



APPENDIX

Appendix A
Field work investigation



2615095501



Appendix B

Background of shallow groundwater quality in the study area



Table B.1 Summary of the groundwater quality in dry season

No.	UTM_E	UTM_N	pH	Temp (°C)	Ec (µS/cm)	ORP (mV)	TDS (mg/L)	DO (mg/L)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	HCO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	PO ₄ ³⁻ (mg/L)	As (mg/L)	Fe (mg/L)	Mn (mg/L)	Zn (mg/L)	Al (mg/L)
Dry_TB001	718786	1446325	5.61	31.50	459.00	479.10	321.30	0.30	9.56	2.98	8.94	2.30	34.00	3.83	34.80	63.29	0.50	0.000	0.345	0.031	0.008	ND
Dry_TB002	718189	1445795	5.41	31.60	243.00	389.30	170.10	0.31	4.87	0.70	5.53	2.26	10.00	2.98	54.48	2.77	9.65	0.001	0.682	0.099	0.023	0.081
Dry_TB003	717149	1445726	6.16	31.10	568.00	323.50	397.60	1.09	11.74	1.62	15.25	3.58	92.00	6.71	45.60	42.89	0.87	0.002	0.444	0.542	0.013	ND
Dry_TB004	717541	1447176	5.77	32.20	286.00	417.70	200.20	0.78	8.27	0.69	5.68	3.44	30.00	3.20	55.39	32.02	0.19	0.000	0.319	0.094	0.012	ND
Dry_TB005	716301	1447283	5.15	31.10	486.00	477.00	340.20	0.60	7.80	2.02	11.90	3.47	12.00	4.37	53.86	32.90	0.12	0.000	0.308	0.360	0.018	0.026
Dry_TB006	721460	1444743	6.62	27.60	630.00	325.50	441.00	0.91	1.57	5.60	12.18	2.52	180.00	3.73	62.98	28.23	0.37	0.002	0.532	0.009	0.012	ND
Dry_TB007	719964	1445605	6.51	28.90	851.00	362.40	595.70	2.86	19.08	3.45	14.09	2.02	152.00	7.14	79.20	29.18	0.99	0.001	0.630	0.002	0.012	ND
Dry_TB008	720762	1446586	4.84	29.80	110.40	489.90	77.28	2.35	0.93	0.32	1.95	1.49	8.00	1.60	64.18	4.66	0.56	0.000	0.111	0.001	0.011	ND
Dry_TB009	722667	1445826	5.85	28.80	580.00	464.30	406.00	0.33	8.44	2.18	6.32	3.31	30.00	3.51	39.70	20.20	0.43	0.001	0.324	0.372	0.008	0.002
Dry_TB010	724543	1449065	6.21	28.90	1178.00	385.10	824.60	0.34	70.50	11.53	102.20	15.35	136.00	13.74	59.66	29.52	0.43	ND	1.645	0.045	0.038	ND
Dry_TB011	717131	1443338	5.48	28.80	229.00	445.90	160.30	0.40	9.48	4.68	16.94	7.14	22.00	2.66	62.16	44.11	2.72	0.000	0.250	0.738	0.040	ND
Dry_TB012	715614	1444168	6.27	30.30	482.00	178.70	337.40	0.31	36.59	9.38	8.58	8.17	184.00	1.38	64.27	2.03	0.74	0.005	2.471	1.743	0.024	ND
Dry_TB013	714240	1444422	5.47	29.90	376.00	383.20	263.20	2.07	13.98	3.41	261.40	7.97	48.00	4.47	56.78	11.01	0.25	ND	0.274	0.252	0.026	ND
Dry_TB014	713341	1443019	7.60	32.00	121.30	273.90	84.91	0.30	12.88	0.25	4.58	2.89	46.00	1.07	38.59	3.24	0.31	0.001	1.493	0.148	0.077	0.402
Dry_TB015	715282	1445903	4.96	29.50	72.20	401.50	50.54	1.33	3.37	0.81	4.34	1.60	12.00	1.28	40.56	1.49	0.12	ND	0.011	0.052	0.032	0.007
Dry_TB016	720713	1444644	6.41	27.10	321.00	356.90	224.70	0.57	9.38	6.76	19.84	3.23	102.00	2.13	68.06	3.38	0.93	0.002	0.145	0.028	0.042	0.028
Dry_WB01	719804	1444990	6.77	30.80	1601.00	37.80	1120.70	1.82	35.79	24.58	59.52	4.32	430.00	-	-	-	-	0.017	7.295	2.061	0.406	1.111
Dry_WB02	719707	1445601	-	-	-	-	-	-	27.68	8.67	71.23	18.25	368.00	19.06	41.18	14.45	-	0.107	1.902	0.476	0.016	0.048



Table B.2 Summary of the groundwater quality in wet season

No.	UTM_E	UTM_N	pH	Temp (°C)	Ec (µS/cm)	ORP (mV)	TDS (mg/L)	DO (mg/L)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	HCO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	PO ₄ ³⁻ (mg/L)	As (mg/L)	Fe (mg/L)	Mn (mg/L)	Zn (mg/L)	Al (mg/L)
Wet_TB001	718786	1446325	5.46	31.40	417.00	209.10	291.90	1.60	15.58	3.73	11.77	7.60	92.00	44.00	38.00	26.58	0.62	ND	0.202	0.002	0.018	ND
Wet_TB002	718189	1445795	5.48	29.60	177.70	84.50	124.39	2.00	7.18	0.28	5.14	4.30	32.00	23.20	0.98	2.33	15.75	ND	0.548	0.085	0.025	0.142
Wet_TB003	717149	1445726	5.79	29.10	460.00	156.90	322.00	1.30	11.68	1.59	19.17	7.94	62.00	85.80	175.00	54.15	3.19	ND	0.151	0.423	ND	0.001
Wet_TB004	717541	1447176	5.41	32.20	312.00	155.60	218.40	2.80	5.88	0.52	9.26	4.04	46.00	61.70	24.20	38.35	0.52	ND	0.034	0.073	ND	ND
Wet_TB005	716301	1447283	5.23	30.50	418.00	234.40	292.60	1.50	6.98	1.22	11.06	3.03	16.00	51.10	22.20	29.85	0.21	ND	ND	0.264	ND	0.026
Wet_TB006	721460	1444743	6.55	28.50	619.00	101.20	433.30	0.90	14.98	4.26	11.93	1.58	230.00	58.30	33.80	18.97	0.82	ND	0.175	ND	ND	ND
Wet_TB007	719964	1445605	6.40	29.60	606.00	176.10	424.20	2.60	14.38	2.81	8.84	1.37	192.00	35.00	38.00	37.31	0.82	ND	0.193	ND	ND	ND
Wet_TB008	720762	1446586	4.75	29.20	92.70	258.00	64.89	2.20	0.87	ND	1.80	0.89	12.00	20.70	16.80	7.15	0.62	ND	ND	ND	ND	ND
Wet_TB009	722667	1445826	5.33	28.50	530.00	217.70	371.00	0.06	0.01	1.71	6.52	2.72	30.00	46.10	17.50	13.73	0.82	ND	ND	0.172	ND	0.030
Wet_TB010	724543	1449065	6.12	24.70	776.00	175.50	543.20	1.20	11.18	1.42	15.73	1.82	138.00	88.20	48.10	25.60	0.52	ND	0.056	ND	ND	ND
Wet_TB011	717131	1443338	5.29	29.60	244.00	219.60	170.80	0.80	1.47	0.38	3.44	0.52	30.00	27.10	39.50	0.31	3.60	ND	ND	0.059	ND	ND
Wet_TB012	715614	1444168	6.72	30.00	503.00	30.30	352.10	1.40	8.28	1.22	1.34	1.80	240.00	17.90	23.30	0.88	0.72	ND	0.002	ND	ND	ND
Wet_TB013	714240	1444422	5.74	29.80	382.00	184.70	267.40	1.70	4.17	0.05	5.01	0.63	74.00	48.20	41.60	0.57	1.96	ND	ND	0.002	ND	ND
Wet_TB014	713341	1443019	5.57	29.80	195.00	-20.90	136.50	0.80	2.87	ND	0.21	ND	78.00	8.86	5.86	1.55	1.03	ND	0.202	0.036	ND	0.025
Wet_TB015	715282	1445903	4.68	29.40	85.60	227.10	59.92	1.40	0.87	ND	0.40	ND	18.00	17.20	8.70	0.41	0.31	ND	ND	ND	ND	ND
Wet_TB016	720713	1444644	6.13	27.50	316.00	134.00	221.20	1.10	1.47	1.29	3.37	2.02	112.00	33.90	24.70	0.88	0.62	ND	ND	0.029	ND	ND
Wet_WB01	719804	1444990	6.59	31.50	1964.00	-102.80	1374.80	1.10	8.78	10.39	17.91	13.80	850.00	174.00	39.80	11.71	52.18	ND	3.584	0.663	0.002	0.093
Wet_WB02	719707	1445601	6.84	31.50	4.69	-132.80	-	1.00	17.98	8.25	62.66	72.25	1128.00	1380.00	40.70	5.29	24.60	0.013	2.561	0.733	ND	0.012

Appendix C

Column experiment: Tracer test

Table C.1 Observed breakthrough curves of bromide tracer test

No.	Time (minute)	Sandy loam		
		Pore volume (PV)	C_i (ppm)	C_i/C_0
1	30	0.23	0.00	0.03
2	60	0.45	0.00	0.03
3	90	0.68	0.00	0.03
4	120	0.91	0.00	0.03
5	150	1.13	0.00	0.03
6	180	1.36	0.00	0.03
7	210	1.59	0.01	0.11
8	240	1.82	0.04	0.31
9	270	2.04	0.06	0.47
10	300	2.27	0.07	0.60
11	330	2.50	0.10	0.79
12	360	2.72	0.10	0.84
13	390	2.95	0.11	0.89
14	420	3.18	0.11	0.92
15	450	3.40	0.12	0.95
16	480	3.63	0.12	0.95
17	510	3.86	0.12	0.96
18	540	4.09	0.12	0.98
19	570	4.31	0.12	0.96
20	600	4.54	0.12	0.98
21	630	4.77	0.12	0.98
22	660	4.99	0.12	0.98
23	690	5.22	0.12	0.98
24	720	5.45	0.12	0.98
25	750	5.67	0.12	0.99
26	780	5.90	0.12	0.99
27	810	6.13	0.12	0.98
28	840	6.35	0.12	0.98
29	870	6.58	0.11	0.95
30	900	6.81	0.12	0.98
31	930	7.04	0.12	0.99
32	960	7.26	0.12	1.00
33	990	7.49	0.12	0.98
34	1020	7.72	0.12	0.98
35	1050	7.94	0.12	0.98

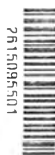


Table C.1 Observed breakthrough curves of bromide tracer test (Continue)

No.	Time (minute)	Sandy loam		
		Pore volume (PV)	C_i (ppm)	C_i/C_0
36	1080	8.17	0.12	0.98
37	1110	8.40	0.12	0.99
38	1140	8.62	0.12	0.99
39	1170	8.85	0.12	0.99
40	1200	9.08	0.12	0.99
41	1230	9.31	0.12	0.99
42	1260	9.53	0.12	0.99
43	1290	9.76	0.12	0.99
44	1320	9.99	0.12	0.99
45	1350	10.21	0.12	0.98
46	1380	10.44	0.11	0.93
47	1410	10.67	0.11	0.90
48	1440	10.89	0.10	0.83
49	1470	11.12	0.09	0.77
50	1500	11.35	0.09	0.71
51	1530	11.57	0.10	0.86
52	1560	11.80	0.09	0.70
53	1590	12.03	0.09	0.77
54	1620	12.26	0.07	0.55
55	1650	12.48	0.08	0.67
56	1680	12.71	0.08	0.65
57	1710	12.94	0.06	0.52
58	1740	13.16	0.06	0.46
59	1770	13.39	0.05	0.44
60	1800	13.62	0.05	0.42
61	1830	13.84	0.04	0.36
62	1860	14.07	0.04	0.37
63	1890	14.30	0.05	0.38
64	1920	14.53	0.04	0.30
65	1950	14.75	0.04	0.29
66	1980	14.98	0.04	0.29
67	2010	15.21	0.03	0.27
68	2040	15.43	0.03	0.25
69	2070	15.66	0.03	0.23
70	2100	15.89	0.02	0.20
71	2130	16.11	0.03	0.21
72	2160	16.34	0.02	0.20
73	2190	16.57	0.02	0.18
74	2220	16.79	0.02	0.19
75	2250	17.02	0.02	0.19
76	2280	17.25	0.02	0.16

Table C.2 Observed breakthrough curves of bromide tracer test

No.	Time (minute)	Sandy		
		Pore volume (PV)	C_i (ppm)	C_i/C_0
1	30	0.33	0.00	0.00
2	60	0.67	0.00	0.00
3	90	1.00	0.00	0.00
4	120	1.33	0.00	0.00
5	150	1.66	2.60	0.00
6	180	2.00	600.00	0.01
7	210	2.33	3100.00	0.03
8	240	2.66	5310.00	0.05
9	270	3.00	7070.00	0.07
10	300	3.33	8680.00	0.09
11	330	3.66	9740.00	0.10
12	360	3.99	10540.00	0.10
13	390	4.33	11220.00	0.11
14	420	4.66	11330.00	0.11
15	450	4.99	11820.00	0.11
16	480	5.33	12010.00	0.12
17	510	5.66	12220.00	0.12
18	540	5.99	11960.00	0.12
19	570	6.32	12240.00	0.12
20	600	6.66	12280.00	0.12
21	630	6.99	12100.00	0.12
22	660	7.32	12210.00	0.12
23	690	7.66	12140.00	0.12
24	720	7.99	11650.00	0.11
25	750	8.32	12250.00	0.12
26	780	8.65	12260.00	0.12
27	810	8.99	12260.00	0.12
28	840	9.32	12310.00	0.12
29	870	9.65	12230.00	0.12
30	900	9.99	12280.00	0.12
31	930	10.32	12200.00	0.12
32	960	10.65	12290.00	0.12
33	990	10.99	12260.00	0.12
34	1020	11.32	12250.00	0.12
35	1050	11.65	12260.00	0.12
36	1080	11.98	12170.00	0.12
37	1110	12.32	12370.00	0.12
38	1140	12.65	12350.00	0.12
39	1170	12.98	12350.00	0.12
40	1200	13.32	12430.00	0.12
41	1230	13.65	12440.00	0.12
42	1260	13.98	12370.00	0.12



Table C.2 Observed breakthrough curves of bromide tracer test (Continue)

No.	Time (minute)	Sandy		
		Pore volume (PV)	C_i (ppm)	C_i/C_0
43	1290	14.31	12440.00	0.12
44	1320	14.65	12240.00	0.12
45	1350	14.98	12440.00	0.12
46	1380	15.31	12530.00	0.12
47	1410	15.65	12070.00	0.12
48	1440	15.98	10880.00	0.11
49	1470	16.31	9290.00	0.09
50	1500	16.64	7630.00	0.08
51	1530	16.98	6210.00	0.06
52	1560	17.31	4860.00	0.05
53	1590	17.64	3730.00	0.04
54	1620	17.98	2960.00	0.03
55	1650	18.31	2340.00	0.03
56	1680	18.64	1882.00	0.02
57	1710	21.66	1516.00	0.02
58	1740	22.04	1128.00	0.01
59	1770	22.42	954.00	0.01
60	1800	22.80	844.00	0.01
61	1830	23.18	788.00	0.01
62	1860	23.56	746.00	0.01
63	1890	23.94	738.00	0.01
64	1920	24.32	717.00	0.01
65	1950	24.70	717.00	0.01
66	1980	25.08	703.00	0.01
67	2010	25.46	675.00	0.01
68	2040	25.84	700.00	0.01
69	2070	26.22	660.00	0.01
70	2100	26.60	655.00	0.01
71	2130	26.98	570.00	0.01
72	2160	27.36	326.00	0.01
73	2190	27.74	623.00	0.01
74	2220	28.12	628.00	0.01
75	2250	28.50	623.00	0.01
76	2280	28.88	604.00	0.01
77	2310	29.26	625.00	0.01
78	2340	29.64	618.00	0.01
79	2370	30.02	586.00	0.01
80	2400	30.40	598.00	0.01
81	2430	30.78	590.00	0.01
82	2460	31.16	564.00	0.01
83	2490	31.54	553.00	0.01
84	2520	31.92	577.00	0.01



Table C.2 Observed breakthrough curves of bromide tracer test (Continue)

No.	Time (minute)	Sandy		
		Pore volume (PV)	C_i (ppm)	C_i/C_0
85	2550	32.30	532.00	0.01
86	2580	32.68	251.00	0.01
87	2610	33.06	267.00	0.01
88	2640	33.44	527.00	0.01
89	2670	33.82	295.00	0.01
90	2700	34.20	275.00	0.01
91	2730	34.58	252.00	0.01
92	2760	34.96	222.00	0.01
93	2790	35.34	225.00	0.01
94	2820	35.72	216.00	0.01
95	2850	36.10	197.00	0.01
96	2880	36.48	204.00	0.01
97	2910	36.86	216.00	0.01
98	2940	37.24	203.00	0.01
99	2970	37.62	213.00	0.01
100	3000	38.00	205.00	0.01
101	3030	38.38	203.00	0.01
102	3060	38.76	203.00	0.01



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Appendix D

Column experiment: Arsenic transport

Table D.1 Observed breakthrough curves of arsenic transport in sandy loam

No.	Time	Volume	Pore	Conc.	No.	Time	Volume	Pore	Conc.
0	0	0.00	0.00	0.00	26	1560	254.80	11.80	0.00
1	60	9.80	0.45	0.00	27	1620	264.60	12.26	0.00
2	120	19.60	0.91	0.00	28	1680	274.40	12.71	0.00
3	180	29.40	1.36	0.00	29	1740	284.20	13.16	0.00
4	240	39.20	1.82	0.00	30	1800	294.00	13.62	0.00
5	300	49.00	2.27	0.00	31	1860	303.80	14.07	0.00
6	360	58.80	2.72	0.00	32	1920	313.60	14.53	0.00
7	420	68.60	3.18	0.00	33	1980	323.40	14.98	0.00
8	480	78.40	3.63	0.00	34	2040	333.20	15.43	0.00
9	540	88.20	4.09	0.00	35	2100	343.00	15.89	0.00
10	600	98.00	4.54	0.00	36	2160	352.80	16.34	0.00
11	660	107.80	4.99	0.00	37	2220	362.60	16.79	0.00
12	720	117.60	5.45	0.00	38	2280	372.40	17.25	0.00
13	780	127.40	5.90	0.00	39	2340	382.20	17.70	0.00
14	840	137.20	6.35	0.00	40	2400	392.00	18.16	0.00
15	900	147.00	6.81	0.00	41	2460	401.80	18.61	0.00
16	960	156.80	7.26	0.00	42	2520	411.60	19.06	0.00
17	1020	166.60	7.72	0.00	43	2580	421.40	19.52	0.00
18	1080	176.40	8.17	0.00	44	2640	431.20	19.97	0.00
19	1140	186.20	8.62	0.00	45	2700	441.00	20.43	0.00
20	1200	196.00	9.08	0.00	46	2760	450.80	20.88	0.00
21	1260	205.80	9.53	0.00	47	2820	460.60	21.33	0.00
22	1320	215.60	9.99	0.00	48	2880	470.40	21.79	0.01
23	1380	225.40	10.44	0.00	49	2940	480.20	22.24	0.01
24	1440	235.20	10.89	0.00	50	3000	490.00	22.70	0.01
25	1500	245.00	11.35	0.00	51	3060	499.80	23.15	0.01



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Table D.1 Observed breakthrough curves of arsenic transport in sandy loam

(Continue)

No.	Time	Volume	Pore	Conc.	No.	Time	Volume	Pore	Conc.
52	3120	09.60	23.60	0.02	78	4680	764.40	35.41	0.30
53	3180	19.40	24.06	0.02	79	4740	774.20	35.86	0.31
54	3240	529.20	24.51	0.03	80	4800	784.00	36.31	0.35
55	3300	539.00	24.97	0.03	81	4860	793.80	36.77	0.39
56	3360	548.80	25.42	0.03	82	4920	803.60	37.22	0.40
57	3420	558.60	25.87	0.04	83	4980	813.40	37.67	0.36
58	3480	568.40	26.33	0.04	84	5040	823.20	38.13	0.34
59	3540	578.20	26.78	0.04	85	5100	833.00	38.58	0.33
60	3600	588.00	27.23	0.05	86	5160	842.80	39.04	0.33
61	3660	597.80	27.69	0.05	87	5220	852.60	39.49	0.30
62	3720	607.60	28.14	0.05	88	5280	862.40	39.94	0.29
63	3780	617.40	28.60	0.06	89	5340	872.20	40.40	0.28
64	3840	627.20	29.05	0.06	90	5400	882.00	40.85	0.26
65	3900	637.00	29.50	0.06	91	5460	891.80	41.31	0.25
66	3960	646.80	29.96	0.06	92	5520	901.60	41.76	0.23
67	4020	656.60	30.41	0.07	93	5580	911.40	42.21	0.24
68	4080	666.40	30.87	0.07	94	5640	921.20	42.67	0.22
69	4140	676.20	31.32	0.07	95	5700	931.00	43.12	0.21
70	4200	686.00	31.77	0.08	96	5760	940.80	43.58	0.22
71	4260	695.80	32.23	0.09	97	5820	950.60	44.03	0.20
72	4320	705.60	32.68	0.10					
73	4380	715.40	33.14	0.13					
74	4440	725.20	33.59	0.15					
75	4500	735.00	34.04	0.17					
76	4560	744.80	34.50	0.20					
77	4620	754.60	34.95	0.25					



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Table D.2 Observed breakthrough curves of arsenic transport in sand

No.	Time	Volume	Pore	Conc.	No.	Time	Volume	Pore	Conc.
0	0	0.00	0.00	0.00	62	3720	607.60	46.20	1.59
1	60	9.80	0.75	0.00	64	3840	627.20	47.69	1.61
3	180	29.40	2.24	0.00	66	3960	646.80	49.18	1.71
6	360	58.80	4.47	0.00	68	4080	666.40	50.67	1.76
9	540	88.20	6.71	0.00	70	4200	686.00	52.16	1.83
12	720	117.60	8.94	0.00	72	4320	705.60	53.65	1.92
15	900	147.00	11.18	0.00	74	4440	725.20	55.14	1.91
18	1080	176.40	13.41	0.00	76	4560	744.80	56.63	1.97
21	1260	205.80	15.65	0.00	78	4680	764.40	58.12	1.89
24	1440	235.20	17.88	0.00	80	4800	784.00	59.61	2.04
27	1620	264.60	20.12	0.00	82	4920	803.60	61.10	2.12
30	1800	294.00	22.35	0.00	84	5040	823.20	62.59	2.14
33	1980	323.40	24.59	0.00	86	5160	842.80	64.08	2.16
36	2160	352.80	26.82	0.03	88	5280	862.40	65.57	2.18
39	2340	382.20	29.06	0.09	90	5400	882.00	67.06	2.23
40	2400	392.00	29.80	0.10	92	5520	901.60	68.55	2.30
42	2520	411.60	31.29	0.12	94	5640	921.20	70.04	2.22
44	2640	431.20	32.78	0.18	96	5760	940.80	71.53	2.14
46	2760	450.80	34.27	0.25	98	5880	960.40	73.02	2.37
48	2880	470.40	35.76	0.51	100	6000	980.00	74.51	2.49
50	3000	490.00	37.25	0.61	102	6120	999.60	76.00	2.49
52	3120	509.60	38.75	0.82	104	6240	1019.20	77.49	2.63
54	3240	529.20	40.24	1.00	106	6360	1038.80	78.98	2.04
56	3360	548.80	41.73	1.22	108	6480	1058.40	80.47	1.57
58	3480	568.40	43.22	1.36	110	6600	1078.00	81.96	1.23
60	3600	588.00	44.71	1.45	112	6720	1097.60	83.45	1.01



Table D.1 Observed breakthrough curves of arsenic transport in sand (Continue)

No.	Time	Volume	Pore	Conc.	No.	Time	Volume	Pore	Conc.
114	6840	1117.20	84.94	0.85	166	9960	1626.80	123.69	0.11
116	6960	1136.80	86.43	0.74	168	10080	1646.40	125.18	0.12
118	7080	1156.40	87.92	0.63	170	10200	1666.00	126.67	0.08
120	7200	1176.00	89.41	0.57	172	10320	1685.60	128.16	0.11
122	7320	1195.60	90.90	0.53	174	10440	1705.20	129.65	0.11
124	7440	1215.20	92.39	0.48	176	10560	1724.80	131.14	0.12
126	7560	1234.80	93.88	0.44	178	10680	1744.40	132.63	0.10
128	7680	1254.40	95.37	0.50	180	10800	1764.00	134.12	0.12
130	7800	1274.00	96.86	0.48	182	10920	1783.60	135.61	0.11
132	7920	1293.60	98.35	0.24	184	11040	1803.20	137.10	0.11
134	8040	1313.20	99.84	0.36	186	11160	1822.80	138.59	0.09
136	8160	1332.80	101.33	0.38	188	11280	1842.40	140.08	0.09
138	8280	1352.40	102.82	0.35	190	11400	1862.00	141.57	0.10
140	8400	1372.00	104.31	0.28	192	11520	1881.60	143.06	0.08
142	8520	1391.60	105.80	0.27	194	11640	1901.20	144.55	0.09
144	8640	1411.20	107.29	0.25	196	11760	1920.80	146.04	0.08
146	8760	1430.80	108.78	0.26	198	11880	1940.40	147.53	0.07
148	8880	1450.40	110.27	0.20	200	12000	1960.00	149.02	0.08
150	9000	1470.00	111.76	0.26	202	12120	1979.60	150.51	0.07
152	9120	1489.60	113.25	0.23	204	12240	1999.20	152.00	0.06
154	9240	1509.20	114.75	0.23	206	12360	2018.80	153.49	0.06
156	9360	1528.80	116.24	0.22	208	12480	2038.40	154.98	0.06
158	9480	1548.40	117.73	0.21					
160	9600	1568.00	119.22	0.20					
162	9720	1587.60	120.71	0.17					
164	9840	1607.20	122.20	0.20					



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Appendix E
Cross-section

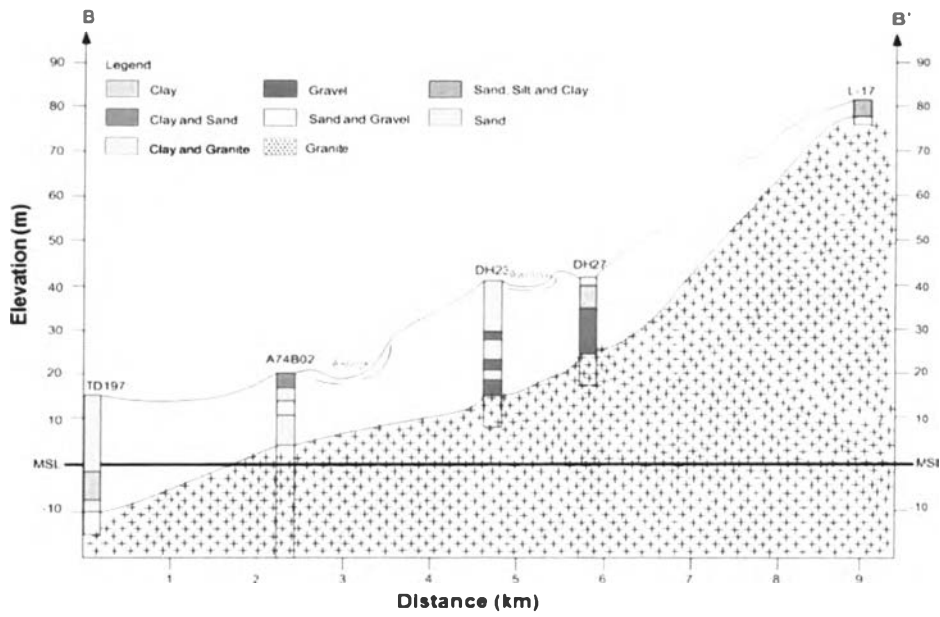


Figure E.1 Cross-section line B-B'

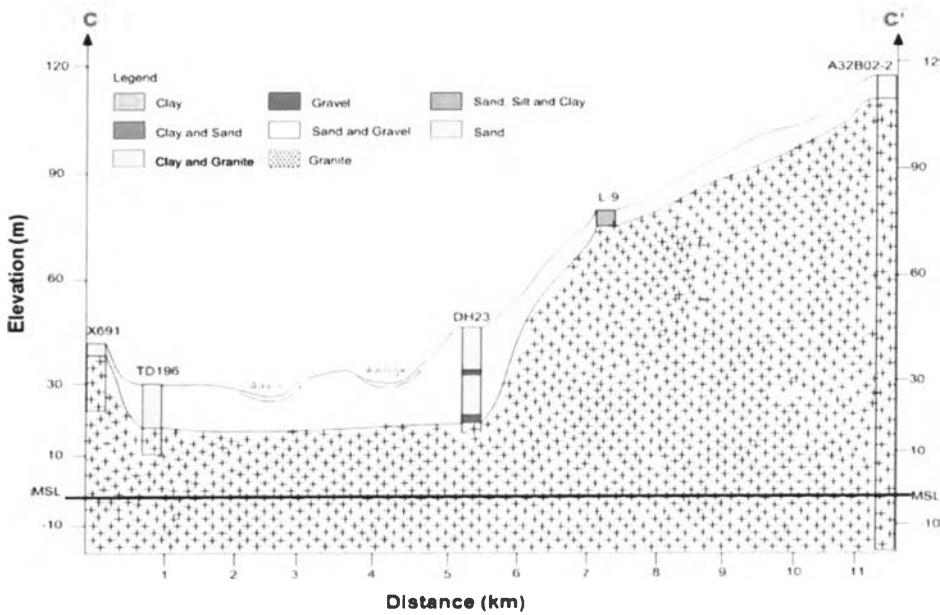


Figure E.2 Cross-section line C-C'



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