

Agreement No. CE 61/2007 (CE)

North East New Territories New Development Area
Planning and Engineering Study - Investigation
Land Contamination Assessment

Inspection Pits / Borehole No.: **FLN-9a-1, FLN-9a-2 & FLN-9a-3**

Sample Nature : **Soil**

Chemicals	Reporting Limit (mg/kg)	RBRGs													Sampling ID	Sampling Date	Wellab Lab ID
		Urban Residential (mg/kg)	Rural Residential (mg/kg)	Industrial (mg/kg)	Public Park (mg/kg)	Soil Saturation Limit (C_{sat}) (mg/kg)											
		FLN-9a-1 (0.5m)	FLN-9a-1 (1.0m)	FLN-9a-1 (1.5m)	FLN-9a-2 (0.5m)	FLN-9a-2 (1.0m)	FLN-9a-2 (1.5m)	FLN-9a-3 (0.5m)	FLN-9a-3 (1.0m)	FLN-9a-3 (1.5m)	FLN-9a-1 (3.0m)	FLN-9a-1 (6.0m)					
VOCs																	
Acetone	0.1	9.590	4,260	10,000	10,000	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzene	0.002	0.704	0.279	9.21	42.2	336	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Bromodichloromethane	0.002	0.317	0.129	2.85	13.4	1,030	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2-Butanone	0.03	10,000	10,000	10,000	10,000	***	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chloroform	0.002	0.132	0.0529	1.54	253	1,100	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ethylbenzene	0.002	709	298	8,240	10,000	138	<0.002	<0.002	<0.002	0.003	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002
Methyl tert-Butyl Ether	0.002	6.88	2.80	70.1	505	2,380	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Methylene Chloride	0.003	1.30	0.529	13.9	128	921	0.006	0.003	0.004	0.009	0.012	0.005	0.005	0.025	0.048	0.043	0.003
Styrene	0.002	3,220	1,540	10,000	10,000	497	<0.002	<0.002	0.003	0.011	0.003	<0.002	0.009	0.005	0.003	<0.002	<0.002
Tetrachloroethene	0.002	0.101	0.0444	0.777	1.84	97.1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Toluene	0.002	1,440	705	10,000	10,000	235	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Trichloroethene	0.002	0.523	0.211	5.68	69.4	488	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Xylenes (Total)	0.002	95.0	36.8	1,230	10,000	150	<0.002	<0.002	0.003	<0.002	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002
SVOCs																	
Acenaphthene	0.1	3,510	3,280	10,000	10,000	60.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	0.1	2,340	1,510	10,000	10,000	19.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	0.1	10,000	10,000	10,000	2.56	2.56	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	0.1	12.0	11.4	91.8	38.3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)pyrene	0.1	1.20	1.14	9.18	3.83		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(b)fluoranthene	0.1	9.88	10.1	17.8	20.4		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(g,h,i)perylene	0.1	1,800	1,710	10,000	5,740		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(k)fluoranthene	0.1	120	114	918	383		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis-(2-Ethylhexyl)phthalate	0.5	30.0	28.0	91.8	94.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	0.1	871	919	1,140	1,540		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	0.1	1.20	1.14	9.18	3.83		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	0.1	2,400	2,270	10,000	7,620		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	0.1	2,380	2,250	10,000	7,450	54.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	0.2	0.243	0.220	0.582	0.713		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Indeno(1,2,3-cd)pyrene	0.1	12.0	11.4	91.8	38.3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	0.1	182	85.6	453	914	125	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	0.1	10,000	10,000	10,000	10,000	28.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	0.2	10,000	10,000	10,000	10,000	726	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pyrene	0.1	1,800	1,710	10,000	5,720		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Metals																	
Antimony	0.2	29.5	29.1	261	97.9		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arsenic	0.1	22.1	21.8	196	73.5		3.8	3.5	3.9	3.4	3.6	5.5	3.6	3.8	5.6	8.9	1.4
Barium	0.2	10,000	10,000	10,000	10,000	25	22	18	26	24	19	20	19	25	21	6.3	
Cadmium	0.1	73.8	72.8	653	245		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium III	0.2	10,000	10,000	10,000	10,000	8.1	8.8	5.2	9.0	9.4	6.3	7.7	8.9	6.6	5.5	5.2	
Chromium VI	0.2	221	218	1,960	735		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cobalt	0.2	1,480	1,460	10,000	4,900	0.6	0.7	0.6	0.6	0.7	0.9	0.6	0.7	0.8	1.6	2.6	
Copper	0.2	2,950	2,910	10,000	9,790	3.4	4.1	1.9	2.9	4.3	2.8	2.9	4.3	3.8	3.5	3.6	
Lead	0.2	258	255	2,290	857	16	14	16	14	14	19	15	15	18	30	30	
Manganese	1	10,000	10,000	10,000	10,000	42	42	14	32	36	20	31	38	26	13	24	
Mercury	0.05	11.0	6.52	38.4	45.6	0.33	0.10	0.13	0.10	0.07	0.08	0.16	0.12	0.11	0.28	0.12	0.12
Molybdenum	0.2	369	364	3,260	1,220	0.7	0.7	0.4	0.7	0.7	0.6	0.6	0.7	0.5	0.5	0.6	
Nickel	0.2	1,480	1,460	10,000	4,900	1.1	1.1	0.9	1.1	1.5	1.1	1.2	1.1	1.3	2.1		
Tin	0.2	10,000	10,000	10,000	10,000	0.6	0.6	0.4	0.6	0.6	0.5	0.6	0.6	0.4	0.5	0.2	
Zinc	0.2	10,000	10,000	10,000	10,000	18	14	16	14	14	21	17	15	23	48	32	
Petroleum Carbon Ranges							<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
C6 - C8	50	1,410	545	10,000	10,000	1,000											
C9 - C16	50	2,240	1,330	10,000	10,000	3,000	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
C17 - C35	50	10,000	10,000	10,000	10,000	5,000	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	

*** indicates that the C_{sat} value exceeds the 'ceiling limit' (10,000mg/kg) therefore the RBRG applies

Inspection Pits / Borehole No.: **KTN-23b-1** and **KTN-23b-2**

Sample Nature : **Soil**

Chemicals	Reporting Limit (mg/kg)	RBRGs				Welllab Lab ID	09641-1	09641-2	09641-3	09656-1	09656-2	09656-3	
		Urban Residential (mg/kg)	Rural Residential (mg/kg)	Industrial (mg/kg)	Public Park (mg/kg)								
		Sampling Date	9-Nov-09	9-Nov-09	9-Nov-09	12-Nov-09	12-Nov-09	12-Nov-09	12-Nov-09	12-Nov-09	12-Nov-09	12-Nov-09	
VOCs													
Acetone	0.1	9.590	4,260	10,000	10,000	***	0.2	<0.1	0.2	<0.1	0.1	0.2	
Benzene	0.002	0.704	0.279	9.21	42.2	336	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Bromodichloromethane	0.002	0.317	0.129	2.85	13.4	1,030	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
2-Butanone	0.03	10,000	10,000	10,000	10,000	***	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	
Chloroform	0.002	0.132	0.0529	1.54	253	1,100	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Ethylbenzene	0.002	709	298	8,240	10,000	138	0.002	<0.002	<0.002	0.005	<0.002	<0.002	
Methyl tert-Butyl Ether	0.002	6.88	2.80	70.1	505	2,380	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Methylene Chloride	0.003	1.30	0.529	13.9	128	921	0.0009	0.007	0.013	<0.003	0.005	0.007	
Styrene	0.002	3,220	1,540	10,000	10,000	497	0.007	0.003	0.002	0.013	0.008	0.005	
Tetrachloroethene	0.002	0.101	0.0444	0.777	1.84	97.1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Toluene	0.002	1,440	705	10,000	10,000	235	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	
Trichloroethene	0.002	0.523	0.211	5.68	69.4	488	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Xylenes (Total)	0.002	95.0	36.8	1,230	10,000	150	<0.002	0.003	<0.002	0.008	0.002	<0.002	
SVOCs													
Acenaphthene	0.1	3,510	3,280	10,000	10,000	60.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Acenaphthylene	0.1	2,340	1,510	10,000	10,000	19.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Anthracene	0.1	10,000	10,000	10,000	2.56	2.56	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Benz(a)anthracene	0.1	12.0	11.4	91.8	38.3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Benz(a)pyrene	0.1	1.20	1.14	9.18	3.83		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Benz(b)fluoranthene	0.1	9.88	10.1	17.8	20.4		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Benz(g,h,i)perylene	0.1	1,800	1,710	10,000	5,740		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Benz(k)fluoranthene	0.1	120	114	918	383		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Bis-(2-Ethylhexyl)phthalate	0.5	30.0	28.0	91.8	94.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chrysene	0.1	871	919	1,140	1,540		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Dibenzo(a,h)anthracene	0.1	1.20	1.14	9.18	3.83		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Fluoranthene	0.1	2,400	2,270	10,000	7,620		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Fluorene	0.1	2,380	2,250	10,000	7,450	54.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Hexachlorobenzene	0.2	0.243	0.220	0.582	0.713		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Indeno(1,2,3-cd)pyrene	0.1	12.0	11.4	91.8	38.3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Naphthalene	0.1	182	85.6	453	914	125	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Phenanthrene	0.1	10,000	10,000	10,000	10,000	28.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Phenol	0.2	10,000	10,000	10,000	10,000	726	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Pyrene	0.1	1,800	1,710	10,000	5,720		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Metals													
Antimony	0.2	29.5	29.1	261	97.9		1	0.3	0.4	<0.2	<0.2	<0.2	
Arsenic	0.1	22.1	21.8	196	73.5		42	69	160	43	120	120	
Barium	0.2	10,000	10,000	10,000	10,000		9.4	14	15	14	16	15	
Cadmium	0.1	73.8	72.8	653	245		0.2	0.6	1.8	0.6	1.5	1.7	
Chromium III	0.2	10,000	10,000	10,000	10,000		14	10	13	12	17	15	
Chromium VI	0.2	221	218	1,960	735		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Cobalt	0.2	1,480	1,460	10,000	4,900		0.2	0.6	1.8	0.7	1.0	0.8	
Copper	0.2	2,950	2,910	10,000	9,790		2.3	3.5	0.4	4.4	3.8	1.6	
Lead	0.2	258	255	2,290	857		6.5	10	18	8.3	21	23	
Manganese	1	10,000	10,000	10,000	10,000		18	18	9	23	23	12	
Mercury	0.05	11.0	6.52	38.4	45.6		0.13	0.10	0.12	0.08	0.11	0.12	
Molybdenum	0.2	369	364	3,260	1,220		0.5	0.7	0.5	<0.2	<0.2	<0.2	
Nickel	0.2	1,480	1,460	10,000	4,900		1.6	1.5	1.6	2.2	2.3	2.1	
Tin	0.2	10,000	10,000	10,000	10,000		1.4	1.4	1.4	0.6	0.2	0.3	
Zinc	0.2	10,000	10,000	10,000	10,000		13	20	26	21	30	26	
Petroleum Carbon Ranges													
C6 - C8	50	1,410	545	10,000	10,000	1,000	<50	<50	<50	<50	<50	<50	
C9 - C16	50	2,240	1,330	10,000	10,000	3,000	150	<50	<50	310	110	50	
C17 - C35	50	10,000	10,000	10,000	10,000	5,000	160	<50	<50	250	120	50	

*** indicated that the C_{sat} value exceeds the 'ceiling limit' (10,000mg/kg) therefore the RBRG applies

Inspection Pits / Borehole No.: **KTN-35a-1** and **KTN-35a-2**

Sample Nature : **Soil**

Chemicals	Reporting Limit (mg/kg)	RBRGs				Wellab Lab ID	1032-1	1032-2	1032-3	1032-4	1032-5	1032-6	
		Urban Residential (mg/kg)	Rural Residential (mg/kg)	Industrial (mg/kg)	Public Park (mg/kg)		KTN-35a-1 (0.5m)	KTN-35a-1 (1.0m)	KTN-35a-1 (1.5m)	KTN-35a-2 (0.5m)	KTN-35a-2 (1.0m)	KTN-35a-2 (1.3m)	
							Sampling Date	22-Jan-10	22-Jan-10	22-Jan-10	22-Jan-10	22-Jan-10	
VOCs													
Acetone	0.1	9.590	4,260	10,000	10,000	***	<0.1	<0.1	0.1	0.1	0.2	0.2	
Benzene	0.002	0.704	0.279	9.21	42.2	336	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Bromodichloromethane	0.002	0.317	0.129	2.85	13.4	1,030	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
2-Butanone	0.03	10,000	10,000	10,000	10,000	***	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	
Chloroform	0.002	0.132	0.0529	1.54	253	1,100	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Ethylbenzene	0.002	709	298	8,240	10,000	138	0.002	<0.002	<0.002	0.005	<0.002	<0.002	
Methyl tert-Butyl Ether	0.002	6.88	2.80	70.1	505	2,380	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Methylene Chloride	0.003	1.30	0.529	13.9	128	921	0.066	0.075	0.097	0.084	0.095	0.11	
Styrene	0.002	3,220	1,540	10,000	10,000	497	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Tetrachloroethene	0.002	0.101	0.0444	0.777	1.84	97.1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Toluene	0.002	1,440	705	10,000	10,000	235	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Trichloroethene	0.002	0.523	0.211	5.68	69.4	488	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Xylenes (Total)	0.002	95.0	36.8	1,230	10,000	150	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
SVOCs													
Acenaphthene	1	3,510	3,280	10,000	10,000	60.2	<1	<1	<1	<1	<1	<1	
Acenaphthylene	1	2,340	1,510	10,000	10,000	19.8	<1	<1	<1	<1	<1	<1	
Anthracene	1	10,000	10,000	10,000	2.56	2.56	<1	<1	<1	<1	<1	<1	
Benz(a)anthracene	1	12.0	11.4	91.8	38.3		<1	<1	<1	<1	<1	<1	
Benz(a)pyrene	1	1.20	1.14	9.18	3.83		<1	<1	<1	<1	<1	<1	
Benz(b)fluoranthene	1	9.88	10.1	17.8	20.4		<1	<1	<1	<1	<1	<1	
Benz(g,h,i)perylene	1	1,800	1,710	10,000	5,740		<1	<1	<1	<1	<1	<1	
Benz(k)fluoranthene	1	120	114	918	383		<1	<1	<1	<1	<1	<1	
Bis-(2-Ethylhexyl)phthalate	5	30.0	28.0	91.8	94.2		<5	<5	<5	<5	<5	<5	
Chrysene	1	871	919	1,140	1,540		<1	<1	<1	<1	<1	<1	
Dibenzo(a,h)anthracene	1	1.20	1.14	9.18	3.83		<1	<1	<1	<1	<1	<1	
Fluoranthene	1	2,400	2,270	10,000	7,620		<1	<1	<1	<1	<1	<1	
Fluorene	1	2,380	2,250	10,000	7,450	54.7	<1	<1	<1	<1	<1	<1	
Hexachlorobenzene	0.2	0.243	0.220	0.582	0.713		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Indeno(1,2,3-cd)pyrene	1	12.0	11.4	91.8	38.3		<1	<1	<1	<1	<1	<1	
Naphthalene	1	182	85.6	453	914	125	<1	<1	<1	<1	<1	<1	
Phenanthrene	1	10,000	10,000	10,000	10,000	28.0	<1	<1	<1	<1	<1	<1	
Phenol	2	10,000	10,000	10,000	10,000	726	<2	<2	<2	<2	<2	<2	
Pyrene	1	1,800	1,710	10,000	5,720		<1	<1	<1	<1	<1	<1	
Metals													
Antimony	0.2	29.5	29.1	261	97.9		0.3	0.5	<0.2	<0.2	0.3	<0.2	
Arsenic	0.1	22.1	21.8	196	73.5		25	110	56	24	57	110	
Barium	0.2	10,000	10,000	10,000	10,000		6.4	5.3	5.6	10	6.4	6.6	
Cadmium	0.1	73.8	72.8	653	245		<0.1	1.2	0.5	0.2	0.5	1.2	
Chromium III	0.2	10,000	10,000	10,000	10,000		24	48	14	12	15	24	
Chromium VI	0.2	221	218	1,960	735		<0.2	<0.2	<0.2	<0.2	0.5	0.3	
Cobalt	0.2	1,480	1,460	10,000	4,900		0.3	0.4	0.4	0.3	0.4	0.8	
Copper	0.2	2,950	2,910	10,000	9,790		14	10	9.9	30	11	12	
Lead	0.2	258	255	2,290	857		9.1	18	13	11	9.2	13	
Manganese	1	10,000	10,000	10,000	10,000		71	16	5.7	50	13	15	
Mercury	0.05	11.0	6.52	38.4	45.6		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Molybdenum	0.2	369	364	3,260	1,220		0.4	<0.2	<0.2	0.3	0.6	<0.2	
Nickel	0.2	1,480	1,460	10,000	4,900		1.7	2.1	1.1	2.3	1.5	1.9	
Tin	0.2	10,000	10,000	10,000	10,000		0.7	1	0.8	0.9	1.4	0.6	
Zinc	0.2	10,000	10,000	10,000	10,000		40	23	15	69	15	28	
Petroleum Carbon Ranges													
C6 - C8	50	1,410	545	10,000	10,000	1,000	<50	<50	<50	<50	<50	<50	
C9 - C16	50	2,240	1,330	10,000	10,000	3,000	<50	<50	<50	<50	<50	<50	
C17 - C35	50	10,000	10,000	10,000	10,000	5,000	<50	<50	<50	<50	<50	<50	

*** indicated that the C_{sat} value exceeds the 'ceiling limit' (10,000mg/kg) therefore the RBRG applies

Inspection Pits / Borehole No.: **KTN-77,78-1, KTN-77,78-2, KTN-77,78-3 & KTN-77,78-4**

Sample Nature : Soil

Comprehensive Environmental Monitoring Report - Q3 2023																																						
Chemicals	Reporting Limit (mg/kg)	Urban Residential		Rural Residential		Industrial Park		Soil Saturation Limit (C _{sat}) (mg/kg)	WellLab Lab ID		09641-4		09641-5		09641-6		09652-1		09652-2		09641-7		09641-8		09641-9		09641-10		09641-11		09641-12		09641-13		09652-3		09652-4	
		Residential (mg/kg)	Industrial (mg/kg)	Residential (mg/kg)	Industrial (mg/kg)	Park (mg/kg)	KTN-77-78-1 (0.5m)		KTN-77-78-1 (1.0m)	KTN-77-78-1 (1.5m)	KTN-77-78-1 (3.0m)	KTN-77-78-1 (6.0m)	KTN-77-78-2 (0.5m)	KTN-77-78-2 (0.9m)	KTN-77-78-3 (0.5m)	KTN-77-78-3 (1.0m)	KTN-77-78-4 (0.5m)	KTN-77-78-4 (1.0m)	KTN-77-78-5 (0.5m)	KTN-77-78-5 (1.0m)	KTN-77-78-6 (0.5m)	KTN-77-78-6 (1.0m)	KTN-77-78-7 (0.5m)	KTN-77-78-7 (1.0m)	KTN-77-78-8 (0.5m)	KTN-77-78-8 (1.0m)	KTN-77-78-9 (0.5m)	KTN-77-78-9 (1.0m)	KTN-77-78-10 (0.5m)	KTN-77-78-10 (1.0m)								
		Sampling Date	9-Nov-09	Sampling ID	9-Nov-09	Sampling Date	9-Nov-09	11-Nov-09	11-Nov-09	9-Nov-09	11-Nov-09	11-Nov-09																										
VOCs																																						
Acetone	0.1	9.590	4.260	10,000	10,000	***	<0.1	0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.2	0.3															
Benzene	0.002	0.704	0.279	9.21	42.2	336	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002								
Bromodichloromethane	0.002	0.317	0.129	2.85	13.4	1,030	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002									
2-Butanone	0.03	10,000	10,000	10,000	10,000	***	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03									
Chloroform	0.002	0.132	0.0529	1.54	253	1,100	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002										
Ethylbenzene	0.002	709	299	8,240	10,000	138	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002										
Methyl tert-Butyl Ether	0.002	6.88	2.80	70.1	505	2,380	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002										
Methylene Chloride	0.003	1.30	0.529	13.9	128	921	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.019										
Styrene	0.002	3.220	1.540	10,000	10,000	497	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002										
Tetrachloroethene	0.002	0.101	0.0444	0.777	1.84	97.1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002											
Toluene	0.002	1.440	705	10,000	10,000	235	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002											
Xylenes (Total)	0.002	95.0	36.8	1,230	10,000	150	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002											
SVOCs																																						
Acenaphthene	0.1	3.510	3,280	10,000	10,000	60.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Acenaphthylene	0.1	2,340	1,510	10,000	10,000	19.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Anthracene	0.1	10,000	10,000	10,000	2.56	256	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Benzo(a)anthracene	0.1	12.0	11.4	91.8	38.3	38.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Benzo(a)pyrene	0.1	1.20	1.14	9.18	3.83	3.83	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Benzo(b)fluoranthene	0.1	9.88	10.1	17.8	20.4	20.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Benzo(g,h,i)perylene	0.1	1,800	1,710	10,000	5,740	5,740	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Benzo(k)fluoranthene	0.1	120	114	91.8	38.3	38.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Chrysene	0.1	871	919	1,140	1,540	1,540	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Dibenz(a,h)anthracene	0.1	1.20	1.14	9.18	3.83	3.83	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Fluoranthene	0.1	2,380	2,250	10,000	7,450	54.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Hexachlorobenzene	0.2	0.243	0.220	0.582	0.713	0.713	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2									
Indeno(1,2,3-cd)pyrene	0.1	12.0	11.4	91.8	38.3	38.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Naphthalene	0.1	182	85.6	453	914	125	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Phenanthrene	0.1	10,000	10,000	10,000	28.0	28.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Phenol	0.2	10,000	10,000	10,000	726	726	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2									
Pyrene	0.1	1,800	1,710	10,000	5,720	5,720	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1									
Antimony	0.2	29.5	29.1	261	97.9	97.9	0.8	0.9	0.9	0.3	<0.2	0.9	0.5	0.8	0.9	0.7	0.6																					

*** indicated that the C_{sat} value exceeds the 'ceiling limit' (10,000mg/kg) therefore the RBRG applies

22.2 Result exceed the RBRGs

Inspection Pits / Borehole No.: KTN-77,78-5, KTN-77,78-6, KTN-77,78-7 & KTN-77,78-8

Sample Nature : Soil

		Welllab Lab ID	09641-14	09641-15	09641-16	09641-17	09641-18	09641-19	09641-20	09641-21	09641-22	09641-23	09641-24	09641-25	
		Sampling ID	KTN-77,78-5 (0.5m)	KTN-77,78-5 (1.0m)	KTN-77,78-5 (1.5m)	KTN-77,78-6 (0.5m)	KTN-77,78-6 (1.0m)	KTN-77,78-6 (1.5m)	KTN-77,78-7 (0.5m)	KTN-77,78-7 (1.0m)	KTN-77,78-7 (1.5m)	KTN-77,78-8 (0.5m)	KTN-77,78-8 (1.0m)	KTN-77,78-8 (1.5m)	
		Sampling Date	9-Nov-09	9-Nov-09	9-Nov-09	9-Nov-09	9-Nov-09	9-Nov-09	9-Nov-09	9-Nov-09	9-Nov-09	9-Nov-09	9-Nov-09	9-Nov-09	
RBRGs															
Chemicals	Reporting Limit (mg/kg)	Urban Residential (mg/kg)	Rural Residential (mg/kg)	Industrial (mg/kg)	Public Park (mg/kg)	Soil Saturation Limit (C _{sat}) (mg/kg)									
VOCs															
Acetone	0.1	9,590	4,260	10,000	10,000	***	0.1	<0.1	0.1	<0.1	0.1	0.2	0.2	0.2	<0.1
Benzene	0.002	0.704	0.279	9.21	42.2	336	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Bromodichloromethane	0.002	0.317	0.129	2.85	13.4	1,030	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2-Butanone	0.03	10,000	10,000	10,000	10,000	***	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chloroform	0.002	0.132	0.0529	1.54	253	1,100	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ethylbenzene	0.002	709	298	8,240	10,000	138	<0.002	<0.002	<0.002	0.003	<0.002	0.003	<0.002	0.004	0.004
Methyl tert-Butyl Ether	0.002	6.88	2.80	70.1	505	2,380	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Methylene Chloride	0.003	1.30	0.529	13.9	128	921	0.009	<0.003	<0.003	0.005	0.004	0.015	0.017	0.016	0.012
Styrene	0.002	3,220	1,540	10,000	10,000	497	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	0.005	0.012	0.005
Tetrachloroethene	0.002	0.101	0.0444	0.777	1.84	97.1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Toluene	0.002	1,440	705	10,000	10,000	235	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Trichloroethene	0.002	0.523	0.211	5.68	69.4	488	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Xylenes (Total)	0.002	95.0	36.8	1,230	10,000	150	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	0.002	0.004	0.002
SVOCs															
Acenaphthene	0.1	3,510	3,280	10,000	10,000	60.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	0.1	2,340	1,510	10,000	10,000	19.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	0.1	10,000	10,000	10,000	2.56	2.56	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	0.1	12.0	11.4	91.8	38.3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)pyrene	0.1	1.20	1.14	9.18	3.83		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(b)fluoranthene	0.1	9.88	10.1	17.8	20.4		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(g,h,i)perylene	0.1	1,800	1,710	10,000	5,740		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(k)fluoranthene	0.1	120	114	918	383		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis-(2-Ethylhexyl)phthalate	0.5	30.0	28.0	91.8	94.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	0.1	871	919	1,140	1,540		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	0.1	1.20	1.14	9.18	3.83		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	0.1	2,400	2,270	10,000	7,620		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	0.1	2,380	2,250	10,000	7,450	54.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	0.2	0.243	0.220	0.582	0.713		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Indeno(1,2,3-d)pyrene	0.1	12.0	11.4	91.8	38.3		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	0.1	182	85.6	453	914	125	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	0.1	10,000	10,000	10,000	10,000	28.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	0.2	10,000	10,000	10,000	10,000	726	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pyrene	0.1	1,800	1,710	10,000	5,720		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Metals															
Antimony	0.2	29.5	29.1	261	97.9		0.6	0.9	0.8	1.1	0.5	0.5	0.3	0.5	0.1
Arsenic	0.1	22.1	21.8	196	73.5		130	160	97	270	330	100	300	380	410
Barium	0.2	10,000	10,000	10,000	10,000		9.4	24	23	36	25	16	24	28	34
Cadmium	0.1	73.8	72.8	653	245		1.1	1.6	1.1	3.6	4.6	1.2	4.2	5.3	5.7
Chromium III	0.2	10,000	10,000	10,000	10,000		31	10	33	12	14	11	11	17	14
Chromium VI	0.2	221	218	1,960	735		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cobalt	0.2	1,480	1,460	10,000	4,900		1.1	1.6	1.1	3.6	4.6	1.2	4.2	5.3	5.7
Copper	0.2	2,950	2,910	10,000	9,790		8.8	9.0	9.8	10	10	6.3	8.2	11	17
Lead	0.2	258	255	2,290	857		36	30	56	33	35	23	26	47	55
Manganese	1	10,000	10,000	10,000	10,000		19	32	310	33	14	20	33	15	42
Mercury	0.05	11.0	6.52	38.4	45.6		0.11	0.07	0.09	0.12	0.11	0.13	0.13	0.06	0.08
Molybdenum	0.2	369	364	3,260	1,220		0.5	0.6	0.8	0.5	0.4	0.7	<0.2	0.6	1.1
Nickel	0.2	1,480	1,460	10,000	4,900		1.9	1.7	1.8	1.8	1.7	1.8	1.9	1.3	1.9
Tin	0.2	10,000	10,000	10,000	10,000		0.8	0.8	0.8	0.9	1.3	1.1	0.9	1.6	1.3
Zinc	0.2	10,000	10,000	10,000	10,000		30	49	37	25	21	19	10	13	26
Petroleum Carbon Ranges															
C6 - C8	50	1,410	545	10,000	10,000	1,000	<50	<50	<50	<50	<50	<50	<50	<50	<50
C9 - C16	50	2,240	1,330	10,000	10,000	3,000	230	410	210	170	110	80	<50	<50	170
C17 - C35	50	10,000	10,000	10,000	10,000	5,000	320	380	220	110	90	110	<50	<50	110
Other Inorganic Compounds															
Cyanide, free	0.01	1,480	1,460	10,000	4,930		0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
PCBs	0.036	0.236	0.226	0.748	0.756		<0.036	<0.036	<0.036	<0.036	<0.036	<0.036	<0.036	<0.036	<0.036

*** indicated that the C_{sat} value exceeds the 'ceiling limit' (10,000mg/kg) therefore the RBRG applies

22.2 Result exceed the RBRGs