File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
60 WESTVIEW STREET, LEXINGTON, MASSACHUSETTS 02173

MEMORANDUM

PN: 910019

DATE: November 14, 1990

SUBJ: TRW DOT

FROM: Elio Goffi
Chemist

TO: Mary Ellen Stanton
Site Investigator

THRU: Dr. William J. Andrade
Chief, Chemistry Section

Two drinking water samples were resampled for Pb, Ba, As, Ag, Cd, Cr, and Se analysis. This report will deal with Ba, Cr and Ag. Another report will follow for the As, Cd and Se analysis.

Analytical Procedure:

Method 200.7 - 1.3 revision was followed for digestion and ICP analysis. This method is referenced in EPA-600/4-79-020, revised March, 1983.

Reference Book: ICAP Metals #81
Opened 6/25/90

Date Samples Received by Laboratory: 11/2/90

Date Samples Analyzed by Laboratory: 11/13/90

File name: 910019WA.ICP

SEMS DocID 595178

Results:

	Mg/L		
Sample #	Ba	Cr	Ag
54156	K.012	K.010	K.010
80978	0.103	K.010	K.010
80978 MS & MSD % Recovery	102	87	78
RPD	1.0	3.4	10.2

CBCHK 11/14/90
For
Continuous Calibration
TRW DOT FASTENER

Calibration Check Report

Title: GROUPT SEMI-VOLATILE STDS
Calibrated: 901114 15:47

Check Standard Data File: >552B9
Injection Time: 901110 08:59

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
FLUOROPHENOL	.42470	.50335	18.52	Average	(Conc=100.00)
ANILINE	1.21983	1.30588	7.05	Average	
PHENOL,D5	.47031	.60099	27.79	Average	(Conc=100.00)
PHENOL	.96247	1.15626	20.13	Average	(Conc=100.00)
BIS(2-CHLOROETHYL)ETHER	1.27268	1.30588	2.61	Average	
2-CHLOROPHENOL	.73454	.85176	15.96	Average	(Conc=100.00)
1,3-DIHLOROBENZENE	.97997	1.02262	4.35	Average	
1,4-DICHLOROBENZENE	.98642	1.02342	3.75	Average	
BENZL ALCOHOL	.27260	.21255	22.03	Average	
1,2-DICHLOROBENZENE	.93343	.98894	5.95	Average	
2-METHYLPHENOL	.79809	.97534	22.21	Average	
BIS(2-CHLOROISOPROPYL)ETHER	1.23945	1.41284	13.99	Average	
4-METHYLPHENOL	.77116	.86772	12.52	Average	
N-NITROSOSDIPROPYLAMINE	.50500	.72020	42.61	Average	
HEXACHLOROETHANE	.40301	.45957	14.03	Average	
NITROBENZENE,D5	.45448	.56478	24.27	Average	
NITROBENZENE	.41140	.47128	14.56	Average	
ISOPHORONE	.86478	.96994	12.16	Average	
2-NITROPHENOL	.17282	.18973	9.79	Average	(Conc=100.00)
2,4-DIMETHYLPHENOL	.26384	.28329	7.37	Average	(Conc=100.00)
BIS(2-CHLOROETHOXY)METHANE	.58259	.68330	17.29	Average	
BENZOIC ACID	.18115	.19275	6.40	Average	
2,4-DICHLOROPHENOL	.25001	.24968	.13	Average	(Conc=100.00)
1,2,4-TRICHLOROBENZENE	.33485	.31755	5.17	Average	
NAPHTHALENE	1.24607	1.29781	4.15	Average	
4-CHLOROANILINE	.34102	.38240	12.13	Average	
HEXACHLOROBUTADIENE	.16358	.14731	9.95	Average	
4-CHLORO-3-METHYLPHENOL	.22164	.25366	14.45	Average	(Conc=100.00)
2-METHYLNAPHTHLENE	.77341	.74398	3.81	Average	
HEXACHLORO-1,3-CYCLOPENTADIENE	.29759	.22638	23.93	Average	
2,4,6-TRICHLOROPHENOL	.31138	.30750	1.25	Average	(Conc=100.00)
2,4,5-TRICHLOROPHENOL	.46754	.42213	9.71	Average	
FLUOROBIPHENYL	1.86481	1.94491	4.30	Average	
2-CHLORONAPHTHALENE	1.30363	1.28528	1.41	Average	
2-NITROANILINE	.38285	.52018	35.87	Average	
DIMETYLPHTHALATE	1.49258	1.39907	6.26	Average	
ACENAPHTHYLENE	2.27149	2.28650	.66	Average	
2,6-DINITROTOLUENE	.33252	.31746	4.53	Average	

3-NITROANILINE	.41155	.49417	20.08	Average
ACENAPHTHENE	1.47772	1.44158	2.45	Average

RF - Response Factor from daily standard file at 50.00 UG/ML

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

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Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
2,4-DINITROPHENOL	.15367	.11773	23.38	Average	(Conc=100.00)
DIBENZOFURAN	1.78343	1.81978	2.04	Average	
4-NITROPHENOL	.16011	.16692	4.25	Average	(Conc=100.00)
2,4-DINITROTOLUENE	.42093	.38953	7.46	Average	
DIETHYLPHTHALATE	1.47287	1.51629	2.95	Average	
9H-FLUORENE	1.42677	1.39537	2.20	Average	
4-CHLOROPHENYLPHENYL ETHER	-	-	-	Average	
4-NITROANILINE	.26856	.24950	7.10	Average	
4,6-DINITRO-2-METHYLPHENOL	.11220	.11816	5.31	Average	(Conc=100.00)
N-NITROSODIPHENYLAMINE	.48556	.52941	9.03	Average	
DIPHENYLHYDRZINE(AZOBENZENE)	.24665	.23623	4.23	Average	
2,4,6-TRIBROMOPHENOL	.05145	.05441	5.75	Average	(Conc=100.00)
4-BROMOPHENYLPHENYL ETHER	.19938	.18459	7.42	Average	
BHC ISOMER (ALPHA)	.13258	.12558	5.29	Average	
HEXACHLOROBENZENE	.23710	.21927	7.52	Average	
BHC ISOMER (BETA)	.10284	.09627	6.39	Average	
PENTACHLOROPHENOL	.10879	.08536	21.53	Average	(Conc=100.00)
LINDANE - BHC ISOMER(GAMMA)	.10266	.11890	15.81	Average	
PHENANTHRENE	1.20137	1.24285	3.45	Average	
ANTHRACENE	1.23359	1.18174	4.20	Average	
BHC ISOMER (DELTA)	.09404	.09479	.79	Average	
HEPTACHLOR	.21057	.23248	10.40	Average	
DIBUTYLPHTHALATE	1.68614	1.73716	3.03	Average	
ALDRIN	.19917	.24058	20.79	Average	
HEPTACHLOR EPOXIDE	.10962	.13049	19.05	Average	
FLUORANTHENE	1.26102	1.26811	.56	Average	
PYRENE	1.77198	1.81215	2.27	Average	
ENDOSULFAN I	.03566	.03814	6.96	Average	
P,P-DDE	.29343	.27687	5.64	Average	
P-TERPHENYL, D14	1.40615	1.43096	1.76	Average	
DIELDRIN	.38654	.43196	11.75	Average	
ENDRIN	.03691	.03608	2.27	Average	
ENDOSULFAN II	.02102	.02041	2.93	Average	
P,P-DDD	.53832	.51959	3.48	Average	
ENDRIN ALDEHYDE	.04214	.04281	1.61	Average	
BUTYLBENZYLPHTHALATE	.93105	.99983	7.39	Average	
P,P-DDT	.41661	.40060	3.84	Average	
3,3-DICHLOROBENZIDINE	.35239	.28910	17.96	Average	

BENZ(A)ANTHRACENE	1.33348	1.31366	1.49	Average
CHRYSENE	1.42663	1.31847	7.58	Average

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Compound	$\overline{RF}$	RF	%Diff	Calib Meth
BIS(2-ETHYLHEXYL)PHTHALATE	1.46272	1.50078	2.60	Average
DI-N-OCTYLPHTHALATE	2.71228	2.89278	6.66	Average
BENZO(B)FLUORANTHENE	1.45418	1.45957	.37	Average
BENZO(K)FLUORANTHENE	1.45391	1.57484	8.32	Average
BENZO(A)PYRENE	1.25331	1.31987	5.31	Average
INDENO(1,2,3-CD)PYRENE	1.44675	1.38856	4.02	Average
DIBENZO(A,H)ANTHRACENE	1.02635	.92764	9.62	Average
BENZO(GHI)PERYLENE	1.08894	1.15518	6.08	Average

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Final

TRW DOT FASTENER

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Compound	Files: >540B9 RF 200.00	>544B9 RF 100.00	>541B9 RF 50.00	>545B9 RF 25.00	>542B9 RF 12.50	>546B9 RF 6.25	% RSD	
FLUOROPHENOL	-	.46063	.44436	.45637	.49958	.26254	21.894	(Conc=,200.0,100.0,50.0,25.0,12.5)
ANILINE	1.35997	1.18666	1.01642	1.30907	1.30961	1.13725	10.686	
PHENOL,D5	-	.50847	.49504	.56598	.48984	.29220	22.129	(Conc=,200.0,100.0,50.0,25.0,12.5)
PHENOL	-	.96770	.91515	1.03066	.93638	-	5.229	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)
BIS(2-CHLOROETHYL)ETHER	-	1.18666	1.01642	1.30907	1.30961	1.54163	15.119	
2-CHLOROPHENOL	.60541	.72304	.75171	.83398	.78845	.70464	10.683	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)
1,3-DIHLOROBENZENE	.73882	.87314	1.01013	1.07157	1.13460	1.05158	14.991	
1,4-DICHLOROBENZENE	.76800	.89964	.99592	1.06289	1.08145	1.11064	13.267	
BENZL ALCOHOL	.22413	.29707	.19846	.32960	.31372	-	21.220	
1,2-DICHLOROBENZENE	.69406	.82339	.93916	1.03986	1.03761	1.06653	15.842	
2-METHYLPHENOL	.60382	.77586	.96007	.92134	.72935	-	18.200	
BIS(2-CHLOROISOPROPYL)ETHER	-	1.08449	.91323	1.42149	1.22863	1.54940	20.560	
4-METHYLPHENOL	.56551	.73274	.73489	.93202	.89066	-	18.930	
N-NITROSODIPROPYLAMINE	-	.27031	.51819	.65253	.56324	.52071	28.119	
HEXACHLOROETHANE	.25509	.36553	.39888	.46214	.45008	.48634	21.042	
NITROBENZENE,D5	-	.55134	.43983	.49637	.38491	.39995	15.231	
NITROBENZENE	.39954	.47280	.38354	.41363	.40286	.39604	7.687	
ISOPHORONE	-	.90718	.75451	.93033	.81391	.91798	8.896	
2-NITROPHENOL	.23916	.20098	.18565	.17223	.13595	.10293	27.876	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)
2,4-DIMETHYLPHENOL	.32176	.28705	.26776	.24428	.19835	-	17.554	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)
BIS(2-CHLOROETHOXY)METHANE	.59194	.67388	.56886	.63962	.45784	.56343	12.797	
BENZOIC ACID	.23763	.21880	.18690	.15591	.10650	-	28.751	
2,4-DICHLOROPHENOL	.32222	.26456	.24639	.22485	.19203	-	19.426	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)
1,2,4-TRICHLOROBENZENE	.40239	.33018	.34104	.31897	.29863	.31793	10.744	
NAPHTHALENE	1.24650	1.28385	1.19451	1.27875	1.21673	1.25606	2.806	
4-CHLOROANILINE	.38836	.39331	.35589	.33527	.23227	-	19.148	
HEXACHLOROBUTADIENE	.19700	.14748	.16002	.15396	.15611	.16693	10.758	
4-CHLORO-3-METHYLPHENOL	.26797	.26374	.24329	.23405	.19602	.12476	24.367	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)
2-METHYLNAPHTHLENE	.75304	.74460	.74382	.79131	.73834	.86938	6.562	
HEXACHLORO-1,3-CYCLOPENTADIENE	.41229	.31670	.25585	.20553	-	-	29.891	
2,4,6-TRICHLOROPHENOL	.38451	.33146	.29423	.28334	.26338	-	15.347	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)
2,4,5-TRICHLOROPHENOL	.59795	.45722	.47895	.44878	.35479	-	18.617	
FLUOROBIPHENYL	-	2.01498	1.93106	1.97299	1.87556	1.52944	10.427	
2-CHLORONAPHTHALENE	1.49142	1.45772	1.32618	1.40687	1.14710	.99252	15.011	
2-NITROANILINE	.34986	.49149	.36301	.42010	.28978	-	19.950	
DIMETYLPHTHALATE	1.69295	1.52156	1.46144	1.39416	1.39280	-	8.314	
ACENAPHTHYLENE	2.35763	2.40679	2.27070	2.24063	2.21893	2.13427	4.326	
2,6-DINITROTOLUENE	.41268	.34833	.35635	.29425	.25098	-	18.634	
3-NITROANILINE	.36766	.51912	.36790	.39152	-	-	17.636	

ACENAPHTHENE	1.55506	1.50970	1.45795	1.48422	1.45867	1.44272	2.586	
2,4-DINITROPHENOL	.18827	.15032	.12241	-	-	-	21.512	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)
DIBENZOFURAN	2.07473	1.89833	1.82830	1.75164	1.71085	1.43671	11.936	
4-NITROPHENOL	.15084	.18129	.13477	.17354	-	-	13.283	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)

RF - Response Factor (Subscript is amount in UG/ML)

%RSD - Percent Relative Standard Deviation

Calibration Report

Title: GROUPT SEMI-VOLATILE STDS
Calibrated: 901114 15:47

Files:	>540B9	>544B9	>541B9	>545B9	>542B9	>546B9		
Compound	RF 200.00	RF 100.00	RF 50.00	RF 25.00	RF 12.50	RF 6.25	% RSD	
2,4-DINITROTOLUENE	.55122	.44912	.42717	.34663	.33052	-	21.083	
DIETHYLPHTHALATE	1.65975	1.53843	1.44150	1.41004	1.51296	1.27453	8.858	
9H-FLUORENE	1.60837	1.47919	1.37854	1.42680	1.42344	1.24431	8.373	
4-CHLOROPHENYLPHENYL ETHER	-	-	-	-	-	-	-	
4-NITROANILINE	.33974	.24720	.21874	-	-	-	23.556	
4,6-DINITRO-2-METHYLPHENOL	.14481	.13132	.11167	.09987	.07333	-	24.779	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)
N-NITROSODIPHENYLAMINE	.57078	.56953	.51373	.48611	.41065	.36257	17.437	
DIPHENYLHYDRZINE(AZOBENZENE)	.30829	.23201	.22892	.24745	.27404	.18923	16.594	
2,4,6-TRIBROMOPHENOL	-	.06149	.05537	.05304	.03589	-	21.320	(Conc=,200.0,100.0,50.0,25.0,12.5)
4-BROMOPHENYLPHENYL ETHER	.24154	.21708	.21514	.19297	.18834	.14123	17.204	
BHC ISOMER (ALPHA)	.14243	.13820	.13024	.14061	.11983	.12418	7.008	
HEXACHLOROBENZENE	.27555	.24143	.24186	.24020	.21441	.20918	10.024	
BHC ISOMER (BETA)	.13560	.10850	.09741	.08158	.07941	.11456	20.733	
PENTACHLOROPHENOL	.13924	.10051	.08662	-	-	-	25.068	(Conc=400.0,200.0,100.0,50.0,25.0,12.5)
LINDANE - BHC ISOMER(GAMMA)	.10238	.11479	.11077	.10396	.08270	.10138	10.802	
PHENANTHRENE	1.32108	1.26502	1.22463	1.18882	1.14618	1.06248	7.576	
ANTHRACENE	1.35180	1.27437	1.26191	1.22460	1.22635	1.06248	7.763	
BHC ISOMER (DELTA)	.10931	.09769	.09049	.09232	.08039	-	11.258	
HEPTACHLOR	.17888	.21704	.20327	.23150	.21849	.21427	8.531	
DIBUTYLPHTHALATE	1.82716	1.71660	1.70645	1.68408	1.59468	1.58786	5.255	
ALDRIN	.14532	.21817	.17600	.22618	.21755	.21177	15.917	
HEPTACHLOR EPOXIDE	.09650	.12232	.11181	.12414	.11589	.08703	13.523	
FLUORANTHENE	1.47478	1.28891	1.27657	1.19266	1.17239	1.16080	9.335	
PYRENE	1.65007	1.84006	1.74635	1.86633	1.83769	1.69138	5.039	
ENDOSULFAN I	.03687	.03945	.03864	.03296	.03040	-	10.827	
P,P-DDE	.29592	.29016	.28524	.30760	.27887	.30277	3.683	
P-TERPHENYL, D14	-	1.46595	1.42882	1.47924	1.24695	1.40979	6.632	
DIELDRIN	.25231	.39682	.34593	.41531	.42323	.48564	20.621	
ENDRIN	.03960	.04047	.03866	.03220	.03365	-	10.120	
ENDOSULFAN II	.02534	.02289	.02241	.02338	.01110	-	26.908	
P,P-DDD	.54143	.54424	.53637	.52936	.58836	.49017	5.846	
ENDRIN ALDEHYDE	.02680	.04966	.03525	.04978	.04920	-	25.096	
BUTYLBENZYLPHTHALATE	.92528	.99130	.92737	.97949	.90502	.85786	5.275	
P,P-DDT	.42439	.41979	.42201	.42813	.40355	.40180	2.677	
3,3-DICHLOROBENZIDINE	.41863	.35777	.28076	-	-	-	19.606	
BENZ(A)ANTHRACENE	1.43956	1.39037	1.33925	1.30909	1.11146	1.41116	8.901	
CHRYSENE	1.50059	1.42547	1.41029	1.35123	1.46106	1.41116	3.553	
BIS(2-ETHYLHEXYL)PHTHALATE	1.42679	1.51325	1.38334	1.48887	1.50135	-	3.794	
DI-N-OCTYLPHTHALATE	2.65064	2.88970	2.63408	3.03949	2.60653	2.45321	7.852	

BENZO(B)FLUORANTHENE	1.69007	1.67252	1.42780	1.45764	1.20354	1.27354	13.735
BENZO(K)FLUORANTHENE	1.37545	1.52673	1.57587	1.64630	1.34287	1.25624	10.420
BENZO(A)PYRENE	1.46722	1.38371	1.31460	1.31006	.88782	1.15644	16.457
INDENO(1,2,3-CD)PYRENE	1.78388	1.57936	1.31351	1.11025	-	-	20.435

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Files:	>540B9	>544B9	>541B9	>545B9	>542B9	>546B9	
	RF	RF	RF	RF	RF	RF	
Compound	200.00	100.00	50.00	25.00	12.50	6.25	% RSD
DIBENZO(A,H)ANTHRACENE	1.33956	1.13865	.87050	.75668	-	-	25.638
BENZO(GHI)PERYLENE	1.51614	1.27248	1.10057	1.01212	.90534	.72696	25.548

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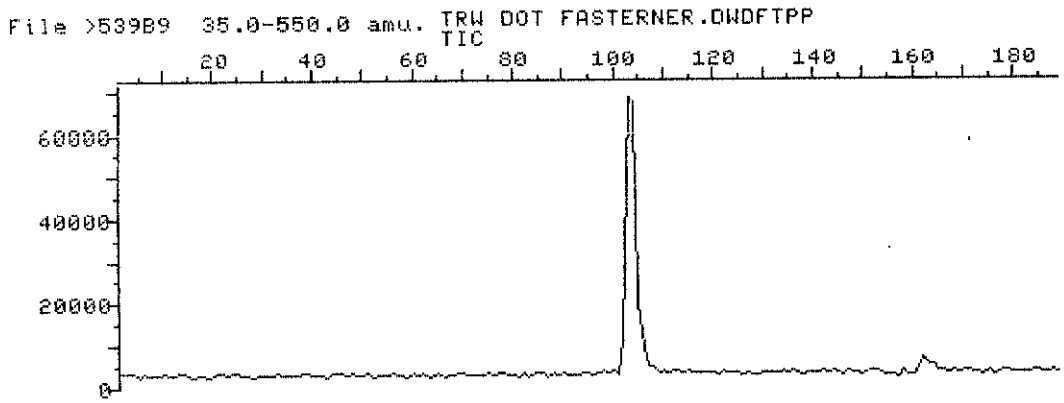
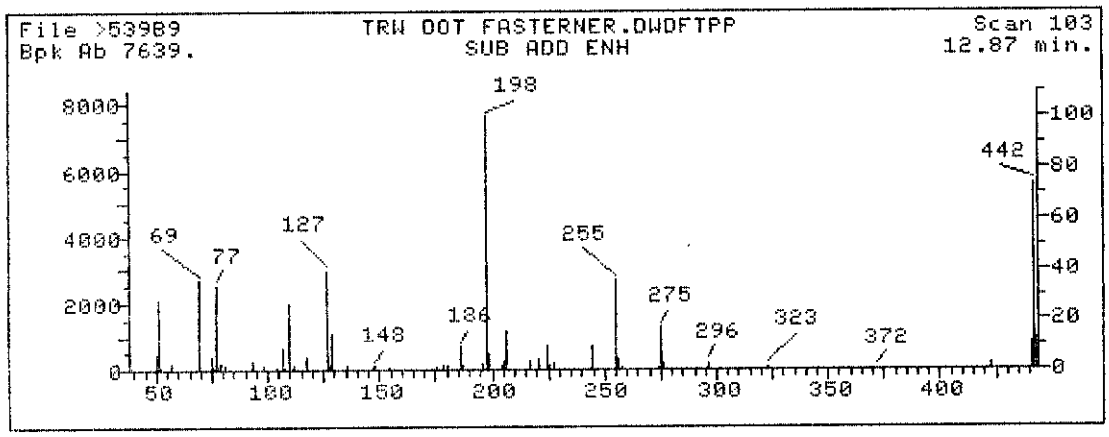




GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	25-80% of mass 198	28.22	28.22	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	35.35	35.35	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	25-75% of mass 198	39.00	39.00	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.47	6.47	Ok
275	10-30% of mass 198	16.69	16.69	Ok
365	Greater than 1% of mass 198	0.00	0.00	No Good
441	0-100% of mass 443	10.82	83.70	Ok
442	40-110% of mass 198	73.53	73.53	Ok
443	15-24% of mass 442	12.93	17.58	Ok

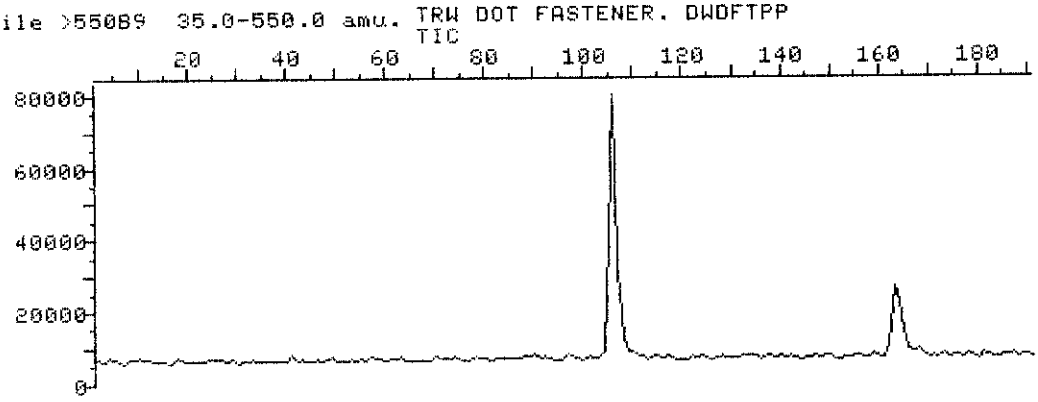
Injection Date: 11/09/90
Injection Time: 17:42
Data File: >539B9
Scan: 103

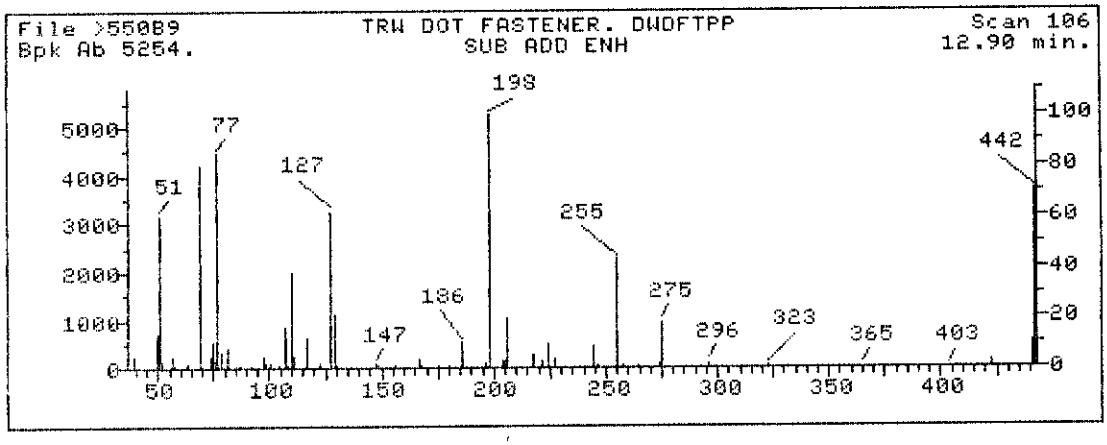
Spectrum fails specified criteria.

File: >539B9 Scan #: 103 Retn. time: 12.87

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.95	.327	92.95	3.823	147.05	1.388	206.05	15.714	274.00	1.292
38.95	.807	93.95	.271	147.95	1.890	210.50	.292	275.00	16.691
49.95	5.690	97.05	.323	152.80	.305	211.15	.493	276.00	2.396
50.95	28.216	97.95	2.291	154.95	1.025	216.25	.148	283.05	.017
51.80	1.423	103.95	1.012	155.95	.537	217.00	3.303	295.95	3.111
56.95	2.404	106.95	8.335	175.15	1.017	221.00	4.805	316.00	.257
59.70	.236	107.95	1.100	176.00	.694	224.00	9.133	322.90	1.414
60.45	.327	109.95	26.462	177.00	.628	225.00	1.776	334.05	.480
68.90	35.351	111.00	1.684	178.90	2.173	227.00	2.596	345.95	.388
74.90	5.642	115.90	.393	180.00	1.619	242.95	.179	372.15	.580
75.90	1.152	117.00	5.162	186.05	9.238	244.05	9.373	421.90	.175
77.00	33.029	124.00	.161	186.95	1.715	249.05	.201	423.00	2.649
78.00	1.737	127.00	38.999	195.95	2.758	254.95	35.469	440.95	10.822
78.90	2.500	127.90	1.702	197.95	100.000	255.95	4.578	441.95	73.529
80.90	1.824	129.00	14.684	198.95	6.471	258.00	.925	442.95	12.930
83.00	.388	133.40	.070	204.05	1.876	265.00	.170	443.95	.545
86.00	.436	135.05	1.654	204.95	3.268	270.90	.113		

File >550B9 35.0-550.0 amu. TRW DOT FASTENER. DWDFTPP
TIC





GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status

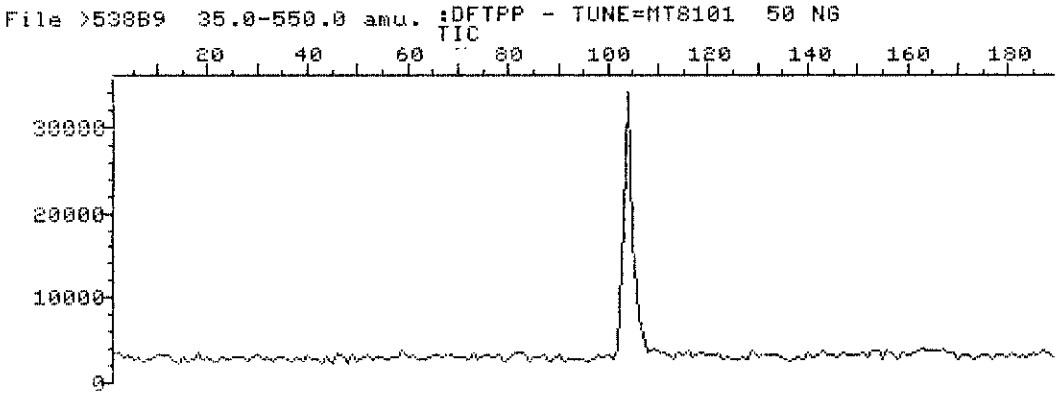
51	25-80% of mass 198	60.10	60.10	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	80.06	80.06	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	25-75% of mass 198	61.61	61.61	Ok
197	Less than 1% of mass 198	.15	.15	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	0.00	0.00	No Good
275	10-30% of mass 198	18.05	18.05	Ok
365	Greater than 1% of mass 198	.26	.26	No Good
441	0-100% of mass 443	10.37	84.63	Ok
442	40-110% of mass 198	69.76	69.76	Ok
443	15-24% of mass 442	12.26	17.57	Ok

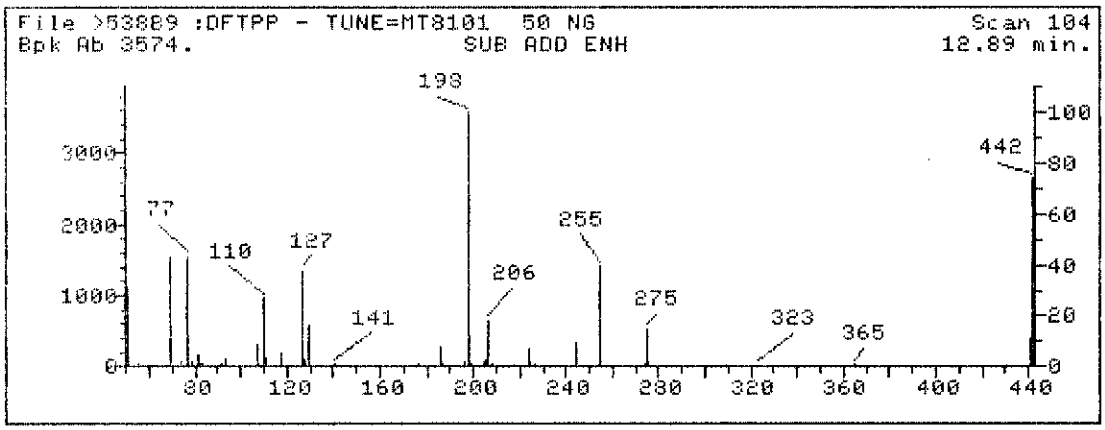
Injection Date: 11/10/90
Injection Time: 07:14
Data File: >550B9
Scan: 106

Spectrum fails specified criteria.

File: >550B9 Scan #: 106 Retn. time: 12.90

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.50	.140	86.95	.723	121.15	.082	180.00	1.409	227.00	3.597
38.95	4.397	91.95	.692	123.00	1.593	186.05	9.987	244.05	8.280
49.95	13.870	93.70	.133	123.90	.634	191.20	.501	245.95	.850
50.95	60.098	95.95	.286	127.00	61.614	196.05	2.062	255.05	42.770
51.95	3.014	96.55	.362	129.00	21.014	197.05	.146	258.00	.869
56.80	4.429	96.95	.425	129.90	1.066	197.95	100.000	264.90	.882
57.80	.717	97.95	4.333	135.95	.482	204.05	2.538	274.00	1.935
63.00	2.037	98.95	1.961	147.05	1.485	205.05	2.309	275.00	18.051
68.90	80.058	100.95	1.650	148.05	1.364	206.05	19.187	295.95	1.973
73.90	4.625	103.95	.673	151.05	.203	210.75	.527	323.00	.679
75.00	9.949	106.95	16.547	152.95	.152	211.65	.228	365.00	.260
75.90	2.608	107.95	1.079	156.05	.755	217.00	5.000	403.05	.184
77.00	84.589	109.95	37.802	156.95	.165	221.15	3.134	423.00	2.646
78.00	5.996	111.00	4.460	167.00	3.534	221.65	.749	440.95	10.374
78.90	5.583	116.00	.412	167.90	1.015	223.00	.336	441.95	69.761
80.90	7.385	116.25	.400	174.00	.489	224.00	9.225	443.05	12.258
84.75	.901	117.00	11.560	175.00	1.028				





GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	25-80% of mass 198	31.14	31.14	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	43.01	43.01	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	25-75% of mass 198	37.25	37.25	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	1.16	1.16	No Good
275	10-30% of mass 198	14.50	14.50	Ok
365	Greater than 1% of mass 198	.89	.89	Ok
441	0-100% of mass 443	11.07	99.58	Ok
442	40-110% of mass 198	73.87	73.87	Ok
443	15-24% of mass 442	11.12	15.05	Ok

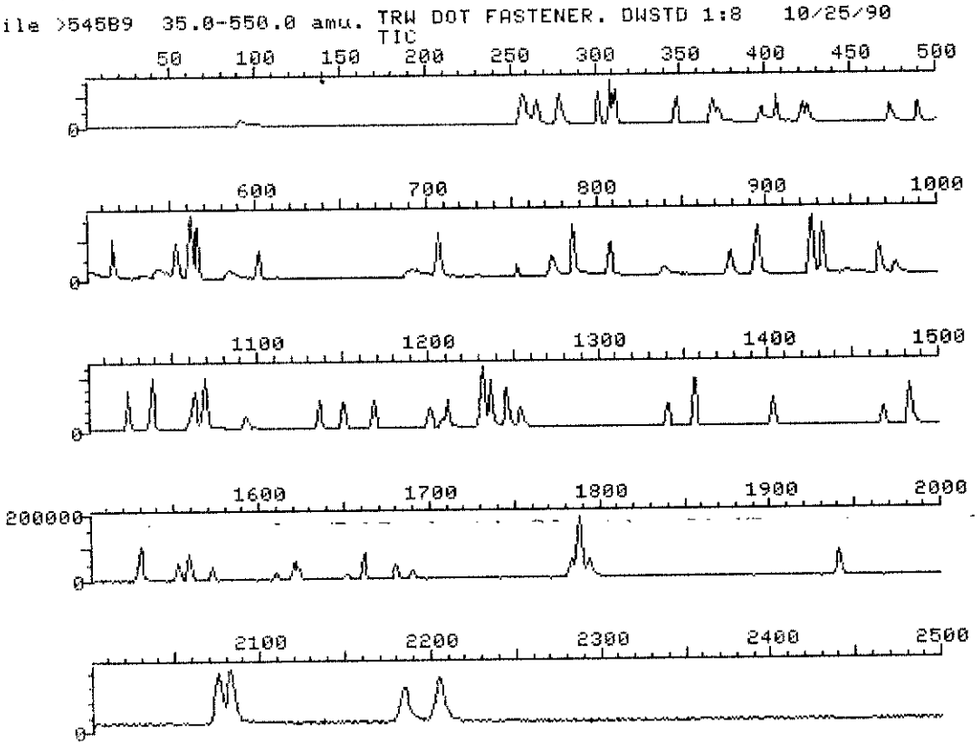
Injection Date: 11/09/90
Injection Time: 11:22
Data File: >538B9
Scan: 104

Spectrum fails specified criteria.

```
      BNASOI        80978 MATRIX DUP                  Dil=1.00000      ^551B9::QT
014) >552B9         TRW DOT FASTENER. DW      14 2 Y S N N N     SS002::PR
      BNASOI        STD 1:4 10/25/90 (C)              Dil=1.00000      ^552B9::QT
015) >553B9         TRW DOT FASTENER. DW      15 2 N S N N N     SS002::PR
      BNASOI        CH2CL2                            Dil=1.00000

 End of sequence file.

FMGR :
FMGR : BLIST,AUTOSQ

 Sequence File: AUTOSQ::PR
 ---------------------------------------------

 Tune File: MT8101

 CR List: D1,D2,D4
 CR Cut-off:  5000 blocks.
                                                   Report Data Archive
                                                 Quant | | ID Archive
 Number of samples:  15                Sample Size | | | | Output Archive
                                          Bottle | | | | | | |
 Samp Data File     Sample Name                 | | | | | | |     Quant ID
  No. Method File   Misc Data                    | | | | | | |     Quant Output
 ---- ------------- ------------------------- ----------------  -------------
 001) >539B9        TRW DOT FASTERNER.DW      01 2 N S N N N     SS002::PR
      DFTPP         DFTPP                             Dil=1.00000
 002) >540B9        TRW DOT FASTENER.DW       02 2 Y S N N N     SS002::PR
      BNASOI        CONC STD 10/25/90                 Dil=1.00000      ^540B9::QT
 003) >541B9        TRW DOT FASTENER. DW      03 2 Y S N N N     SS002::PR
      BNASOI        STD 1:4  10/25/90 (A)             Dil=1.00000      ^541B9::QT
 004) >542B9        TRW DOT FASTENER. DW      04 2 Y S N N N     SS002::PR
      BNASOI        STD 1:16 10/25/90                 Dil=1.00000      ^542B9::QT
 005) >543B9        TRW DOT FASTENER. DW      05 2 Y S N N N     SS002::PR
      BNASOI        BLANK                             Dil=1.00000      ^543B9::QT
 006) >544B9        TRW DOT FASTENER. DW      06 2 Y S N N N     SS002::PR
      BNASOI        STD 1:2   10/25/90                Dil=1.00000      ^544B9::QT
 007) >545B9        TRW DOT FASTENER. DW      07 2 Y S N N N     SS002::PR
      BNASOI        STD 1:8   10/25/90                Dil=1.00000      ^545B9::QT
 008) >546B9        TRW DOT FASTENER. DW      08 2 Y S N N N     SS002::PR
      BNASOI        STD 1:32  10/25/90                Dil=1.00000      ^546B9::QT
 009) >547B9        TRW DOT FASTENER. DW      09 2 Y S N N N     SS002::PR
      BNASOI        54156  TRIP BLANLK               Dil=1.00000      ^547B9::QT
 010) >548B9        TRW DOT FASTENER. DW      10 2 Y S N N N     SS002::PR
      BNASOI        80978                             Dil=1.00000      ^548B9::QT
 011) >549B9        TRW DOT FASTENER. DW      11 2 Y S N N N     SS002::PR
      BNASOI        80978  MATRIX                    Dil=1.00000      ^549B9::QT
 012) >550B9        TRW DOT FASTENER. DW      12 2 N S N N N     SS002::PR
      DFTPP         DFTPP                             Dil=1.00000
 013) >551B9        TRW DOT FASTENER. DW      13 2 Y S N N N     SS002::PR
      BNASOI        80978 MATRIX DUP                  Dil=1.00000      ^551B9::QT
 014) >552B9        TRW DOT FASTENER. DW      14 2 Y S N N N     SS002::PR
      BNASOI        STD 1:4 10/25/90 (C)              Dil=1.00000      ^552B9::QT
 015) >553B9        TRW DOT FASTENER. DW      15 2 N S N N N     SS002::PR
      BNASOI        CH2CL2                            Dil=1.00000

 End of sequence file.

FMGR :
```

```
 014) >552B9        TRW DOT FASTENER. DW      14 2 Y S N N N    SS002::PR
      BNASOI        STD 1:4 10/25/90 (C)         Dil=1.00000    ^552B9::QT
 015) >553B9        TRW DOT FASTENER. DW      15 2 N S N N N    SS002::PR
      BNASOI        CH2CL2                       Dil=1.00000

 End of sequence file.

FMGR :
FMGR : BLIST,AUTOSQ

 Sequence File: AUTOSQ::PR
 -----------------------------------------

 Tune File: MT8101

 CR List: D1,D2,D4
 CR Cut-off:  5000 blocks.
                                                  Report Data Archive
                                                 Quant | | ID Archive
 Number of samples:  15                 Sample Size | | | | Output Archive
                                           Bottle | | | | | | |
 Samp Data File     Sample Name                 | | | | | | |    Quant ID
  No. Method File   Misc Data                    | | | | | | |    Quant Output
 ---- ------------ ------------------------ ----------------  ------------
 001) >539B9        TRW DOT FASTERNER.DW      01 2 N S N N N    SS002::PR
      DFTPP         DFTPP                        Dil=1.00000
 002) >540B9        TRW DOT FASTENER.DW       02 2 Y S N N N    SS002::PR
      BNASOI        CONC STD 10/25/90            Dil=1.00000    ^540B9::QT
 003) >541B9        TRW DOT FASTENER. DW      03 2 Y S N N N    SS002::PR
      BNASOI        STD 1:4  10/25/90 (A)        Dil=1.00000    ^541B9::QT
 004) >542B9        TRW DOT FASTENER. DW      04 2 Y S N N N    SS002::PR
      BNASOI        STD 1:16 10/25/90            Dil=1.00000    ^542B9::QT
 005) >543B9        TRW DOT FASTENER. DW      05 2 Y S N N N    SS002::PR
      BNASOI        BLANK                        Dil=1.00000    ^543B9::QT
 006) >544B9        TRW DOT FASTENER. DW      06 2 Y S N N N    SS002::PR
      BNASOI        STD 1:2   10/25/90           Dil=1.00000    ^544B9::QT
 007) >545B9        TRW DOT FASTENER. DW      07 2 Y S N N N    SS002::PR
      BNASOI        STD 1:8   10/25/90           Dil=1.00000    ^545B9::QT
 008) >546B9        TRW DOT FASTENER. DW      08 2 Y S N N N    SS002::PR
      BNASOI        STD 1:32  10/25/90           Dil=1.00000    ^546B9::QT
 009) >547B9        TRW DOT FASTENER. DW      09 2 Y S N N N    SS002::PR
      BNASOI        54156  TRIP BLANLK           Dil=1.00000    ^547B9::QT
 010) >548B9        TRW DOT FASTENER. DW      10 2 Y S N N N    SS002::PR
      BNASOI        80978                        Dil=1.00000    ^548B9::QT
 011) >549B9        TRW DOT FASTENER. DW      11 2 Y S N N N    SS002::PR
      BNASOI        80978  MATRIX                Dil=1.00000    ^549B9::QT
 012) >550B9        TRW DOT FASTENER. DW      12 2 N S N N N    SS002::PR
      DFTPP         DFTPP                        Dil=1.00000
 013) >551B9        TRW DOT FASTENER. DW      13 2 Y S N N N    SS002::PR
      BNASOI        80978 MATRIX DUP             Dil=1.00000    ^551B9::QT
 014) >552B9        TRW DOT FASTENER. DW      14 2 Y S N N N    SS002::PR
      BNASOI        STD 1:4 10/25/90 (C)         Dil=1.00000    ^552B9::QT
 015) >553B9        TRW DOT FASTENER. DW      15 2 N S N N N    SS002::PR
      BNASOI        CH2CL2                       Dil=1.00000

 End of sequence file.

FMGR :
```

File >545B9 35.0-550.0 amu. TRW DOT FASTENER. DWSTD 1:8 10/25/90

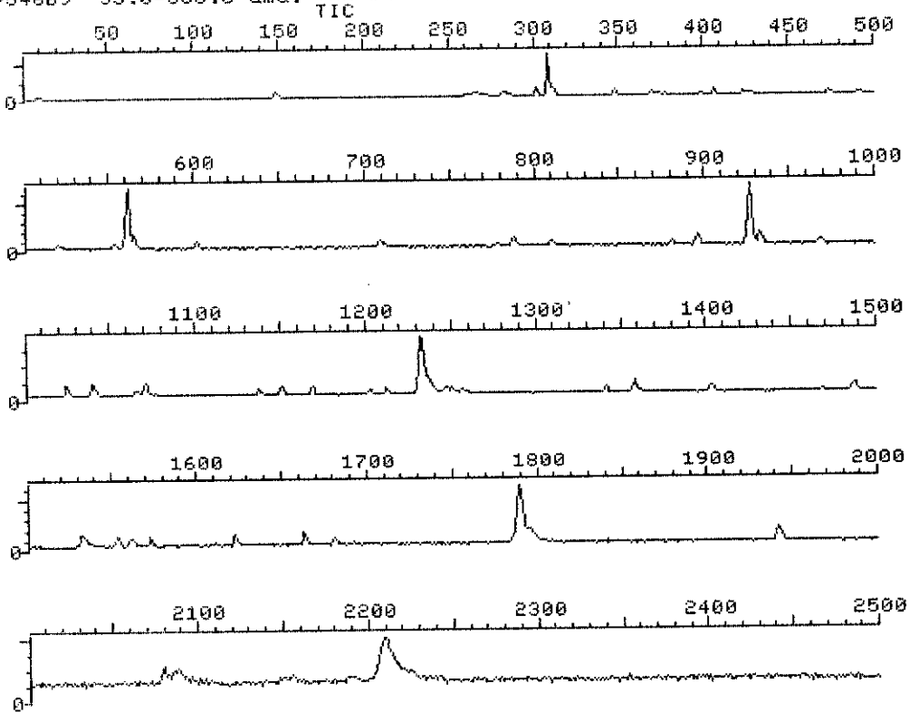


63	40.54	1607	1610	1614	19252	89066	51065	8.37	.314
64	40.74	1617	1621	1622	51960	179661	147934	24.25	.909
65	40.78	1622	1623	1627	33774	108675	75114	12.31	.462
66	41.28	1648	1651	1655	16636	87776	45156	7.40	.278
67	41.48	1658	1662	1665	74971	263946	219236	35.94	1.348
68	41.81	1677	1680	1685	42656	164675	113929	18.67	.700
69	41.99	1685	1690	1693	24900	121099	70319	11.53	.432
70	43.67	1779	1783	1785	51072	240962	202316	33.16	1.244
71	43.76	1785	1788	1791	181067	652718	610074	100.00	3.750
72	43.85	1791	1793	1803	52671	325233	232383	38.09	1.428
73	46.53	1936	1941	1948	79039	349413	273849	44.89	1.683
74	48.96	2069	2076	2079	33547	241061	174830	28.66	1.075
75	49.09	2079	2083	2094	36497	299555	193388	31.70	1.189
76	50.92	2178	2184	2196	22086	281748	153763	25.20	.945
77	51.30	2198	2205	2215	28081	326528	192812	31.60	1.185
78	59.82	2667	2677	2678	.9627	146031	70730	11.59	.435
79	62.41	2808	2820	2822	9182	175257	79725	13.07	.490

Sum of corrected areas: 16269004.

:RU,AL

File >546B9 35.0-550.0 amu. TRW DOT FASTENER. DWSTD 1:32 10/25/90



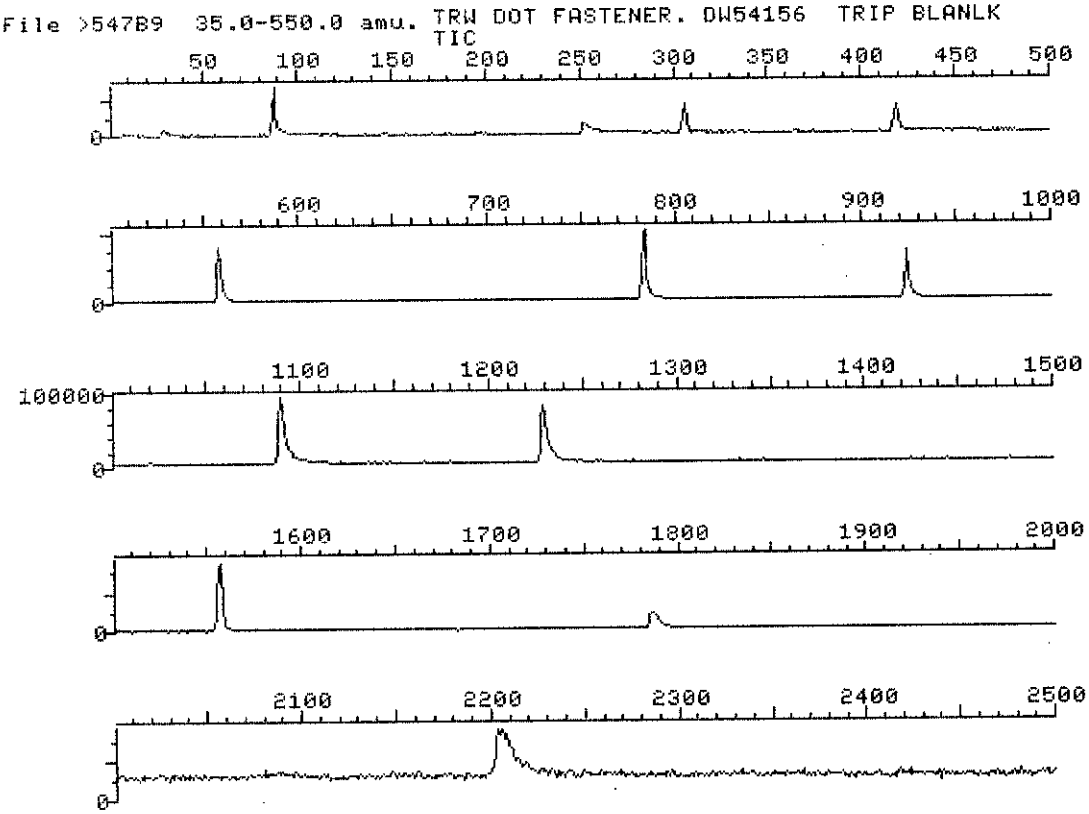
38	33.70	1229	1232	1236	67439	313647	269852	76.96	7.433
39	34.15	1255	1257	1262	5318	60116	21278	6.07	.586
40	35.98	1352	1358	1363	15114	114840	51350	14.65	1.414
78	59.82	2667	2677	2678	9627	146031	70730	11.59	.435
41	36.81	1400	1404	1407	7880	61388	21994	6.27	.606
42	38.31	1483	1487	1492	10670	96702	47037	13.41	1.296
43	39.14	1528	1533	1542	11243	141693	68489	19.53	1.887
44	39.50	1550	1553	1557	8196	64597	25219	7.19	.695
45	39.66	1557	1562	1567	7078	86756	30866	8.80	.850
:TR,RC,>546B9									
46	39.86	1570	1573	1579	8389	73404	23586	6.73	.650
47	40.76	1620	1623	1629	9899	85579	34613	9.87	.953
48	41.48	1660	1663	1667	12490	79141	35002	9.98	.964
49	41.81	1679	1681	1685	6114	53820	19182	5.47	.528
50	43.76	1781	1789	1804	55509	489483	341687	97.45	9.412
	Primary graphics lu : 1								
51	46.52	1938	1942	1947	13168	103410	47548	13.56	1.310
52	49.01	2076	2080	2084	5357	75831	23618	6.74	.651
53	49.18	2084	2089	2095	4237	104112	27781	7.92	.765
54	51.36	2202	2210	2218	13488	246985	131375	37.47	3.619

:RU,EC

Sum of corrected areas: 3630286. ion range

:RU,AL								
X	GC	3031	1	11.46-	66.19	129716.0	>546B9	35.00- 550.00

File >547B9 35.0-550.0 amu. TRW DOT FASTENER. DW54156 TRIP BLANLK

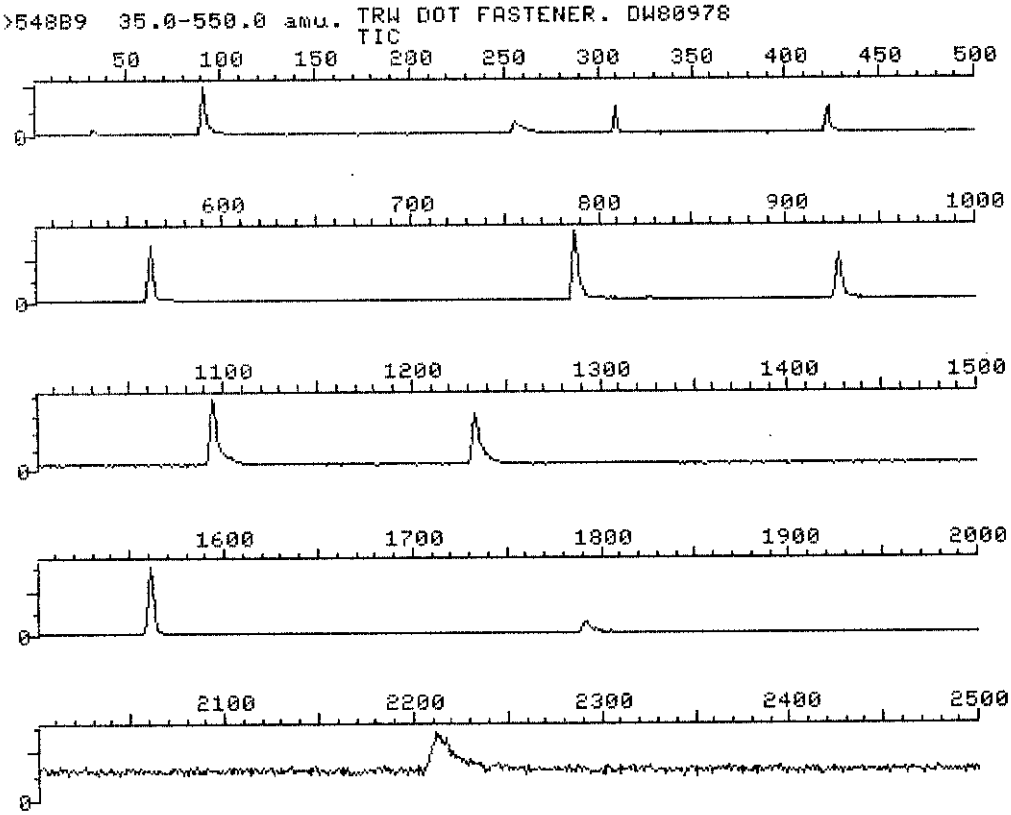


Dnslope: 0.00 Results File VDIR81 Sorted by Time/Area INT 2 .987

48	33.15	1198	1201	1205	36087	156668	111818	18.33	.687
Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of46 total7
1	12.04	27	29	36	28566	160216	108129	14.12	1.973
2	13.10	85	88	106	265955	893029	765547	100.00	13.969

3	16.06	249	252	269	55031	500387	380257	49.67	6.938
4	17.04	302	306	309	153186	402570	360301	47.06	6.574
5	19.08	415	419	432	151554	570858	474840	62.03	8.664
18	21.65	564	565	571	27348	120840	74207	21.16	2.044
6	21.59	554	558	568	162107	542578	462132	60.37	8.432
7	25.67	780	784	797	202206	803743	700492	91.50	12.781
8	28.20	919	924	931	137655	524573	458931	59.95	8.374
9	31.20	1086	1090	1105	89228	541728	421170	55.02	7.685
10	33.71	1225	1229	1247	77822	502723	375845	49.09	6.858
23	26.08	807	810	815	11531	87986	40562	11.57	1.117
11	39.65	1552	1558	1566	168563	679219	592604	77.41	10.813
12	43.78	1782	1787	1797	41255	348514	257972	33.70	4.707
13	51.35	2197	2206	2213	12391	218083	122365	15.98	2.233
26	28.19	923	927	931	124109	400329	350630	100.00	9.658
				Sum of corrected areas:			5480585.	21.44	2.071
*RU,AL	8.95	965	969	973	9314	82860	38695	11.04	1.066
29	29.94	1021	1024	1029	11443	81888	36873	10.52	1.016

File >548B9 35.0-550.0 amu. TRW DOT FASTENER. DW80978

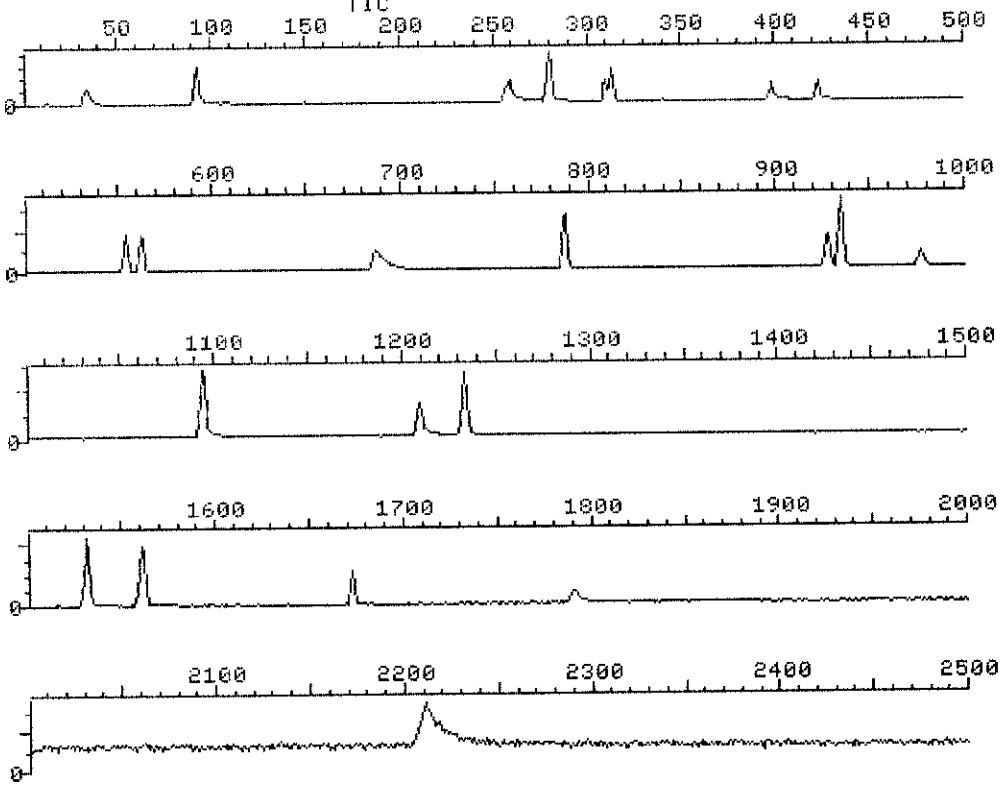


Dnslope: 0.00 Results File VDIR81 Sorted by Time/Area INT 2 .987

48	33.15	1198	1201	1205	36087	156668	111818	18.33	.687
Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of46 total7
1	12.03	30	32	43	25552	164416	97710	15.45	2.160
2	13.09	88	91	107	195748	757482	632597	100.00	13.986
3	16.07	254	256	277	47872	480680	340566	53.84	7.530
4	17.03	306	309	313	104564	326680	283599	44.83	6.270
5	19.09	419	423	430	109094	441823	379183	59.94	8.383
18	21.65	564	565	571	27348	120840	74207	21.16	2.044
6	21.60	558	562	571	127365	453119	378278	59.80	8.363
7	25.66	784	787	796	156722	643270	576006	91.05	12.735
8	28.20	924	928	936	104414	437882	365277	57.74	8.076
9	31.20	1091	1094	1110	72781	504946	391379	61.87	8.653
10	33.71	1230	1233	1245	55665	387811	298086	47.12	6.590
23	26.09	807	810	815	11531	87986	40562	11.57	1.117

29	26.08	807	810	815	11531	87986	40562	11.57	1.117
11	39.64	1556	1561	1569	151628	600052	529632	83.72	11.710
12	43.81	1785	1792	1801	27398	278014	185335	29.30	4.098
13	51.39	2205	2212	2216	8798	131055	65349	10.33	1.445
26	28.19	923	927	931	124109	400329	350630	100.00	9.658
				Sum of corrected areas:			4522997.	21.44	2.071
:RU,AL	8.95	965	969	973	9314	82860	38695	11.04	1.066
:TR	29.94	1021	1024	1029	11443	81888	36873	10.52	1.016

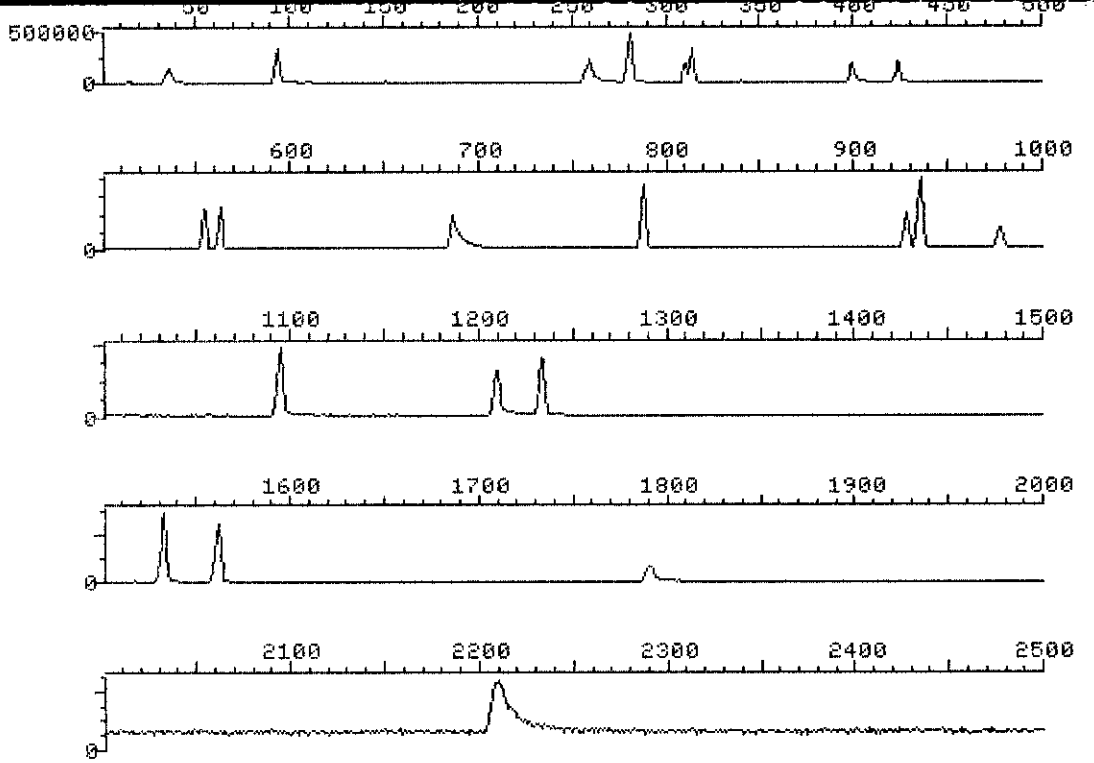
File >549B9 35.0-550.0 amu. TRW DOT FASTENER. DW80978 MATRIX
TIC



7	18.66	394	399	409	129470	541405	451996	40.25	3.518
8	19.11	419	424	432	155630	586331	510949	45.50	3.977
9	21.46	550	554	559	180959	520847	464618	41.37	3.616
10	21.60	559	562	567	172659	519421	459663	40.93	3.577
23	26.08	807	810	815	11531	87986	40562	11.57	1.117
11	23.84	682	686	703	97432	990445	872467	77.69	6.790
12	25.68	783	788	796	265345	851422	776983	69.19	6.047
13	28.21	924	928	931	157398	522500	485348	43.22	3.777
14	28.34	931	935	938	332896	1005235	928151	82.65	7.224
15	29.09	973	977	991	80878	413011	309029	27.52	2.405
:RU,AL	8.95	965	969	973	9314	82860	38695	11.04	1.066
16	31.21	1089	1094	1105	134736	597222	508788	45.31	3.960
17	33.28	1204	1209	1219	66181	373800	287702	25.62	2.239
18	33.72	1229	1233	1245	125536	492190	400419	35.66	3.116
19	39.12	1526	1532	1543	218303	915901	817235	72.77	6.360
20	39.64	1557	1561	1570	187492	716938	637098	56.73	4.958
			Default data file:		>548B9::D1				
21	41.67	1670	1673	1676	103360	287055	246720	21.97	1.920
22	43.80	1784	1791	1801	40738	385833	272765	24.29	2.123
23	51.38	2202	2211	2216	11273	180708	89727	7.99	.698
:RU,NEW									
				Sum of corrected areas:			12848960.		

:RU,AL
:RU,EC

File >551B9 35.0-550.0 amu. TRW DOT FASTENER. DW80978 MATRIX DUP
TIC



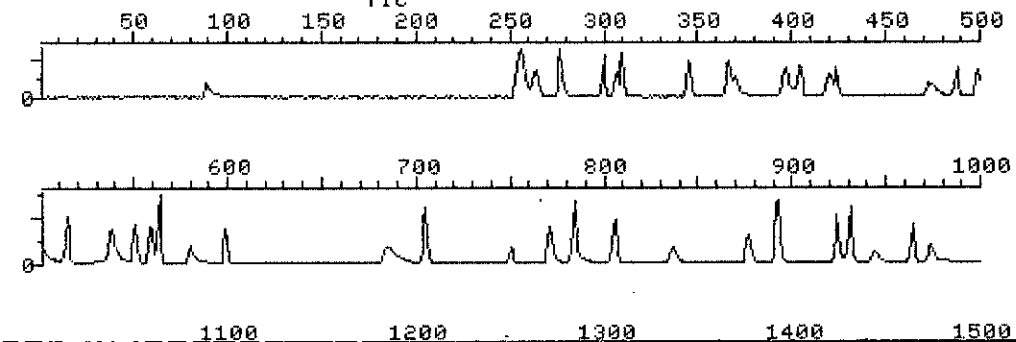
6	17.12	312	314	317	331668	722246	688158	49.44	4.169
7	18.68	395	400	415	170777	741796	614834	44.17	3.725
8	19.11	420	424	427	205317	670066	623957	44.82	3.780
9	21.46	551	554	558	229234	692123	649722	46.67	3.937
10	21.62	560	563	566	234722	611154	554574	39.84	3.360
23	26.08	807	810	815	11531	87986	40562	11.57	1.117
11	23.84	683	686	702	191350	1355280	1234919	88.71	7.482
12	25.68	783	788	791	365755	1014924	971564	69.80	5.887
13	28.21	924	928	931	204938	628585	587338	42.19	3.559
14	28.36	931	936	939	391900	1329929	1243150	89.31	7.532
15	29.12	972	978	982	119273	496773	442281	31.77	2.680
*RU,AL	8.95	965	969	973	9314	82860	38695	11.04	1.066
16	31.23	1088	1095	1106	187838	795015	695510	49.96	4.214
17	33.29	1204	1209	1225	124134	698746	566398	40.69	3.432
18	33.73	1229	1233	1242	155102	612757	513005	36.85	3.108
19	39.14	1526	1533	1541	290193	1228651	1131967	81.32	6.858
20	39.67	1556	1562	1574	246547	982548	864691	62.12	5.239
		Default data file:			>548B9::D1				
21	43.78	1783	1790	1803	59567	506197	378328	27.18	2.292
22	51.37	2204	2210	2215	17295	222307	145960	10.49	.884
23	51.38	2202	2211	2216	11273	180708	89727	7.99	.698

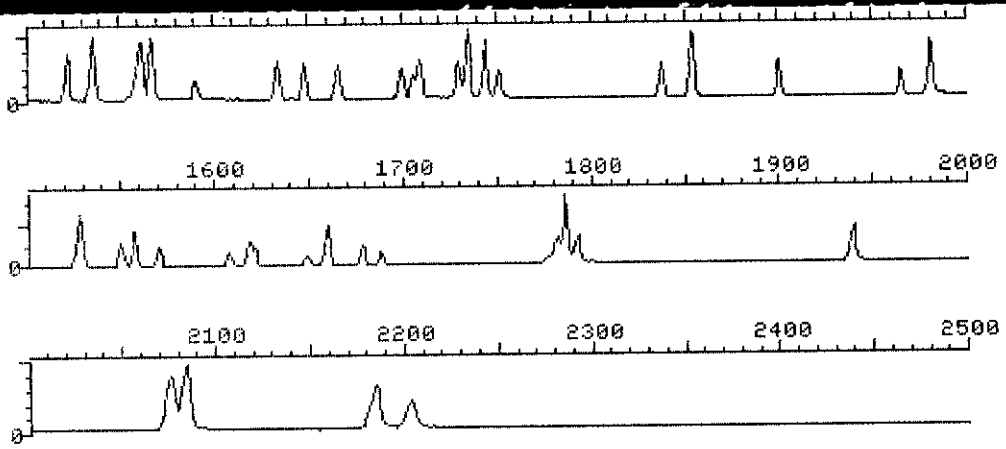
Sum of corrected areas: 16504828.

*RU,AL Sum of corrected areas: 12848960.

*RU,AL

File >552B9 35.0-550.0 amu. TRW DOT FASTENER. DWSTD 1:4 10/25/90
TIC



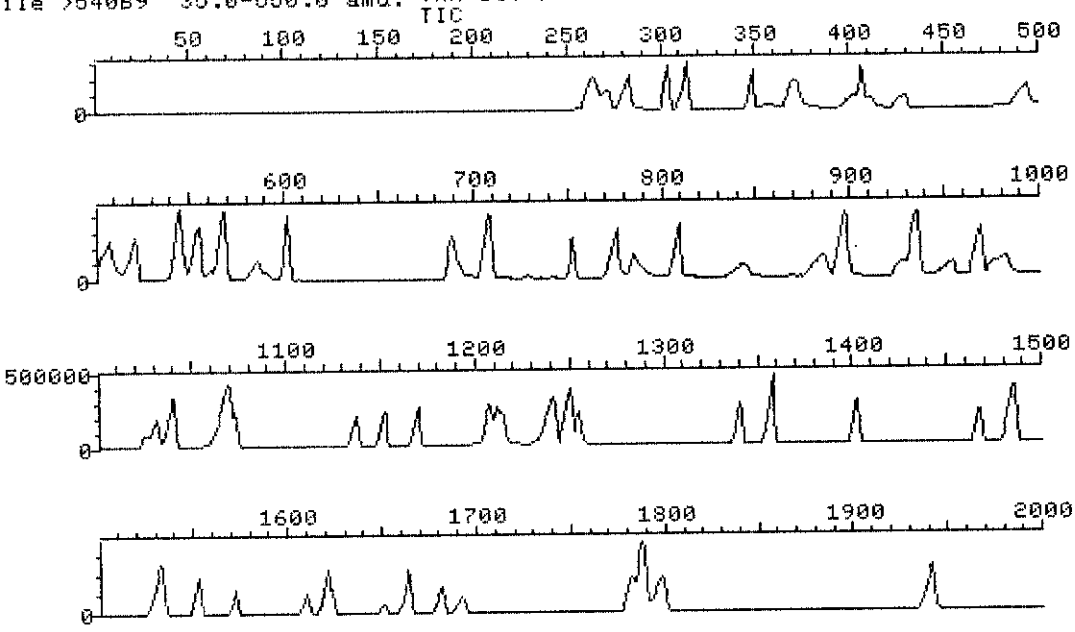


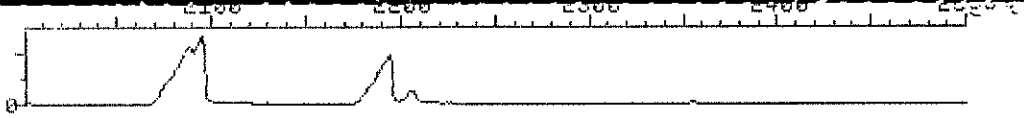
61	39.89	1566	1570	1574	94517	318587	273057	21.68	.754
62	40.58	1602	1608	1612	55566	215544	158302	12.57	.437
63	40.76	1614	1618	1620	109204	424074	379786	30.15	1.049
64	41.32	1645	1649	1654	43353	172530	119521	9.49	.330
65	41.52	1655	1660	1663	179595	576020	516995	41.04	1.428
66	41.85	1674	1678	1682	87086	317774	263329	20.90	.727
67	42.03	1684	1688	1692	62510	238453	191921	15.24	.530
68	43.73	1772	1782	1783	115649	663004	579286	45.99	1.600
69	43.80	1783	1786	1789	327680	1130881	1079585	85.71	2.981
70	43.93	1789	1793	1798	128374	598330	517125	41.05	1.428
71	46.58	1933	1940	1953	168269	811942	685572	54.43	1.893
72	49.04	2067	2076	2079	73322	529228	446344	35.43	1.233
73	49.20	2079	2085	2091	89051	578139	468905	37.23	1.295
74	51.01	2174	2185	2193	60167	530359	412020	32.71	1.138
75	51.35	2195	2204	2210	37279	360940	233719	18.55	.645
76	60.00	2665	2683	2683	33548	442839	330612	26.25	.913
77	62.55	2804	2824	2831	28621	542713	367426	29.17	1.015

Sum of corrected areas: 36210368.

*RU,AL

File >540B9 35.0-550.0 amu. TRW DOT FASTENER.DW CONC STD 10/25/90
TIC



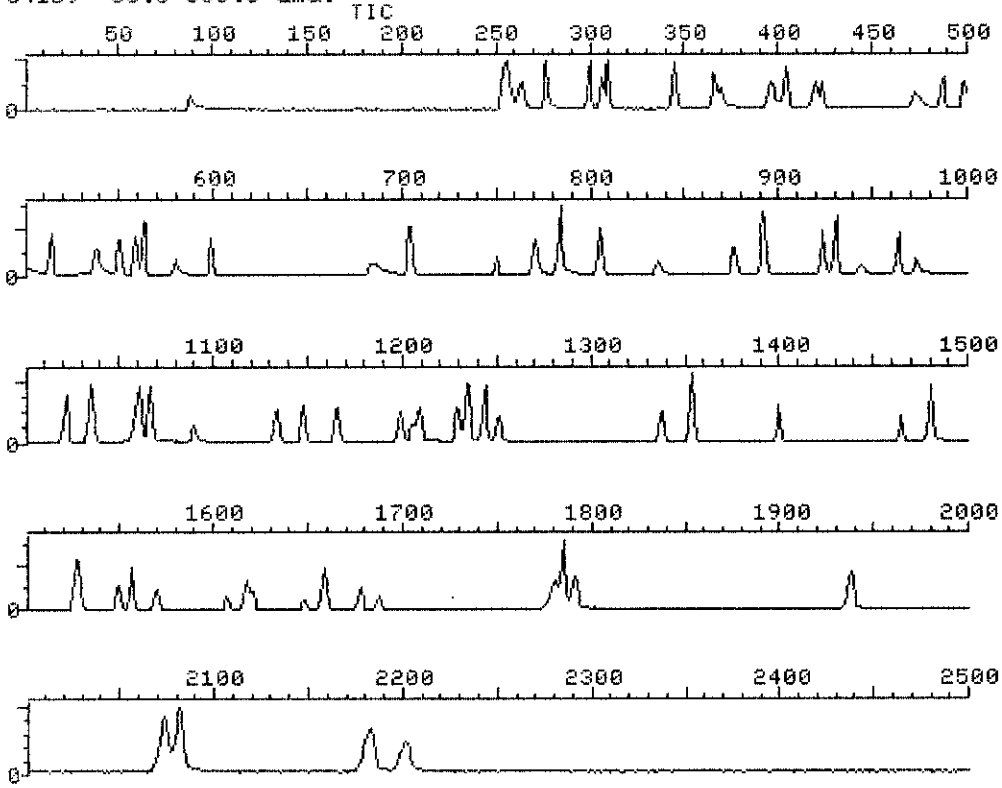


55	39.93	1565	1573	1576	245166	967749	914407	21.72	.890
56	40.60	1604	1610	1614	190527	705110	664637	15.78	.647
57	40.80	1614	1621	1627	428204	2291319	2206041	52.39	2.148
58	41.34	1646	1651	1655	98142	355591	315763	7.50	.307
59	41.58	1657	1664	1667	435190	1838385	1784408	42.38	1.738
60	41.90	1674	1682	1685	251884	1144160	1080438	25.66	1.052
61	42.09	1685	1692	1696	144607	846346	787513	18.70	.767
62	43.71	1774	1782	1783	356984	1596083	1548877	36.78	1.508
63	43.82	1783	1788	1792	696118	4137660	4064941	96.53	3.958
64	44.00	1792	1798	1806	352759	2235594	2089295	49.62	2.034
65	46.61	1932	1942	1952	467744	2550952	2464801	58.53	2.400
66	49.25	2066	2088	2091	228708	3107540	3005347	71.37	2.926
67	51.16	2173	2194	2199	187435	2137976	2012417	47.79	1.960
68	51.38	2199	2206	2211	48215	392496	296816	7.05	.289
69	60.58	2658	2715	2728	149574	4515320	4210884	100.00	4.100
70	62.66	2803	2830	2831	46581	771708	616964	14.65	.601

Sum of corrected areas: 102696270.

*RU,AL

File >54189 35.0-550.0 amu. TRW DOT FASTENER. DWSTD 1:4 10/25/90
TIC

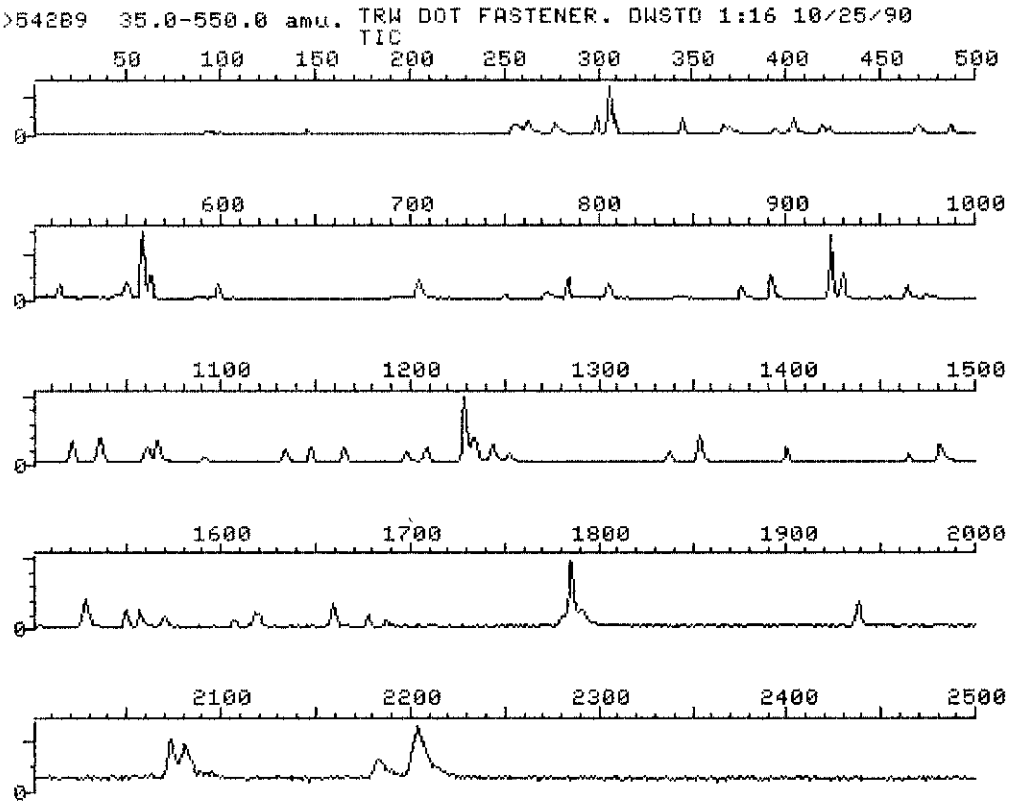


63	40.55	1604	1607	1611	58045	197604	198219	19.19	.459
64	40.75	1613	1618	1619	129396	409213	372001	35.71	1.071
65	40.78	1619	1620	1624	76530	221283	187237	17.97	.539
*RU,GCF,320B,63146B,1									
66	41.29	1645	1648	1652	42911	157681	119250	11.45	.343
67	41.49	1654	1659	1662	182069	547948	500626	48.06	1.441
68	41.83	1673	1678	1681	96753	329812	279350	26.82	.804
69	41.99	1683	1687	1691	59783	237021	192586	18.49	.554
70	43.69	1770	1781	1782	125567	683452	622148	59.73	1.790
working...									
71	43.77	1782	1785	1788	313257	1086419	1041663	100.00	2.998
72	43.87	1788	1791	1800	140150	639917	533889	51.25	1.536
73	46.53	1932	1938	1946	168031	716532	634009	60.87	1.825
74	48.99	2064	2074	2077	81297	569346	500964	48.09	1.442
75	49.13	2077	2082	2090	93476	600716	489971	47.04	1.410
*RU,GR									
76	50.96	2173	2183	2193	62385	560438	439986	42.24	1.266
77	51.28	2193	2201	2212	43171	423146	281999	27.07	.812
78	59.99	2660	2683	2692	48100	925767	731229	70.20	2.104
79	62.43	2800	2818	2829	29078	577047	402845	38.67	1.159

Sum of corrected areas: 34747672.

*RU,AL

File >542B9 35.0-550.0 amu. TRW DOT FASTENER. DWSTD 1:16 10/25/90



52	39.10	1523	1528	1536	39411	211661	139034	36.25	2.043
53	39.50	1546	1550	1554	22918	101201	56706	14.78	.833
54	39.63	1554	1557	1564	21735	132605	76185	19.86	1.120
55	39.86	1564	1570	1572	14959	87413	42266	11.02	.621
reg type	# pts	scan#		range:	amu\r.t.	base	file	ion range	
56	40.53	1604	1607	1611	7871	59344	21986	5.73	.323
57	40.73	1616	1618	1625	20891	141561	95061	24.78	1.397
58	41.47	1654	1659	1663	31681	141197	91523	23.86	1.345
59	41.81	1674	1678	1681	16412	83326	43981	11.47	.646
60	41.99	1683	1688	1692	8678	77285	27698	7.22	.407
working...									

working...

61	43.67	1777	1781	1782	15254	83204	54793	14.29	.805
62	43.74	1782	1785	1789	92539	409629	365061	95.18	5.365
63	43.85	1789	1791	1801	22394	202604	117415	30.61	1.726
64	46.51	1934	1938	1947	35041	199433	126994	33.11	1.866
65	48.97	2068	2074	2077	15308	130230	73855	19.26	1.085

:RU,GCF,320B,63146B,1

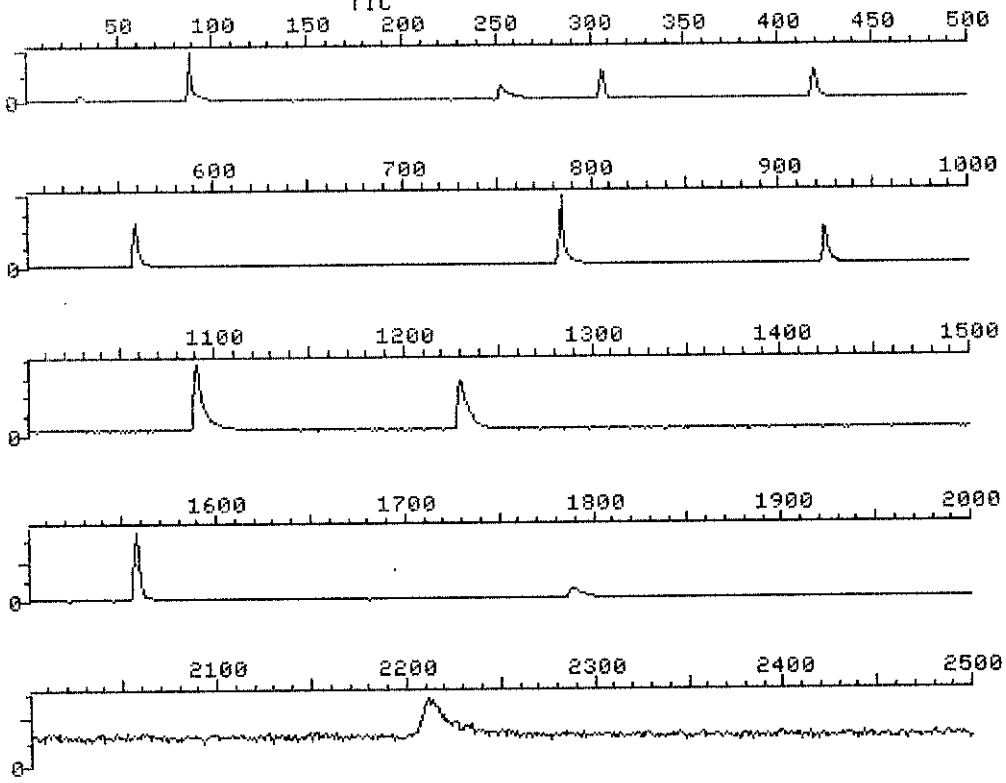
66	49.09	2077	2081	2087	12632	146897	77854	20.30	1.144
67	50.93	2177	2183	2194	7529	167923	61455	16.02	.903
68	51.31	2196	2204	2221	20436	362370	193543	50.46	2.844

:RU,GCF,320B,63146B,1

Sum of corrected areas: 6804361.

:RU,AL g...
draw complete...

File >543B9 35.0-550.0 amu. TRW DOT FASTENER. DWBLANK
TIC

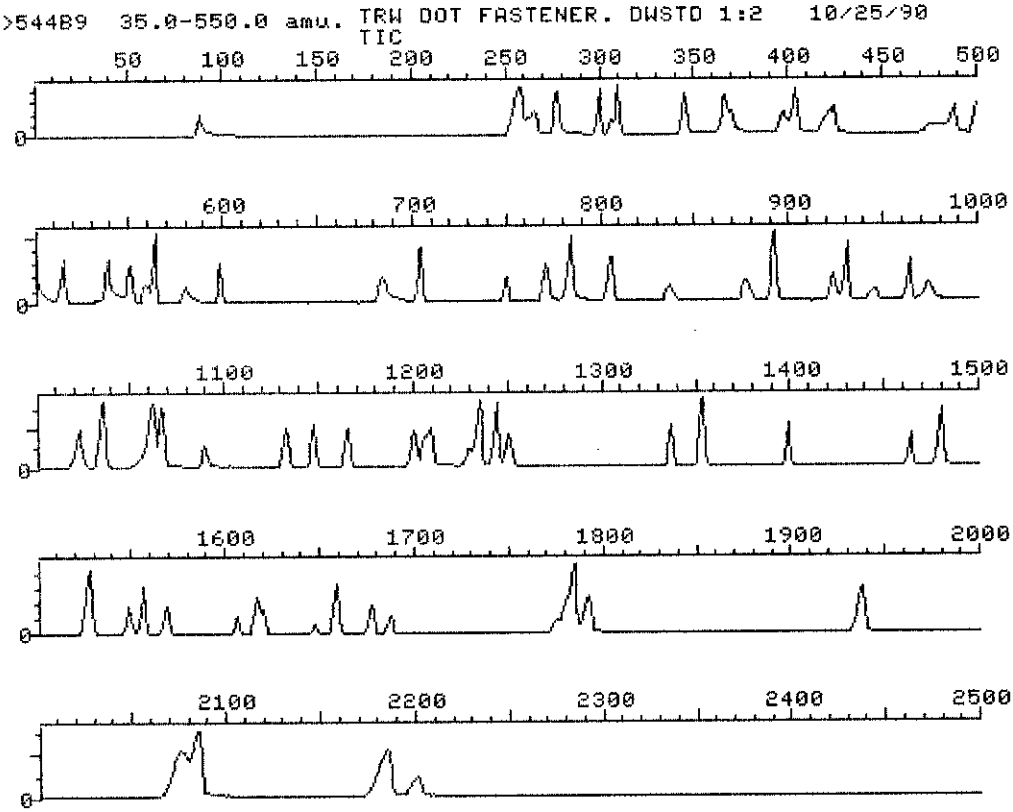


Dnslope: 0.00 Results File VDIR81 Sorted by Time/Area INT 3 .284

25	25.44	770	772	781	13023	128215	72174	18.82	1.061
Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of55 total8
1	12.02	27	29	36	19266	129905	78213	11.81	1.636
2	13.08	85	88	106	187614	789022	662468	100.00	13.854
3	16.07	250	253	268	49023	433467	326939	49.35	6.837
4	17.02	303	306	310	113615	337182	290559	43.86	6.076
5	19.06	415	419	430	114685	488278	405786	61.25	8.486
32	28.91	961	964	972	28065	155125	98386	25.65	1.446
6	21.59	555	559	568	119517	462299	388987	58.72	8.135
7	25.66	780	784	792	189770	707400	642235	96.95	13.430
8	28.18	920	924	935	98755	473307	392776	59.29	8.214
9	31.20	1087	1091	1107	70566	515272	408105	61.60	8.534
10	33.71	1226	1230	1245	52364	429749	321284	48.50	6.719
37	30.77	1064	1067	1072	28639	142848	92667	24.16	1.362
11	39.63	1553	1558	1568	168068	688752	603865	91.15	12.628
12	43.80	1784	1789	1801	24418	307151	193726	29.24	4.051
13	51.44	2206	2212	2219	7119	165745	66996	10.11	1.401
38	50.88	2660	2693	2692	48100	825747	731229	70.20	2.106

76	59.77	2660	2665	2672	46100	725787	591229	70.20	2.104
				Sum of corrected areas:			4781939.	12.37	.697
*RU,AL	3.34	1203	1209	1212	21022	110850	61824	16.12	.909
43	33.70	1225	1229	1232	93528	343238	302874	78.96	4.451

File >544B9 35.0-550.0 amu. TRW DOT FASTENER. DWSTD 1:2 10/25/90

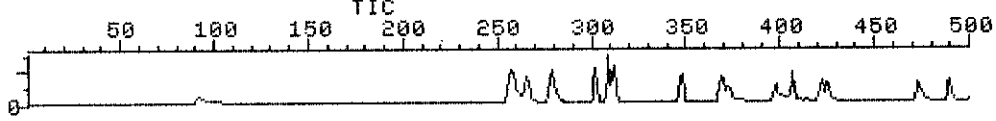


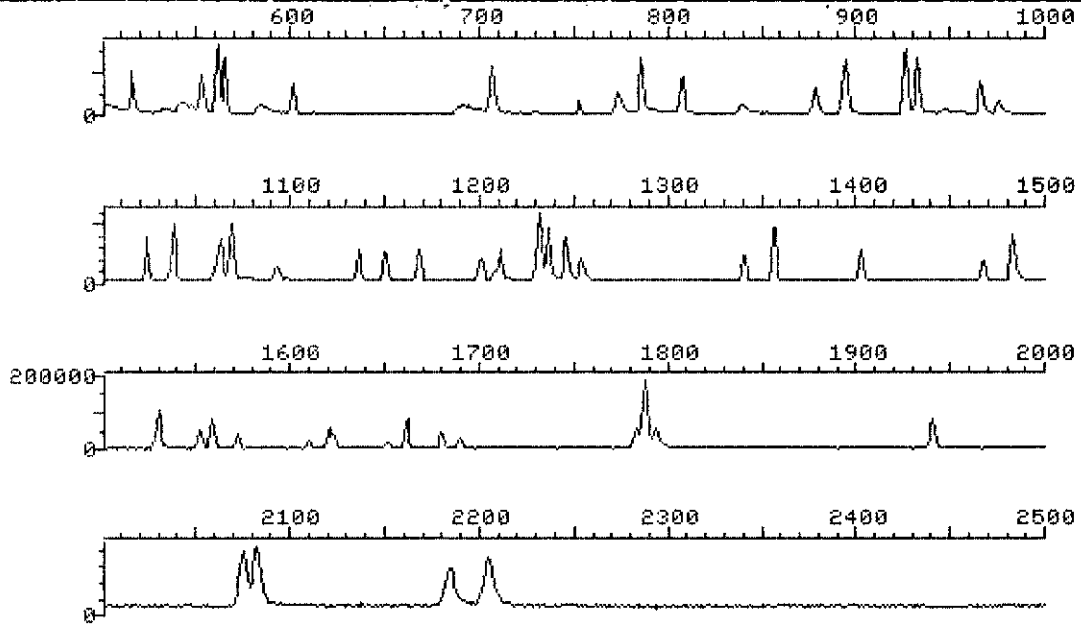
61	40.59	1602	1607	1610	112047	409272	351838	12.96	.473
62	40.77	1612	1617	1623	233979	1224754	1139767	41.97	1.534
63	41.31	1643	1647	1651	62146	240735	186084	6.85	.250
64	41.53	1651	1659	1662	324801	1090207	1014956	37.37	1.366
65	41.85	1673	1677	1681	176721	601666	540893	19.92	.728
66	42.04	1682	1687	1692	109149	455151	393223	14.48	.529
67	43.63	1768	1775	1776	89882	391334	334736	12.33	.450
68	43.81	1776	1785	1787	452732	2806998	2715604	100.00	3.654
69	43.94	1787	1792	1804	237435	1253739	1091612	40.20	1.469
70	46.58	1930	1938	1946	297658	1401622	1282867	47.24	1.726
71	49.07	2063	2076	2080	105128	1135667	1034776	38.10	1.392
72	49.25	2081	2086	2096	150119	948048	817304	30.10	1.100
73	51.04	2171	2185	2194	107985	1028916	884199	32.56	1.190
74	51.33	2194	2201	2212	41441	403634	268916	9.90	.362
75	60.26	2660	2695	2708	79229	1922183	1589312	58.53	2.139
76	62.70	2800	2830	2843	50997	1156708	874089	32.19	1.176

Sum of corrected areas: 74310864.

*RU,AL

File >545B9 35.0-550.0 amu. TRW DOT FASTENER. DWSTD 1:8 10/25/90



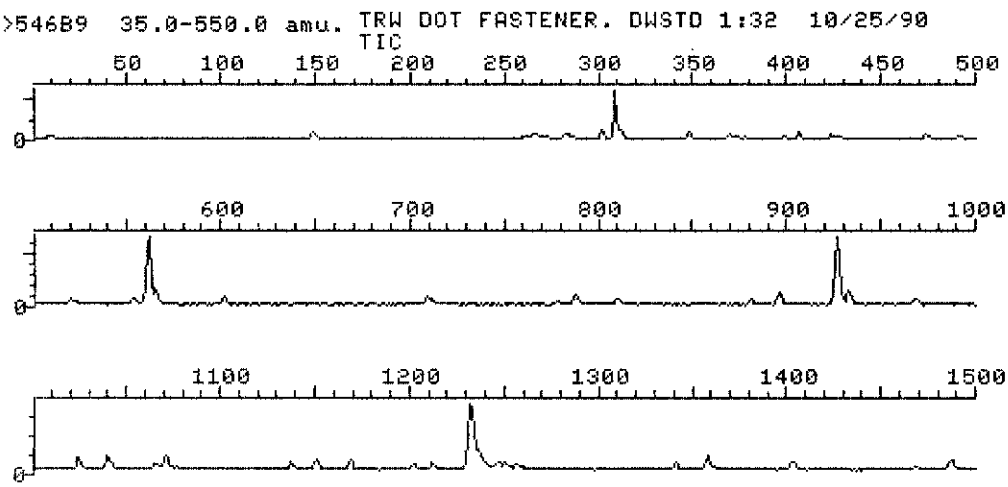


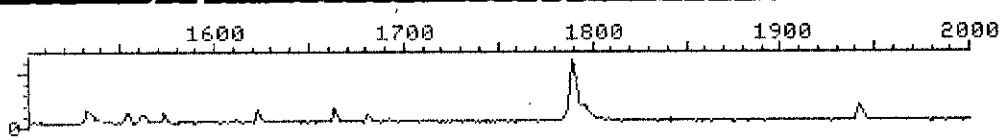
63	40.54	1607	1610	1614	19252	89066	51065	8.37	.314
64	40.74	1617	1621	1622	51960	179661	147934	24.25	.909
65	40.78	1622	1623	1627	33774	108675	75114	12.31	.462
:RU,GCF,320B,63146B,1									
66	41.28	1648	1651	1655	16636	87776	45156	7.40	.278
67	41.48	1658	1662	1665	74971	263946	219236	35.94	1.348
68	41.81	1677	1680	1685	42656	164675	113929	18.67	.700
69	41.99	1685	1690	1693	24900	121099	70319	11.53	.432
70	43.67	1779	1783	1785	51072	240962	202316	33.16	1.244
working...									
71	43.76	1785	1788	1791	181067	652718	610074	100.00	3.750
72	43.85	1791	1793	1803	52671	325233	232383	38.09	1.428
73	46.53	1936	1941	1948	79039	349413	273849	44.89	1.683
74	48.96	2069	2076	2079	33547	241061	174830	28.66	1.075
75	49.09	2079	2083	2094	36497	299555	193388	31.70	1.189
:RU,GR									
76	50.92	2178	2184	2196	22086	281748	153763	25.20	.945
77	51.30	2198	2205	2215	28081	326528	192812	31.60	1.185
78	59.82	2667	2677	2678	9627	146031	70730	11.59	.435
79	62.41	2808	2820	2822	9182	175257	79725	13.07	.490

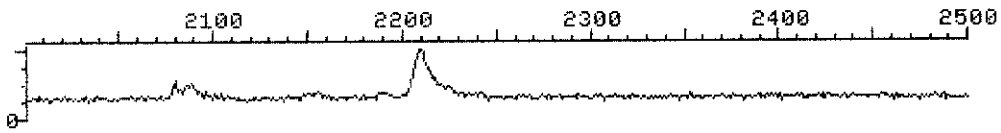
Sum of corrected areas: 16269004.

:RU,AL

File >546B9 35.0-550.0 amu. TRW DOT FASTENER. DWSTD 1:32 10/25/90







38	33.70	1229	1232	1236	67439	313647	269852	76.96	7.433
39	34.15	1255	1257	1262	5318	60116	21278	6.07	.586
40	35.98	1352	1358	1363	15114	114840	51350	14.65	1.414
78	59.82	2667	2677	2678	9627	146031	70730	11.59	.435
41	36.81	1400	1404	1407	7880	61388	21994	6.27	.606
42	38.31	1483	1487	1492	10670	96702	47037	13.41	1.296
43	39.14	1528	1533	1542	11243	141693	68489	19.53	1.887
44	39.50	1550	1553	1557	8196	64597	25219	7.19	.695
45	39.66	1557	1562	1567	7078	86756	30866	8.80	.850
:TR,RC,>546B9									
46	39.86	1570	1573	1579	8389	73404	23586	6.73	.650
47	40.76	1620	1623	1629	9899	85579	34613	9.87	.953
48	41.48	1660	1663	1667	12490	79141	35002	9.98	.964
49	41.81	1679	1681	1685	6114	53820	19182	5.47	.528
50	43.76	1781	1789	1804	55509	489483	341687	97.45	9.412
	Primary graphics lu :				1				
51	46.52	1938	1942	1947	13168	103410	47548	13.56	1.310
52	49.01	2076	2080	2084	5357	75831	23618	6.74	.651
53	49.18	2084	2089	2095	4237	104112	27781	7.92	.765
54	51.36	2202	2210	2218	13488	246985	131375	37.47	3.619

:RU,EC

Sum of corrected areas: 3630286. ion range

:RU,AL -								
X	GC	3031	1	11.46-	66.19	129716.0	>546B9	35.00- 550.00

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

PN: 910033

DICKS.

REGION 1
JFK Federal Building, Rm. 2203
Boston, Massachusetts 02203

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
1064	Mays Marshall Meier

SAMPLERS: *(Signature)* Mary Kupiel, [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BNA	Metals	Cyanide			REMARKS
01	11/14/90	1325		X	Soil (behind building)	4	X	X	X	X			#80593 (1-40ml, 2-8oz, 1-4oz)
02	↓	1520		X	↓	4	X	X	X	X			63855
03	↓	1530		X	↓	4	X	X	X	X			63856
04	↓	1540		X	↓	4	X	X	X	X			63857
05	11/14/90	0840		X	Trip Blank / Bottle #2	3	X						(3-40ml) 63858
06	11/14/90	1400		X	H_2O puddle	6	X	X	X	X			63859 (3-40ml, 8oz, 2-1liter)

ALL SAMPLES REC'D COLD WITH SEALS INTACT

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Mary Kupiel	11/15/90 0700	George Marvin			
George Marvin	11/15/90 1140				

Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks
		Kathy Jarek	11/15/90 1140	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

1— 3436

US EPA REGION I/ESAT LABORATORY CHECKLIST

Site/Location: TRW- DOT Fasteners NERL #: 910019

Analytes/ Sample Type & Number: BNA- Drinking H_2O 2 Samples, 1 BLK, 2 Intra ESAT TID #:

	SUBMIT	PERMANENT LOCATION	AQC/OUT OF CONTROL
1) Tracking Form	✓	NERL Room 121	
2) US EPA Region I Sample Disposal Form	✓	NERL Room 121	
3) NERL Project and Report Form	✓	NERL Room 121	
4) NERL Logbook Entry		NERL Room 121	
5) EPA Chain of Custody Record	✓	NERL Room 121	
6) US EPA Region I Notebook Form	✓	NERL Room 121	
7) Soil/Oil Extraction Summary Sheet		NERL Room 121	
8) QC Sample Sheet		NERL Room 121	
9) GC/HPLC Forms:			
a. Sample Sequence		NERL Room 121	
b. GC Summary Form		NERL Room 121	
c. Plotrax documentation		NERL Room 121	
d. US EPA Region 1 Quant Form		NERL Room 121	
e. Pesticide Confirmation Form		NERL Room 121	
f. Oil ID Form(plus Chrom. Compare)		NERL Room 121	
g. GC/ECD or GC/FID Chromatograms		NERL Room 218	
10) GC/MS Forms:			
a. Autosequence File (BLIST)	✓	NERL Room 121	
b. BFB/DFTPP Tune Checks	✓	NERL Room 121	
c. Calibration Table (CBRPT)	✓	NERL Room 121	
d. Calibration Check (CBCHK)	✓	NERL Room 121	
e. ID File List (IDLST)	✓	NERL Room 121	
f. US EPA Region-1 Qt & Ql Sheets	✓	NERL Room 121	
g. Surr & Mtx Cmpnd Recovery Table	✓	NERL Room 121	
h. Internal Standard Area Table	✓	NERL Room 121	
i. Aquarius Quant Report	✓	NERL Room 121	
j. GC/MS Chrom.(RC or Med Qt Rpt)	✓	NERL Room 121	
k. Profile & Full Spectral Rpt	✓	NERL Room 218	
l. TIC Printout (*FITIC or REDX)	✓	NERL Room 218	

EPA Submission Date: 11/15/90 ESAT/EPA Analysts: [signature] AQC: [illegible] 11/16/90

Additional Comments:

/ddm081490

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 1
JFK Federal Building, Rm. 2203
Boston, Massachusetts 02203

CHAIN OF CUSTODY RECORD

PROJ. NO.: ACS # 1058

PROJECT NAME: TRW ROOT FASTENER - D.W.

SAMPLERS: (Signature)

ALL SAMPLES RECD WITH SEALS INTACT AND COLD.

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BNAS	SDWA METALS				REMARKS
001	10/30/90	14:20		✓	Arisco	6	3	2	1				sample # 80978
002	10/30/90	20:00		✓	Trip Blanks	~~4~~ 5 EE	3	1	1				sample # 54156

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
M Jonland	11/2/90 1340				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Kathy Jorek	Date / Time 11/2/90 13:40	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

1— 3863