

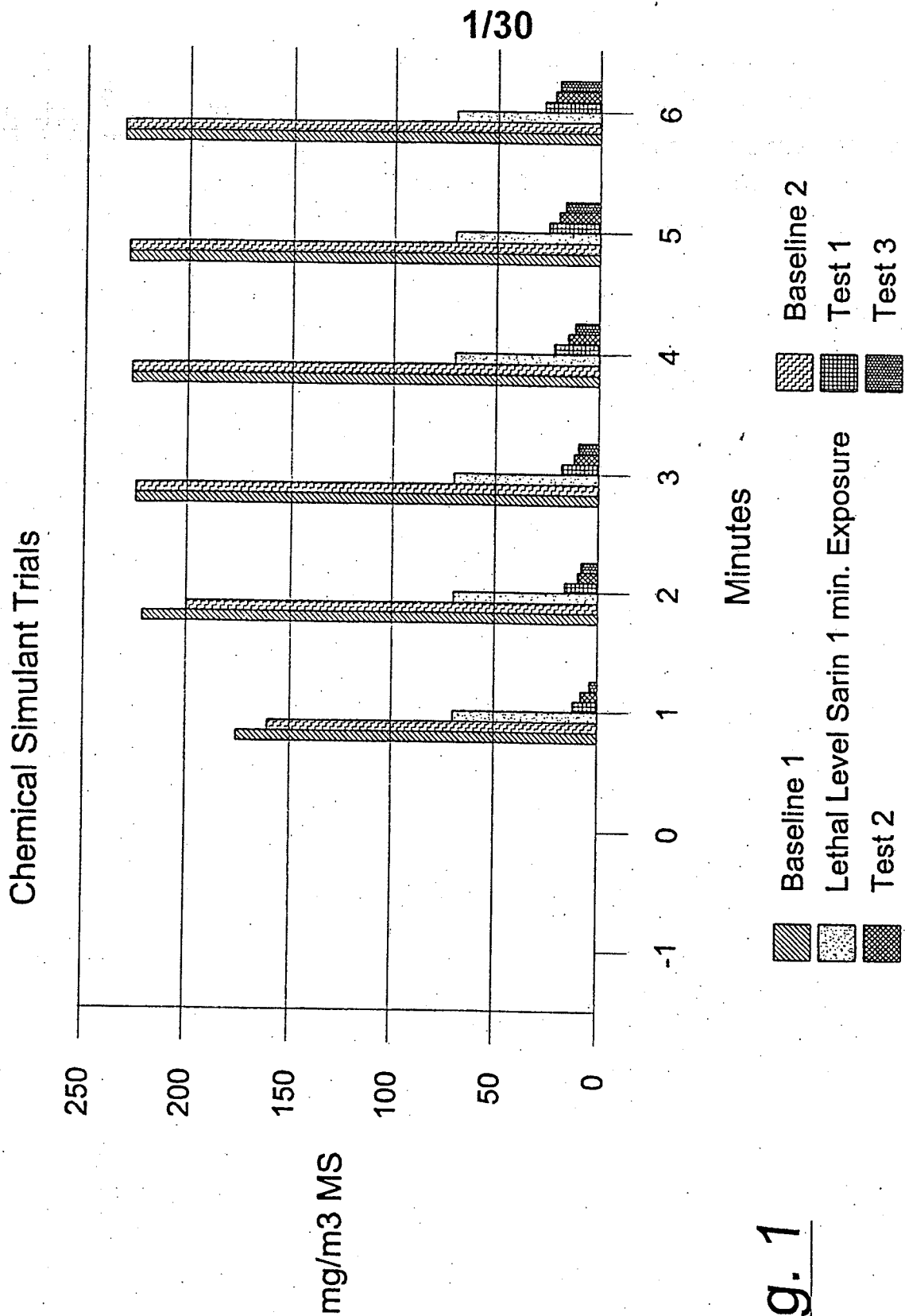


Fig. 1

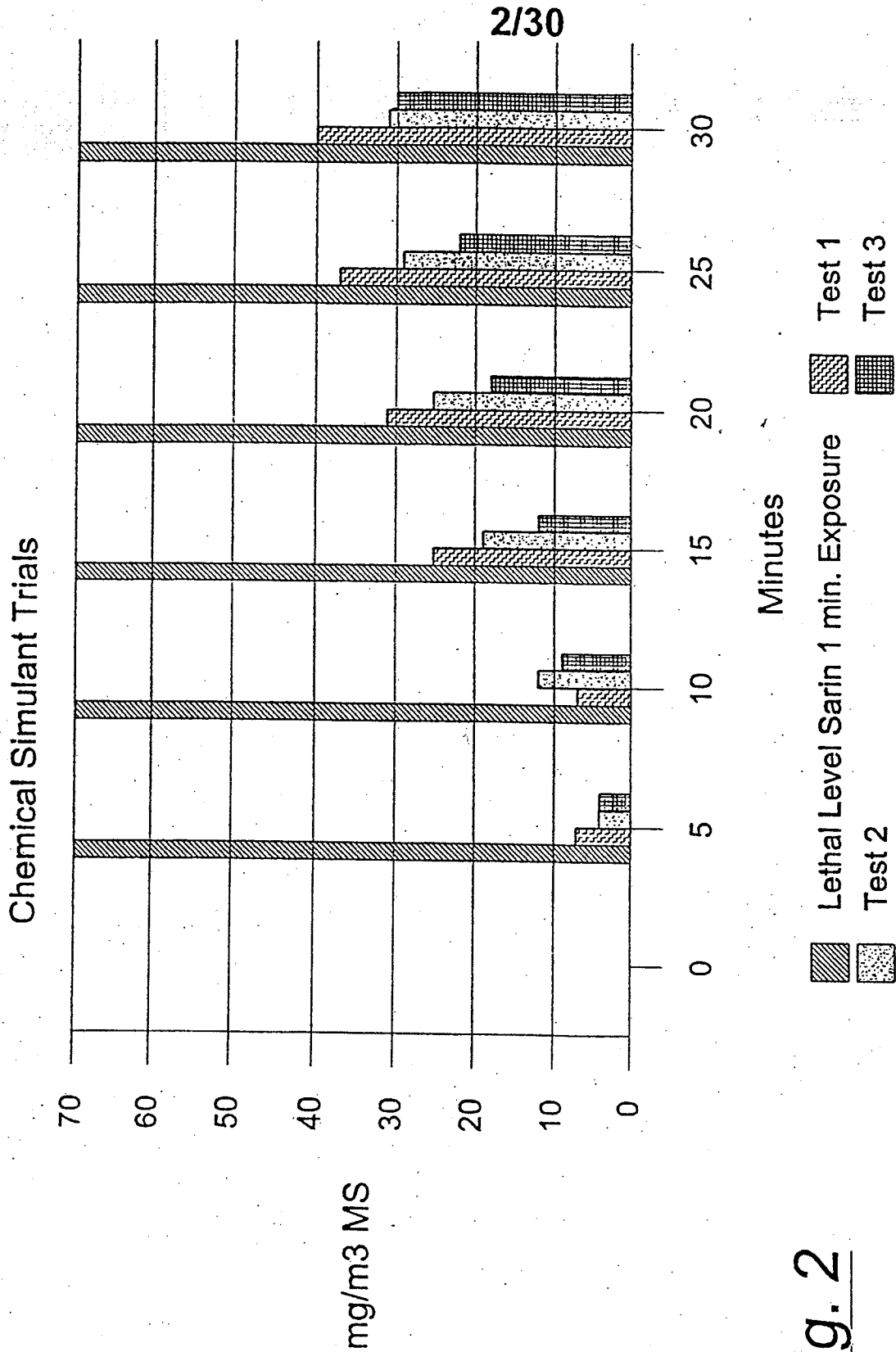


Fig. 2

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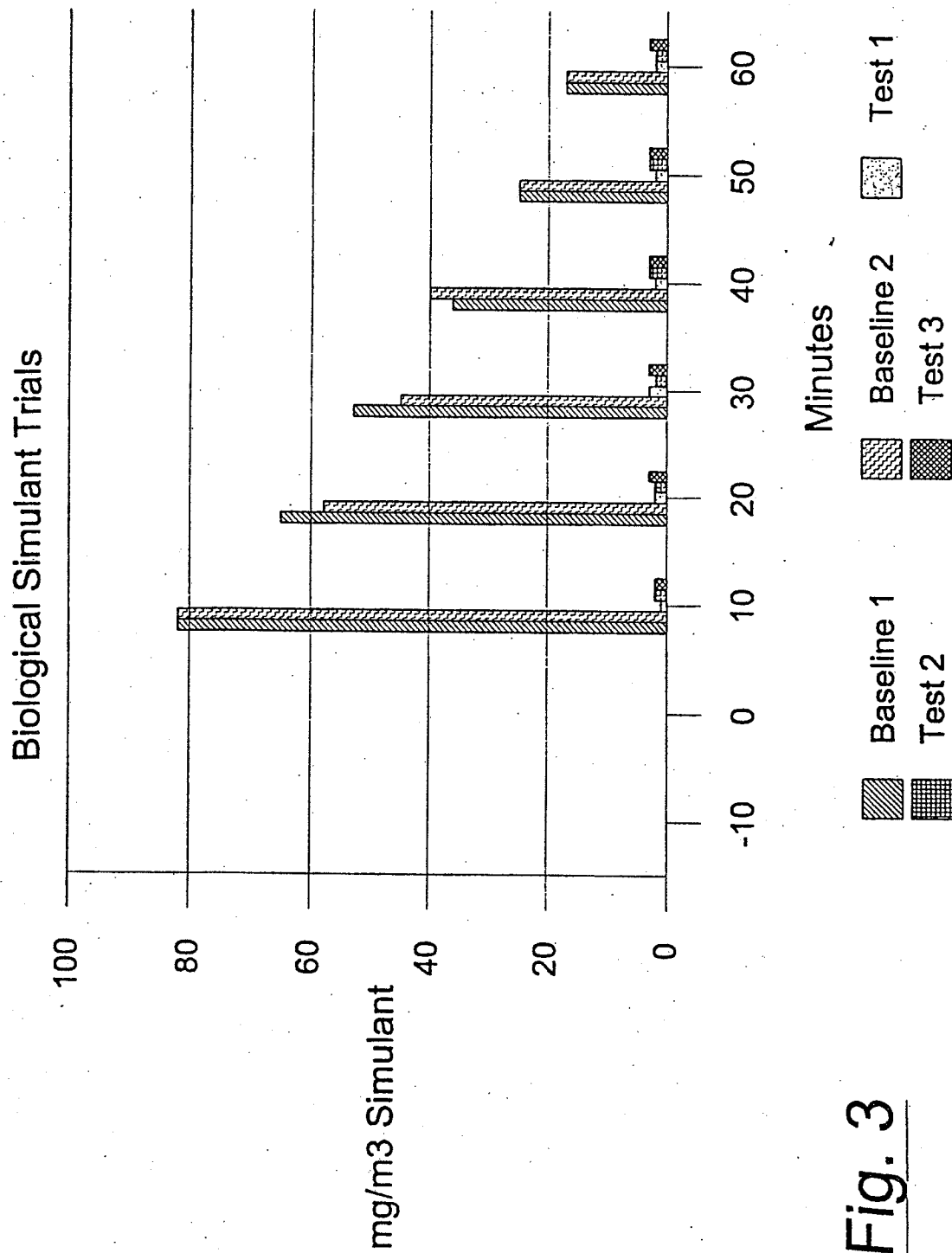


Fig. 3

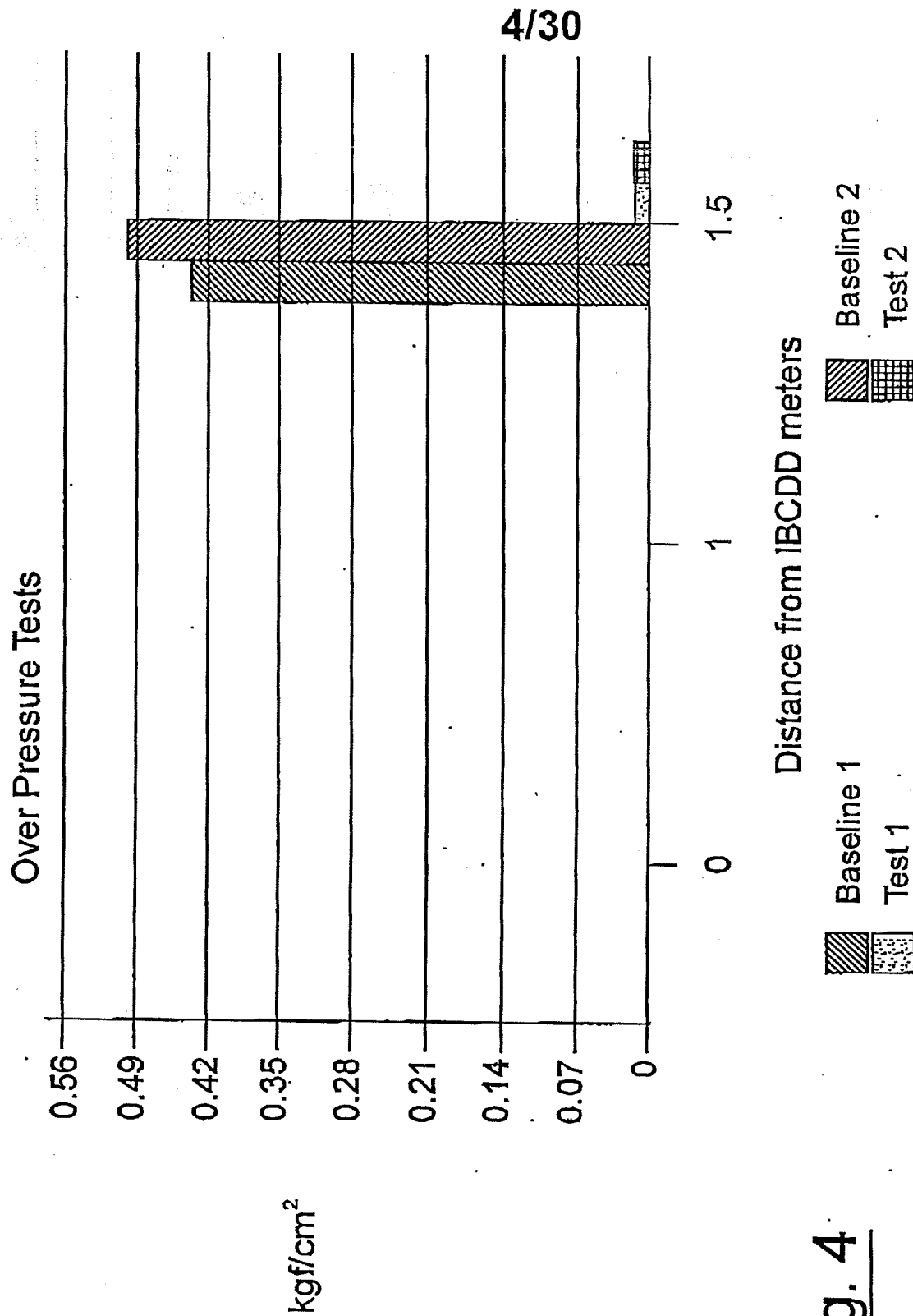


Fig. 4

Chemical Simulant Tests (Chamber) - Device 1

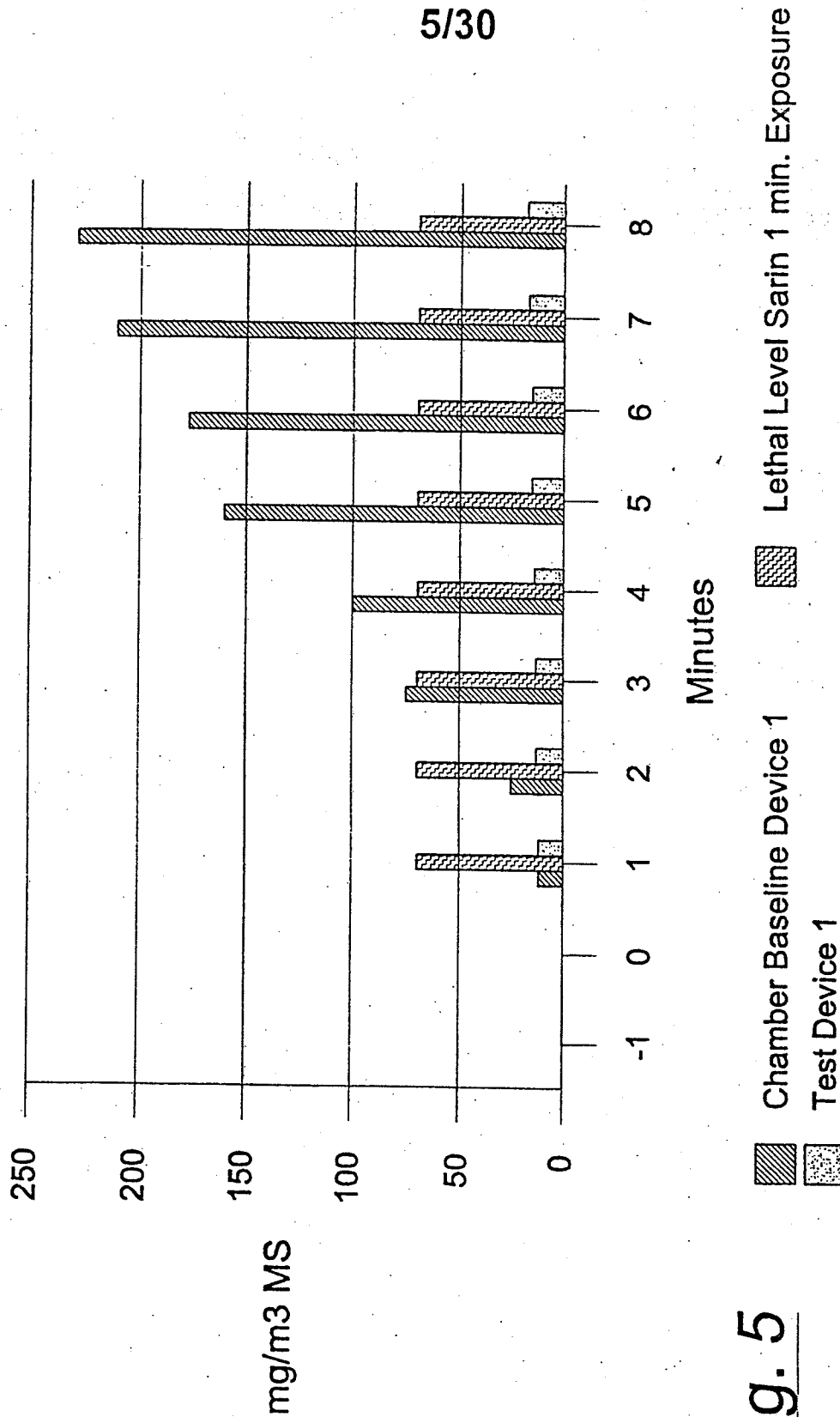
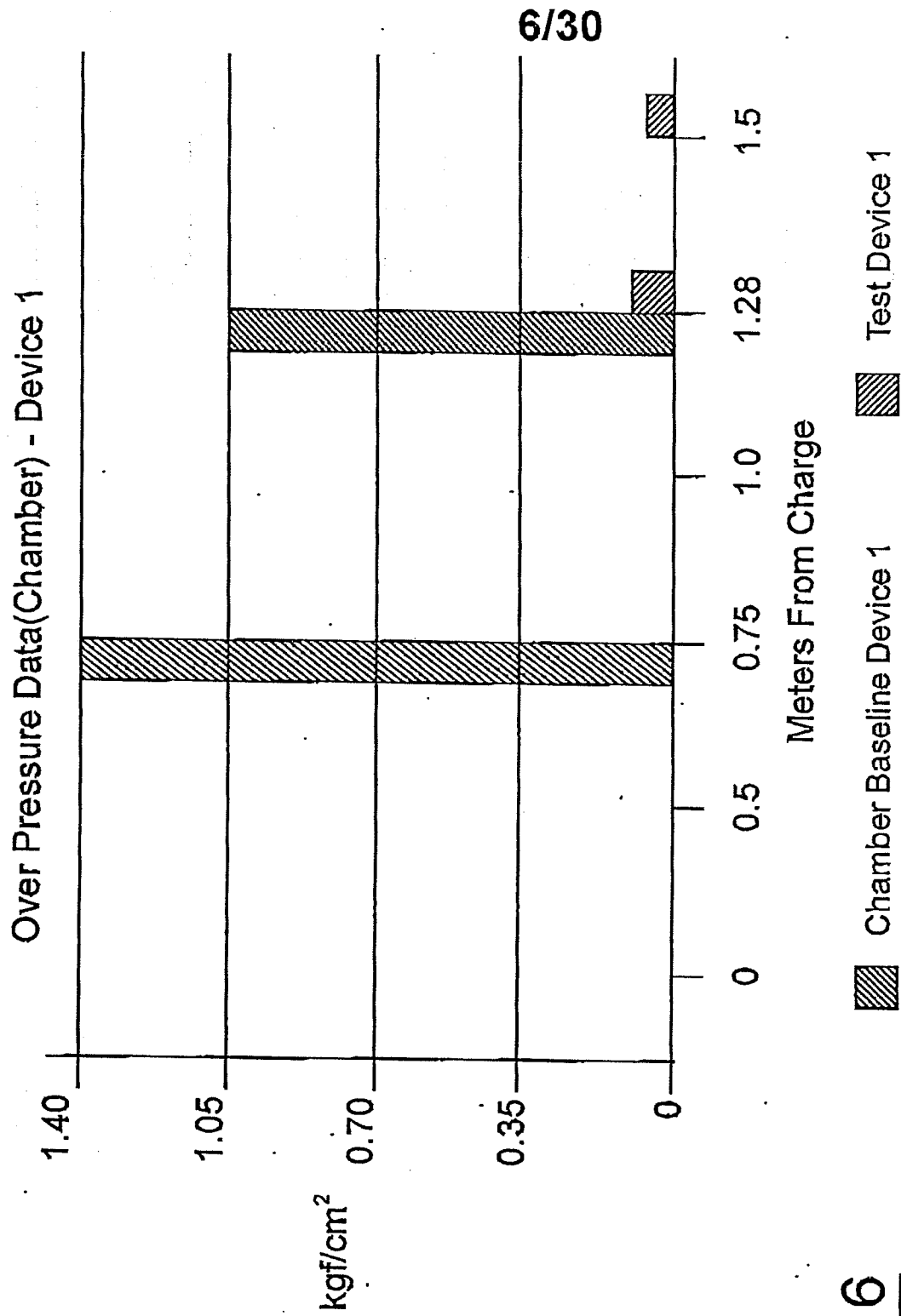
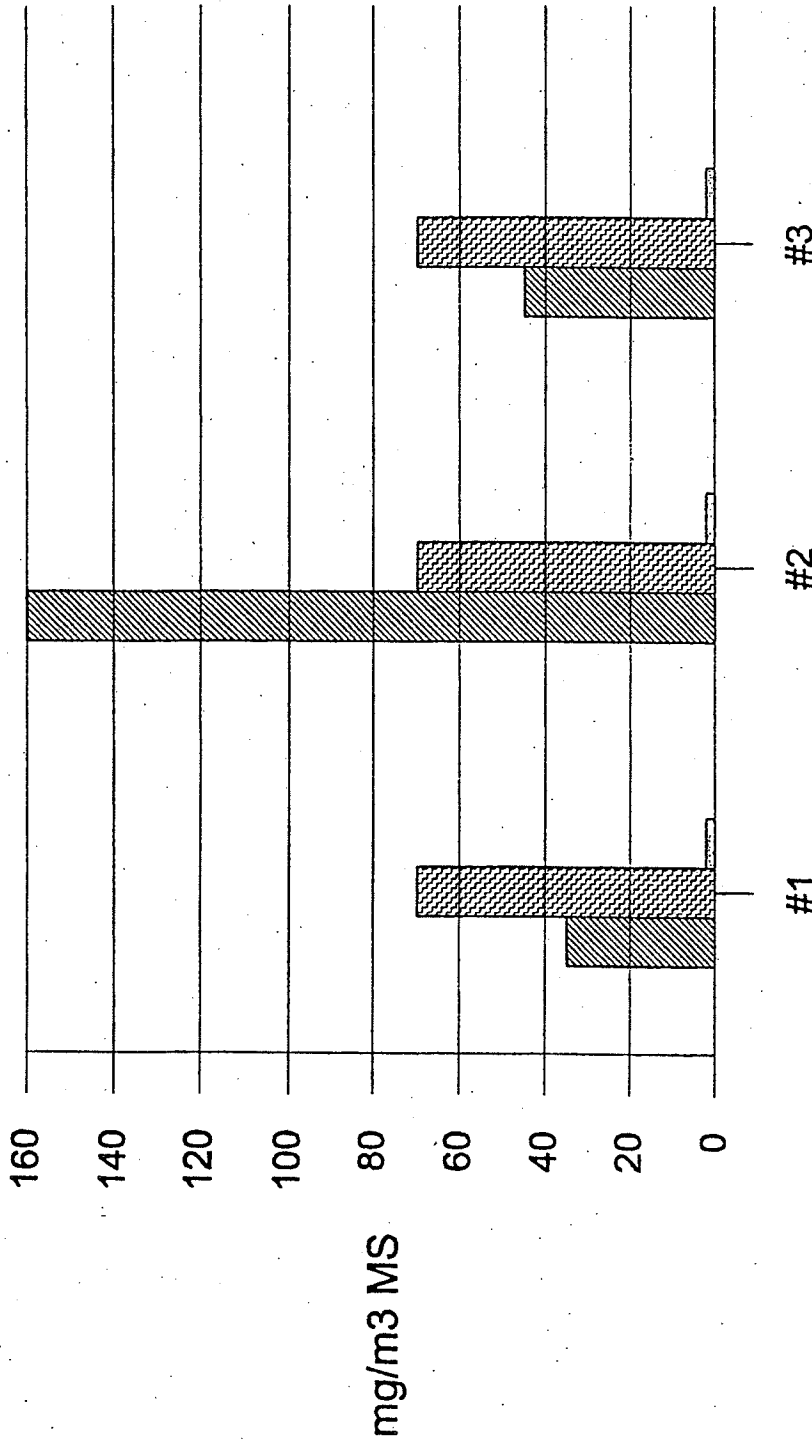


Fig. 5

Fig. 6

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Chemical Simulant Tests (Chamber) - Device 1

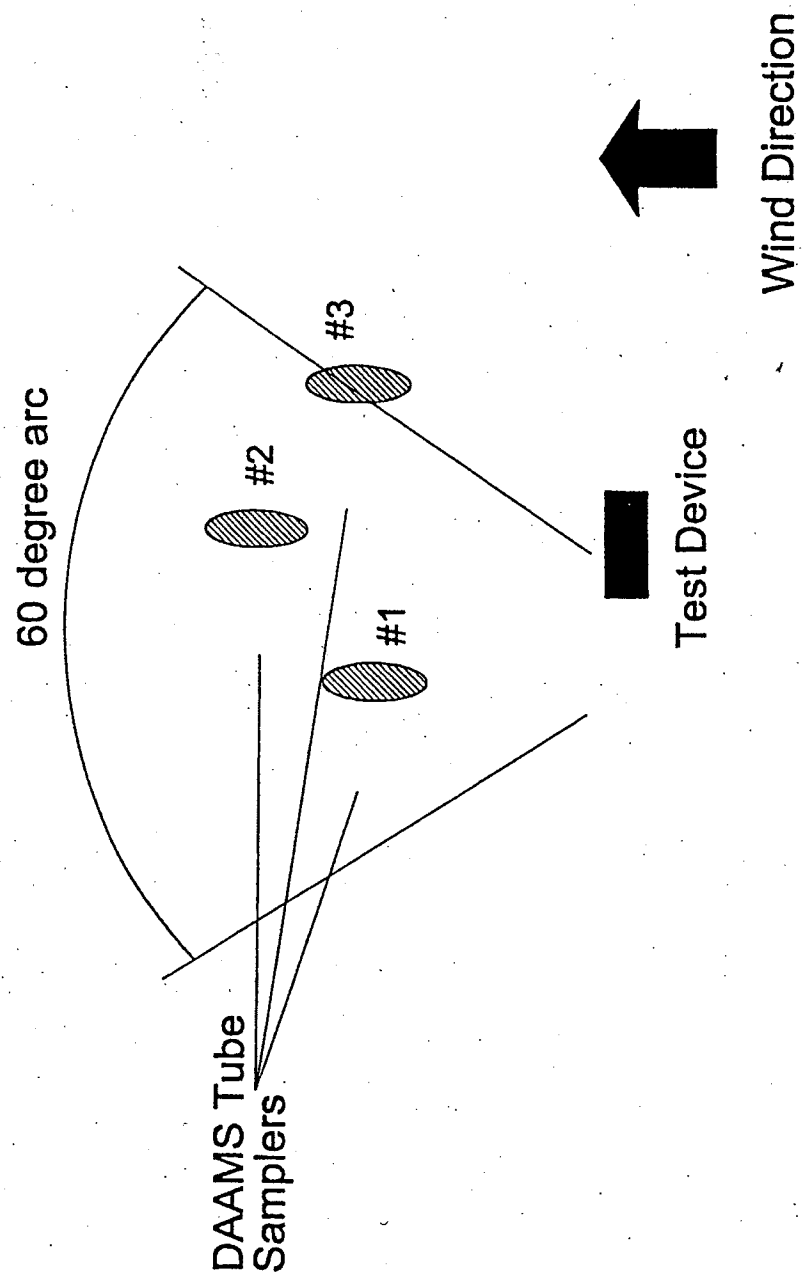


Sampler #

Fig. 7

-  Range Baseline Device 2
-  Lethal Level Sarin 1 min. Exposure
-  Test Device 2 (all readings <1 mg/m3)

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Fig. 8

Range DAAMS Tube Sampler Setup

Over Pressure Data (Range) - Device 2

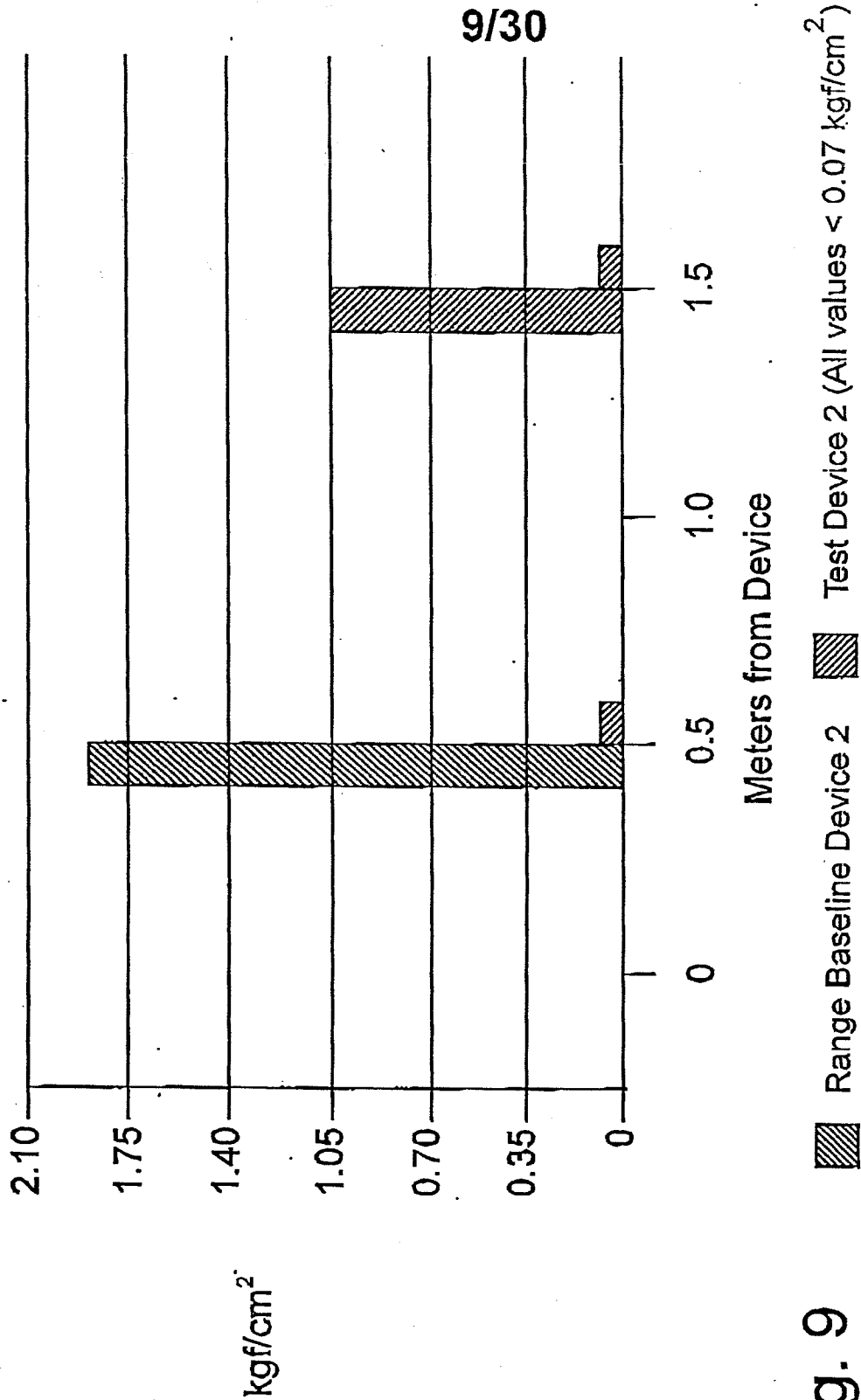


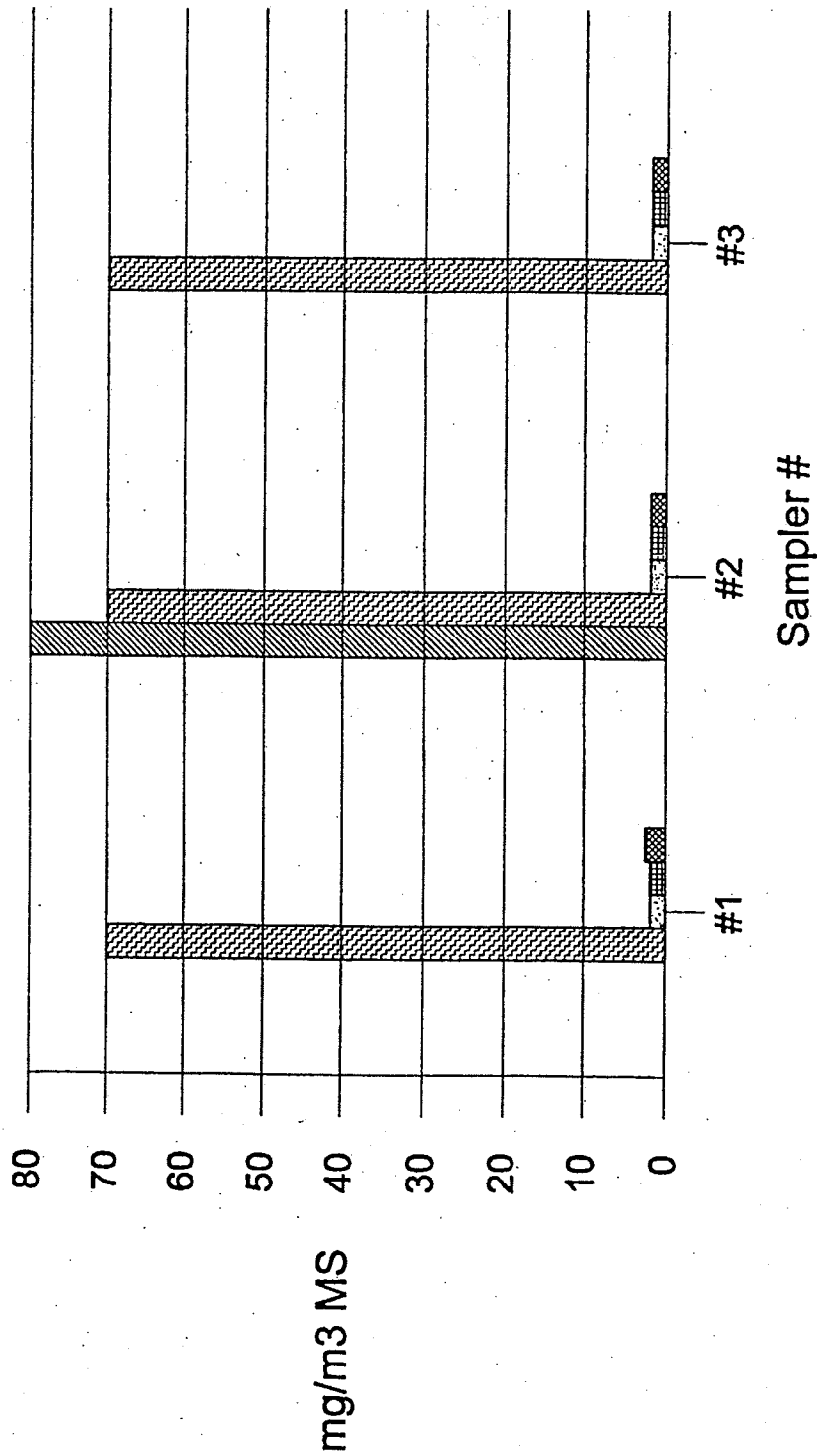
Fig. 9

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Chemical Simulant Data (Range) - Device 3/Metal Tool Box



- Range Baseline Device 2 (> 80 mg/m3)
- Lethal Level Sarin 1 min. Exposure
- Test Device 3/Metal Tool Box 115 gms. C-4 (all readings < 2 mg/m3)
- Test Device 3/Metal Tool Box 230 gms. C-4 (all readings < 2 mg/m3)
- Test Device 3/Metal Tool Box 345 gms. C-4

Fig. 10

Over Pressure Data (Range) - Device 3/Metal Tool Box

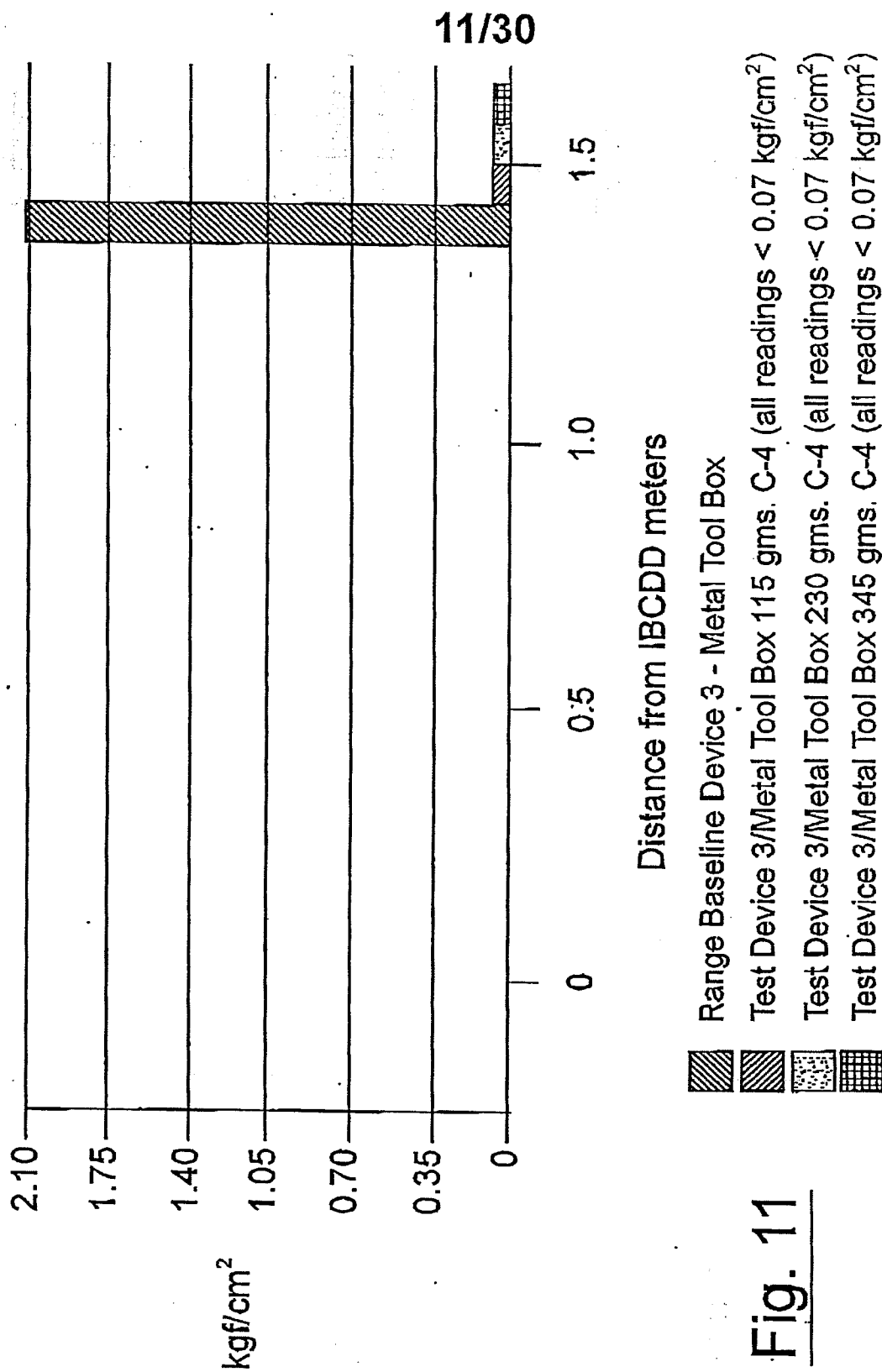


Fig. 11

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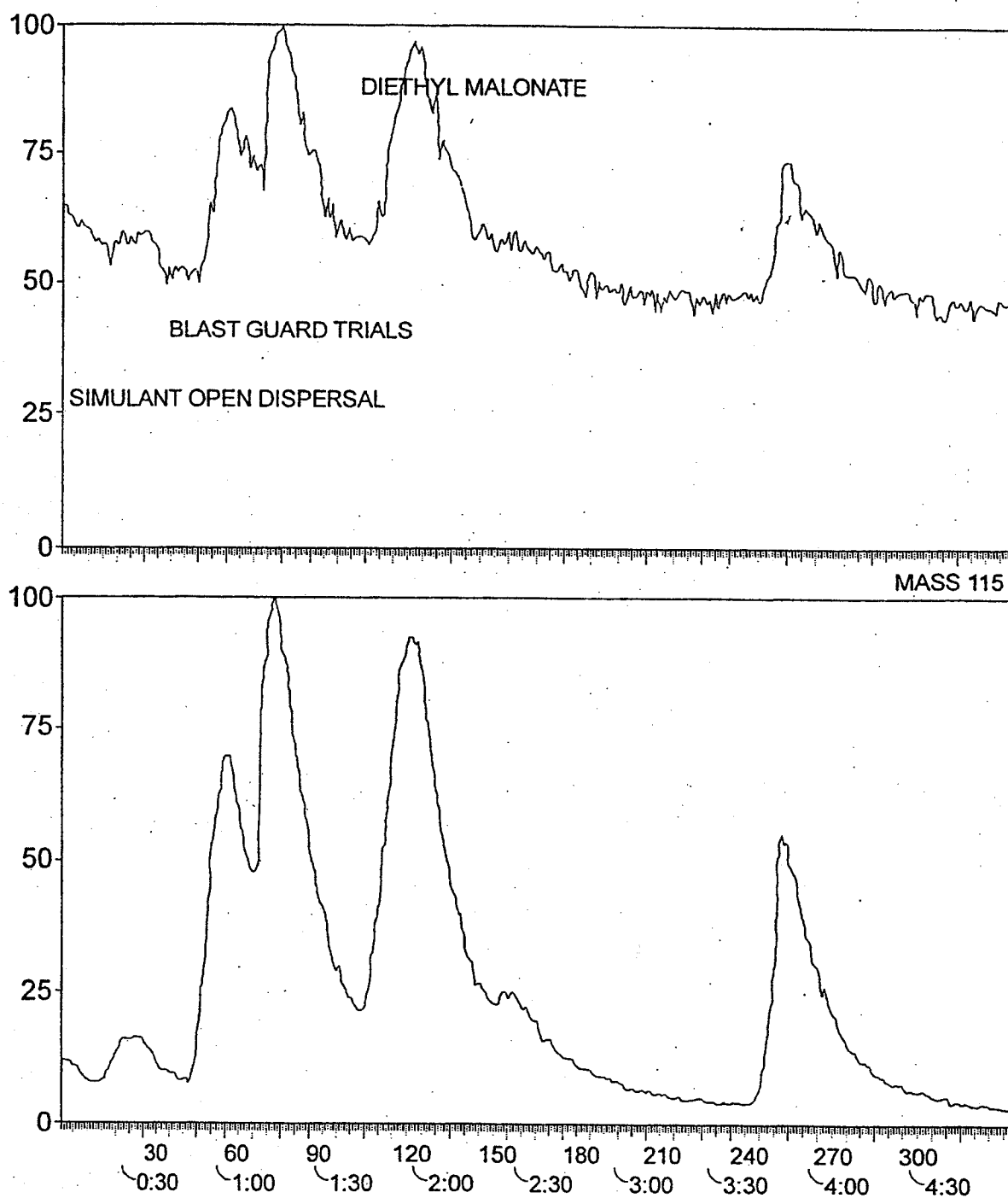


Fig. 12 Hapsite Survey of DEM Simulant Layout After Explosive Dispersal

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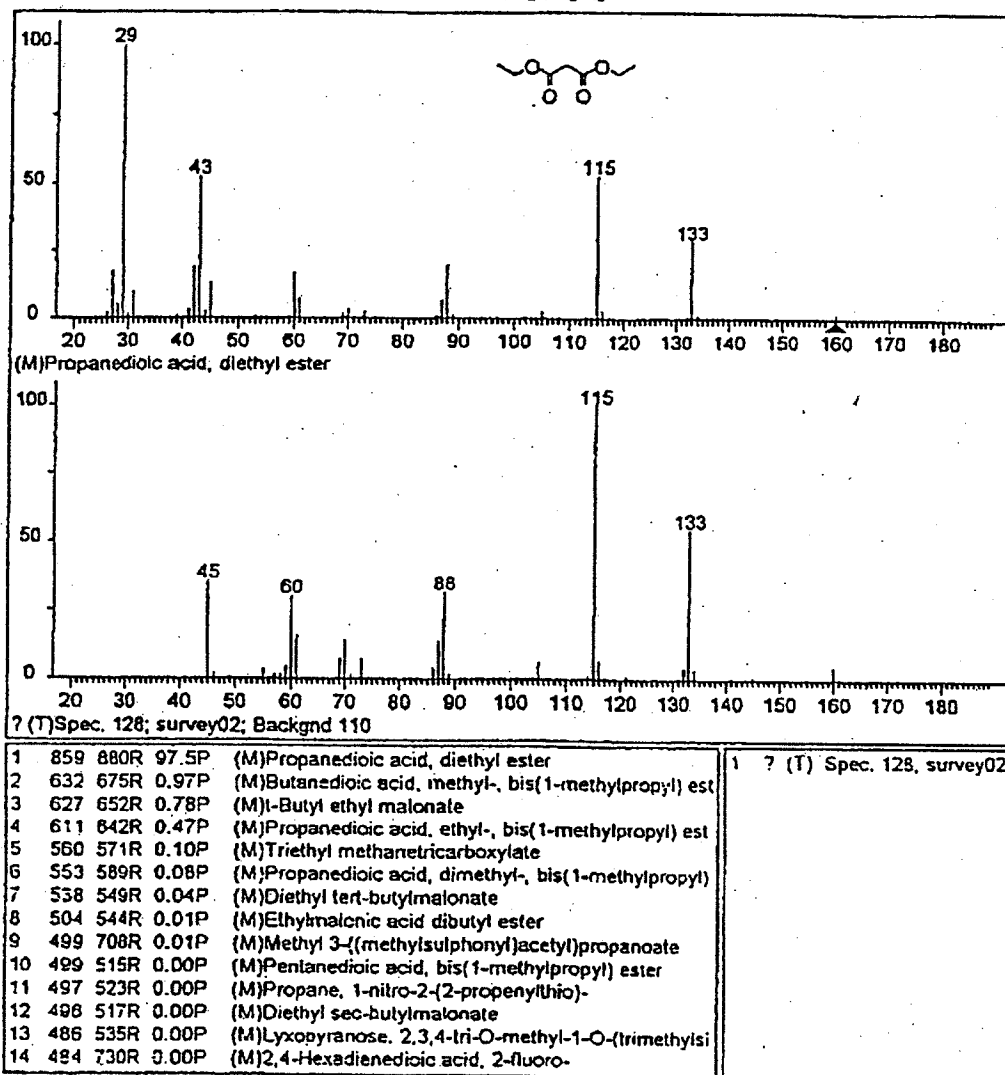


Fig. 13

Mass Spectral Analysis Results - Simulant Dispersal Trial

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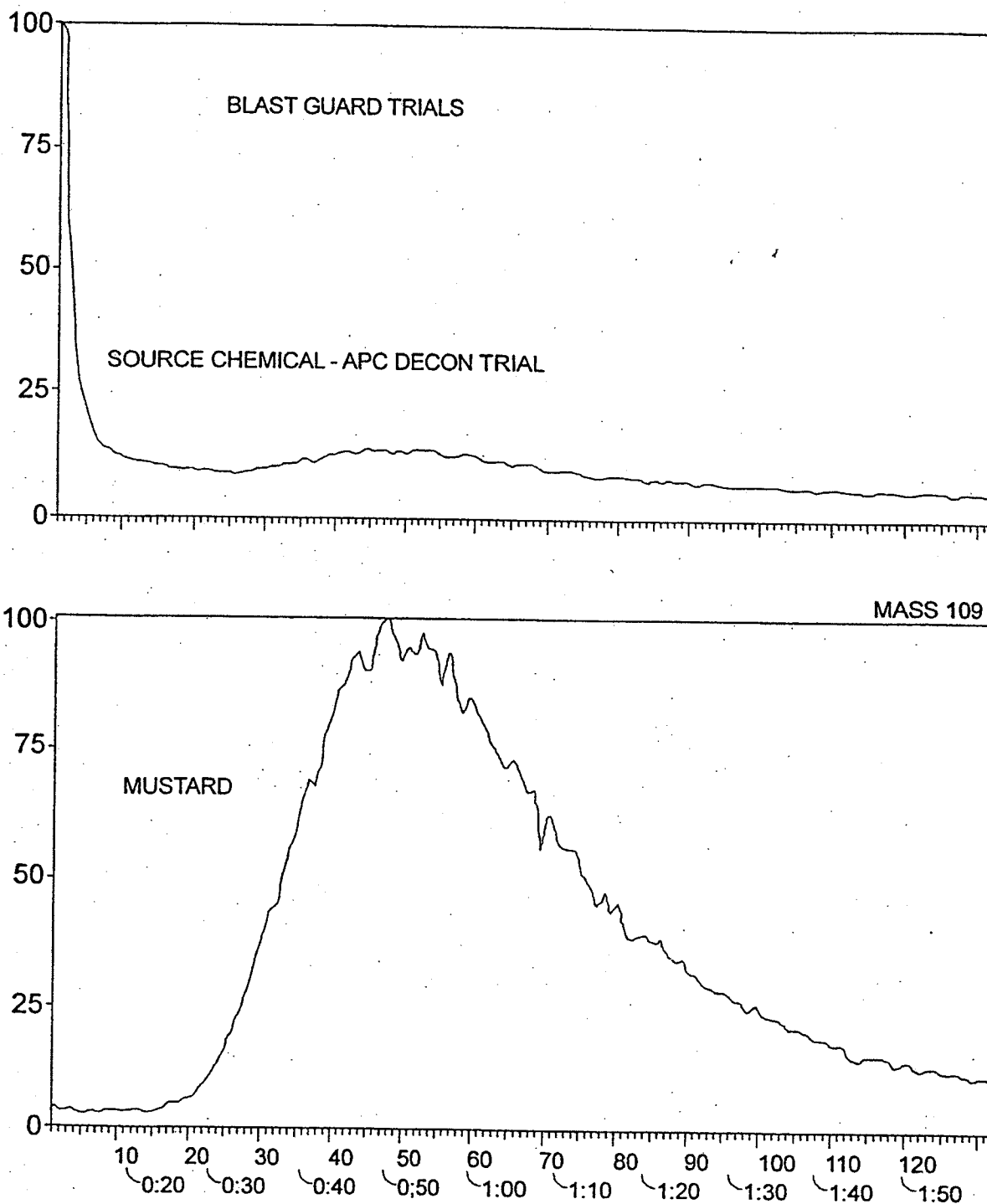
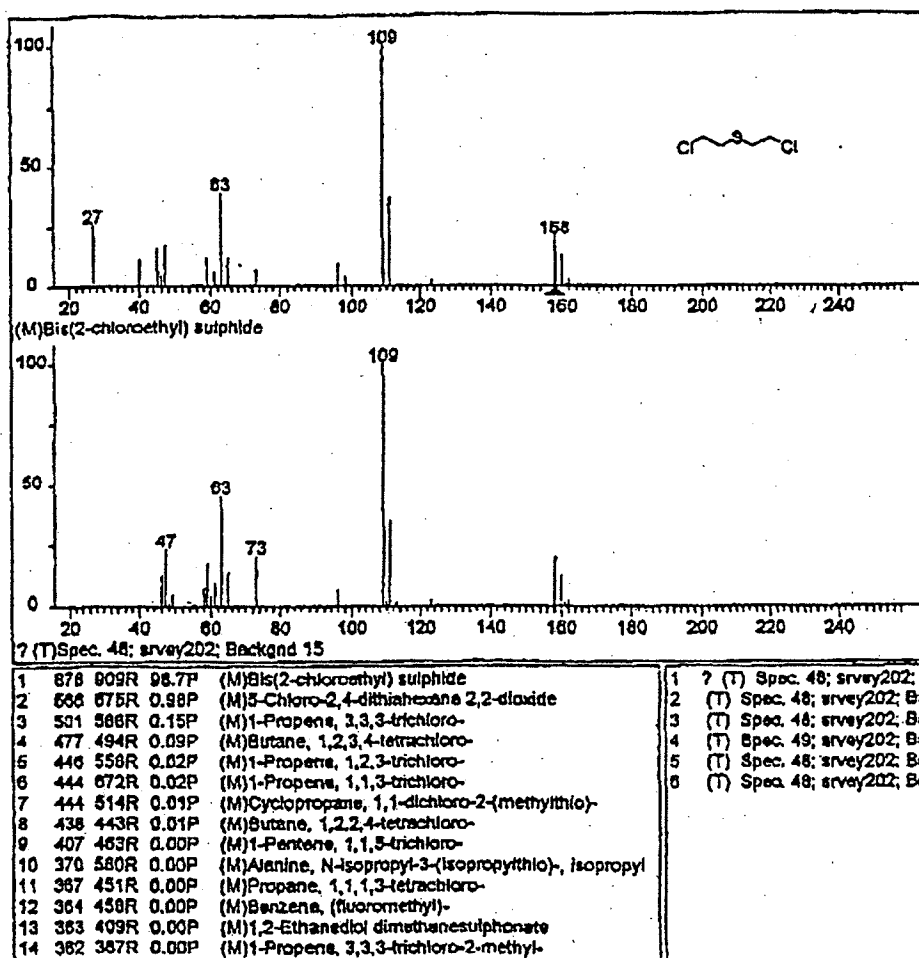


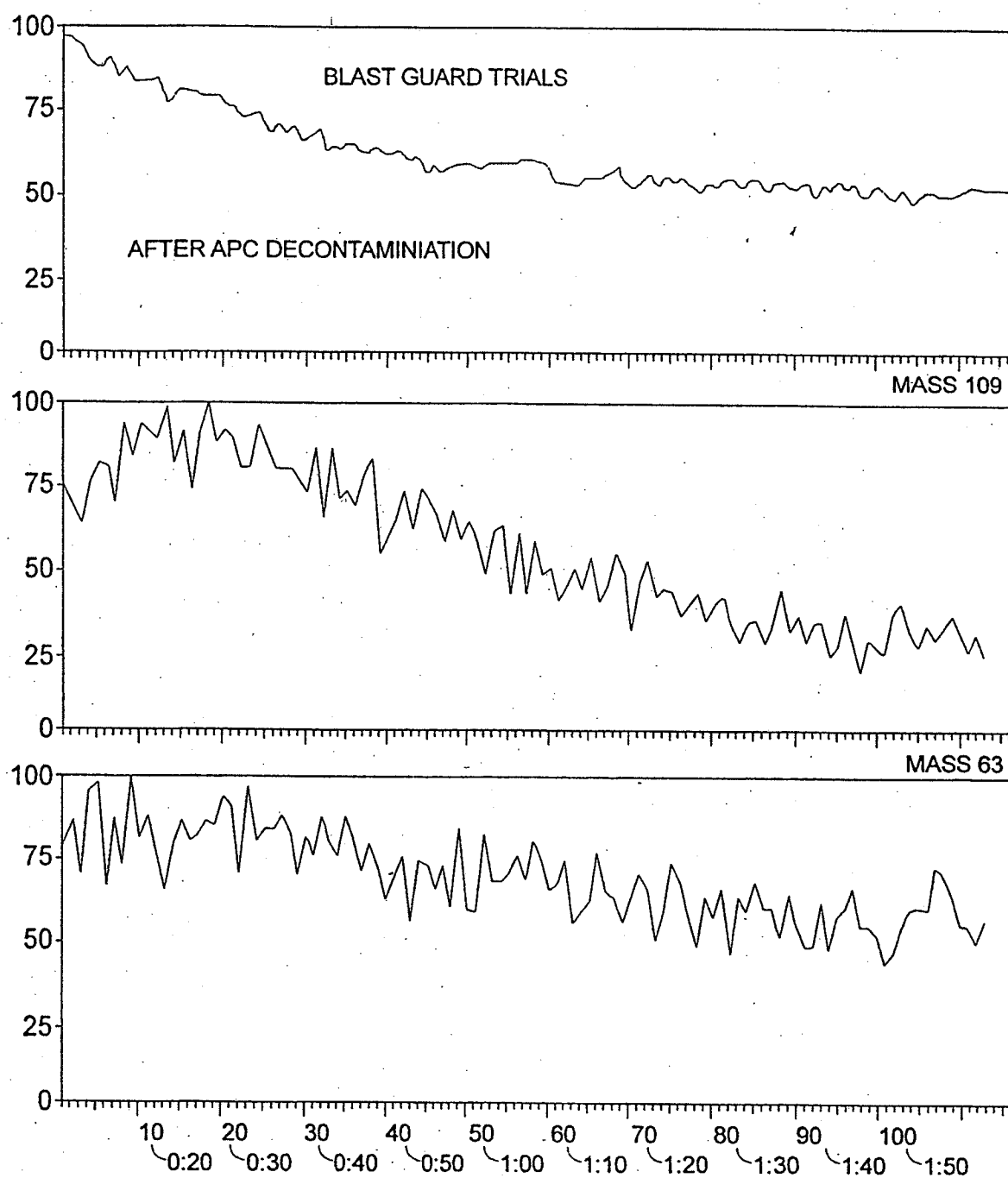
Fig. 14 Air Sample Collected Near Vehicle Contaminated With Mustard Agent

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**Fig. 15**

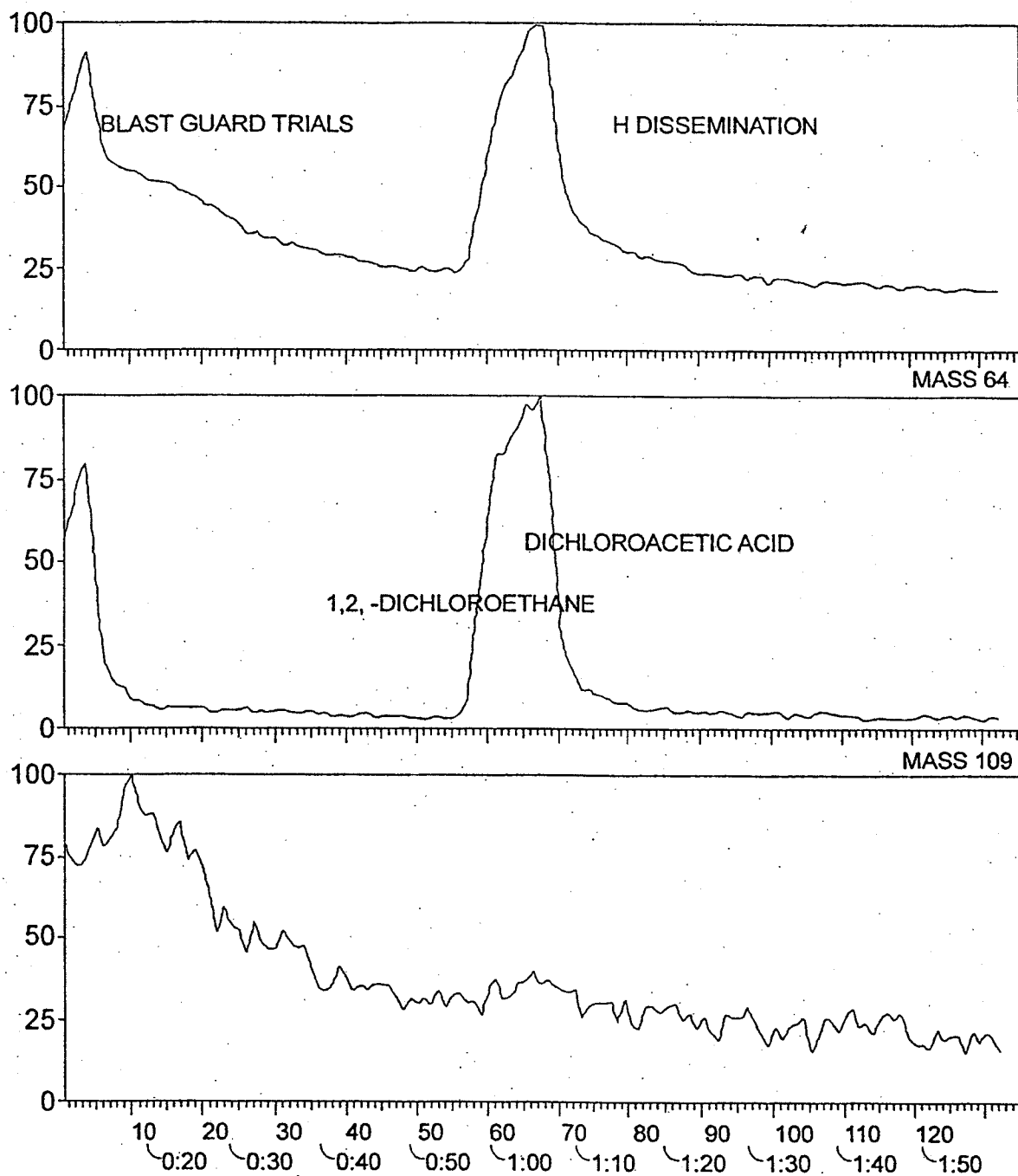
Mass Spectral Identification Of Mustard As Agent Used During Vehicle
Decontamination Trials

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**Fig. 16**

Air Sample Acquired After Vehicle Decontamination Showing Absence of Mustard Agent Vapour

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**Fig. 17**

Hapsite Survey of Tent Head Space Air After Mustard Agent Dispersal

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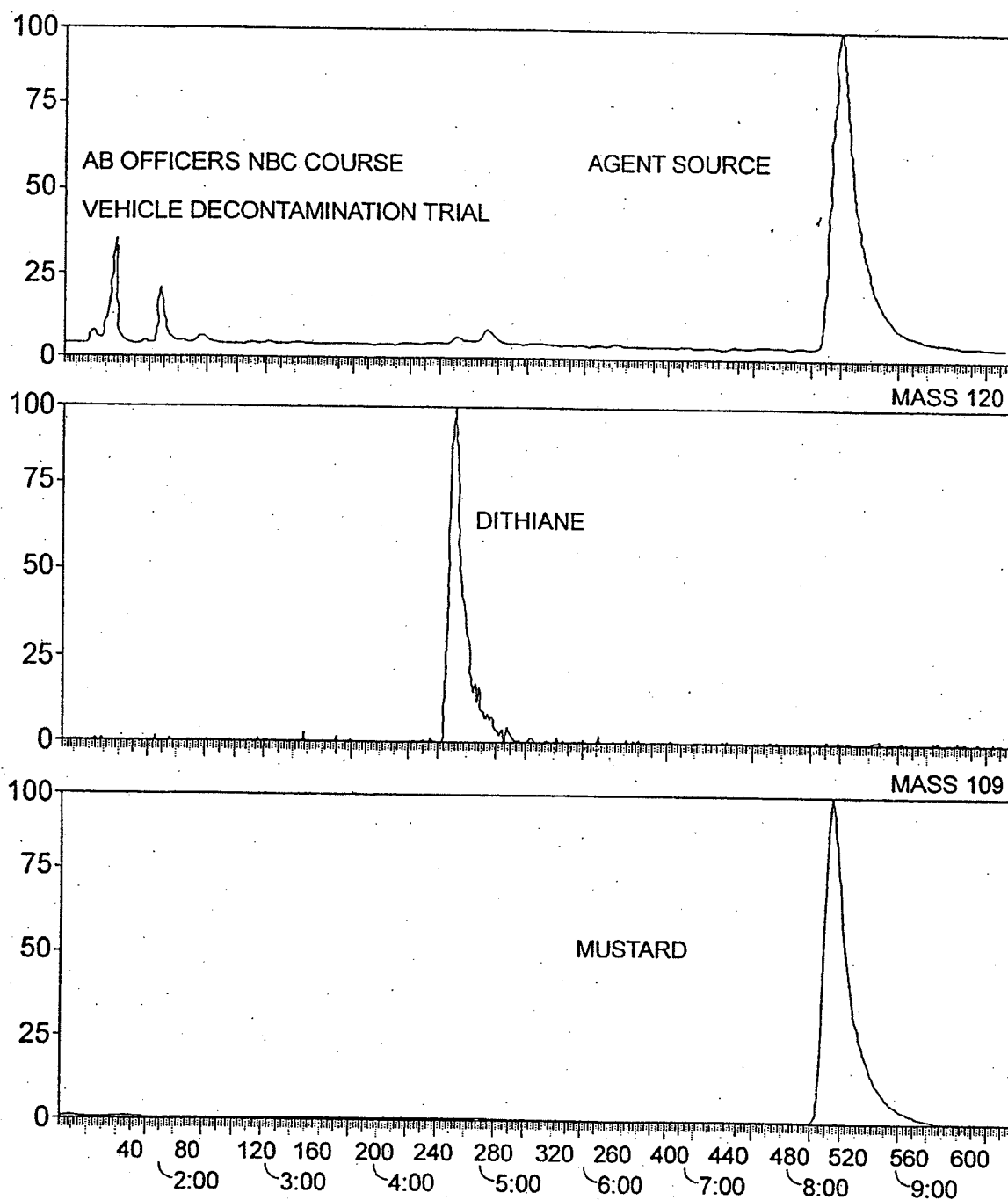


Fig. 18a Analysis Of Vapour From Agent Used In DRES NBC Training Exercises

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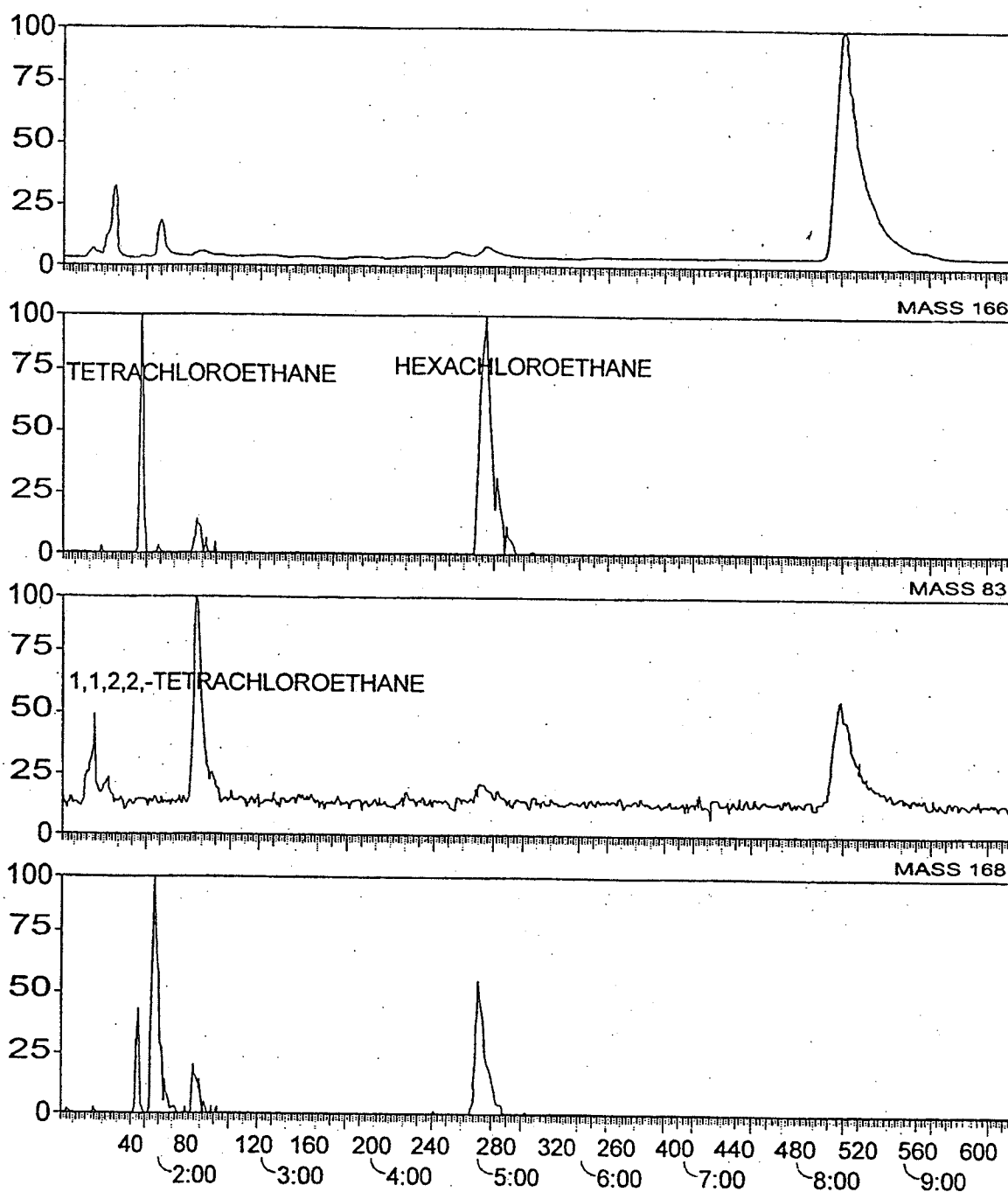


Fig. 18b Analysis Of Mustard Agent Vapour Showing Additional Solvent Components

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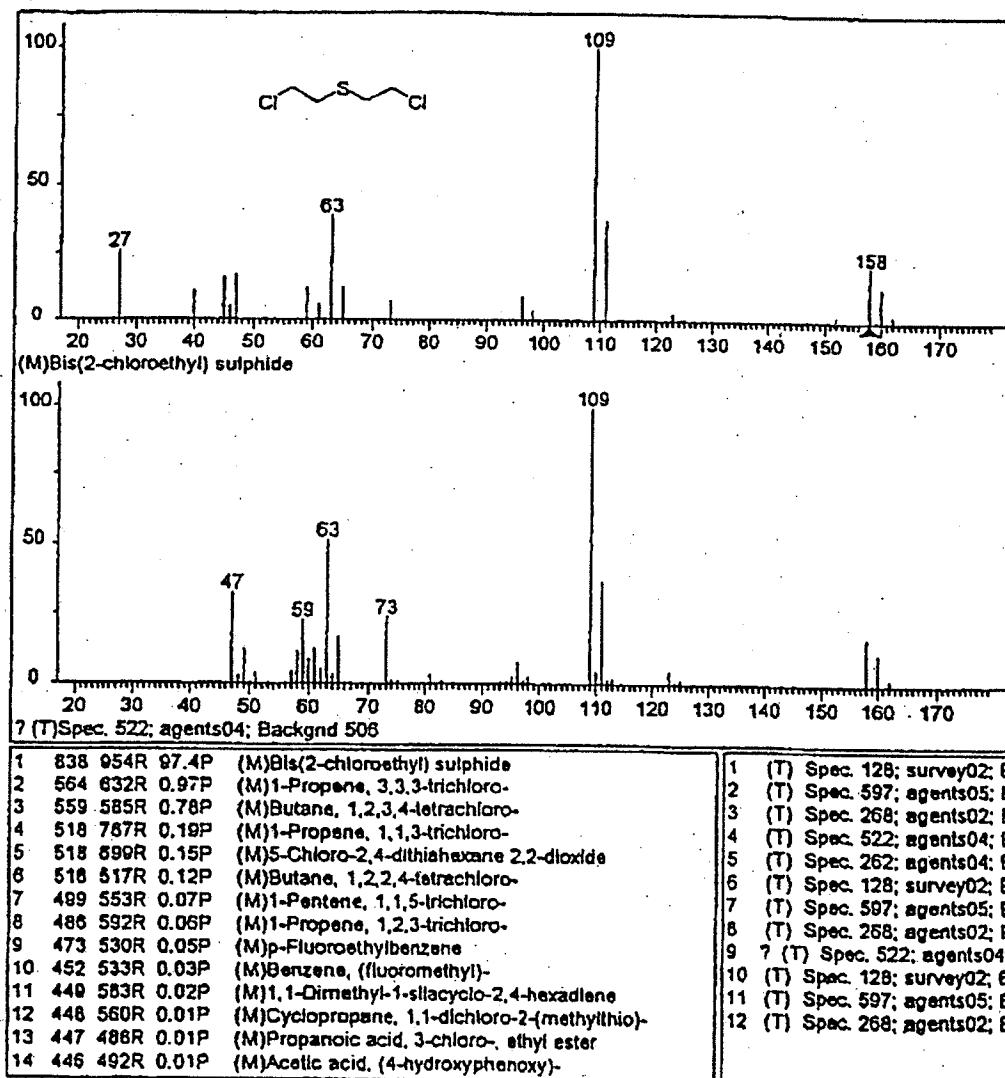


Fig. 19a Mass Spectral Identification Of Source Agent Vapour - Mustard

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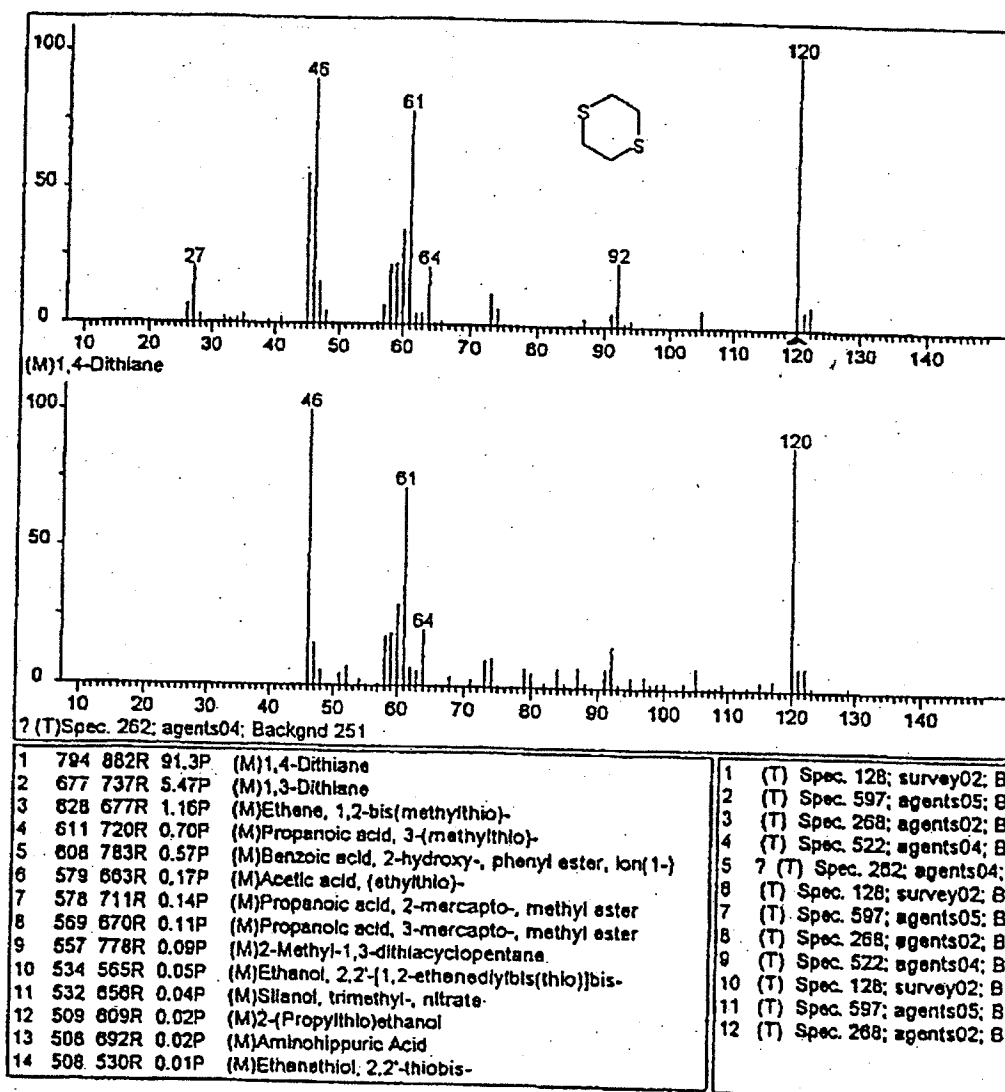


Fig. 19b

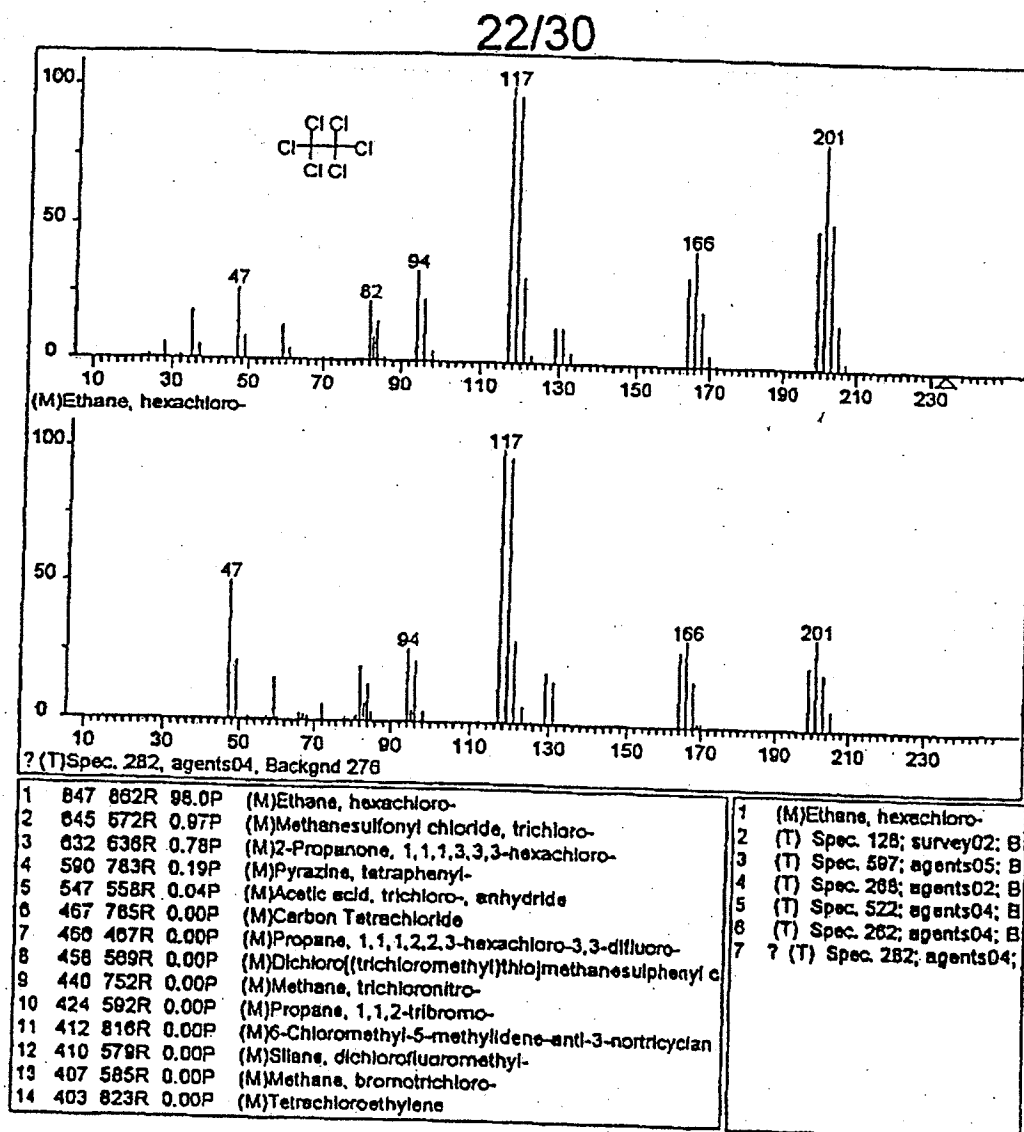


Fig. 19c Mass Spectral Identification Of Source Agent Vapour - Chlorinated Alkanes

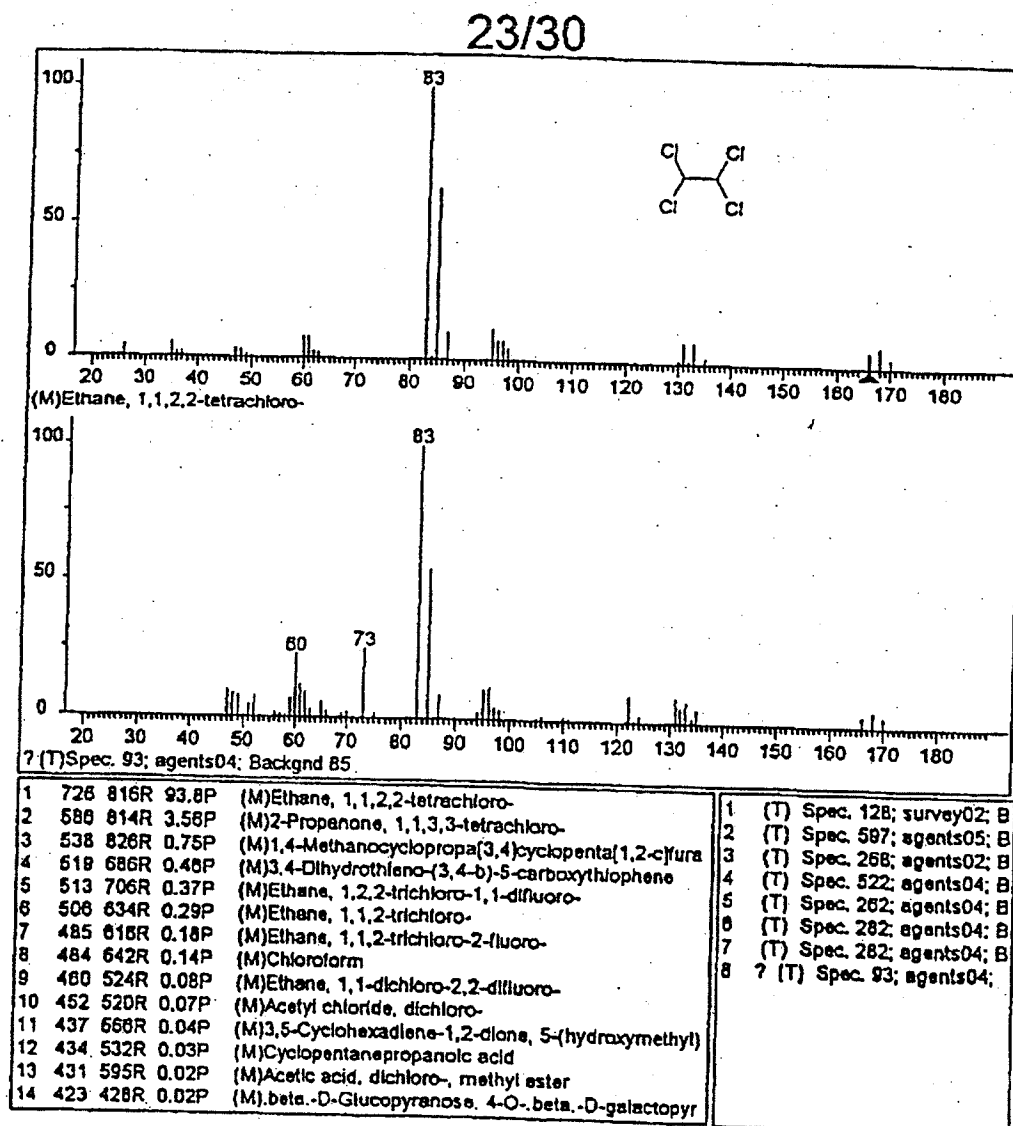
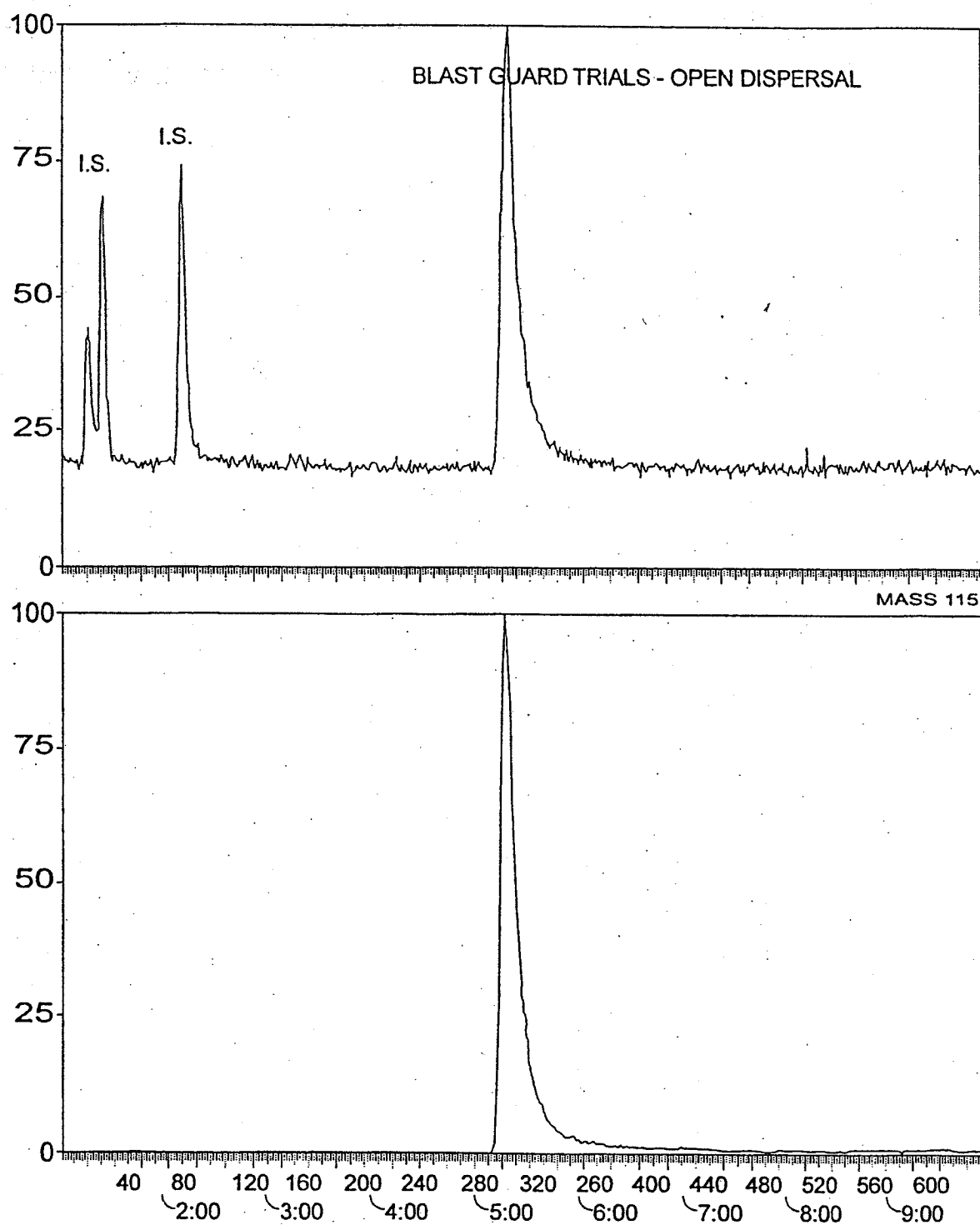
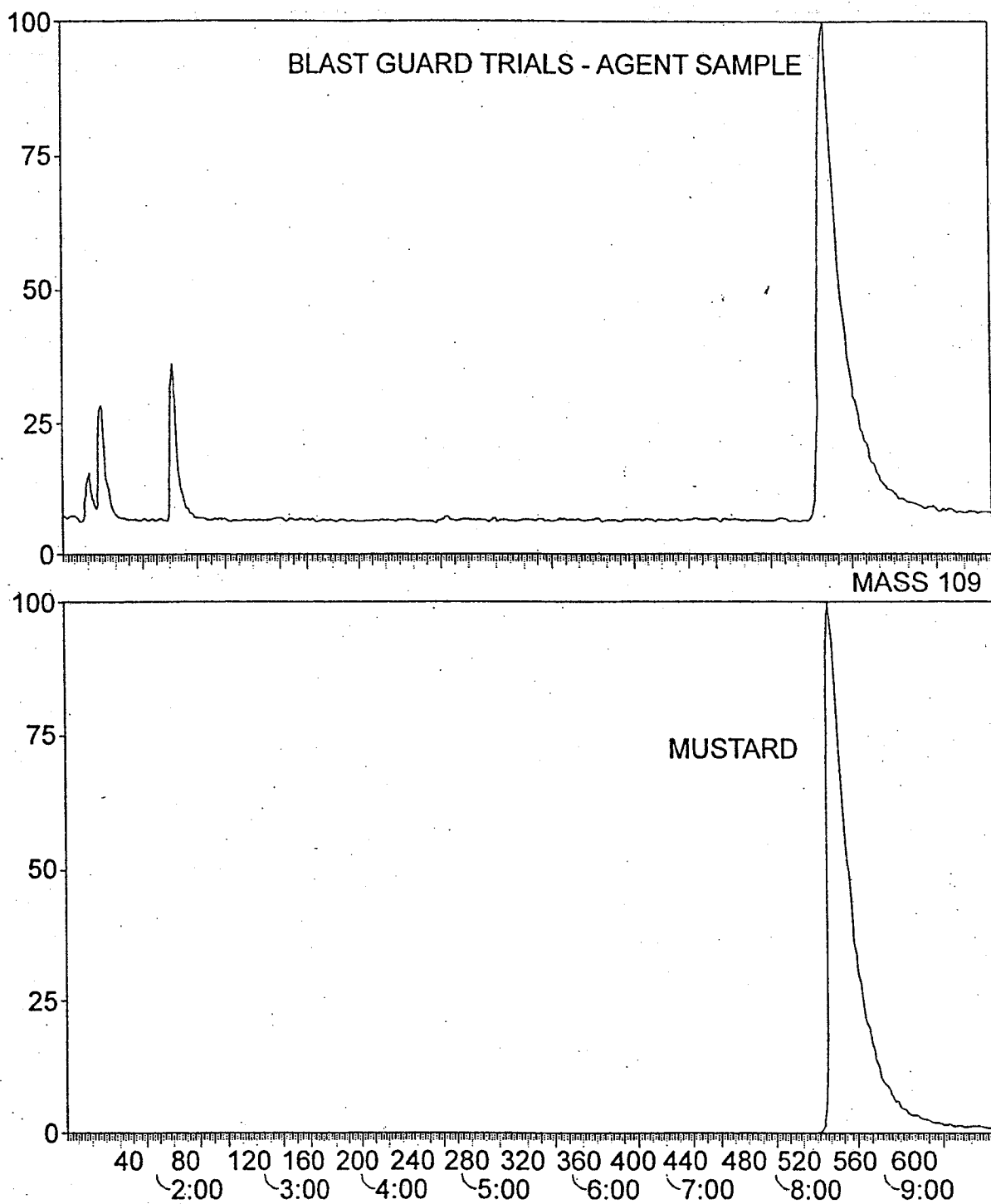


Fig. 19d

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Fig. 20

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Fig. 21

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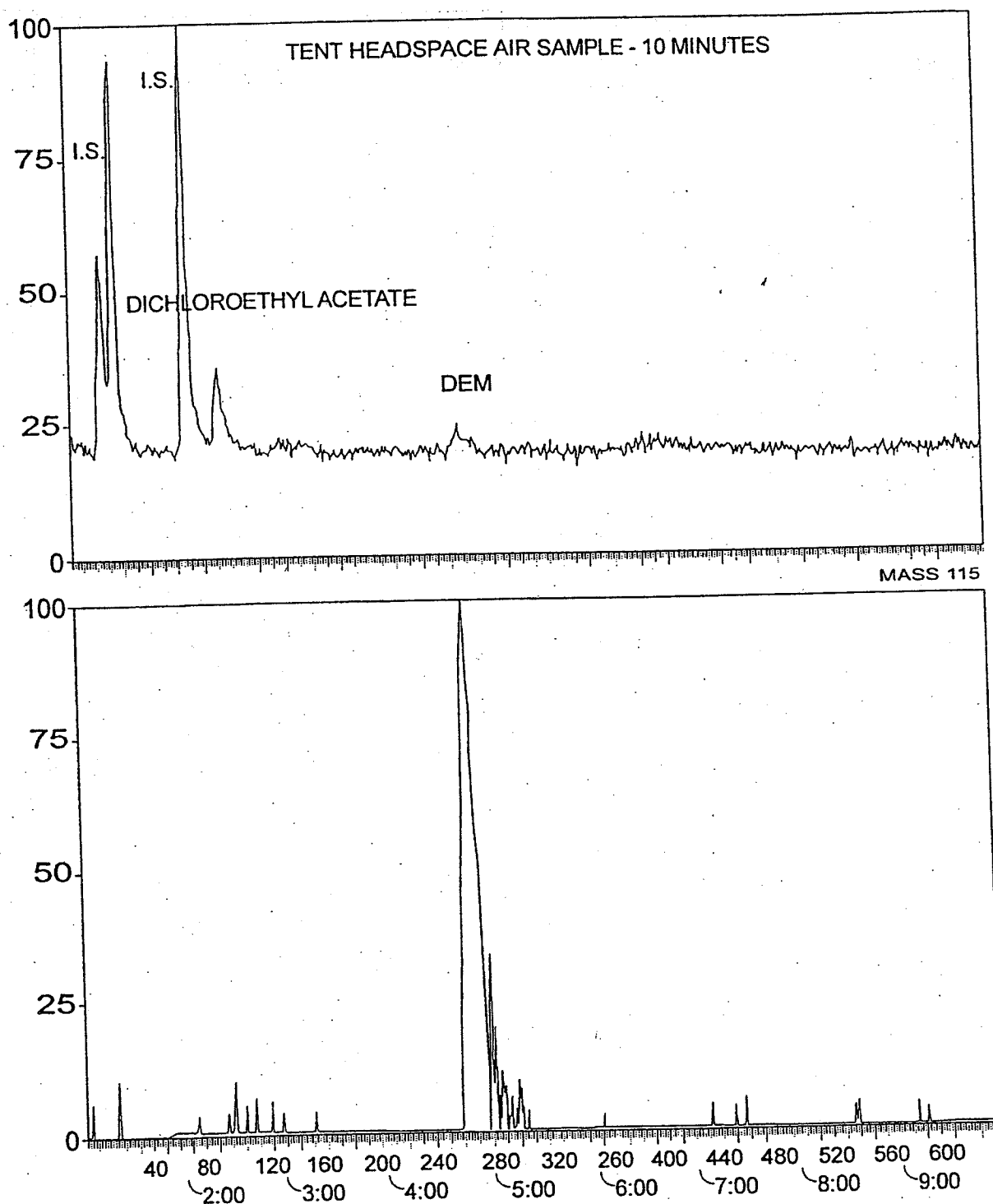
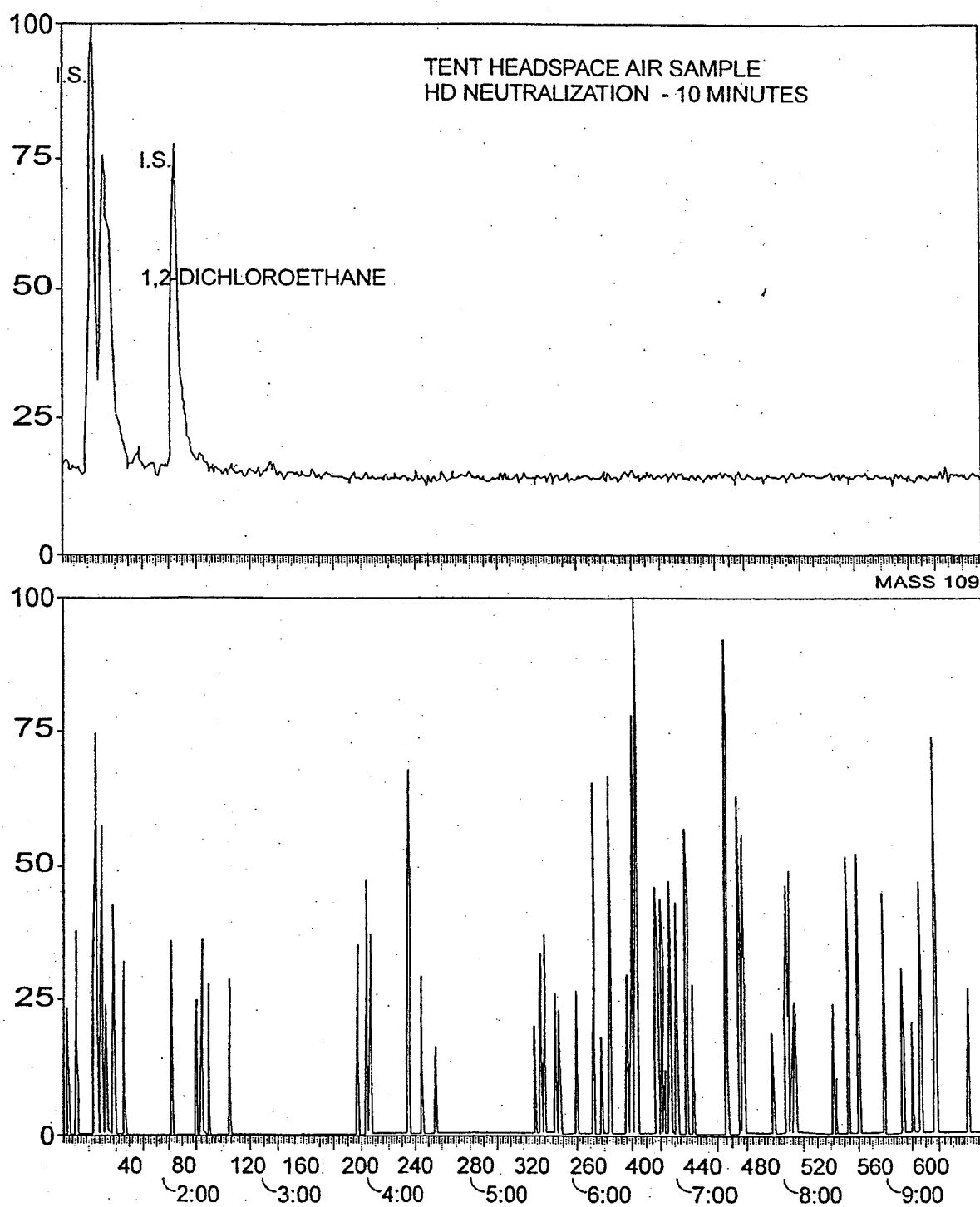


Fig. 22

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Fig. 23

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Fig. 24

Agent Under Test	w/w% Agent	w/w% SD	SD/ Agent	Buffer Strength	w/w% Foamer/ Surfactant	w/w% Cosolvent	Time (Min)	% Agent Remaining	LC-MS Ions Monitored
								LC-FPD LC-MS	
GB	0.29	3.0	5.7	0.67	1.3	0	0.43	<0.56	-
							3.7	-	<0.2
							5.6	<0.56	-
							10.8	-	<0.2
							56.6	<0.56	-
GB	0.29	6.0	11.4	1.0	4.6	6.9	1.13	<0.56	-
							3.52	-	<0.2
							4.92	<0.56	-
							10.0	-	<0.2
GB	0.29	9.0	17.2	1.0	4.8	6.9	1.78	<0.56	-
							5.43	<0.56	-
GA	0.29	3.0	5.7	0.67	1.6	0	1.33	0	-
							2.43	0	-
							4.95	0	-
							53.0	0	-
							21.8hrs	0	-
GA	0.29	3.0	5.7	0.67	1.8	0	1.07	0	-
							3.43	-	<0.46
							4.85	0	-
							9.67	-	<0.46
GA	0.29	6.0	11.4	1.0	4.5	7.5	1.07	0	-
							3.35	-	<0.46
							4.85	0	-
							10.0	-	<0.46
							360	0	-
GD	0.29	3.0	5.7	0.67	1.6	0	1.07	5.0	-
							2.17	tr	-
							3.53	tr	tr
							4.77	0.5	-
							10.0	-	<0.06
GD	0.29	6.0	11.4	1.0	4.6	7.8	1.08	4.3	-
							2.22	tr	-
							3.53	tr	tr
							4.85	1.4	-
							9.98	-	<0.06
HD	0.27	3.0	5.7	0.67	1.6	0.0	2.67	0.0	-
							4.92	0.0	-
HD	0.27	3.0	5.7	0.67	1.6	0.0	3.0	0.0	-
							5.4	6.2	-
							62.1	0.0	-
HD	0.27	3.0	5.7	0.67	1.6	0.0	3.65	0.0	-
							4.97	0.0	-
HD	0.27	6.0	11.4	1.0	4.7	7.2	2.47	0.0	-
							5.27	0.0	-
							53.3	0.0	-

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Fig. 25

Formulation	VX		Reaction Time (minutes)	Residual VX	Product Toxic ?	Notes
	uL/mL	Molar ratio SD/VX				
Buffer/Surfactant	4		6 days	42%	YES	
FS* wo/SD	12		125	>50%	YES	VX droplets not solubilizing
FS* wo/SD	12		6 days	>50%	YES	
FS*	12	18.2	24	0	0	
FS*	12	18.2	7	0	0	
Mild	12	6.3	6	24.90%	NO	
Mild	12	6.0	11	20.90%	Trace	
Mild	12	6.0	15	11.40%	Trace	
Mild	12	6.2	33	11.80%	Trace	
Mild	12	6.3	230	19.40%	Trace	
Mild	12	6.3	3 days 23 hrs	50.10%	Trace	
Mild	12	6.3	5 days	28.77%		
Mild	4	16.9	7	1.28%	Trace	
Mild	4	18.2	11	0.63%	Trace	
Mild	4	18.2	66	0.65%	Trace	
Mild	4	18.2	189	0.56%	Trace	
Mild	3	29.1	12	0.68%	Trace	
Mild	0	0	-	0	-	

* Full 9% SD Strength

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Fig. 26 Nuclear Particle Decontamination

