

TERRA AIR SERVICES
FTIR Summary Report

Customer: Tosco SFAR
 Address: 1380 San Pablo Avenue
 Rodeo, CA 94572-1299

Monitoring Period
 From: 07/01/1998 00 00 01
 To: 07/31/1998 23 59 59
 Total Hours: 744.00

PETRIS
 TECHNOLOGY
 2950 N. Loop W., Ste. 1050
 Houston, Texas 77092
 Phone (713) 956-2165
 Fax (713) 956-2185

North Fenceline

Compound	Path - Average Conc. (ppm)			Detections			Alarms				Path - MDL (ppm)		
	Avg.*	Max*	Min*	Number	Confirmed	False Positive	High Level (ppm)	#	Low Level (ppm)	#	Avg Detect Limit	Max Detect Limit	Min Detect Limit
1,1,1 Trichloroethane	0.000	0.000	0.000	1	0	1	450	0	350	0	0.039	0.775	0.003
1,3 Butadiene	0.000	0.000	0.000	0	0	0	50	0	10	0	0.048	0.931	0.008
2,2,4-Trimethylpentane	0.000	0.000	0.000	0	0	0	0	0	0	0	1.264	14.780	0.408
Acetaldehyde	0.000	0.000	0.000	0	0	0	150	0	25	0	0.639	11.711	0.021
Ammonia	0.000	0.000	0.000	155	0	155	100	0	3	0	0.017	0.292	0.005
Butane	0.000	0.000	0.000	0	0	0	1000	0	800	0	0.690	5.557	0.055
Carbon monoxide	0.351	0.370	0.340	4122	7	4115	400	0	20	0	0.356	17.762	0.101
Carbonyl sulfide	0.000	0.000	0.000	0	0	0	10	0	1	0	0.003	0.055	0.000
Chlorodifluoromethane	0.000	0.000	0.000	0	0	0	100	0	10	0	0.019	0.385	0.001
Diethanol Amine	0.000	0.000	0.000	0	0	0	6	0	0.46	0	0.613	10.863	0.020
Dimethyl sulfide	0.000	0.000	0.000	0	0	0	500	0	50	0	0.294	5.618	0.024
Ethane	0.000	0.000	0.000	0	0	0	3000	0	1000	0	0.290	1.401	0.024
Ethyl benzene	0.000	0.000	0.000	0	0	0	125	0	100	0	0.361	3.182	0.053
Ethylene	0.000	0.000	0.000	0	0	0	2700	0	1000	0	0.037	0.818	0.003
Formaldehyde	0.000	0.000	0.000	0	0	0	2	0	3	0	0.037	1.116	0.004
Furan	0.000	0.000	0.000	0	0	0	2300	0	230	0	3.668	18.009	0.111
Hydrogen chloride	0.000	0.000	0.000	0	0	0	20	0	1	0	0.053	1.803	0.020
Hydrogen cyanide	0.000	0.000	0.000	0	0	0	3	0	0.3	0	0.094	0.811	0.004
Methane	1.561	1.826	0.381	7085	7078	7	5000	0	1000	0	0.245	2.503	0.029
Methyl mercaptan	0.000	0.000	0.000	0	0	0	10	0	0.005	0	1.840	15.127	0.188
Methyl tert-butyl ether	0.000	0.000	0.000	8	0	8	200	0	40	0	0.118	2.148	0.004
n-Hexane	0.000	0.000	0.000	0	0	0	75	0	50	0	0.954	6.074	0.080
n-Octane	0.000	0.000	0.000	0	0	0	375	0	75	0	0.530	3.227	0.042
Naphthalene	0.000	0.000	0.000	0	0	0	15	0	10	0	0.641	10.574	0.064

North Fenceline

Compound	Path - Average Conc. (ppm)			Detections			Alarms				Path - MDL (ppm)		
	Avg.*	Max*	Min*	Number	Confirmed	False Positive	High Level (ppm)	#	Low Level (ppm)	#	Avg Detect Limit	Max Detect Limit	Min Detect Limit
Nickel carbonyl	0.000	0.000	0.000	0	0	0	0.16	0	0.09	0	0.002	0.053	0.000
Nitrous oxide***	0.205	0.225	0.124	6674	6674	0	NONE	na	NONE	na	0.113	0.874	0.094
Ozone**	0.000	0.000	0.000	122	0	122	NONE	na	NONE	na	0.069	0.870	0.018
Phenol	0.000	0.000	0.000	4	0	4	50	0	5	0	3.631	23790.695	0.002
Phosgene	0.000	0.000	0.000	91	0	91	0.2	0	0.003	0	0.008	0.104	0.001
Propane	0.000	0.000	0.000	0	0	0	2500	0	1000	0	0.462	2.642	0.032

Number of Valid Spectra Collected and Analyzed: 7127

Online %:

81.5

Offline %:

18.5

South Fenceline

Compound	Path - Average Conc. (ppm)			Detections			Alarms				Path - MDL (ppm)		
	Avg.*	Max*	Min*	Number	Confirmed	False Positive	High Level (ppm)	#	Low Level (ppm)	#	Avg Detect Limit	Max Detect Limit	Min Detect Limit
1,1,1 Trichloroethane	0.000	0.000	0.000	0	0	0	450	0	350	0	0.056	0.137	0.005
1,3 Butadiene	0.000	0.000	0.000	1	0	1	50	0	10	0	0.069	0.132	0.010
2,2,4-Trimethylpentane	0.000	0.000	0.000	0	0	0	0	0	0	0	1.862	4.090	0.452
Acetaldehyde	0.000	0.000	0.000	0	0	0	150	0	25	0	1.037	3.135	0.130
Ammonia	0.000	0.000	0.000	14	0	14	100	0	3	0	0.024	0.045	0.008
Butane	0.000	0.000	0.000	0	0	0	1000	0	800	0	0.711	1.362	0.289
Carbon monoxide	0.451	0.609	0.348	242	240	2	400	0	20	0	0.500	1.097	0.303
Carbonyl sulfide	0.000	0.000	0.000	0	0	0	10	0	1	0	0.007	0.016	0.002
Chlorodifluoromethane	0.000	0.000	0.000	0	0	0	100	0	10	0	0.031	0.093	0.004
Diethanol Amine	0.000	0.000	0.000	0	0	0	6	0	0.46	0	0.982	2.830	0.122
Dimethyl sulfide	0.000	0.000	0.000	0	0	0	500	0	50	0	0.422	0.799	0.027
Ethane	0.000	0.000	0.000	0	0	0	3000	0	1000	0	0.269	0.540	0.100
Ethyl benzene	0.000	0.000	0.000	0	0	0	125	0	100	0	0.451	0.878	0.083
Ethylene	0.000	0.000	0.000	1	0	1	2700	0	1000	0	0.051	0.099	0.003
Formaldehyde	0.000	0.000	0.000	0	0	0	2	0	3	0	0.068	0.176	0.007
Furan	0.000	0.000	0.000	0	0	0	2300	0	230	0	4.352	10.148	0.114
Hydrogen chloride	0.000	0.000	0.000	0	0	0	20	0	1	0	0.099	0.253	0.036
Hydrogen cyanide	0.000	0.000	0.000	0	0	0	3	0	0.3	0	0.127	0.805	0.003
Methane	1.528	1.932	1.236	5314	5314	0	5000	0	1000	0	0.000	0.000	0.000

South Fenceline

Compound	Path - Average Conc. (ppm)			Detections			Alarms				Path - MDL (ppm)		
	Avg.*	Max*	Min*	Number	Confirmed	False Positive	High Level (ppm)	#	Low Level (ppm)	#	Avg Detect Limit	Max Detect Limit	Min Detect Limit
Methyl mercaptan	0.000	0.000	0.000	0	0	0	10	0	0.005	0	1.596	3.428	0.560
Methyl tert-butyl ether	0.000	0.000	0.000	0	0	0	200	0	40	0	0.194	0.574	0.024
n-Hexane	0.000	0.000	0.000	0	0	0	75	0	50	0	0.820	1.749	0.287
n-Octane	0.000	0.000	0.000	0	0	0	375	0	75	0	0.453	0.924	0.167
Naphthalene	0.000	0.000	0.000	0	0	0	15	0	10	0	0.994	2.347	0.070
Nickel carbonyl	0.000	0.000	0.000	0	0	0	0.16	0	0.09	0	0.005	0.012	0.002
Nitrous oxide***	0.230	0.292	0.164	5314	5314	0	NONE	na	NONE	na	0.000	0.000	0.000
Ozone**	0.000	0.000	0.000	18	0	18	NONE	na	NONE	na	0.096	0.189	0.028
Phenol	0.000	0.000	0.000	10	0	10	50	0	5	0	0.288	251.169	0.004
Phosgene	0.000	0.000	0.000	0	0	0	0.2	0	0.003	0	0.010	0.024	0.001
Propane	0.000	0.000	0.000	0	0	0	2500	0	1000	0	0.539	1.069	0.205

Number of Valid Spectra Collected and Analyzed: 5314

Online %:

61.5

Offline %:

38.5

* Zero (0.000) values indicate all concentrations less than the minimum detection limit (<MDL)

** Included as an interfering compound

*** Included as an ambient quality assurance check compound