APPENDIX K

Records of Cross-checking of VO measurements

FIELD DATA SHEET : SOIL VAPOUR EXTRACTION PILOT TEST (SHORT-TERM)

Date : 21-9-98 Sheet (1) of (1)

Location/SVE ID : VT4 Recorded by : Henry

Time					Before Test (Pw Before test)	After Test (CBS / Teemway)
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	5m	Shallow Probe (painted)	VOC (ppm)		
				CO_2 (%)	4.0	8.64
				O_2 (%)	1.8	1.0
				CH_4 (%)	94.5	99.7
			Deep Probe	VOC (ppm)		
				CO_2 (%)	15.8	22.9
				O_2 (%)	1.6	1.0
				CH_4 (%)	83.7	99.7
		10m	Shallow Probe (painted)	VOC (ppm)		
				CO_2 (%)	0	8.29
				O_2 (%)	1.5	1.0
				CH_4 (%)	98.3	99.7
			Deep Probe	VOC (ppm)		
				CO_2 (%)	7.3	22.9
				O_2 (%)	1.3	1.0
				CH_4 (%)	92.5	99.7
		20m	Shallow Probe (painted)	VOC (ppm)		
				CO_2 (%)	1.6	14.7
				O_2 (%)	1.8	1.0
				CH_4 (%)	95.5	99.7
			Deep Probe	VOC (ppm)		
				CO_2 (%)	14.0	21.2
				O_2 (%)	1.8	0.9
				CH_4 (%)	84.3	95.8
Carbon Filter Inlet				VOC (ppm)		
				~~CO_2~~ (%) CH_4		
Carbon Filter Outlet				~~O_2~~ (%) LOC		
				CH_4 (%)		
SVE Well				Free Product Thickness		

FIELD DATA SHEET : SOIL VAPOUR EXTRACTION PILOT TEST (SHORT-TERM)

Date : 21-9-98 Sheet (1) of (1)

Location/SVE ID : VT4 Recorded by : Henry

Time					For After Test LES ~~Before Test~~	Teemuay ~~After Test~~
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	5m	Shallow Probe (painted)	VOC (ppm)		
				CO_2 (%)	0.0	-0.01
				O_2 (%)	>20.2	>1.7
				CH_4 (%)	0.3	-0.04
			Deep Probe	VOC (ppm)		
				CO_2 (%)	0.0	0.01
				O_2 (%)	>20.3	>1.8
				CH_4 (%)	0.3	-0.04
		10m	Shallow Probe (painted)	VOC (ppm)		
				CO_2 (%)	0.0	-0.01
				O_2 (%)	>20.3	>1.8
				CH_4 (%)	0.2	-0.04
			Deep Probe	VOC (ppm)		
				CO_2 (%)	0.0	-0.01
				O_2 (%)	>20.3	>1.6
				CH_4 (%)	0.3	-0.04
		20m	Shallow Probe (painted)	VOC (ppm)		
				CO_2 (%)	0.0	-0.01
				O_2 (%)	>20.2	>1.7
				CH_4 (%)	0.2	-0.04
			Deep Probe	VOC (ppm)		
				CO_2 (%)	0.0	-0.01
				O_2 (%)	>20.3	>1.9
				CH_4 (%)	0.2	-0.04
Carbon Filter Inlet				VOC (ppm)		
				~~CO_2~~ (%) CH_4		
Carbon Filter Outlet				~~O_2~~ (%) LOC		
				CH_4 (%)		
SVE Well				Free Product Thickness		

FIELD DATA SHEET : SOIL VAPOUR EXTRACTION PILOT TEST (LONG-TERM)

Date : From 10 Nov 98 to 13 Nov 98

Location/SVE ID : VT1 Start time 10:20 am

Vacuum/Flowrate : 60 cfm

Sheet (1) of (1)

Recorded by : Henry

					10 Nov 98								12 Nov 98											
Time Elapsed (hr)					HEMCL 1	Tremvay 1	HEMCL 2	Tremvay 2	HEMCL 3	Tremvay 3	HEMCL 4	Tremvay 4	HEMCL 48	Tremvay 48	HEMCL 52	Tremvay 52	36	40	44	48	52	56	60	64	68	72
SVE Well				Vacuum (in H_2O)																						
				Depth to Water (m)																						
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	5m	Shallow Probe A1 (painted)	Vacuum (in H_2O)																						
				VOC (ppm)	1.10	1.7	1.15	1.7	1.5	0.0	1.5	0.0	1.5	1.6	1.0	0.0										
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
			Deep Probe A2	Vacuum (in H_2O)																						
				VOC (ppm)	1.6	1.7	1.2	2.5	1.2	0.0	1.2	0.0	1.2	1.0	1.1	0.0										
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
		10m	Shallow Probe B1 (painted)	Vacuum (in H_2O)																						
				VOC (ppm)	37.5	42.0	38.2	38.9	49.0	68.3	17.4	21.0	101	90.8	42.9	43.5										
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
			Deep Probe B2	Vacuum (in H_2O)																						
				VOC (ppm)	1.45	4.0	1.5	4.1	2.2	4.3	0.94	0.3	10.5	8.3	1.6	1.7										
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
		20m	Shallow Probe C1 (painted)	Vacuum (in H_2O)																						
				VOC (ppm)	140	188	175	177	136	125	208	215	950	107	602	660										
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
			Deep Probe C2	Vacuum (in H_2O)																						
				VOC (ppm)	46	40	49.4	56.5	39.8	19.4	47.0	27.1	91	80.0	42.0	43.0										
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
Blower Inlet Vacuum (in H_2O)																										
Blower Outlet			Temp (deg C)																							
			Air Flow (cfm)																							
			VOC (ppm)		83.0	84.9	81.0	70.0	80.9	80.3	63.1	77.5	320	82.0	95.5	104										
			CO_2 (%)																							
			O_2 (%)																							
			CH_4 (%)																							
Carbon Adsorber Outlet			Temp (deg C)																							
			VOC (ppm)		39.0	8.3	39.3	3.8	3.5	3.3	39.3	1.7	230	17.4	58.0	10.3										
			CO_2 (%)																							
			O_2 (%)																							
			CH_4 (%)																							

FIELD DATA SHEET : SOIL VAPOUR EXTRACTION PILOT TEST (LONG-TERM)

Date : 16 Nov 98 to 17 Nov 98

Location/SVE ID : VT7

Vacuum/Flowrate : 28.5 fm

Sheet (1) of (1)

Recorded by : Henry

					Teemway	MEMCL	Teemway	MEMCL	Teemway	MEMCL	Teemway	MEMCL	Teemway	MEMCL												
Time Elapsed (hr)					28	28	32	32	48	48	52	52	56	56	28	32	36	40	44	48	52	56	60	64	68	72
SVE Well				Vacuum (in H_2O)																						
				Depth to Water (m)																						
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	5m	Shallow Probe A1 (painted)	Vacuum (in H_2O)																						
				VOC (ppm)	2.0	3.2	73.2	58.4	29.1	35.7	25.3	45.3	52.8	49.7												
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
			Deep Probe A2	Vacuum (in H_2O)																						
				VOC (ppm)	43.0	49.5	48.0	31.2	29.1	30.5	45.2	56.3	48.1	47.4												
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
		10m	Shallow Probe B1 (painted)	Vacuum (in H_2O)																						
				VOC (ppm)	6.5	7.8	27.0	22.1	91.0	83.4	46.7	44.0	56.4	51.3												
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
			Deep Probe B2	Vacuum (in H_2O)																						
				VOC (ppm)	12.0	18.4	535	45.1	43.8	464	38.0	48.5	85.4	78.2												
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
		20m	Shallow Probe C1 (painted)	Vacuum (in H_2O)																						
				VOC (ppm)	21.9	>3.4	57.5	55.2	301	132	41.2	78.2	77.1	74.5												
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
			Deep Probe C2	Vacuum (in H_2O)																						
				VOC (ppm)	95.0	86.2	139	112	525	211	320	187	498	340												
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
Blower Inlet Vacuum (in H_2O)																										
Blower Outlet				Temp (deg C)																						
				Air Flow (cfm)																						
				VOC (ppm)	90.0	85.6	111	83.4	141	132	119	91.0	191	121												
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						
Carbon Adsorber Outlet				Temp (deg C)																						
				VOC (ppm)	>2.0	>5.0	40.1	35.8	36.6	40.7	18.9	50.5	104	72												
				CO_2 (%)																						
				O_2 (%)																						
				CH_4 (%)																						

FIELD DATA SHEET : SOIL VAPOUR EXTRACTION PILOT TEST (LONG-TERM)

Date: 24 Nov '98 and 26 Nov '98 Start on 23 Nov '98 (11:00am)
Location/SVE ID: VT3
Vacuum/Flowrate:
Sheet (1) of (1)
Recorded by: Henry

					Tramway	MEMCL	Tramway	MEMCL	Tramway	MEMCL	Tramway	MEMCL	20	24	28	32
Time Elapsed (hr)					24	24	28	28	72	72	13:30	13:30				
SVE Well				Vacuum (in H_2O)												
				Depth to Water (m)												
Depth to Water at Groundwater Wells (m)				W1 (2.5m)												
				W3 (5.5m)												
				W6 (2.5m)												
				W8 (2.5m)												
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	1m	Shallow Probe A1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	103	80.9	48.0	43.0	95.0	90.8	116	109				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe A2	Vacuum (in H_2O)												
				VOC (ppm)	72.6	56.8	46.0	40.6	110	102	164	144				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
		5m	Shallow Probe B1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	28.8	34.0	23.0	63.2	43.6	35.6	59.0	49.1				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe B2	Vacuum (in H_2O)												
				VOC (ppm)	35.6	41.0	30.0	67.4	49.9	47.1	76.2	71.2				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
		10m	Shallow Probe C1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	1.5	2.9	2.8	4.6	1.7	2.4	20.2	15.5				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe C2	Vacuum (in H_2O)												
				VOC (ppm)	136	118	83.0	101	68.6	56.3	78.8	68.3				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
		20m	Shallow Probe D1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	52.3	57.9	16.0	39.9	45.6	30.3	41.5	33.7				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe D2	Vacuum (in H_2O)												
				VOC (ppm)	1.4	2.36	1.7	2.1	1.7	2.4	14.0	10.4				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
		5m	Shallow Probe E1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	20.1	17.8	12.0	45.5	7.6	6.5	16.4	20.4				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe E2	Vacuum (in H_2O)												
				VOC (ppm)	16.4	15.7	11.0	41.0	7.5	6.3	15.2	19.8				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
		5m	Shallow Probe F1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	16.0	17.0	13.2	12.9	15.6	10.7	28.0	26.5				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe F2	Vacuum (in H_2O)												
				VOC (ppm)	6.1	7.2	3.9	4.5	12.1	9.3	11.1	15.7				
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
Blower Inlet Vacuum (in H_2O)																
Blower Outlet				Temp (deg C)												
				Air Flow (cfm)												
				VOC (ppm)	97.6	107	90.8	121	51.9	68.0						
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
Carbon Adsorber Outlet				Temp (deg C)												
				VOC (ppm)	177	135	105	140	44.0	49.7						
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												

FIELD DATA SHEET : SOIL VAPOUR EXTRACTION PILOT TEST (LONG-TERM)

Date : 19 Nov 98
Location/SVE ID : VT4
Vacuum/Flowrate : 80 cfm

Sheet (1) of (1)
Recorded by : Henry

Time Elapsed (hr)					Tremblay 20	MEHCL 20	Tremblay 24	MEHCL 24	4	8	12	16	20	24	28	32
SVE Well				Vacuum (in H_2O)												
				Depth to Water (m)												
Depth to Water at Groundwater Wells (m)				W1 (2.5m)												
				W3 (5.5m)												
				W6 (2.5m)												
				W8 (2.5m)												
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	1m	Shallow Probe A1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	82.3	103	160	191								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe A2	Vacuum (in H_2O)												
				VOC (ppm)	201	262	485	345								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
		5m	Shallow Probe B1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	41.6	132	79.4	50.5								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe B2	Vacuum (in H_2O)												
				VOC (ppm)	20.1	33.3	45.8	33.0								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
		10m	Shallow Probe C1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	120	172	62.0	49.5								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe C2	Vacuum (in H_2O)												
				VOC (ppm)	84.0	~~85~~ 230	98.0	64.0								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
		20m	Shallow Probe D1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	45.3	120	140	147								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe D2	Vacuum (in H_2O)												
				VOC (ppm)	77.6	134	126	135								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
		5m	Shallow Probe E1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	120	79.0	270	190								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe E2	Vacuum (in H_2O)												
				VOC (ppm)	32.8	87.0	413	295								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
		5m	Shallow Probe F1 (painted)	Vacuum (in H_2O)												
				VOC (ppm)	130	97.8	101	86								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
			Deep Probe F2	Vacuum (in H_2O)												
				VOC (ppm)	62.2	55.7	79.8	58								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
Blower Inlet Vacuum (in H_2O)																
Blower Outlet				Temp (deg C)												
				Air Flow (cfm)												
				VOC (ppm)	97.8	115	173	213								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												
Carbon Adsorber Outlet				Temp (deg C)												
				VOC (ppm)	51.9	69.4	115	128								
				CO_2 (%)												
				O_2 (%)												
				CH_4 (%)												

Date : 30 Oct '98 Location/SVE ID : VT3

Pressure/Flowrate : VT3 (4cfm)(2cfm) Sheet (1) of (1)

Before After + Before (2cfm)

					Time Elapsed (hr:min:sec)	0:00:00	0:30:00	1:00:00	1:30:00
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	1m	Shallow Probe A1 (painted)	VOC (ppm)		90.8	58.0		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
			Deep Probe A2	VOC (ppm)		4.5	5.5		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
		5m	Shallow Probe B1 (painted)	VOC (ppm)		134	89.5		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
			Deep Probe B2	VOC (ppm)		117	86.0		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
		10m	Shallow Probe C1 (painted)	VOC (ppm)		10.8	3.3		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
			Deep Probe C2	VOC (ppm)		112	84.0		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
		20m	Shallow Probe D1 (painted)	VOC (ppm)		29.5	12.4		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
			Deep Probe D2	VOC (ppm)		17.3	7.2		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
		5m	Shallow Probe E1 (painted)	VOC (ppm)		156	110		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
			Deep Probe E2	VOC (ppm)		11.9	5.3		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
		5m	Shallow Probe F1 (painted)	VOC (ppm)		36.7	32.5		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
			Deep Probe F2	VOC (ppm)		20.8	9.10		
				CO_2 (%)					
				O_2 (%)					
				CH_4 (%)					
GW Wells	Distance from Extraction Well (m)	2.5m	Shallow W1	Free Product Thickness					
				DO (mg/L)					
			Deep W2	Free Product Thickness					
				DO (mg/L)					
		5.5m	Shallow W3	Free Product Thickness					
				DO (mg/L)					
			Deep W4	Free Product Thickness					
				DO (mg/L)					
		2.5m	Shallow W5	Free Product Thickness					
				DO (mg/L)					
			Deep W6	Free Product Thickness					
				DO (mg/L)					
		2.5m	Deep W7	Free Product Thickness					
				DO (mg/L)					
			Shallow W8	Free Product Thickness					
				DO (mg/L)					

FIELD DATA SHEET : AIR SPARGING PILOT TEST (SHORT-TERM)

Date : 20 Oct '98
Location/SVE ID : VT4
Pressure/Flowrate : 4 cfm
Sheet (1) of (1)
Recorded by : Henry

Time of testing (3:30 – 4:20 pm)

Before Test CES Tomorrow

					Time Elapsed (min:sec)	06:00	07:00	08:00	09:00	10:00	12:00	14:00	16:00	20:00	22:00	24:00
AS Well					Pressure (psi)											
					Flowrate (cfm)											
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	1m (painted)	Shallow Probe A1		Pressure (in H_2O)											
					VOC (ppm)	302	408									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
			Deep Probe A2		Pressure (in H_2O)											
					VOC (ppm)	943	1165									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
		5m (painted)	Shallow Probe B1		Pressure (in H_2O)											
					VOC (ppm)	270	317									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
			Deep Probe B2		Pressure (in H_2O)											
					VOC (ppm)	131	139									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
		10m (painted)	Shallow Probe C1		Pressure (in H_2O)											
					VOC (ppm)	172	198									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
			Deep Probe C2		Pressure (in H_2O)											
					VOC (ppm)	130	240									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
		20m (painted)	Shallow Probe D1		Pressure (in H_2O)											
					VOC (ppm)	173	175									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
			Deep Probe D2		Pressure (in H_2O)											
					VOC (ppm)	134	257									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
		5m (painted)	Shallow Probe E1		Pressure (in H_2O)											
					VOC (ppm)	178	232									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
			Deep Probe E2		Pressure (in H_2O)											
					VOC (ppm)	131	150									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
		5m (painted)	Shallow Probe F1		Pressure (in H_2O)											
					VOC (ppm)	80	69.5									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
			Deep Probe F2		Pressure (in H_2O)											
					VOC (ppm)	73.5	66.4									
					CO_2 (%)											
					O_2 (%)											
					CH_4 (%)											
GW Wells	Distance from Extraction Well (m)	2.5m	Shallow W1		Depth to Water (m)											
					Free Product Thickness											
					DO											
			Deep W2		Free Product Thickness											
					DO											
		5.5m	Shallow W3		Depth to Water (m)											
					Free Product Thickness											
					DO											
			Deep W4		Free Product Thickness											
					DO											
		2.5m	Deep W5		Free Product Thickness											
					DO											
			Shallow W6		Depth to Water (m)											
					Free Product Thickness											
					DO											
		2.5m	Deep W7		Free Product Thickness											
					DO											
			Shallow W8		Depth to Water (m)											
					Free Product Thickness											
					DO											

Date : From 2 Nov '98 to 6 Nov '98

Sheet (1) of (1)

Location/SVE ID : VT3

Recorded by : Henry Leung

Pressure/Flowrate : SVE#/5cfm
AS / 2cfm Before test

								6 Nov '98					
								8:05a.m	10:00a.m				
Time Elapsed (hr)								0	0	88	90	96	96	12	16
AS Well					Pressure (psi)										
					Flowrate (cfm)			MEMCL	Teemday	Teemday	MEMCL	Teemday	MEMCL		
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	1m	Shallow Probe A1 (painted)		VOC (ppm)			104	60	12.9	3.4	23.0	39.1		
					CO_2 (%)					0.02	0.0				
					O_2 (%)					>0.0	19.9				
					CH_4 (%)					1.48	0.0				
			Deep Probe A2		VOC (ppm)			183	96	5.6	2.4	3.0	2.7		
					CO_2 (%)					0.02	0.0				
					O_2 (%)					>0.2	18.4				
					CH_4 (%)					0.00	0.0				
		5m	Shallow Probe B1 (painted)		VOC (ppm)			210	>44	48.7	76.6	33.6	56.9		
					CO_2 (%)					0.33	0.2				
					O_2 (%)					12.2	13.2				
					CH_4 (%)					4.38	2.4				
			Deep Probe B2		VOC (ppm)			176	177	63.0	85.5	41.8	55.1		
					CO_2 (%)					0.30	0.2				
					O_2 (%)					9.9	10.4				
					CH_4 (%)					5.20	4.4				
		10m	Shallow Probe C1 (painted)		VOC (ppm)			8.3	4.7	3.9	3.5	1.2	1.3		
					CO_2 (%)					0.02	0.0				
					O_2 (%)					>0.0	19.9				
					CH_4 (%)					0.15	0.0				
			Deep Probe C2		VOC (ppm)			100	95	58.8	89.0	83.9	81.0		
					CO_2 (%)					0.37	0.3				
					O_2 (%)					4.5	4.5				
					CH_4 (%)					15.7	10.9				
		20m	Shallow Probe D1 (painted)		VOC (ppm)			38.0	28.0	91.7	76.6	42.8	49.2		
					CO_2 (%)					0.45	0.2				
					O_2 (%)					7.8	12.1				
					CH_4 (%)					5.01	0.8				
			Deep Probe D2		VOC (ppm)			17.6	11.4	10.8	17.3	7.7	9.7		
					CO_2 (%)					0.76	0.2				
					O_2 (%)					16.5	18.2				
					CH_4 (%)					3.75	0.8				
		5m	Shallow Probe E1 (painted)		VOC (ppm)			125	83.9	18.9	78.2	21.4	49.3		
					CO_2 (%)					2.91	2.1				
					O_2 (%)					10.3	12.0				
					CH_4 (%)					0.82	0.0				
			Deep Probe E2		VOC (ppm)			10.2	8.6	13.7	8.93	1.7	2.0		
					CO_2 (%)					0.02	0.0				
					O_2 (%)					>0.0	18.5				
					CH_4 (%)					0.00	0.0				
		5m	Shallow Probe F1 (painted)		VOC (ppm)			56.1	41.0	8.9	30.2	10.2	14.7		
					CO_2 (%)					0.84	0.6				
					O_2 (%)					14.0	12.7				
					CH_4 (%)					9.31	10.8				
			Deep Probe F2		VOC (ppm)			>9.5	>0.6	5.7	16.4	8.3	13.8		
					CO_2 (%)					1.08	0.7				
					O_2 (%)					12.9	14.1				
					CH_4 (%)					12.4	8.2				
GW Wells	Distance from Extraction Well (m)	2.5m	Shallow W1		Carbon Absorber Outlet VOC (ppm)			1.0	1.7	9.5	13.3				
			Deep W2		Blower Outlet VOC (ppm)			160	145	87.4	101				
		5.5m	Shallow W3		Depth to Water (m)	Carbon Absorber Outlet									
					Free Product Thickness										
					DO		CO_2 (%)			0.18	0.1				
			Deep W4		Free Product Thickness		O_2 (%)			18.8	18.3				
					DO		CH_4 (%)			2.19	0.8				
		2.5m	Deep W5		Free Product Thickness	Blower Outlet									
					DO										
			Shallow W6		Depth to Water (m)										
					Free Product Thickness		CO_2 (%)			0.10	0.1				
					DO		O_2 (%)			19.2	17.8				
			Deep W7		Free Product Thickness		CH_4 (%)			>23	1.1				
					DO										
		2.5m	Shallow W8		Depth to Water (m)										
					Free Product Thickness										
					DO										

FIELD DATA SHEET : SVE/AS COMBINED TEST (LONG-TERM)

Date : 22 Oct '98

Location/SVE ID : VT4

Pressure/Flowrate : 30 cfm

Sheet (1) of (1)

Recorded by : Henry Leung

					22 Oct '98 CES	Teemway			4	8	12	16
Time Elapsed (hr)					24	24						
AS Well			Pressure (psi)	bar								
			Flowrate (cfm)		8	8						
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	1m	Shallow Probe A1 (painted)	VOC (ppm)	1410	238						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
			Deep Probe A2	VOC (ppm)	450	510						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
		5m	Shallow Probe B1 (painted)	VOC (ppm)	200	227						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
			Deep Probe B2	VOC (ppm)	125	150						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
		10m	Shallow Probe C1 (painted)	VOC (ppm)	195	226						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
			Deep Probe C2	VOC (ppm)	230	265						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
		20m	Shallow Probe D1 (painted)	VOC (ppm)	205	240						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
			Deep Probe D2	VOC (ppm)	135	161						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
		5m	Shallow Probe E1 (painted)	VOC (ppm)	98	120						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
			Deep Probe E2	VOC (ppm)	100	130						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
		5m	Shallow Probe F1 (painted)	VOC (ppm)	87	105						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
			Deep Probe F2	VOC (ppm)	80	98						
				CO_2 (%)								
				O_2 (%)								
				CH_4 (%)								
Before →	Blower Outlet			CO_2 (%)								
				VOC (ppm)	200	260						
				CH_4 (%)								
After →	Carbon Adsorber Outlet			VOC (ppm)	70	80						
				CO_2 (%)								
				CH_4 (%)								
GW Wells	Distance from Extraction Well (m)	5.5m	Deep W4	Free Product Thickness								
				DO								
		2.5m	Deep W5	Free Product Thickness								
				DO								
			Shallow W6	Depth to Water (m)								
				Free Product Thickness								
				DO								
		2.5m	Deep W7	Free Product Thickness								
				DO								
			Shallow W8	Depth to Water (m)								
				Free Product Thickness								
				DO								

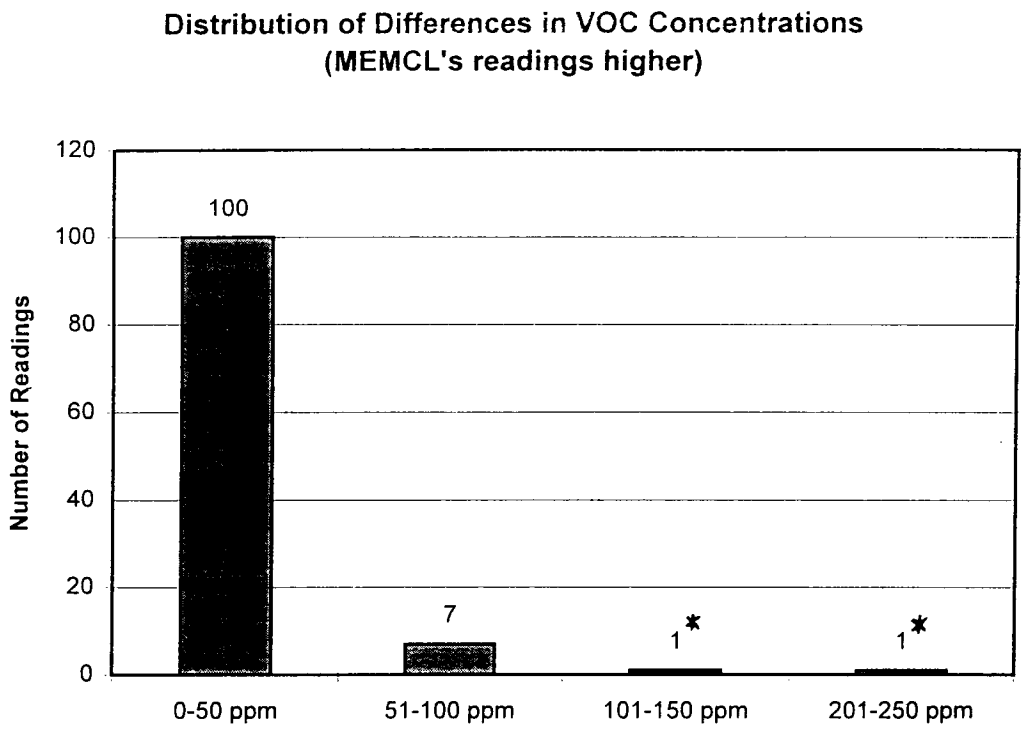
FIELD DATA SHEET : SVE&S COMBINED TEST (LONG-TERM)

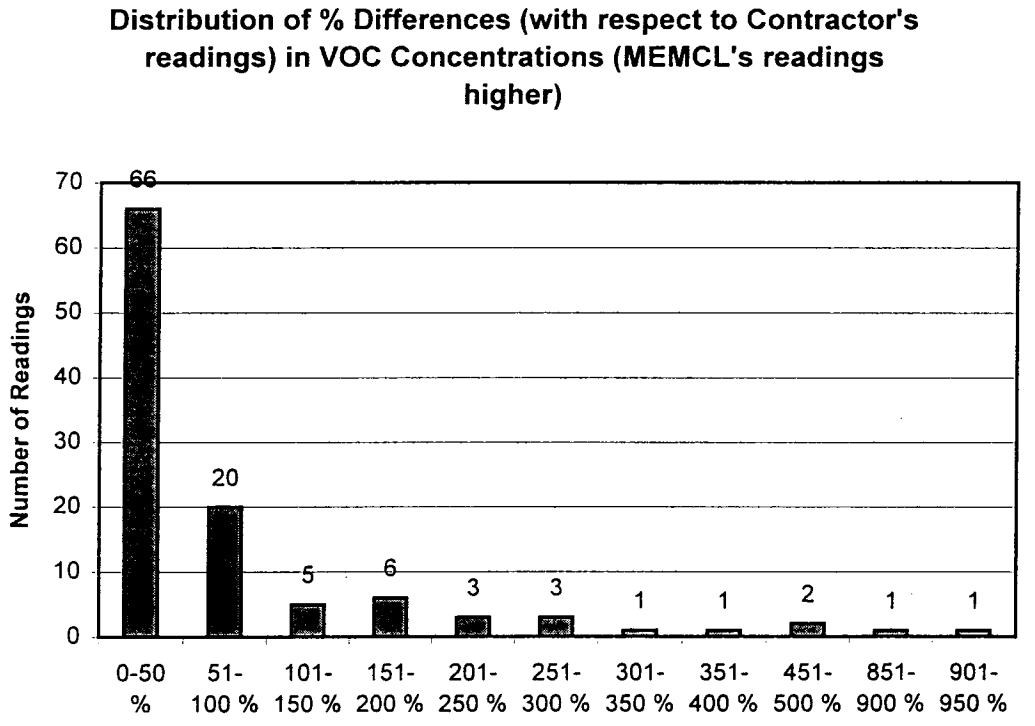
Date : 23 Oct '98 Sheet (1) of (1)

Location/SVE~~10~~ : VT4 Recorded by : Henry

Pressure/Flowrate : 40 cfm

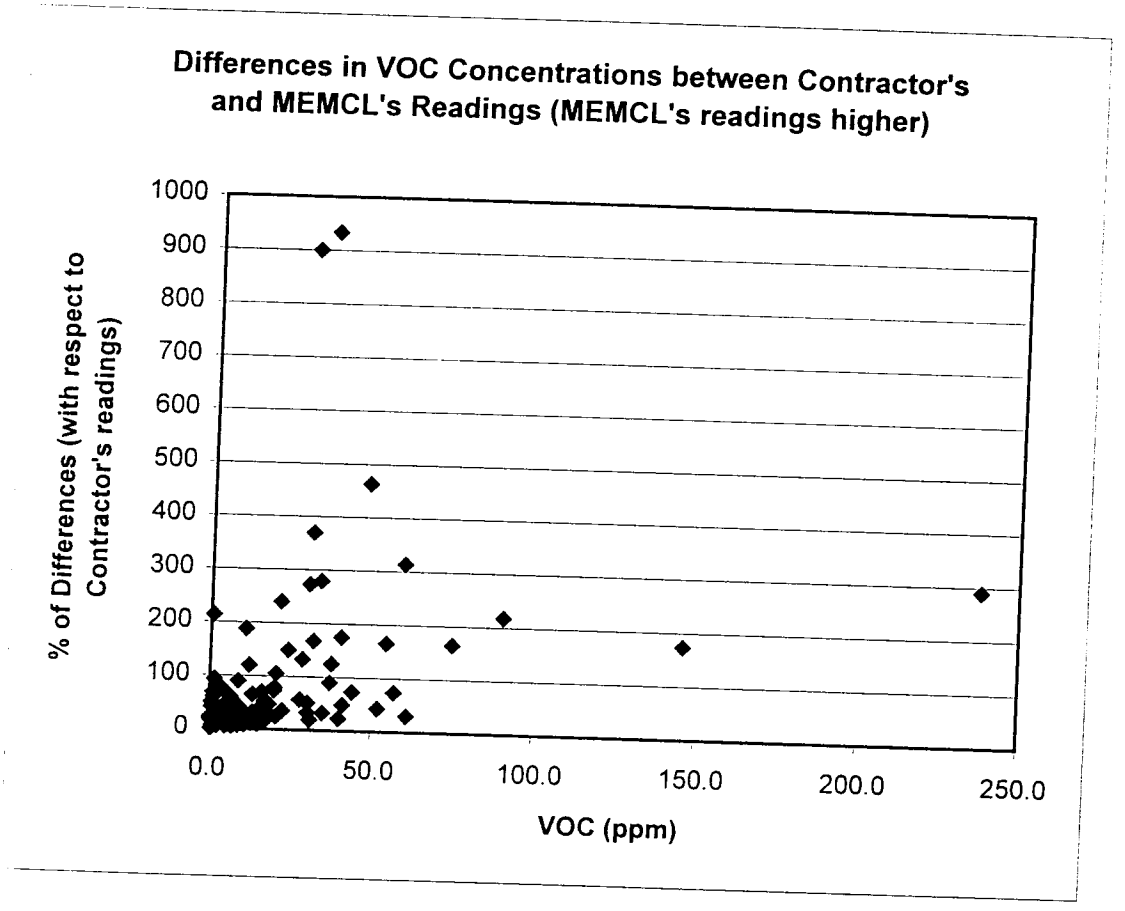
					Time Elapsed (hr)	CES 48	Teemday 48	2	3	4	8	12	16
AS Well					Pressure (psi)								
					Flowrate (cfm)								
Soil Vapour Monitoring Probe	Distance from Extraction Well (m)	1m	Shallow Probe A1 (painted)		VOC (ppm)	35	92.						
					CO_2 (%)	9.0	9.31						
					O_2 (%)	1.7	2.1						
					CH_4 (%)	45.7	48.5						
			Deep Probe A2		VOC (ppm)	83	425						
					CO_2 (%)	7.1	7.1						
					O_2 (%)	10.3	10.8						
					CH_4 (%)	9.8	10.5						
		5m	Shallow Probe B1 (painted)		VOC (ppm)	35	82.4						
					CO_2 (%)	22.4	23.3						
					O_2 (%)	1.0	2.1						
					CH_4 (%)	61.1	67.3						
			Deep Probe B2		VOC (ppm)	20	~~8.0~~ 42.0						
					CO_2 (%)	13.9	14.3						
					O_2 (%)	8.8	9.3						
					CH_4 (%)	37.2	36.8						
		10m	Shallow Probe C1 (painted)		VOC (ppm)	22	10						
					CO_2 (%)	17.1	17.3						
					O_2 (%)	3.4	3.8						
					CH_4 (%)	43.3	46.6						
			Deep Probe C2		VOC (ppm)	35	52.1						
					CO_2 (%)	18.6	19.3						
					O_2 (%)	2.1	2.6						
					CH_4 (%)	42.8	48.5						
		20m	Shallow Probe D1 (painted)		VOC (ppm)	49.0	32						
					CO_2 (%)	~~15.4~~ 12.9	15.0						
					O_2 (%)	2.4	2.5						
					CH_4 (%)	26.0	32.5						
			Deep Probe D2		VOC (ppm)	50	45						
					CO_2 (%)	17.2	17.4						
					O_2 (%)	0.6	1.1						
					CH_4 (%)	30.9	33.2						
		5m	Shallow Probe E1 (painted)		VOC (ppm)	35	26						
					CO_2 (%)	0.0	0.02						
					O_2 (%)	5.7	6.0						
					CH_4 (%)	10.6	12.8						
			Deep Probe E2		VOC (ppm)	107	234						
					CO_2 (%)	13.1	12.7						
					O_2 (%)	1.3	2.1						
					CH_4 (%)	15.7	14.4						
		5m	Shallow Probe F1 (painted)		VOC (ppm)	47.1	57.0						
					CO_2 (%)	2.88	2.72						
					O_2 (%)	16.9	17.4						
					CH_4 (%)	0.91	0.73						
			Deep Probe F2		VOC (ppm)	28.	87.2						
					CO_2 (%)	3.52	3.19						
					O_2 (%)	15.4	17.0						
					CH_4 (%)	4.01	3.91						
GW Wells	Distance from Extraction Well (m)	2.5m	Shallow W1		Depth to Water (m)								
					Free Product Thickness			CES	Teemday				
					DO	Blower Outlet							
			Deep W2		Free Product Thickness								
					DO	VOC (ppm)		75	660				
		3.5m	Shallow W3		Depth to Water (m)	CO_2 (%)		9.9	10.4				
					Free Product Thickness	O_2 (%)		6.8	8.4				
					DO	CH_4 (%)		12.9	16.4				
			Deep W4		Free Product Thickness								
					DO								
		2.5m	Deep W5		Free Product Thickness	Carbon Adsorber							
					DO	Outlet.							
			Shallow W6		Depth to Water (m)								
					Free Product Thickness	VOC (ppm)		18.0	25.9				
					DO	CO_2 (%)		10.4	10.4				
		2.5m	Deep W7		Free Product Thickness	O_2 (%)		7.1	7.9				
					DO	CH_4 (%)		9.5	11.1				
			Shallow W8		Depth to Water (m)								
					Free Product Thickness								
					DO								

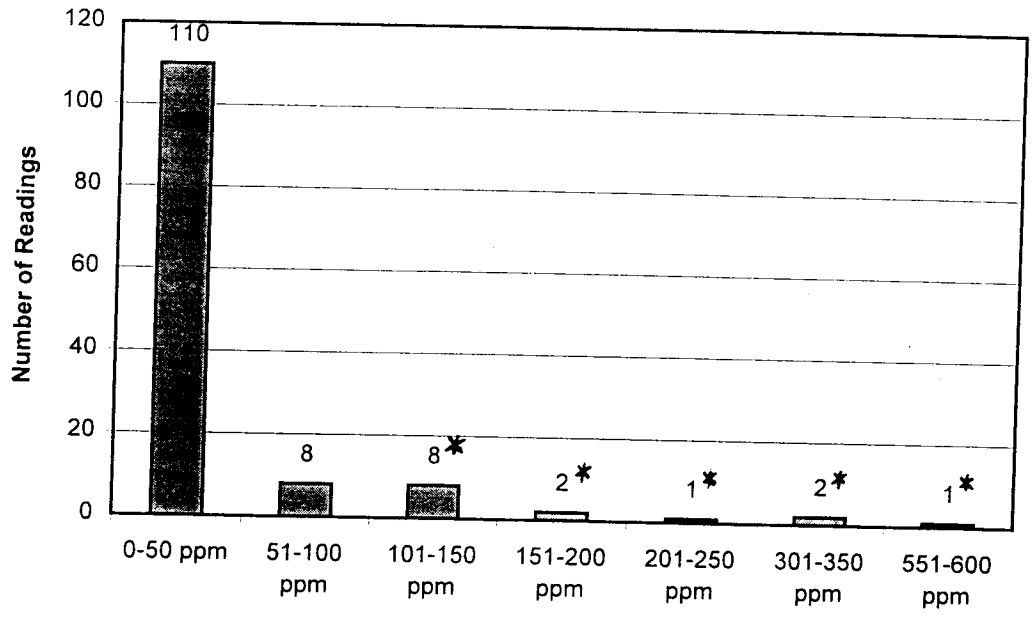


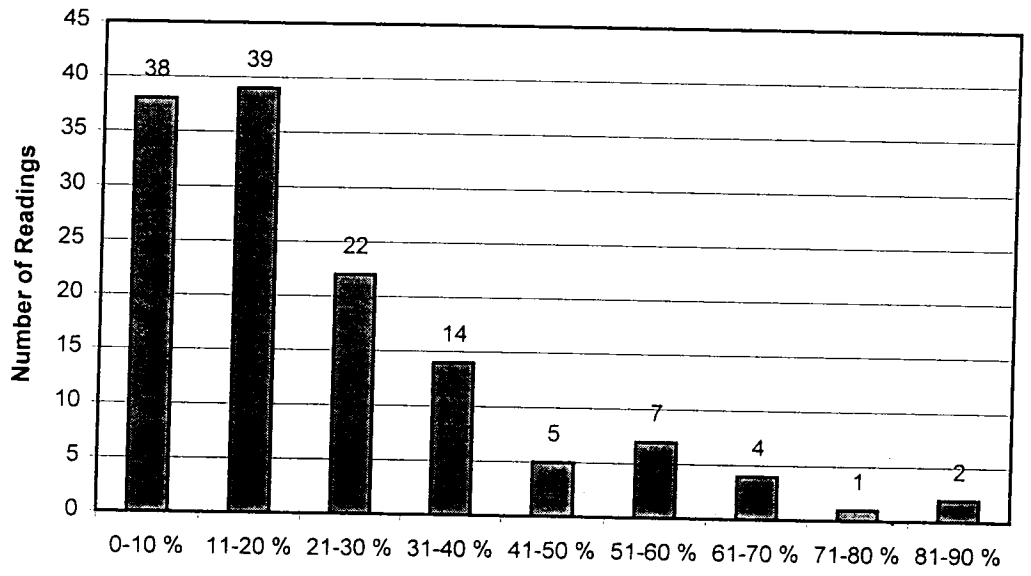


✱ Note:
It should noted that the relatively large difference in some measurements was likely due to the sequential measurements, which might resulted in gas trapped inside the measuring equimpment.

C418\xl\Crosschecking of VOC readings

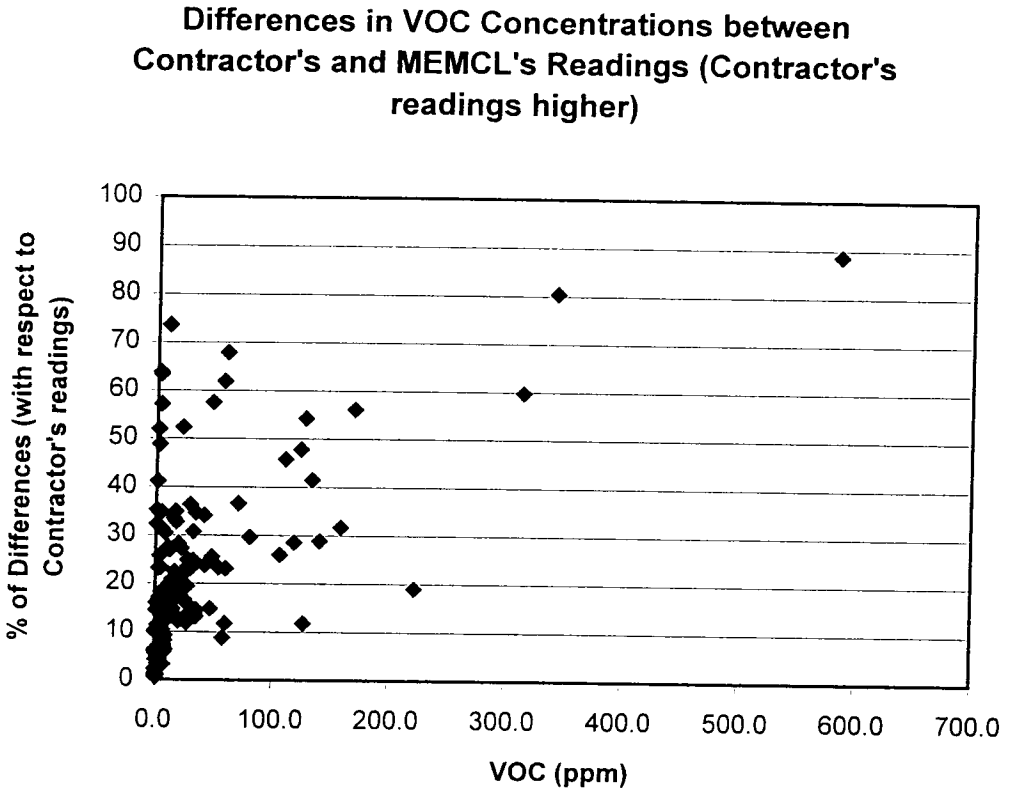

Differences in VOC Concentrations between Contractor's and MEMCL's Readings (MEMCL's readings higher)
% of Differences (with respect to Contractor's readings)
1000
900
800
700
600
500
400
300
200
100
0
0.0
50.0
100.0
150.0
200.0
250.0
VOC (ppm)





* Note:
It should noted that the relatively large difference in some measurements was likely due to the sequential measurements, which might resulted in gas trapped inside the measuring equimpment.

C418\xl\Crosschecking of VOC readings



C418\xl\Crosschecking of VOC readings