

APPENDIX 1

1. Sample at the Steam Station 2, Sasolburg, obtained on 29 May 2000 at 12H17

Comparison of the measured chemicals at Steam Station 2 with the screening levels available for residential areas as well as the background levels for the chemicals.

Chemical	Reported Level	EPA Region 6 Screening Level	TX ESL - short term	TX ESL - long term	LA 8-hr Std.	LA 24-hr Std.	NC Annual Std.	NC 24-hr Std.	NC 1-hr Std. (systemic toxicants)	NC 1-hr Std. (irritants)	ATSDR MRL - Acute	ATSDR MRL - Intermediate	ATSDR MRL - Chronic	Background levels as in San Francisco, USA
toluene	9.9	333	1560	156	7420	---	---	3920	---	3920	999	---	79.9	2
acetone	4.6	308	4920	492	---	---	---	---	---	---	25900	12900	12900	---
m-xylene	2.7	609	---	---	---	---	---	---	---	---	---	---	---	---
p-xylene	2.7	---	1730	173	---	---	---	---	---	---	---	---	---	---
hydrogen sulphide	111	0.834	---	---	275	---	---	---	275	69.9	29.9	---	---	---
o-xylene	1	609	---	---	---	---	---	---	---	---	---	---	---	---
2-butanone	2.6	834	3250	325	11600	---	---	3080	---	3080	---	---	---	---
benzene	29	0.208	10	2.5	---	10	0.1	---	---	49.9	3.99	---	1	
trichloroethene	0.11	0.918	1120	112	---	49	49.2	---	---	1990	99.9	---	<0.8	
carbon tetrachloride	0.13	0.108	105	10.8	---	5.56	5.59	---	---	199	49.9	---	0.11	
trichlorotrifluoroethane	0.16	25800	31700	3170	---	---	---	---	3170	---	---	---	---	---
carbon disulphide	0.68	609	25	2.5	59.5	---	---	155	---	---	---	---	299	155
styrene	0.27	918	91.8	9.18	4230	---	---	8840	---	---	---	---	59.9	---
methylene chloride	1.4	3.42	217	21.7	---	177	20	---	1410	---	599	299	299	<0.5
chloromethane	1	0.918	859	85.9	---	46.3	---	---	---	499	199	49.9	---	

 Indicates the screening/background level that was exceeded

 indicates an exceedance of the reported level of the chemical

2. Sample at Coal Silos, SCI, Sasolburg , taken on 11-10-00 at 11h02

Comparison of the measured chemicals at the Coal Silos SCI with the screening levels for residential areas in the US as well as with the available background levels for these chemicals.

Chemical	Reported Level	EPA Region 6 Screening Level	TX ESL - short term	TX ESL - long term	LA 8-hr Std.	LA 24-hr Std.	NC Annual Std.	NC 24-hr Std.	NC 1-hr Std. (systemic toxicants)	NC 1-hr Std. (irritants)	ATSDR MRL - Acute	ATSDR MRL - Interim	ATSDR MRL - Chronic	Background levels as in San Francisco, USA
toluene	9.9	333	1560	156	7420	---	---	3920	---	3920	999	---	79.9	2
acetone	4.6	308	4920	492	---	---	---	---	---	---	25900	12900	12900	---
m-xylene	2.7	609	---	---	---	---	---	---	---	---	---	---	---	---
p-xylene	2.7	---	1730	173	---	---	---	---	---	---	---	---	---	---
hydrogen sulphide	111	0.834	---	---	275	---	---	---	275	69.9	29.9	---	---	---
o-xylene	1	609	---	---	---	---	---	---	---	---	---	---	---	---
2-butanone	2.6	834	3250	325	11600	---	---	3080	---	3080	---	---	---	---
benzene	29	0.208	10	2.5	---	10	0.1	---	---	---	49.9	3.99	---	1
trichloroethene	0.11	0.918	1120	112	---	49	49.2	---	---	---	1990	99.9	---	<0.8
carbon tetrachloride	0.13	0.108	105	10.8	---	5.56	5.59	---	---	---	199	49.9	---	0.11
trichlorotrifluoroethane	0.16	25800	31700	3170	---	---	---	---	3170	---	---	---	---	---
carbon disulphide	0.68	609	25	2.5	59.5	---	---	155	---	---	---	---	299	155
styrene	0.27	918	91.8	9.18	4230	---	---	8840	---	---	---	---	59.9	---
methylene chloride	1.4	3.42	217	21.7	---	177	20	---	1410	---	599	299	299	<0.5
chloromethane	1	0.918	859	85.9	---	46.3	---	---	---	---	499	199	49.9	---

 Indicates the screening/background level that was exceeded
 indicates an exceedance of the reported level of the chemical

3. Sample at the Dannhauser Farm in Sasolburg on 11 October 2000 at 13H00

Comparison of the measured chemicals at the Dannhauser farm in Sasolburg with the screening levels for residential areas in the US as well as with the available background levels for these chemicals.

Chemical	Reported Level	EPA Region 6 Screening Level	TX ESL short term	TX ESL long term	LA 8-hr Std.	LA 24-hr Std.	NC Annual Std.	NC 24-hr Std.	NC 1-hr Std. (irritants)	ATSDR Acute	ATSDR MRL - Intermediate	ATSDR MRL - Chronic	Background levels as in San Francisco, USA
acetone	9.1	308	4920	492	--	--	--	--	--	25900	12900	12900	12900
carbon disulphide	1.5	609	25	2.5	59.5	--	--	155	--	--	--	299	--
2-butanone	1.6	834	3250	325	11600	--	--	3080	3080	--	--	--	--
benzene	0.63	0.208	10	2.5	--	10	0.1	--	--	49.9	3.99	--	1
toluene	3.6	333	1560	156	7420	--	--	3920	3920	999	--	79.9	2
m-xylene	0.69	609	--	--	--	--	--	--	--	--	--	--	--
p-xylene	0.69	--	1730	173	--	--	--	--	--	--	--	--	--

Indicates the screening/background level that was exceeded

indicates an exceedance of the reported level of the chemical

4. Sample at the Corner of Dithane and Raphepheng Roads in Zamdela on 11 October 2000 at 11H02

Comparison of the measured chemicals at Corner of Dithane and Raphepheng Roads, Zamdela with the screening levels for residential areas in the US as well as with the available background levels for these chemicals.

Chemical	Reported Level	EPA Region 6 Screening Level	TX ESL short term	TX ESL long term	LA 8-hr Std.	LA 24-hr Std.	NC Annual Std.	NC 24 hr Std.	NC 1-hr Std. (irritants)	ATSDR MRL - Acute	ATSDR MRL - Intermediate	ATSDR MRL - Chronic	Background level in San Fransisco, USA
vinyl chloride	1.3	0.183	108	10.8	---	0.99	0.317	---	---	499	29.9	---	<0.3
2-butanone	2.3	834	3250	325	11600	---	---	3080	3080	---	---	---	---
1,2-dichloroethane	2.6	0.0617	13.3	3.33	---	3.21	3.17	---	---	---	---	---	---
toluene	3.7	333	1560	156	7420	---	---	3920	3920	999	---	79.9	2
tetrachloroethene	0.83	2.75	283	28.3	---	87.8	158	---	---	199	---	39.9	0.11
m-xylene	0.85	609	---	---	---	---	---	---	---	---	---	---	---
p-xylene	0.85	---	1730	173	---	---	---	---	---	---	---	---	---
acetone	5.4	308	4920	492	---	---	---	---	---	25900	12900	12898	---
propene	4.99	---	97600	---	---	---	---	---	---	---	---	---	---
carbonyl sulphide	4.99	---	6.67	0.667	485	---	---	---	---	---	---	---	---

 Indicates the screening/background level that was exceeded
 indicates an exceedance of the reported level of the chemical

5. Sample obtained in the library, civic building, theatre and swimming pool circle in Sasolburg on 11 October 2000 at 12H04

Comparison of the measured chemicals in the library, civic building, theatre and swimming pool circle, measured on 11 October 2000 with the screening levels for residential areas in the US as well as with the available background levels for these chemicals.

Chemical	Reported Level	EPA Region 6 Screening Level	TX ESL - short term	TX ESL - long term	LA 8-hr Std.	LA 24-hr Std.	NC Annual Std.	NC 24-hr Std.	NC 1-hr Std. (irritants)	ATSDR MRL - Acute	ATSDR MRL - Intermedi ate	ATSDR MRL - Chronic	Background levels as in San Francisco, USA
acetone	9	308	4920	492	---	---	---	---	---	25900	12900	12900	---
carbon disulphide	2	609	25	2.5	59.5	---	---	155	---	---	---	299	---
2-butanone	2.5	834	3250	325	11600	---	---	3080	3080	---	---	---	---
benzene	0.93	0.208	10	2.5	---	10	0.1	---	---	49.9	3.99	---	1
toluene	5.6	333	1560	156	7420	---	---	3920	3920	999	---	79.9	2
m-xylene	0.91	609	---	---	---	---	---	---	---	---	---	---	---
p-xylene	0.91	---	1730	173	---	---	---	---	---	---	---	---	---
carbonyl sulphide	2.83	---	6.67	0.667	485	---	---	---	---	---	---	---	---

 Indicates the screening/background level that was exceeded

 indicates an exceedance of the reported level of the chemical

6. Sample obtained at the Steam Station 2 (next to Petronet sign) in Sasolburg on 11 October 2000 at 12H33

Comparison of the measured chemicals at the Steam Station 2 (next to the Petronet sign) in Sasolburg with the screening levels for residential areas in the US as well as with the available background levels for these chemicals.

Chemical	Reported Level	EPA Region 6 Screening Level	TX ESL - short term	TX ESL - long term	LA 8-hr Std.	LA 24-hr Std.	NC Annual Std.	NC 24-hr Std.	NC 1-hr Std. (irritants)	ATSDR MRL - Acute	ATSDR MRL - Intermedi ate	ATSDR MRL - Chronic	Background levels as in San Francisco, USA
toluene	3.9	333	1560	156	7420	---	---	3920	3920	999	---	79.9	2
acetone	7.1	308	4920	492	---	---	---	---	---	25900	12900	12900	---
m-xylene	1	609	---	---	---	---	---	---	---	---	---	---	---
p-xylene	1	---	1730	173	---	---	---	---	---	---	---	---	---
2-butanone	1.9	834	3250	325	11600	---	---	3080	3080	---	---	---	---
benzene	0.84	0.208	10	2.5	---	10	0.1	---	---	49.9	3.99	---	1



Indicates the screening/background level that was exceeded

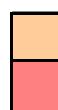


indicates an exceedance of the reported level of the chemical

7. Sample at the Eric Louw and Zamdela Main Road in Zamdela on 7 February 2002 at 13H53

Comparison of the measured chemicals at Eric Louw and Zamdela Main Road in Zamdela with the screening levels for residential areas in the US as well as with the available background levels for these chemicals.

	Reported Level	EPA Region 6 Screening Level	TX ESL short term	TX ESL - long term	LA 8-hr Std	LA 24-hr Std	NC Annual Std	NC 24-hr Std	NC 1-hr Std. (systemic toxicants)	NC 1-hr Std. (irritants)	ATSDR MRL - Acute	ATSDR MRL - Intermediate	ATSDR MRL - Chronic
acetone	8.29	308	4920	492	---	---	---	---	---	---	25900	12900	12900
benzene	4.59	0.208	10	2.5	---	10	0.1	---	---	---	49.9	3.99	---
ethylbenzene	1.79	918	1660	166	8590	---	---	---	---	---	---	999	---
carbon disulphide	2.09	609	25	2.5	59.5	---	---	155	---	---	---	---	299
hydrogen sulphide	6.21	0.834	---	---	275	---	---	---	---	275	69.9	29.9	---
styrene	1.19	918	91.8	9.18	4230	---	---	---	8840	---	---	---	59.9
toluene	5.39	333	1560	156	7420	---	---	3920	---	3920	999	---	79.9
m-xylene	3.19	609	---	---	---	---	---	---	---	---	---	---	---
p-xylene	3.19	---	1730	173	---	---	---	---	---	---	---	---	---



Indicates the screening/background level that was exceeded



Indicates an exceedance of the reported level of the chemical

8. Sample at the corner of Buldana and Tara Roads in Wentworth (south Durban) on 20 May 2000

Comparison of the measured chemicals at the corner of Buldana and Tara Roads, South Durban with the screening levels for residential areas in the US as well as with the available background levels for these chemicals.

Chemical	Reported Level	EPA Region 6 Screening Level	TX ESL short term	TX ESL long term	LA 8-hr Std.	LA 24-hr Std.	NC Annu al Std.	NC 24 hr Std.	NC 1-hr Std. (systemic toxicants)	NC 1-hr Std. (irritants)	ATSDR MRL - Acute	ATSDR MRL - Interme diate	ATSDR MRL - Chronic	Background levels as in San Francisco, USA
methylene chloride	1.9	3.42	217	21.7	---	177	20	---	1410	---	599	299	299	<0.5
carbon disulphide	1.8	609	25	2.5	59.5	---	---	155	---	---	---	---	299	---
2-butanone	1.3	834	3250	325	11600	---	---	3080	---	3080	---	---	---	---
benzene	29	0.208	10	2.5	---	10	0.1	---	---	---	49.9	3.99	---	1
toluene	24	333	1560	156	7420	---	---	3920	---	3920	999	---	79.9	2
ethylbenzene	2.3	918	1660	166	8590	---	---	---	---	---	---	999	---	---
m-xylene	7.6	609	---	---	---	---	---	---	---	---	---	---	---	---
p-xylene	7.6	---	1730	173	---	---	---	---	---	---	---	---	---	---
o-xylene	2.9	609	---	---	---	---	---	---	---	---	---	---	---	---

 Indicates the screening/background level that was exceeded

 indicates an exceedance of the reported chemical concentration

9. Sample at Table View, Cape Town on 17 July 2000

Comparison of the measured chemicals at Cape Town with the screening levels for residential areas in the US as well as with the available background levels for these chemicals.

Chemical	Reported Level	EPA Region 6 Screening Level	TX ESL short term	TX ESL long term	LA 8-hr Std.	LA 24-hr Std.	NC Annual Std.	NC 24-hr Std.	NC 1-hr Std. (systemic toxicants)	NC 1-hr Std. (irritants)	ATSDR MRL - Acute	ATSDR MRL - Intermediate	ATSDR MRL - Chronic	Background levels as in San Francisco, USA
carbon disulphide	4.8	609	25	2.5	59.5	--	--	--	155	--	--	--	--	299
chloromethane	1.5	0.918	859	85.9	--	46.3	--	--	--	--	499	199	49.9	--
acetone	1.7	308	4920	492	--	--	--	--	--	--	25900	12900	12900	--
methylene chloride	0.89	3.42	217	21.7	--	177	20	--	1410	--	599	299	299	<0.5
trichlorotrifluoroethane	0.14	25800	31700	3170	--	--	--	--	--	3170	--	--	--	--
methyl tert-butyl ether (MTBE)	0.18	2580	375	37.5	--	--	--	--	--	--	1990	699	699	<0.8
2-butanone	6.2	834	3250	325	11600	--	--	3080	--	3080	--	--	--	--
benzene	1.3	0.208	10	2.5	--	10	0.1	--	--	--	49.9	3.99	--	1
carbon tetrachloride	0.12	0.108	105	10.8	--	5.56	5.59	--	--	--	199	49.9	--	0.11
toluene	11	333	1560	156	7420	--	--	3920	--	3920	999	--	79.9	2
2-hexanone	1.1	--	33.3	3.33	--	--	--	--	--	--	--	--	--	--
tetrachloroethene	0.09	2.75	283	28.3	--	87.8	158	--	--	--	199	--	39.9	0.11
trichlorofluoromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ethylbenzene	0.59	918	1660	166	8590	--	--	--	--	--	--	999	--	--
m-xylene	1.7	609	--	--	--	--	--	--	--	--	--	--	--	--
p-xylene	1.7	--	1730	173	--	--	--	--	--	--	--	--	--	--
styrene	0.84	918	91.8	9.18	4230	--	--	--	8840	--	--	--	59.9	--
o-xylene	0.53	609	--	--	--	--	--	--	--	--	--	--	--	--
carbon disulphide	2.44	609	25	2.5	59.5	--	--	155	--	--	--	--	299	--

Indicates the screening/background level that was exceeded
 indicates an exceedance of the reported chemical concentration

10. Samples taken by SAFARI 2000 and the Leeds University on 2 September 2000.

	Background	Zamdela	Boiletlong	DOW/Natref	Omnia	tar pits	Suburban	Polifin	Petrol Loading Facility
Benzene	1	5.6	18.1	6.6	7	6.4	6.4	4.1	49
Toluene	2	25	16.5	5.3	5.3	18.7	7.6	5.4	23.4
o-xylene	--	11.6	10.6	8.5	7.2	13.7	9.2	0.3	0.3
m- & p-xylenes	--	3.7	2.3	1.3	0.8	5.5	2.6	1.4	1.3

levels exceeding the USA Background levels/elevated levels