11-4 X	221850	500	12407.0				
11-5 x	222350	500	11907.0				
11-6 x	222852	502	11405.0				
11-9 x	223350	500	10905.0				
11-10 X	223852	502	10403.0				
11-11 x	224352	500	9903.0				
11-12 x	224852	500	9403.0				
11-13 x	225352	500	8903.0				
11-13	225352		9582.0		150 GAL ADDED	11/13/87	
11-16 x	225852	500	9082.0				
11-16 x	226352	500	8582.0				
11-17 X	226852	500	8082.0				
11-18 X	227352	500	7582.0				
11-19 x	227882	530	7052.0		28# CLEAN		
11-20 X	228382	500	6552.0				
11-24	228382	INV	6535.0	24	1025		
11-30 Y	228886	504	6335.0				
	228886		19964.0	14136.0 64 44	2996 2200	11/30/87	
11-30 Y	229386	500	19564.0	14136.0			
12-1 X	229917	531	19033.0	13605.0		31# CLEAN	
12-2 x	230417	500	18533.0	13105.0			
12-3 X	230917	500	18033.0	12605.0			
12-5 x	231447	530	17503.0	12075.0			
12-7 X	231957	500	17003.0	11575.0			

1987

SOLVENT BLEND FOR SILICONE

New Line

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
9-25 87	205931		14603.0				
9-26	206558	627	13976.0.	1 batc & 1/4 batch			
9-26	206558.0		14263.0	43"	2139		
9-28 x	207088	530	13733.0			30# clean	
9-29 x	207588	500	13233.0				
9-30 X	208088	500	12733.0				
10-1 x	209095	1007	11726.0	2 batch			
10-2 x	209595	500	11226.0				
10-5 x	210095	500	10726.0		Start New Pnt.		
10-6 X	210597	502	10224.0				
10-7 x	211089	492	9732.0				
10-8 x	211682	593	9139.0		93# clean		
10-1 x	212182	500	8639.0	This batch	contains	21 gal. pnt.	
10-12 X	212684	500	8139.0	"	"	"	
10-13 x	213183	499	7640.0				
10-14 x	213683	500	7140.0				
10-15 X	214183	500	6640.0				
10-16 X	215285	1102	5538.0	1 Batch	500# Cleaning	102# Cleaning	lines
10-19 x	215785	500	5038.0				
10-20 x	216285	500	4538.0				
10-21	216285	500	17970.0	54	2195	10/21/87	2000
10-22 x	216785	500	17470.0				
10-22 x	217285	500	16970.0				
10-23 x	217787	502	16470.0				
10-26 x	218287	500	15970.0				
10-27 x	218787	500	15470.0				
10-28 X	219287	500	14970.0				
10-29 X	219787	500	14470.0				
1[illegible]2 X	220287	500	13970.0				

1987

SOLVENT BLEND FOR SILICONE

NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
FOR	191695.0		7464.0				
8-19x	192195.0	500	6964.0				
8-19	192195.0		14636.0	44	2195	8-19-87	
8-20x	192695.0	500	14136.0				
8-21x	193197.0	502	13634.0				
8-24x	193697.0	500	13134.0				
8-25x	194197.0	500	12634.0				
8-26x	194697.0	500	12134.0				
8-27x	195197.0	500	11634.0				
8-28x	195938.0	741	10893.0			241# purge	
9-1 x	196438.0	500	10393.0				
9-2 x	196939.0	500	9893.0				
9-3 x	197439.0	500	9393.0				
9-4 x	197939.0	500	8893.0				
9-8 X	198570	631	8262.0		1260	131 CLEAN	
9-9 x	199070	500	7762.0				
9-10 x	199570	500	7262.0				
9-10 x	200070	500	6762.0				
9-11 X	200570	500	6262.0				
9-11	200570.0		19964.0	64	3000	9/11/87	
9-14x	201070	500	19464.0				
9-15 X	201570	500	18964.0				
9-16 x	202070	500	18464.0				
9-17 x	202600	530	17934.0				
9-18X	203100	500	17434.0				
9-22x	204431	1331	16103.0	2 batch		331# purge drum	
9-23X	204931	500	15603.0				
9-24X	205431	500	15103.0				
9-25X	205931	500	14603.0				

1987

SOLVENT BLEND FOR SILICONE NEW

NO SILICONE FROM DEC 86 TO JULY OF 87

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
7-9 x	178882		9582.0	31	1437		
7-17 x	179654	772	8810.0				
7-21 x	180185	531	8279.0				
7-22 x	180686	501	7778.0				
7-23 x	181189	503	7275.0				
7-23	181189		17970.0	54	2695	7/23/87	1500
~~7-24 x~~	181689	500	17470.0	1 Batch			
7-27 x	182189	500	16970.0				
7-27 x	182725	536	16434.0				
7-28 x	183228	503	15931.0				
7-29 x	183728	500	15431.0				
7-31 x	184728	1000	14431.0	2 Batchs			
8-3 X	185554	826	13605.0	1 batch		326# charge	Solv.
8-4 X	186056	502	13103.0				
8-5 X	186556	500	12603.0				
8-5 X	187056	500	12103.0	38			
8-6 X	187556	500	11603.0				
8-7 X	188089	533	11070.0			33 clean	
8-10 X	188589	500	10570.0				
8-11 X	189092	503	10067.0			3# clean	
8-12 X	189660	568	9499.0			68# Exp.	
8-13 X	190160	500	8999.0				
8-14 X	190660	500	8499.0				
8-17 X	191160	500	7999.0				
8-18 X	191695	535	7464.0			35# clean	
	24						

1986

SOLVENT BLEND FOR SILICONE

NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
6-30	149.31.1		16063.0	48	2409		
7-7	149920	609	15454.0			40# cleaning	
7-11	150840	920	14534.0		352 purge barrell		
7-14	151440	600	13934.0		[illegible]	32# clean	
7-18	152707	1267 1 Batch	12667.0	100 Cleaning	300 purge Barrell	299 for Exp (Blue clear)	
7-23	153275	568	12099.0				
7-24	153843	568	11531.0				
7-29	154452	609	10922.0		40 clean		
8-7	155120	668	10254.0		100 Gun barrell		
8-11	155728	608	9646.0		40# clean		
8-25	156305	577	9069.0	1 Batch	9# Cleaning		
8-26	156873	568	8501.0				
8-29	157441	568	7933.0	19½ Gallons Pnt.			
9-3	158269	828	7105.0			260 purge & clean	
94	159232	963	6142.0			1 batch 395# on hold	
ADJ	159232.0		19437.0	60	2915	9-4-86	2000 gal
9-8	159800	568	18869.0				
9-15	160400	600	18269.0			32# clean	
9-29	160968	568	17701.0				
10-6	161536	568	17133.0				
10-9	162128	592	16541.0		24 Cleaning (1 Batch)		
10-10	162696	568	15973.0				
10-21	163264	568	15404.0				
10-28	163869	605	14800.0		37# clean		
11-10	164437	568	14232.0				
11-13	165005	568	13664.0				

2115#

1986

SOLVENT BLEND FOR SILICONE

NEW LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
3-31	135030	609	6824.0				
3-31	135030		19564.0	64	2994	3-31	2000
4-3	135764	734	19230.0			165# purge barrell	
4-4	136342	578	18652.0				
4-9	136911.0	569	18083.0				
4-14	137362.0	451	17632.0			451 in New purge Drums	
4-14							
4-14	137930.0	568	17064.0				
4-15	138498.0	568	16496.0				
4-18	139066.0	568	15928.0				
4-21 ADJ	139061.0		15716.0	47	2357		
4-22	139675	609	15107.0				
4-24	140827	1152	13955.0		2 batches		
5-6	141467	640	13315.0			72# cleaning	
5-13	142402	935	12380.0		300# in Gun barrell	50# clean + 37# copper Experiment	
5-15	142970	568	11812.0				
5-22	144137	1167	10645.0		2 batches		
5-28	144737	600	10045.0	before refill			
6-2	145335	598	9447.0				
6-4	146104	769	8678.0		200# Gun barrell		
6-6	146672	568	8110.0				
6-10	146672		18257.0	55	2695	6/10/86	1500
6-16	147506	835	17422.0		266 Gun barrel		
6-18	148075	569	16853.0				
6-20	148743	668	16185.0		100# Purge Barrel		
6-27	14931.1	568	15617.0				
ADJ	14931.1		16063.0	49	2409		

1986

SOLVENT BLEND FOR SILICONE

New L[illegible]e

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
1-27-86	121837		13129	40	1969		
1-28 Hx	122436	599	12530				
1-30 Hx	123004	568	11962.0				
2-4 Hx	123818	814	11148.0			Purge barrel	
2-6 x	124069	251	10897.0			Purge Solvent	
2-7 Hx	124637	568	10329.0				
2-10	124637		16730.0	50	2509	2/10/86	1000
2-11 Hx	125206	569	16161.0				
2-13 x	125818	612	15549.0				
2-17 Hx	126417	599	14950.0				
2-20 Hx	127001	584	14366.0				
2-24	127595	594	13772.0				
	New H. Drums						
2-26 Hx	128164	569	13203.0				
2-27 Hx	128763	599	12604.0			30 clean	
3-3 Hx	129331	568	12036.0				
3-7 Hx	130468	2 Barrels 1137	10 899.0				
3-11 Hx	131067	599	10 300.0				
3-13 Hx	131735	668	9632.0			100# in Drum for blowing out guns	
3-18 Hx	132404	669	8963.0				
3-21 SPD	133268	664	8099.0		500# SPD	250# Purge Barrel	114# cleaning
3-24 Hx	133846	578	7521	[illegible]	[illegible]		
3-24 ADS	133846		8008.0	27	1201		
3-25 Hx	134421	575	7433.0				

1986 SOLVENT BLEND FOR SILICONE OLD LINE

DATE	METER		LBS	INCHES	GAL.	REFILL DATE	QUANITY
1-6	111020.2		5054.8				
1-6	111096.8	766	4288.8	500# Solu. 7 bag	250 rec		
1-7	111096.8		10510.2	47	1580	1/7/86	1000
1-7	111488	520	9990.2				20# clean
1-8 HC	111219.0	702	9288.2				200# rec 2# clean
1-9	112773	583	8705.2				568 Solu
1-10 HC	113369	596	8109.2				"
1-13 HC	114187	818	7291.2				250 recl
1-14 HC	114755	568	6723.2				
	115893	1138	5585.2				
1-14	115893		12098.0	60	1954	1/14/86	1000
1-15 HC	116510	617	12381.0				
1-16 HC	116698	188	12193.0				568# 7 bag
1-16 HC	117266	568	11625.0			275# rec.	105 clean
1-17 HC	118166	900	10725.0			250# rec	
1-20 HC	118509	343	10382.0			175# rec	
1-21 HC	119087	578	9804.0				
1-22 HC	120290	1203	8601.0				2 batches
1-23 HC	120858	568	8033.0				
1-24 HC	121425	568	7465.0				
1-27 HC	121994	568	6897.0	32	1004		
1-27 HC	122566	[illegible]	6678.6	32	1004		
1-27 HC	123111	568	6110.6				
1-28 HC	123679	568	5542.6				
1-29 HC	124423	744	4798.6			175# rec	
1-30 HC	125002	579	4219.6				
1-30 HC	125745	743	3476.6			175# rec 6	
1-31 HC	126362	617	2859.6			50# rec	

d.
atic resin, muira puamine, fat.

g:
ant 2; Ingestion 2.
ingestion 2.

: U.
rate, when exposed to heat or flame; can
zing materials (Section 6).
Slight, in the form of dust, when ex-
flame. See also dust explosions.

: Section 2.
n: Section 3.
ng: Section 7.

. See hydrochloric acid.
ns: Section 11.
ssification: Corrosive liquid; red label.
bel.

ER. See ethyl chloride.

See β,β′-dichloroethyl sulfide.
ns: Section 11.
; poison gas label—not accepted.
ssification: Poison A; poison gas label.
, not acceptable (passenger or cargo).

ngicide 974, dimethyl formocarbo-thi-

als, soluble in alcohol.
S_2.
162.3, mp: 107°C.

g:
tant 2; Allergen 2.
U.
ritant 2; Allergen 2.
: U.
rimary skin irritant and sensitizer.
angerous. See sulfates.

ection 1.)
olve both irreversible and reversible changes
se death or permanent injury.
h or permanent injury after very short exposure
nati[illegible]s considered valid by author

N

NABAM

General Information

Synonym: Disodium ethylene bis(dithiocarbamate).
Description: Crystals; soluble in water.
Formula: $C_4H_6N_2Na_2S_4$.
Constant: Mol wt: 256.4.

Hazard Analysis

Toxicity: Irritant to skin and mucous membranes. Narcotic in high concentrations. In presence of alcohol can cause violent vomiting.
Disaster Hazard: Dangerous; when heated to decomposition, it emits highly toxic fumes.

NaK

General Information

Description: Liquid or solid, metallic alloy.

Hazard Analysis

Toxicity: See sodium and potassium.
Toxicology: NaK as its name implies is a low-melting alloy of Na and K. Its toxicity is that of either Na or K alone. In contact with moisture this material reacts very violently to evolve hydrogen and much heat, leaving behind a highly caustic residue of NaOH or KOH. Of course the heat would damage tissue as would the caustic residue. Even fine particles of NaK would damage the eyes, irritate the lungs, etc. Finally when NaK burns it evolves quantities of finely divided fumes of Na_2O, K_2O which is a powerful caustic.
Fire Hazard: Dangerous. In the presence of oxygen, moisture, halogens, oxidizers, acids or acid fumes, etc., it will react violently giving off much heat, often either spattering red hot particles or actually flaming.
Explosion Hazard: Servere. It will react explosively under many conditions such as contact with moisture, halogens, acid solutions, mists and fumes, powerful oxidizing agents and many organic compounds containing oxygen or halogen.
Disaster Hazard: Dangerous; when heated, emits highly toxic fumes of sodium and potassium oxide; it will react explosively with water, steam, acid, acid fumes or mists to produce heat, hydrogen, toxic and corrosive fumes; can react very vigorously with oxidizing materials. See also sodium and potassium.

Countermeasures

Ventilation Control: Section 2.
To Fight Fire: G-1 powder, dry sodium chloride or dry soda ash. Never use water, foam or carbon tetrachloride (Section 6).
Storage and Handling: Store in a cool place, preferably under kerosene (Section 7).

NANTOKITE. See cuprous chloride.

NAPHTHACENE. See tetracene.

NAPHTHA (COAL-TAR)

General Information

Synonyms: Hi-flash naphtha; 160° benzol; naphtha, solvent.
Description: Dark, straw-colored to colorless liquid.
Composition: Benzene, toluene, xylene, etc.
Constants: Bp: 149-216°C, flash p: 100°F (C.C.), d: 0.862-0.892, autoign. temp.: 900-950°F.

Hazard Analysis

Toxic Hazard Rating:
- Acute Local: Irritant 2; Ingestion 2; Inhalation 1.
- Acute Systemic: Ingestion 3; Inhalation 3; Skin Absorption 3.
- Chronic Local: Irritant 1.
- Chronic Systemic: Ingestion 3; Inhalation 3; Skin Absorption 3.

Toxicity: Note: A common air contaminant (Section 4).
TLV: ACGIH (recommended); 200 parts per million in air; 800 milligrams per cubic meter of air.
Fire Hazard: Moderate, when exposed to heat or flame; can react with oxidizing materials. Keep containers tightly closed.
Explosion Hazard: Slight.

Countermeasures

Ventilation Control: Section 2.
To Fight Fire: Foam, carbon dioxide, dry chemical or carbon tetrachloride (Section 6).
Personnel Protection: Section 3.
Storage and Handling: Section 7.
Shipping Regulations: Section 11.
- I.C.C.: Flammable liquid; red label, 10 gallons.
- Coast Guard Classification: Combustible liquid; inflammable liquid, red label.
- IATA: Flammable liquid, red label, 1 liter (passenger), 40 liters (cargo).

NAPHTHA DISTILLATE

Shipping Regulations: Section 11.
- I.C.C.: Flammable liquid, red label, 10 gallons.
- IATA: Flammable liquid, red label, 1 liter (passenger) 40 liters (cargo).

NAPHTHALENE

General Information

Synonyms: Moth flakes; white tar; tar camphor.
Description: Aromatic odor; white, crystalline, volatile flakes.
Formula: $C_{10}H_8$.
Constants: Mol wt: 128.16, mp: 80.1°C, bp: 217.9°C (sublimes), flash p: 176°F, d: 1.145, lel: 0.9%, uel: 5.9%, autoign. temp.: 979°F, vap. press.: 1 mm at 52.6°C, vap. d.: 4.42.

Hazard Analysis

Toxic Hazard Rating:
- Acute Local: Irritant 2; Ingestion 2; Inhalation 1.
- Acute Systemic: Ingestion 2; Inhalation 2.
- Chronic Local: Irritant 1.
- Chronic Systemic: Ingestion 1; Inhalation 1.

Toxicity: Note: May be used as an insecticide.
TLV: ACGIH (recommended); 10 parts per million of air; 50 milligrams per cubic meter of air.
Fire Hazard: Moderate, when exposed to heat or flame; reacts with oxidizing materials.
Spontaneous Heating: No.
Explosion Hazard: Moderate, in the form of dust, when exposed to heat or flame.

Countermeasures

Ventilation Control: Section 2.
To Fight Fire: Water, carbon dioxide, dry chemical or carbon tetrachloride (Section 6).
Personnel Protection: Section 3.
Storage and Handling: Section 7.